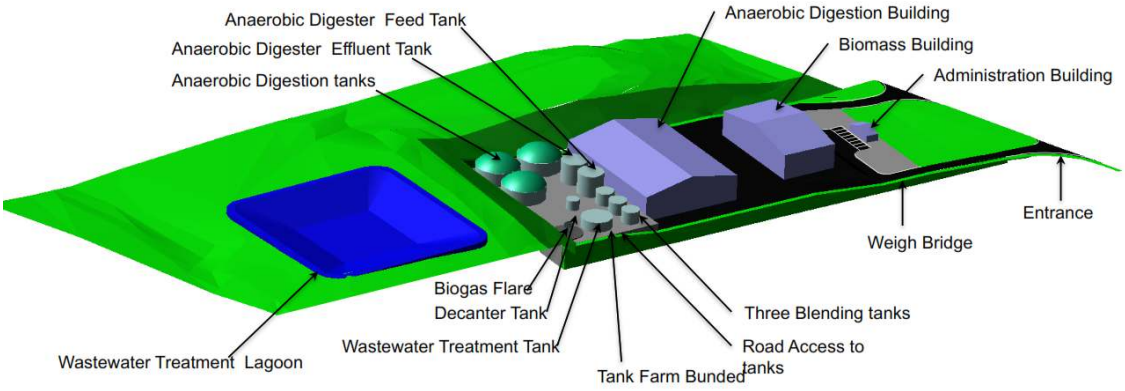
Mount Alexander Bioenergy



Mt Alexander Bioenergy from Waste facility

Richards Rd, Castlemaine

Planning Permit Application

Mt Alexander Shire

30 November, 2021

Mount Alexander Bioenergy

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10. Conclusion

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Mount Alexander Bioenergy

1. INTRODUCTION

This planning permit application seeks planning approval for the use and development of a Bioenergy from Waste facility.

Mount Alexander Sustainability Group (MASG) embarked on this project in the shire to process local and regional organic waste streams. MASG established a Special Purpose Vehicle, Mt Alexander Bioenergy Pty Ltd (MAB), to conduct the development of this project. In 2018, MAB completed a Feasibility Study to establish a business case for a bioenergy from waste facility which confirmed viability and identified a number of potential locations, the DON Smallgoods site in Castlemaine being the standout. MAB's resulting commercial agreement with DON Smallgoods has secured the company as the purchaser of energy generated from the plant, as well as a source of some (20 per cent) of the waste to process. In total, the plant is expected to drive an emissions reduction of 88,000 tonne of CO2 e per annum. Other local and regional businesses will also be able to benefit from the plant through sustainable and environmentally friendly means of disposing organic waste.
A bioenergy from waste plant offers a number of compelling benefits over traditional means of disposal of organic waste. Currently in Castlemaine, local organic waste goes to landfill and then leaks methane (a potent greenhouse gas) into the atmosphere over time. A bioenergy plant diverts this waste away from landfill, captures the biogas emissions to generate clean renewable energy, thereby reducing reliance on traditional fossil fuel derived emission producing energy sources.

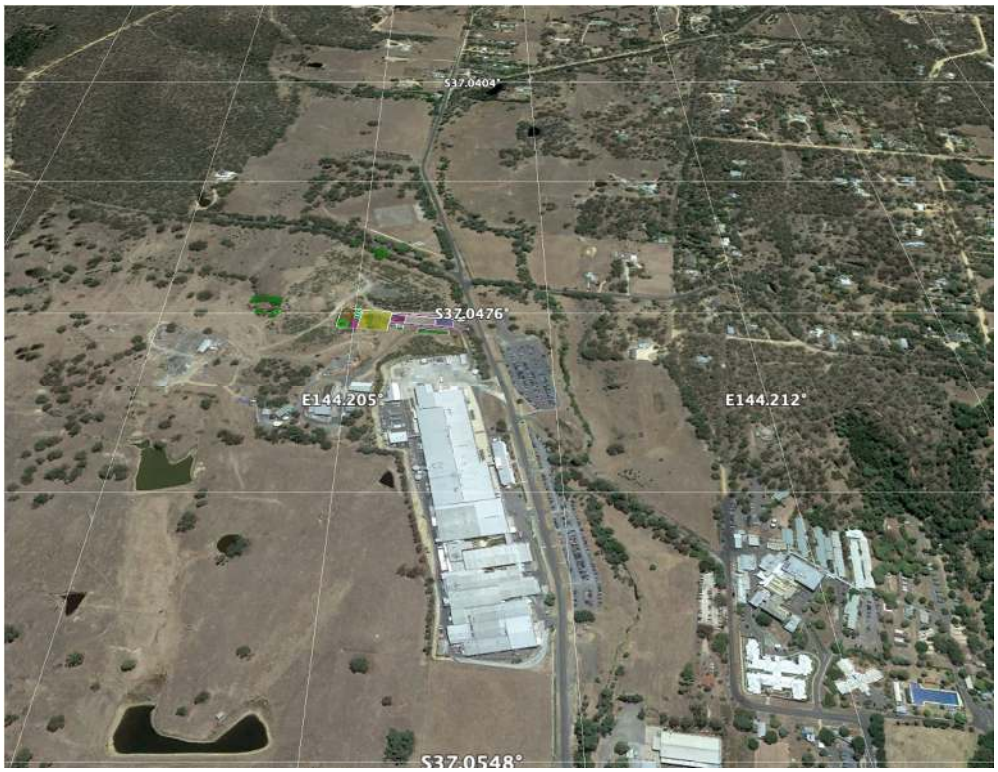
In summary, benefits include:

- Reduced risk of organic waste disposal's environmental impact (odour, noise, waste to landfill, greenhouse emissions, biosecurity),
- Contributing to the circular economy and Mt Alexander Shire's ZNET goal of achieving Zero Net Waste by 2030.
- Creating clean renewable energy which displaces a significant amount of fossil fuel energy
- Cost avoidance to the general community from waste disposal, which are likely to only increase over the coming decade
- Reducing DON Smallgoods' environmental footprint and helping to ensure the future viability of the region's largest employer
- Creates local jobs, with the site to generate 22-30 jobs including construction and subsidiary business ventures spawned.
- Opportunity for by-product streams to assist agriculture productivity. For instance, a carbon neutral soil product can be manufactured locally using waste streams from the plant, replacing emission intensive synthetic fertilisers that are currently used.

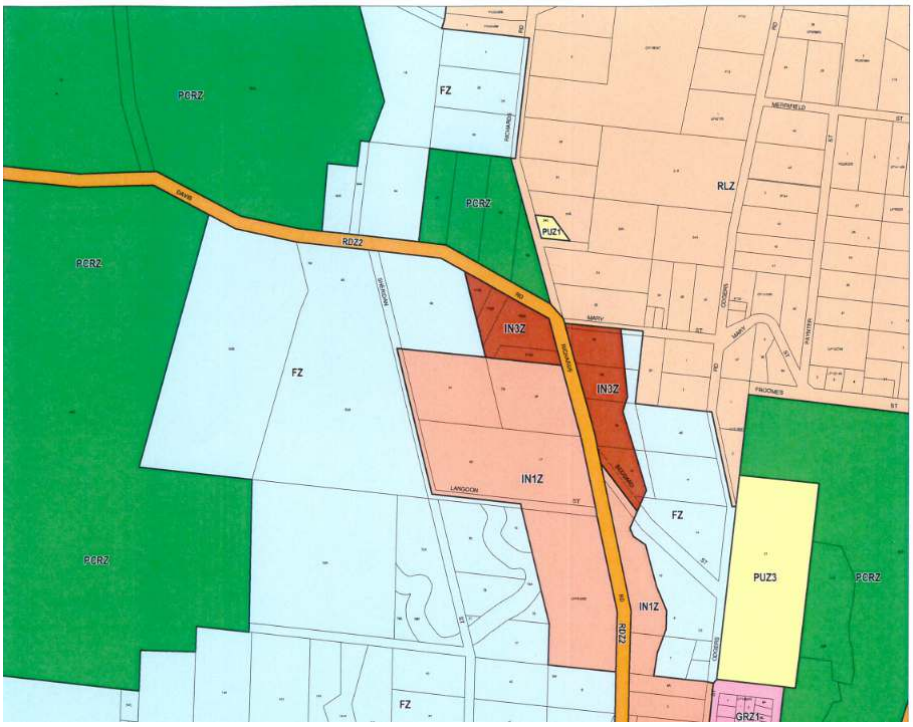
2. SITE DESCRIPTION

2.1 Location

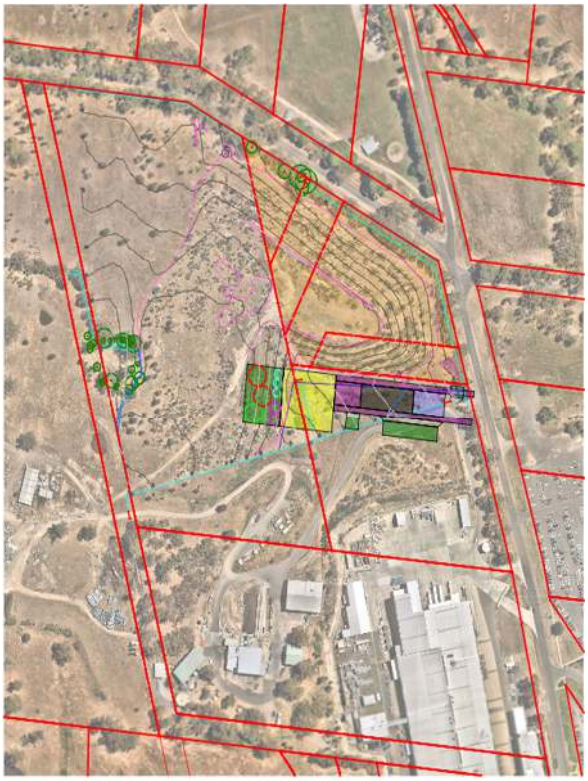
The subject land is located on the east side of the Richards Rd, Castlemaine. It falls withing the industrial zoned zone IN1Z.



Mount Alexander Bioenergy



Zones found in the site and its vicinity.

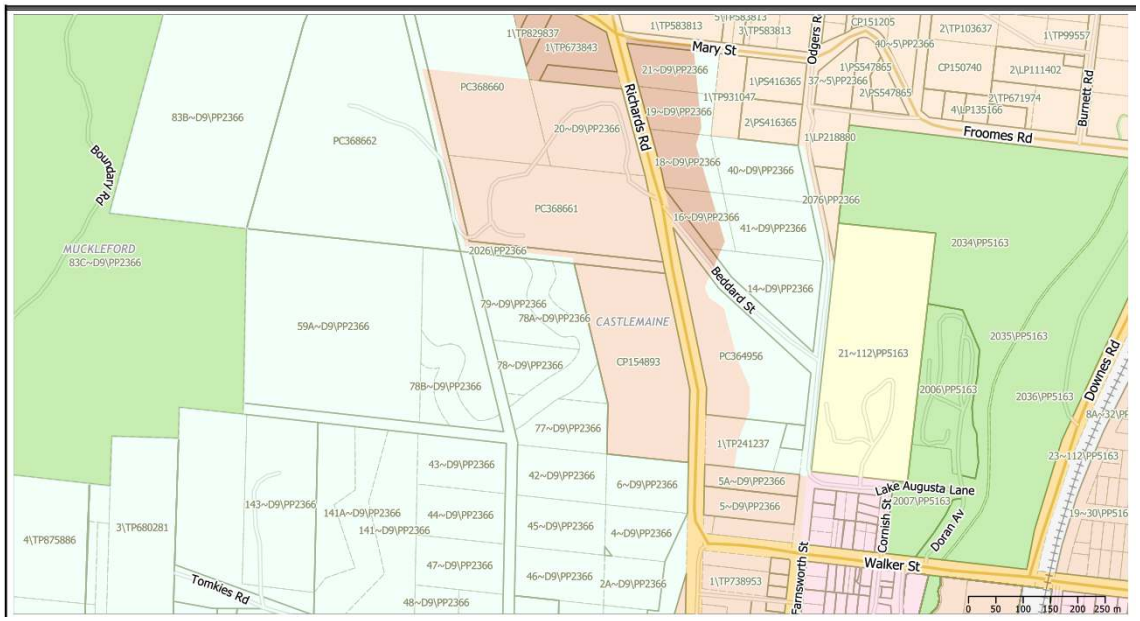


Plant Location
Scale 1:3,500

2.2 Title Particulars

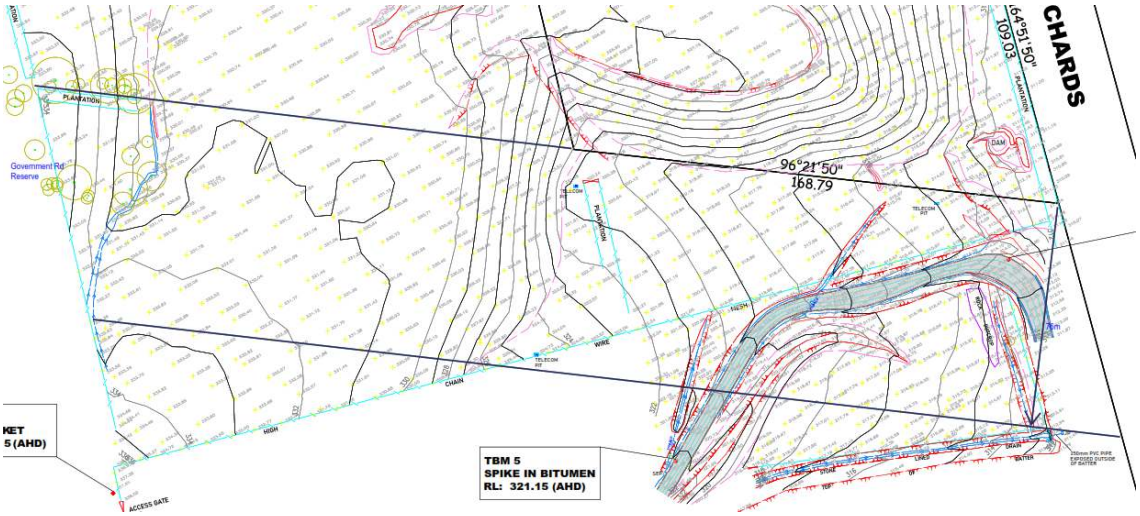
The property is currently on Don Smallgoods titles, Parish Castlemaine, Section D9, CA20 Volume 1497 Folio 274 and CA 81 (excl CA 82) of Volume 2811, Folio 002 and Volume 3911, Folio 056. Note Identifier PC368660Q is a consolidation of these.

