

Melbourne Energy and Resource Centre – Waste to Energy Facility

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Planning Assessment Report

510 Summerhill Road, Wollert

Prepared for Cleanaway Operations Pty Ltd



In collaboration with:



Overview

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Background

Applicant / Owner	Cleanaway Operations Pty Ltd
Address	510 Summerhill Road, Wollert
Lot Description	Crown Allotment 10B Parish of Kalkallo on Title Plan 362971C

Relevant Planning Provisions

Municipal Planning Strategy	Clause 02.01 – Context Clause 02.02 – Vision Clause 02.03-7 – Economic Development (Strategic Directions) Clause 02.03-8 – Transport (Strategic Directions) Clause 02.04 – Strategic Framework Plans
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Planning Policy Framework	Clause 11 – Settlement <ul style="list-style-type: none">Clause 11.02-1S (Supply of urban land)Clause 11.02-2S (Structure planning) Clause 12 – Environmental and Landscape Values <ul style="list-style-type: none">Clause 12.01-1S (Protection of biodiversity)Clause 12.01-2S (Native vegetation management)Clause 12.05-2S (Landscapes) Clause 13 – Environmental Risks and Amenity <ul style="list-style-type: none">Clause 13.02-1S (Bushfire planning)Clause 13.02-1L (Bushfire planning)Clause 13.05-1S (Noise management)Clause 13.06-1S (Air quality management)Clause 13.07-1S (Land use compatibility) Clause 14 – Natural Resource Management <ul style="list-style-type: none">Clause 14.02-1S (Catchment planning and management)Clause 14.02-2S (Water quality) Clause 15 – Built Environment and Heritage <ul style="list-style-type: none">Clause 15.01-1S (Urban design)Clause 15.01-1L (Urban design in the City of Whittlesea)Clause 15.01-1L (Design of industrial premises)Clause 15.01-1L (Signs)Clause 15.01-2S (Building design)Clause 15.01-2L (Environmentally sustainable development)Clause 15.03-2S (Aboriginal cultural heritage) Clause 17 – Economic Development <ul style="list-style-type: none">Clause 17.01-1S (Diversified economy)Clause 17.01-2S (Innovation and research)Clause 17.03-2S (Sustainable industry) Clause 18 – Transport
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- Clause 18.02-4S (Roads)
- Clause 19 – Infrastructure
- Clause 19.01-1S (Energy supply)
 - Clause 19.03-5S (Waste and resource recovery)

Zone	Farming Zone (FZ) Rural Conservation Zone (RCZ) – Schedule 1 (RCZ1)
Overlays	Environmental Significance Overlay (ESO) – Schedule 4 (ESO4)
Particular Provisions	Clause 52.02 – Easements, Restrictions and Reserves Clause 52.05 – Signs Clause 52.06 – Car Parking Clause 52.09 – Extractive Industry and Extractive Industry Interest Areas Clause 52.17 – Native Vegetation Clause 52.34 – Bicycle Facilities Clause 53.10 – Uses and Activities with Potential Adverse Impacts
Strategic Planning Documents	Plan Melbourne 2017- 2050 – and Plan Melbourne Addendum 2019 Plan Melbourne Implementation Plan Melbourne Industrial and Commercial Land Use Plan, DELWP 2020 Growth Corridor Plan: Managing Melbourne’s Growth (June 2012) Metropolitan Waste and Resource Recovery Implementation Plan, 2016 State-wide Waste and Resource Recovery Infrastructure Plan 2018 Recycling Victoria, A new economy, 2020 Victoria Waste-to-Energy Framework, 2021 City of Whittlesea, Sustainable Environment Strategy, 2022-2032 City of Whittlesea, Sustainable Environment Action Plan, 2022-2024 Melbourne Strategic Assessment (MSA) 2009 Biodiversity Conservation Strategy (June 2013) Land protection under the Biodiversity Conservation Strategy, Melbourne Strategic Assessment, May 2014 Melbourne Strategic Assessment (Environment Mitigation Levy) Act 2020 Draft Marram Baba Merri Creek Regional Parklands Future Directions Plan

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Permit Application Details

Description of Proposal	Use and development of land for a Waste-to-energy facility, removal of native vegetation, display of a floodlit business identification sign and creation of an easement.
Permit Requirement	<ul style="list-style-type: none"> · Pursuant to Clause 35.07-1 (FZ), a permit is required to use the land for a Waste-to-energy facility. · Pursuant to Clause 35.07-4 (FZ), a permit is required for buildings and works associated with a Waste-to-energy facility. · Pursuant to Clause 52.02, a permit is required to create an easement under Section 23 of the <i>Subdivision Act 1988</i>. · Pursuant to Clause 52.05, a permit is required to display a floodlit business identification sign. · Pursuant to Clause 52.17-1, a permit is required to remove, destroy or lop native vegetation, including dead native vegetation.

Quality Assurance

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Melbourne Energy and Resource Centre – Waste to Energy Facility
Planning Assessment Report
510 Summerhill Road, Wollert

Project Number
320-0117-00-P-04-RP01

Revisions

Issue	Date	Description	Prepared By	Reviewed By	Project Principal
00	12/05/2023	Final	Claudia Lombard	Justin Slater	Katie Murphy
01	18/12/2023	Minor corrections and updates to reflect adjustments to technical report including noise wall	Claudia Lombard	Justin Slater	Katie Murphy

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Abbreviations

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Abbreviation	Definition
ACPr	Air Control Pollution Residue
AHD	Australian Height Datum
BATT	Best Available Technology and Techniques
BCS	Biodiversity Conservation Strategy
BREF	Best Available Techniques Reference Document
C&D	Construction and Demolition
CHMP	Cultural Heritage Management Plan
CMA	Catchment Management Authority
CRG	Community Reference Group
DLA	Development Licence Application
dB	Decibel
DEECA	Department of Energy, Environment and Climate Action
DELWP	Department of Environment, Land, Water and Planning
DTP	Department of Transport and Planning
DoT	Department of Transport
EPA	Environment Protection Authority
EP Act	Environment Protection Act 2017
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ESO	Environmental Significance Overlay
EU	European Union
EVC	Ecological Vegetation Class
FFG	Flora and Fauna Guarantee Act 1988
FGT	Flue Gas Treatment
FOGO	Food Organics and Garden Organic waste
FZ	Farming Zone
GED	General Environmental Duty
GHG	Greenhouse Gas
HHRA	Human Health Risk Assessment
IBA	Incinerator Bottom Ash
IPCC	Intergovernmental Panel on Climate Change

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Abbreviation	Definition
LCA	Landscape Character Assessment
LVIA	Landscape and Visual Impact Assessment
m	Metres
MNES	Matters of National Environmental Significance
MSA	Melbourne Strategic Assessment area
MSW	Municipal Solid Waste
Mtpa	Million tonnes per annum
NCV	Net Calorific Value
NVIM	Native Vegetation Information Management system
P&E Act	Planning and Environment Act 1987
PSP	Precinct Structure Plan
RAP	Registered Aboriginal Parties
VAHR	Victorian Aboriginal Heritage Register
VPA	Victorian Planning Authority
VPP	Victorian Planning Provisions
WtE	Waste-to-energy (or Energy from Waste)

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Cleanaway Operations Pty Ltd (Cleanaway) is Australia's leading waste management, recycling, and industrial service provider and is proposing to develop a waste-to-energy (WtE) facility in Wollert, Victoria known as the Melbourne Energy and Resource Centre (MERC). The Proposal will be designed to thermally treat approximately 380,000 tonnes per annum (tpa) of waste feedstock that would otherwise be sent to landfill.

The WtE process will generate approximately 46 Megawatts (MW) gross of electricity, with up to 4.8MW used to power the facility itself including the associated on-site by-product and residue treatment processes. Approximately 41MW or 329,500 MWh/year will be exported to the grid as base load electricity. In addition to supplying electricity to the grid, there is also potential to supply energy in the form of heat and/or process steam to local industrial users or other future on-site waste processing infrastructure. The Proposal will use safe, proven technology that has been used for decades in cities across Europe, North America, Japan and many other developed countries.

Existing conditions

The proposed site at 510 Summerhill Road, Wollert (the Site) is within an area that is transitioning from agricultural use to urban uses with an employment and industrial focus. Established and approved extractive industries (quarries) within the precinct make it unsuitable for residential development. The Site is also proximate to the arterial and heavy vehicle road network, in particular the Hume Highway.

The heavily modified Site is currently used for livestock grazing and contains a farm manager's residence. Vegetation within the site consists predominantly of exotic pasture grasses with some scattered native species. The Traditional Owners for the area are the Wurundjeri People. As the Site includes an area of Aboriginal Cultural Heritage Sensitivity a Cultural Heritage Management Plan is being prepared.

Site context

The facility is well separated from existing and future residential areas. There are three farmhouses within 500m of the Site's boundaries and the nearest planned residential area is within the Shenstone Park PSP approximately 1.3kms to the north of the Site.

The Proposal is suitably located with respect to nearby planned and existing industrial land use activities. It represents an efficient use of land that is otherwise limited in development potential because of impacts from adjoining industrial land uses. There is potential for the heat and steam generated by the facility to be utilised by surrounding industry within the precinct.

The Proposal's location is compatible with future transport and land use planning, noting that the precinct is anticipated to accommodate employment and industrial uses. It will benefit from proposed transport upgrades in the area including freeway access improvements and the future upgrading of Summerhill Road from a local rural road to an arterial road.

Approvals

In accordance with the *Planning and Environment Act 1987* (PE Act), land use and development approvals in Wollert are subject to the provisions of the *Whittlesea Planning Scheme*. Under the *Whittlesea Planning Scheme* a planning permit is required for:

- The use of land for a WtE facility under the provisions of the Farming Zone (Clause 35.07-1)
- Buildings and works associated with a WtE under the provisions of the Farming Zone (Clause 35.07-4)
- The creation of an easement under Clause 52.02.
- The display of a floodlit business identification sign under Clause 52.05.
- The removal of native vegetation under Clause 52.17-1. (Removal of one scattered tree is proposed)

The Minister for Planning is the responsible authority for deciding the planning permit application (Clause 72.01-1). The Proposal requires a Development Licence and an Operating Licence under the *Environment Protection Act 2017* (EP

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Act). A Development License Application (DLA) is being submitted to the Environment Protection Authority (EPA) Victoria in parallel with the planning permit application so that the approval processes can run concurrently. Under the provisions of the *Aboriginal Heritage Act 2006*, a Cultural Heritage Management Plan will be required before approval for the project can be granted.

Land use

After reviewing multiple WtE technologies 'moving grate' technology was selected as the method to thermally treat incoming waste to recover energy at the MERC. Emissions from the facility will be treated using established semi-dry flue gas treatment technology in combination with a fabric filter baghouse. The MERC will meet stringent emission standards and current international best-practice techniques. Ferrous and non-ferrous metals (and potentially other precious metals) will be recovered from the Incinerator Bottom Ash (IBA) and will be available for reuse. Residual IBA can be reused and recycled for use in construction projects. The WtE process typically leads to about 90% reduction in the volume of waste that would otherwise go to landfill. This increases to 95% if recovered IBA is reused as a construction product.

The facility will operate 24 hours per day, seven days per week (365 days per year). It will generate employment for up to 50 operational, administration and support staff, with a maximum of 34 operational staff on site at any one time to operate the facility.

Buildings and works

Occupying an area of approximately 24ha within the overall 82ha property, the main structural elements of MERC include the WtE façade housing, waste bunker process plant, administration building, visitor and education centre, substation, utilities connections, drainage, internal roads, hardstand areas, facilities for processing and stabilising residue material from the process. The main building will be steel framed and clad with a lightweight roof envelope designed to resist wind pressures and contain the WtE process & equipment.

Signage

A floodlit business identification sign with a total area of 3sqm is proposed at the entry to the visitor and education centre on Summerhill Road.

Landscaping

The landscape plan proposes native and indigenous grasses, trees, shrubs and earth mounds that will be positioned to partially screen views to the facility from adjoining properties and Summerhill Road. Stormwater run-off will be captured on-site to allow for infiltration via swales and bioretention basins within the Site.

Policy alignment

The proposal is well supported through Victoria's policy settings at state, regional and local levels.

General

The role of WtE as part of a circular economy is recognised within the waste management and resource recovery policy, in particular the *Victorian Waste to Energy Framework (2021)*. In the Victorian Government's *Melbourne Industrial and Commercial Land Use Plan (2020)*, the Site adjoins an area of identified 'State Significant Industrial Land' and is a compatible land use with industrial land. The 2012 *Northern Growth Corridor Plan* identifies the site as forming part of an investigation area designated for non-urban/utilities uses. The Site is included within the area for the future *Northern Quarries Precinct Structure Plan (PSP)* which is anticipated to transition to employment and industrial uses. The Site and surrounding land are anticipated to be rezoned to a mix of urban zones when the PSP is prepared. The Proposal accords with the provisions of the *Whittlesea Planning Scheme* including the *Municipal Planning Strategy*, *Municipal Framework Plan*, the provisions of the Farming Zone and all other relevant provisions.

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Traffic

The facility is anticipated to generate approximately 106 truck deliveries and 44 staff, supplier and visitor visits per day. The access for deliveries and staff and a separate access for visitors to the facility will be provided from Summerhill Road. An assessment of traffic impacts has been undertaken and confirms that the local road network can accommodate the projected traffic volumes generated by the Proposal, subject to traffic management treatments and the upgrading of Summerhill Road between the Site and the Merri Creek. The layout of the facility ensures internal traffic streams are separated and will function efficiently. On site parking for trucks, buses, visitors and staff vehicles is appropriately provided for.

Noise and Vibration

Based on the separation distance from the Site boundary to the nearest residential building, vibrations generated by the Proposal does not exceed the Noise Protocol limits at any sensitive receptors. The Proposal incorporates a noise barrier wall to comply with the Noise Protocol at the dwelling located at 475 Summerhill Road. The noise barrier is generally in alignment with the truck decoupling area along the southern boundary of the site and comprises a concrete and fly ash panel atop a 1.8m mound.

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Air Quality

The potential for the MERC to impact air quality has been assessed using dispersion modelling, consistent with the approach required in EPA Victoria's Publication 1961 (*Guideline for assessing and minimising air pollution*). A cumulative assessment was conducted incorporating the adjacent Austral Bricks owned brickworks and surrounding existing industrial activities identified within a 5km radius of the Proposal (clay brick manufacturing, gas transmission and hard rock quarrying). It identified that the Proposal will have an insignificant impact on air quality and will not exceed limits for any air pollutant, as measured against the relevant health-based and environmental based Air Pollution Assessment Criteria (APACs). Predicted cumulative ground-level concentrations of all air pollutants due to the Proposal comply with the relevant APACs across all sensitive receptors, with the exception of hydrogen fluoride, PM10 and PM2.5. These elevated concentrations are a result of elevated background concentrations (from surrounding industry), and not from the WtE facility. The air quality assessment has found that the risk of adverse odour impacts due to the Proposal is low.

Landscape and visual impact

A comprehensive landscape and visual impact assessment has been undertaken and found there are no significant landscape areas within the immediate vicinity of the Site. Whilst the Proposal was assessed as having a 'high' impact on two of the five assessed views, the assessment found that the Proposal avoids significant impacts on landscapes and open spaces by landscaping parts of the Site that have been previously cleared for agricultural purposes.

Biodiversity

The Proposal accords with federal, state and local biodiversity policy. The Proposal's design requires the removal of only one scattered tree. The Site is within the Melbourne Strategic Assessment (MSA) area and the proposed removal of most native vegetation within the Site has been accounted for as part of a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* and will be subject to the payment of offsets. A Kangaroo Management Plan has been developed to minimise risks to Eastern Grey Kangaroos.

Bushfire

The Proposal appropriately considers bushfire risk. An assessment of bushfire risk found that the likelihood of a bushfire reaching the severity required to impact a development is substantially reduced because of the limited fuel available in the surrounding area and the riparian nature of the vegetation in the creek and lateral reserve. Notwithstanding this, the Proposal appropriately mitigates bushfire risk through design and access arrangements.

Environmentally Sustainable Design

The Proposal aligns with Environmentally Sustainable Design principles. Sustainability features of the Proposal include double-glazed facades, on-site rainwater harvesting and reuse, indigenous plant selection, electric vehicle charging stations, high-performance material selection and building control technology. Overall the Proposal achieves a Built Environment Sustainability Scorecard (BESS) score of 66%.

Greenhouse Gas

WtE forms part of the solution in the transition to net zero greenhouse gas emissions. The Proposal will contribute to avoided emissions by:

- Avoidance of fugitive landfill gas emissions which occur during landfill operation and continue long after the landfill has closed, the methane component of which is recognised to be a much more potent greenhouse gas than carbon dioxide (CO₂)
- Diverting organic material from landfill and avoiding methane emissions produced through anoxic decomposition
- Producing electricity with an emissions intensity less than Victorian coal-fired power stations
- Recovering recyclable materials including ferrous and non-ferrous metals and bottom ash which can be substituted for virgin materials used in construction.

In doing so, the Proposal supports the State Government's climate change mitigation objectives and emissions targets.

Hydrology, Groundwater and Flood Risk

A Hydrology and Flood Risk Technical Report confirms that the two watercourses that pass through the Site (Curly Sedge Creek and Tributary 4545) will not be impacted by the proposed activity. The approach to stormwater management ensures pre-development catchment boundaries and flows have been matched and maintained. The Proposal incorporates two on-site detention basins to meet discharge requirements and to treat stormwater to ensure water quality targets are met. Flood modelling demonstrates that the buildings and structures are located outside the 1% Annual Exceedance Probability (AEP) flood extents and above the Probable Maximum Flood level. The proposed design does not result in impacts beyond the Site.

A Soil Contamination and Baseline Groundwater Investigation Report was undertaken and concludes that the Site is not contaminated and is compatible with the proposed development from a contamination perspective.

Economics and Innovation

The Proposal supports innovation and Victoria's knowledge economy by contributing toward a potential future business cluster within Wollert. It will support the economic objectives of the Whittlesea Planning Scheme by contributing to greater diversity of energy generating facilities within Victoria. The proposed visitor and education centre will provide an accessible and collaborative physical environment and will improve access to information and training. It will also provide a space for the community to learn about the circular economy, recycling, resource recovery, the benefits of landfill diversion and WtE.

The Proposal will create up to 800 jobs during construction and 50 permanent full-time equivalent employment positions. The socioeconomic assessment for the project found that the positive socioeconomic impacts associated with the Proposal outweigh any negative impacts.

Summary

MERC is compliant with the provisions of the Whittlesea Planning Scheme and the overarching planning and waste management policy frameworks. It is a state-significant project because:

- It will have a substantial effect on the ability for Victoria to achieve key planning objectives, particularly with respect to waste management and resource recovery
- It will deliver benefits to communities beyond the immediate locality
- It will support best practice waste management by upholding the waste hierarchy, which recognises recycling and recovery as higher order actions than disposal and will be an important element in addressing Victoria's current and ongoing waste management challenges.
- It will support Victoria's commitment to halving greenhouse gas emission targets by 2030.

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1 Introduction

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1.1 Purpose

This report has been prepared by Tract Consultants Pty Ltd in conjunction with Arup on behalf of Cleanaway Operations Pty Ltd (Cleanaway). It supports a planning permit application proposed for the use and development of a WtE facility at the Site. The purpose of this assessment is to demonstrate how the Proposal complies with the provisions of the *Whittlesea Planning Scheme* and the PE Act.

1.2 Project overview

Cleanaway is an Australian waste management, recycling, and industrial services company. Cleanaway provides a complete range of waste management streams in Victoria to support the waste hierarchy, including food and garden organics, glass, paper and cardboard and plastics recycling as well as landfill. There are currently no alternatives to landfill for residual Municipal Solid Waste (MSW) and residual Commercial and Industrial (C&I) waste in Victoria. For this reason, Cleanaway is developing a WtE facility in Victoria known as the Melbourne Energy and Resource Centre (MERC) (the Proposal). The MERC will provide an option for recovery of energy and resources from the portion of waste currently destined for landfill disposal.

The MERC will thermally treat up to 380,000 tonnes per annum (tpa) of waste feedstock, primarily consisting of residual MSW and commercial waste, which is waste that would otherwise be sent to landfill. Waste feedstock processed by the MERC will be subject to a Waste Acceptance Protocol (WAP) to ensure its suitability and suitability for processing both prior to arrival and upon arrival on-site. The Proposal will also incorporate the maturation and processing of Incinerator Bottom Ash (IBA), generated from the combustion of waste, to recover recyclable metals, with the intent to utilise the remaining ash as an aggregate in construction.

Residual waste is waste that is left over from recycling and resource recovery operations and waste from source separated collections. Source separation involves separating waste into common material streams or categories for separate collection. Waste processed at the site will be subject to a Waste Acceptance Protocol to ensure only appropriate waste is used as feedstock.

The WtE process will generate approximately 46.3MW gross of electricity, 4.7MW of which will be used to power the facility itself and the associated on-site by-product and residue treatment processes. The remaining 41.6MW (328,700 MWh/year) will be exported to the grid as base load electricity. In addition to supplying electricity to the grid, there is also potential to supply energy in the form of heat and/or process steam to local industrial users or other future on-site infrastructure.

Some residual materials are produced because of the WtE process, including Incinerator Bottom Ash (IBA), boiler ash and flue gas treatment residue. The boiler ash and flue gas treatment residue are typically combined and together are referred to as Air Pollution Control residue (APCr). Overall, the WtE process typically leads to about 90% reduction in the volume, or 80% reduction in mass (tonnes), of waste that would otherwise go to landfill. If IBA is reused as an alternative construction product to virgin materials, this percentage increases further to approximately 95% reduction in volume and mass of waste that would otherwise go to landfill. The final volume of waste diverted from landfill is dependent on the classification and market for the residues and by-products generated by the WtE facility.

The Proposal includes the construction and operation of an IBA maturation and processing facility on site. The purpose of this facility is to store the IBA to mature (stabilise), before mechanically processing IBA from the WtE facility into an aggregate for reuse. As part of this process, both ferrous and non-ferrous metals will be recovered from the IBA for recycling and sale to market.

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The Proposal also includes a stabilisation facility for APCr, a necessary treatment step to immobilise leachable components of the APCr prior to removal from site by vehicle and disposal at an appropriately licenced landfill.

The Proposal will use best available techniques and technologies in the engineering design, operation, maintenance and monitoring activities associated with the MERC. Moving grate technology has been chosen as the means to thermally treat incoming waste to recover energy and other resources. Current international best-practice techniques, including automated combustion controls and advanced flue gas treatment technology will be applied so that air emissions meet stringent emission standards. The moving grate combustion system is a common form of thermal WtE technology in which the waste is fed through the combustion chamber on a travelling grate. This enables efficient and complete combustion of the waste, with primary combustion air introduced from below the grate and secondary combustion air introduced directly into the combustion zone above the grate. Moving grate technology has been used globally for over 100 years, and in that time the technology has been subject to continual improvement responding to regulatory, industry and public demands. There are approximately 500 similar operational examples across Europe alone, the majority of which use the moving grate-type technology being proposed for the MERC.

The Proposal involves the building of all onsite infrastructure required to support the WtE facility, including site utilities, internal roads, weighbridges, parking and hardstand areas, stormwater infrastructure, fencing and landscaping. The Proposal will also include a visitor and education centre to help educate and inform the community on the circular economy, recycling, resource recovery, the benefits of landfill diversion and the WtE process. The intent behind this education is to drive a shift in community thinking and actions around waste management.

1.3 Waste-to-energy policy

The waste hierarchy is one of the principles of environment protection outlined in the EP Act. It states:

Waste should be managed in accordance with the following order of preference, so far as reasonably practicable –

- (a) avoidance;
- (b) reuse;
- (c) recycling;
- (d) recovery of energy;
- (e) containment;
- (f) waste disposal.

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The primary objective of the Proposal is to increase recovery of energy and minimise the volume of waste disposal through landfill. It will therefore support circular economy principles and best practice waste management by and upholding the waste hierarchy, which recognises recycling and recovery as higher order actions than waste disposal. MERC will divert waste from landfill, minimise disposal, support the Victorian Government targets for recycling and landfill diversion, conserve valuable existing landfill airspace and reduce the burden of landfills on the environment and communities. In doing so, MERC will also recover the energy and non-combustible recyclable materials from the feedstock that would otherwise have been destined for disposal.

WtE technology forms part of a broad framework for waste management and resource recovery, particularly with a renewed focus on transitioning to a circular economy both globally and locally.

Landfill is an unsustainable waste outcome given that it cannot be infinitely expanded, and many waste products sent to landfill emit methane gases which have greater warming power than CO₂.

There is support for WtE facilities where they create clear net benefits and complement efforts to reduce or recycle waste¹. These facilities are recognised as having a role in an integrated waste and resource recovery system as Victoria shifts to a circular economy. WtE plays a key role in diverting waste away from landfill, helping Victoria transition to a circular economy.

As set out in Recycling Victoria – A New Economy (2020), the Victorian Government supports WtE projects where they:

¹ A New Economy Recycling Victoria, DELWP, Feb 2020

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- Meet best-practice environment protection requirements including air pollution controls
- Reduce the amount of waste sent to landfill and do not displace reuse or recycling
- Do not inhibit innovation in reuse or recycling of materials
- Meet best-practice energy efficiency standards
- Reduce greenhouse gas emissions compared to the waste and energy services they displace
- Have sustainable business models that create jobs and economic development
- Work well with local communities in which they operate.

Recycling Victoria: A New Economy (2020) recognises a role for WtE investment and supports WtE facilities where they meet best-practice environment protection requirements. This includes reducing waste to landfill, supporting waste avoidance, reusing and recycling, and demonstrating social license with affected communities.

The *Victorian Waste to Energy Framework (2021)* recognises the role of WtE to divert waste from landfills, helping Victoria transition to a circular economy. It also defines the appropriate waste categories for thermal WtE facilities. The Proposal's proposed feedstock streams (residual MSW and residual C&I waste) are permitted waste streams.

The Victorian EPA *Energy from Waste Guideline (Publication 1559, 1 July 2017)* (EFW Guideline) also notes that efficient recovery of energy from the thermal processing of waste is considered a resource recovery as opposed to a waste disposal option.

The EFW Guideline stipulates:

'Proponents of EFW proposals...will be expected to demonstrate that the siting, design, construction and operation of EFW facilities will incorporate best practice measures for the protection of the land, water and air environments as well as for energy efficiency and greenhouse gas emissions management. Facilities should be able to provide evidence of how they minimise and manage emissions (including pollutants, odour, dust, litter, noise and residual waste) in accordance with relevant statutory requirements.'

In the absence of comprehensive local policy guidance, the MERC has been designed to meet the European Industrial Emissions Directive (IED) (2010) and the associated *Best Available Techniques Reference (BREF) Document for Waste Incineration* published December 2019, which sets the European Union environmental standards for waste incineration. The facility will also comply with the technical criteria set out in the EFW Guideline.

1.4 The benefits of waste-to-energy

WtE using thermal treatment is an emerging resource recovery concept for management of residual MSW and residual C&I waste in Australia, however it is a proven and widely used approach to treat residual waste globally with many operational examples located in both regional and urban areas. There is a strong correlation between usage of WtE facilities and a high landfill diversion rate, with many countries in Europe achieving as low as 1% landfill rate (99% diversion). WtE infrastructure has been shown over a number of decades to be a complementary technology to recycling, with European countries maintaining high recycling rates whilst utilising WtE. It is anticipated that Australian data will follow similar trends as WtE is adopted.

The environmental benefits of MERC compared to landfill include:

- MERC requires a smaller land footprint, thus making better use of valuable land resources
- Risks of soil, groundwater and surface water contamination are avoided as there will no be leachate
- Avoidance of fugitive landfill gas emissions which occur during landfill operation and continue long after the landfill has closed, the methane component of which is recognised to be a much more potent greenhouse gas than carbon dioxide (CO₂)
- Preventing the spread of viruses and pathogens which may be present in the waste streams by using high temperatures to sanitise the waste
- Reduced general amenity impacts such as odour, vermin and pest issues
- Promotion of the proximity principle by treating waste close to the source of waste generation, reducing transport and subsequent carbon footprint impacts.

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- The MERC can be decommissioned and removed from Site, with significantly lower cost than to restore and rehabilitate land.

WtE forms part of the solution in the transition to net zero greenhouse gas emissions due to:

- Reduction of organic waste decomposing in landfill, offsetting the associated methane emissions
- Production of electricity, offsetting marginal generation from other sources (typically fossil fuels)
- Increased recycling rate of metals and IBA aggregate, offsetting emissions involved with the production of virgin materials.

1.5 Background

1.5.1 About Cleanaway

Cleanaway is Australia’s leading total waste management, industrial, environmental and health services company that aspires to transform waste into a valuable commodity for every sector, industry and community.

As Australia’s largest waste, recycling, industrial and liquids service provider, Cleanaway has established a network of recycling facilities, transfer stations, engineered landfills, liquid treatment plants, medical waste treatment facilities and refineries. Cleanaway has more than 250 sites across Australia. Cleanaway’s Solid Waste Services business operates the largest solid waste and recycling fleet in Australia, servicing more than 130 municipal councils and over 150,000 commercial and industrial businesses.

In 2022, Cleanaway recycled approximately 435,000t of paper and cardboard, 24,000t of plastic, and 40,000t of steels and aluminium. Cleanaway captured more than 153Mm³ of landfill gas and generated over 190GWh of renewable energy, enough to power more than 38,500 homes.

Cleanaway’s *Footprint 2025 Strategy* is focussed on investing in world class recycling and resource recovery infrastructure to improve landfill diversion and recycling rates. Cleanaway’s investments in innovation and infrastructure reflect the Federal and State Government’s domestic and international policies and seek to maximise the environmental benefit of the waste being generated.

The proposed MERC forms an element of the *Footprint 2025 Strategy* for residual waste that cannot otherwise be recycled.

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1.5.2 Site selection process

In identifying a suitable site for the MERC, Cleanaway undertook a thorough site-finding exercise, reviewing almost 180 potential sites for their appropriateness to accommodate the facility from both an operational perspective and with respect to separation from residential areas. The following criteria were considered for each potential site:

- Does the planning zone allow the use?
- Is the site free of overlays that pose major constraints (i.e. Environmental Significance Overlay, Significant Landscape Overlay, Vegetation Protection Overlay, Public Acquisition Overlay, Land Subject to Inundation Overlay, Floodway Overlay, Airport Environs Overlay)?
- Is the proposal consistent with relevant local planning policies and future strategic planning matters (e.g. Precinct Structure Plans)?
- Does the site have a separation distance of greater than 1km from sensitive receiver locations (e.g. residents, schools, future residential land etc)?
- Is the site greater than 3kms from an airport?
- Is the shape of the site such that it would allow functional facility layout (i.e. minimum dimension of 150m)?
- Is the site located within 2km of existing major road network?

Other matters were considered as relevant. For sites that satisfied the above criteria, a more comprehensive analysis and assessment was undertaken prior to exploring the potential for acquisition. 510 Summerhill Rd Wollert satisfied the selection criteria and following a comprehensive due diligence assessment, Cleanaway acquired the Site in 2021.

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1.5.3 Strategic location

510 Summerhill Road was considered particularly suitable for the project because of its locational advantage within Melbourne's Northern Growth Corridor. This corridor is being planned to provide for a mix of land use activities including residential, open space, commercial and industrial / employment uses.

The Site is not located within an area that has been identified for future residential development. It forms part of the future 'Northern Quarries Precinct Structure Plan' area. It has existing quarries located directly to the north and south and an approved quarry located on adjoining land to the east. High voltage electricity transmission lines traverse the Site. Industrial uses such as a future wastewater treatment facility, a potential gas-fired power station and an existing brickworks are located within close proximity to the land. To protect human health and amenity, separation distances apply to the established and future industrial uses surrounding the Site. The Site and the surrounding land is therefore unsuitable for residential development and the proposed WIE facility offers an appropriate and productive use of the land that will complement future employment uses in the precinct.

The Site is strategically located with respect to Melbourne's waste and resource recovery infrastructure. Melbourne's three remaining landfills with significant remaining capacity are all located on the west and north-west side of the central business district (CBD). Being central to the Melbourne's northern corridor, MERC will be positioned to receive waste deliveries from all parts of greater Melbourne. Its proximity to major arterial roads will enable waste to be aggregated at existing transfer station infrastructure prior to transfer to the MERC. This is expected to reduce waste transportation from east to west resulting in broader transport benefits to Metropolitan Melbourne.

1.5.4 Project development

After securing the Site, Cleanaway assembled a team of technical experts to further scope and develop the design for the MERC. The Australian and international design team has significant experience in the design and environmental assessment of WIE facilities overseas and in Australia. To inform the design and support the applications for a Development Licence and planning permit the following technical specialist reports and inputs have been prepared:

- Architecture and Landscape Design Strategy Report
- Hazardous Substances and Industrial Risk Assessment
- Hydrology and Flood Risk Technical Report
- Landscape Character and Visual Impact Assessment
- Noise and Vibration Technical Report
- Socioeconomic Technical Report
- Sustainability Management Plan
- Waste and Resource Management Technical Report
- Soil Contamination and Baseline Groundwater Investigation
- Bushfire Risk Assessment
- Cultural Heritage Management Plan, (Draft)
- Kangaroo Management Plan
- Targeted Surveys for Golden Sun Moth *Synemon plana*
- Targeted Surveys for Growling Grass Frog
- Targeted Surveys for Matted Flax-lily *Dianella amoena*
- Human Health Risk Assessment
- Transport Impact Assessment
- Melbourne Energy and Resource Centre: Air Quality Assessment
- Melbourne Energy and Resource Centre: Greenhouse Gas Assessment

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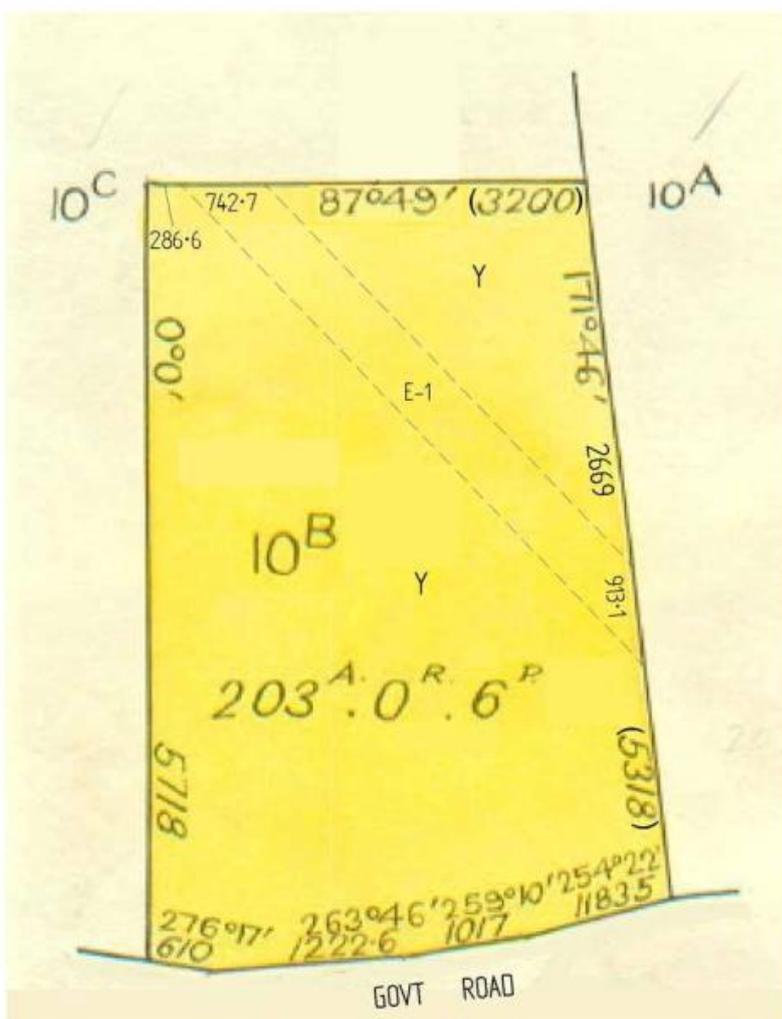
2 The Site

2.1 Title Particulars

The Site is formally identified as Crown Allotment 10B Parish of Kalkallo on Title Plan 362971C. The Certificate of Title for the land confirms that the land is subject to a notice under Section 45 of the Melbourne Strategic Assessment (Environment Mitigation Levy).

