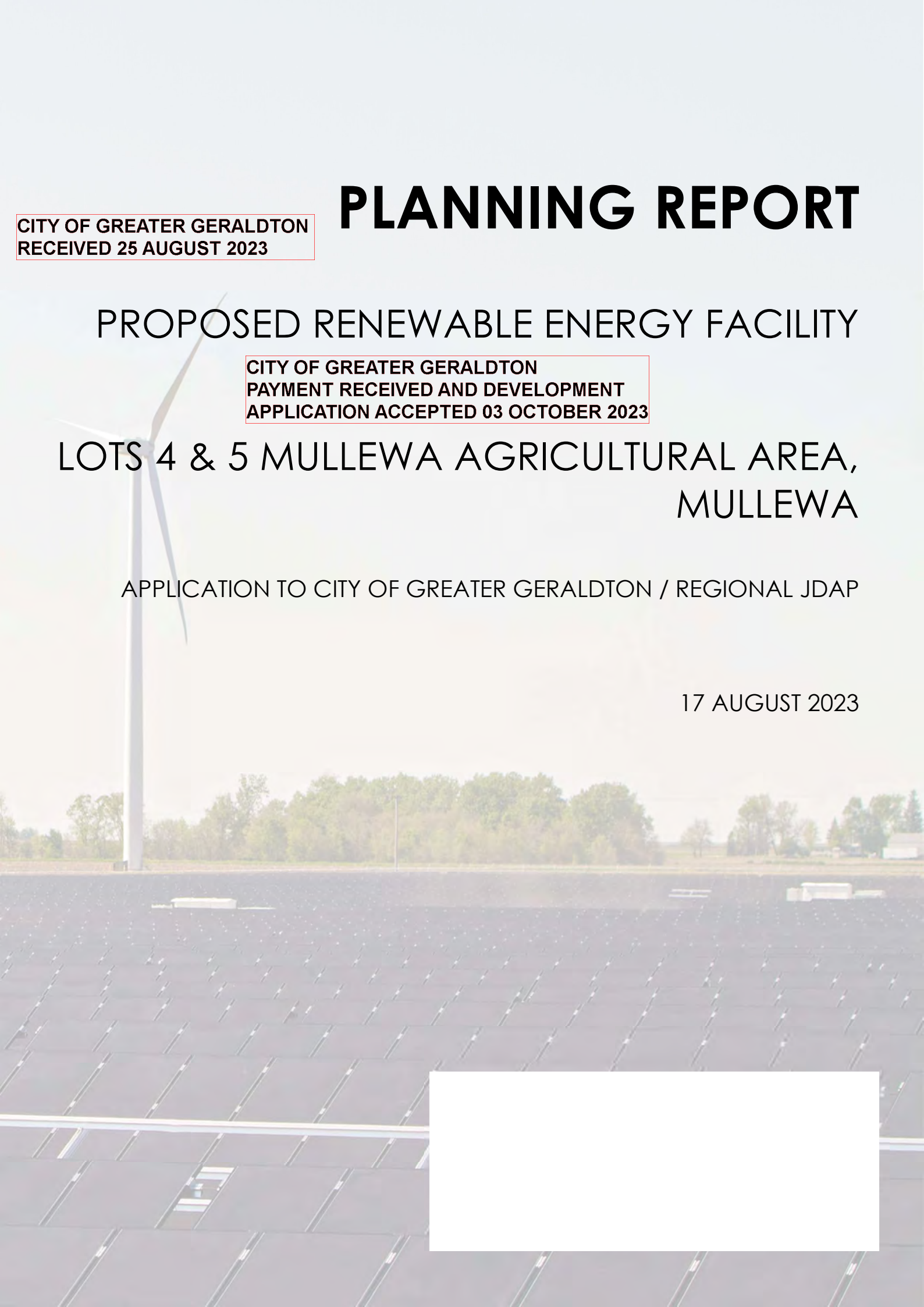
PLANNING REPORT

PROPOSED RENEWABLE ENERGY FACILITY

LOTS 4 & 5 MULLEWA AGRICULTURAL AREA, MULLEWA

APPLICATION TO CITY OF GREATER GERALDTON / REGIONAL JDAP

17 AUGUST 2023



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ANNEXURES:

1.0 INTRODUCTION

prepared this Planning Report on behalf of

as part of an Application for Development Approval for a Proposed Renewable Energy Facility comprising a Solar Farm and Wind Turbines and associated infrastructure including battery, inverter, underground power lines, above-ground power lines and a microgrid connection point (grid connection container and back-up diesel genset).

The Solar Farm, battery, inverter, power lines and connection point including connection container and back-up diesel genset are proposed on Lot 4 on Plan 235009 which has frontage to Old Mingenew Road and Darlot Road.

The 2x Wind Turbines and power lines are proposed on Lot 5 on Plan 235009 which sits to the south of Wubin-Mullewa Road.

This report provides a detailed Town Planning assessment of the proposed development against the relevant State and local Planning framework. The information contained in this report confirms that the proposed Renewable Energy Facility is appropriate for the site and reflects the applicable planning framework.

2.0 SITE DETAILS

2.1 LEGAL DESCRIPTION OF LAND

This Development Application is made in respect of Lots 4 & 5 Mullewa Agricultural Area, the details of which are provided in **Table 2** below.

Table 2: Legal Description of Land

Lot	Plan	Vol/Folio	Area	Address	Proprietors
4	235009	1506/572	57.8236ha	No street address on title	Mullewa Football Club Inc
5	235009	2998/530	57.9108ha	No street address on title	Wonyarra Land Pty Ltd

The Certificates of Title for the two lots are attached at **Annexure 1**.

2.2 SITE DETAILS

The subject land is located within the rural area in the town of Mullewa.

The location of the two lots in the context of the town of Mullewa is shown on the Site Context Aerial at **Figure 1** below.