It is planned that a new division of the property will create a new title in the name of Mt Alexander Bioenergy covering the land at the location indicated above.



2.3 Topography

The land is on land that has been originally farmed but since the extension of the Don Smallgoods plant in 2010, has been partially cleared to create a roadway for the transfer of fill. This fill has created a mound to the north of the plant site and reaching partially onto the planned site. The site rises some 20m from Richards Road to the west.



2.4 Vegetation

The land is cleared, with little native vegetation, although some regrowth vegetation exists. Chinese scrub exists in the vicinity of the building envelope. The vegetation is visible in the aerial photograph above. The land was farmed historically and totally cleared. It is believed some vegetation has grown since Don Smallgoods moved to the site in 1993 although the land has continued to be grazed. Refer Attachment G, Ecology and Biodiversity.



2.5 Historical Use

The land has been used for farming up until 1993 when Don Smallgoods transferred the bulk of their manufacturing to the new plant built on this site. Grazing of cattle has continued up until 2010 when a major expansion of Don Smallgoods was undertaken.

From this point it has nominally been available for grazing but was largely denuded of vegetation in the earthworks undertaken in the expansion of the Don Smallgoods manufacturing facility. Most of the site is covered in a variety of weeds and grasses.



2.6 Existing Development

The land is undeveloped.

2.7 Services

There are no electricity or gas service to the site. Neither will be connected.

Telstra, Optus and NBN have services cables and pits which may be accessed.

Water is available from the mains across Richards Rd and will be connected.

3. SITE CONTEXT

Key elements of the surrounding area include:

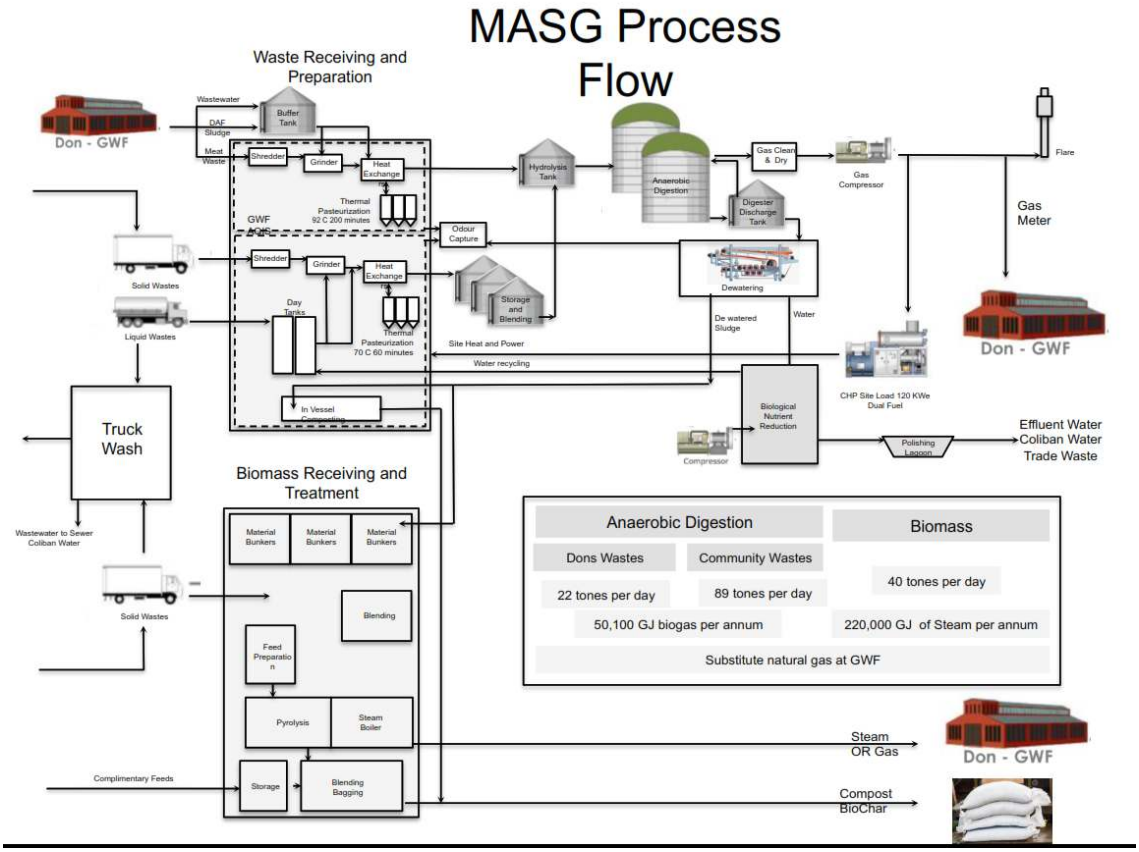
- Industrial land with Don Smallgoods manufacturing facility to the south
- An industrial zone (IN3Z) lot is acting as buffer zone to the north. This is elevated to 20 to 25m height above the level of Richards Rd. This is owned by Don Smallgoods.
- A carpark to the east on Richards Rd, also on IN3Z zoned land – servicing the Don Smallgoods staff.
- Richards Rd is a road constructed to service industrial traffic.
- To the west there is farming zoned land owned by Don Smallgoods.
- To the east there are 3 small farming / rural living properties within 500m and probably in view of the Don Smallgoods facility and therefore potentially with a view of the proposed facility.
- To the north and north east there are approximately 40 dwellings, either on farming or rural living properties, within 1,000m of the proposed site. These do not have line of sight vision of the facilities due to the topography and also the open forest vegetation.
- Behind the carpark to the east there is the Wattle Flat Creek.

4. THE PROPOSAL

4.1 Introduction

This is primarily a renewable energy project, producing some 270,000GJ of renewable energy annually. The intent of renewable energy is to reduce greenhouse gas emissions by reducing our reliance on fossil fuel generation. By removing organic waste from landfill and using it as the energy source, we can make this renewable energy project doubly efficient, with an anticipated Greenhouse Gas saving of 88,500 tonnes CO2e annually. The technology below, and the selective control of the feedstocks, will ensure that no unwanted emissions result and that is genuine “GREEN” energy. The facility will divert approximately 36,000 tonnes of organic waste from landfill annually.

Mount Alexander Bioenergy



4.2 Anaerobic Digester

The biogas facility will use wastewater and organic waste from Don Smallgoods as well as suitable wasted 'wet' organics to produce biogas using anaerobic digestion. The biogas will be used as natural gas substitute at Don Smallgoods. The wet organics streams at the site will include wasted food organics/by products from food and beverage manufactures and retailers, food waste from cafes/restaurants, a 'wet' component extracted from kerbside FOGO at other sites, grease trap, and potentially poultry shed wastes and biosolids from wastewater treatment facilities, currently spread on farmland. These materials will be transported in accordance with EPA prescribed waste transport regulations, meaning they will be in sealed and odour-containing vehicles. The facility will upgrade Don Smallgoods wastewater and organic waste systems, reducing odour from existing management facilities. It will also reduce traffic and odour risk from these vehicles from the site. The materials will be received in a negative pressure sealed receival building where air from the building will pumped to air filters to remove odour. The nutrient-rich sludge (digestate) from the AD tanks will be converted into fertiliser by blending with biochar or being dried and used in the pyrolysis plant.

4.3 Biomass Plant

The biomass facility will be a pyrolysis plant that heats organics to over 700°C in an airless environment cracking the chemicals in the cellulose and the heat will be captured via a boiler to produce steam which is used as a means of conveying heat to Don Smallgoods. What is left is biochar, a carbon-rich biproduct that can be bagged and sold to the agriculture sector. When biochar is ploughed into topsoil it can help retain moisture, build soil microbial health and sequester carbon for very long durations. It can also be added to feedstock to stabilise ruminant (cattle, sheep) gut health and help reduce enteric methane emissions. What is left is biochar, a carbon-rich biproduct that can be bagged and sold to the agriculture sector, and wood vinegar soil conditioner products. When biochar is ploughed into topsoil it can help retain moisture and sequester carbon. It can also be added to feedstock to reduce cattle's methane emissions.

The facility will only receive clean, source separated wasted woody materials (e.g. untreated timber off cuts from joinery work, single use untreated timber pallets, prunings) and tree waste from Harcourt orchards, straw, crop stubble and potentially 'oversize' screened woody mulch from commercial composting sites. None of this will have an odour being dry when received. The facility will also recover energy from unrecyclable quarantine cardboard from Dons, and potentially some unrecyclable quarantine polyethylene plastic from Dons. The technology can cleanly convert polyethylene back into the natural gas it was manufactured from. Management of this quarantine carboard and plastics at the site will reduce heavy traffic and odour risk associated

4.4 Hours of Operation

The facility will operate 24/7 as the processes are largely continuous. However it will be staffed Monday to Friday between the hours of 8am and 6pm with it being remotely monitored at other times. There will be no traffic movement outside these hours save for occasional maintenance.

4.5 Access and Parking

It is anticipated that there will be 3 to 5 staff on site an any time during the scheduled ours. On-site parking will be provided for the staff. A sixth spot will be provided for disabled parking. Parking of trucks, that may at anytime be waiting to unload or to be cleaned, will be able to park on the entrance and exit rows where these have 6m wide sections to allow this without obstructing access.

Refer Attachment A, Traffic Management Plan

4.6 Waste Water

Waste-water refers only the water that is generated as a consequence of the bioenergy project, much of which will eventually find its way into the Coliban Water sewer and governed by a Trade Waste Agreement.

Mount Alexander Bioenergy

The bioenergy plant will accept and treat via anaerobic digestion a range of organic waste from a variety of sources, in particular the meat related waste provided by DON and other higher protein waste sources. The AD plant typically does not remove nutrients from the waste water, particularly nitrogen and phosphorus. An independent study (GHD) confirmed that the local WWTP is not able to receive further nutrient rich effluent.

All potentially contaminated water (i.e. process, truck wash down, tank farm) that cannot be discharged safely discharged as storm water will need to be decontaminated to a safe level before discharge as trade waste.

MAB's AD plant is therefore required to install its own effluent treatment system in order to reduce the levels of N in the effluent to an acceptable level. Additional technology and infrastructure is required (tanks, pipes, pumps, energy).

The treatment comprises a biological nutrient reduction process in a sequencing batch reactor (SBR), which is sized as per the technical specifications summarised in an Attachment. These specifications cover:

- Incoming waste
- Infrastructure:
- SBR tank
- Decanter tank
- Aeration blower capacity
- Stabilisation Lagoon (60m x 60m x 4m)
- Discharge to trade waste

The plant will produce approximately 73 m3 (or kL) of process water per day at an average flow rate of 0.85 litres per second, with a peak flow of 1.6 litres/sec.

A stabilisation lagoon will have a holding capacity of up to 19 m3 (ML), being able to hold twelve months of treated waste-water, prior to exporting to the sewer.