The Plan of Subdivision indicates that an electricity easement of approximately 110m in width runs diagonally across the land. The title confirms that the Crown grants the right to use land for extraction of resources subject to conditions and obligations.

There are no other restrictions or encumbrances recorded on the title.



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Figure 1 - Extract of Certificate of Title

2.2 Site Analysis

The irregularly shaped allotment is approximately 82ha and has a maximum north-south dimension of approximately 1,170m and a maximum east-west dimension of almost 800m. The topography of the Site is relatively flat, with an average slope of 2.65%.

The Site is improved with a main dwelling and a detached residence, a machine shed and stock yards. It has been largely cleared for grazing purposes, however there are established trees primarily located around the dwellings. The

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Site contains mixed grassland containing both native and invasive species. Vegetation in the north-east corner of the Site (area of approximately 1.1 ha) has identified environmental values. There is a high voltage transmission line that traverses the Site from the north-west to south-east. Vehicle access is afforded via a connection with Summerhill Road, located centrally within the Site's Summerhill Road frontage.

The residence is currently occupied by a caretaker who maintains the property and manages the grazing livestock on the property.



Figure 2 - Aerial Plan

2.2.1 Interfaces

The Site's direct interfaces are as follows:

- **North / West** – 570 Summerhill Road, Wollert, an irregularly shaped rural property improved with a single dwelling.
- **East** – 430 Summerhill Road, Wollert, a generally rectangular rural site with planning approval for future use as a quarry (Phillips Quarry).
- **South** – Summerhill Road, a sealed two-lane road running east-west. Further south is 475 Summerhill Road, Wollert, a generally rectangular site comprising a rural property with a single dwelling and the Austral Bricks brickworks and quarry at 585 Summerhill Road.

2.2.2 Cultural heritage

The Traditional Owners for the area are the Wurundjeri People who are represented by the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation.

As the area comprises volcanic plains, its geological attributes include stony rises, eruption points (maars scoria cones and lava shields), hills and low hills.

The region comprises plains mainly on basalt lavas with many volcanic landforms and lakes, partly on weak sedimentary rock. They are made up of subdued topography which has been filled and covered by a relatively thin 'blanket' of lava flow. Soils are typically thin, stony and poorly drained, overlying dense clay.

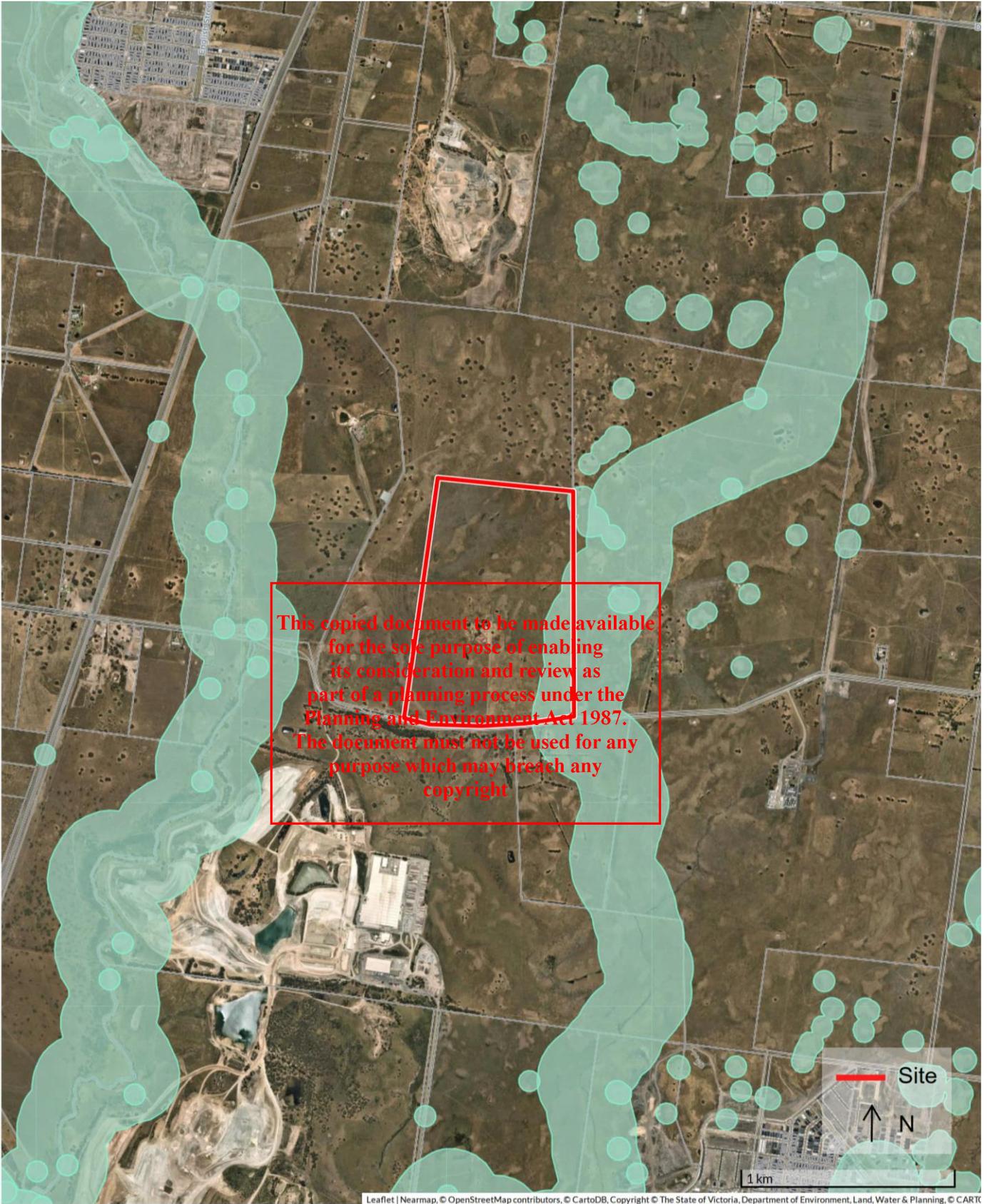
An area of Aboriginal Cultural Heritage Sensitivity associated with Curly Sedge Creek is located along the eastern edge of the Site. A registered cultural heritage place, listed on the Victorian Aboriginal Heritage Register, is located within 50m of the Proposal.

A Cultural Heritage Management Plan (CHMP) is required for the proposal and Ecology and Heritage Partners have substantially commenced its preparation. The CHMP considers the potential for cultural heritage within the footprint of the Proposal and along Summerhill Road where roadworks and services may be required (the Activity Area). The draft assessment found that a total of 174 Aboriginal Places, comprising a total of 774 components, have been registered within the geographic region. Most of these Places are located along or nearby waterways or low ridges and hills. Many Places have been recorded in situ due to the relatively undisturbed nature of the area. The database search and previous archaeological investigations found that the most likely Place type to be found within the Activity Area would be low density artefact scatters (isolated artefacts). Other likely Place types to occur are artefact scatters. A review of previous archaeological investigations both in and around the activity area indicates that Aboriginal archaeological Places occur primarily in relation to reliable waterways, or along their tributaries, particularly on terraces or in elevated areas overlooking those resources.

The CHMP will be required to be approved before a planning permit for the Proposal may be granted.

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AREAS OF CULTURAL HERITAGE SENSITIVITY

AREAS OF CULTURAL HERITAGE SENSITIVITY

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Figure 3 - Areas of Cultural Heritage Sensitivity Plan

2.2.3 Topography

The Site's highest point is within the north-eastern corner and has an elevation of 224m AHD (Australian Height Datum). The Site slopes downwards from this point in a south-westerly direction towards the Site's centre, and then slopes downwards in a south to south-easterly direction to the Site's lowest point at 208m AHD.

2.2.4 Flora and fauna

According to the Department of Environment, Energy and Climate Action (DEECA)'s Native Vegetation Information Management (NVIM) Tool, the Site is located in the Victorian Volcanic Plains bioregion, within the City of Whittlesea. It predominantly comprises open pasture with a few trees and shrubs present. The Site is predominantly flat with low stony rises throughout the paddocks. A connected drainage line is located on the north-eastern and south-eastern corner of the property and three major dams are located within the Site.

The Site is heavily modified and is currently being used for agriculture and livestock, with a residence at the centre of the property. Vegetation within the Site consists predominantly of exotic pasture grasses including Perennial ryegrass *Lolium perenne*, Toowoomba Canary-grass *Phalaris aquatica*, Chilean Needle Grass *Nassella neesiana* and Yorkshire Fog *Holcus lanatas*. Scattered native species are present within the Site, including Kangaroo Grass *Themeda triandra*, Blue Devil *Eryngium ovinum* and Rush *Juncus* spp, primarily within stony knolls and low-lying inundated areas within the Site.

Suitable habitat is present for Eastern Grey Kangaroo, Growling Grass Frog, Matted Flax-Lily and Golden Sun Moth. Eastern Grey Kangaroos were observed during the flora and fauna surveys.

Although the Site has been largely cleared for grazing purposes, "time-stamped" vegetation assessments undertaken by the State Government in 2012 identified limited environmental values within the Site. This includes areas of native vegetation and Matted Flax-lily around the dwelling and in the north-eastern portion of the Site, scattered trees and potential habitat for Golden Sun Moth and Growling Grass Frog.

The north-east corner of the Site contains higher value native vegetation that has been identified through the Melbourne Strategic Assessment program and will be protected when the Northern Quarries Precinct Structure Plan is developed. No works are proposed in this area.

To fully understand the Site's biodiversity values, targeted surveys for species listed under the *Environment Protection and Biodiversity Conservation (EPBC) Act* (Golden Sun Moth, Growling Grass Frog and Matted Flax-Lily) were undertaken in 2022 and 2023 to verify if these values are present on the Site. The surveys confirmed that there are no federally listed species on the Site.

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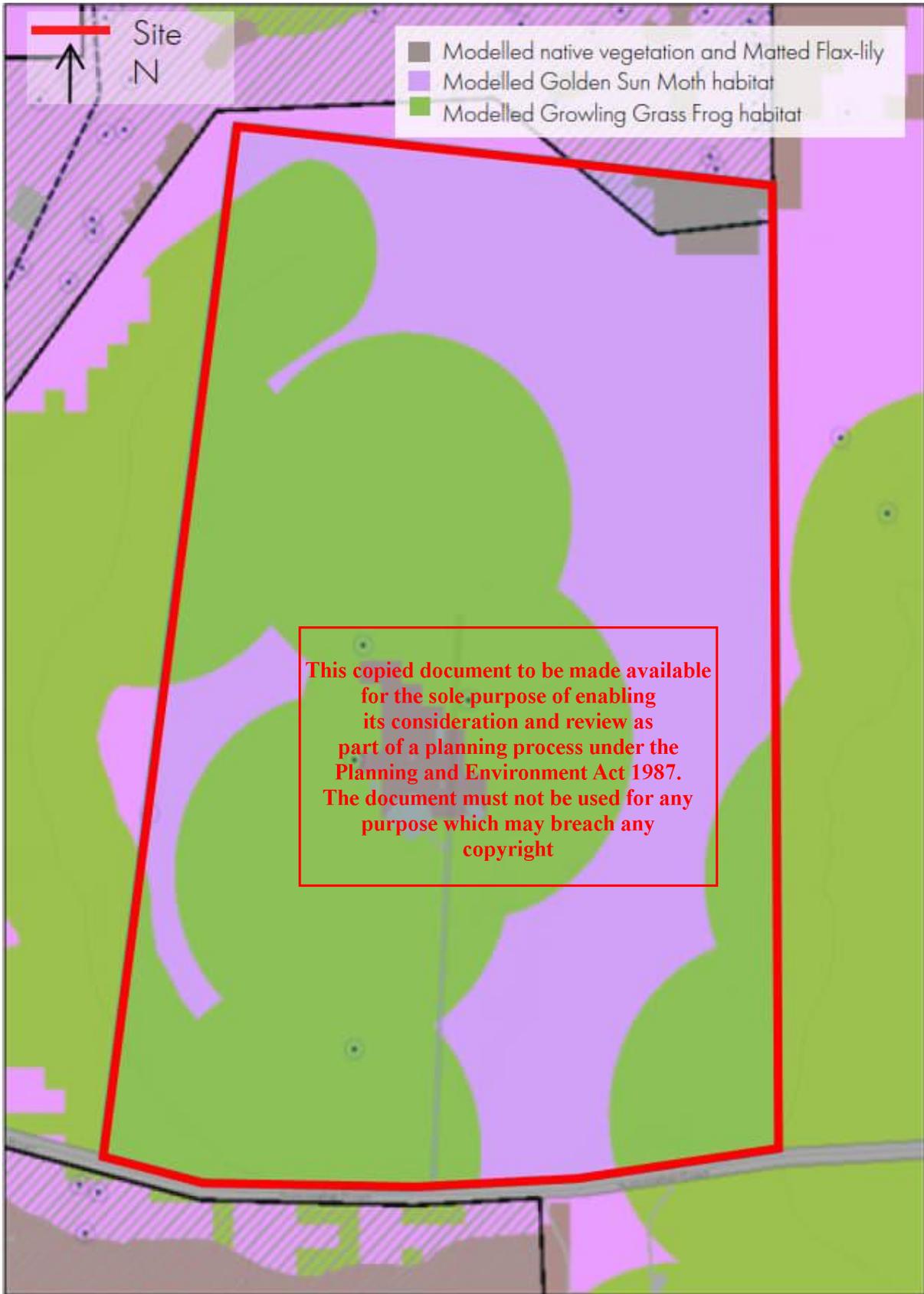


Figure 4 - Biodiversity values identified through Melbourne Strategic Assessment (2012)

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2.2.5 Bushfire

The Site is located within a Bushfire Prone Area (refer to Figure 5). The bushfire hazard assessment (EHP 2023a) undertaken by Ecology and Heritage Partners identified that the broader landscape comprises little treed vegetation beyond 100m of the Site. Because there is limited fuel, extreme bushfire behaviour would not be possible in the area. The wider landscape is characterised by agricultural land, rural residential properties, residential developments and existing residential areas. Non-contiguous woodland vegetation was identified in a small patch on the southern side of Summerhill Road. Mount Sugarloaf and Mount Charlie Nature Conservation Reserves are the nearest large forested areas, approximately 30km to the west and north-west of the Site.

At the local scale and the neighbourhood scale the landscape context is dominated by cropped grassland and lands modified for agricultural purposes. Much of the land to the east is undergoing or is earmarked for residential development which will result in the removal of vegetation. Some woodland vegetation can be found within the Merri Creek corridor. Given the limited fuel available and the riparian nature of the vegetation in the Creek likelihood of a fire reaching the severity required to impact a development is largely reduced. The potential from embers to impact the Site from a forest fire within Mount Sugarloaf and Mount Charlie nature conservation reserves is limited because of the fragmented nature of intervening land.



BUSHFIRE PRONE AREAS

BUSHFIRE PRONE AREAS

Figure 5 - Bushfire Prone Areas

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2.3 Site Context

The Site is located approximately 26 kilometres north of Melbourne's CBD. The Site is within the City of Whittlesea which is located on Melbourne's metropolitan fringe. It is the third fastest and largest growing municipality in Victoria and comprises a wide range of urban and rural land use activities. This includes significant employment areas, activity centres, residential communities, farming activities, township communities, educational and other community uses. The municipality's access to major transportation corridors (such as the Hume Freeway and Metropolitan Ring Road) and convenient access to central Melbourne and other employment centres provides significant employment, infrastructure and transport opportunities for Whittlesea.

The Site is located approximately 8 kilometres north-east of the Craigieburn Train Station and 5 kilometres from the Craigieburn Neighbourhood Activity Centre and Town Centre. Primary access to the Site is via the Hume Freeway (Amaroo Rd exit) and Summerhill Road.

There are numerous industrial uses within the local area, including various quarries and construction material manufacturers.

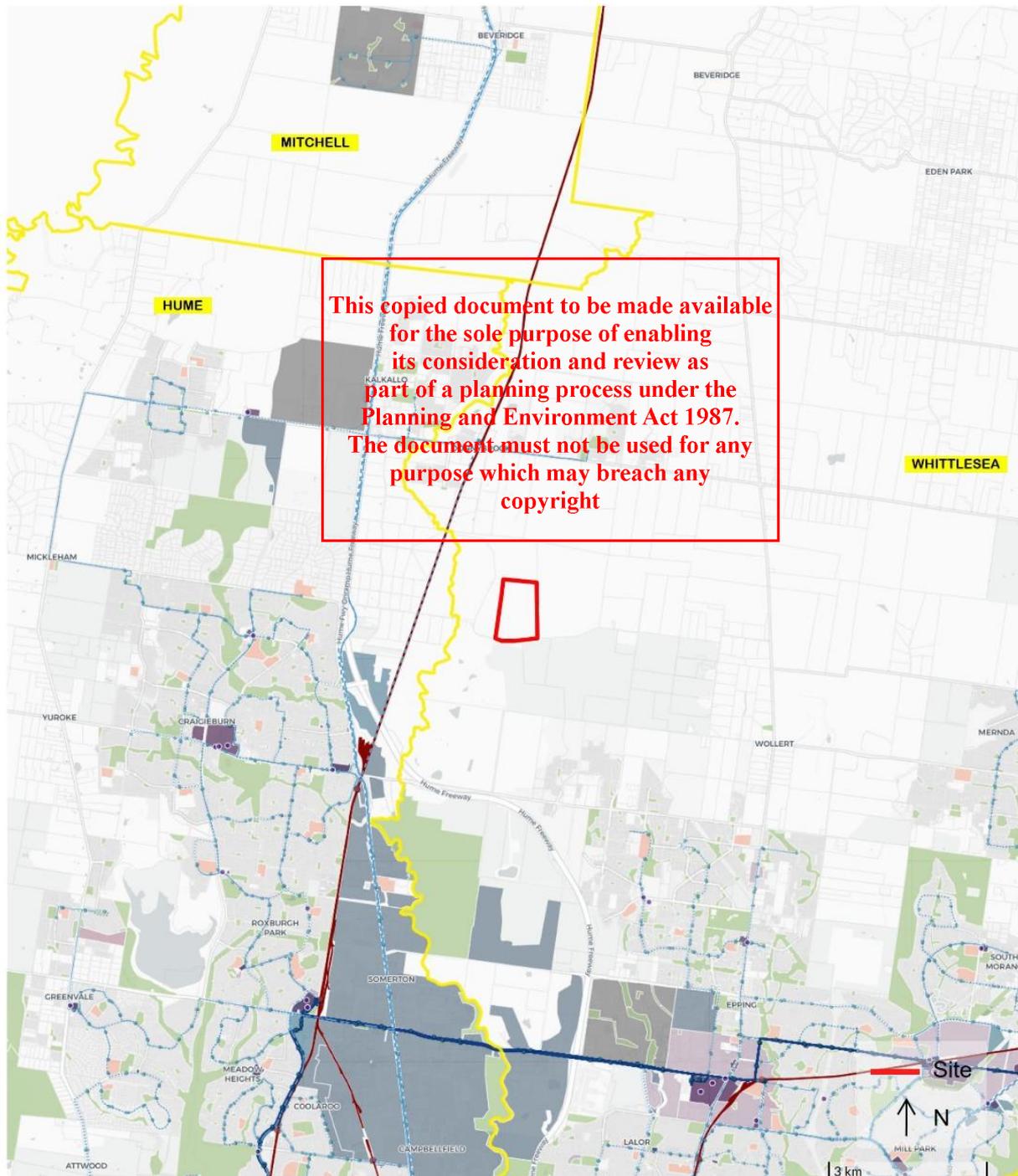


Figure 6 - Context Plan

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2.3.1 Precinct structure plan context

The Site is located in Wollert within the future Northern Quarries Precinct Structure Plan (PSP) area. Commencement for this PSP has not yet been scheduled by the Victorian Planning Authority (VPA), but it is anticipated that when planning commences, this precinct will be rezoned to have an employment focus.

Surrounding PSPs include:

- Shenstone Park PSP to the north
- English Street PSP to the northwest
- Wollert PSP to the southeast
- Craigieburn North Employment PSP to the west
- Cooper Street West to the south

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Table 1 - Surrounding PSPs

PSP (direction from Site)	Vision	Land Use Focus	Status
Shenstone Park (north)	<p>The Shenstone Park precinct will be defined by its incorporation and celebration of natural and cultural features. Development will have a strong emphasis on creating a high-quality urban environment supported by landscaping, strong connections to transport and community facilities.</p> <p>The Shenstone Park precinct has been designed taking into account the presence of strategic extractive resources within the Woody Hill and Phillips quarries. The PSP adopts a precautionary, protective approach to avoid encroachment of incompatible land uses that would limit the availability of stone resources. The precautionary, protective approach has been adopted in recognition of the quality and value of the resource such that the ability to efficiently extract the resource must take precedence over incompatible conventional urban development.</p>	Residential Employment	Approved 2022
English Street (northwest)	<p>The English Street precinct will be a well-presented, high-quality, business and residential area. Development of the precinct will create a diverse mix of commercial offices, local convenience retail uses, community assets and residential dwellings. This will promote self-sufficiency for the precinct in meeting local daily needs. It will also strengthen the retail and commercial offering in the existing Donnybrook township. Residential and business development will capitalise on the precinct's proximity to Donnybrook Train Station.</p>	Residential Commercial	Approved 2016
Wollert (southeast)	<p>Development in the Wollert precinct will incorporate existing significant River Red Gums, waterways, stony rises and other cultural heritage features. Residential and commercial developments will actively incorporate these features into the urban environment to provide people with diverse environments with their own distinctive character. A range of lot sizes and housing types will encourage diverse residential neighbourhoods and provide housing choice and a sense of identity for future communities. Comfortable, sustainable buildings and infrastructure will provide high quality living for residents. Integrating retail, commercial, education and other</p>	Residential General light industrial	Approved 2022

PSP (direction from Site)	Vision	Land Use Focus	Status
	<p>community facilities within one Major Town Centre and two Local Town Centres will create convenient and vibrant hubs. Each centre will have its own distinct character, incorporating existing natural features to create unique places for people to gather.</p> <p>The PSP will provide the opportunity to deliver strong and diverse employment uses within the precinct which, over time, will deliver local jobs and provide separation of the residential areas from the existing landfill and existing and proposed quarries to the east of the Precinct.</p>		
Craigieburn North Employment Area (west)	<p>The Craigieburn North Employment Area is planned as an integrated commercial and industrial business park. It establishes a precinct which combines a high amenity setting characterised by the landscape and biodiversity values associated with the Merri Creek environs and adjacent residential areas and conventional industrial area suited to the development of local industry and business needs.</p> <p>Development of the precinct will form part of a future regional economic cluster and add to the supply of industrial and commercial land needed in the North Growth Corridor to meet demand for a variety of businesses and employment opportunities as the region develops from non-urban to urban.</p>	Commercial Industrial	Approved 2016
Cooper Street West (south)	<p>This PSP has not commenced however the Victorian Planning Authority's discussion paper for the area states that the Cooper Street West Precinct has been designated for employment uses. It notes that due to some of its constraints; the breadth of employment activities may be more limited than the other areas of Cooper Street Employment Area. The proximity of the study area to future growth areas, transport infrastructure and regionally significant employment precincts present significant opportunities for future investment.</p>	Employment (indicative)	Unprogrammed

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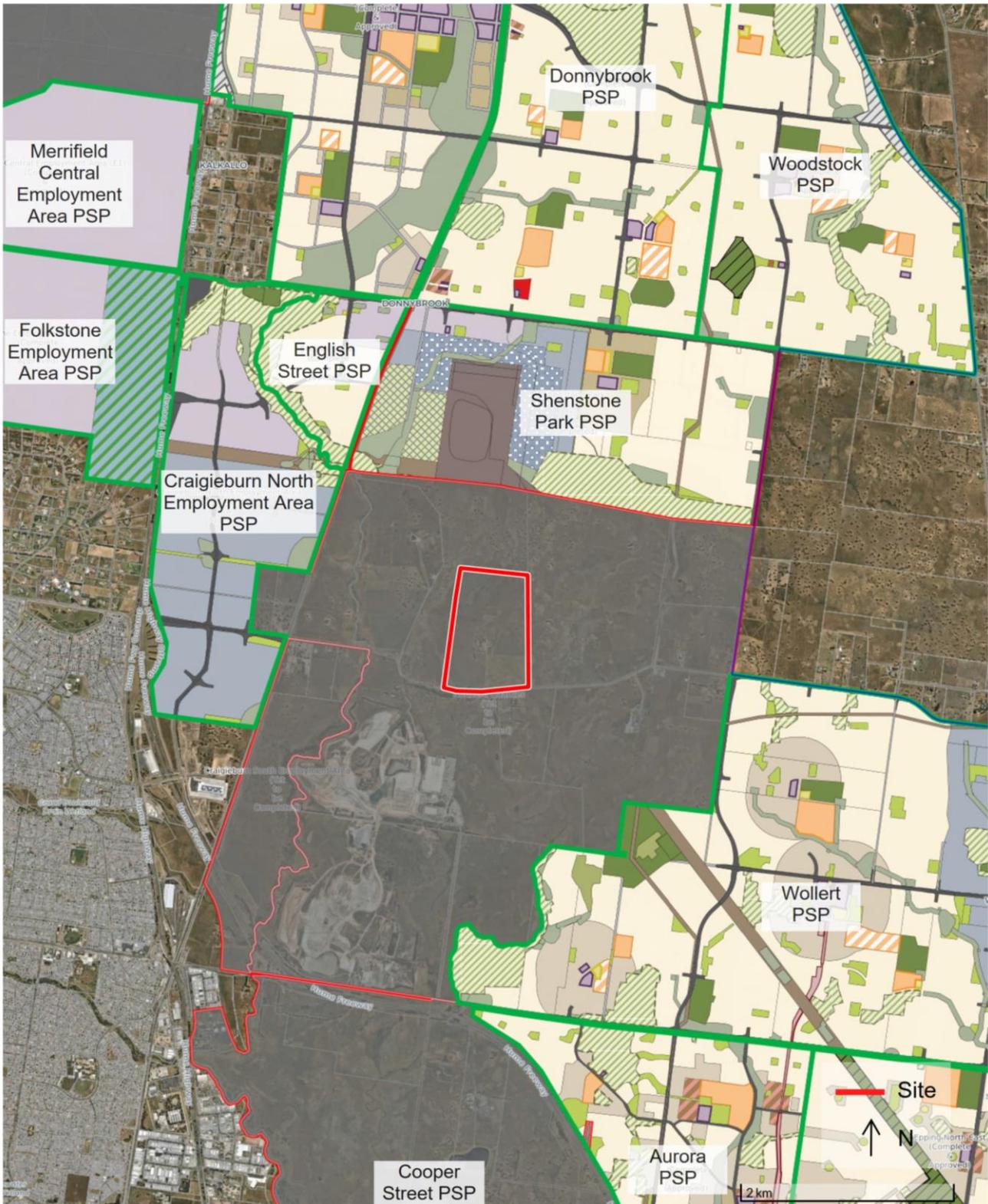


Figure 7 - Precinct Structure Plans (Complete & Incomplete)

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2.3.2 Surface water

The Site is located within the Yarra River Basin and Merri Creek Catchment.

It is adjacent to two small waterways:

- Curly Sedge Creek, located along the outside edge of the eastern boundary
- A tributary of Curly Sedge Creek (waterway known as Tributary 4545), located adjacent to the western boundary of the Proposal.

Curly Sedge Creek and its tributaries drain to the Merri Creek which is located approximately 750m to the west of the Site.

Due to the existing topography of the Site, there are two primary stormwater catchment areas (to the east and west) which flow south beyond Summerhill Road and ultimately to Merri Creek. Two small culverts are present beneath Summerhill Road which conveys flows from both Curly Sedge Creek and Tributary 4545. The two cross drains running below Summerhill Road are estimated to be DN 225 / DN 300 in size.

The existing Site consists mainly of open farmland and does not contain any existing water quality infrastructure. There is also no formal stormwater road drainage along Summerhill Road.

Waterways and drainage within and surrounding the Site are illustrated at Figure 8 - Watercourses in proximity to the Site.



Figure 8 - Watercourses in proximity to the Site

2.3.3 Marram Baba Merri Creek Regional Parklands

The Marram Baba Merri Creek Regional Parklands will span 2,778-hectares from Campbellfield to Beveridge in Melbourne's north. When completed, the parklands will link trails, open spaces and areas with biodiversity values. As shown in Figure 9, the parklands will be located directly north and south of the Site, with the portion of the Site zoned Rural Conservation Zone to be included as part of the parklands.

Community and stakeholder input was sought on the proposed parklands and informed the development of the draft marram baba Merri Creek Regional Parklands Future Directions Plan. The draft plan sets out the vision, principles and priority actions to support the establishment, management and expansion of the Marram Baba Merri Creek Regional Parklands. Consultation on the project is ongoing.

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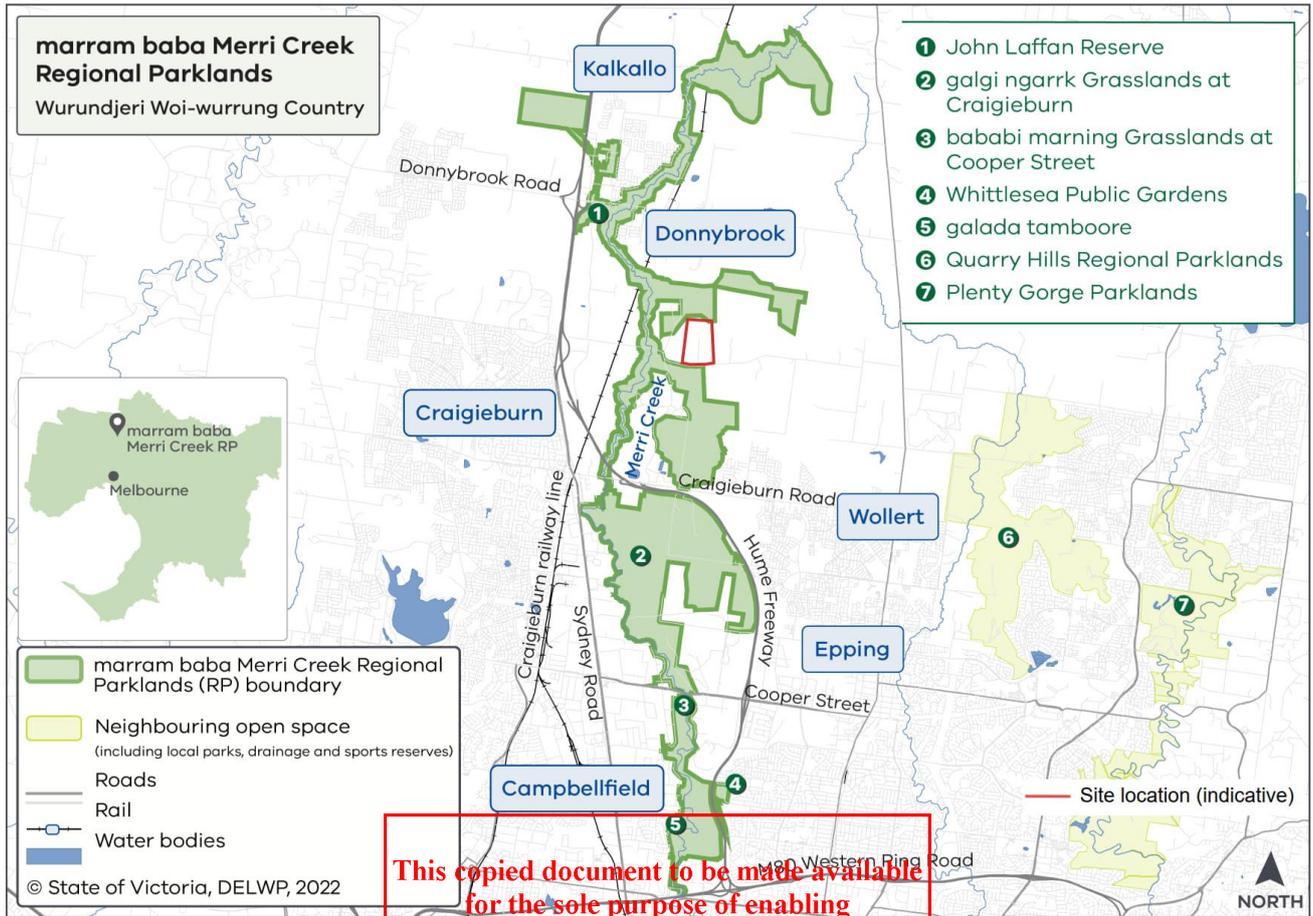


Figure 9: Proposed Marram Baba Merri Creek Regional Parklands

2.3.4 Local transport infrastructure

The Site is primarily accessed via the Hume Freeway (Anderson Road) and Summerhill Road. It can also be accessed from the east via Epping Road.

Summerhill Road is a local road that runs between Brookville Drive / Amaro Road, Craigieburn in the west and Epping Road in the east. It is managed by both the City of Hume and the City of Whittlesea. The western section of Summerhill Road (Amaroo Road to Merri Creek) has a sealed pavement of approximately 6.5m with grass verges, centrally located within a reservation of approximately 20m. The road crosses Merri Creek and the Albury/Shepparton (regional) rail line at a level crossing. This section of Summerhill Road has been assessed as carrying very low traffic volumes (in the order of 600-700 vehicles per day).

Summerhill Road is unmade from the eastern side of the Merri Creek bridge with a variable width of around 6m and grass verges within a 20m reservation.

Upgrades to Summerhill Road are proposed both as part of the Wollert PSP and Craigieburn North Employment Area PSP. This would strengthen the east-west connectivity of the area.