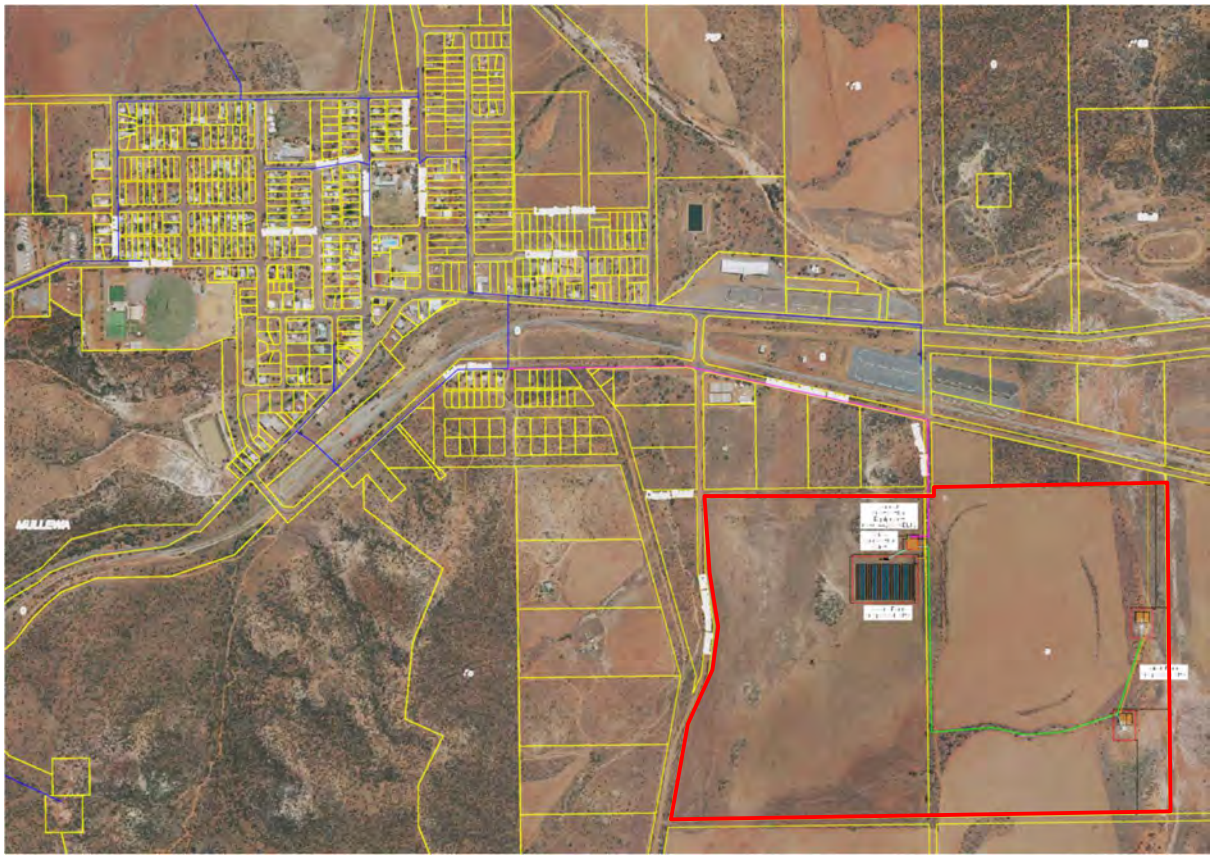


Figure 1 Site Context Aerial

An Aerial Photograph showing Lot 4 and 5 is shown in **Figure 2**.

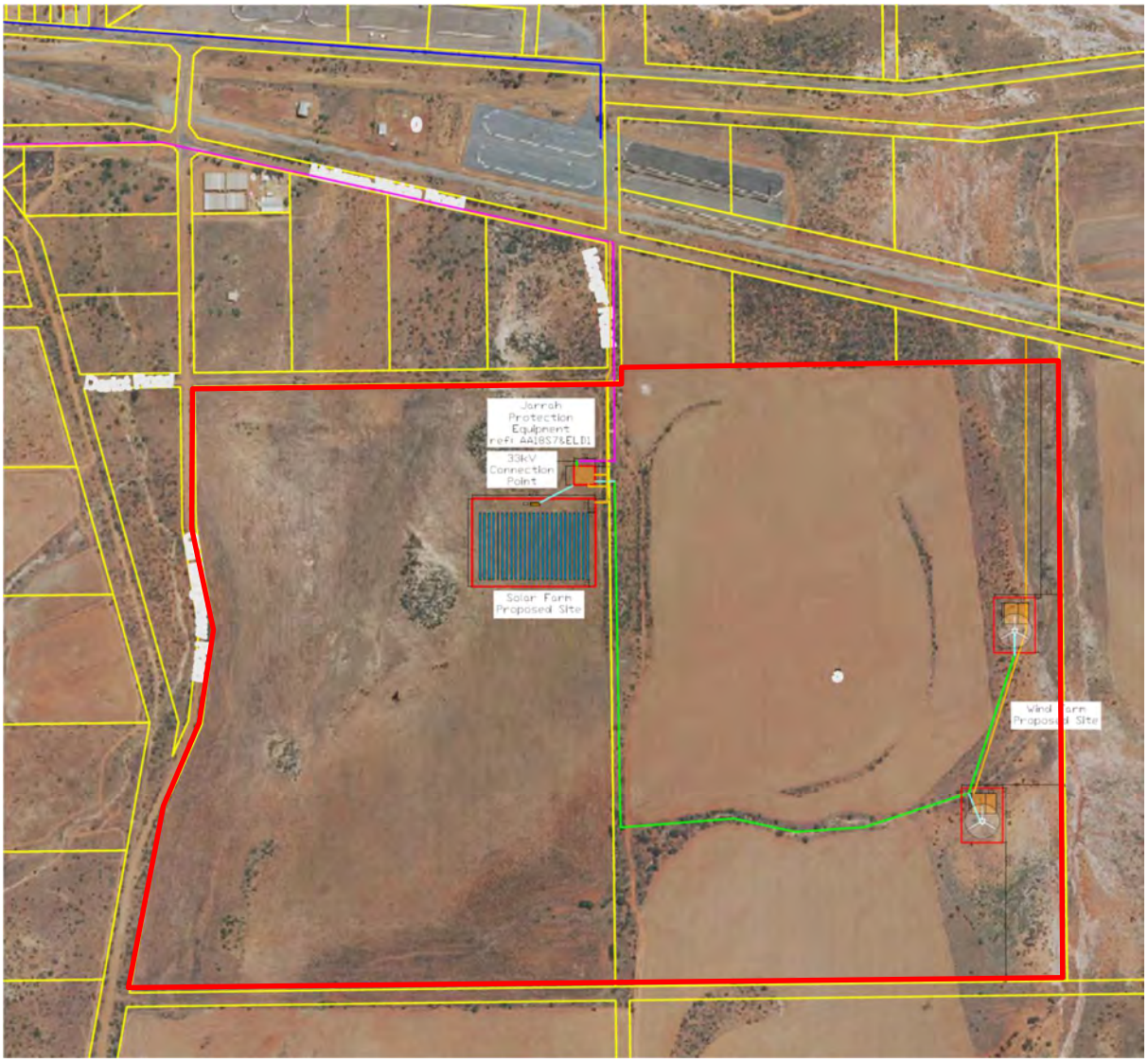


Figure 2 Aerial Photograph of Lot 4 & 5

The proposed development components will be developed on cleared open pasture or cleared land with no impact to any flora or ground-dwelling fauna.