The waste water from the Anaerobic Digestion of organic waste streams will be therefore be treated to a standard that Coliban Water will accept as trade waste, namely:

- Suspended Solids of less than 30 mg/L
- BOD of less than 50 mg/L
- TKN of less than 20 mg/L
- pH 6-8
- Temperature of 15 to 18 C

4.7 Landscaping

Attachment C, The Civil Engineering plan shows the excavations and fill required. Initial estimates are for 16,000 m3 of fill is required and 8,000 m3 extracted from the site. Given that there is a mountain of fill deposited on the IN3Z site adjacent to this, it is proposed to extract the required fill from this Don Smallgoods site. There will be additional fill available in the rerouting of the internal road to the south so this will somewhat reduce the 8,000 m3 estimated as required.

Note Plan C4 shows here retaining walls are anticipated and these are planned to be concrete. These retaining walls are shown also in sections on Plan C5.

It is intended to plant appropriate screening shrubs and trees, particularly adjacent to the Bioretention Basin. This will largely screen vision from the East.

Other plantings of native grasses from the list of those indigenous to the area, will be planted on exposed banks to stabilize the soil and control the run off of rainwater.

4.8 Services

Electricity will be provided by a 20kW solar PV array positioned on the shed roofs. There will be battery storage provided capable of supplying 50kWh. Backup will be provided by a Rankine Cycle engine which will kick in automatically as required. It will burn blended Biogass as available on site.

Connection to the reticulated town water will be provided to supply staff drinking water and supply to CFA connections. Fire Hydrants (AS2491.1) and Hoses and reels (AS2441) will be positioned strategically on site. Coliban have provided network modelling results to show the available pressure.

NBN Co have a cable at the property. It would be intended to seek a connection for use in the office and for remote monitoring of the processes.

Telstra has a cable to the site but given the NBN this sill probably not be connected.

4.9 Signage

The facility will be clearly identified by a sign alongside the entrance gate. This will have contact details of the duty operators on call.

4.10 Rainwater and Drainage

Rainwater will be captured from the Shed roofs and stored in a 200,000 litre tank for use on site. This will be used for vehicle washing and for toilet and washroom connection. Natural drainage from the site to Wattle Flat Creek.

Refer Stormwater Management Plan, Attachment H.

4.11 Revegetation

Refer Attachment G, the Ecology and Biodiversity Assessment.

4.12 Heritage

There are no Heritage impacts on this site, it having been farmed and subsequently zoned industrial.

4.13 Despatch Office and Staff Amenities

A block will be provided which has a despatch office for two people with the ability to control and monitor the inbound weighbridge and provide security monitoring of the plant.

An amenities area associated with this will include:

- Unisex toilet
- Separate male and female washrooms including showers for staff.
- A tea room equipped with washing facilities, water urn, refrigerator, microwave, kettle and toaster.

4.14 Visual Impact

Sheds, Despatch Office and Amenities building will be colourbond metal clad of Pale Eucalypt colour with a solar absorbance of 0.6. This will have a low visual impact with no glint. Refer Appendix H for visualisations / schematics.

Lighting will be screened from the north and east to limit the impact on neighbours. There are no neighbours to the West and only the Don Smallgoods factory to the south.

Tanks will be invisible to the neighbours being behind a 10 to 15m mound to the north and west and behind the AD processing shed to the east. To the East, only the sheds will be visible but will be largely screened with existing trees and with these supplemented by plantings. With the wide entry and exit roadways some visibility of these sheds will be unavoidable.

4.15 Traffic

We anticipate that traffic will be made up of three groups.

- **AD feedstock trucks:** These will be a mix of semi-trailer tankers, truck and trailers, and fixed trucks. We expect these to vary between 10 and 30 tonnes. That would see an average of 3.5 per day with deliveries Monday to Friday between the hours of 8am and 6pm.
- **Biomass Feedstock trucks:** These will be in a variety of truck sizes but we would estimate a typical load as 20 tonnes. This would mean 2.15 trucks per day.

- **Staff:** There are expected to be 3 to 5 staff on site on any work day. They will be working Monday to Friday between the hours of 8am to 6pm. There is a possibility of out of hours calls but these will be insignificant. Allowance is made for these to make multiple movements in the day.

It is anticipated that there will be a reduction of 2 trucks per day from Don Smallgoods shipments of waste to landfill. This will leave a nett truck volume at the site of 3.75, or between 3 and 4 per day.

Refer Attachment A for the Traffic Management Plan.

5. PLANNING SCHEME PROVISIONS

5.1 Zone Provisions

The Victoria Planning Provisions Clause 53.13 Renewable Energy Facility (Other than Wind Energy Facility) is the appropriate provision. This is for the establishment of a renewable energy facility in an appropriate location with minimal impact on the amenity of the area in which it is sited.

5.2 Overlay Provisions

There are no overlays applicable to this site

5.3 Permit Requirements

These are laid out in Victorian Planning Provisions 53.13-2.

They are addressed in this report.

6. POLICY CONTEXT

6.1 State Planning Policy Framework

Clause 53.13 of the Victorian Planning Provisions specifies the purpose, and compliance requirements

6.2 Municipal Strategic Statement

Mount Alexander Shire Council established a Roadmap to Carbon Neutrality by 2025 for its own operations. The council has defined a broader program of supporting and partnering with other parties to achieve Zero New Emissions for the Shire.

6.3 Mount Alexander Sustainability Group

Mount Alexander Sustainability Group has a target of Zero Net Emissions for the Shire by 2030. It aims to do this through the promotion of a cyclic economy where there is zero waste and energy is renewable.

7. EPA Provisions Relevant to Council Permit

The EPA Works Approval application is being prepared concurrently with the Council Planning Permit application. This enables the areas of potential environmental impact and hence environmental risk to be addressed in the EPA Works Approval application. The subsequent issuance of a Development Licence is contingent upon all materially significant environmental impacts ameliorated by effective mitigation strategy.

The responses for each of the potential environmental impact areas (shown as subsections below) can be considered to be covered in the EPA process. Hence the Council permit will not take effect without the EPA Works Approval.

This process is underway and was initiated August 2021, Refer Attachment B – EPA Pathways Submission.

7.1 Anaerobic Digester

7.1.1 Noise

The AD plant has been designed to comply with noise limits as per the relevant EPA regulations. The acoustic performance will be considered in EPA Works Approval application, with the assumption therefore being that a planning permit would not take effect until approved by the EPA.

7.1.2 Emissions

The AD plant has been designed to comply with emission limits as per the relevant EPA regulations. The emission performance will be considered in EPA Works Approval application, with the assumption therefore being that a planning permit would not take effect until approved by the EPA.

7.1.3 Air Quality

The AD plant has been designed to comply with air quality limits as per the relevant EPA regulations. The emission performance will be considered in EPA Works Approval application, with the assumption therefore being that a planning permit would not take effect until approved by the EPA.

7.1.4 Vibrations

There are currently no recognised sources of significant vibration that could adversely impact the nearest sensitive receptors which lie at least 500m from the proposed facility. Any equipment that has the potential to create significant vibration (pumps, pre-processing etc) will be considered and appropriately mitigated in accordance with the appropriate Australian Standard (AS 2625.4 “Mechanical Vibration”). Impact from vibration will form part of the EPA WA application.

7.1.5 Odour

The AD plant has been designed to comply with air quality limits as per the relevant EPA regulations. The emission performance will be considered in EPA Works Approval application, with the assumption therefore being that a planning permit would not take effect until approved by the EPA.

7.1.6 Electromagnetic Interference

No such electromagnetic radiating technologies will not be used in the proposed plant. Therefore N/A.

7.2 Biomass Plant (BT)

The biomass thermal plant can give rise to a different set of potential environmental impacts in comparison with the AD plant. This is largely due to the different feedstock and energy conversion technology.

7.2.1 Emissions and Emissions Dispersal Study

The BT plant has been designed to comply with emission limits as per the relevant EPA regulations. The emission performance will be considered in EPA Works Approval application, with the assumption therefore being that a planning permit would not take effect until approved by the EPA.

7.2.2 Noise

The AD plant has been designed to comply with noise limits as per the relevant EPA regulations. The acoustic performance will be considered in EPA Works Approval application, with the assumption therefore being that a planning permit would not take effect until approved by the EPA.

7.2.3 Air Quality

The AD plant has been designed to comply with air quality limits as per the relevant EPA regulations. The emission performance will be considered in EPA Works Approval application, with the assumption therefore being that a planning permit would not take effect until approved by the EPA.

7.2.4 Vibrations

There are currently no recognised sources of significant vibration that could adversely impact the nearest sensitive receptors which lie at least 500m from the proposed facility. Any equipment that has the potential to create significant vibration (pumps, pre-processing etc) will be considered and appropriately mitigated in accordance with the appropriate Australian Standard (AS 2625.4 “Mechanical Vibration”). Impact from vibration will form part of the EPA WA application.

7.2.5 Odour

The AD plant has been designed to comply with air quality limits as per the relevant EPA regulations. The emission performance will be considered in EPA Works Approval application, with the assumption therefore being that a planning permit would not take effect until approved by the EPA.

7.2.6 Electromagnetic Interference

No such electromagnetic radiating technologies will not be used in the proposed plant. Therefore N/A.

8. Other Regulatory Provisions

8.1 Biosecurity Australia (AQIS)

An application for '*preliminary assessment of suitability'* has been submitted to Biosecurity Australia seeking an "Approved Arrangement" for 3.2 – Imported pig meat processing Requirements – V4.0 and/or Imported Pork, which is turn will lead to a bespoke "Approved Arrangement" for the handling and treatment of pork meat waste streams at the proposed bioenergy facility. Refer Attachment D - Biosecurity Australia – Preliminary Assessment. **Application**

8.2 Energy Safe Victoria

MAB will submit appropriate documentation to Energy Safe Victoria (ESV) to demonstrate that the full AD system complies as a *complex gas system* and seek ESV approval and the issuance of a compliance certificate. This includes the manufacture of biogas (infrastructure) and subsequent transportation of biogas by pipeline. Refer *Gas Safety Act 1997, Pipelines Act 2005 and Gas Industry Act 2001*

9. Emergency Management Plan

GENERAL MATTERS	MEASURES TO BE IMPLEMENTED	FURTHER INFORMATION
Workplace Injury	*In the event of an serious workplace Incident on site* • *Call 000, advise Ambulance to come to Don KR Castlemains, Richards Rd Castlemaine.* • *Call Security and advise where to send ambulance to.* • *Call Scott White on 0432 325 106*	• *Emergency Contacts will be signposted around site.* • *Personnel with First Aid Training list available in site office.* • *Site safety procedures will be available in hard copy in site office.*
Evacuation of Site and emergency meeting point	*In the event of a site-wide evacuation* • *All construction personnel working in solar farm area are to gather at the Evacuation Assembly Point defined in the construction zone.* • *All construction personnel who are in staff canteen are to follow other Don KR staff to assembly point.*	*Evacuation Assembly Point shown in Appendix D - N163_SP10_Site set-out detail_R01*
Code red fire days	*In the event of a code red fire warning day:* • *Site works are to be assessed and if a risk assessment deems it too risky then the construction team will be stood down.* • *See Emergency Management Victoria fact sheet*	*file:///C:/Users/whitesco/Downloads/FINAL_EMV_Code_Red_FAQs_General_FAQs.pdf*

Fire Threat - internal	*In the event of a fire in the sheds or tanks:* • *Safety Data Sheets will be accessible for all on site chemicals, products and materials.* • *an automated on-site sprinkler system would activate.* • *an audible alarm.* • *CFA will be called* • *Fire hydrants and hose reels will be positioned in three places around the site to enable their deployment to any area.* • *The site would be evacuated by all except those engaged in fighting the fire.*	
Fire Threat - External	*Grass fires could threaten the site. Grass coverage is currently sparse but may change over time.* • *CFA will be called* • *The site would be evacuated by all except those engaged in fighting the fire.* • *Hose reels will be fitted to on site hydrants where appropriate.*	

10. Conclusions

This project supports the shire's goals and offers a significant contribution to the achievement of zero net emissions in the shire.