The Craigieburn North Employment Area PSP also indicates the following projects:

- Upgrading of Summerhill Road to an arterial road, providing a four to six lane road (depending on the section) within a 34m reservation
- A 'potential freeway overpass' at the Hume Freeway to connect Mt Ridley Road to Summerhill Road
- A 'potential overpass' on Summerhill Road over the railway line to provide for grade separation
- A potential overpass and half-diamond freeway interchange to create an on-ramp (city bound) and an off ramp (outbound) serving a new east-west arterial road approximately 2kms north of Summerhill Road. The land for this project is a funded through the Craigieburn North Employment Area Development Contributions Plan.

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2.3.5 Surrounding quarries

The Site for the proposed MERC is proximate to three existing or proposed quarries (the Phillips Quarry to the east of the Site, Woody Hill Quarry to the north and the quarry associated with Austral Brickworks to the south). An electricity easement bisects the Site.

The Barro Group Mountain View Concrete Quarry (known as Woody Hill Quarry) is located approximately 1km north-west of the Site in the southwestern part of the Shenstone PSP area. It extracts, processes and distributes raw materials, including crushed rock, coarse and fine sands and gravels. The current operator, Barro Group, proposes to expand the Woody Hill Quarry to the north and east, but is yet to obtain the statutory approvals to allow it to do so.

Phillips Quarry, located directly east of the Site is also owned by Barro Group. A planning permit was issued for the quarry on 8 July 1999 (Permit 704901). This permit has been amended on multiple occasions and an extension of time was issued by the City of Whittlesea in 2019 extending the expiry date to 8 July 2024. and an amendment to the permit was approved by Council in 2014. In 2019 Council extended the planning permit for the quarry for a further five years. When Barro Group acquired the land the previous owner surrendered the Work Authority (WA160). There is therefore currently no valid Work Authority applying to the land. It is understood that a new Work Plan is currently being sought by Barro Group and once approved, the planning permit may require amendment for consistency. Once the permit and the Work Plan are aligned, a new Work Authority may be granted for the quarry.

The potential to link the two quarries via a connecting road has been explored by Barro. This potential connection was tabled at the panel hearing that was convened to consider the Shenstone Park PSP prior to its approval. It is not confirmed whether this arrangement will proceed.

2.3.6 Proximity to sensitive uses

The Site accommodates a dwelling and associated buildings.

Beyond the Site there are:

- Established sensitive uses:
 - within 110m of the southern boundary (475 Summerhill Road, Wollert). This dwelling is identified as 'Receptor 4 (R4)' in the noise and vibration assessment that accompanies this application.
 - within 350m of the western boundary (dwelling at 570 Summerhill Road, Wollert)
 - within 400m of the north-western corner of the Site (dwelling at 620 Summerhill Road, Wollert)
 - 3kms west of the Site (Mickleham / Craigieburn)
- Future planned residential areas:
 - 1.3km to the north of the Site (Shenstone Park)
 - 1.8kms to the southeast of the Site (Wollert).

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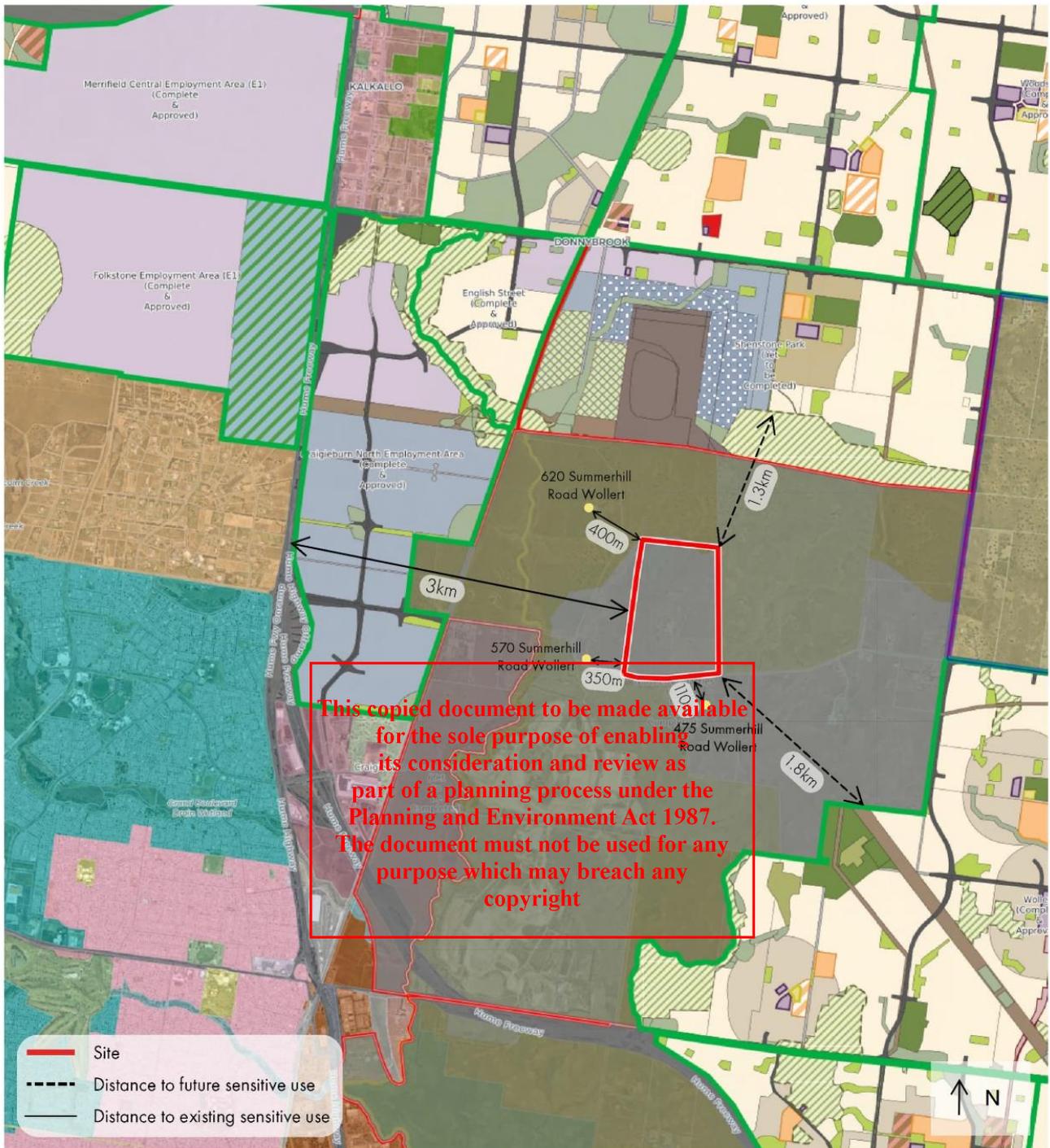


Figure 10 - Proximity to sensitive land use

2.4 Land Use Buffers

Buffers inform the type of use and development that may be undertaken on adjoining land. Given the Site adjoins three quarries, it is important to understand how these impact the propose MERC. Whilst the EPA provides guidance for quarry buffers through the EPA *Publication 1518: Recommended Separation Distances for Industrial Residual Air Emissions – Guideline*, we also note that EPA are consulting on new separation distance guidelines, due to be finalised by mid-2023. As a WtE facility will not be a sensitive land use, the fact that the Site is in close proximity to quarries is not a barrier for approval.

Buffers for quarries are ultimately determined on a case-by-case basis.

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2.4.1 Types of quarry buffers

Sensitive Use Buffers

Sensitive Use Buffers are primarily driven by amenity issues that might impact on sensitive uses, including residential land. Impacts include dust, vibration and air blast overpressure. These (and noise impacts) can be caused by blasting, but also by other operations at the quarries such as trucks using haul roads, rock crushing plants and the like. Sensitive Use Buffers are typically 500m measured from the activity boundary at the quarry sites. This is affirmed in the EPA *Guideline 1518 'Recommended separation distances for industrial residual air emissions.'*

Blast Buffers

Blast Buffers are primarily driven by the need to manage health and safety impacts from blasting activities at locations closer to where blasting occurs, including vibration, air blast and fly rock. The impacts of blasting significantly influence the level of development that may occur within these buffers.

Blast buffers are typically 200m measured from the extraction limits (the maximum possible extent of the quarry) and should be radial, not directional.

2.4.2 Other Buffers

Electricity Easement

A 500kV electrical transmission line and associated easement traverses the Site. Ausnet has produced a *Guide to living with transmission line easements* which sets out the types of activities that can be carried out within electricity easements. The MERC does not include any works within the easement.

Austral Brickworks

Austral Brickworks is located to the south of the Site. It is understood that the Austral land is not currently used for extensive clay mining and some older areas are being remediated following extraction. Should clay mining resume, a separation buffer of approximately 250m would apply to sensitive uses. Based on the current mine footprint, the 250m separation would occur wholly within the Austral site and will therefore not impact the Site or the MERC.

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APA Gas Power Station Buffer

APA owns and operates a gas compressor station on land to the southeast of the Site. APA's intention to construct a combined cycle gas fired power station has been tabled since the time that the Growth Corridor Plans were developed. The buffers relating to this project are discussed in the Panel Report for the Wollert PSP which was gazetted in 2017.

APA's Wollert site has been selected as it is one of very few around metropolitan Melbourne where a major gas pipeline crosses a high-capacity electricity transmission network. This is a major attribute of the site as infrastructure will not need to be brought to the Power Station.

At the time the draft Corridor Plans were exhibited for consultation, APA provided submissions to the then Growth Areas Authority (now VPA) requesting that land within proximity of the proposed facility be designated as being 'constrained' in order to provide a noise and vibration buffer from their proposed facility and protect their development aspirations. This designation is reflected on the North Growth Corridor Plan where much of the subject land is now identified for utilities/non-urban uses.

The background studies for the Wollert PSP show an indicative buffer for the facility of 1,200m. A 1,200m buffer would not encroach on the Site.

2.4.3 Separation distances relevant to MERC

The Site is classified as being within an 'urban setting' where buffers are measured from the edge of the activity area to the adjoining property boundary. The impact of the Sensitive Buffer and the Blast Buffer to the Phillips Quarry, relative to the subject Site are described at Figure 11 - Buffers from the Phillips Quarry works area below.

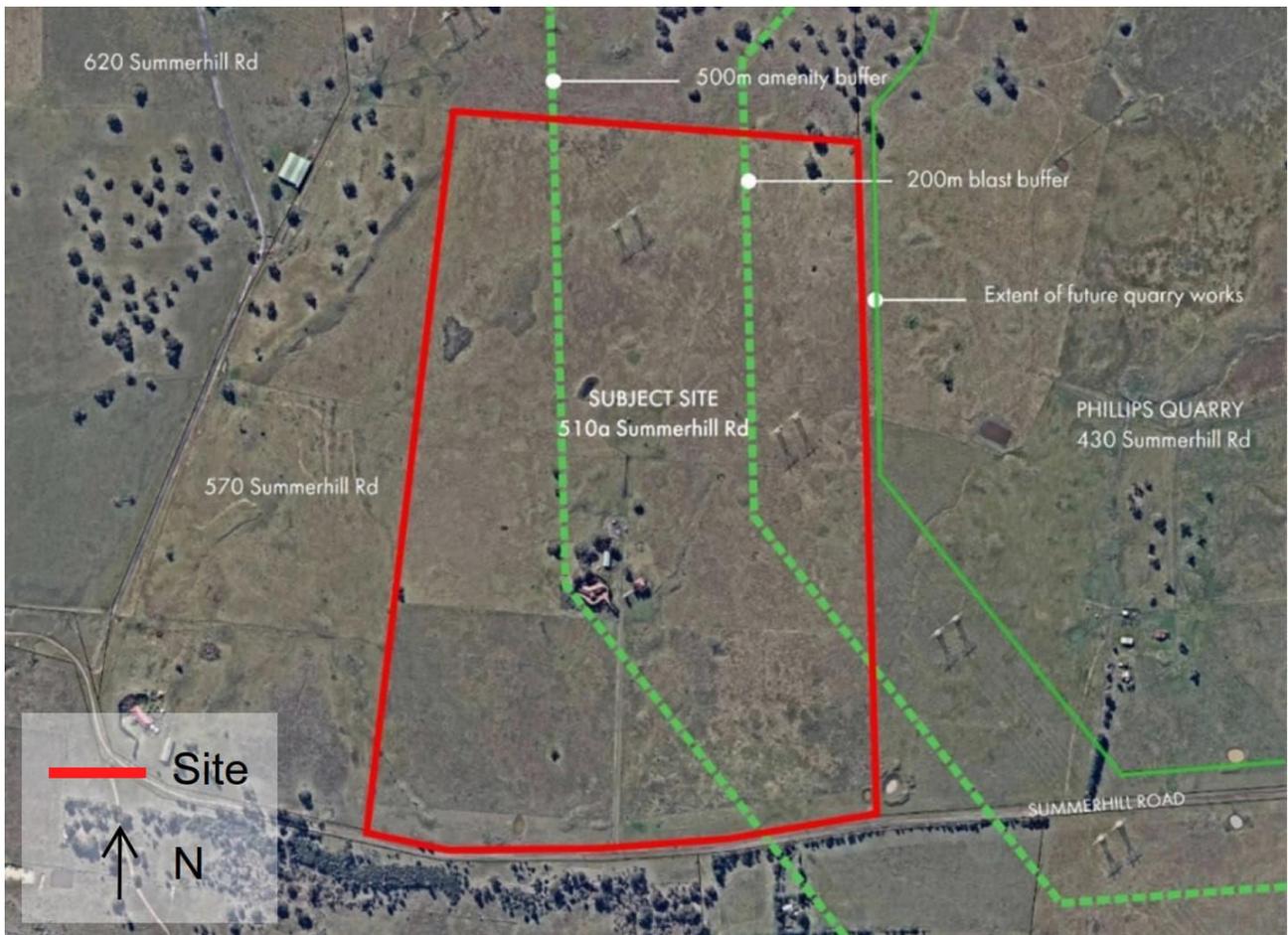


Figure 11 - Buffers from the Phillips Quarry works area

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3 The Proposal

3.1 Overview

The application seeks planning approval for the use and development of the Site for a *Waste-to-energy facility*. A *Waste-to-energy facility* is defined in the Victoria Planning Provisions as:

Land used for the combustion, treatment or bio-reaction of waste to produce energy for use off site. It includes the activities to collect, temporarily store, process, or transfer waste materials for energy production.

It is nested under the broader land use term *Energy Generation Facility*.

The use and development of the Site is subject to the provisions of the *Whittlesea Planning Scheme*. The proposal triggers the following planning permit requirements under the Scheme:

- Pursuant to Clause 35.07-1 (Farming Zone), a permit is required to use the land for a Waste-to-energy facility.
- Pursuant to Clause 35.07-4 (Farming Zone), a permit is required for buildings and works associated with a Waste-to-energy facility.
- Pursuant to Clause 52.02, a permit is required to create an easement under Section 23 of the *Subdivision Act 1988*.
- Pursuant to Clause 52.05, a permit is required to display a floodlit business identification sign.
- Pursuant to Clause 52.17-1 (Native Vegetation) a permit is required to remove, destroy or lop native vegetation, including dead native vegetation.



Figure 12 - Indicative render of the proposed MERC (Administration and Visitor Road Entry).
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Thermal WtE facilities involve the conversion of residual waste (typically waste that would otherwise be sent to landfill) into energy in the form of electricity, heat or steam.

The MERC WtE facility will adopt 'moving grate' technology which has been used globally for over 100 years and is the most common technology for WtE facilities that thermally treat MSW and residual C&I waste to produce electricity.

3.2.1 Process overview

Incoming waste is unloaded into the waste storage area (bunker) where it is mixed by crane to achieve a homogenous feedstock. The mixed waste is fed by the crane from the waste bunker to a chute. The waste is then pushed onto a moving grate (like a conveyor belt) where combustion occurs. The grate speed, waste feed rate and combustion air fans are controlled by an automatic combustion control system, which maintains a steady output of heat (in the form of steam).

Waste travels by gravity down the grate, assisted (and mixed) by the mechanical movement of the grate. Once exposed to the hot environment within the furnace section of the boiler, the fresh incoming waste begins to dry. As the dried waste travels further down the stepped grate, the combustible components in the waste combust at high temperature directly above the grate, before the ash (non-combustible components in the waste) drops from the end of the grate into an ash discharger. The ash discharger has a water bath which cools the ash. The ash is known as Incinerator Bottom Ash (IBA). The IBA is transported to the IBA treatment area for maturation and metals recovery.

The fully automated combustion system facilitates a highly efficient combustion process. The complete combustion process (from waste input to ash output) typically takes about two hours, however the movement of the grate facilitates continuous combustion of fresh waste. The energy within the hot flue gas is efficiently recovered within a steam boiler. The steam is used in a steam turbine generator to generate electricity. The energy efficiency is maximized by selection of high steam (temperature and pressure) and other features, such as combustion air preheating.

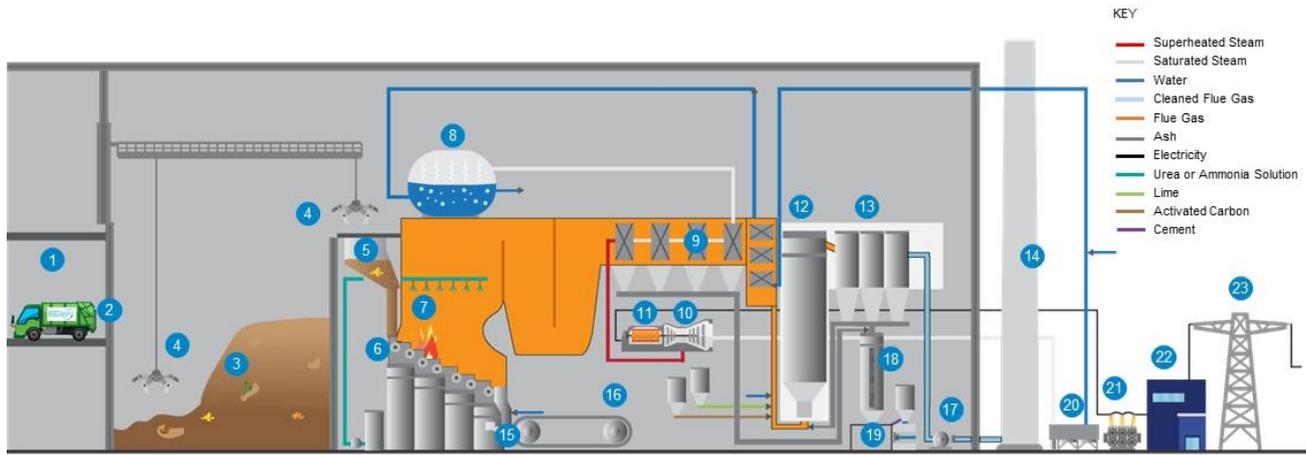
The cooled flue gas passes through a dedicated flue gas cleaning system consisting of a series of treatment steps to clean the flue gases to below permitted levels. Solid residues from the process include Air Pollution Control residues (APCr). There are a variety of options for treatment of the different solid residue streams. The IBA can, after maturation and metal recovery, potentially be used as base-material for road construction or similar. The APCr generally requires suitable treatment prior to disposal.

Figure 13 graphically depicts the operation of a waste-to-energy facility and is representative of the operations that are proposed to be undertaken at the MERC.

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1 Waste receiving hall	7 Boiler with SNCR (de-NOx)	13 Bag filter	19 Treated APCr to stabilization area for curing prior to removal off-site for disposal
2 Tipping bay	8 Steam drum	14 Stack	20 Air cooled condenser
3 Waste bunker	9 Heat exchangers	15 Incinerator bottom ash (IBA) quenching	21 Transformer
4 Waste crane	10 Steam turbine	16 IBA conveyor to treatment area for maturation and on-site metals recovery	22 Substation
5 Feed hopper (chute)	11 Generator	17 ID Fan	23 Local electricity grid or 'behind the meter' connection points
6 Moving grate	12 Semi dry reactor	18 Air Pollution Control residues (APCr) and boiler fly ash silo	

Figure 13 - Waste-to-energy process

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3.2.2 Waste Feedstock

The facility is designed to thermally treat 380,000 tonnes per annum (tpa) of waste feedstock that would otherwise be sent to landfill. Waste processed at the Site will be subject to a Waste Acceptance Protocol to ensure only appropriate and permitted waste is used as feedstock. The feedstock primarily consists of residual MSW and residual C&I waste with smaller fractions of other wastes identified as 'acceptable waste' in the Waste Acceptance Protocol. The Proposal will use waste that would otherwise be sent to landfill.

It is acknowledged that small quantities of individually 'unacceptable wastes' (such as batteries) will unavoidably be received as part of residual MSW and residual C&I waste. The process equipment will therefore be designed to handle these items in the quantities typically found in residual mixed waste streams without compromising the safety of the process or personnel and without causing environmental harm. Homogeneous loads of unacceptable waste will be excluded through waste acceptance criteria within the pre-qualification process and contractual agreements with waste suppliers.

3.2.3 Outputs

The Proposal will incorporate maturation and processing of bottom ash to recover recyclable metals, with the intent to utilise the remaining ash as an aggregate in construction.

The WtE process will generate approximately 46.3MW gross of electricity, 4.4MW of which would be used to power the facility itself and the associated on-site by-product and residue treatment processes, with 41.6MW (329,500 MWh/year) exported to the grid as reliable and constant electricity. In addition to supplying electricity to the grid, there is also potential to supply energy in the form of heat and/or process steam to local industrial users or other future on-site waste processing infrastructure.

Approximately 10,700tpa of ferrous metals and 1,900tpa of non-ferrous metals are expected to be recovered from the IBA for reuse. Following quenching and recovery of recyclable materials, the Proposal is expected to generate approximately 96,600tpa of IBA.

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Flue gas from the MERC will comprise 99.9% oxygen, carbon dioxide, nitrogen and water vapour. Other outputs from the facility include boiler ash and flue gas treatment residue.

3.2.4 Hours of Operation

The facility will operate 24 hours per day, seven days per week (365 days per year). The delivery hours will be 12 hours per day between 6am to 6pm. Deliveries will occur across six days per week (Monday to Saturday) excluding public holidays. This equates to approximately 300 delivery days per year.

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3.2.5 Employment generation

There will be up to 50 operational staff, with a maximum of 34 operational staff on site at any one time to operate the facility. The majority of staff will work standard hours, arriving between 08:00 and 09:00, and departing between 17:00 and 18:00.

3.2.6 Visitors

The facility will accommodate educational groups and other interested parties seeking to visit the Site and learn about the technology. Visitors, suppliers and contractors visiting the Site are expected to attend the facility between 08:00 and 17:00. The majority of these trips will be made via car, with a small number via mini-bus or coach.

3.3 MERC design

The vision driving the Site design is to create a connected environment by generating a design that:

- Responds to the Site context
- Respects the natural environment
- Responds to the needs of the employees by creating an enjoyable workplace
- Cares for the community in considering the views, sight lines and noise mitigation
- Provides a space where the community can learn about the facility and its function to treat waste.

The architectural design is presented in a comprehensive architectural and landscape package (Arup 2023a).

3.3.1 Massing and Built Form

The architectural approach to the facility has been driven by the following objectives:

1. Respect and work with the functional massing

The architectural response has been informed through collaboration with the specialist engineering team to understand the functional and spatial requirements of the facility to achieve efficient and streamlined operations. Direct and rational vehicular access routes have been established around the facility which minimises travel distances. Operational equipment is enclosed to control visual perception and acoustics.

2. Introduce horizontal 'banding' to break up the volume

Horizontal divisions and the layering of different materials have been employed to visually 'break up' the bulk and mass of the main facility building.

3. Introduce small semi-transparent windows into the facility to indicate internal functions

Transparency and public education is an important element of the facility. The inclusion of semi-transparent windows in strategic locations around the Site allows visitors using the bus route around the main facility to view pockets of the internal functions.

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4. Provide a generous human interface and allow for community interactions

A contrasting architectural design for the visitor centre and administration buildings provides a more human-centric experience and comfortable environment. Dedicated visitor access and separated on-site parking helps to establish a 'front door' through which visitors enter.

5. Rainwater capture from building envelopes

Rainwater tanks are proposed to collect rainwater roof runoff for use as a source of process water for the facility. Run-off from hardstand will be directed to the attenuation basins.

3.3.2 Built Form

The overall development area of the MERC occupies an area of approximately 24ha within the 82ha Site. It comprises a complex of fully enclosed and open structures, of various sizes and formats. The main waste processing buildings occupy an area of 1,280sqm. This complex has a length of approximately 190m, a width of 64m and achieves a height of 56.4m at its highest point. The flue gas stack is marginally higher at 57.8m.

The main building will be steel framed and steel clad with a lightweight roof envelope designed to resist wind pressures and contain the WtE process & equipment.

Ancillary buildings will typically be free-spanning, lightweight steel portal frame structures. To make the structures efficient, it is assumed that internal plant and equipment will be ground-bearing.

3.3.3 Key Operational Precincts

The Site operations occur within four key precincts:

- Main Waste Processing Precinct
- IBA Centre
- Visitor Precinct
- Broader Site

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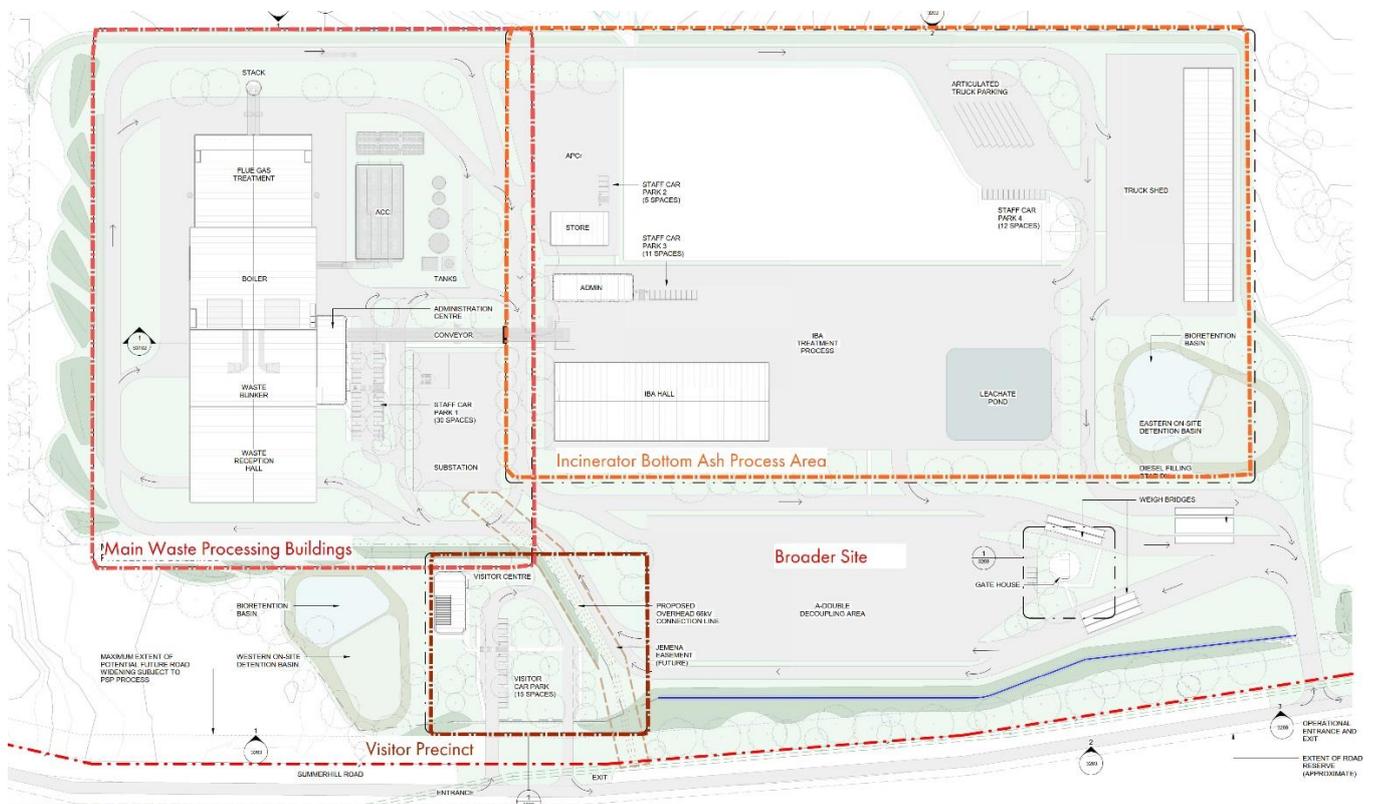


Figure 14 - Key Operational Precincts
Base image produced by Arup (2023)

Main Waste Processing Precinct

This precinct is the location of the primary waste-to-energy functions and is located towards the western portion of the Site. Key elements include:

- Waste reception hall
- Waste bunker
- Boiler
- Flue gas treatment
- Stack
- Substation
- Administration centre
- Car parking.

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IBA Centre

This precinct deals with the by-products of the waste-to-energy process, allowing their careful treatment and Key elements include:

- IBA treatment process area
- IBA hall
- Air Pollution Control Residue store
- Leachate pond
- Eastern attenuation basin
- Bioretention area
- Truck shed.

Visitor Precinct

This precinct is at the southernmost portion of the Site, adjacent to Summerhill Road. It is the first point of contact for visitors to the Site, and is accessible via a dedicated visitor entrance, separate from the operational entrance. The precinct consists of:

- Visitor and Education Centre
- Dedicated visitor car park.

Broader Site

The Site also includes:

- Bioretention area (west)
- Western attenuation basic
- A-Double decoupling area
- Gate house
- Noise wall
- Weigh bridges.

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The existing homestead located immediately north of the MERC will be decommissioned and demolished. The mature trees located immediately north of the homestead will be retained. The access driveway will remain in place to provide access to the Site to allow for site establishment works until the ultimate internal accessways are constructed.

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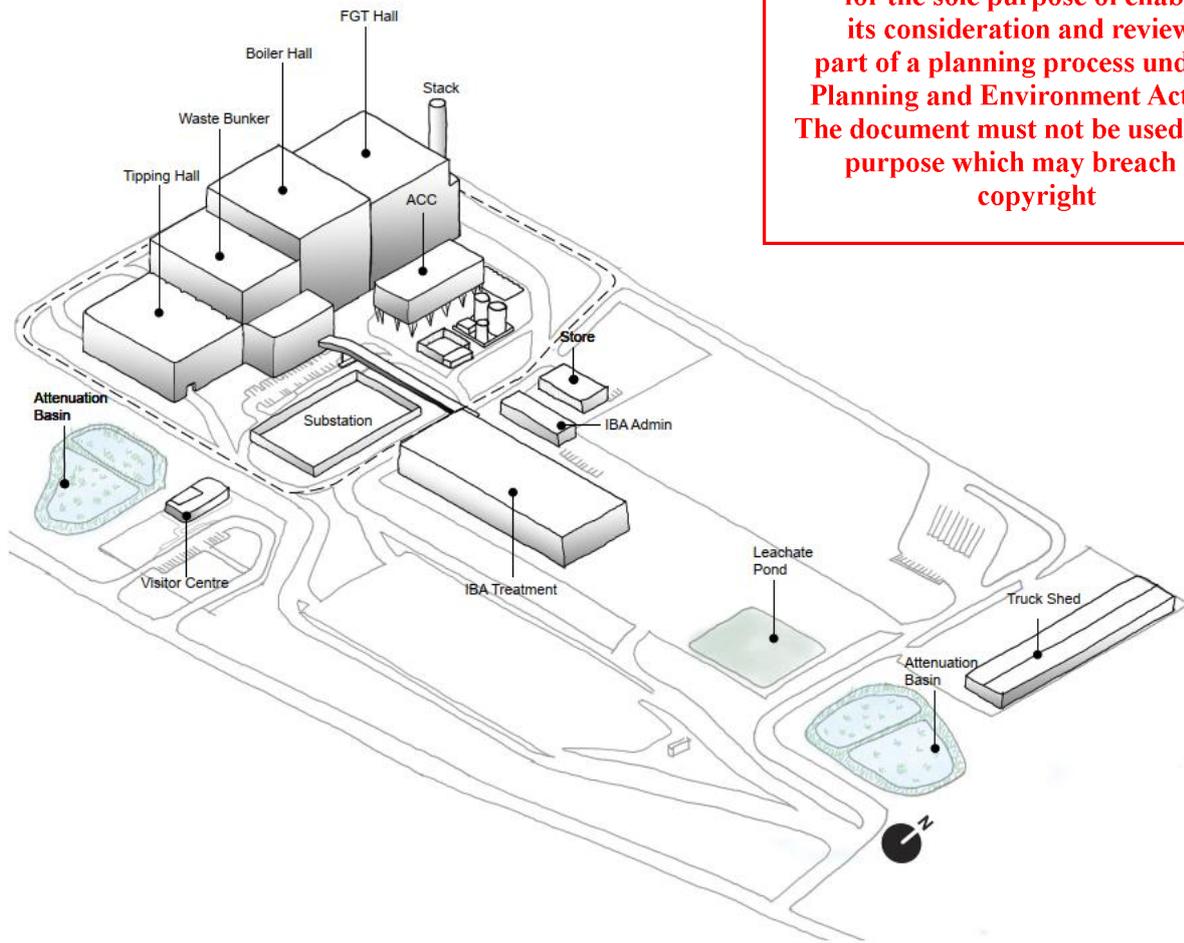


Figure 15 - Site layout (diagrammatic)
Image produced by Arup (2023)

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3.3.4 Materials

Materials have been selected with consideration of sustainable procurement practices as well as to demonstrate exemplary sustainability outcomes including the consideration of the materials' source, manufacturing processes, embodied carbon, life cycle and end of life strategy. The materials are intended to help embed the project within its setting. The colour tones used in the building exterior are subdued.

The following principles have been adopted when selecting materials for the facility:

Main Processing Building and Ancillary Buildings:

- Recessive colour palette to mitigate visual impact of building mass
- Subtle semi-transparent areas in main processing building facade hints at internal operations and gives the sense that the building is operational and occupied
- Vertical mullion spacing in metal panel facade increases at the higher levels of the building, to reflect more sky through the use of semi-reflective metal panels
- Concrete base surrounding the entire processing facility for durability and functionality whilst visually grounding the building on the Site.

Administration and Visitor Centre:

- Curtain wall glazing system to optimise internal light and visual amenity for both employees and visitors
- Perforated metal louvred shading screen to shade internal areas whilst screening out views of ancillary buildings.

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Stack:

- Low-reflective cladding material to subtly respond to changing weather conditions and blend into the sky whilst being highly durable to suit the MERC's technical requirements.