Photographs showing the existing landscape of the sites are attached at **Annexure 2** of this report.

3.0 THE PROPOSAL

The proposal for Mullewa is to develop a commercially sound, technically, and economically feasible microgrid solution (repeatable for other fringe-of-grid towns) with the prime objective of improving energy reliability and amenity for Mullewa residents and to retain and attract business to the town. It is required because Mullewa (and other fringe-of-grid towns) experience excessive levels of unreliability (compared to the average South West Interconnected System (SWIS) customer), for which the current system to date, has not produced a reasonable long-term solution.

Other features associated with a microgrid in Mullewa would be:

- No higher costs to Mullewa residents/businesses than they would otherwise incur;
- No loss of customer protections;
- Reduction in overall line losses; and
- Increase in the overall renewable content of the energy supply in WA.

The definition of a microgrid in relation to the SWIS is:

a sub-section of the Western Power network that:

a) is still connected to the meshed network (grid)
b) has the ability to be islanded as an autonomous system, and
c) Includes local renewable generation and storage

What this would represent in terms of hardware is:

1. “Large” Battery:
   - Primary purpose being short-term storage for improving reliability.
2. Renewable generation from a solar farm and wind turbines:
   - To charge the battery and support a significant proportion of the town’s load under normal operation.
   - When the grid connection is down for longer periods, support continued operation of the town up to battery maximum storage capacity.
   - Enhancing reliability by reducing the power that has to be carried on the Geraldton to Mullewa power line.
3. Diesel generator:
   - Provides longer term energy storage, aiding reliability for medium to long duration grid outages, when local supply options (e.g. solar/wind/battery) are exhausted.

Implementation of the microgrid will require agreements with Western Power and Synergy, which are currently being explored as part of a feasibility study conducted by Sunrise Energy Group, funded by a Federal Government grant and to which Western Power and Synergy are paid contributors. For implementation, funding would be sought from the ARENA “Regional Australia

Microgrid Pilots Program" to help offset typical costs associated with "a first-of-its-kind" type project and pave the way for a repeatable model that can implemented in other towns under its own commercial merits.

The proposed Renewable Energy Facility would provide significant benefits to the local community.

3.1 PROPOSED INFRASTRUCTURE DETAILS

The infrastructure proposed as part of this application will include:

- A 1MW Solar Farm, battery energy storage system, inverter and power line infrastructure on Lot 4.
    - The Solar Farm is proposed to cover an area of approximately 2.2ha (178m x 127m), comprising 25 rows of solar arrays.
    - The solar array development area will be set back approximately 160m from the northern boundary and 20m from the eastern boundary of Lot 4.
    - A 3 MWh battery and inverter are proposed to be located within the solar array development area on the northern side of the solar array infrastructure.
    - Power lines will extend out from the inverter, extend east into Lot 6 and then extend north to the unsealed road reserves, then extend west along Wubin-Mullewa Road to connect with existing power infrastructure.
- 2x Wind Turbines and power line infrastructure on Lot 5.
    - Wind Turbine 1 is proposed to be sited 340m from the northern boundary and 40m from the eastern boundary of Lot 5. The Wind Turbine will be developed within an envelope measuring 60m x 80m.
    - Wind Turbine 2 is proposed to be sited 300m from the southern boundary and 90m from the eastern boundary of Lot 5 and will also be developed within an envelope measuring 60m x 80m.
    - Each Wind Turbine will be 100m tall with a rotor blade diameter of 44m.
    - Underground 33kV power lines will extend out from each turbine for a length of 72m.
    - New 33kV overhead power lines will extend south inside Lot 5 and then cut across Lot 5 to the west to connect with the other new power infrastructure associated with the solar farm on Lot 4.
    - The Wind Turbine facility will require a crane pad and lay down area for construction.
    - A 725m long, 4m wide access road will be required.
    - The closest resident to both Wind Turbines is 1.50km away to the direct west.
- A Microgrid Connection Point (Grid Connection Container & Back-up Diesel Genset) on Lot 4, just north of the proposed solar farm.
    - The connection point will be accommodated within a 28m x 31m envelope, set just north of the proposed solar farm, with a 20m setback to the eastern boundary of Lot 4.

The proposed development is detailed on plans attached at **Annexure 3** of this Report.

3.2 ASSESSMENT OF RELEVANT IMPACTS

3.2.1 Environmental Impacts

Given that the proposed solar farm, wind turbines and associated infrastructure will be located in existing cleared land and no vegetation clearing is proposed, it is considered that the overall environmental impact is acceptable.

3.2.2 Visual Impacts

The visual impact of the proposed development is not considered to be adverse or detrimental to the surrounding area for the reasons below:

- The proposed heights of the solar array, battery storage and connection point infrastructure mean that this infrastructure will maintain a low profile. In addition, the large setbacks to site boundaries and road reserves minimises the visual impact.
- The large setbacks to site boundaries and road reserves and the separation distances to surrounding land uses and dwellings minimises the visual prominence and views to the proposed wind turbines. Importantly, the proposed wind turbines are well distanced away from Wubin-Mullewa Road and Geraldton-Mount Magnet Road, which are the main trafficked roads in the locality.
- The existing landscapes are illustrated in the photographs at Annexure 2.

3.2.3 Noise Impacts

Possible noise impacts from the development are mainly limited to the wind turbines and the construction phases of the overall development.

Ongoing operation noise impacts associated with the solar farm are considered to be minimal.