Mount Alexander Bioenergy

APPENDICES

APPENDIX A - Copies of Titles

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TITLE PLAN		EDITION 1	TP 615101D

Location of Land

Parish: CASTLEMAINE
Township:
Section: D9
Crown Allotment: 20
Crown Portion:

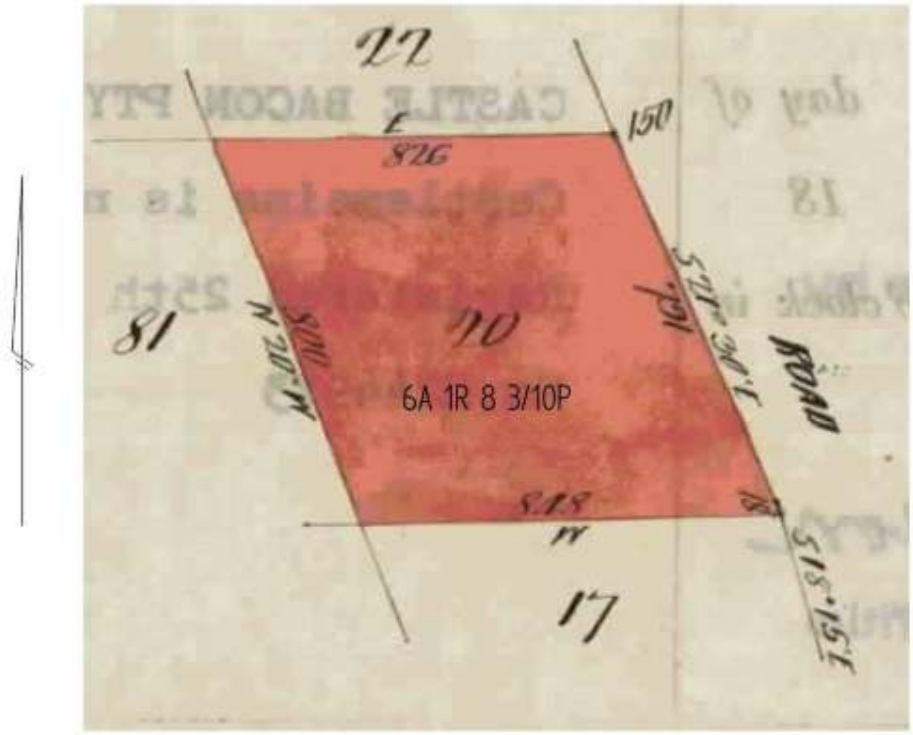
Last Plan Reference:
Derived From: VOL 1497 FOL 274
Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 29/08/2000
VERIFIED: A.D.



LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets

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PLAN OF CONSOLIDATION

STAGE No. /

LR use only: EDITION 1

LR use only: PC 368660Q

Location of Land

Parish: CASTLEMAINE

Township: CASTLEMAINE

Section: D9

Crown Allotment: 81 & 82

Crown Portion: -

LR base record: VICMAP PROPERTY

Title References: VOL 2851 FOL 002
VOL 3911 FOL 056

Last Plan Reference: -

Postal Address: DAWS LOAD
CASTLEMAINE, 3450

MGA Co-ordinates:
N: 5 896 250 Zone: 55
E: 251 330

Council Certification and Endorsement

Council Name: MOUNT ALEXANDER SHIRE COUNCIL

Ref: 11590.0066

1. This plan is certified under section 6 of the Subdivision Act 1988.

~~2. This plan is certified under section 11 (7) of the Subdivision Act 1988~~
~~Date of original certification under Section 6 / /~~

3. This is a statement of compliance issued under section 21 of the Subdivision Act 1988.

Council Delegate:
~~Council Seal~~
Date: 28/10/2005

~~Re-certified under section 11(7) of the Subdivision Act 1988~~
~~Council Delegate~~
~~Council Seal~~
~~Date / /~~

LR use only
Statement of Compliance/ Exemption Statement Received
☑ 10/04/2006
Date / /

LR use only
PLAN REGISTERED
TIME 6:57 PM
DATE / /
10/04/2006
Assistant Registrar of Titles

VESTING OF ROADS AND/OR RESERVES

IDENTIFIER	COUNCIL/BODY/PERSON
NIL	NIL

Notations

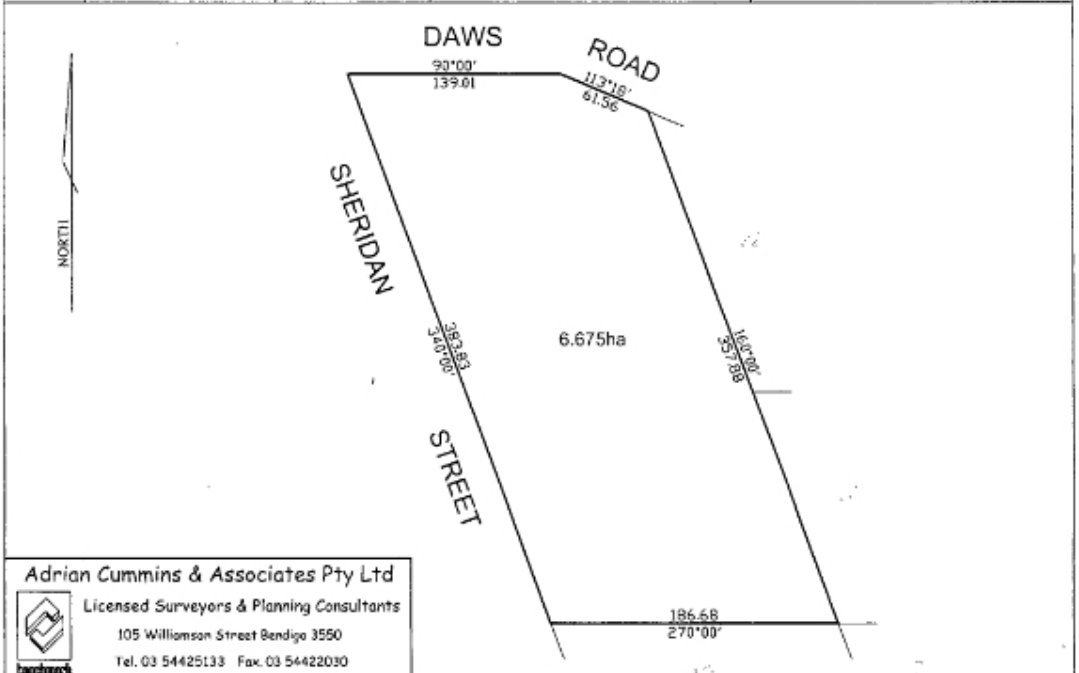
Depth Limitation:
15.24m below the surface applies to all land in this plan

Survey
This plan is not based on survey
This plan has been connected to permanent marks no(s) -
in proclaimed Survey Area No -

Easement Information

Legend: E - Encumbering Easement, Condition in Crown Grant in the A - Agreement Easement R - Encumbering Easement (Road)
Nature of an Easement or Other Encumbrance

Easement Reference	Purpose	Width (Metres)	Origin	Land Benefitted/In favour of



Adrian Cummins & Associates Pty Ltd
Licensed Surveyors & Planning Consultants
105 Williamson Street Bendigo 3550
Tel. 03 54425133 Fax. 03 54422030
Email surveyors@adriancummins.com

SCALE
25 0 25 50 75 100 125
LENGTHS ARE IN METRES

ORIGINAL SHEET SIZE: A3
SCALE: 1:2500

LICENSED SURVEYOR (PRINT): ADRIAN JOHN CUMMINS
SIGNATURE:
DATE: 11/10/05
REF: AB 4803-05-01 VERSION: 1

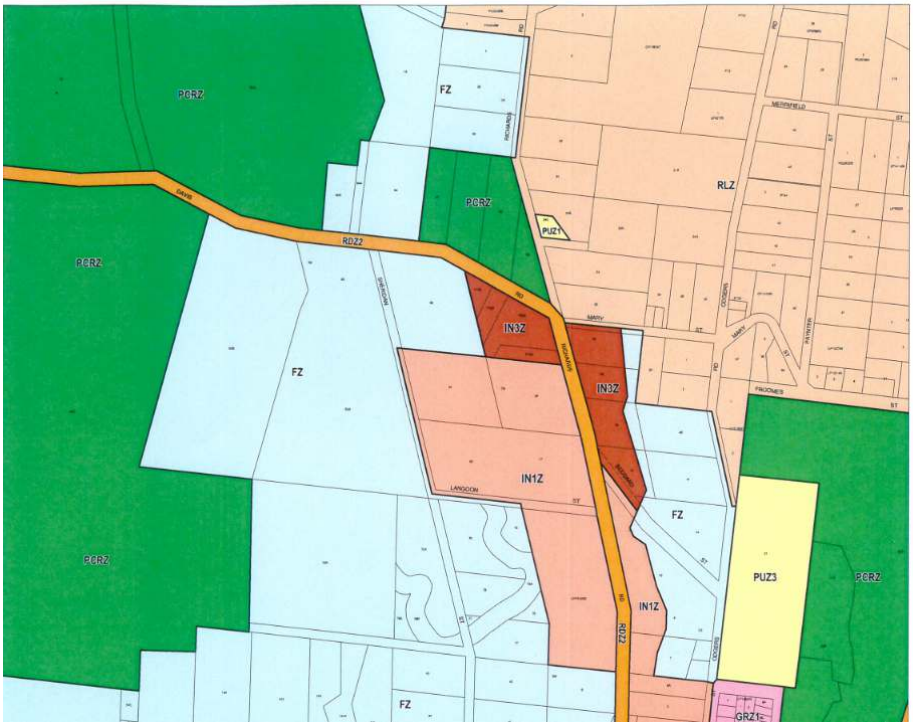
SHEET 1 OF 1 SHEET

DATE / /
COUNCIL DELEGATE SIGNATURE:

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 mm

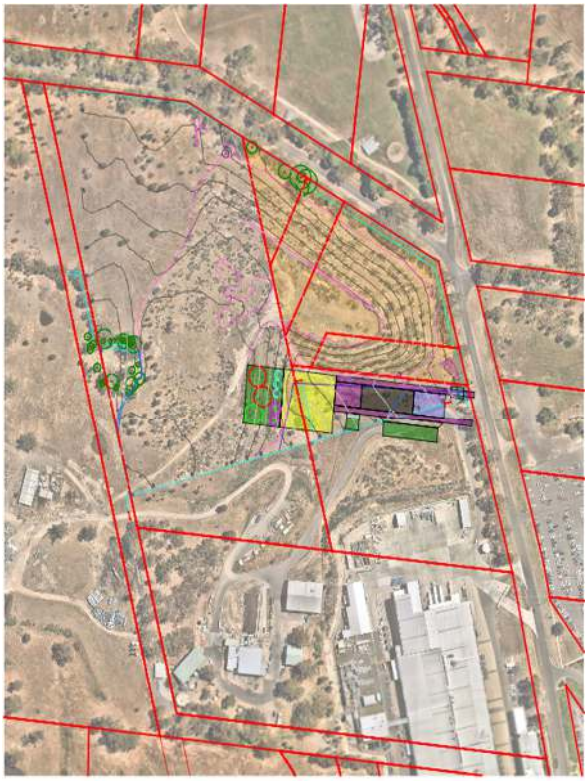
Mount Alexander Bioenergy

APPENDIX B – Zone Map



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APPENDIX C – Location Plan



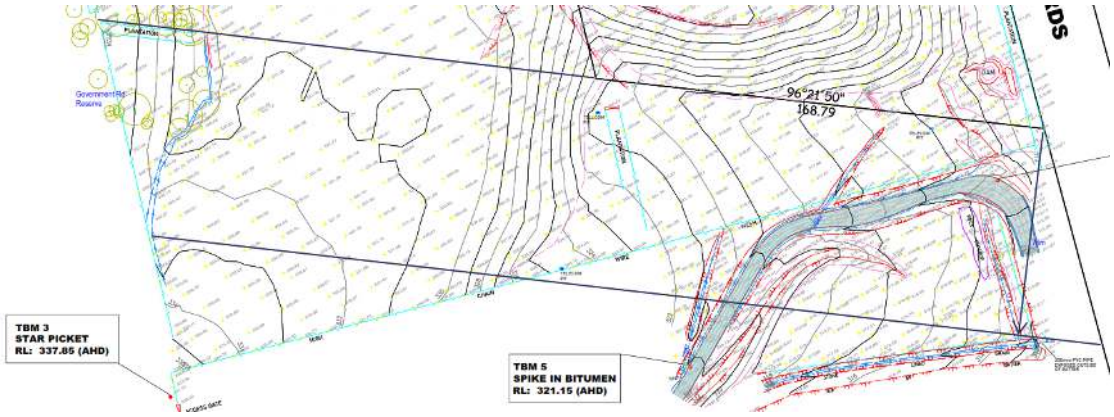
Plant Location
Scale 1:3,500

The site is to be north of the existing Don Smallgoods planton the IN1Z zoned land and adjacent to the IN3Z buffer shown in yellow.

It is accessed solely from Richards Rd, Castlemaine.