3.3.5 Landscaping

The landscaping approach has been informed by the following objectives:

- Working with the existing Site conditions and topography
- Revegetation and restoration of the landscape with co-design opportunities with Traditional Owners
- Using intervention surfaces and horizontal landscape elements to provide natural buffer and screening to the Site and buildings
- Water capture and treatment as sensitive urban design initiative
- Reuse of excavated rock and soil within the landscape treatments
- Providing trees, landscaping and visual amenity to the staff and visitor facilities on site

Landscape principles have been developed to deliver the design vision for the MERC and include:

'Screening and shading'

- Use of native grasses, trees, shrubs and earth mounds as key design materials and elements.
- Retention existing trees and increase canopy cover by proposing new trees.

'Re-use of Materials'

- Re-use of site-won materials as features to minimise waste (excavation and site generated waste).
- Use of basalt boulders as features, crushed basalt mulch in bioretention basins and in gabion walls.

'Collect'

- Capture of on-site stormwater run-off and allow for infiltration via swales and bioretention basins within the Site.

'Connect'

- Connection to the natural environment using endemic vegetation and geological materials of the Volcanic Plains Grassland bioregion.
- Creation of habitat within the Site.
- Strengthen connection between communities and the facility through building awareness, education, and by providing visual amenity.
- Connect to the architecture of the facility through complementary materials selection.

The key elements of the landscape design include:

- Partially screening the facility from the Summerhill Road interface through the use of strategically positioned and appropriately scaled mounds that control views into the facility
- Use of endemic species selected from the Ecological Vegetation Class (EVC) of the area (Victorian Volcanic Plains bioregion).
- Increasing tree canopy cover for shade
- Positioning feature boulders sourced from the immediate area within the landscape to provide connection with the Site's geomorphology
- Use of gabion walls and rocky outcrops to create habitat opportunities.
- Implementing vegetated swales and bioretention basins for collection and treatment of stormwater runoff from hardstand.
- Ornamental mass planting using native species to denote Site entry.
- Feature planting around the visitor centre.

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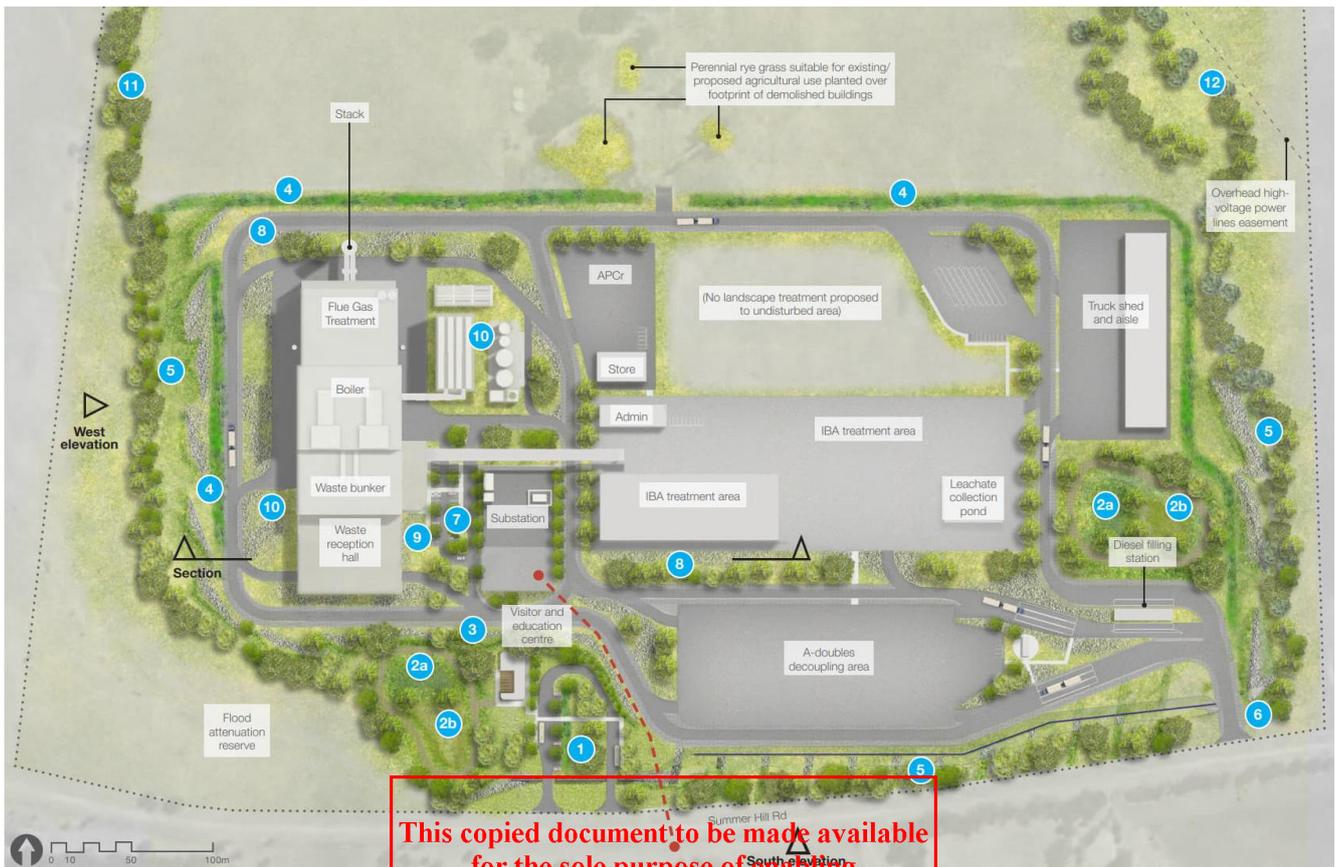


Figure 16 - Landscape Concept Plan
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3.4 Traffic and Transport

3.4.1 Access

Vehicle access to the Site is proposed via three connections with Summerhill Road:

- One primary vehicle access near the eastern boundary of the Site
- Two crossovers facilitating a one-directional access to the visitor car park, located approximately midway along the Site's Summerhill Road frontage.

3.4.2 Vehicles

A range of heavy vehicles are expected to deliver residual waste to the MERC from metropolitan Melbourne with the largest being a 32m long A-Double vehicle. An A-Double vehicle comprises of a prime mover towing two trailers. The first trailer is connected to the prime mover by a roll coupled connection, and the second trailer is a dog trailer.

Other than incoming waste vehicle movements, the other main types of vehicle movements will include:

- Stabilised APCr transfer vehicles
- IBA aggregate product dispatch trucks (up to A-double size)
- Consumable deliveries e.g. quicklime trucks, urea granule/urea solution/ammonia solution tanker trucks and PAC tanker trucks
- Maintenance trucks / third party contractors
- Visitors and staff.

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3.4.3 Proposed Roadworks

To cater for increased truck volumes, it is recommended that Summerhill Road be upgraded between Merri Creek and the eastern Site access to a sealed standard with a pavement width of approximately 6.5m to facilitate the Proposal. This equates to an upgrade of Summerhill Road for a length of approximately 1.6km. As a planning permit is not required for these works due to the exception in Clause 62.02-2 of the Scheme, they do not form part of the PPA however have been considered as part of all relevant technical studies and assessments where relevant.

3.4.4 Vehicle parking

A total of 73 car spaces are proposed to be provided on the Site as part of the Proposal. A visitor car park with 15 spaces (including two (2) disabled spaces) is located near the visitor centre in the southern part of the Site. The main staff car park is located adjacent to the administration centre and comprises 30 spaces including two (2) disabled spaces. In addition, there are three (3) smaller car parking areas in other locations, including four (4) disabled spaces.

Two bus bays will also be provided to facilitate visitor tours.

3.4.5 Deliveries and internal truck circulation

Vehicle movements within the Site are designed to be a clockwise single-direction. Crossings are avoided. On-site speed limits are:

- 20 km/h for haul roads
- 10 km/h for built-up areas (including tipping hall entry/exit)

The facility is anticipated to generate 106 deliveries by truck per day, and 46 light vehicle arrivals comprising staff, suppliers and visitors.

The passage of waste trucks and associated operations within the Site is described as follows:

Weighbridge

As waste trucks arrive to the Site they are identified and weighed in one of the three weighbridges. The entry weighbridge is arranged to accommodate queuing on site. Trucks can either be directed to the tipping bays to unload the waste or to the "pre inspection bays".

Waste inspection in pre-inspection bays.

After being weighed in, waste vehicles are directed to "pre inspection bays" (located in the "de-coupling" area) and subject to random visual inspections of the waste. This allows for an inspection of waste vehicles prior entering the tipping hall.

Reception Hall:

After weighing, the truck will use the southern bypass slipway and follow the waste delivery path into the reception hall. The truck will enter from the eastern entrance and tip into the allocated tipping bay.

Waste inspection/rejection in tipping hall:

"Inspection areas" in the tipping hall are allocated areas where waste is placed on the floor for random visual inspection. After inspection of compliant waste, the pile is pushed into the bunker via a front loader. If non-contract / disallowed waste is discovered (e.g. asbestos, large amounts of electronics or inert materials) the rejected waste will be loaded back into trucks/open containers via a front-loader or other mobile equipment. If necessary, rejected waste may require collection via separate vehicles.

Inspection of A-doubles:

Because A-doubles cannot be off-loaded without the use of in-situ tippers, waste arriving via A-doubles is off-loaded directly into the bunker and cannot be subject to floor inspection in the pre-inspection bays. However, it is assumed that A-doubles arrive primarily from Cleanaway transfer stations and is therefore subject to quality assurance procedures that ensure non-contract waste is not received. Third-party waste arriving via A-doubles trucks would be subject to equivalent quality assurance procedures.

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Back-loading of waste in the bunker:

Waste in the bunker can also be backloaded with a smaller picking crane. In this scenario, rejected/non-contract waste would be placed into an area accessible from the tipping hall where it can be removed via a front-loader or other mobile equipment.

Alternatively, a hatch can allow the crane to lower the grab and feed an open container situated to one side of the waste bunker.

Exit

The truck will exit the facility using the western exit of the tipping hall and follow the external road until it reaches the decoupling area. The truck will then use the northern bypass road and enter one of the two outgoing weighbridges for weighing. After weighing, the vehicle can leave site. The diesel filling station can be used after exiting.

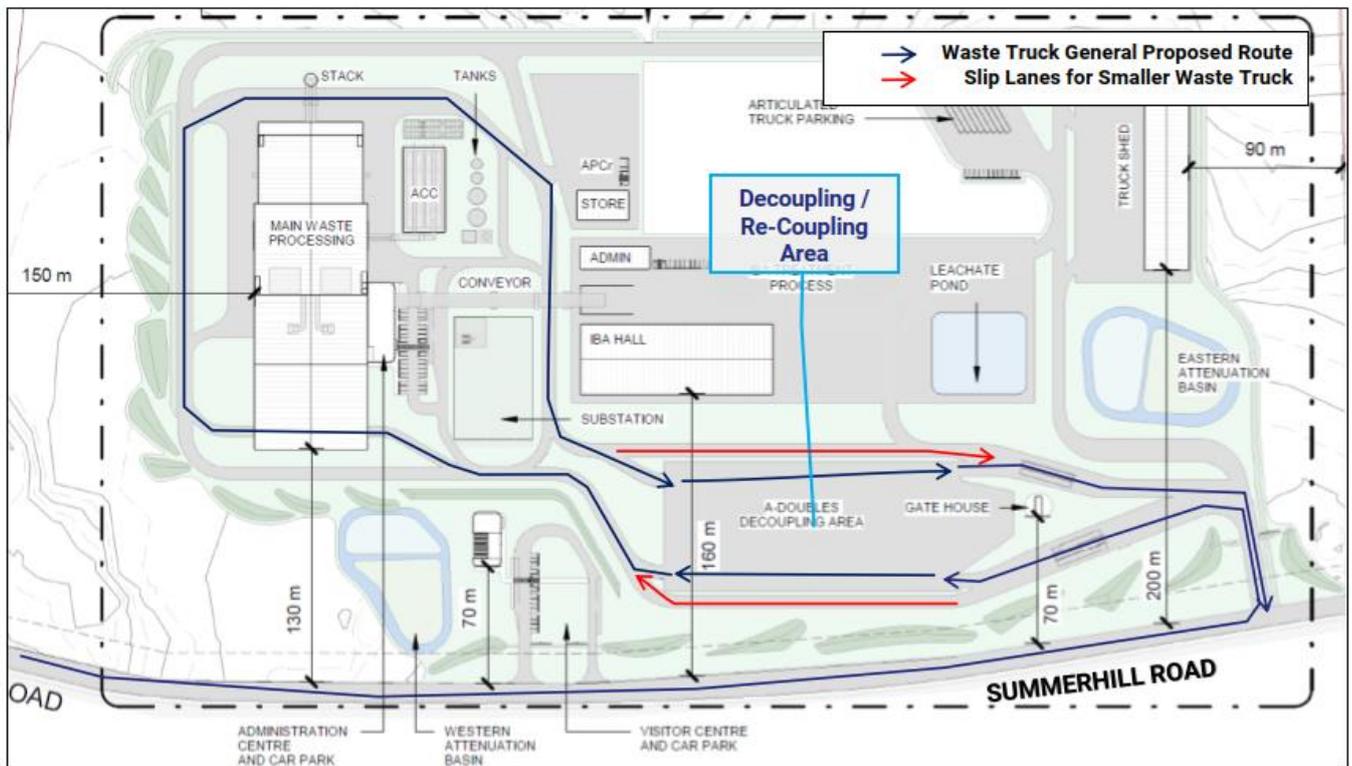


Figure 17 - Proposed internal loading routes
Image produced by Arup (2023)

3.5 Signage

A floodlit business identification sign is proposed at the front entry to the Site, at the entry to the Visitor's Centre. The sign is 3sqm in area and comprises the information to identify the MERC, potentially including the Cleanaway logo.

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3.6 Vegetation Removal

The works occur in an area where habitat values have been recorded through time-stamped data. The development avoids the removal of most native vegetation identified on the Site however proposes the removal of one scattered tree. This tree is located centrally within the southern portion of the Site and its removal cannot be avoided.

Offset payments will be required under the *Melbourne Strategic Assessment (Environment Mitigation Levy) Act 2020* (MSA Act) because the Site is recorded as containing environmental values (Golden Sun Moth, Growling Grass Frog and Matted Flax-lily) through the time-stamped data.

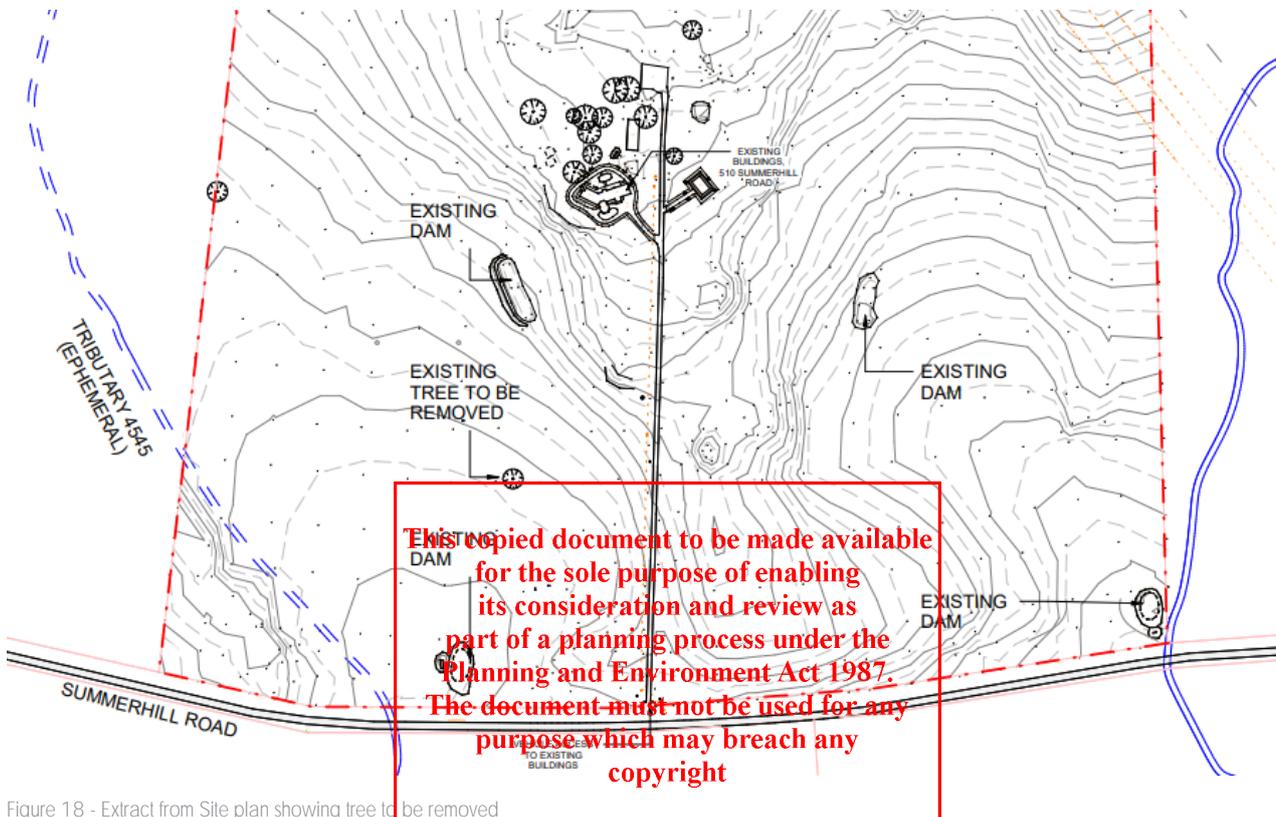


Figure 18 - Extract from Site plan showing tree to be removed
Image produced by Arup (2023)

3.7 Environmentally Sustainable Design (ESD) initiatives

A Sustainability Management Plan has been prepared by Arup (Arup 2023h) which outlines the ESD initiatives included as part of the Proposal. Initiatives within the Sustainability Management Plan largely focus on the areas of the development that are occupied by staff, suppliers or visitors. ESD opportunities for unoccupied areas of the Site have also been reviewed for limited sustainability categories.

The sustainability initiatives are summarised as follows:

The principal use (Waste-to-energy)

The inherent ESD initiatives within a WtE facility that will generate energy from residual MSW and residual C&I waste streams which would otherwise be disposed of to landfill. The facility's ability to supply energy to the grid and the potential to also supply heat and steam to local industrial users, recover metal for reuse, and generate useful construction material from the IBA creates further sustainability opportunities.

ISO 14001 Certification

This certification outlines the requirements for environmental management systems which can achieve an enhancement of environmental performance to achieve environmental objectives. The MERC has adopted an environmental management system into all aspects of work as part of the independent certification of the facility to the requirements of ISO 14001 (certification for Environmental Management Systems). This demonstrates Cleanaway's commitment to achieving responsible environmental outcomes.

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The Built Environment Sustainability Scorecard (BESS)

Cleanaway is committed to achieving 'Best Practice' using BESS to demonstrate sustainability initiatives across various categories. In addition to the overall score, the proposal is also committed to achieving minimum performance requirements for water, energy, stormwater, and indoor environment quality (IEQ) in accordance with BESS."

Sustainability features and commitments of the Proposal include:

- **Specialist ESD Advice** - engaging ESD specialists to provide sustainability advice throughout the early stages of the design process.
- **Thermal performance modelling and glazing assessment** – ensuring the Proposal achieves the required glazing and wall performance.
- **Building Tuning** – a commitment to seasonal tuning of the principal building HVAC systems to be carried out for at least 12 months after completion of the Proposal.
- **Metering** – providing utility meters for all individual commercial tenants (if any) and submetering of all major common area services.
- **Building Users Guide** – providing a Building Users Guide to occupants to provide meaningful operations and maintenance information relevant to building users.
- **Potable Water Use Reduction** – reducing water use (in comparison to a reference building) by more than 25%, through the use of efficient fixtures and fittings (within 1 Star of best available). Rainwater collection which will be made available for reuse in toilets and for irrigation purposes.
- **Efficient Fixtures and Fittings** – implementing water saving water fixtures.
- **Building Systems Water Use Reduction** – reducing potable water consumption by >80% in the buildings air-conditioning chillers (if applicable) and when testing fire safety systems.
- **Water efficient landscaping** – selecting plants species that are endemic to the area. It is not planned to provide irrigation to all the landscaped areas and plants will be installed during the cooler months from May to August. Irrigation will be proposed to screening areas and feature planting at the Visitor Centre using recycled wastewater generated by the facility. Adopting a subsurface irrigation system due to the use of recycled water.
- **Rainwater Collection** – harvesting rain rainwater from the roof for use in the WtE process.
- **Greenhouse Gas Emissions** – reducing greenhouse gas emissions through measures such as:
 - high performance façades with double glazing to reduce cooling and heating energy consumption,
 - energy efficient lighting and smart controls,
 - ventilation and air-conditioning that meets high performance requirements
 - design measures such as allowing a generous space within the stairs to encourage the stairs to be used as often as possible,
 - wayfinding signage and point-of-decision prompts to encourage occupants to use stairs over lifts.
- **Thermal Design** – a commitment to incorporating high performing glazing and insulation for roofs and exposed floors.
- **Efficient Systems** – employing heating, cooling and water heating systems within one star of the most efficient equivalent capacity unit available, or not less than 85% of the most efficient unit available.
- **Stormwater Management** – managing stormwater flows to ensure 10-year average rain interval (ARI) event will be equal to or lower than pre-development conditions through the creation of two on-site attenuation basins.
- **Urban Stormwater Management** – achieving Urban Stormwater Management Best Practice through Water Sensitive Urban Design (WSUD) design.
- **Daylight** – achieving a high-quality indoor environment through high levels of daylight
- **Mechanical Ventilation** – increasing outdoor air rates by 50% compared to the minimum requirement, and maintaining CO2 concentrations at 800ppm or less in occupied spaces (e.g. Admin Building, IBA Admin, Gate House and Visitor and Education Centre)
- **Healthy Materials** – avoiding toxic materials and ensuring that >95% of paints, adhesives, sealants and carpets meet Green Star requirements.

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- **Bicycle Parking** – providing for sustainable transport options by providing end-of-trip facilities and provisioning for bicycle parking should external road conditions be upgraded in the future by Council to provide for suitable cycling access.
- **End of Trip** –providing at least one accessible shower and two secure lockers.
- **Electric vehicle (EV) charging spaces** –providing four Electric Vehicle (EV) charging stations (two at the Visitor and Education Centre carpark and two at the Admin Building carpark).
- **Bus Parking** – providing two bus parking bays within the Visitor Centre carpark and adjacent to the Administration Centre carpark to facilitate shared transport options.
- **Operational waste management plan** – appropriately managing the small amounts of operational waste from through a waste management plan.
- **Convenient recycling** – providing recycling facilities in convenient locations for source-separated recycling.
- **Reduced Portland Cement** – reducing the Portland cement content of concrete used in the construction of the MERC by replacing it with supplementary cementitious materials.
- **Lifetime Planning** – selecting low maintenance and highly durable materials where practical including high touch and high impact surfaces such as carpets, chairs, lifts, wall finishes and corridors.

3.8 Water Management

A Hydrology and Flood Risk Technical Report has been prepared (Arup 2023c) which outlines the Proposal’s response to and performance against the applicable legislation, policy and guidelines with respect to water management. It details a water sensitive approach to the drainage design for the Project.

3.8.1 Surface Water Management

The proposed drainage strategy includes a minor network of inlet pits and pipes, and divides overland flows into two primary catchment areas consistent with the existing Site conditions. Water handled onsite, including process water from the WtE process, will be reused onsite.

The western portion of the Site will drain to the proposed attenuation basin at the south-west of the Site. The proposed in-ground drainage network includes trunk lines on either side of the building and following the Site access roads. These lines run from north to south consistent with the proposed Site grading. The visitor centre area will also drain to the attenuation basin. A portion of the visitor car park will bypass the attenuation basin and discharge directly to the overland flow path on the north side of Summerhill Road.

The eastern portion of the Site will drain to the proposed attenuation basin at the south-east of the Site. The proposed in-ground drainage network includes trunk lines following the road network. These lines run from west to east and north to south consistent with the proposed grading. Drainage stubs have been provided for large hardstand areas such as the articulated truck parking, truck shed and A-double decoupling area. These stubs will be developed during future design stages. A portion of the access roads on the south-east of the Site at the access from Summerhill Road will bypass the attenuation basins due to site levels and discharge directly to the overland flow path at the south-east of the Site.

Runoff from the IBA treatment area will be separated from other Site runoff and stored and treated in a lined retention basin at the west of this area. In order to minimise catchment redistribution, clean runoff from the IBA building will discharge to the east and ultimately drain to the south-east attenuation basin.

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3.8.2 Water Quality

The stormwater network comprises the following elements:

- Four roof rainwater harvesting tanks for the main WtE building, IBA building and visitor centre
- Stormwater pit and pipe networks which conveys flows towards the two bio-retention and on-site detention basins
- A bioretention basin with a 700sqm base filter area within the south-west attenuation basin
- A bioretention basin with a 600sqm base filter area within the south-east attenuation basin
- Gross Pollutant Traps (GPTs) are provided upstream of inlets to each bio-retention basin.

Runoff from sensitive areas, where there is a risk of spills of chemicals or hydrocarbons, will be banded to prevent an overflow to the surrounding area. Oil and water separators will also be installed to treat runoff from these areas. This treatment is proposed for the following areas:

- Diesel refuelling area
- Electrical substation.

Runoff from the IBA treatment hardstand area is also considered sensitive due to the potential for transportation of pollutants. Therefore, it is proposed to include a lined retention basin to contain stormwater runoff from this area and re-use within the maturation process.

The Proposal includes the following features to mitigate hydrology, surface water and flooding impacts:

- The design includes two on-site detention basins which have been sized to meet the *City of Whittlesea Permissible Site Discharge* rates and maintain flow to the 1.5 Year ARI pre-developed peak flow as required by Best Practice Environmental Management (BPEM) Guidelines
- The design incorporates water sensitive urban design elements which enable the proposal to meet BPEM pollutant reduction targets, including a rainwater harvesting system to collect runoff from the main building and reuse it for the WtE process, gross pollutant traps and bioretention basins
- Areas for storage or processing of potentially hazardous waste have been located outside the 1% AEP flood extents and above the probable maximum flood level
- Design earthworks have avoided impacting Curly Sedge Creek Tributary 4545 and remain at least 10m from the waterway 'top of bank'
- Potential downstream flood impacts are mitigated by the inclusion of two on-site detention basins.

Site earthworks have been designed such that they do not result in increased in flood levels or hydraulic hazard on adjacent properties in the 5% AEP and 1% AEP flood events.

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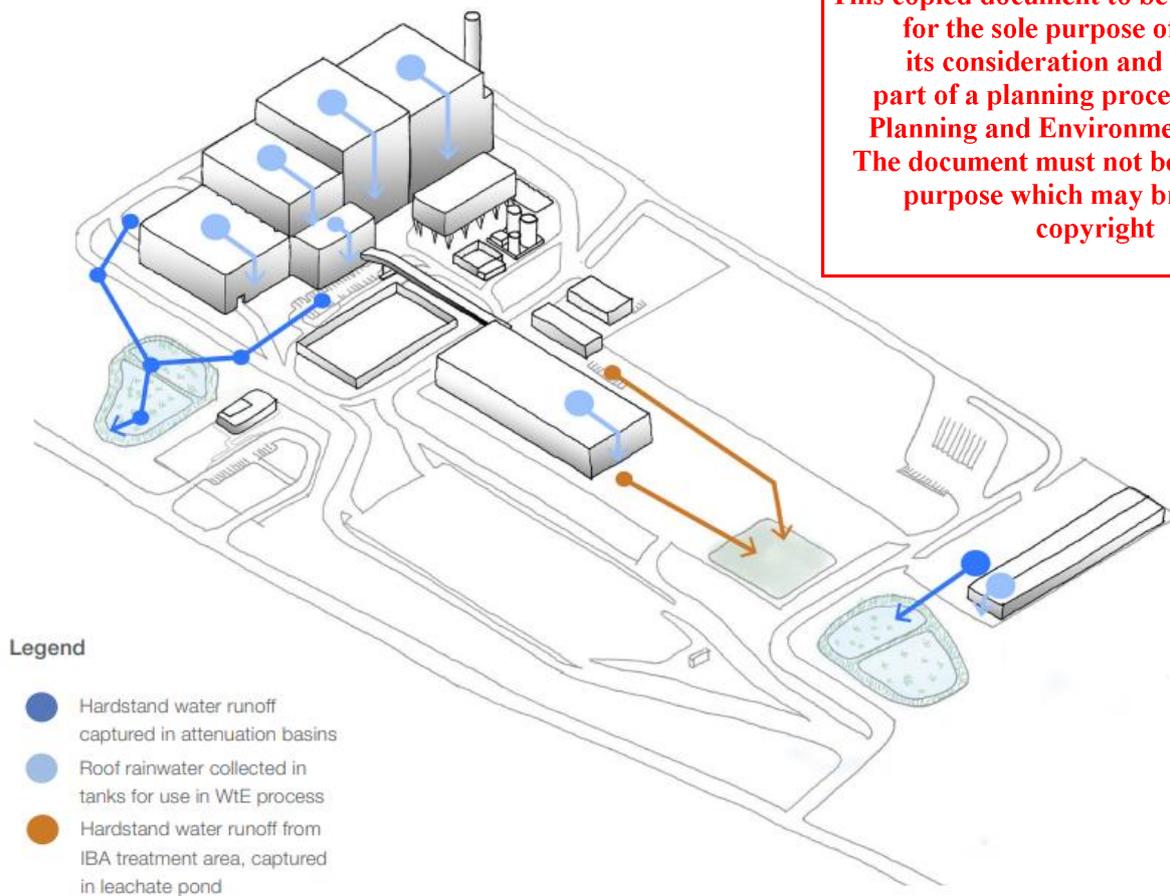


Figure 19 - Water Reuse Strategy

Image produced by Arup (2023)

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3.9 Services and Utilities

3.9.1 Gas Supply

The facility is not proposed to be connected to a reticulated gas supply. Diesel will be used as the auxiliary fuel when required given it will be stored onsite for the Emergency Diesel Generator (EDG), mobile equipment and on-site truck refuelling.

3.9.2 Electricity Supply

Electricity reticulation infrastructure, including underground high voltage cables for distribution, switching equipment and low-voltage infrastructure will be installed.

In addition to the main steam turbine generator, an emergency diesel generator will provide back-up power to key plant and equipment to aid safe shutdown in the event of a major power failure.

To allow generated electricity to be exported to the electricity grid and to allow electricity to be supplied by the electricity grid when the facility is not operating (for example, in facility start-up or shut down for maintenance) a substation (to be owned and operated by the local Distributed Network Service Provider, Jemena) will be constructed on the Site and a new connection to the electricity grid is needed. The new overhead 66kV line will connect with existing Power Pole #157 and an easement will be created to align with this connection.

Grid connection is expected to be via 66kV distribution lines which run along Summerhill Road.

The WtE steam and power system will be capable of operating in 'Island Power Mode'. This means that MERC will be able to continue processing waste and supplying its own internal power requirements, even in the event of a failure of the electricity grid or the local substation.

3.9.3 Telecommunications

Access to telecommunications via a satellite dish is proposed.

3.9.4 Water Supply

A mains water connection will be installed to provide clean water supply to the MERC. A separate recycled water connection is being considered for the Proposal, to reduce the reliance on the potable (drinking) water system for some process water and some firewater consumers.

External fire and water tanks will be connected to the mains water supply. A separate pressurised pipe network will connect the fire and water tanks to the relevant systems within the WtE building and visitor and education centre. The mains water connection will be constructed via a new underground pipe connection within the Summerhill Road reserve from the Site entry to the west of Amaroo Rd. These connections form part of the Proposal but do not require planning approval under the Hume and Whittlesea Planning Schemes.

3.9.5 Sewer / Wastewater Management

As there is no municipal sewerage infrastructure in the vicinity of the Proposal area, an on-site wastewater management (or septic system) is proposed. It will treat sanitary waste produced by normal operations of the administrative building, process building, maintenance building and visitor and education centre.

The following waste streams would be treated by the wastewater management system:

- Grey water, which is water from: showers, baths, sinks, washing machines, laundry troughs and kitchens
- Black water, which is water from: toilet waste and dry composting systems
- Sewage, which is a combination of black and grey water.

To allow for the disposal of the treated wastewater through an on-site irrigation system and/or on-site flushing of toilets, sanitary waste will be treated to secondary or advanced-secondary quality. The maximum wastewater production rate for the facility is estimated to be 2.4kL/day. The relevant permit from the City of Whittlesea will be sought prior to construction.

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3.10 Waste Management

A Waste and Resource Management Technical Report has been prepared (Arup 2023h) outlining the waste and process residues generated by the facility and their appropriate management.

Opportunities for the facility to manage process waste include:

- Recovery of construction spoil – to be re-used on-site as a fill material
- From the IBA stream - prior to waste re-use or disposal, the facility intends to recover metals (ferrous and non-ferrous) for recycling, further upholding the waste hierarchy
- Source separation of recyclable materials generated in construction and operations (in offices/visitor centre)
- Recovery of energy from residual wastes generated in operations (in offices/visitor centre)
- Containment, classification and correct identification of non-recyclable wastes, including reportable priority wastes, to ensure that these can be correctly treated and disposed of by in appropriately licensed facilities.

Cleanaway also proposes to support resource recovery by planning for on-site separation of recoverable materials for high-value recycling off-site. During the operational phase, source separation systems will be arranged for all relevant waste streams generated by onsite activities, including paper and card, comingled recyclables, organic waste and e-waste. This will enable residual waste from the site offices and visitor and education centre to be directed to the energy recovery process (subject to the standard waste acceptance protocols and criteria).

The site will generate small amounts of operational waste from the site office, visitor and education centre, delivery of consumables and maintenance works. These waste streams will comprise typical commercial and industrial waste. Cleanaway is committed to demonstrating best practice in waste management and resource recovery by ensuring that source separation systems are in place for all relevant operational waste streams.

Preliminary waste generation rates have been estimated by applying the typical waste generation rates for offices, published in the City of Melbourne guidelines for Waste Management Plans (2021). The facility layout includes approximately 3,200sqm of floor area between the visitor centre and administration buildings, which will generate operational waste similar to that of a similarly scaled commercial office.

3.11 Noise wall

The Proposal includes the provision of a noise barrier wall to mitigate noise exceedance impacts to Receptor 4 (475 Summerhill Road) from truck and traffic noise on the Site.

The noise wall generally aligns with the southern edge of the A-Doubles Decoupling Area has an irregular alignment and has an overall length of approximately 300m. It is inset from the southern boundary by a minimum of 20m and a maximum of 30m. The noise wall has a maximum height of 7m and is situated on top of a landscaped earth mound of approximately 1.5m in height. It is constructed from textured precast concrete panels at its base with feature acrylic panels above. The concrete panels are designed to incorporate trellis to enable soft landscaping to establish, to mitigate the wall's visual impact. The colours and textures of the wall will be graduated to provide a stratified appearance, and to help blend the wall into the landscaped surrounds.

The setback between the wall and the Site's southern boundary will be landscaped with layered plantings to soften the appearance of the wall.