Ongoing operation noise impacts associated with the wind turbines should satisfy acceptable levels. The proponent has undertaken noise contour modelling (refer Annexure 3 plans) and has demonstrated that noise levels do not exceed 30dB(A) at two relevant receivers in the immediate locality.

In any event, the proponent must comply with the requirements of the *Environmental Protection Act 1986* and the *Environmental Protection (Noise) Regulations 1997* in regard to noise for both the construction and operational phases of the proposed facility, and this can be imposed as a condition of development approval.

3.2.4 Construction Impacts

The development is likely to be constructed over a period of 12 months. During construction, additional vehicles, construction equipment, construction personnel, and cranes will be on-site. All

access for the construction phases of the solar farm and wind turbines will be derived from Wubin-Mullewa Road and through unsealed road reserves to the relevant sites. Internal access roads will be constructed to the development envelopes.

During construction there may be 20 vehicles per week visiting the site. The peak construction period is anticipated to require up to 10 personnel, with a likely average of 5 people throughout the construction phase.

A construction laydown area will be developed adjacent to each development envelope to store construction equipment, portable amenities and car parking areas.

The main impact during construction will be air quality through the generation of dust. Mitigation measures are likely to be necessary and could include the watering down of construction areas during earthworks and monitoring forecast wind levels. A Dust Management Plan can be required as a condition of development approval, or otherwise, it can be a component of an overall Construction Management Plan.

4.0 STATE PLANNING FRAMEWORK

4.1 STATE PLANNING STRATEGY 2050

The proposed Renewable Energy Facility accords with the vision and relevant energy planning objectives of the *State Planning Strategy 2050* (**SPS 2050**).

In particular, the Strategy highlights the need to encourage the use of natural energy renewable resources as a measure to reduce the intensity of greenhouse gas emissions from energy production.

This Application seeks approval to construct a Renewable Energy Facility which will connect to existing power infrastructure and provide enhanced power reliability to the town of Mullewa.

The construction of the proposed development will reduce the overall energy demand of traditional non-renewable sources.

is adopting an environmentally sensitive approach to generating electricity and through this action is actively assisting the City in reducing greenhouse emissions, in accordance with the objectives of SPS 2050.

The proposed development therefore complies with the energy planning objectives of the SPS 2050**.**

4.2 POSITION STATEMENT: RENEWABLE ENERGY FACILITIES (WAPC, 2020)

The WAPC *Position Statement: Renewable Energy Facilities (March 2020)* provides guidance to local governments on introducing renewable energy facilities into their local planning frameworks.

The City has responded by introducing a "Renewable Energy Facility" land use into its local planning framework, in accordance with the measures stated in this policy, as follows:

- The *Local Planning Strategy* (**LPS**) identifies renewable energy facilities as being suitably located on rural land.
- At *Part 6.2 – Land use terms used in Scheme* of *Local Planning Scheme No. 1* (**LPS 1**), the land use definition for a Renewable Energy Facility is described, as follows.

> *Renewable Energy Facility* *means premises used to generate energy by a renewable resource and includes any building or other structure used in, or in connection with, the generation of energy by a renewable resource. It does not include a renewable energy facility principally used to supply energy for a domestic property or existing use of premises.*

- The land use classification of "Renewable Energy Facility" is included at *Table 14 – Zoning Table* of the City's operative LPS 1. It is identified as being an 'A' use in the Rural zone, which means that this proposal can be considered for approval on the subject lots, after advertising of the proposal in accordance with cl. 64, Part 8, Sch. 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015.*

This Application seeks approval to use a small area of two (2) landholdings for a Renewable Energy Facility comprising a solar farm, connection point site and 2x wind turbines, which lots are zoned "Rural" in LPS 1 and identified in the local planning framework as being suitable for this specific land use, as required by this Position Statement.

4.3 MID-WEST REGIONAL PLANNING AND INFRASTRUCTURE FRAMEWORK

The Mullewa Townsite is identified in *Mid-West Regional Planning and Infrastructure Framework (2015)* as being a 'Major Local Centre'.

The Framework recognises that the primary SWIS transmission infrastructure in the Mid-West is severely constrained, which limits opportunities for new development to establish in the region.

The Framework refers to the abundant source of solar and wind renewable energy sources which are available in the Mid-West region and recognises the benefit of introducing renewable energy facilities in reducing carbon greenhouse emissions.

The proposed development will assist in alleviating some of the existing pressure on the existing transmission infrastructure by reducing the reliance on the SWIS grid, which accords with the overarching vision of the Framework to encourage the establishment of renewable energy resources in the Mid-West.

4.4 STATE PLANNING POLICY 2.5 – RURAL PLANNING

The proposed development on the subject land accords with the Planning Objectives of *State Planning Policy 2.5 – Rural Planning*, which seeks to support sustainable land uses which will protect rural land and cater for the future economic, environmental, and social needs of Western Australia.

The proposed development is proposed to provide an alternative energy-generating source for the town of Mullewa.

The development is proposed to be located on two (2) small, cleared portions of the subject landholdings and is considered to comply with the relevant Policy Objectives 5.1 of SPP 2.5, as detailed in the following **Table 3**.

Table 3: Compliance with the Policy Objectives 5.1 of SPP2.5

Policy Objectives for Protection of Rural Land and Land Uses	Response
(a) *requiring that land use change from rural to all other uses be planned and provided for in a planning strategy or scheme;*	The use of two separate small areas of the landholdings for the Renewable Energy Facility is identified in the City's local planning framework as being a suitable land use on rural land. This proposal is therefore compliant with this objective.
(b) *retaining land identified as priority agricultural land in a planning strategy or*	The proposed Facility is proposed on land which is identified as "other rural land' on the Rural Land Strategy Plan, being land immediately adjacent to the Mullewa Townsite on the Mullewa Strategy Plan. It does not form part of the priority agricultural area. Notwithstanding this, the proposed installation of the Renewable Energy Facility on these landholdings does not impact on the ability for the land to be utilised for other suitable agricultural pursuits in the future. This proposal is therefore compliant with this objective.
(c) *ensuring retention and protection of rural land for biodiversity protection, natural resource management and protection of valued landscapes and views;*	The landholdings to be used for the Facility comprise of cleared rural land. There will not be any impact on the land in terms of biodiversity protection, natural resource management or the protection of valued landscapes and views. This proposal is therefore compliant with this objective.
(d) *protecting land, resources and/or primary production activities through the State's land use planning framework;*	The use of this land as a Renewable Energy Facility will have no impact on the ability for the land to be utilised in the future for primary production activities. This proposal is therefore compliant with this objective.
(e) *creating new rural lots only in accordance with the circumstances under which rural subdivision is intended in Development Control Policy 3.4: Subdivision of rural land;*	The proposed use does not involve subdivision. The objective is therefore not applicable to this application.
(f) *preventing the creation of new or smaller rural lots on an unplanned or ad-hoc basis, particularly for intensive or emerging primary production land uses;*	The proposed use does not involve subdivision. The objective is therefore not applicable to this application.
(g) *comprehensively planning for the introduction of sensitive land uses that may compromise existing, future and potential primary production on rural land.*	The Facility will not compromise the use of the landholdings for primary production.
(h) *accepting the impacts of well-managed primary production on rural amenity.*	There will be no impact on primary production. The Facility is proposed to assist in generating power for the town of Mullewa.