Mount Alexander Bioenergy

APPENDIX D – Site Plan

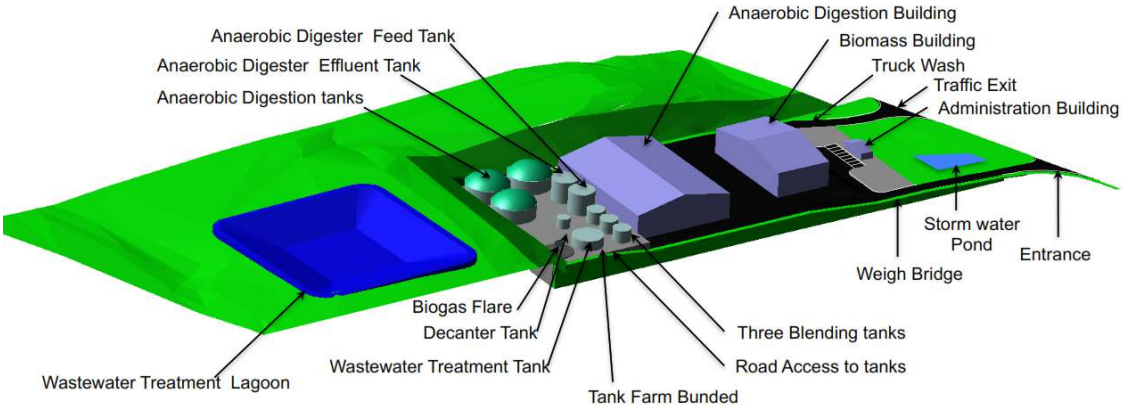


Contour plan.

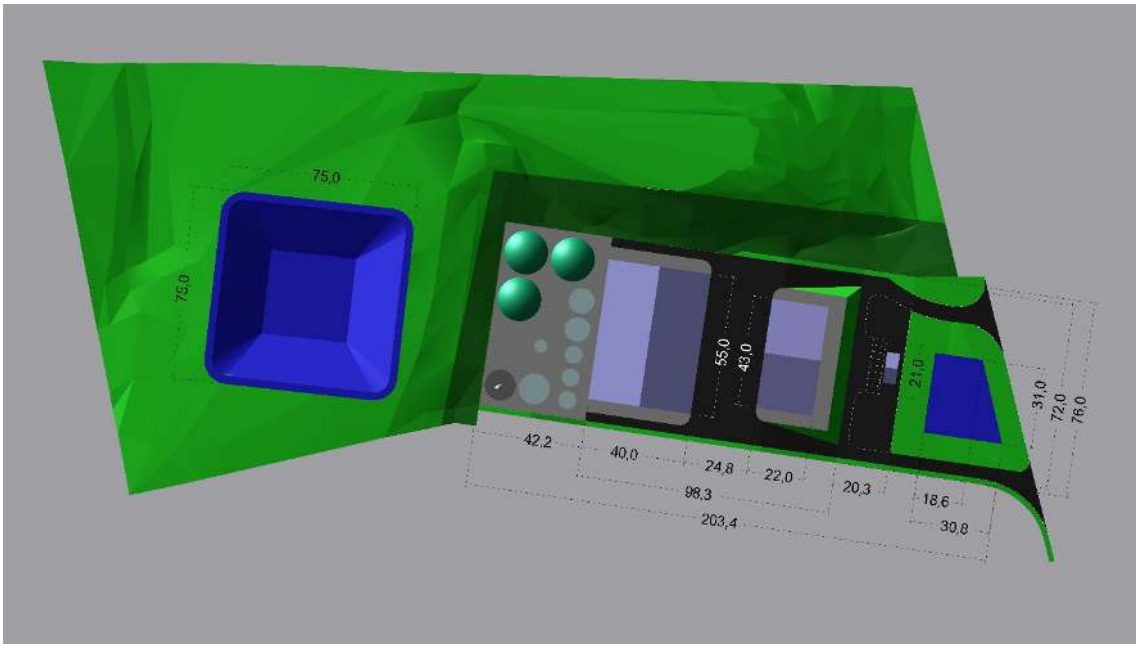
Mount Alexander Bioenergy

APPENDIX E – Development Plans

Schematic



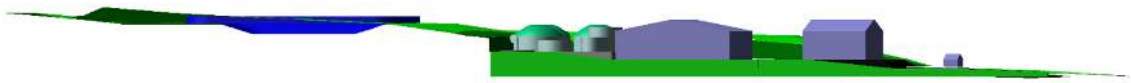
Dimensioned Plan View



Dimensioned Elevation – South

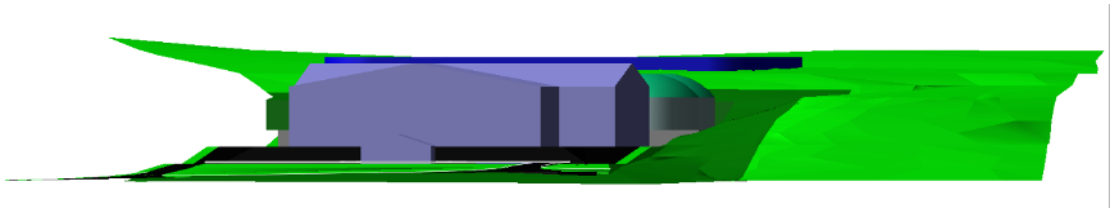
APPENDIX F – Visual Simulations of Aspects

1. South Elevation – From Don Smallgoods



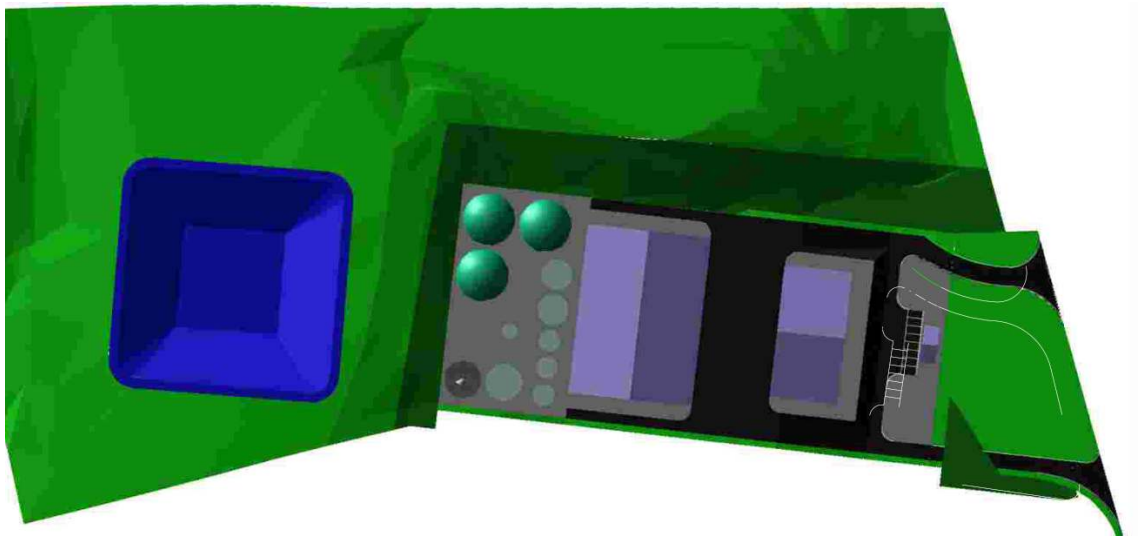
This view would be from the Don Smallgoods site and also available to traffic coming from the south on Richards Rd.

2. East Elevation – From Richards Rd

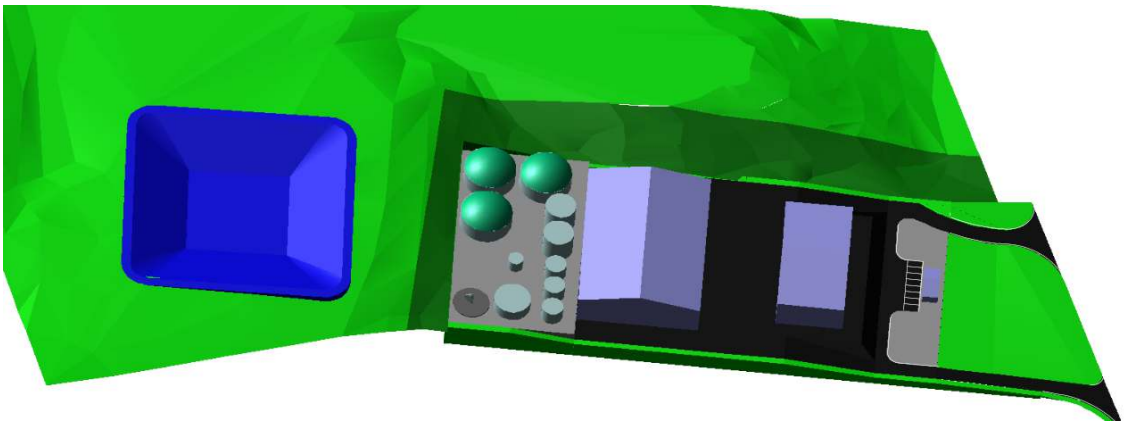


With the screening of trees, some existing, some to be planted, we don't expect much of this will be visible from across Richards Rd.

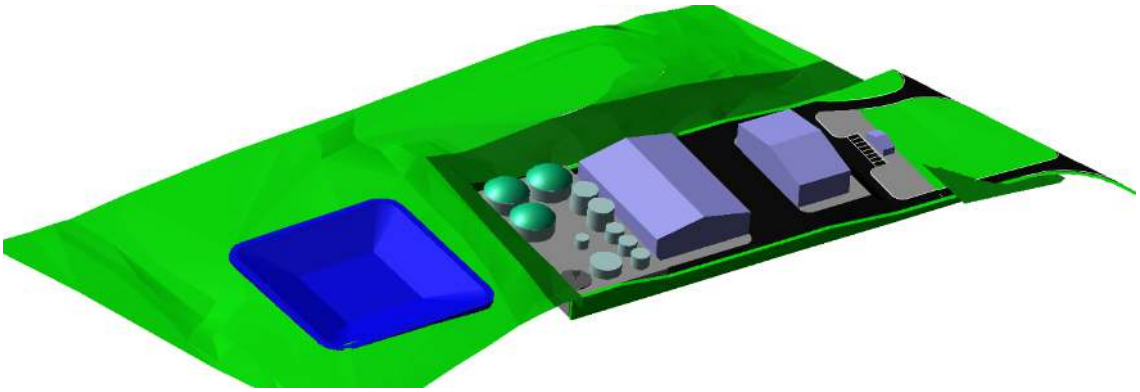
3. Plan View



4. **Isometric View - shows escarpments**



5. **Reverse Isometric**



These Isometric views illustrate that there will be little, if any, visible plant from the north or west.

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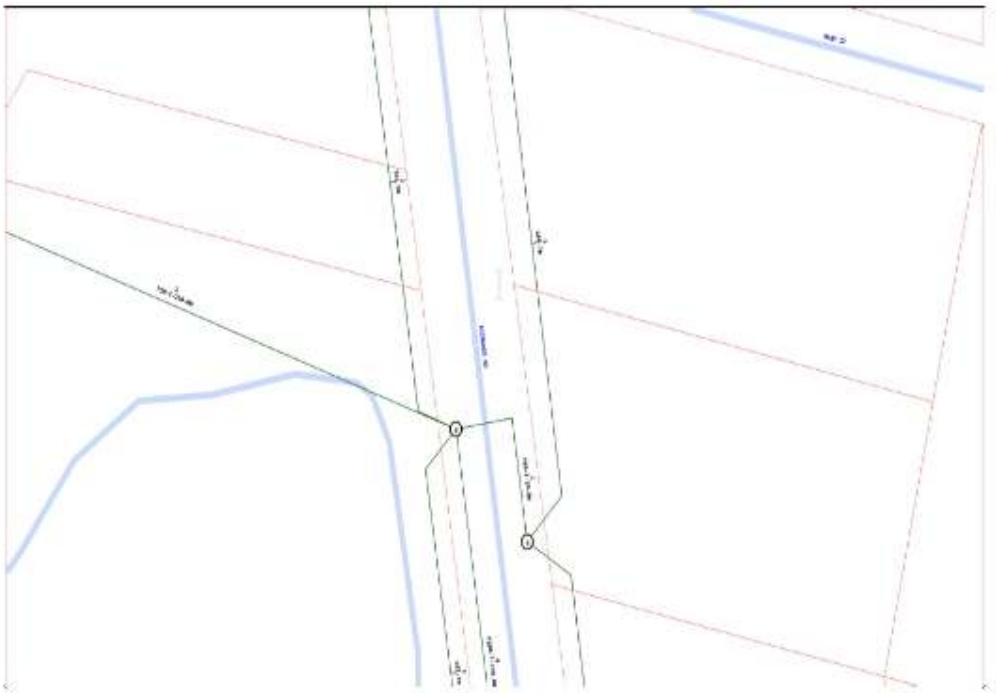
APPENDIX G Services Reports