3.12 Related Developments

As noted, there are associated works that form part of the MERC but do not require planning permission. These works include:

- Connection to reticulated mains water supply
- Surfacing of Summerhill Road between the Site and the Merri Creek Bridge
- Widening of the splay at the intersection of Amaroo Road and Summerhill Road.

These works have been included within the 'activity area' for the Cultural Heritage Management Plan and are shown indicatively at Figure 20.

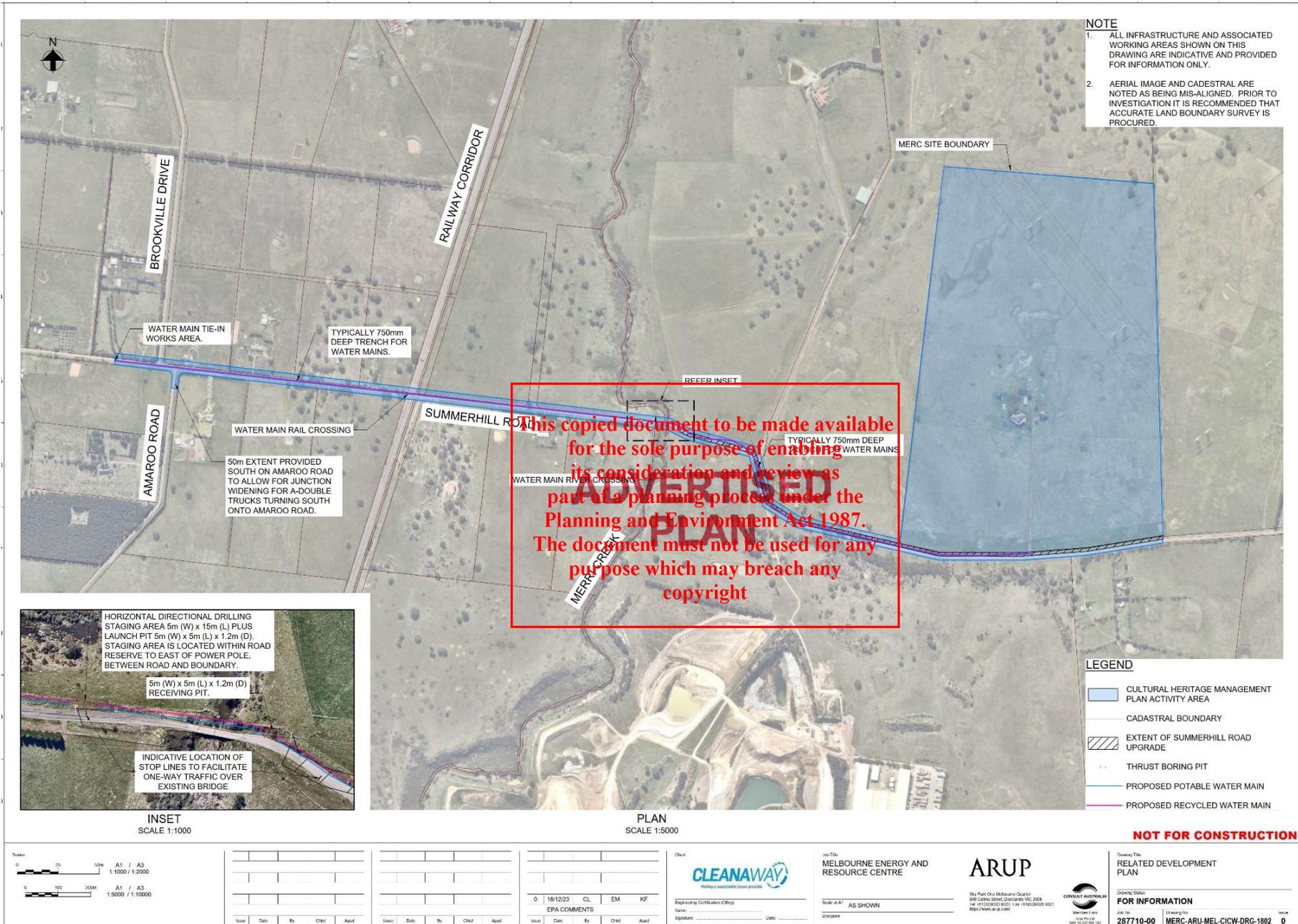


Figure 20: Related Developments

4 Planning Policy Context

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The following policy and planning provisions are considered relevant to the planning permit application.

4.1 Strategic Policy Context

4.1.1 Plan Melbourne 2017- 2050 – and Plan Melbourne Addendum 2019

Plan Melbourne 2017-2050 is the metropolitan planning strategy to manage Melbourne's growth and change over the next three decades.

The Plan Melbourne Addendum 2019 updates Plan Melbourne with the most recent population and employment projections. The Addendum states Melbourne 'will require the provision of another 900,000 jobs by 2031, and another 1.8 million jobs by 2051.' It anticipates that 'there will be strong demand for more jobs in Melbourne's growth areas to support population growth.'

The directions and outcomes contained in Plan Melbourne are underpinned by nine key principles, two of which are of relevance to this application, including:

- **Principle 4: Environmental resilience and sustainability** seeks to protect Melbourne's biodiversity and natural assets and adapt to climate change.
- **Principle 8: Infrastructure investment that supports balanced city growth** recognises the importance of smart infrastructure investment and use and the role it plays in enhancing the social, environmental and economic wellbeing of the city.

Plan Melbourne includes the following policies of relevance:

- Policy 5.1.1 is to:

Improve energy, water and waste performance of buildings through environmentally sustainable development and energy efficiency upgrades.

Consistent with long term sustainable development objectives, this policy seeks to promote the transition to low-waste urban development in Melbourne. Achieving this requires a holistic vision of the waste management process from production through to storage.

- Policy 6.7 of Plan Melbourne is to:

Improve the economic recovery of waste and reduce reliance on landfill.

It seeks to:

- Improve the economic recovery of waste and reduce reliance on landfill
- Improve waste and resource recovery systems to meet the logistical challenges of medium- and higher-density developments
- Protect waste management and resource recovery facilities from urban encroachment and assess opportunities for new waste facilities.

The policy recognises the contribution of waste-to-energy facilities in achieving this.

It states:

There are also opportunities to provide integrated solutions to waste, water and energy issues such as converting waste to energy. There are already small-scale facilities in Victoria—including wastewater utilities, hospitals and agricultural-waste generators—producing their own electricity, steam and heating from their waste.

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Policy 6.7.3 is to:

Protect waste management and resource recovery facilities from urban encroachment and assess opportunities for new waste facilities.

The policy states:

Waste and resource recovery facilities need to remain fully operational and productive over the life of the investment. This relies, in part, on land and separation distances being secured, and on appropriate zoning of land within designated separation distances surrounding landfill sites and resource recovery sites. Co-locating new waste-related infrastructure with complementary activities provides an opportunity to share existing separation distances and facilitate the integration of waste, water and energy management.

Waste-to-energy technologies are an example of advanced resource recovery infrastructure that can be co-located with complementary infrastructure.

Melbourne will create direct links between waste and resource recovery infrastructure planning and land-use planning. This will be achieved by applying clearer policy guidance to identify and protect waste and resource recovery sites and maintaining recommended separation distances with appropriate statutory measures to manage their off-site impacts.

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4.1.2 Plan Melbourne Implementation Plan

The *Plan Melbourne Implementation Plan* identifies action to support Victoria in delivering on the aims of Plan Melbourne.

The Plan identifies initiatives underway including:

Driving the uptake of renewable energy by setting renewable energy generation targets of 25 per cent by 2020 and 40 per cent by 2025. The targets will drive an estimated \$2.5 billion of investment and an additional 4,000 jobs in Victoria's renewable energy sector. The government is developing a Renewable Energy Action Plan. \$12.1 million from the Sustainability Fund will support the implementation of the Renewable Energy Action Plan.

and

Delivering an energy efficient and productive economy for Victoria through the Energy Efficiency and Productivity Strategy that will provide improved energy efficiency outcomes, reduce greenhouse gas emissions and reduce energy price pressures on homes and businesses.

Action 20 of the Implementation Plan seeks to update the PSP Guidelines. Of relevance, the update will seek to introduce strengthened measures to facilitate future renewable and low-emission energy generation technologies into future PSPs.

Action 84 includes facilitating the uptake of renewable energy technologies by establishing a whole-of-government policy framework for the deployment and operation of renewable energy technologies and facilitate opportunities for local electricity generation in growth areas and strategic sites.

4.1.3 Melbourne Industrial and Commercial Land Use Plan, DELWP 2020

The *Melbourne Industrial and Commercial Land Use Plan* (MICLUP) is a state-wide strategy prepared by the Victorian Government that builds on the relevant policies and actions of *Plan Melbourne 2017-2050* and its associated *Plan Melbourne 2017-2050 Five-Year Implementation Plan*. It ensures policies and strategies are in place to protect and improve Victoria's economic performance and productivity by safeguarding land for industrial and commercial land purposes. It provides an overview of current and future needs for industrial and commercial land across metropolitan Melbourne and puts in place a planning framework to support state and local government to plan for future employment and industry needs and better inform future strategic directions.

To better plan for and protect Metropolitan Melbourne's employment land, MICLUP introduces a hierarchy of commercial and industrial precincts comprising State-Significant Industrial Precincts, Regionally Significant Industrial Precincts and Local Industrial Precincts. These categories are defined in Table 2.

Table 2 - MICLUP Commercial and Industrial Land Use Hierarchy

Category	Role and Function
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State-Significant Industrial Precincts	SSIPs are identified in Plan Melbourne are supported by the state and regional policies of the Whittlesea Planning Scheme. They provide strategically located land for major industrial development linked to the Principal Freight Network and transport gateways. It is state policy that these areas are to be protected from incompatible land uses to allow continual growth in freight, logistics and manufacturing investment. Changes to the designation or extent of a SSIP would normally only occur if there was a review of Plan Melbourne.
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Regionally Significant Industrial Precincts	These are key industrial areas that contribute significantly to local and regional economies. Some of these areas are well established and support a range of industrial uses while others are transitioning and supporting new uses. They include future employment areas identified through Growth Corridor Plans. These areas need to be planned for and retained either as key industrial areas or locations that can transition to a broader range of employment opportunities. Criteria has been developed as a basis for identifying these locations.
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Local Industrial Precincts	Local Industrial Precincts are those areas that are not identified as being of state or regional significance. MICLUP identifies that these areas are best planned and managed by councils.
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MICLUP recognises that manufacturing and industrial jobs are principally focused with SSIPs but also occur in other locations. As shown in Figure 21, the Site is highly proximate to a State Significant Industrial Precinct.

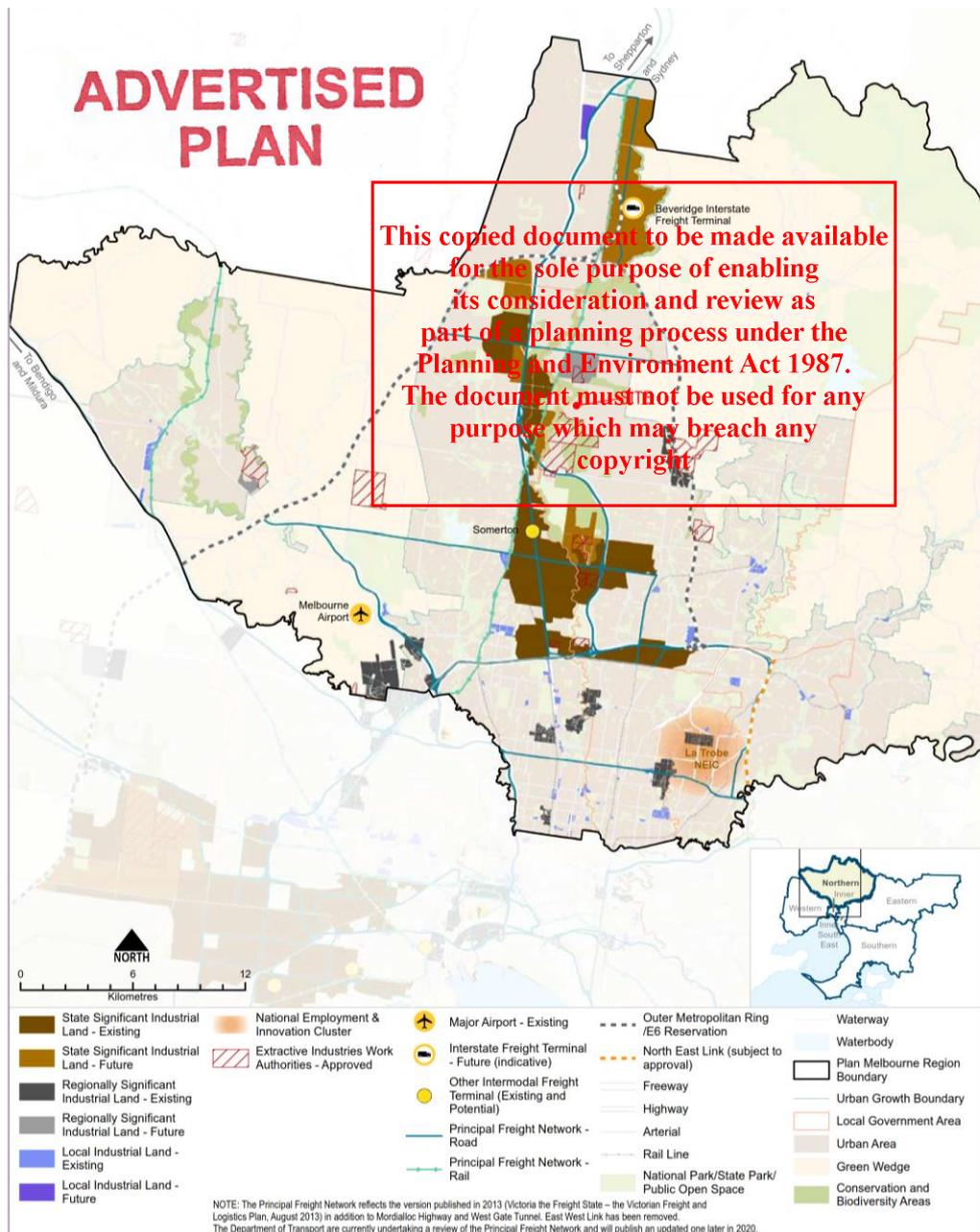


Figure 21 – MICLUP

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4.1.4 Growth Corridor Plan: Managing Melbourne's Growth (June 2012)

The VPA Growth Corridor Plans (GCPs) establish a high-level spatial framework for land use and transport planning across each of the four metropolitan growth corridors. The GCPs provide a framework to guide the delivery of housing, employment and transport infrastructure in the growth corridors over the next 30 to 40 years.

The Site is located within the Northern Growth Corridor and is identified for 'Non-urban/utilities' with the northern portion of the site identified for its biodiversity value. The broader area is encircled with a red dashed line signifying it as an 'Investigation Area'.

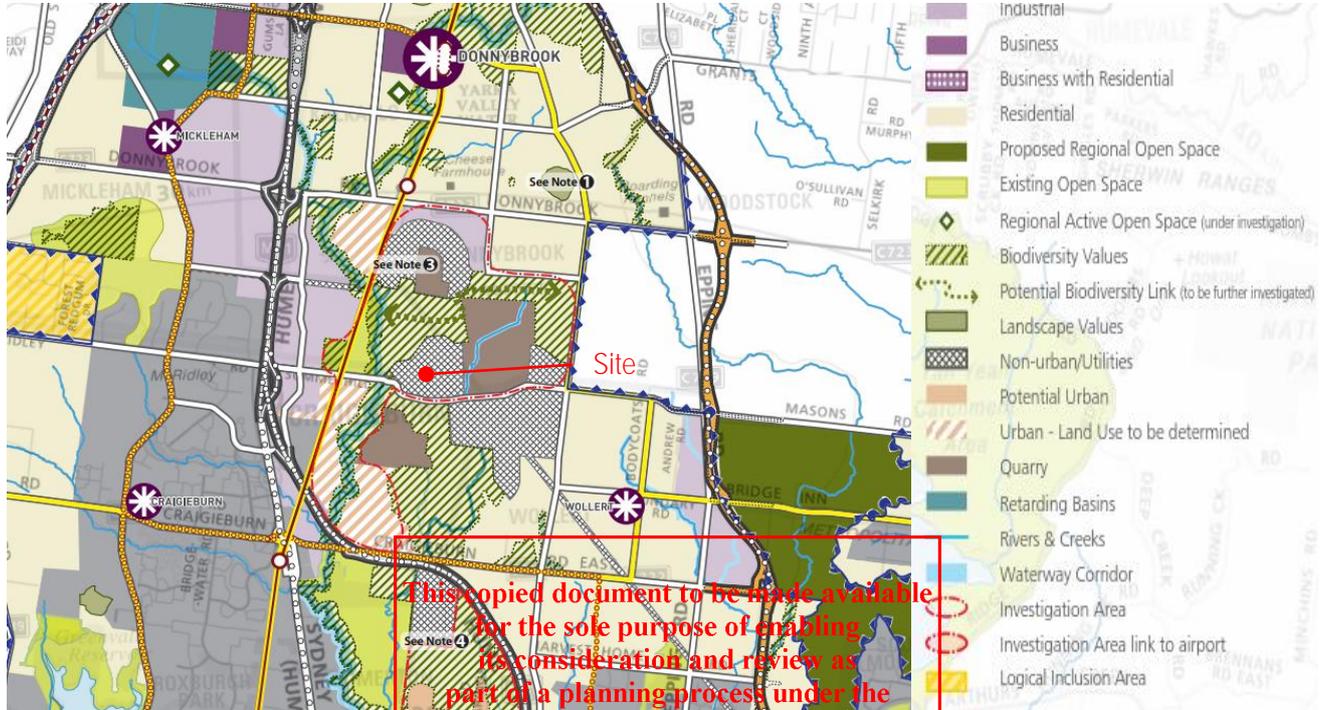


Figure 22 - Northern Growth Corridor Plan

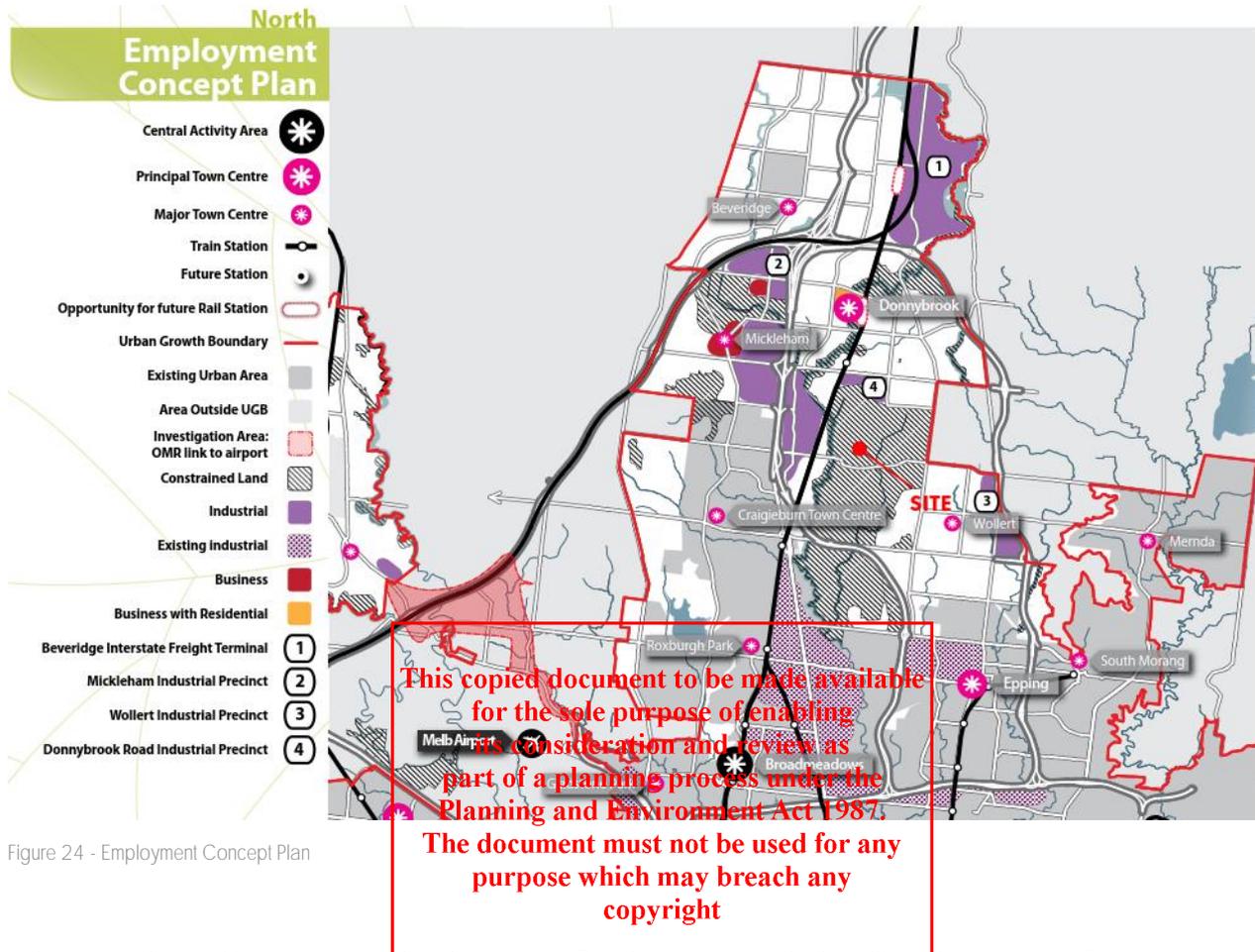
The Integrated Open Space Plan for the Northern Growth Corridor indicates the future development of an integrated open space flanking the site to the north, south and northwest.



Figure 23 - Northern Growth Corridor Plan - Integrated Open Space Plan

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Recognising the Site's proximity to quarries and the APA land to the southeast, the Employment Concept Plan for the Northern Growth Corridor identifies the site as 'constrained land.' The Employment Concept Plan focusses industrial / employment land on primarily to the west of the site (across the rail line) within the Mickleham Industrial Precinct and a small portion within the Donnybrook Road Industrial Precinct to the north.



4.1.5 Northern Quarries Investigation Area Draft Addendum to the Growth Corridor Plans: Managing Melbourne's Growth (2015)

The GCP identifies the Site as being located within the Northern Quarries Investigation Area (NQIA). It described the NQIA as an area with 'potential urban development opportunities' and flagged a number of constraints, including environmental, buffer (to existing quarries or future utility uses) and connectivity related issues that require further investigation. In 2015, an addendum to the GCP was prepared to further analyse the urban development potential of the NQIA and determine potential land use outcomes for land within the area.

The Addendum identifies the Site as being located within sub-precinct "Area 4" within the NQIA. Area 4 is located on Summerhill Road and comprises approximately 169 hectares (gross). The eastern section of this Area is acknowledged as being affected by the buffer to quarry (WA 160) and traversed by the electricity transmission easement. The Addendum confirms the suitability of the Site for employment uses and details the limitations for residential development within Precinct 4.

It states:

Area 4 has poor connectivity and accessibility to surrounding urban areas and the developable area outside the quarry buffers is limited. Even allowing for the potential refinement of Conservation Area 28 (as outlined in the BCS), there is insufficient area to deliver a residential outcome with sufficient critical mass to provide for a sustainable community. This is compounded by the lack of direct interface to a larger residential population. In addition there is no contributory or complementary infrastructure, such as a train station, that would compensate for this lack of critical mass. Employment is therefore considered the most appropriate future land use and this area could support up to 2,700 on-site jobs (assuming 80% developable land and 20 jobs per hectare).

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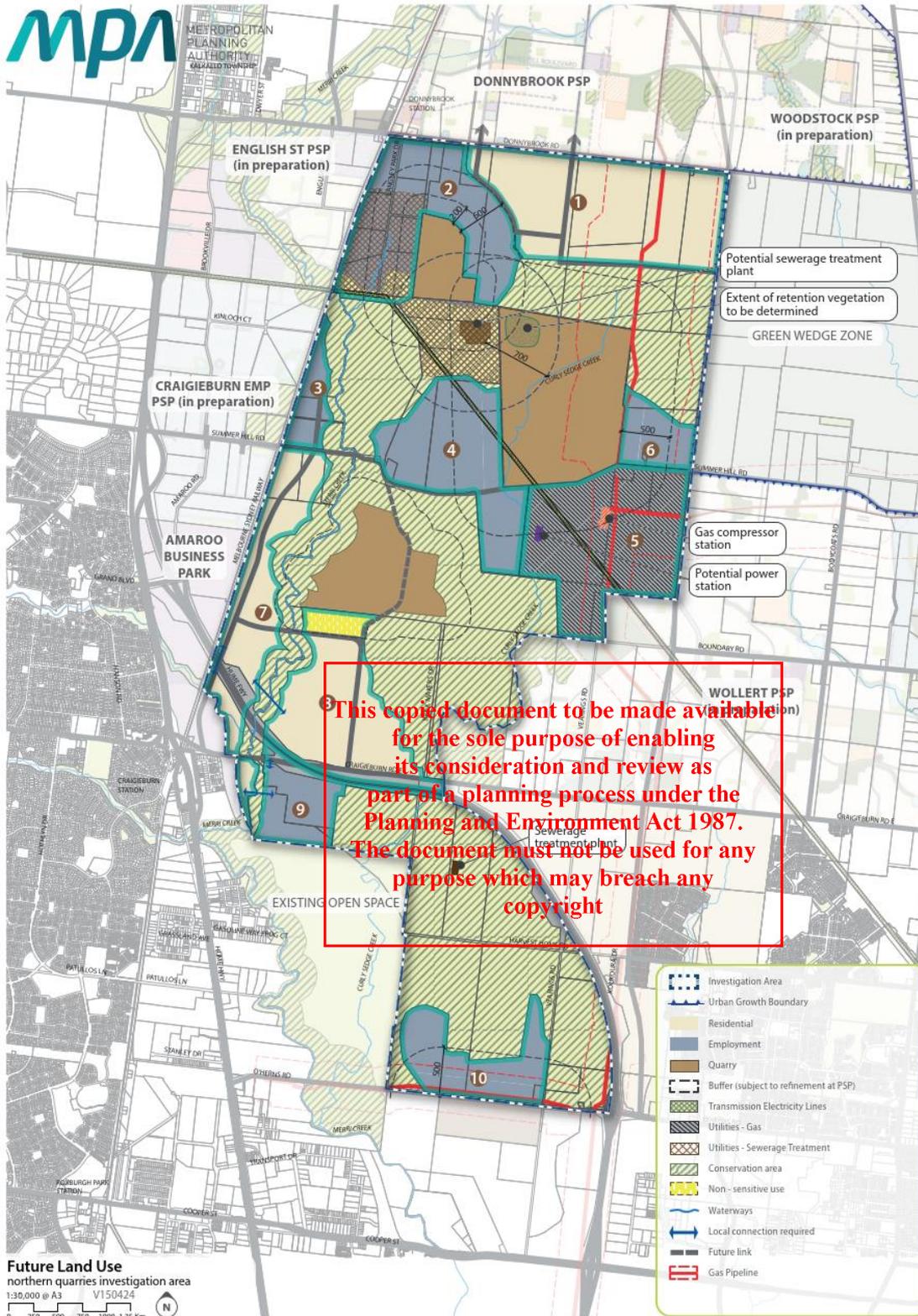


Figure 25: Northern Quarries Investigation Area

4.1.6 Metropolitan Waste and Resource Recovery Implementation Plan, 2016

The *Metropolitan Waste and Resource Recovery Implementation Plan (Metropolitan Implementation Plan)* brings together state-wide priorities set out in the *Statewide Waste and Resource Recovery Infrastructure Plan* and applies them within the metropolitan context. This ensures Victoria's waste and resource recovery system is integrated and provides an essential community service.

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Published by the Metropolitan Waste and Resource Recovery Group in September 2016, the *Metropolitan Implementation Plan's* objectives are to:

- reduce waste sent to landfill
- increase organic waste recovered
- deliver community, environmental and economic benefits
- plan for Melbourne's growing population

The *Metropolitan Implementation Plan* recognises the potential of WtE facilities and seeks to achieve new local place-based infrastructure including WtE by 2026. It recognises the opportunities in diverting residual waste from landfill and for this to be used to generate energy from waste. The *Metropolitan Implementation Plan* is expected to be repealed later in 2023 and replaced by the *Victorian Recycling Infrastructure Plan (VRIP)*, which is yet to be published.

4.1.7 State-wide Waste and Resource Recovery Infrastructure Plan 2018

The State-wide Waste and Resource Recovery Infrastructure Plan (SWRRIP) is a long-term plan which seeks to maximise resource recovery to protect community, the environment and public health. It highlights the need for integrated planning at local, regional and state levels to address all aspects of the waste and resource recovery system. It recognises that Victoria's waste and resource recovery system comprises a network of more than 630 pieces of infrastructure contributing more than \$4 billion to the Victorian economy and employing over 12,000 jobs. In this context it is essential that the system is carefully managed to avoid impacts on communities and the environment.

SWRRIP recognises the opportunities of waste-to-energy as producing usable forms of energy from individual or mixed materials streams. The SWRRIP is expected to be repealed later in 2023 and replaced by the *Victorian Recycling Infrastructure Plan (VRIP)*, which is yet to be published.

4.1.8 Recycling Victoria, A new economy, 2020

Recycling Victoria: A New Economy is the State Government's policy plan for waste and recycling. It outlines the State Government's policy position, goals, key commitments and actions for establishing a circular economy for materials use within Victoria.

Goal 3 'Recycle more resources' includes targets to 'divert 80 per cent of waste from landfill by 2030, with an interim target of 72 per cent by 2025'. Under this goal, encouraging appropriate waste to energy investment is key policy commitment. Associated action 9.1 is to 'Develop a waste to energy framework'.

Recycling Victoria: A New Economy recognises the role of WtE projects as a method of diverting waste from landfill, and its position within the waste hierarchy (above landfill; below recycling). It supports WtE projects where they:

- Meet best-practice environment protection requirements including air pollution controls
- Reduce the amount of waste sent to landfill and do not displace reuse or recycling
- Do not inhibit innovation in reuse or recycling of materials
- Meet best-practice energy efficiency standards
- Reduce greenhouse gas emissions compared to the waste and energy services they displace
- Have sustainable business models that create jobs and economic development
- Work well with local communities in which they operate.

The State Government's key concern with over-investment in WtE is long term feedstock contracts and ease of access may undermine efforts to reduce, reuse and recycle waste, which are higher order priorities than recovery in the waste hierarchy. A cap on the amount of residual (non-recyclable) waste to be used in thermal WtE facilities of one million tonnes per annum (1,000,000tpa) has been imposed to limit over-investment and hence, the number of thermal treatment facilities developed.

A cap licence will be applied for by Cleanaway upon applications opening. The cap licence will be administered by Recycling Victoria, which is a new regulatory agency established on 1 July 2022 under the *Circular Economy (Waste Reduction and Recycling) Act 2021*. One of the express functions of Recycling Victoria is to establish a WtE scheme.

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4.1.9 Victorian Waste to Energy Framework, 2021

The *Victorian Waste to Energy Framework (DELWP 2021)* (WtE Framework) describes how the thermal WtE feedstock cap will operate and defines appropriate waste categories for thermal WtE facilities. MERC's proposed feedstock streams (residual MSW and residual C&I waste from source separated commercial generators) are permitted waste streams for thermal WtE and will be subject to the provisions of a cap license.

The objective of the waste to energy framework is to encourage investment that supports diversion of residual waste from landfill, while avoiding risks to recycling outcomes in the future.

The principles for implementing the framework are:

- Encourage investment in facilities that help achieve the goals and targets of Recycling Victoria
- Support a diverse and competitive waste to energy market
- Have a consistent, transparent and fair mechanism.

A summary of waste categories is as follows:

- Permitted waste: can be used for thermal WtE under cap license allocation:
 - Residual MSW from a council with at least a 3-bin system and collects waste in accordance with regulations
 - Residual commercial waste commercial that has been source separated in accordance with existing legislation/regulations (or can be demonstrated to be impractical to recycle even after sorting)
- Exempt waste: can be used for thermal WtE, but outside cap licence allocation
 - Certain streams of dry/fibrous waste biomass suitable for thermal bioenergy
 - Hazardous waste
- Banned waste: cannot be used for thermal WtE
 - Anything that is not permitted or exempt is banned.

4.1.10 City of Whittlesea, Sustainable Environment Strategy, 2022-2032

The Sustainable Environment Strategy 2022-2032 (the Strategy) outlines the City of Whittlesea's contribution toward securing a sustainable, net zero emissions, and climate resilient future.

The Strategy presents three key directions, being:

- Key direction 1: Valued natural landscapes and biodiversity
- Key direction 2: Climate ready
- Key direction 3: Leaders in clean, sustainable living

Under key direction 3, the vision includes:

Our city is low waste and transitions to a circular economy.

'Waste and recycling' is also outlined as a key focus area, noting that:

Waste is a product or substance which is no longer suited for its intended use. Council plays an important role in supporting the community to avoid unnecessary waste to landfill, improving resource recovery and supporting the circular economy.

Further under the key focus area of 'Climate change', the priority of 'low waste and circular economy' is outlined, noting:

The waste sector is a major source of methane emissions, a greenhouse gas far more potent than carbon dioxide. A circular economy approach has great potential to reduce our dependence on new raw materials, minimise waste, and maximise the use of existing assets. We will contribute to creating a circular economy in our city by implementing our Rethinking Waste Plan, and supporting businesses to adopt circular economy principles and practices through technology innovation and investment.

Consistent with a circular economy, the Project generates aggregate materials to reduce dependence on new raw materials, and reduces greenhouse gases from waste breaking down in landfill. Further, within the 'Community empowerment' key focus area, a priority is 'empower climate action', noting:

Support residents, businesses and community to take sustainable action through practical training or re-skilling (e.g. bike repair, preserving and growing food and foraging workshops) and education programs and resources (e.g. solar and battery storage, energy, waste and water minimisation).

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4.1.11 City of Whittlesea, Sustainable Environment Action Plan, 2022-2024

The *Sustainable Environment Action Plan 2022-2024 (Action Plan)* sets out the actions Council will focus on delivering in the first two years of the *Sustainable Environment Strategy 2022-2032 (Strategy)*.

Two of the key actions related to waste and recycling are:

- Advocate to support our community and businesses to rethink waste and for investment in the circular economy.
- Deliver innovative, engaging and accessible waste minimisation and resource recovery education programs to the community addressing contamination, service use and the container deposit scheme.

4.1.12 Melbourne Strategic Assessment (MSA) 2009

In June 2009, the Victorian and Commonwealth governments agreed to undertake a strategic assessment of the Victorian Government's urban development program to provide a holistic approach to managing matters of national environmental significance. As part of the MSA, native vegetation in much of the land within Melbourne's growth corridors was assessed for its biodiversity values as part of the 'Time Stamping' project (DSE 2009). The project captured and 'time-stamped' native vegetation information within Melbourne's urban growth areas. The data can be used to calculate native vegetation offsets for development.