4.5 STATE PLANNING POLICY 3.7 - PLANNING IN BUSHFIRE PRONE AREAS

The proposed solar farm, battery and connection point infrastructure (Lot 4), and the proposed wind turbine infrastructure (Lot 5) are all located completely outside of any mapped bushfire prone areas, pursuant to the Department of Fire and Emergency Services (DFES) Map of Bushfire Prone Areas (refer to **Figure 3**: Maps of Bushfire Prone Areas).

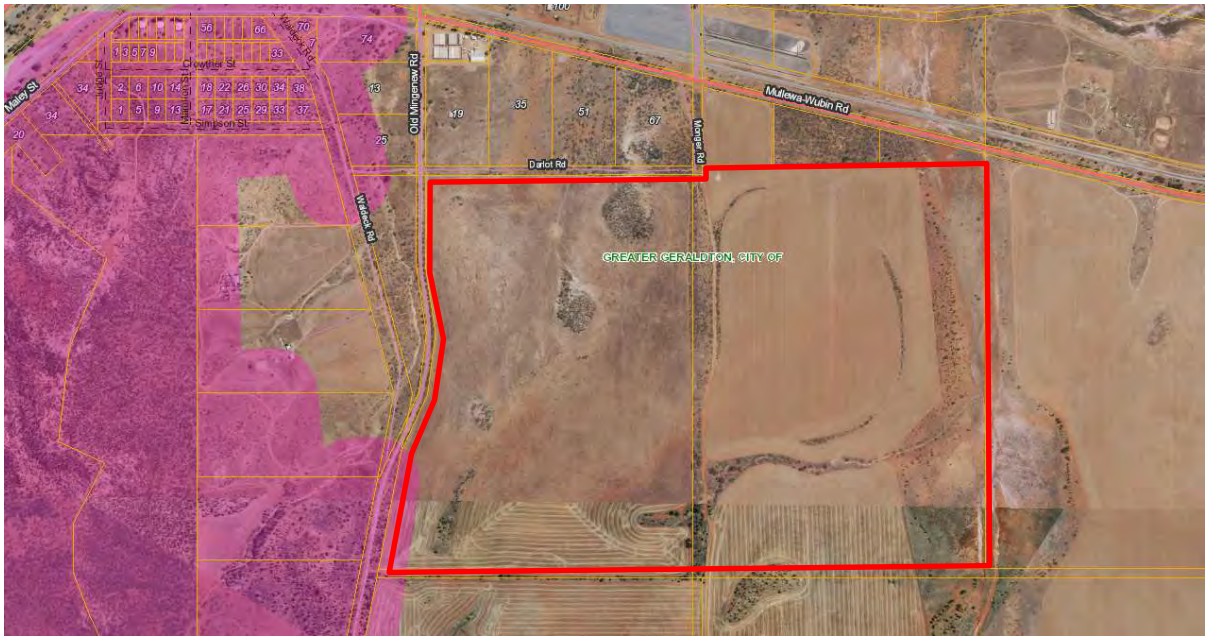


Figure 3 DFES Maps of Bushfire Prone Areas

Given that the proposed development components are well outside bushfire prone areas, no Bushfire Management Plan has been prepared for this application. The advice we have received is that it is not necessary for any bushfire investigation or management plan to be prepared.

4.6 STATE PLANNING POLICY 5.4 - ROAD & RAIL NOISE

The Lot 4 and Lot 5 sites are identified as being located within the trigger distance of the strategic freight rail and traffic route. The proposed Renewable Energy Facility land use is not a sensitive land use and therefore will not be impacted by the noise associated with the rail and traffic routes.

5.0 LOCAL PLANNING FRAMEWORK

5.1 CITY OF GREATER GERALDTON LOCAL PLANNING SCHEME NO. 1

5.1.1 Zoning & Land Use

Lot 4 and Lot 5 are both zoned "Rural" pursuant to the City of Greater Geraldton *Local Planning Scheme No. 1* (**LPS 1**). Refer Zoning Map below at **Figure 4.**