NBN Co

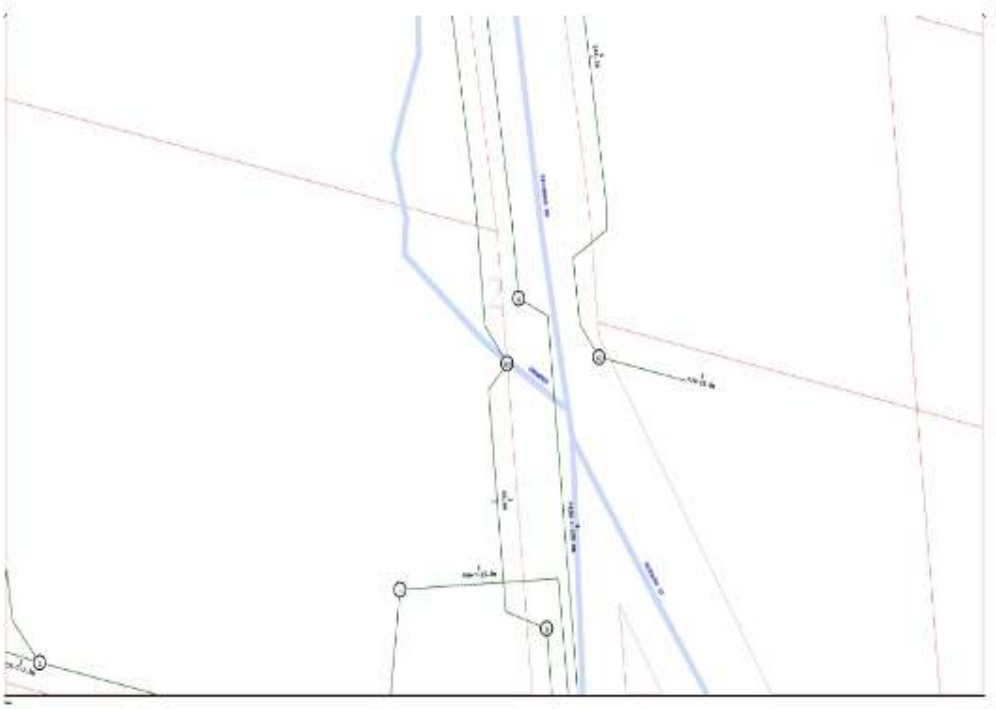
Mount Alexander Bioenergy

	LEGEND
34	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
2 10.0m 5 9	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
5 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m

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Emergency Contacts

You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

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1. **Powercor**

Mount Alexander Bioenergy

Date: 23/11/2021

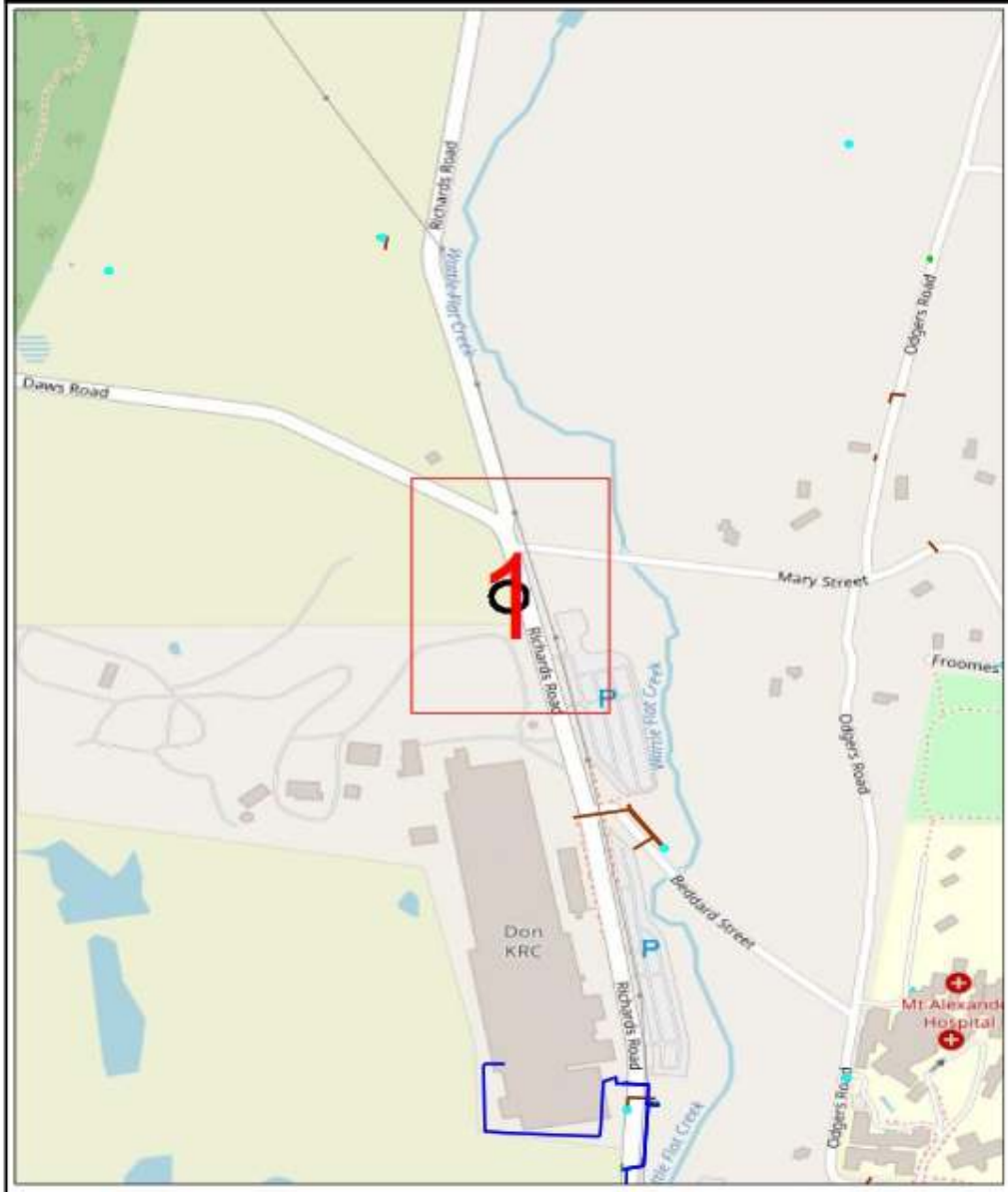
CITIPOWER Powercor AUSTRALIA

Locality Map

Sequence No: 205547551

81 Richards Road Castlemaine

MAP IS A GUIDE ONLY- REFER TO CABLE PLANS FOR ACCURATE ASSET LOCATIONS



Powered by dbyd

Mount Alexander Bioenergy

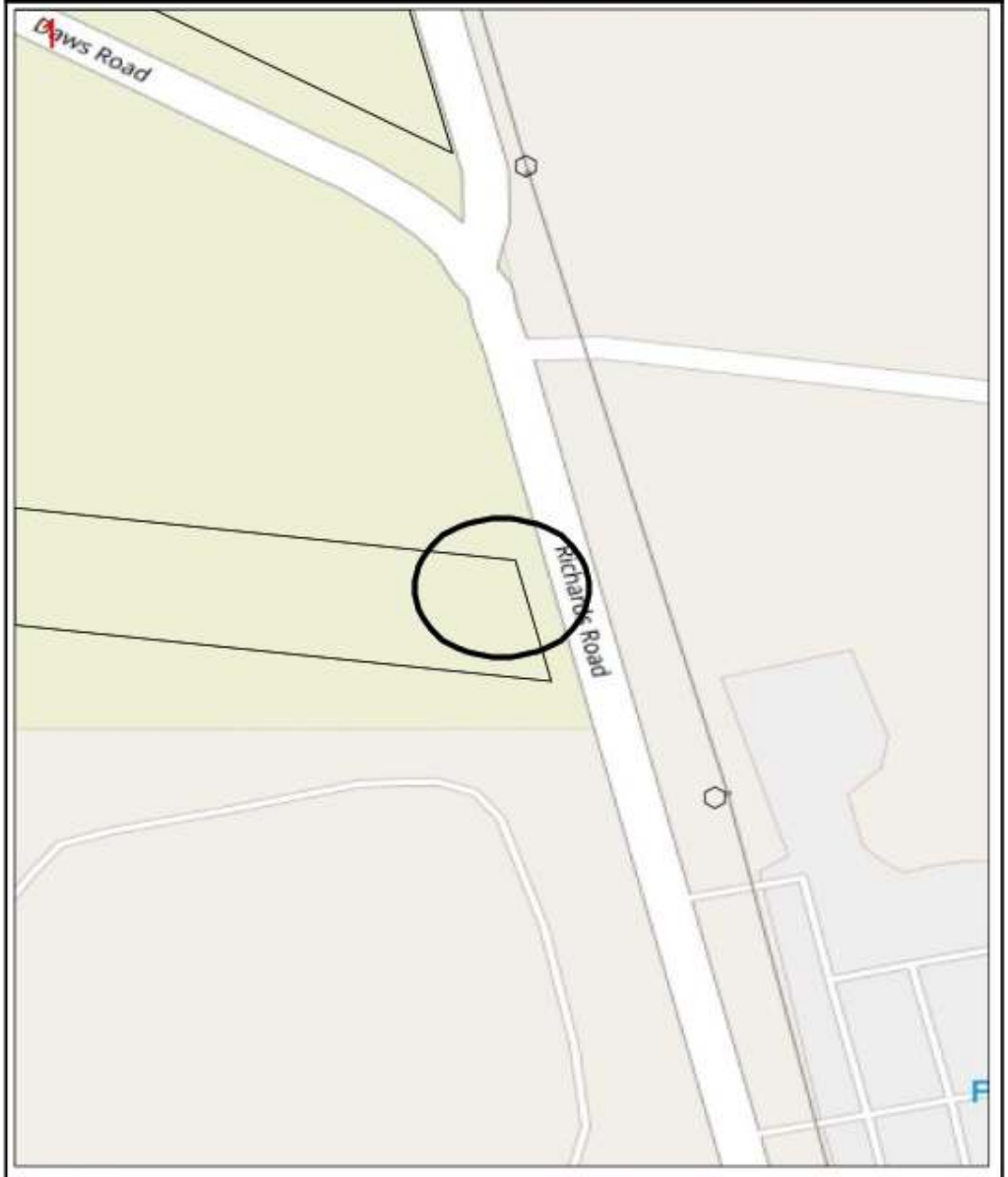
Date: 23/11/2021

CITIPOWER Powercor AUSTRALIA

Map 1

Sequence No: 205547551

MAP IS A GUIDE ONLY- REFER TO CABLE PLANS FOR ACCURATE ASSET LOCATIONS



Powered by dbyd

Mount Alexander Bioenergy

UNDERGROUND ELECTRICITY HAZARD AWARENESS INSTRUCTIONS

CITIPOWER Powercor

For CitiPower & Powercor Dial Before You Dig customers

Always complete a **Dial Before You Dig** request before you proceed with any work plans



If there are Underground Electricity assets identified within your work area please ensure that you carefully evaluate all of the information provided

If any part of your proposed works impacts on the **EXCLUSION ZONES** shown on the next page then before proceeding you must contact CitiPower/Powercor to determine if a **PERMIT TO WORK** is required and to organise a **SITE VISIT**

Site Visit/Permit To Work applications may be lodged at:

https://www.citipower.com.au/working-with-us/suppliers/online-permit-applications/site-visit/

If you need assistance to determine if you need a Site Visit please call:

CitiPower on **1300 301 101** **Powercor** on **132 206**

Underground Electricity Asset Location Details Accuracy:

The Underground Electricity asset location details provided with this response are based on the best information available at the time

All reasonable care has been taken to ensure the accuracy of the information provided but complete accuracy cannot be guaranteed

Please be aware that the Underground Electricity Asset depths shown on the attached plans are accurate at the time of recording, however, due to works undertaken over the years by parties other than CitiPower/Powercor the Underground Electricity Asset depths may differ to those shown on the plans