The MSA identifies the land within the 'Melbourne North Investigation Area.' It notes areas of Grassy Eucalypt Woodland of the Victorian Volcanic Plain present on the site (refer to Figure 26). The MSA notes that the Grassy Eucalypt Woodland is an ecological community that was recently listed as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*.

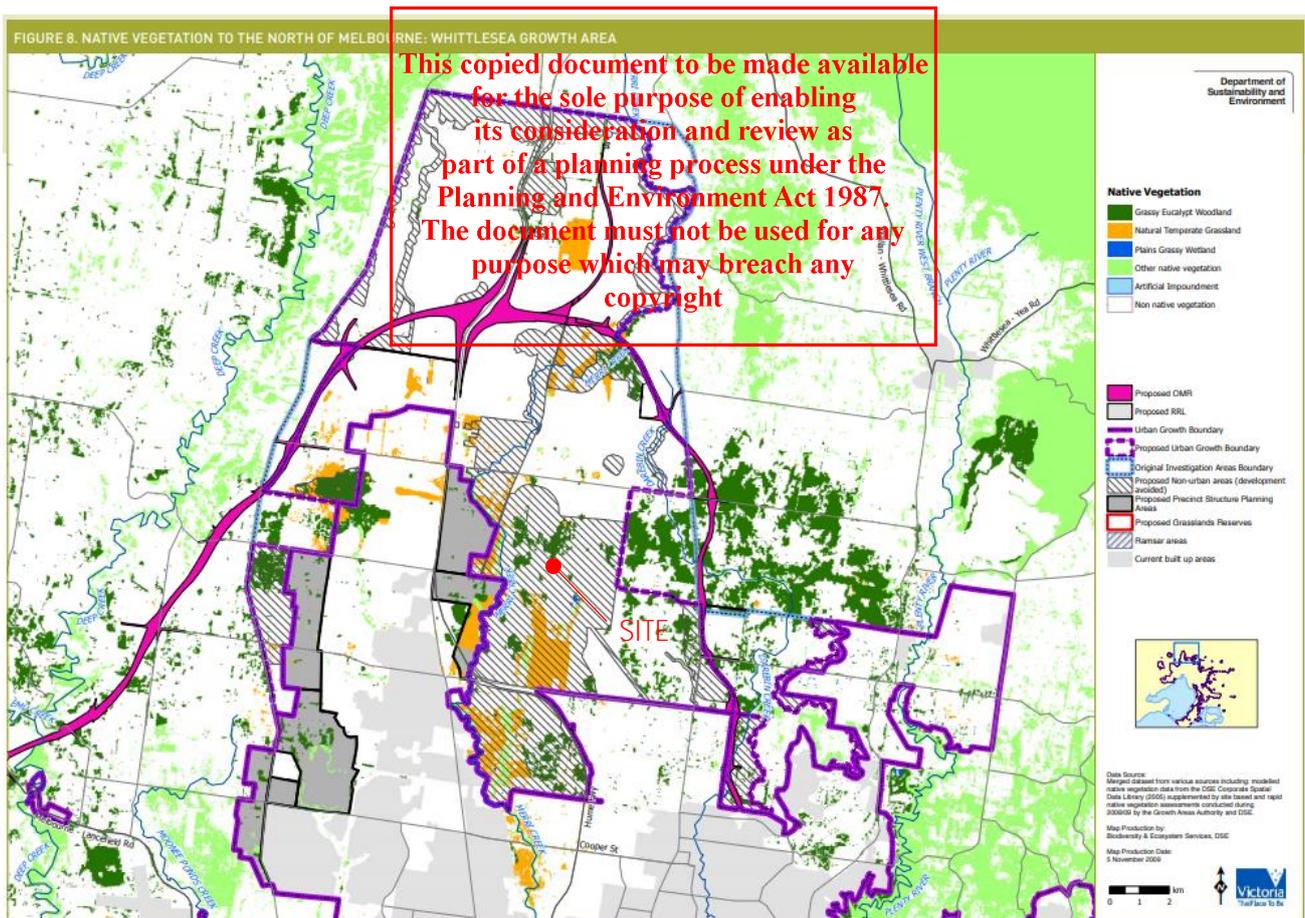


Figure 26 - Native Vegetation - Whittlesea Growth Area

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4.1.13 Biodiversity Conservation Strategy (June 2013)

Under the MSA the *Biodiversity Conservation Strategy* (BCS) (DEPI, 2013) was developed for the protection of biodiversity in the growth corridors. The strategy addresses all relevant matters of state significance, as well as matters of national environmental significance protected under the EPBC Act to ensure the long-term protection of biodiversity in the growth corridors. It established a network of 36 conservation areas that will be protected and managed in perpetuity.

The site includes a small portion of land that is located within Conservation Area 28 (CA28). CA28 was established with the objective to protect areas of Grassy Eucalypt Woodland within a practically manageable area.

The BCS identifies as a further action to *'review conservation area boundary at the precinct structure planning stage if necessary.'*

Any revised conservation area must

- protect Grassy Eucalypt Woodland as mapped in the BCS and/or as defined under the Environment Protection and Biodiversity Conservation Act 1999
- must protect populations and high quality habitat of any other matters of national environmental significance
- must be to the satisfaction of DEPI

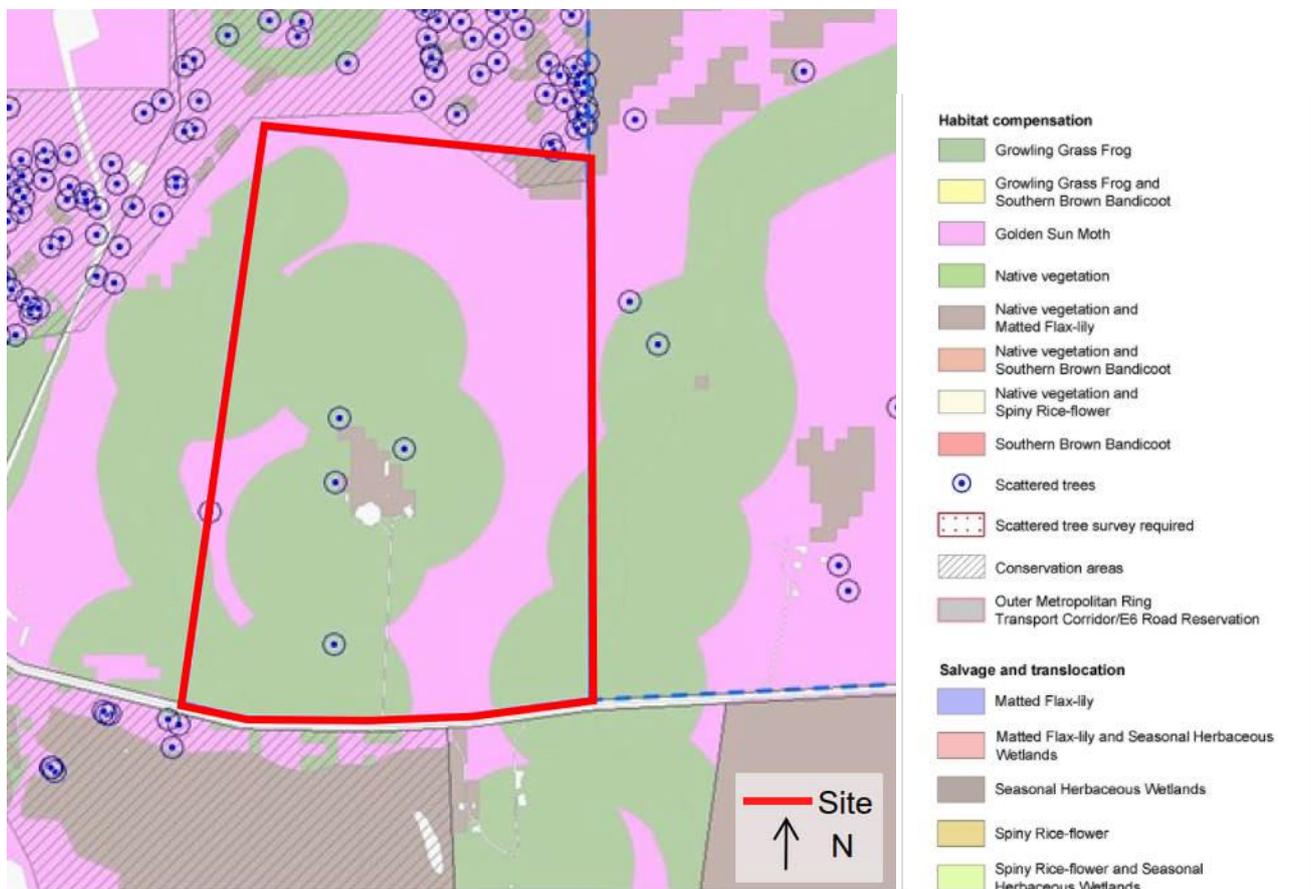


Figure 27 - BCS Extract (Conservation Area 28 shown shaded)

In 2013 the Commonwealth Government issued EPBC approvals for a range of actions associated with development activities in Melbourne including within Melbourne's northern growth corridor. This approval enables development to proceed without the need to obtain further approvals under the EPBC Act, provided actions are undertaken in accordance with the BCS and other relevant strategies.

The development footprint of the MERC does not overlap with the CA28.

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4.1.14 Land protection under the Biodiversity Conservation Strategy, Melbourne Strategic Assessment, May 2014

Land Protection under the Biodiversity Conservation Strategy for the Melbourne Strategic Assessment (the 'Strategic Assessment') was prepared by the State Government in response to obligations arising from the assessment conducted under Part 10 of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Strategic Assessment outlines that land not in a Conservation Area and suitable for urban development may be cleared of native vegetation in accordance with the approval by the Commonwealth Environment Minister under the Program and subject to Victorian legal and planning processes such as the *Flora and Fauna Guarantee Act 1988* and the PE Act.

4.1.15 Melbourne Strategic Assessment (Environment Mitigation Levy) Act 2020

The *Melbourne Strategic Assessment (Environment Mitigation Levy) Act 2020* established a Victorian legislative framework for the MSA program. It imposes a levy to fund mitigation measures for impacts on biodiversity caused by the development of Melbourne's growth corridors.

The liability to pay a MSA levy is triggered when a levy event occurs within the levy area. The application for a building permit for the construction of a permit is a defined levy event.

4.2 Municipal Planning Strategy

The provisions of the Municipal Planning Strategy (MPS) that are most relevant to this proposal are summarised below.

4.2.1 Clause 02.01 – Context

This clause recognises that [inter alia]:

- Whittlesea has a wide range of urban and rural land uses including significant employment areas, activity centres, residential communities, farming activities, township communities, educational and other community uses.
- The municipality's access to major transportation corridors (such as the Hume Freeway, Metropolitan Ring Road) and convenient access to central Melbourne and other employment centres provides significant employment, infrastructure and transport opportunities for Whittlesea.

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4.2.2 Clause 02.02 – Vision

This clause recognises that "growing our economy" and "living sustainably" are key strategic directions according to the community vision for Whittlesea outlined in the *Shaping Our Future: Whittlesea 2030 Strategic Community Plan*.

4.2.3 Clause 02.03-7 – Economic Development (Strategic Directions)

Council aims to plan for employment growth by:

- Providing a greater balance between housing supply and employment opportunities.
- Supporting economic activity that is responsive to the investment and employment needs of the community, has respect for the environment and is resilient to changes in the economic climate.
- Increasing the choice and location of land available for employment generating activities particularly in locations with easy access to residential areas or in and around activity centres.
- Achieving a high level of self-containment by identifying employment land in precinct structure planning and development plans.
- Identifying opportunities for future employment areas, particularly in the Northern Quarries Investigation Area (part of the North Growth Corridor Plan).

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4.2.4 Clause 02.03-8 – Transport (Strategic Directions)

Council aims to support an integrated transport system by:

- Setting aside land in the early stages of development to provide for long term roads and public transport to be established.
- Providing a high level of connectivity within and between subdivisions to enhance the effectiveness of transportation networks.
- Servicing the higher order activity centres of Epping, Plenty Valley (South Morang), University Hill, and in the future Mernda, Wollert and Donnybrook by high-capacity rail and by good access to the arterial road network.
- Locating smaller neighbourhood centres so they are served by local public transport.
- Facilitating sustainable modes of transport.

4.2.5 Clause 02.04 – Strategic Framework Plans

Within the 'Municipal framework plan', the Site is located within a "potential future urban land" area.

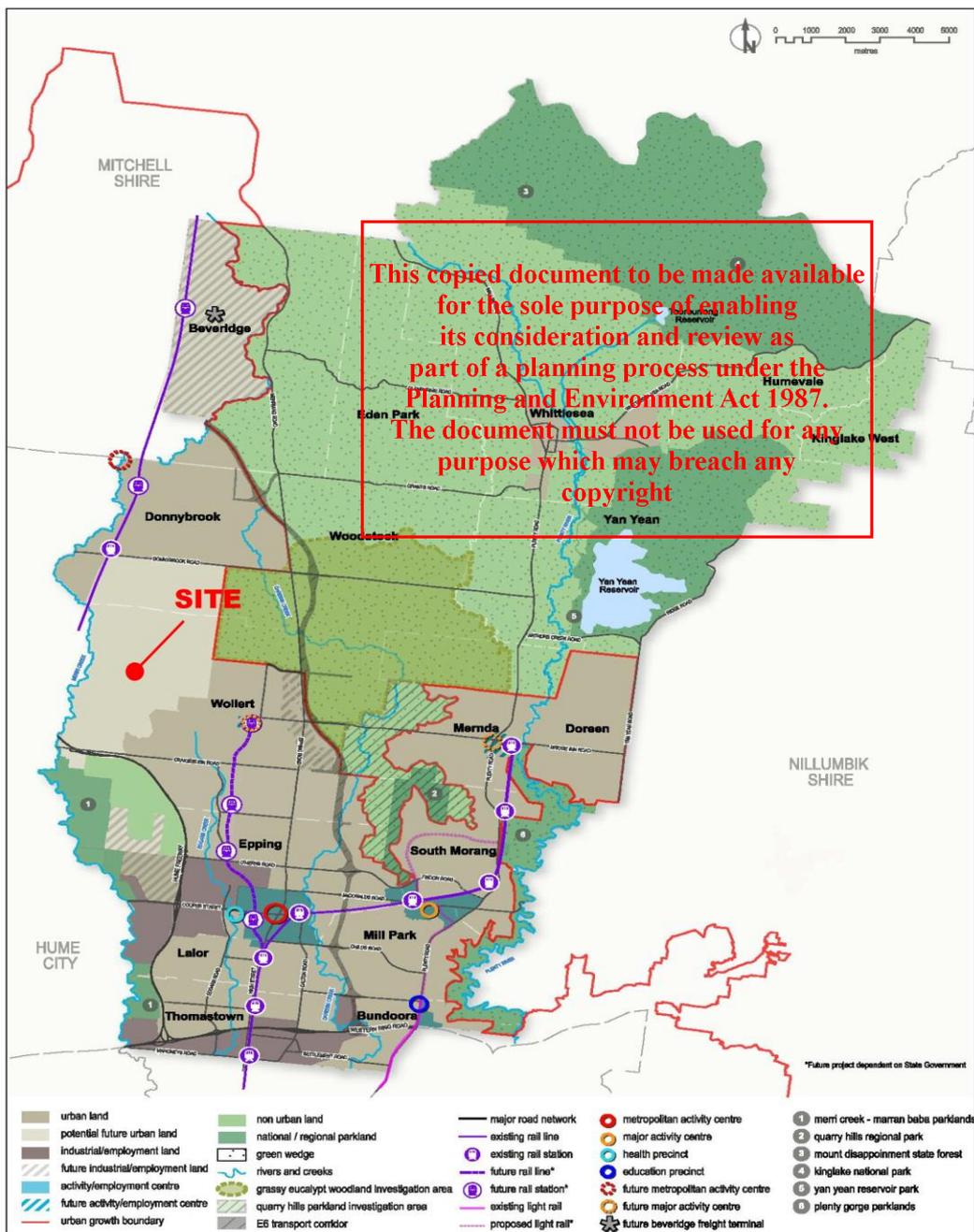


Figure 28 - Municipal Framework Plan (extract from Whittlesea Planning Scheme)

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4.3 Planning Policy Framework

The provisions of the PPF that are most relevant to this proposal include:

4.3.1 Clause 11 – Settlement

Clause 11 recognises that [inter alia]:

- Planning is to recognise the need for, and as far as practicable contribute towards:
- Adaptation in response to changing technology.
- Economic viability.
- Waste minimisation and resource recovery.
- Planning is to prevent environmental, human health and amenity problems created by siting incompatible land uses close together.
- Planning is to facilitate sustainable development that takes full advantage of existing settlement patterns and investment in transport, utility, social, community and commercial infrastructure and services.

The clauses that are most relevant to this proposal are:

- **Clause 11.02-1S (Supply of urban land)** which seeks to “ensure a sufficient supply of land is available for residential, commercial, retail, industrial, recreational, institutional and other community uses”.
- **Clause 11.02-2S (Structure planning)** which seeks to “facilitate the orderly development of urban areas”.

4.3.2 Clause 12 – Environmental and Landscape Values

Clause 12 recognises that [inter alia] “planning should help to protect the health of ecological systems and the biodiversity they support (including ecosystems, habitats, species and genetic diversity) and conserve areas with identified environmental and landscape values”.

The clauses that are most relevant to this proposal are:

- **Clause 12.01-1S (Protection of biodiversity)** which seeks to “protect and enhance Victoria’s biodiversity”.
- **Clause 12.01-2S (Native vegetation management)** which seeks to “ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation”.
- **Clause 12.05-2S (Landscapes)** which seeks to “protect and enhance significant landscapes and open spaces that contribute to character, identity and sustainable environments”.

4.3.3 Clause 13 – Environmental Risks and Amenity

Clause 13 recognises that:

- Planning should strengthen the resilience and safety of communities by adopting a best practice environmental management and risk management approach.
- Planning should identify, prevent and minimise the risk of harm to the environment, human health, and amenity through:
 - Land use and development compatibility.
 - Effective controls to prevent or mitigate significant impacts.
- Planning should identify and manage the potential for the environment and environmental changes to impact on the economic, environmental or social wellbeing of society.
- Planning should ensure development and risk mitigation does not detrimentally interfere with important natural processes.
- Planning should prepare for and respond to the impacts of climate change.

The clauses that are most relevant to this proposal are:

- **Clause 13.02-1S (Bushfire planning)** which seeks to “strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life”.

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- **Clause 13.02-1L (Bushfire planning)** which seeks to “strengthen community resilience to bushfire and grassfire and protect environmental and cultural values”.
- **Clause 13.05-1S (Noise management)** which seeks to “assist the management of noise effects on sensitive land uses”.
- **Clause 13.06-1S (Air quality management)** which seeks to “assist the protection and improvement of air quality”.
- **Clause 13.07-1S (Land use compatibility)** which seeks to “protect community amenity, human health and safety while facilitating appropriate commercial, industrial, infrastructure or other uses with potential adverse off-site impacts”.

4.3.4 Clause 14 – Natural Resource Management

Clause 14 recognises that [inter alia] “planning is to assist in the conservation and wise use of natural resources including energy, water, land, stone and minerals to support both environmental quality and sustainable development”.

The clauses that are most relevant to the Proposal are:

- **Clause 14.02-1S (Catchment planning and management)** which seeks to “assist the protection and restoration of catchments, waterways, estuaries, bays, water bodies, groundwater, and the marine environment”.
- **Clause 14.02-2S (Water quality)** which seeks to “protect water quality”.

4.3.5 Clause 15 – Built Environment and Heritage

Clause 15 recognises that [inter alia]:

- Planning should ensure all land use and development appropriately responds to its surrounding landscape and character, valued built form and cultural context.
- Planning should facilitate development that:
 - Is adapted and resilient to climate related hazards.
 - Supports the transition to net zero greenhouse gas emissions.
 - Minimises waste generation and supports resource recovery.
 - Conserves potable water.
 - Supports the use of, and access to, low emission forms of transport.
 - Protects and enhances natural values.
 - Minimises off-site detrimental impacts on people and the environment.

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The clauses that are most relevant to the Proposal are:

- **Clause 15.01-1S (Urban design)** which seeks to “create urban environments that are safe, healthy, functional and enjoyable and that contribute to a sense of place and cultural identity”.
- **Clause 15.01-1L (Urban design in the City of Whittlesea)** which outlines a number of strategies, including “design industrial development to minimise visual intrusion in and around activity centres, along main roads and gateway sites”.
- **Clause 15.01-1L (Design of industrial premises)** which seeks to “facilitate well-designed industrial developments”.
- **Clause 15.01-1L (Signs)** which seeks to “encourage signs that are designed, positioned and maintained in a manner that responds to the size and scale of development on the land”.
- **Clause 15.01-2S (Building design)** which seeks to “achieve building design and siting outcomes that contribute positively to the local context, enhance the public realm and support environmentally sustainable development”.
- **Clause 15.01-2L (Environmentally sustainable development)** which seeks to “achieve best practice in environmentally sustainable development from the design stage through to construction and operation”.
- **Clause 15.03-2S (Aboriginal cultural heritage)** which seeks to “ensure the protection and conservation of places of Aboriginal cultural heritage significance”.

4.3.6 Clause 17 – Economic Development

Clause 17 recognises that:

- Planning is to provide for a strong and innovative economy, where all sectors are critical to economic prosperity.
- Planning is to contribute to the economic wellbeing of the state and foster economic growth by providing land, facilitating decisions and resolving land use conflicts, so that each region may build on its strengths and achieve its economic potential.

The clauses that are most relevant to this proposal are:

- **Clause 17.01-1S (Diversified economy)** which seeks to “strengthen and diversify the economy”.
- **Clause 17.01-2S (Innovation and research)** which seeks to “create opportunities for innovation and the knowledge economy within existing and emerging industries, research and education”.
- **Clause 17.03-2S (Sustainable industry)** which seeks to “facilitate the sustainable operation of industry”.

4.3.7 Clause 18 – Transport

Clause 18 recognises that:

- Planning should ensure a safe, integrated and sustainable transport system that:
 - Provides access to social and economic opportunities to support individual and community wellbeing.
 - Facilitates economic prosperity.
 - Actively contributes to environmental sustainability.
 - Facilitates network-wide efficient, coordinated and reliable movements of people and goods.
 - Supports health and wellbeing.

The clause that is most relevant to the Proposal is:

- **Clause 18.02-4S (Roads)** which seeks to “facilitate an efficient and safe road network that integrates all movement networks and makes best use of existing infrastructure”.

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4.3.8 Clause 19 – Infrastructure

Clause 19 recognises that [inter alia]:

- Planning for development of social and physical infrastructure should enable it to be provided in a way that is efficient, equitable, accessible and timely.
- Planning should facilitate efficient use of existing infrastructure and human services. Providers of infrastructure, whether public or private bodies, are to be guided by planning policies and should assist strategic land use planning.
- Planning should minimise the impact of use and development on the operation of major infrastructure of national, state and regional significance, including communication networks and energy generation and distribution systems.
- Infrastructure planning should avoid, minimise and offset environmental impacts, and incorporate resilience to natural hazards, including future climate change risks.

The clauses that are most relevant to the Proposal are:

- **Clause 19.01-1S (Energy supply)** which seeks to “facilitate appropriate development of energy supply infrastructure”.
- **Clause 19.03-5S (Waste and resource recovery)** which seeks to “reduce waste and maximise resource recovery to reduce reliance on landfills and minimise environmental, amenity and public health impacts”.

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4.4 Zones

The Site is affected by two zones and is subject to the following zone controls.

4.4.1 Farming Zone (FZ)

The majority of Site is located within the Farming Zone (FZ).

The purpose of the FZ is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To provide for the use of land for agriculture.
- To encourage the retention of productive agricultural land.
- To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.
- To encourage the retention of employment and population to support rural communities.
- To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.
- To provide for the use and development of land for the specific purposes identified in a schedule to this zone.

Pursuant to the Land Use Table at Clause 35.07-1, the use of land for a *waste-to-energy facility* is listed within Section 2 (Permit required). Clause 35.07-4 states that a permit is required for buildings and works associated with a Section 2 use.

4.4.2 Rural Conservation Zone (RCZ) – Schedule 1 (RCZ1)

A small portion of land to the north-eastern corner of the Site is located within the RCZ1 (refer Figure 29 - Zone Plan).

The purpose of the RCZ is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To conserve the values specified in a schedule to this zone.
- To protect and enhance the natural environment and natural processes for their historic, archaeological and scientific interest, landscape, faunal habitat and cultural values.
- To protect and enhance natural resources and the biodiversity of the area.
- To encourage development and use of land which is consistent with sustainable land management and land capability practices, and which takes into account the conservation values and environmental sensitivity of the locality.
- To provide for agricultural use consistent with the conservation of environmental and landscape values of the area.
- To conserve and enhance the cultural significance and character of open rural and scenic non urban landscapes.

It is noted that the proposed use will not utilise the portion of land located within the RCZ and there will be no buildings or works proposed within that portion of the land. The land located within the RCZ is approximately 700 metres from any development as shown on the plans, and will serve no ancillary use. As such, the Proposal does not require a planning permit under the provisions of the Rural Conservation Zone.

Regardless, the use of land for a waste-to-energy facility is a Section 2 (Permit required) use under the RCZ, as it is not a listed Section 1 or Section 3 use in the Land Use Table at Clause 35.06-1.

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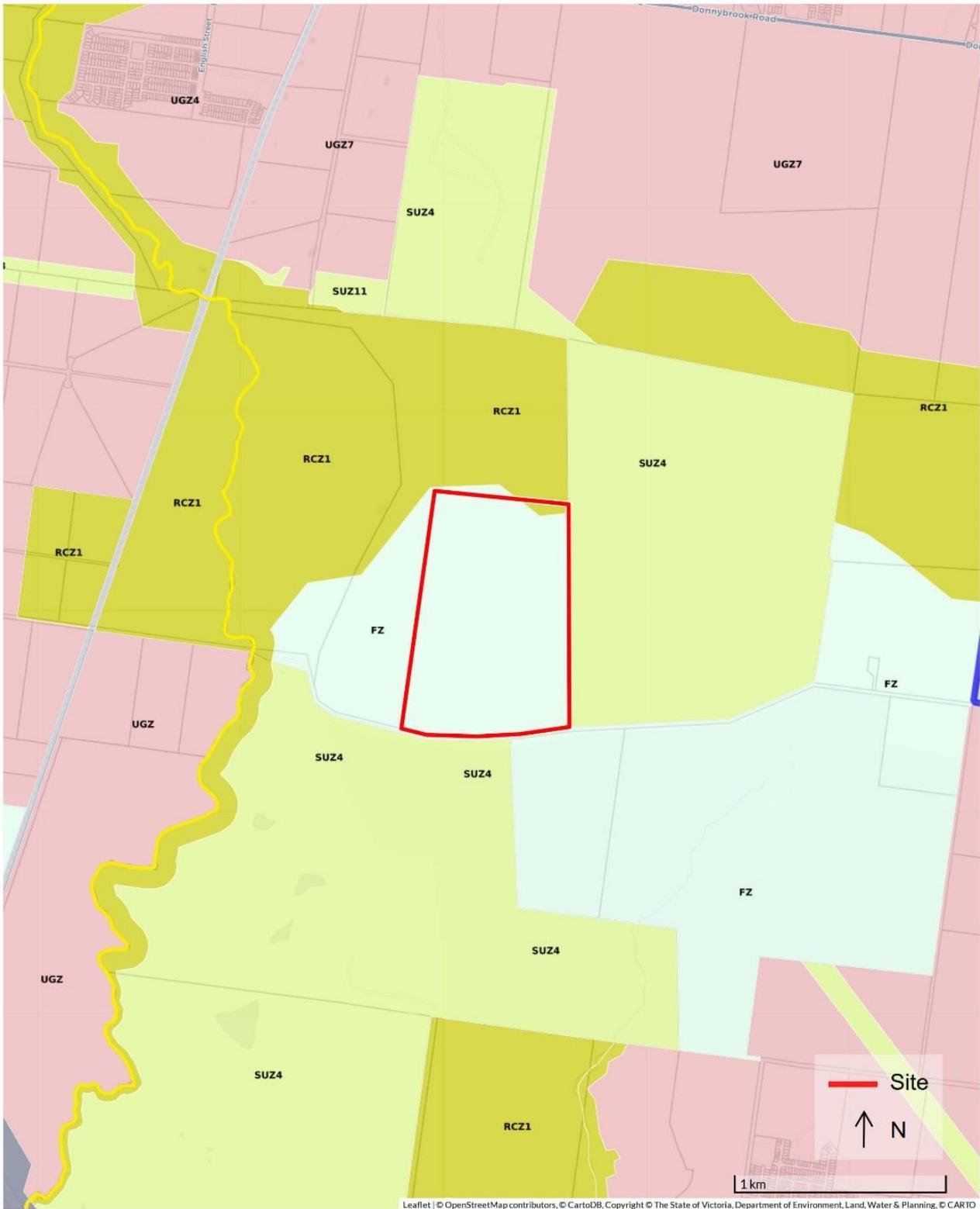


Figure 29 - Zone Plan

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4.5 Overlays

4.5.1 Environmental Significance Overlay (ESO) – Schedule 4 (ESO4)

A small portion of land to the north-eastern corner of the Site is located within the ESO4.

The purpose of the ESO is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To identify areas where the development of land may be affected by environmental constraints.
- To ensure that development is compatible with identified environmental values.

Schedule 4 relates to 'Rural Conservation Area'.

No buildings and works are proposed within the extent of the ESO4 affected area. The Proposal does not require a planning permit under the provisions of the Environmental Significance Overlay.



Figure 30 - Overlay Plan

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4.6 Particular & General Provisions

4.6.1 Clause 52.02 – Easements, Restrictions and Reserves

The purpose of Clause 52.02 is “to enable the removal and variation of an easement or restrictions to enable a use or development that complies with the planning scheme after the interests of affected people are considered”. A permit is required before proceeding to create an easement under Section 23 of the *Subdivision Act 1988*.

4.6.2 Clause 52.05 – Signs

The purpose of Clause 52.05 is:

- To regulate the development of land for signs and associated structures.
- To ensure signs are compatible with the amenity and visual appearance of an area, including the existing or desired future character.
- To ensure signs do not contribute to excessive visual clutter or visual disorder.
- To ensure that signs do not cause loss of amenity or adversely affect the natural or built environment or the safety, appearance or efficiency of a road.

Pursuant to Clause 35.07-7, signs within the FZ are categorised as ‘Category 4 – Sensitive areas’, and are therefore subject to the provisions outlined at Clause 52.05-14.

Under ‘Section 2 – Permit required’ in Category 4, a permit is required for:

- Business identification sign
- Floodlit sign.

In the FZ, the total display area of a business identification sign to each premises must not exceed 3 sqm.

4.6.3 Clause 52.06 – Car Parking

The purpose of Clause 52.06 is:

- To ensure that car parking is provided in accordance with the Municipal Planning Strategy and the Planning Policy Framework.
- To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the site and the nature of the locality.
- To support sustainable transport alternatives to the motor car.
- To promote the efficient use of car parking spaces through the consolidation of car parking facilities.
- To ensure that car parking does not adversely affect the amenity of the locality.
- To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

A *Waste-to-energy facility* does not have a statutory car parking requirement assigned under Clause 52.06-5. As such, car parking spaces must be provided to the satisfaction of the responsible authority pursuant to Clause 52.06-6.

A total of 73 car parking spaces are being provided at the Site. This is considered an appropriate number of car parking spaces for the Site, and was based on modelling in the relevant traffic impact assessment.

4.6.4 Clause 52.09 – Extractive Industry and Extractive Industry Interest Areas

The purpose of Clause 52.09 is:

- To ensure that use and development of land for extractive industry does not adversely affect the environment or amenity of the area during or after extraction.
- To ensure that excavated areas can be appropriately rehabilitated.
- To ensure that stone resources, which may be required by the community for future use, are protected from inappropriate use and development.

The clause applies to an application to use land within an Extractive Industry Interest Area. The site is within Extractive Industry Interest Area 884011. Pursuant to Clause 52.09-7, notice is required to be given to the Secretary of the Department administering the *Mineral Resources (Sustainable Development) Act 1990* for applications within 500m of an approved work authority boundary.

Refer to Figure 31 - Extractive Industry Interest Areas Plan.

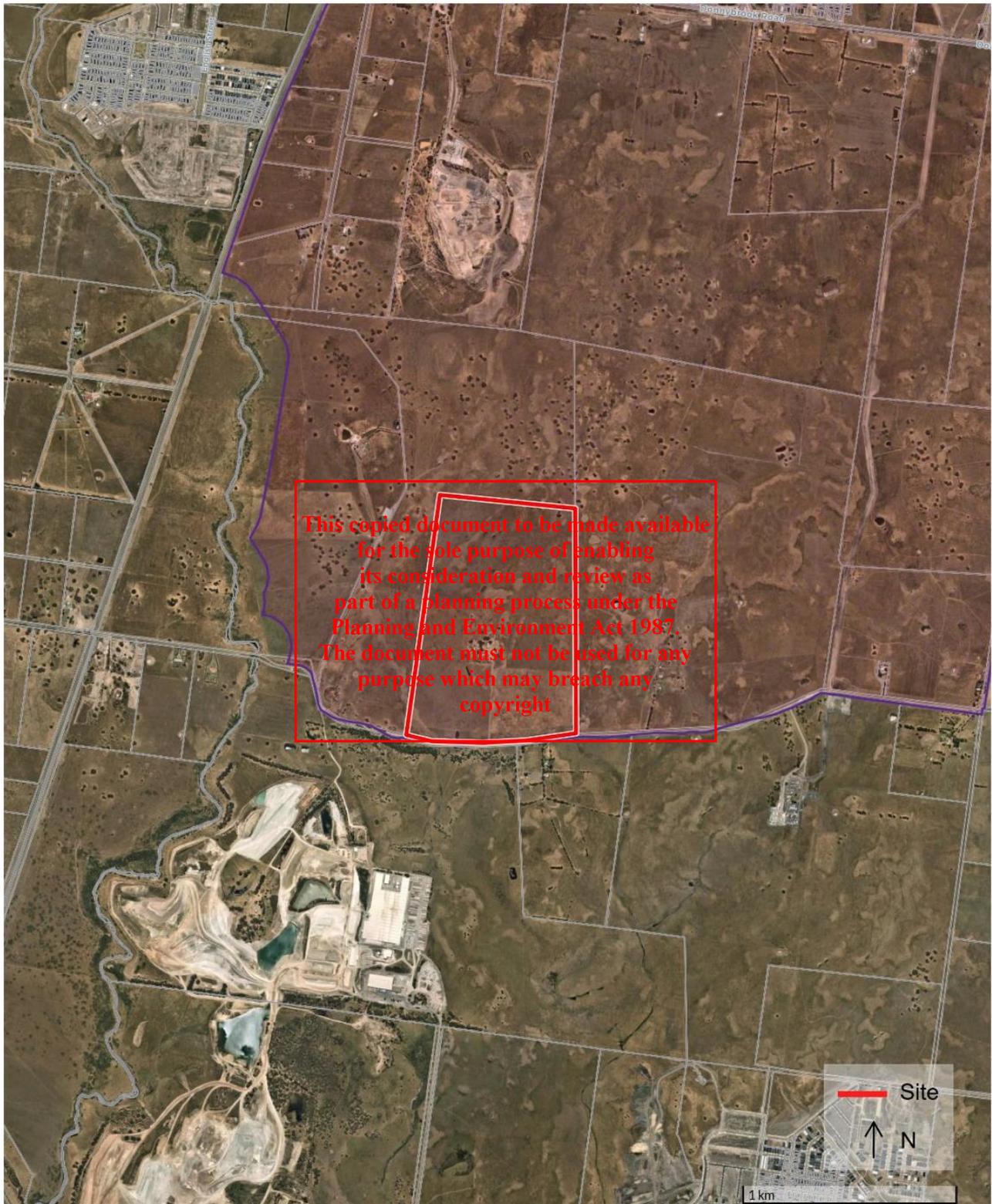


Figure 31 - Extractive Industry Interest Areas Plan

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4.6.5 Clause 52.17 – Native Vegetation

The purpose of Clause 52.17 is “to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation”. To achieve this, the clause requires that any applications that seek to remove native vegetation demonstrate a three-step approach:

1. Avoid the removal, destruction or lopping of native vegetation.
2. Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
3. Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.