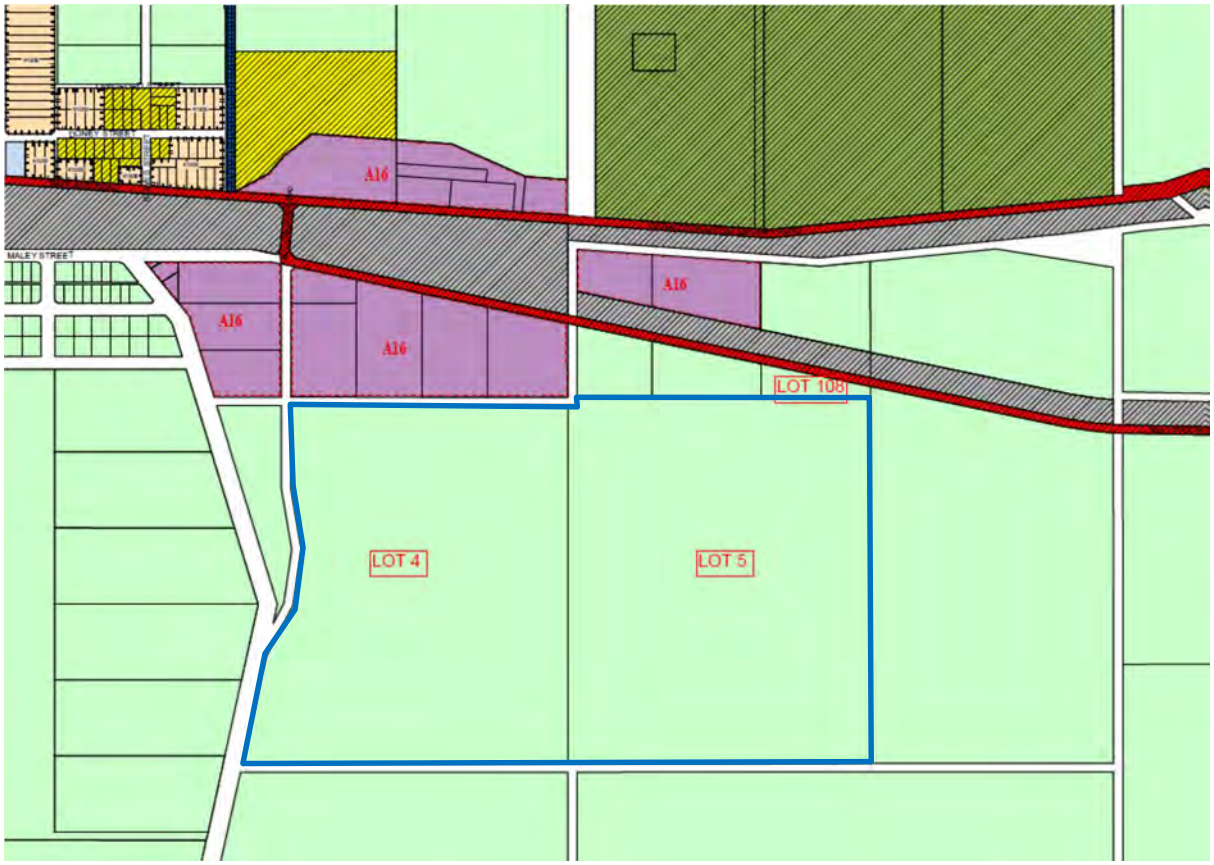


Figure 4 Zoning Map

At Table 14 – Zoning Table of LPS 1, the land use classification of "Renewable Energy Facility" is identified as being an 'A' use, which means that the use is capable of approval, following public advertising of the Application.

The proposed "Renewable Energy Facility" fits comfortably with the objectives of the "Rural" zone as described at cl. 3.11.1 of LPS 1, as justified in the following **Table 4**.

Table 4: Compliance with the Rural Zone Objectives of LPS 1

Objectives of Rural Zone	Response
a) provide for the maintenance or enhancement of specific local character.	The land will remain rural in character, with the proposed Renewable Energy Facility to utilise only a small portion of the overall land area of both landholdings.

Objectives of Rural Zone	Response
	The low visual impact of this proposal will ensure that the local rural character is maintained.
b) *protect broadacre agricultural activities, such as cropping and grazing, and intensive uses, such as horticulture, from incompatible uses and minimise land use conflicts.*	The proposed land use is identified in the Local Planning Strategy as an appropriate use for rural land. The structures of the Facility will have a low impact on the rural landscape and will not result in any land use conflict with the use of nearby land for agricultural activities. The use of this land for the Facility will only extend over a small area of the site, which ensures that the properties remain available for other rural type activities in the future.
c) *provide for a range of non-rural land uses where they have demonstrated benefit and are compatible with the surrounding rural uses.*	The proposed Renewable Energy Facility will provide enhanced reliability of power source for the town of Mullewa which is considered to be a significant benefit. The areas of the land not utilised for this purpose can remain available for other rural activities.
d) *protect and provide for existing or planned key infrastructure, public utilities and renewable energy facilities.*	This proposal seeks approval to utilise portions of the landholdings for a Renewable Energy Facility, which meets this objective of the zone.

5.1.2 Development Standards

In addition to the proposed development complying with the general objectives of the "Rural" zone, the development is designed to ensure it complies with the relevant site and development requirements for the zone, as prescribed at *Table 11 – Rural zone site and development requirements* of LPS 1.

Table 5 below provides a response to the development standards of LPS1.

Table 5: Compliance with the Site & Development Requirements of LPS1

Requirements	LPS 1	Proposal
Lot size (min)	Variable	Lot 4 – 57.8236ha Lot 5 – 57.9108ha
Primary street setback (min)	20m	Lot 4 microgrid – 160m setback to northern boundary Lot 5 wind turbine – 340m setback to northern boundary
Secondary street/side boundary setback (min)	10m	Lot 4 microgrid – 20m setback to eastern boundary Lot 5 wind turbine – 40m setback to eastern boundary
Rear boundary/other setback (min)	10m	Lot 5 wind turbine – 300m setback to southern boundary
Plot ratio (max)	variable	n/a

Requirements	LPS 1	Proposal
Building height (max)	As per the R Codes for residential development	Lot 5 wind turbine – 100m tall
Landscaping (min)	variable	n/a

At Cl 3.11.2.3 of LPS 1, the City is to take into consideration when assessing development applications on rural zoned landholdings the following requirements as listed at **Table 6**.

Table 6: Compliance with Requirements of Cl 3.11.2.3

Requirements	Proposal
(a) the Department of Agriculture and Food's studies into identification of high quality agricultural land, to protect the economic and agricultural viability of this land.	The Local Planning Strategy identifies the subject landholdings as 'other rural land' and suitable for the Renewable Energy Facility as proposed.
(b) the need to protect the economic viability of the rural land use generally.	The proposed Renewable Energy Facility is intended to provide enhanced power reliability to the town of Mullewa, thus improving the economic viability of the town and other uses generally.
(c) the need to preserve the rural character and a rural appearance of the area.	The development footprint required for the facility extends over only a small portion of the total land area, which ensures that the rural character and visual landscape is preserved.
(d) the need to ensure that the existing standard of roads, water and electricity supply and other services is sufficient for the additional demands that the proposed development would create.	The proposed development will not generate any demand on the existing infrastructure services.
(e) the need to consider the existence of basic raw materials, mineral resources and the impact of the proposal on existing and potential extractive industry operations in the area.	The proposed use will not impact on any existing or potential extractive industry operation in this location.