Contact with Underground Electricity Cables can cause serious injury or death

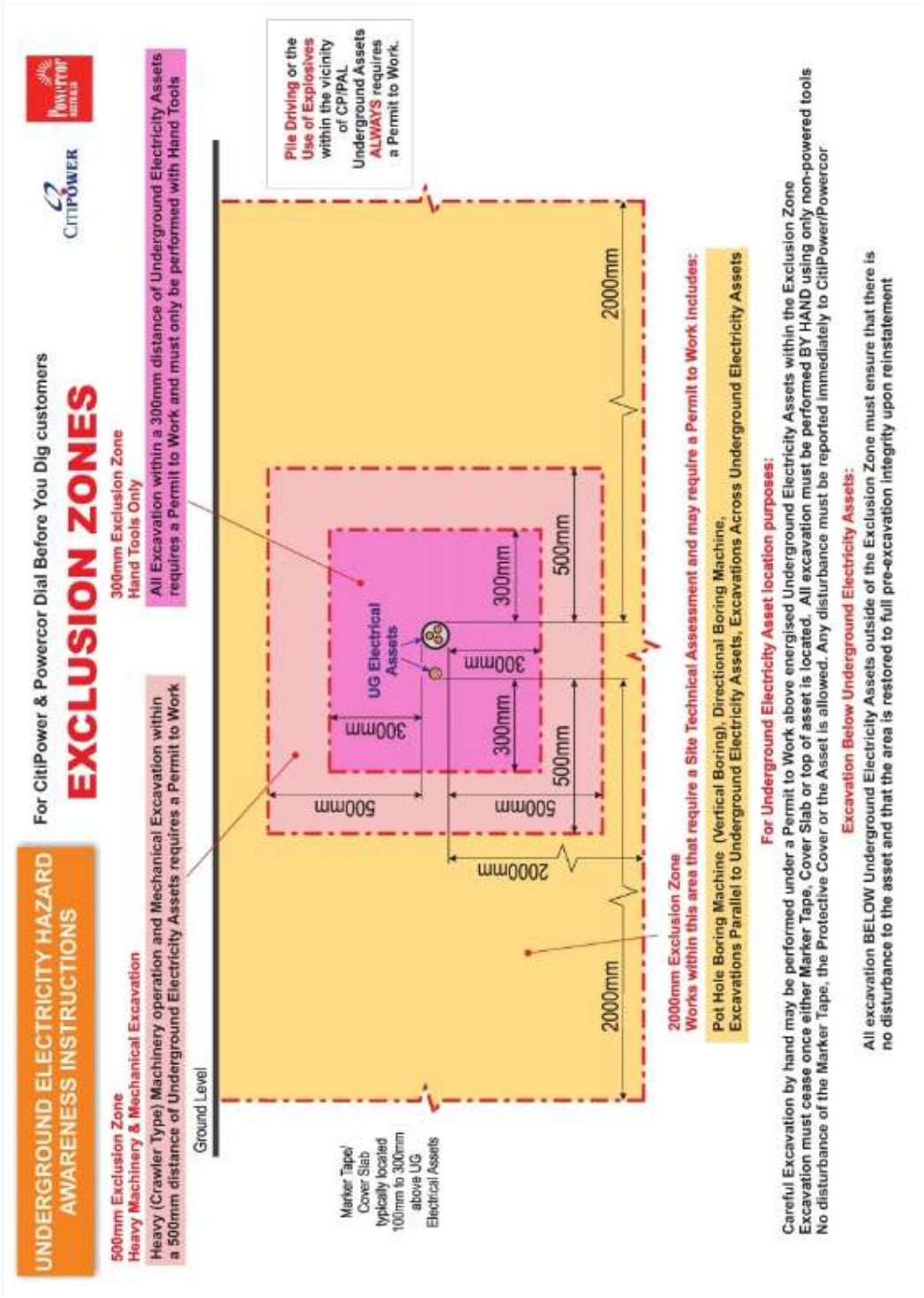
If you observe any Underground Electricity Assets that do not appear on the records provided

Stop Work Immediately

and contact CitiPower/Powercor on the above numbers

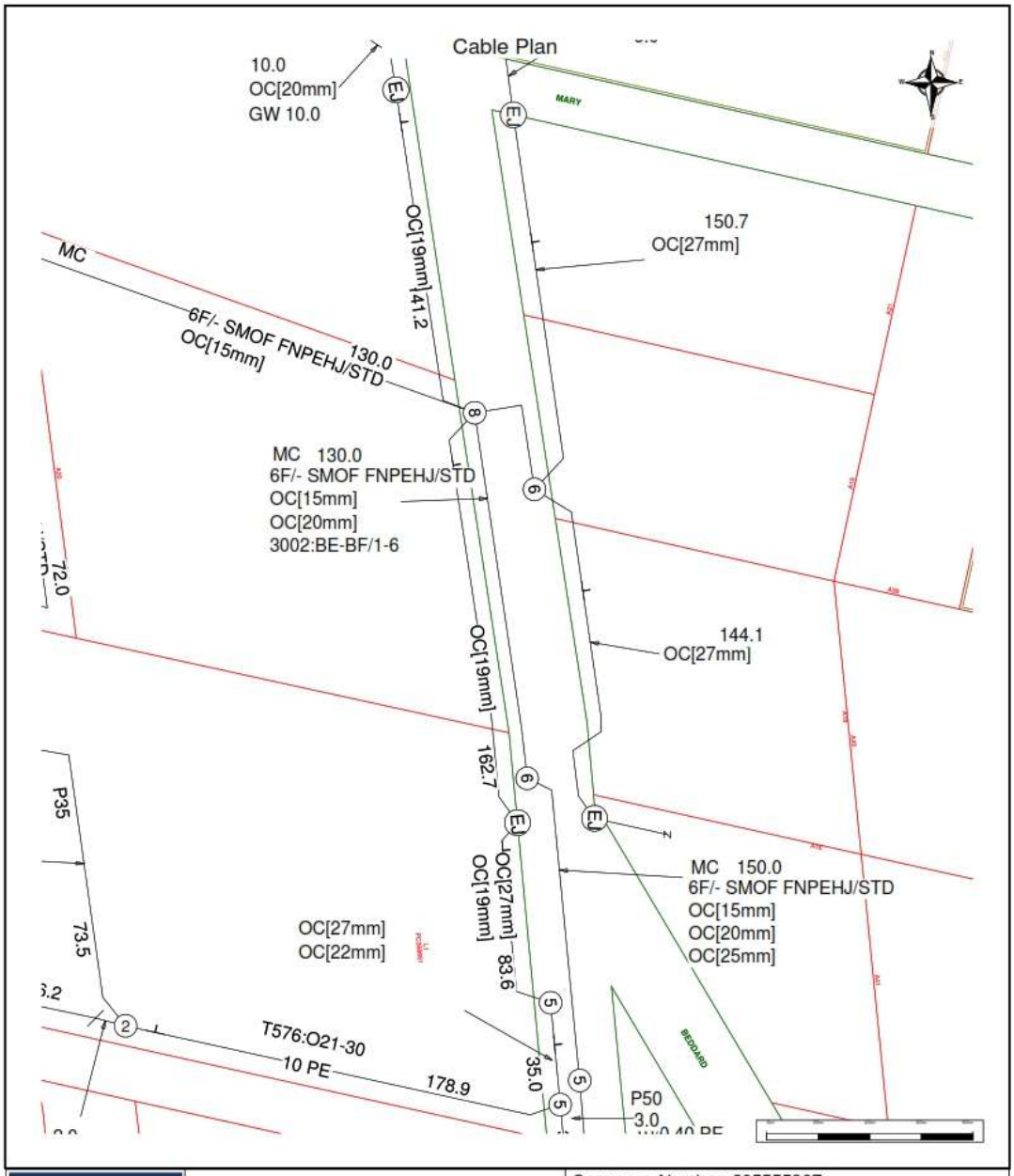
This DBYD response has been Automatically Generated

Mount Alexander Bioenergy



2. **Telstra**

Mount Alexander Bioenergy



Telstra

For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 23/11/2021 13:45:57

Sequence Number: 205555367

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

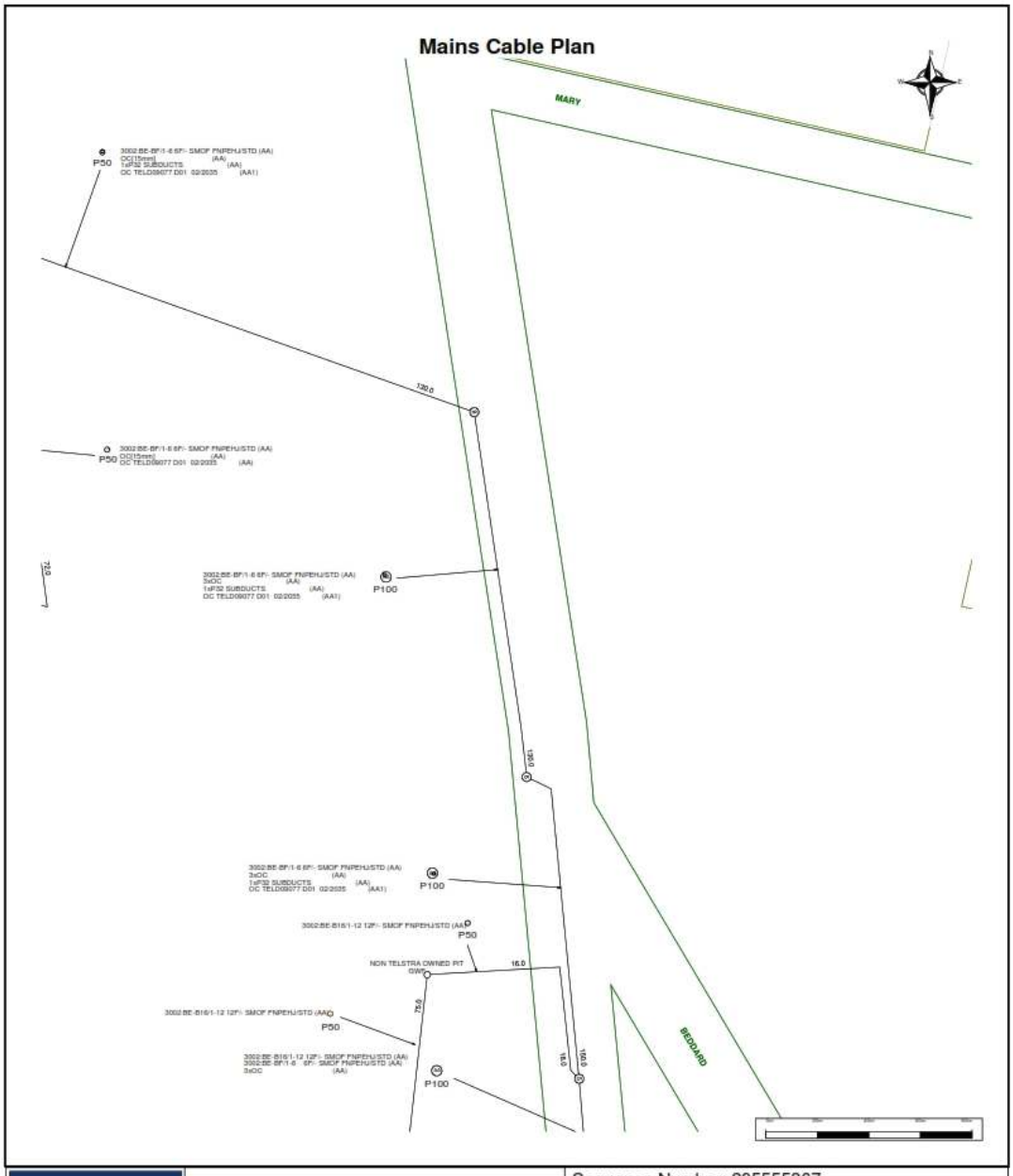
WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Mount Alexander Bioenergy



Telstra

For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 23/11/2021 13:45:58

Sequence Number: 205555367

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

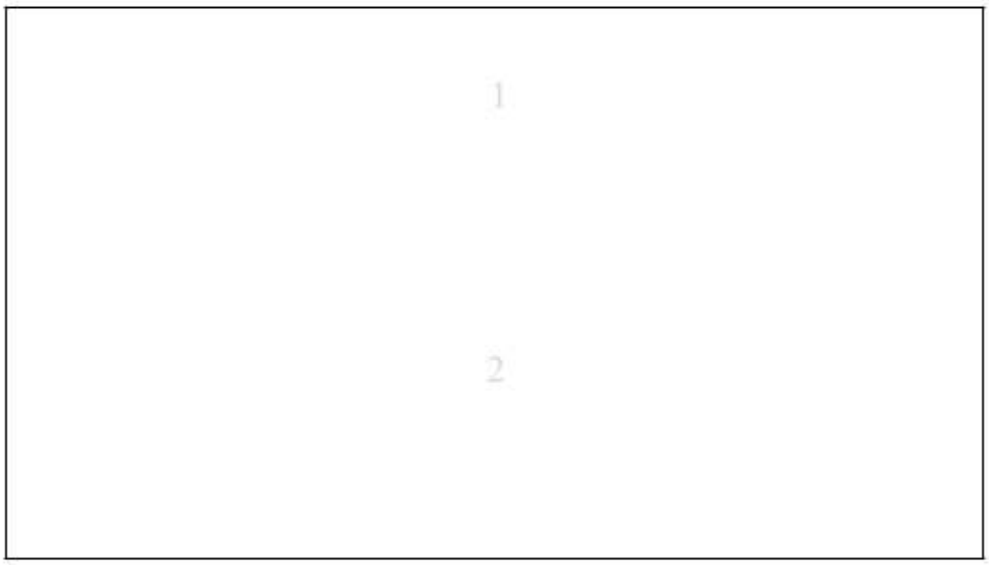
3. **NBN Co**

Mount Alexander Bioenergy

To:	Michael Lewin
Phone:	Not Supplied
Fax:	Not Supplied
Email:	mick.lewin@outlook.com