Pursuant to Clause 52.17-1, a permit is required to remove, destroy or lop native vegetation on the site, including dead native vegetation. A permit is therefore required for the removal the single scattered tree located centrally within the Project area.

4.6.6 Clause 52.34 – Bicycle Facilities

The purpose of Clause 52.34 is:

- To encourage cycling as a mode of transport.
- To provide secure, accessible and convenient bicycle parking spaces and associated shower and change facilities.

A waste-to-energy facility does not have a specified bicycle parking requirement pursuant to Clause 52.34-5, and as such no bicycle parking spaces are required under this clause. Regardless, the development has allocated an indicative zone for future bicycle parking and end-of-trip facilities to cater for potential future requirements and to meet Council’s sustainability objectives.

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4.6.7 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 impacts to the neighbourhood”.

The “combustion, treatment or bio-reaction of waste to produce energy” is listed pursuant to Clause 53.10-1, however has a threshold distance of “None specified”.

An application to use land for industry, utility installation or warehouse for a purpose an activity listed under Clause 53.10-1 must be referred to the EPA under section 55 of the Act if the threshold distance is not to be met or no threshold distance is specified. The table lists “combustion, treatment of bio-reaction of waste to produce energy” as an activity however a WfE facility is not nested under the land use categories: industry, utility installation or warehouse therefore this trigger does not apply.

(Note: The application will be referred to the EPA pursuant to the referral triggers under Clause 66.02-1 because a development licence is required for the activity).

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4.6.8 Clause 66 – Referral and Notice Provisions

The following referrals are required:

- Pursuant to Clause 66.02-1, referral to the Environment Protection Authority (determining referral authority) for a use or development requiring a Development Licence in accordance with Part 4.4 of the *Environment Protection Act 2017*.
- Pursuant to subclause 1.0 of the Schedule to Clause 66.06, for an application to or develop land in a designated Bushfire Prone Area as outlined in the Building Regulations 2006, that is not already covered by a Bushfire Management Overlay, the Municipal Fire Management Planning Committee must be notified.

Pursuant to Clause 66.02-4, application for works located within 60 metres of the electricity transmission easement require referral to the relevant electricity transmission authority for buildings or works located on the Site. The works are not located within 60m of the electricity easement.

4.6.9 Clause 72.01 – Responsible Authority for this Planning Scheme

Pursuant to Clause 72.01-1, the Minister for Planning is the responsible authority for an application for the use and development of land for an energy generation facility with an installed capacity of 1MW or greater. As the MERC will generate approximately 46MW of electricity, the application will be decided by the Minister for Planning.

4.7 Other Planning Considerations and Approvals

4.7.1 Bushfire Risk

The Site is located within a designated bushfire prone area (BPA). Development on the Site must therefore be able to achieve a Bushfire Attack Level of 12.5 and provide the required commensurate separation distance from vegetation. A Bushfire Risk Assessment has been prepared by Ecology and Heritage Partners (EHP 2023a). The report notes that the local topography is highly variable, with hilly slopes across much of the assessment area.

4.7.2 Area of Cultural Heritage Sensitivity

A small portion of the Site is located within areas of cultural heritage sensitivity. The desktop and standard stages of the Cultural Heritage Management Plan prepared by Ecology and Heritage Partners determined that it is likely that Aboriginal cultural heritage will be present in the activity area. Therefore, in accordance with the *Aboriginal Heritage Act 2006*, a complex assessment is required to assess the presence and nature of any Aboriginal cultural heritage in the activity area. The complex assessment is underway and must be provided before a permit is issued for the Proposal.

4.7.3 Allocation under Waste-to-energy Cap

The State Government is committed to ensuring that Victoria's waste management and resource recovery framework does not undermine efforts to reduce, reuse and recycle waste, which are higher order priorities than recovery in the waste hierarchy. The *Waste to Energy Framework* seeks to achieve this by imposing a cap on the amount of residual (non-recyclable) waste that can be used in thermal WtE facilities. The cap is currently set at one million tonnes per annum (1,000,000tpa). Thermal waste to energy facility operators need a cap licence to recover energy from permitted waste. Cleanaway has engaged with Recycling Victoria and will apply for a license under the Waste-to-energy cap.

4.7.4 Environment Protection Authority (EPA) Development and Operating License

The Proposal meets the definition for a 'Prescribed Activity' under the EP Act and triggers a requirement for a Development Licence and Operating Licence. A Development License Application (DLA) is being submitted to the Environment Protection Authority (EPA) Victoria, so that the approval process can run concurrently with the planning permit application. The DLA details the Proposal, assesses the risks to human health and the environment during the Proposal's construction, operation, and maintenance, and identifies measures to eliminate or minimise those risks.

The DLA provides information to demonstrate that the Proposal has considered:

- Measures to comply with the general environmental duty (GED)
- The impact on human health and the environment, including any environmental values in the relevant environment reference standards
- The principles of environment protection according to the EP Act
- The best available techniques and technologies (BATT), or simply best available techniques (BAT) in context of the European Union policy and legislative directives.

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5 Planning Assessment

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5.1 Overview

In assessing the Proposal against the Whittlesea Planning Scheme, the following questions are relevant:

- Is the proposal supported by the relevant state and local policy, and other strategic directions?
- Is the proposal consistent with the provisions of the Farming Zone?
- Does the proposal provide an appropriate traffic and parking outcome?
- Does the proposal appropriately respond to the main environmental factors considered to be of importance by the EPA?
- Have the views of the community been appropriately considered?
- Does the proposal provide an appropriate outcome with respect to landscape and visual character?
- Does the proposal provide a beneficial socioeconomic outcome?
- Is the proposal consistent with the provisions of Clause 52.05 (Signs)?

This planning assessment considers and responds to each of the above questions throughout Sections 5.2 to 5.9.

5.2 Is the proposal supported by the relevant state and local policy, and other strategic directions?

The proposal is supported by the relevant state and local policy in the following ways.

Municipal Planning Strategy

The Proposal responds directly to the key strategic directions of “growing our economy” and “living sustainability”, as outlined within Clause 02.02 (Vision). MERC will provide a new skilled sector within the municipality, creating jobs, providing for education, innovation, and diversity within the local economy. The overall reduction in the impact of residual waste otherwise bound for landfill is a key step towards achieving a circular economy.

Further, the Site is appropriately located within a “potential future urban land area” pursuant to the Municipal Framework Plan at Clause 02.04-1. The Proposal will support the transition of the area from its current declining agricultural activities toward the future employment purposes.

Clause 11 – Settlement

The Proposal seeks approval for state-of-the-art technology that will diversify the economy and contribute to the transition towards a circular economy. This accords with Clause 11 that recognises the need to plan for changing technology and includes objectives to support economic viability, waste minimisation and resource recovery outlined in Clause 11.

Clause 11.02-1S – Supply of urban land

The Proposal responds to the objective of this clause as it is located within an area that is anticipated for future development for employment and industrial uses. The future PSP for the area will further implement the strategies of Clause 11.02-1S by:

- Ensuring the ongoing provision of land and supporting infrastructure to support sustainable urban development.
- Maintaining access to productive natural resources and an adequate supply of well-located land for energy generation, infrastructure and industry.

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Clause 11.02-2S – Structure planning

The Site's inclusion within the future Northern Quarries PSP indicates the Site's will form part of an urban precinct catering for employment and industrial uses as part of the orderly planning for the land. The proposed use for a WtE facility supports this outcome and responds to the effective planning and management of the land use and development of an area through the preparation of relevant plans.

Clause 12 – Environmental and Landscape Values

With the removal of a single scattered tree, the Proposal involves minimal removal of native vegetation. The proposed landscape architectural response has been designed to enhance environmental values within the Site and to protect the health of ecological systems within and proximate to the Site.

Clause 12.01-1S – Protection of biodiversity

Flora and fauna assessments, including a Matted Flax-lily habitat assessment (EHP 2023e) and targeted surveys for Golden Sun Moth (EHP 2023c) and Growling Grass Frog (EHP 2023d) have been undertaken. The assessments found that the Site does not currently support these species. The Kangaroo Management Plan prepared for the proposal (EHP 2023b) found that habitat for Eastern Grey Kangaroos (EGKs) in Melbourne's growth corridors is being reduced as a result of urban growth. If poorly managed development in and around the habitat of EGKs can land-lock populations or force them to leave their home range in ways that can endanger their welfare or lead to adverse human interactions. A Kangaroo Plan has also been prepared to minimise risks to EGKs, people and the broader environment. It provides a long-term, adaptable plan aimed at minimising risks over the life of the Proposal and outlines non-lethal measures that can be undertaken to prevent EGKs from utilising the site. The Proposal supports Clause 12.01-1S by:

- using biodiversity information to identify biodiversity values, including key habitat for rare or threatened species and communities, and strategically valuable biodiversity sites
- avoiding impacts of land use and development on important areas of biodiversity.

Clause 12.01-2S – Native vegetation management

The Site is identified within the Melbourne Strategic Assessment (MSA) area and any native vegetation removal has attained prior approval as part of a controlled action under the EPBC Act. The required offset has been pre-determined through a strategic approach to compensate for vegetation and habitat loss. The Proposal requires the removal of native vegetation in the form of one scattered tree, with most of the native vegetation on site remaining untouched within the north-eastern corner. It responds to the strategies outlined within this clause by:

- Avoiding the removal, destruction or lopping of the majority of the native vegetation on site.
- Providing the required offsets to compensate for the native vegetation removal through the MSA levy.

Clause 12.05-2S – Landscapes

A comprehensive Landscape and Visual Impact Assessment (LVIA) has been prepared by (Arup 2023d). It found that there are no significant landscape areas in the direct vicinity of the site. The LVIA demonstrates that the Proposal does not avoid significant impacts on landscapes and open spaces, by employing the following strategies:

- Improving the landscape qualities by providing comprehensive landscaping on portions of the Site which have been previously cleared for agricultural purposes.
- Recognising the natural landscape for its aesthetic value and as a fully functioning system, by conducting the appropriate biodiversity tests and ensuring the development does not affect significant flora and fauna in the area.
- Ensuring important natural features are protected and enhanced, particularly by ensuring no development is proposed within the conservation area in the north-eastern corner.

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Clause 13 – Environmental Risks and Amenity

The Proposal has been designed with environmental risk and amenity considerations at the forefront. This is discussed in greater detail in Section 5.6.1 of this report.

Clause 13.02-1S and Clause 13.02-1L – Bushfire planning

A Bushfire Risk Assessment and Bushfire Management Plan have been prepared by Ecology and Heritage Partners, December 2022 that demonstrates that the Proposal appropriately manages the risk of bushfire.

The assessment found that there is limited fuel available in the surrounding area. In conjunction with the riparian nature of the vegetation in the creek and lateral reserve, the likelihood of a fire reaching the severity required to impact the Proposal is substantially reduced.

Nonetheless, several mitigation measures have been adopted to reduce the bush and grassfire risk to an acceptable level.

These include:

- The provision of access/egress points for the project area from the established road network, ensuring the internal project area road network meets CFA access requirements and the installation of a static water supply and water tanks.
- All habitable buildings (i.e. visitor centre, IBA sorting process, administration, waste treatment facility and gate house) will achieve a BAL-12.5 construction standard and commensurate separation distances.
- All non-habitable buildings (i.e. truck shed and storage) will provide a 10m separation distance buffer.
- All separation distances will be contained within the property boundary and be managed in a low threat state for the life of the waste-to-energy facility.
- The waste-to-energy facility will decrease the bushfire risk to the surrounding areas, as the construction of buildings, roads, carparks, footpaths and managed vegetation will reduce the fuel available to burn.

Refer to the accompanying Bushfire Risk Assessment and Bushfire Management Plan for further details related to how the Proposal implements the strategies of Clause 13.02-1S.

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Clause 13.05-1S – Noise management

An Acoustic Report has been prepared to address noise impacts arising from the Project (**Clause 13.05-1S**). These considerations are detailed in Section 5.6.4 of this report.

Clause 13.06-1S – Air quality management

An Air Quality Assessment Report has been prepared to address air quality impacts arising from the Project (**Clause 13.06-1S**). These considerations are detailed in Section 5.6.2 of this report.

Clause 13.07-1S – Land use compatibility

Overall, the Site has been carefully selected to ensure an appropriate location for a waste-to-energy facility and the Proposal includes mitigation measures where necessary to protect community amenity and human health and safety. The Proposal meets the objective of this clause by employing the following strategies:

- Ensuring the Proposal is compatible with adjoining and nearby uses, through the identification of appropriate buffers and the Site's location within an upcoming employment and industrial area. The use is well-suited to an area that is constricted by the buffers and potential amenity impacts of nearby quarry operations.
- Actively avoiding encroachment into sensitive areas given the Proposal's location within an established employment area and keeping a sufficient distance from sensitive uses.

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Clause 14 – Natural Resource Management

A detailed flooding and hydrology assessment of the Proposal has been prepared and accompanies the application (Arup (2023c)). The study includes MUSIC modelling that was completed based on the developed status of the Proposal area. Un-developed areas which are being retained as existing (i.e. 95% pervious) were excluded from the assessment. The pollutant reduction results from the MUSIC model confirm that the target reductions for total suspended solids, phosphorus, nitrogen and gross pollutants has been achieved and demonstrates compliance with BP EM requirements.

Clause 15 – Built Environment and Heritage

The Proposal aligns with the ESD provisions of Clause 15. It supports the transition to net zero greenhouse gas emissions by providing an alternative pathway for waste that would otherwise be diverted to landfill. The greenhouse gas emissions generated by the facility can be offset against comparable emissions from fossil-fuel burning forms of energy generation.

Clause 15.01-1L – Urban design in the City of Whittlesea

The Proposal accords with policy relating to the Design of industrial Precincts by employing the following strategies:

- Adopting appropriate building setbacks and using landscaping to enhance the appearance of the facilities.
- Providing a carefully considered façade treatment that ensures the buildings have a visually interesting appearance, with materials that have been selected to be cohesive.
- Utilising mounding and landscape elements to align the boundaries in preference to extensive fencing.
- Orienting the people-focused parts of the Site to the street, with the visitor centre being a physical and visual entrance to the Site.

Clause 15.01-2S – Building design

The architectural response is derived from a comprehensive site analysis and provides a positive building design and siting outcome by employing the following strategies:

- Siting the layout of the proposal to include a visitor centre that provides community education and interaction. Despite its substantial scale, the architectural response seeks to ensure that the complex relates appropriately to the human scale and creates a welcoming environment for visitors to the site. Through its scale, materials and landscaped surrounds it achieves a comfortable environment for visitors and contributes to a sense of place, with the site.
- Designing the main processing buildings and IBA centre with consideration of functional requirements, including appropriate heights to accommodate plant and equipment.
- Including windows and viewing opportunities within the main processing building to break up the form and provide a level of transparency.
- Ensuring the development responds and contributes to the strategic context of its location, by providing a use that is well suited within a future employment and industrial area. Given the use is not sensitive, it can be co-located with other non-sensitive uses without impact to human health and amenity. Minimising the detrimental impact of development on neighbouring properties by locating an appropriate distance from sensitive uses and restricting development to the portion of the site where there is the least amount of environmental value.
- Improving the energy performance of buildings by utilising a proportion of energy generated by the facility to power the facility.
- Encouraging water efficiency by utilising rainwater and recycled water for plant operations, irrigation and toilet-flushing.

Clause 15.01-2L – Environmentally sustainable development

The Proposal achieves best practice in environmentally sustainable development. With the adoption of the following recommended strategies, the project will achieve a BESS score of 66:

Energy performance:

- Providing high performance façades with double glazing to reduce cooling and heating energy consumption.

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- Utilising energy efficient lighting and smart controls, where the lighting system will consume at least 10% less energy than a standard practice building through use of motion sensors, daylight sensors, timers and LEDs.
- Utilising ventilation and air-conditioning that meets high performance requirements by specifying energy efficient units that exceed business as usual requirements.
- Providing a 10% improvement on insulation levels compared to National Construction Code.

Integrated water management

- Reducing total operating potable water use through appropriate design measures such as water efficient fixtures, appliances, equipment, irrigation and landscaping.
- Reuse of process water on site.
- Encouraging the appropriate use of alternative water sources, particularly the use of captured rainwater in operating processes, irrigation and toilet-flushing.
- Incorporating best practice water sensitive urban design to improve the quality of stormwater runoff and reduce impacts on water systems and water bodies.
- Reusing process water on site.

Indoor environment quality

- Providing access to high levels of daylight within at least 33% of regularly used areas.
- Increasing minimum required outdoor air rates by 50% and maintaining CO2 concentrations at 800ppm or less in occupied spaces.
- Reducing indoor air pollutants by ensuring that >95% of paints, adhesives, sealants and carpets meet Green Star requirements for 'Total VOC Limits', and that >95% of all engineered wood products meet Green Star limits for formaldehyde.

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Transport

- No bicycle spaces are required for a waste for energy facility. However, the Proposal makes space allowance for bicycle parking and provides end-of-trip facilities that could be used by cyclists if external road conditions were upgraded in the future by Council to provide for suitable cycling access.
- The development provides for four electric vehicle (EV) charging spaces.

Operational waste management

- The waste generated by operators of the facility will be source-separated for recycling, where practicable, and collected regularly by waste collection contractors or council as required.

Urban ecology

- Utilising irrigation to planted screening areas and feature planting at the visitor and education centre using recycled wastewater generated by the facility. The irrigation method will be via a subsurface system, due to the use of recycled water.
- Maintaining vegetation cover on the Site at approximately 40% of the total site area.
- Protecting biodiversity by designing sensitively with natural habitats.

In line with this clause and as demonstrated within the accompanying Sustainability Management Plan, the proposal achieves an overall BESS score of 66%, with 50% being considered 'Best practice'. The breakdown of category scores is shown in Figure 32 - BESS Performance.

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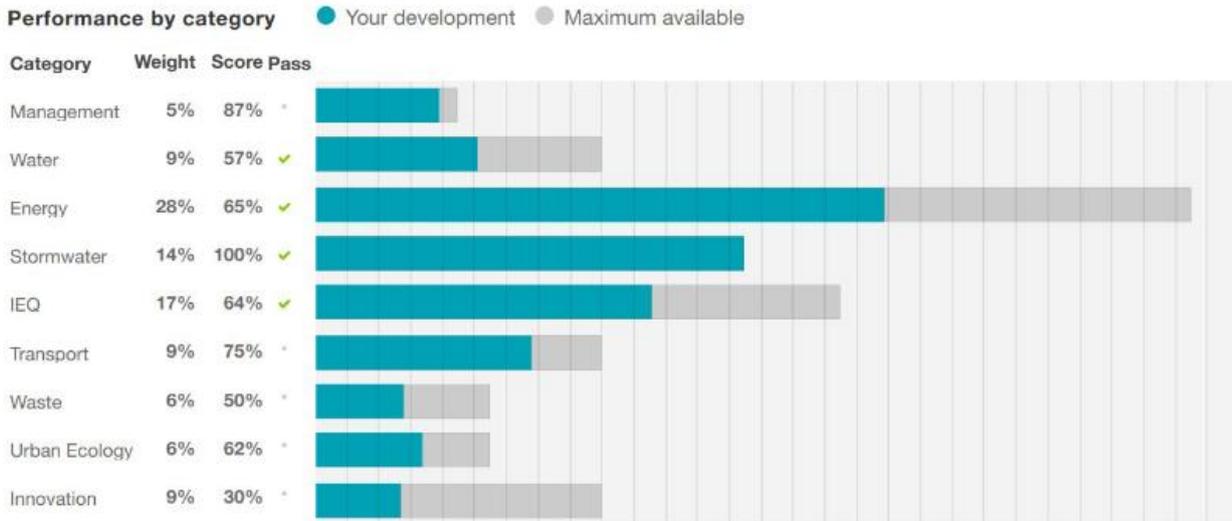


Figure 32 - BESS Performance

Clause 15.03-2S – Aboriginal cultural heritage

The Proposal meets the objective to ensure the protection and conservation of places of Aboriginal cultural heritage significance by ensuring that engagement with Traditional Owners has occurred from the outset of the project. A desktop assessment has been undertaken and a complex assessment Cultural Heritage Management Plan is under preparation and will be finalised prior to the application being decided.

Clause 17 – Economic Development

The Proposal promotes economic prosperity by providing innovation within the waste economy sector, consistent with Clause 17. It will create up to 800 jobs during construction, up to 50 ongoing full time equivalent employment positions.

Clause 17.01-1S – Diversified economy

Whilst waste-to-energy technology is commonplace in Europe, it has only recently emerged within Australia. The employment of this technology allows the municipality to be a leader in the waste sector, whilst contributing to economic diversity within the established waste industry. The Proposal meets the objective of Clause 17.01-1S and will strengthen and diversify the economy by:

- Protecting and strengthening a planned employment area
- Facilitating regional relationships by servicing multiple municipalities
- Harness emerging economic opportunities through the re-use of residual waste from the facility such as IBA in construction projects
- Facilitating growth in a range of employment sectors, including professional and technical services based on the emerging and existing strengths of each region.
 - Improving access to jobs closer to where people live.

Clause 17.01-2S – Innovation and research

The Proposal presents a valuable opportunity for education and knowledge sharing with the general public through the visitor education program. The facility is designed with transparency and teaching in mind, to help build understanding around resource recovery and the circular economy and promoting improved recycling habits in the broader community. The Proposal meets the objective to create opportunities for innovation and the knowledge economy within existing and emerging industries, research and education by:

- Supporting the development of a potential future business cluster.
- Promoting an accessible and collaborative physical environment that is conducive to growing innovation and providing knowledge and understanding to the public.
- Improving access to information and training through the provision of the Visitor Education Centre.

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Clause 17.03-2S – Sustainable industry

The Proposal demonstrates a commitment to the sustainability efforts of the waste sector as a whole. It will promote the longevity of Melbourne’s remaining landfill operations through the diversion of non-recyclable waste that can be used for the recovery of energy as a resource.

Clause 18 – Transport

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Clause 18.02-4S – Roads

Traffic analysis has confirmed that the local road network can accommodate the projected traffic volumes generated by the Proposal, subject to the proposed road upgrades and traffic management treatment. The Proposal makes efficient use of existing and future infrastructure, given that Summerhill Road is identified for future upgrade as part of the future Northern Quarries PSP.

The Proposal supports the objectives of Clause 18.02-4S by:

- Providing an adequate supply of car parking in consolidated areas onsite to allow safe and efficient travel for visitors to the site, and distinct separation from operational parking
- Providing separate vehicle entries to the Site to improve safety outcomes, allowing visitors to utilise a separate crossover to operational trucks.

Clause 18.02-7R – Melbourne Airport

The Proposal does not prejudice operations or optimum usage of Melbourne Airport. Cleanaway has provided details of the stack and plume to the Civil Aviation Safety Authority (CASA) by submitting a Form 1247 of Notification Form (Operational assessment of a proposed plume). Confirmation has been obtained from CASA that the plume will not impact on operations. CASA has also confirmed that the stack will not require lights or markings.

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Clause 19 – Infrastructure

Clause 19.01-1S – Energy supply

MERC will provide infrastructure that will meet Victoria’s waste management needs into the future. The Proposal provides for energy generation and waste and resource recovery infrastructure in a way that is efficient, equitable accessible and timely. The energy supplied by the facility will contribute to the network which has recently been subject to shortages and price increases (DEECA, 2023)². Opportunities exist for energy in the form of heat and steam to be harvested from the facility and used by nearby industrial and commercial uses, further reducing burden on the energy system.

MERC meets the objective to facilitate appropriate development of energy supply infrastructure by implementing the following strategies:

- Support the development of energy generation, storage, transmission, and distribution infrastructure to transition to a low-carbon economy.
- Develop appropriate infrastructure to meet community demand for energy services.
- Ensure energy generation, storage, transmission and distribution infrastructure and projects are resilient to the impacts of climate change.
- Support energy infrastructure projects in locations that minimise land use conflicts and that take advantage of existing resources and infrastructure networks.

² Department of Environment, Energy and Climate Action 2023, Energy Victoria Website, Victorian State Government, accessed 20 February 2023, <<https://www.energy.vic.gov.au/about-energy/whats-happening-in-the-energy-market>>

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- Facilitate energy infrastructure projects that help diversify local economies and improve sustainability and social outcomes.

Clause 19.03-5S – Waste and resource recovery

The Proposal directly aligns with the objective of the Clause 19.03-5S by actively maximising resource recovery from residual waste that cannot be recycled. In doing this, it directly reduces reliance on landfills and minimises the environmental, amenity and public health impacts of disposing of residual waste to landfill. The Proposal directly implements the following strategies of this clause:

- Ensure future waste and resource recovery infrastructure needs are identified and planned for to safely and sustainably manage all waste streams and maximise opportunities for resource recovery.*

WtE technology is recognised as playing a role in the transition to a circular economy. By generating energy, creating products that can be used in construction and reducing waste volumes that are sent to landfill, it provides a superior outcome when compared to just landfill where non-recyclable feedstock would otherwise be sent. Therefore, the Proposal represents a resource recovery infrastructure which is needed for the community to sustainably manage waste into the future.

- Ensure the long-term viability of waste and resource recovery infrastructure (including state and regional waste and resource recovery hubs) is secured through the use of defined buffer areas that protect against encroachment from incompatible land uses.*

The Proposal's location within the southwestern portion of the Site demonstrates consideration of surrounding land use buffers and proximity of sensitive areas. The Proposal is therefore considered well protected against future incompatible land uses.

- Ensure waste and resource recovery facilities are sited, designed, built and operated so as to minimise impacts on surrounding communities and the environment.*

As demonstrated throughout this report, the Proposal has been designed to minimise impacts on the environment and surrounding communities, through best practice technologies, careful siting and appropriate mitigation measures (where needed).

- Enable waste and resource recovery facilities to be located in proximity to other related facilities and to materials' end-market destinations, to reduce the impact of waste transportation and improve the economic viability of resource recovery.*

The location of the MERC is strategically well-positioned. It will have synergies with surrounding waste-generating industries enabling recovered material from the MERC to be accessed by operators within the nearby employment and industrial areas. In addition to the electricity fed into the network, the site's location offers potential for the energy in the form of heat and steam to be harvested by the facility to be used by nearby industrial operations.

- Integrate waste and resource recovery infrastructure planning with land use and transport planning.*

The Proposal's location is compatible with future transport and land use planning, noting that the precinct is anticipated to accommodate employment and industrial uses. It will benefit from proposed transport upgrades in the area including freeway access improvements and the future upgrading of Summerhill Road from a local rural road to an arterial road (in accordance with Wollert and Craigieburn West PSPs).

- Encourage technologies that increase recovery and treatment of resources to produce high value, marketable end products.*

The Proposal utilises otherwise non-recyclable waste to create energy, therefore significantly increasing the value of the waste that would have otherwise been sent to landfill. It enables ferrous and non-ferrous metals to be harvested from the IBA which is generated from the combustion of waste. There is potential for remaining IBA to be used to produce aggregate product suitable for road construction. The Proposal also supports recycling and recovery in line with the waste hierarchy, by way of the waste acceptance protocol.

- Encourage development that facilitates sustainable waste and resource recovery, including facilities for Victoria's container deposit scheme.*

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MERC will support sustainable waste and resource recovery because it will recover energy and recyclable materials from the residual waste (feedstock) that would otherwise have been destined for landfill. By recovering energy from waste, it accords with the principles of the waste hierarchy by achieving a higher order outcome (recovery) prior to disposal.

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5.3 Is the proposal consistent with the provisions of the Farming Zone?

Whilst the purposes of the Farming Zone are largely focussed on promoting agricultural activity, the zone contemplates non-rural uses including dwellings, so long as they “do not adversely affect the use of land for agriculture”. Waste to energy, and many other non-agricultural uses are Section 2 uses within the Farming Zone. The Proposal is a permissible land use activity within the Farming Zone. The Site is within a future PSP area and is anticipated to be developed for future industrial and employment uses. Given the site context including the anticipated transition to employment-based uses within the precinct, the Proposal is appropriate within the Farming Zone.

Table 3 provides an assessment of the Proposal against the relevant decision guidelines of the Farming Zone.

Table 3 - Farming Zone Decision Guidelines

Decision Guideline	Assessment
General Issues	
The Municipal Planning Strategy and the Planning Policy Framework.	The Proposal accords with the Municipal Planning Strategy and the Planning Policy Framework. Refer to Section 5.2 of this report
Any Regional Catchment Strategy and associated plan applying to the land.	Wastewater from the facility will be retained on site for reuse. There will be no discharge of wastewater to surrounding waterways.
The capability of the land to accommodate the proposed use or development, including the disposal of effluent.	There are no impediments that impact the ability for the Proposal to be accommodated on the Site. An onsite septic wastewater treatment system will be installed, with treated water reused onsite for toilet flushing and irrigation.
How the use or development relates to sustainable land management.	The proposed use is not rural in nature however it does not prejudice the operations of farming on surrounding land. A large section of the Site will not initially be developed. Further, the facility is a land-efficient technology. It promotes the efficient use of Melbourne’s committed landfills by reducing the volumes of waste that they receive.
Whether the site is suitable for the use or development and whether the proposal is compatible with adjoining and nearby land uses.	The proposal does not encroach into the blast buffer of the adjoining Phillips or Woody Hill Quarries. The Proposal is not a sensitive use, and therefore does not comprise a sensitive uses within the correlating sensitive use buffer. The siting of the facility within the large site also provides adequate separation from nearby properties, noting that there are no sensitive receptors within 110m of the Site. The facility is compatible with other surrounding industrial uses including the Austral Brickworks located to the south of the Site.
How the use and development makes use of existing infrastructure and services.	There is limited existing infrastructure within the site due to its previous rural use. However, the proposal integrates with the surrounding road network. The facility will connect with the electricity transmissions lines available along the site’s frontage (and will not connect directly to the transmission lines that traverse the site).
Agricultural issues and the impacts from non-agricultural uses	
Whether the use or development will support and enhance agricultural production.	The proposed use is not agricultural in nature, however, is still permissible within the zone. It is acknowledged that while the zone is located within the Farming Zone, it is also earmarked for future urban development and is surrounded by an emerging industrial context. As such, the proposed use signals a transition towards the future intended purpose of the area.

Decision Guideline	Assessment
Whether the use or development will adversely affect soil quality or permanently remove land from agricultural production.	The proposed use will not impact soil quality. It will remove a small amount of land from agricultural production, however this loss has been envisaged through the strategic planning for the corridor that anticipates the site transitioning to future utilities uses.
The potential for the use or development to limit the operation and expansion of adjoining and nearby agricultural uses.	The proposed use will not impact adjoining and nearby agricultural uses.
The capacity of the site to sustain the agricultural use.	The site is part of a declining 'island' of farming land within a broader urban setting. The long-term use of the land for farming is not sustainable.
The agricultural qualities of the land, such as soil quality, access to water and access to rural infrastructure.	The land is not suitable for intensive agricultural uses through its distance to rural infrastructure and markets. The site does not contain high quality soils.
Any integrated land management plan prepared for the site.	An integrated land management plan is not required as the Proposal is not for agricultural purposes.
Whether Rural worker accommodation is necessary having regard to: <ul style="list-style-type: none"> The nature and scale of the agricultural use. The accessibility to residential areas and existing accommodation, and the remoteness of the location. 	Rural worker accommodation is not required.
The duration of the use of the land for Rural worker accommodation.	As above.
Environmental issues	
The impact of the proposal on the natural physical features and resources of the area, in particular on soil and water quality.	The Kangaroo Hydrological and Flood Risk Technical Report notes that the two watercourses that pass through the Site (Curly Sedge Creek and Tributary 4545) will not be impacted by the proposed activity.
The impact of the use or development on the flora and fauna on the site and its surrounds.	Ground investigations at the site identified a low risk of contamination and the material type is likely to be suitable for re-use. The proposed development will not impact on soil quality. The Kangaroo Management Plan prepared by Ecology and Heritage Partners (EHP 2023b) provides an overview of the preventative actions to be undertaken to prevent injury to wildlife. The site does not contain federally listed species and the potential habitat on the land for Golden Sun Moth, Matted Flax-lily and Growling Grass Frog identified through the Melbourne Strategic Assessment has pre-approval for removal. The area in the north-east of the site with high native vegetation values will not be impacted by the Proposal.
The need to protect and enhance the biodiversity of the area, including the retention of vegetation and faunal habitat and the need to revegetate land including riparian buffers along waterways, gullies, ridgelines, property boundaries and saline discharge and recharge area.	Biodiversity values on the land are minimal. Targeted survey did not find Growling Grass Frog, Matted Flax-lily and Golden Sun Moth present on the site. The time-stamped vegetation on the land has been approved for removal as part of a controlled action authorised under the <i>EPBC Act</i> .
The location of on-site effluent disposal areas to minimise the impact of nutrient loads on waterways and native vegetation.	An onsite wastewater treatment (septic) system is proposed to be installed and will be appropriately sited and maintained with no discharge to nearby watercourses. If sewer is provided in the future, there is potential for the facility to be connected to reticulated services.
Design and siting issues	

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The need to locate buildings in one area to avoid any adverse impacts on surrounding agricultural uses and to minimise the loss of productive agricultural land.

The proposed buildings are located within the southern portion of the Site. This siting avoids any development within the environmentally sensitive area to the north-east, and complies with required buffer distances. The loss of productive agricultural land is not a consideration given the area is earmarked for future urban development.

The impact of the siting, design, height, bulk, colours and materials to be used, on the natural environment, major roads, vistas and water features and the measures to be undertaken to minimise any adverse impacts.