5.2 LOCAL PLANNING STRATEGY (2015, PART 1 UPDATED MARCH 2021)

The subject lots are identified on the Regional Townsite - Mullewa Strategy Plan in the City of Greater Geraldton *Local Planning Strategy* as being situated to the immediate south and east of the Townsite boundary. These peripheral lots are identified as 'Other Rural Land' on the strategy plan.

The Strategy states at section *3.9 – Rural Land* that the rural area is suitable to support a range of land uses, including renewable energy.

At Part 6.1 – Mullewa, a range of strategies and actions are identified as being to: consolidate the housing activity; provide a safe, convenient, and attractive town centre; accommodate a range of mixed use, commercial and industrial uses; recognise the role of the town centre in the regional

road and rail network and seek maximise the benefits and minimise the negative impacts on the community; and to recognise wastewater management as a priority.

The subject properties are abutting the Town Centre and are identified as 'Other Rural Land' in relation to it.

The strategies and actions identified in this table relate specifically to protecting, enhancing and retaining the existing function of this Townsite. The Other Rural land buffering the Town Centre is therefore to be retained for its Rural use. No expansion of the Townsite into the open rural landscape is envisaged for the future.

The proposed Renewable Energy Facility is considered an ideal use for the rural land abutting the Townsite, as it has a small development footprint, which ensures that the open rural landscape is maintained and that this use will in no way impact on the ability for this landholding to be utilised for a wide range of other rural pursuits, in the future.

The proposed facility therefore complies with the fundamental principles of the Local Planning Strategy as well as the more specific strategies and actions identified for the Mullewa Townsite.

6.0 CONCLUSION

seeks Development Approval for a Proposed Renewable Energy Facility (Solar/Wind) at Lots 4 & 5 Mullewa Agricultural Area, Mullewa on behalf of Sunrise Energy Group.

In summary, the proposed development warrants approval for the following reasons:

- The proposed development accords with the State Planning Framework;
- The proposed development is generally compliant with the development standards and requirements of the City of Greater Geraldton Local Planning Scheme No. 1;
- The proposed Renewable Energy Facility use is capable of approval in the “Rural” zone as an “A” use and is appropriate for the site and location; and
- The proposed development will provide benefits to the Mullewa locality.

Having regard to the above, the proposed Renewable Energy Facility should be supported and approved.

For these reasons, and in-light of the assessment contained within this report, we respectfully request that the City of Greater Geraldton have regard to the merits and broader benefits of the proposal when undertaking its assessment of the application, and to recommend approval to the Regional JDAP, subject to reasonable conditions.

ANNEXURES

ANNEXURE 2

PHOTOGRAPHS OF EXISTING SITES

CITY OF GREATER GERALDTON
RECEIVED 25 AUGUST 2023

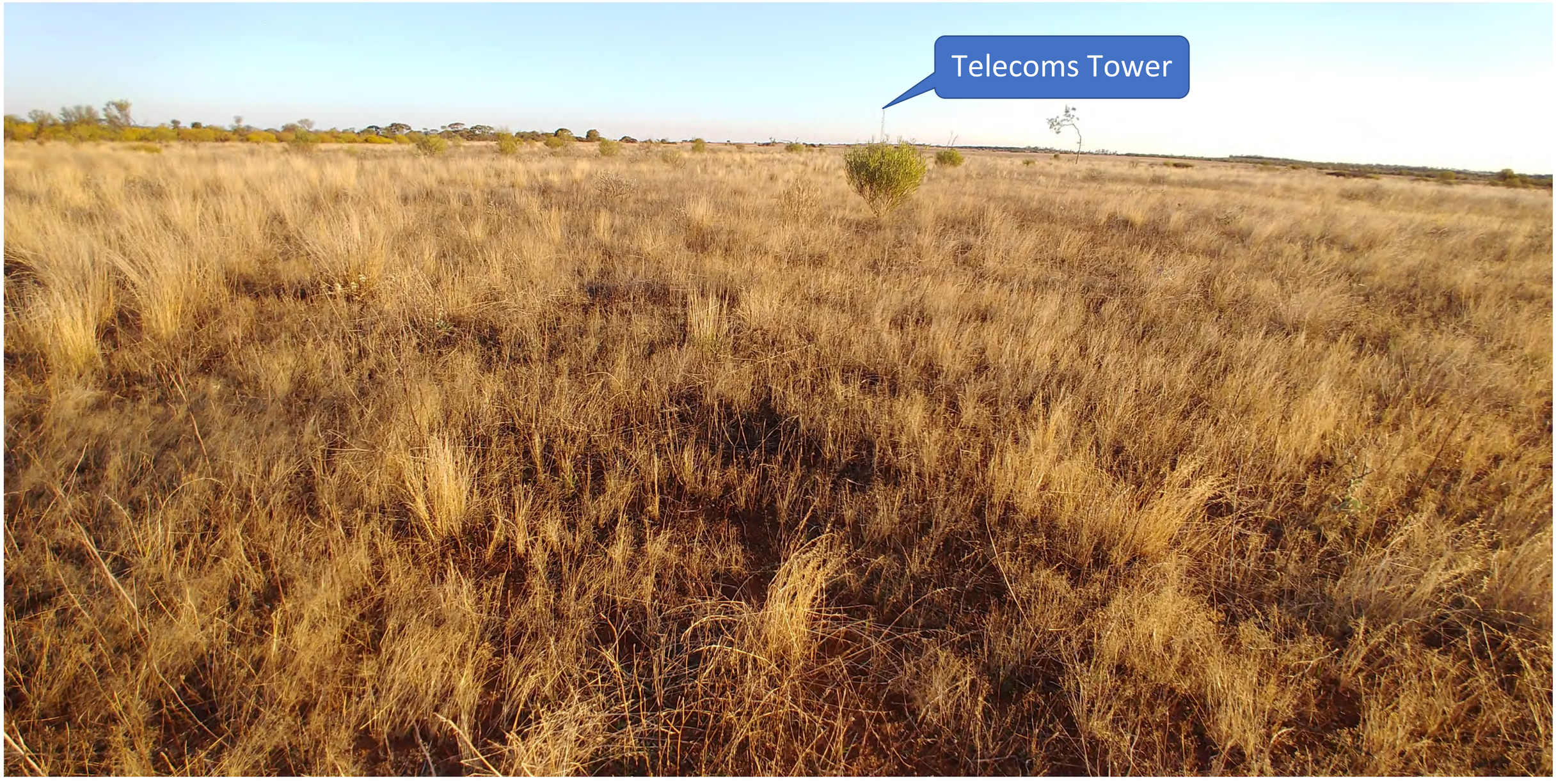
Photo 173827 Looking North

CITY OF GREATER GERALDTON
PAYMENT RECEIVED AND DEVELOPMENT
APPLICATION ACCEPTED 03 OCTOBER 2023

CITY OF GREATER GERALDTON
RECEIVED 25 AUGUST 2023

Photo 173451 Looking South

CITY OF GREATER GERALDTON
PAYMENT RECEIVED AND DEVELOPMENT
APPLICATION ACCEPTED 03 OCTOBER 2023



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CITY OF GREATER GERALDTON
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APPLICATION ACCEPTED 03 OCTOBER 2023