Dial before you dig Job #:	30952156
Sequence #	205555366
Issue Date:	23/11/2021
Location:	13 Daws Road , Castlemaine , VIC , 3450

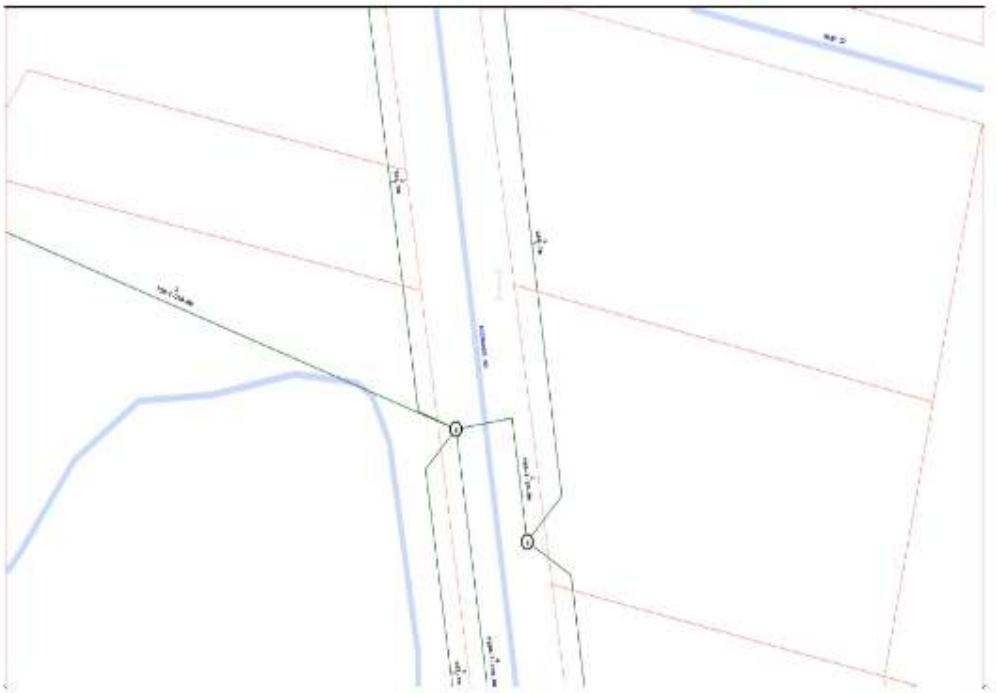
Indicative Plans



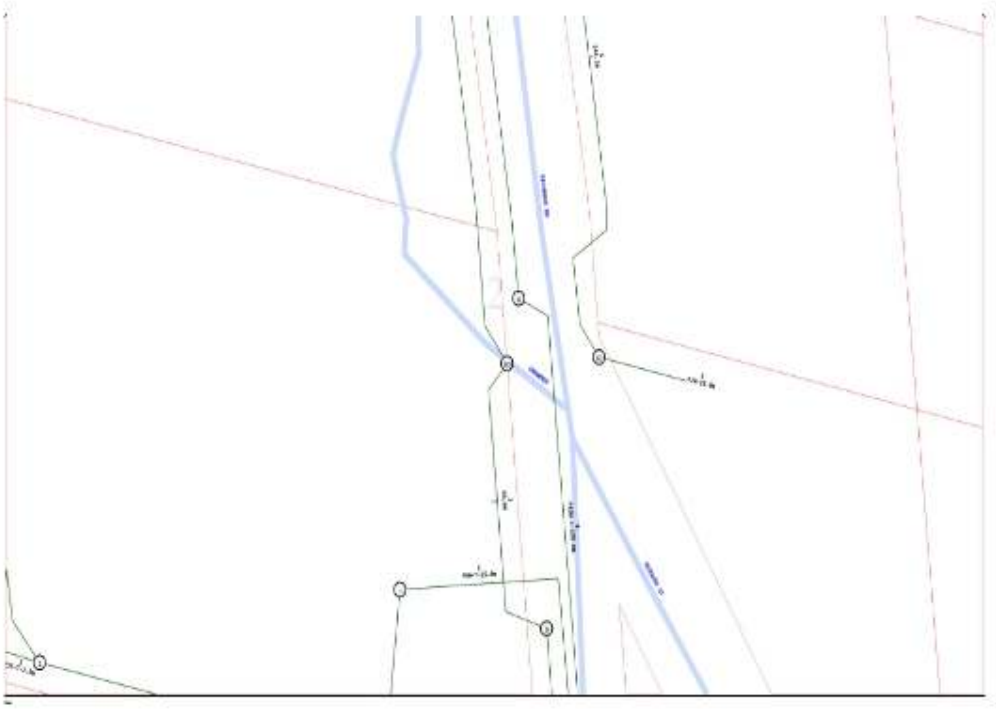
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	LEGEND
34	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
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5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m

Mount Alexander Bioenergy



Mount Alexander Bioenergy



Emergency Contacts

You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

4. Optus



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Sequence Number: 205555371 Date Generated: 23 Nov 2021

OPTUS

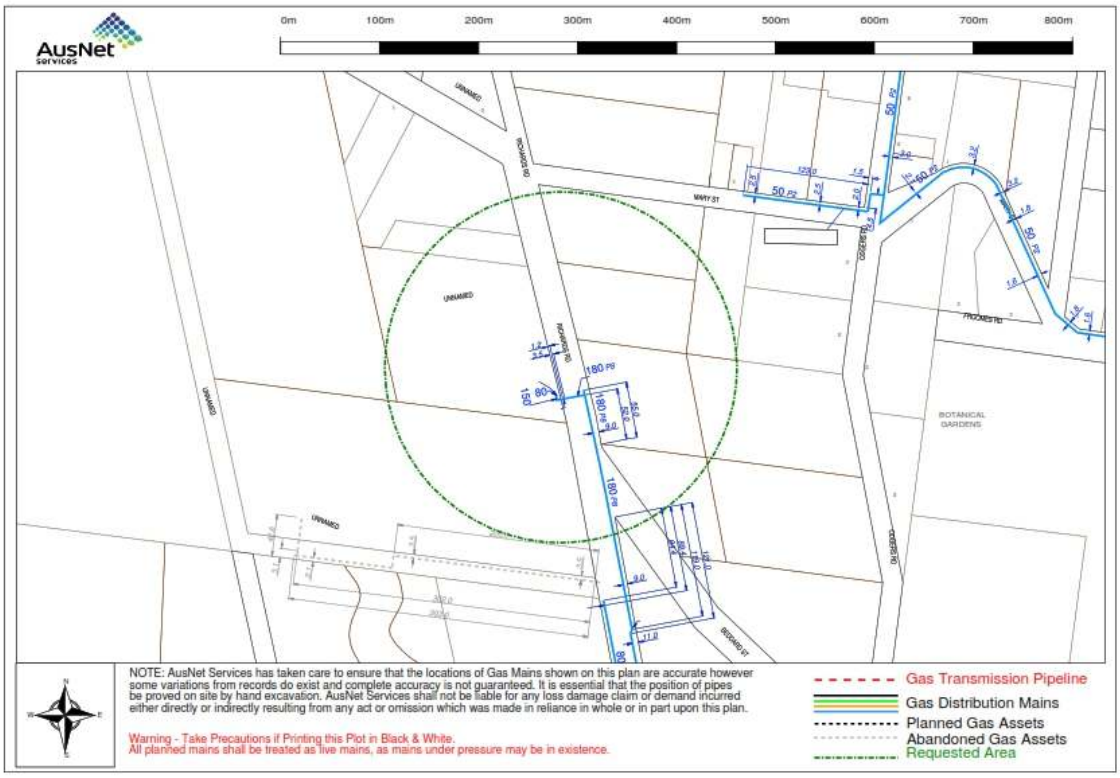
For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208

DIAL BEFORE YOU DIG www.1100.com.au

Plans generated 23 Nov 2021 by Pelicancorp TicketAccess Software | www.pelicancorp.com

Mount Alexander Bioenergy

5. SP Ausnet



6. Coliban Water

Coliban WATER

Water Modelling Results

Our reference

PCT 33383

Application date: 28 October 2021

Applicant

Mt Alexander Bioenergy Pty Ltd

Test location

64 Richards Road, Castlemaine

Modelling results

Results obtained from current Coliban Water Hydraulic models for water supply system. Current conditions and peak day demand (theoretical diurnal pattern) scenario have been used and results are shown below.

Reference node: WCG002080Y (Coliban Water reference only)

Maximum Pressure	409 kPa
Average summer Pressure	370 kPa
P95 (1)	314 kPa
Minimum Pressure	287 kPa

Additional demands of 5.0, 10.0, 15.0, 20.0 and 25.0 l/s simulating fire flows have been applied at the reference node for the peak day demand. Residual pressures shown below were calculated at the time when P95 occurs, obtaining the following results.

	5.0 l/s	10.0 l/s	15.0 l/s	20.0 l/s	25.0 l/s	30.0 l/s
Pressure for 95% of the day: (kPa)	253	187	112	11	0	0

Results for the DN100mm diameter (uPVC) main.

(1) P95: Corresponds to the minimum pressure that the system will experience during 95% of the day at the reference node.

Disclaimer

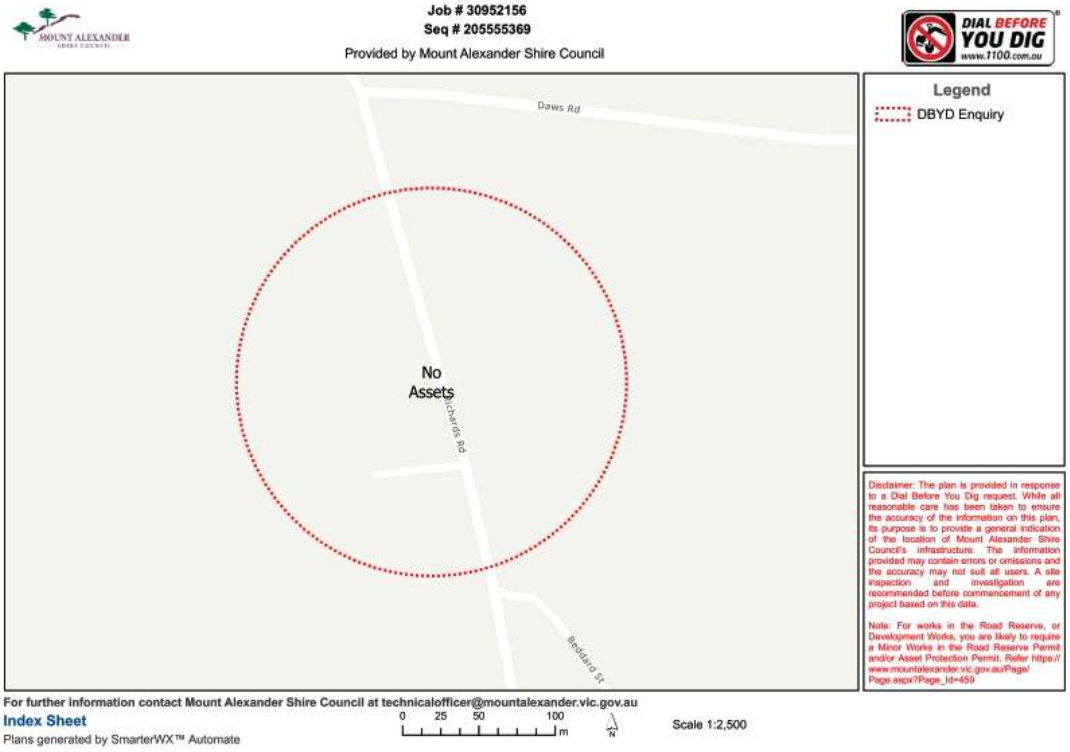
This information is subject to change at any time due to ongoing system alterations and operational modifications.

Under section 165(5) of the Water Act (1989), Coliban Water is not required to ensure that the water pressure is adequate for fire fighting.

Coliban Water accepts no responsibility for any claim for damages, costs, charges or expenses or for any loss or damages to any property or injury to any person which may be sustained through the use of this information.

Mount Alexander Bioenergy

7. Mt Alexander Shire



Mount Alexander Bioenergy

ATTACHMENTS

ATTACHMENT A – Traffic Management Plan

ATTACHMENT B – EPA Pathways Submission

ATTACHMENT C – Civil Engineering Plan

ATTACHMENT D - Biosecurity Australia – Preliminary Assessment Application

ATTACHMENT E – High Level Design

ATTACHMENT F – Waste-water Effluent Treatment for Trade-waste

ATTACHMENT G – Ecology and Biodiversity

ATTACHMENT H – Stormwater Management Plan