The landscape and visual impact assessment found that the physical impact to the landscape character during construction would be concentrated to the immediate proposed site extents. With existing quarry and industrial land uses in close proximity of the Proposal, the impact of the project was not considered to be incongruous with the character of surrounding local character areas. Overall the level of change was assessed in the assessment as being of Low to Moderate impact.

The impact on the character and appearance of the area or features of architectural, historic or scientific significance or of natural scenic beauty or importance.

There are no identified features of architectural, historic or scientific significance or of natural scenic beauty or importance in close proximity to the site.

The location and design of existing and proposed infrastructure including roads, gas, water, drainage, telecommunications and sewerage facilities.

Three vehicular crossovers to Summerhill Road are proposed. It is not proposed to establish a gas connect to the MERC, however electricity and water connections will be required as part of the Proposal. These connections will be designed in accordance with authority requirements.

Whether the use and development will require traffic management measures.

Traffic management at Merri Creek and upgrading of Summerhill Road between the Site and Merri Creek is recommended as part of the Proposal. The traffic management measures are discussed further in Section 5.5 of this report.

The need to locate and design buildings used for accommodation to avoid or reduce noise and shadow flicker impacts from the operation of a wind energy facility if it is located within one kilometre from the nearest title boundary of land subject to:

- A permit for a wind energy facility; or
- An application for a permit for a wind energy facility; or
- An incorporated document approving a wind energy facility; or
- A proposed wind energy facility for which an action has been taken under section 8(1), 8(2), 8(3) or 8(4) of the Environment Effects Act 1978.

N/A – there are no buildings proposed for accommodation, nor are there any wind energy facilities located in the nearby area.

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The need to locate and design buildings used for accommodation to avoid or reduce the impact from vehicular traffic, noise, blasting, dust and vibration from an existing or proposed extractive industry operation if it is located within 500 metres from the nearest title boundary of land on which a work authority has been applied for or granted under the Mineral Resources (Sustainable Development) Act 1990.

N/A – no accommodation buildings are proposed.

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5.4 Does the Proposal appropriately consider biodiversity impacts?

The biodiversity values of the site were assessed through the Melbourne Strategic Assessment as recorded in time-stamped data. The impact of development on the site's biodiversity values has been accounted for through the Biodiversity Conservation Strategy. Notwithstanding this, a rigorous assessment of the site has been undertaken to ensure that federally listed species on the site will not be impacted. Targeted surveys did not reveal the presence of federally listed species.

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The MERC has been sited to avoid the removal of native vegetation in accordance with the principles set out in Clause 52.17 and the *Guidelines for the removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning, 2017). No buildings or activities are proposed within that part of the land that is within the Rural Conservation Zone or affected by the Environmental Significance Overlay.

The proposed removal of one scattered tree can be appropriately offset through payments in accordance with *the Melbourne Strategic Assessment (Environment Mitigation Levy) Act 2020*.

5.5 Does the proposal provide an appropriate traffic and parking outcome?

A Transport Impact Assessment that reviews traffic impacts associated with the Proposal has been undertaken by Traffix Group Pty Ltd (Traffix Group 2023).

The assessment found:

- There is no specified car parking rate under Clause 52.06-5 of the Whittlesea Planning Scheme and therefore car parking must be provided to the satisfaction of the Responsible Authority with consideration of the staff and visitors anticipated on the site
- The anticipated car parking demands can be adequately accommodated within the proposed staff car park and visitor car park with a total of 73 spaces including 5 staff spaces and 15 visitor spaces
- The primary vehicle access connection with Summerhill Road and internal road layout have been designed to accommodate the largest anticipated trucks which are A-Doubles
- The proposed truck access route between the site and the Hume Freeway is to be to/from the west via Summerhill Road and Amaroo Road
- The existing Summerhill Road (to the west of Merri Creek) and Amaroo Road configurations are adequate to accommodate the development generated traffic
- The existing unsealed section of Summerhill Road between Merri Creek and the site's primary access near its eastern boundary should be upgraded subject to agreement with the relevant road authority to have a sealed carriageway of approximate 6.5m width, similar to the existing configuration to the west of Merri Creek
- A traffic management treatment at the Merri Creek bridge on Summerhill Road should be implemented to manage vehicle movements across the bridge to allow travel in one direction at any one time, as well as a speed limit reduction at the bridge
- The level of traffic generated as a result of this Proposal can be adequately accommodated by the wider road network
- There is no requirement for bicycle parking and given the site's location there is not expected to be any demand for bicycle parking. Notwithstanding this, the development provides end-of-trip facilities and an area for bicycle parking.

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With appropriate measures implemented, the Proposal will provide an appropriate traffic and parking outcome.

5.6 Does the proposal appropriately respond to the main environmental factors considered to be of importance by the EPA?

5.6.1 Hazard and risk

A Hazardous Substances and Industrial Hazards Technical Report has been prepared (Arup 2023b) to demonstrate how the MERC meets its general environmental duty (GED) under the EP Act and manages hazardous substances and industrial hazards from pollution or waste.

The key risk and mitigations measures identified for MERC are:

- Fire in the waste bunker:** Mitigation measures to eliminate or reduce a potential waste bunker fire include continuous thermal scanning, water cannons, remote crane operated removal of hot spots in the bunker and negative air pressure.
- Waste feedstock uncertainty received by the facility:** The furnace is designed to be sufficiently robust to manage allows for explosions to occur if items such as pressurised LPG containers were fed into the furnace without removal from operators.

- **Activated carbon dust explosion:** A permanent nitrogen blanket will be adopted at all times. This will minimise oxidation by reducing the oxygen content in the surrounding environment.
- **Offsite impacts from a diesel fire:** The diesel used for the facility will comply to AS1940 and consideration will be made to the advice given in response to the Application for Written Advice to Fire Rescue Victoria (FRV), to address potential offsite impacts FRV may have.
- **Risks associated with storage of Dangerous Goods:** If ammonia is required to be used, a placeholder location on the site has been identified. It will be in a separate bund outside with water sprays around the banded area.

The assessment also includes identification of risks to human health and the environment from pollution or waste to help Cleanaway discharge its GED under the *EP Act*. The residual risks that could pose harm to human health and the environment will be managed operationally by Cleanaway.

Refer to the Hazardous Substances and Industrial Hazards Technical Report for further detail.

5.6.2 Air Quality

Air pollution control techniques and technologies have been selected based on being the best fit for MERC An Air Quality Assessment has been undertaken (Katestone 2023a) to investigate the potential for the project to affect air quality during construction and operations. The report concludes that the Proposal (in isolation) will have an insignificant impact on air quality, as measured against the relevant health-based and environmental based Air Pollution Assessment Criteria.

The potential impacts associated with the operation of the Proposal have been assessed using dispersion modelling, which is consistent with a Level 2 assessment approach as outlined in EPA Victoria's Publication 1961 (*Guideline for assessing and minimising air pollution*). A dispersion model was used to predict ground-level concentrations of key pollutants attributable to the Proposal, across the model domain and at key sensitive receptors. A conservative approach was adopted by basing emission rates on the highest of emission rates.

A cumulative assessment was also conducted incorporating the adjacent Austral Bricks owned Brickworks and surrounding existing industrial activities identified within a 5km radius of the Proposal. The industrial activities include clay brick manufacturing, gas transmission and hard rock quarrying.

The assessment of air quality addresses the Proposal's effect in isolation as well as cumulative impacts from surrounding existing industrial activities, on dust soiling, human health at sensitive receptors, ecological receptors and plume visibility. For construction associated impacts, receptors within 350m of the Proposal were considered, with one sensitive receptor identified within 110m of the Proposal. For the operational impact assessment sensitive receptors within approximately 10km of the Proposal were considered, with 40 sensitive receptors identified.

For the Proposal's construction phase, the Air Quality assessment identified:

- Without mitigation, the initial risk of dust soiling associated with the construction of the Proposal is low to medium
- Without mitigation, the initial risk to human health associated with construction of the Proposal is low
- Without mitigation, the initial risk to ecological receptors associated with the construction of the Proposal is low to medium.

For the Proposal's operational phase, the assessment identified:

- The Proposal (in isolation) is predicted to have an insignificant impact on air quality (no exceedance for any air pollutant), as measured against the relevant health-based and environmental based Air Pollution Assessment Criteria (APACs) (<15.5% of APACs for all pollutants)
- Predicted cumulative ground-level concentrations of all air pollutants due to the Proposal comply with the relevant APACs across all sensitive receptors, with the exception of hydrogen fluoride, PM10 and PM2.5 (refer to Section 19). The elevated PM10, PM2.5 and hydrogen fluoride ground level concentrations are a result of elevated background concentrations (from surrounding industry), and not from the WtE facility
- The modelling indicates that the visible plume is contained within the Site.

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5.6.3 Greenhouse Gas Emissions

A Greenhouse Gas Assessment has been prepared (Katestone 2023b) to quantify the greenhouse gas (GHG) emissions generated and avoided as a result of the construction and operation of the MERC.

The assessment found that key GHG emissions and avoided emissions associated with the Proposal include:

- GHG emissions resulting from the construction of the MERC facility will be approximately 16,200tCO₂e. This includes Scope 3 emissions associated with material embodied carbon and construction processes
- Direct annual GHG emissions associated with the operation of the MERC facility will be approximately 192,400tCO₂e/y. This includes the emissions associated with waste combustion, vehicle use (including waste transportation), and energy required to operate the facility, and assumes a waste stream comprising 60% residual C&I waste and 40% residual MSW
- Direct annual GHG emissions could be reduced to approximately 190,800tCO₂e/y by replacing diesel with biodiesel for the operation of stationary plant and reduced further by designing the plant for maximum energy efficiency
- The Proposal may initially result in the avoidance of indirect GHG emissions of between approximately 444,400 and 448,800 tCO₂e/y and therefore create a net reduction in Victoria and Australia's current annual GHG emissions of between -241,100 and -265,100 tCO₂e/y (based on the assumptions outlined in the Greenhouse Gas Assessment) through:
 - Avoiding methane emissions from landfill by diverting waste
 - Generating electricity at a lower emissions intensity than the current Victorian electricity grid
 - Recycling materials to replace virgin materials in construction.

5.6.4 Noise and Vibration

The Noise and Vibration Technical Report prepared (Arup 2023e) and provides an:

- Assessment of airborne noise emissions for construction and operation of the MERC WIE facility to the nearest sensitive receivers outside the Site boundary.
- Assessment of vibration emissions for construction of the MERC WIE facility to the nearest sensitive receivers outside the Site boundary. This is in the form of expected safe working distances of particular vibration generating construction plant and equipment.
- The distance between the expected construction site boundary and the nearest residential building are greater than the typical minimum safe working distances of expected vibration generating sources. Based on this assessment, vibration issues to building structures and human comfort are unlikely to be an issue.

The assessment identified mitigation measures to address and manage noise impacts during operations as outlined below.

- **Day period – airborne noise**
 - The assessment shows that there would not be exceedances of the Noise Protocol day-time limits during operation with mitigation measures in place.
- **Evening period – airborne noise**
 - The assessment shows that, there would not be exceedances of the Noise Protocol evening-time limits during operation.
 - Due to the expectation of no heavy vehicles (trucks, mobile plant) operating between 18:00 hrs and 20:00 hrs, noise levels from the MERC facility are predicted to not exceed Noise Protocol limits at the nearest residential receivers. No mitigation measures have been noted.
- **Night period – airborne noise**
 - The assessment shows that there would not be exceedances of the Noise Protocol night-time limits during operation with mitigation measures in place.

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5.6.5 Human Health

A Human Health Risk Assessment has been prepared (EnRisks 2023) and assesses the Proposal against a number of considerations including air quality, noise, water, soil contamination, groundwater and dangerous goods/chemical hazards.

Air Quality

The air quality assessment considered risks from exposure to chemicals attached to particles which may deposit onto the soil around the facility. The risks have been assessed after 70 years of deposition to the soil (more than the lifetime of the facility). The risks associated with inhalation were conservative. They were based on the worst-case locations and assumed people will be present at those locations 24 hours/day for 365 days per year for the lifetime of the facility.

With respect to air quality, the report concludes that there are no health issues of concern in relation to air quality changes in relation to the proposal. In particular the assessment has shown that there are no unacceptable risks for criteria pollutants, short term exposure (via inhalation), relevant exposure scenarios considering long term exposures) or for relevant exposure scenarios for rainwater tanks.

Noise

Applying the adopted noise limits, and assuming the project is designed to meet the identified noise specifications, the assessment found that there are no issues of concern for the health of the off-site community.

Other matters

There are also no issues of concern for the health of the off-site community in relation to water, soil contamination, groundwater or dangerous goods/chemical hazards in relation to the Proposal.

Refer to the accompanying Human Health Risk Assessment for further detail.

5.6.6 Hydrology and Flooding

A Hydrology and Flood Risk Technical Report has been prepared (Arup 2023c) and confirms that the two watercourses that pass through the Site (Curly Sedge Creek and Tributary 4545) will not be impacted by the proposed activity.

The over-arching surface water design intent is to maintain existing catchments within the Proposal area and to minimise the change to the magnitude and quality of flows leaving the site.

The surface water management strategy has been devised in accordance with relevant Whittlesea Council, Melbourne Water and Victoria Planning Provisions requirements. In accordance with Council requirements, the system will be required to attenuate stormwater discharge and provide water quality measures.

To demonstrate compliance with the BPEM Guideline objectives, MUSIC (Model for Urban Stormwater Conceptualisation) computer software was used. DRAINS was used to determine the minimum storage volumes of attenuation basins based on the developed footprint of the Proposal area.

The concept stormwater drainage design includes a minor network of inlet pits and pipes. The Proposal area drainage network has been split into two primary catchment areas consistent with the existing site conditions. On-site detention for site runoff will be provided in two open basins, upstream of the two site stormwater discharge points. Each basin will include a bioretention portion of the basins to maximise water quality treatment. Runoff from sensitive areas, where there is a risk of spills of chemicals or hydrocarbons, will be banded to prevent an overflow to the surrounding area. Oil and water separators will also be installed to treat runoff from these areas.

The stormwater design has been developed to:

- Match and maintain pre-development catchment boundaries
- Detain flows using on-site detention basins to meet the permissible site discharge requirements
- Treat stormwater to ensure the BPEM targets are met.

Flood modelling has demonstrated that the flood assessment criteria are met, including:

- Critical design elements remain outside the 1% Annual Exceedance Probability (AEP) flood extents and above the Probable Maximum Flood level

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- Buildings are designed to be raised at least 600mm above the 1% AEP peak flood level
- The proposed design does not result in impact outside the Site.

The concept stormwater drainage design includes a minor network of inlet pits and pipes. The Site drainage network has been split into two primary catchment areas consistent with the existing site conditions. On-site detention for site runoff will be provided in two open basins, upstream of the two site stormwater discharge points. Each basin will include a bioretention portion of the basins to maximise water quality treatment.

Runoff from sensitive areas, where there is a risk of spills of chemicals or hydrocarbons, will be bunded to prevent an overflow to the surrounding area. Oil and water separators will also be installed to treat runoff from these areas.

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5.6.7 Land and Groundwater

A Soil Contamination and Baseline Groundwater Investigation was prepared (Douglas Partners 2023). The report concludes the Site is not contaminated and is compatible with the proposed development from a contamination perspective. Contaminant concentrations recorded in the soil and groundwater are not considered to pose an acceptable risk to human health both during construction and during operation.

The available results also indicate an acceptable risk to environmental receivers although further sampling and testing of groundwater may be required. The soil and groundwater within the Study Area is unlikely to require remediation and site-specific management and no specific duties under the EP Act are required based on the findings of the assessment.

To ensure contamination risks are appropriately addressed through the construction process and when operations have commenced, the investigation recommended a methodology for further testing.

Recommendations included:

- further testing of soils prior to offsite disposal
- testing in the vicinity of the existing septic tanks following their decommissioning
- further groundwater sampling and testing to establish appropriate groundwater management measures.

5.7 Have the views of the community been appropriately considered?

A consultation and engagement program has been developed to ensure the views of the community and other stakeholders can be shared through each stage of the application process.

The strategy has been split into the following phases:

• Phase One – Introduce WtE and Policy Context

The purpose of this phase was to:

- Build community understanding of WtE technology
- Build community understanding of how WtE fits within the waste hierarchy and circular economy. This was undertaken through targeted stakeholder engagement, focus groups, and an online survey.

• Phase Two – Soft launch of MERC

The purpose of this phase was to:

- Introduce Cleanaway to the community and announce the MERC proposal
- Advertise engagement opportunities (official launch)
- Providing opportunities for the community to ask questions. This was undertaken through targeted stakeholder engagement, a letterbox drop (5km), webpage, factsheets, and social media. This phase also saw the project email and phone open for general enquiries.

• Phase Three – Formal launch of MERC

The purpose of this phase is to:

- Build community understanding of the proposal
- Provide multiple opportunities for community members to learn more
- Strengthen relationship between Cleanaway and its community

This phase is underway at the time of the publication of this report (March 2023). This is being undertaken through targeted stakeholder engagement, webpage update, factsheets, survey, webinar, community events (meetings, pop-ups), social media and the project email and phone.

· **Phase Four – DLA submission and Public Exhibition**

The purpose of this phase is to:

- Continue to build community understanding of the proposal
- Support community members to understand the application
- Provide opportunities for community members to ask questions

This phase will involve project information being updated through the website, social media and email to community members who have subscribed for updates. The project phone number and email will still be available, and the Community Reference Group recruitment will be underway.

At the conclusion of these phases, an engagement report is to be prepared which will review engagement findings and provide relevant responses.

Following this, public exhibition of the DLA will be undertaken in conjunction with the public notice of the PPA.

The above strategy demonstrates a consistent level of community engagement at all stages of the project and ensuring that the community is both heard and thoroughly informed on the project particulars.

5.8 Does the proposal provide an appropriate outcome with respect to landscape and visual character?

A Landscape and Visual Impact Assessment has been prepared by Arup (Arup 2023d).

The Assessment considered the impacts of the Proposal during construction and operation. The Assessment found that the physical impact to the landscape character during construction would be concentrated to the immediate proposed site extents. With existing quarry and industrial land uses in close proximity of the Proposal, the impact of the project was not considered to be incongruous with the character of surrounding local character areas.

The assessment considered landscape and visual impacts during the construction phase. Impacts are expected to result from the presence of machinery including cranes and will be temporary in nature. Operational impacts are expected to be consistent with those during the construction phase.

Vegetation screening around the perimeter of the site will assist in the mitigation of visual impact. Choices in colour and materials, and keeping building height to a minimum, has aimed to mitigate impacts however, the volume and height of the main process hall building will be a prominent feature within the landscape and will be visible above the existing and proposed vegetation.

Overall, the level of change was assessed as being of Low to Moderate impact.

Views were analysed from five locations as shown in Figure 33 below.

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Figure 33 - Viewpoints assessed within the Landscape and Visual Impact Assessment

Image produced by Arup (2023)

Viewpoint 1 – 570 Summerhill Road, Wollert, view to east

The view location is located approximately 330m from the Site’s western boundary. The magnitude of change arising from the Proposal was assessed as ‘high’ due to the large scale and high contrast of the Proposal in comparison to the existing landscape view and because it will become the dominant feature of the view.

The planting proposed as part of the landscape concept plan aims to improve the appearance and overall condition of the Site and partially screen the Proposal. It is acknowledged that the scale of the Proposal will contrast with the scale of the existing built form and planting on Site.

Refer to Figure 34 and Figure 35.

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Figure 34 - Viewpoint 1 - 570 Summerhill Road – existing

Image produced by Arup (2023)



Figure 35 - Viewpoint 1 - 570 Summerhill Road – photomontage

Image produced by Arup (2023)

Viewpoint 2 – 620 Summerhill Road, Wollert, looking south-east

Viewpoint 2 is located approximately 1km from the Proposal. The magnitude of change was assessed as ‘high’ due to the large scale and high contrast of the Proposal in comparison to the existing composition of the view. Its presence as a dominant feature and the anticipated visibility of the plume from this view will introduce a degree of contrast against the rural setting.

Refer to Figure 36 and Figure 37.

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Figure 36 - Viewpoint 2 - 620 Summerhill Road, Wollert – existing

Image produced by Arup (2023)



Figure 37 - Viewpoint 2 - 620 Summerhill Road, Wollert – photomontage

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Image produced by Arup (2023)

Viewpoint 3 – Marlborough Drive, Wollert, looking north-east

This representative viewpoint is approximately 2.3km from the Site. The magnitude of change was assessed as ‘negligible adverse’ because the Proposal is at a considerable distance and is screened by existing vegetation and topography in the background so that it will be a barely noticeable feature within the view. The plume is anticipated to be visible above rural landscape from the viewpoint location.

Refer to Figure 38 and Figure 39.



Figure 38 - Viewpoint 3 - Marlborough Drive, Wollert – existing

Image produced by Arup (2023)



Figure 39 - Viewpoint 3 - Marlborough Drive, Wollert – photomontage

Image produced by Arup (2023)

Viewpoint 4 – Stonewall Drive, Wollert, looking south-west

Viewpoint 4 is situated approximately 3.8km from the Site. The magnitude of change within this view was assessed as ‘moderate’ due to the facility being perceived as a noticeable feature within the distant view apparent to the receptors. The plume is anticipated to be visible above rural landscape from the viewpoint location. This is mitigated by screening by existing trees in the landscape. The construction of a mound to screen the future quarry east of the Proposal will likely affect the magnitude of change rating for the view.

Refer to Figure 40 and Figure 41.



Figure 40 - Viewpoint 4 - Stonewall Drive, Wollert – existing

Image produced by Arup (2023)



Figure 41 - Viewpoint 4 - Stonewall Drive, Wollert – photomontage

Image produced by Arup (2023)

Viewpoint 5 – Mount Ridley Lookout, looking east

The view location is approximately 3.7kms from the Proposal. The magnitude of change arising from this proposal is considered to be ‘moderate’ because the Proposal will be perceptible in the distance and apparent to the receptors. The view includes features of other industrial developments such as the quarries. The Proposal is partially screened by the rows of mature trees in the middle ground.

The plume is anticipated to be visible above rural landscape from the viewpoint location.

Refer to Figure 42 and Figure 43.



Figure 42 - Viewpoint 5 - Mount Ridley Lookout – existing

Image produced by Arup (2023)



Figure 43 - Viewpoint 5 - Mount Ridley Lookout – photomontage

Image produced by Arup (2023)

Viewpoint 6 – Mount Aitken Reserve, looking north-east

The view location is situated approximately 8km from the Proposal. The magnitude of change arising from this proposal is considered to be ‘low adverse’ because the Proposal will be perceptible in the distance and apparent to the receptors, but will not alter the overall balance of the features comprising the existing view.

The plume is anticipated to be visible above rural landscape from the viewpoint location.

Refer to Figure 44 and Figure 45.

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Figure 44 - Viewpoint 6 - Mount Aitken Reserve – existing

Image produced by Arup (2023)

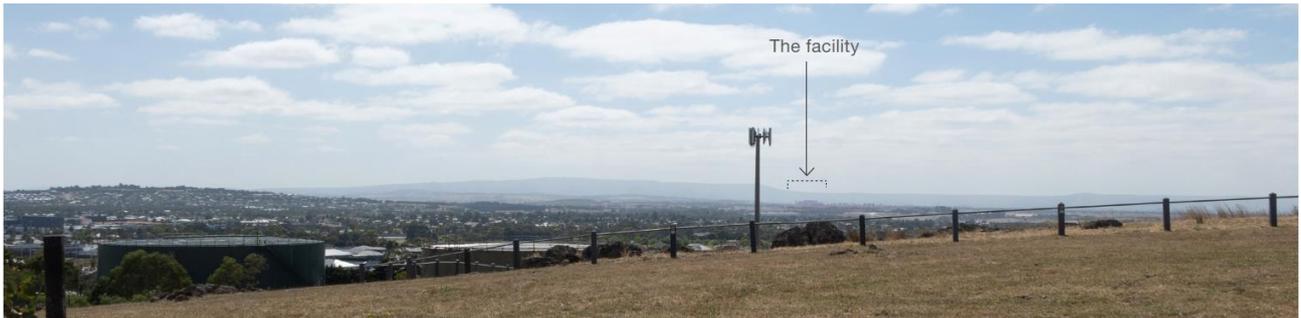


Figure 45 - Viewpoint 6 - Mount Aitken Reserve – photomontage

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5.9 Does the proposal provide a beneficial socioeconomic outcome?

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A Socioeconomic Impact Assessment has been prepared (Arup 2023f) which provides an assessment of the likely socio-economic impacts associated with the Proposal. Where necessary, it details recommended mitigation measures to avoid, minimise or manage impacts.

The report determined that the positive socio-economic impacts associated with the Proposal outweigh the negative impacts.

The assessment first provides a review of existing conditions and the community profile based on available data. The report provides the following key findings with respect to baseline conditions:

- *By 2036, the study area is anticipated to have a combined population of 163,359 with an annual growth rate of 5% (increase of 84,507 people). The annual growth rate of the study area is comparably higher than the average annual growth rate across Victoria. There is opportunity for the Proposal to provide local jobs through the operation and construction phase, and also provide community services associated with the waste management facility, e.g. waste management for Victoria and education regarding circular economy, recycling, resource recovery and landfill diversion.*
- *The study area has a large working-age population (15-64 years of age), with Wollert having the largest proportion of working-age groups when compared to the other SA2s and Victoria as a whole. This would indicate a high proportion of young families, first home owners, and labour force residing within the study area. The Proposal could provide local employment and training opportunities to these younger families, in addition to being a facility which would educate these families on managing waste.*
- *Professionals, technicians and trades workers and community and personal service workers are identified as the most common occupations in the study area, while construction, manufacturing and transport, postal and warehousing are within the top five employment sectors.*
- *In combination with the occupation and employment by industry numbers, the study area has a slightly lower unemployment rate compared to Victoria. This indicates potential opportunity to utilise local labour during the construction phase of this Proposal, which could lead to additional benefits such as reducing travel time and having more time to spend on recreational activities.*
- *The study area has slightly higher proportions of people who do not speak English well, or at all, compared to Victoria. This should be considered in the planning of community consultation regarding the Proposal. Further, the*

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educational facility component of the Proposal should consider language interpretation opportunities to maximise educational opportunities around managing waste, to enhance the Proposal's function as a community asset.

- In the study area the two most common methods of travel to work are by car as a driver or by car as a passenger. The Proposal provides the potential to provide local employment opportunities, which may help to decrease these numbers which would result in less car-dependency and improvements in the environment.

The report also analyses community values, aspirations and fears based on available key policy documents. The key findings are:

- Based on community engagement activities in Whittlesea, the community aspires to and values a community which enhances sustainability through cleaner environments. This would include improving biodiversity by planting more trees, conserving habitats and taking care of wildlife
- The Whittlesea community values investment into local businesses, leadership, having a say regarding development, and implementing key infrastructure assets such as roads and parks whilst improving the existing infrastructure assets
- Consistent with the community values and aspirations of Whittlesea, the Hume community aspires to and values a community that is sustainable through thoughtful planning, innovative design and improving social infrastructure
- The Hume community values a community that is inclusive, offering extensive opportunities for the community to grow through education, business and employment, and health.

The key negative impacts associated with the Proposal were:

Construction:

- Impacts on people's way of life due to increase in traffic and congestion, with a moderate social impact rating
- Impacts on community values due to loss of sense of place, noise, environmental impacts and the anticipation of negative impacts, with a moderate social impact rating
- Impacts on people's health and wellbeing as a result of construction noise and vibration, with a moderate social impact rating
- Impacts relating to changes in the visual amenity, with a moderate social impact rating
- Impacts on property values (actual or perceived), with a moderate social impact rating.

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Operation:

- Impact on liveability (actual or perceived) due to potential changes in the amenity, with a moderate social impact rating
- Impacts on health and wellbeing as a result of increased air emissions, with a moderate social impact rating
- Impacts on the visual amenity, with a moderate social impact rating
- Impacts on property values (actual or perceived), with a moderate social impact rating.

The key positive impacts were identified as:

Construction:

- Impacts on employment, with an extreme positive social impact rating
- Impacts to the local business community through support of local business and industry, with a high social impact rating
- Impacts to liveability associated with reduction in waste disposal and emissions, with a high social impact rating.

Operation:

- Impacts on the community's aspirations through more sustainable living and provision of educational facilities, with a high social impact rating
- Impacts to social infrastructure and facilities as the Proposal becomes a key asset of community infrastructure, with a high social impact rating
- Impacts of new land use which aligns with the community's aspirations, with a high social impact rating.

The report concludes:

The facility, and in particular the visitor and education centre will educate the broader region on waste management, presenting the opportunity to inform the public and shift negative perceptions of WtE facilities, including concerns regarding air quality and health impacts. It will also educate the public about waste management contributing to improved waste management practices. In general, the positive impacts had a greater social impact significance (mostly moderate to high impact) when compared to the negative impacts (mostly low to moderate), and are generally associated with the operational phase, and therefore have long term socio-economic impacts. Further, measures to mitigate negative impacts have been identified, and include implementation of controls of dust, air quality, traffic, noise emissions, and landscape treatments.

5.10 Is the proposal consistent with the provisions of Clause 52.05 (Signs)?

The proposed floodlit business identification sign is appropriately distanced to avoid visual clutter and results in no adverse amenity impacts on the surrounding area given its placement adjacent to a road. The scale, design and single nature of the sign ensures it does not compromise amenity or impact negatively on views of road users.

With respect to the purpose of 'Category 4 – Sensitive areas', the sign will not detract from the appearance of the surroundings particularly when considered in relation to the size of the Site and the extended length of the frontage.

The sign is of a scale that does not dominate the surrounding landscape.

The proposal responds to the decision guidelines at Clause 52.05-8 as follows:

- The sign is respectful of the character of the Site. It is of an appropriate scale and will not have an adverse impact on the natural environment.
- The sign is necessary to identify the Site's function and is therefore appropriately located at the front of the Site. It is modest in scale in comparison with the long frontage and noise wall.
- The sign will be floodlit to ensure visibility in the early hours of the morning.
- The proposed sign will not interfere with road safety given that it is small in scale, simple in design, and not animated.

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6 Conclusion

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This report has been prepared in support of a planning permit application for the use and development of land for a WtE facility, the removal of native vegetation (one scattered tree) and the creation of an easement.

The use and development of the Site is subject to the provisions of the *Whittlesea Planning Scheme*. The Proposal triggers the following planning permit requirements under the Scheme:

- Pursuant to Clause 35.07-1 (FZ), a permit is required to use the land for a Waste-to-energy facility.
- Pursuant to Clause 35.07-4 (FZ), a permit is required for buildings and works associated with a Waste-to-energy facility.
- Pursuant to Clause 52.02, a permit is required to create an easement under Section 23 of the *Subdivision Act 1988*.
- Pursuant to Clause 52.05, a permit is required to display a floodlit business identification sign.
- Pursuant to Clause 52.17-1, a permit is required to remove, destroy or lop native vegetation, including dead native vegetation.

The proposal is well supported through Victoria's waste and resource recovery sector policies at state, regional and local levels. Within waste management and resource recovery sector, WtE policy has evolved, recognising its key role in the transition to a circular economy whilst providing suitable guidance for proponents and decision makers. Key policy documents include the *Metropolitan Waste and Resource Recovery Implementation Plan, 2016*, *Statewide Waste and Resource Recovery Infrastructure Plan 2018*, *Recycling Victoria, A new economy, 2020*, and the *Victorian Waste to Energy Framework, 2021*. The Proposal provides waste management infrastructure that gives effect to each of these policies and will support the State in achieving important policy objectives.

MERC is well supported by Victorian state-wide strategic planning policies:

- The 2012 *Northern Growth Corridor Plan* identifies the site as forming part of an investigation area designated for 'non-urban/utilities' uses. As a non-residential use providing energy generation, the Proposal is consistent with this designation.
- The Victorian Government's *Melbourne Industrial and Commercial Land Use Plan* identifies the site as being proximate to an area of 'State Significant Industrial Land.' There are strong land use synergies between the Proposal and adjoining existing and proposed employment activities including the potential to supply nearby industry with reclaimed materials, steam and heat from MERC.
- The site is included within *Northern Quarries Precinct Structure Plan* area which is anticipated to transition to employment and industrial uses. It is anticipated that the site and surrounding land will ultimately be rezoned to a mix of urban zones as part of the implementation of the Northern Quarries PSP when it is prepared. The MERC is an appropriate land use within this context.

The Proposal accords with the state and local planning policy provisions of the Whittlesea Planning Scheme in the following ways:

- It responds directly to the key strategic directions "growing our economy" contained within Whittlesea's *Municipal Planning Strategy* by providing a new skilled sector within the municipality, creating jobs, providing for education, innovation, and diversity within the local economy. The Proposal supports innovation and the knowledge economy by contributing toward a potential future business cluster with Wollert, promoting an accessible and collaborative physical environment and improving access to information and training through the provision of a Visitor and Education Centre. It will support the economic objectives of the Scheme by contributing to greater diversity of energy generating facilities within Victoria.
- It accords with policy directions that support "living sustainability" contained within Whittlesea's *Municipal Planning Strategy* by supporting the transition towards a circular economy by reducing the volume of residual waste bound for landfill and producing by-products that can be used in construction.

- Whittlesea’s Municipal Framework Plan identifies the Site as being located within a “potential future urban land area”. The Proposal accords with this designation by supporting the transition of the area from its current declining agricultural activities toward the future employment purposes.
- Waste-to-energy facilities are permissible within the Farming Zone and the Proposal accords with the provisions of the zone because it proposes a use that is compatible with nearby land uses and will not negatively impact any nearby agricultural operations.
- The Proposal seeks permission to create an easement to facilitate new electricity connections which is appropriate and will provide for a necessary connection to the 66kV powerlines along Summerhill Road.
- The proposal also seeks permission for the removal of one scattered tree pursuant to Clause 52.17 (Native Vegetation). The proposed removal of one scattered tree accords with the three-step policy to avoid, minimise or offset the removal of native vegetation, as required under Clause 12.01-2S and Clause 52.17. The Site is identified within the Melbourne Strategic Assessment (MSA) area and any native vegetation removal has attained prior approval as part of a controlled action under the Environment Protection and Biodiversity Conservation Act 1999 subject to the payment of offsets. With appropriate offsets, this removal is allowed for under the Scheme and is acceptable. A Kangaroo Management Plan has been developed to minimise risks to Eastern Grey Kangaroos in accordance with policy to protect and enhance Victoria’s biodiversity (Clause 12.01-1S).
- The Proposal will not compromise the ability to deliver the Marram Baba Merri Creek Regional Parklands.
- The Proposal provides an appropriate number of car parking spaces for staff, delivery vehicles and visitors to the site, in accordance with Clause 52.06 of the Scheme.

The Report has also considered all relevant potential amenity impacts from the Proposal and confirms that it does not pose unreasonable health, amenity or environmental impacts to the wider community.

The project is highly compliant with the planning provisions of the Whittlesea Planning Scheme, relevant policies and guidelines, and the suite of Victorian waste sector policy documents. As a project of state significance it is respectfully requested that the Minister issues planning approval for the use and development of the MERC.

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