Photo from Wubin-Mullewa Road looking South towards where wind turbines will be placed

ANNEXURE 3

DEVELOPMENT PLANS

Development Areas
Lot Boundaries
Existing Powerlines
New Powerlines
Western Power Extension
Underground Power
Access Roads

Remote Recloser

MULLEWA

Dartot Road

Lot 225
Lot 7
Lot 6
Lot 5
Lot 104
Lot 106
Lot 108
Lot 4
57.8236ha
Lot 5
57.9108ha
Lot 6
Lot 8
Lot 7

595.36
20.12
630.29
200.00
151.91
137.36
118.10
264.58
699.86
870.86
650.58
769.77

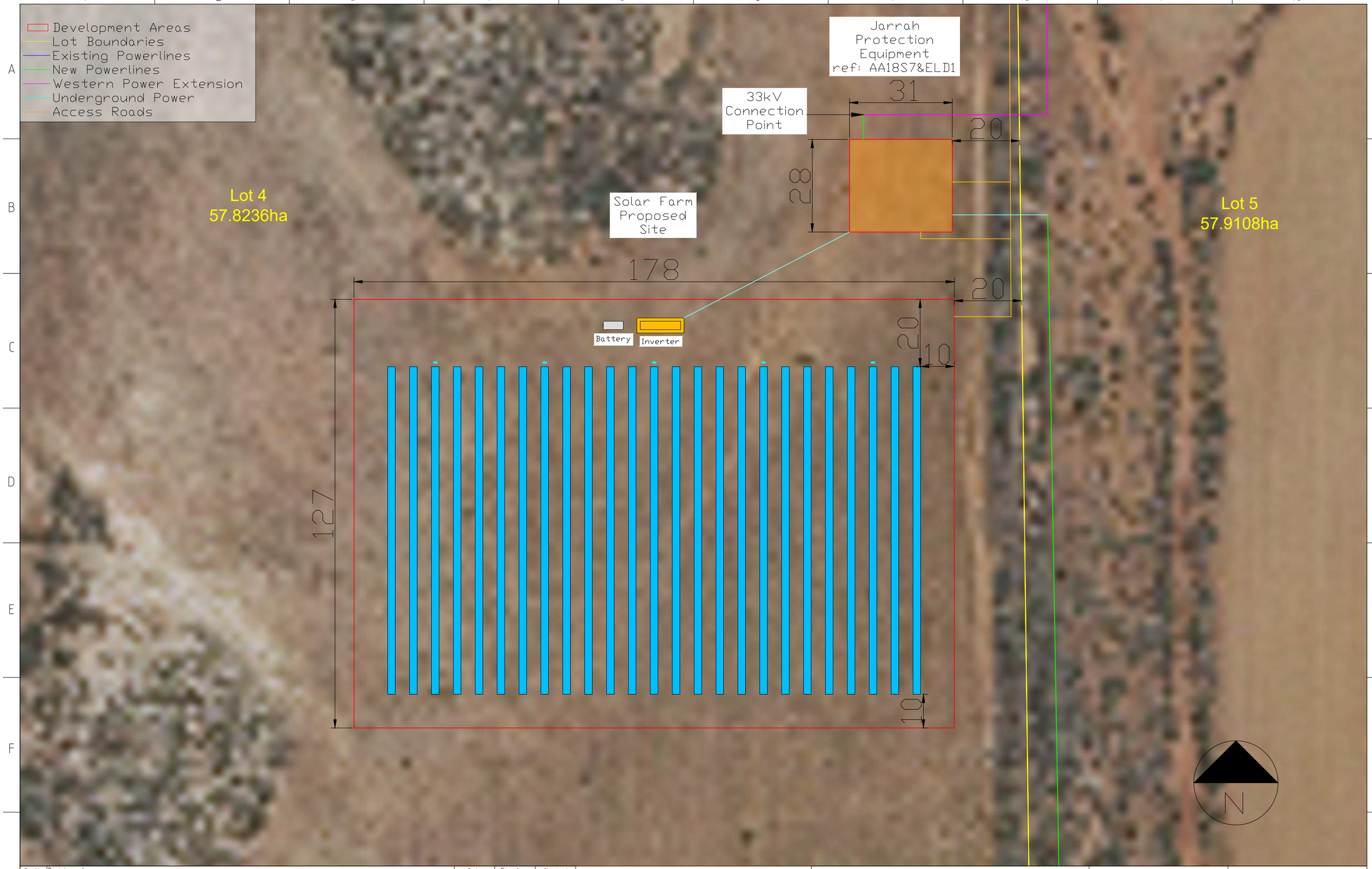
Jarrah Protection Equipment ref: AA1BS78ELD1
33kV Connection Point
Solar Farm Proposed Site
Wind Farm Proposed Site

RevNo	Revision note	Date	Signature	Checked
I	Changed Locations, Rerouted Powerline to New Connection Point	26/07/2023	CY	
J	Additional Labelling, Highlighted Western Power Extension	27/07/2023	CY	

CITY OF GREATER GERALDTON
RECEIVED 25 AUGUST 2023

CITY OF GREATER GERALDTON
PAYMENT RECEIVED AND DEVELOPME
APPLICATION ACCEPTED 03 OCTOBER

FILE NAME	MullewaLayoutDrawing RevJ.dwg
SCALE	1:10000
SHEET	
SIZE	A3
DRAWN	27/07/2023
ISSUED	
DWG NAME	Site Overview



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CITY OF GREATER GERALDTON
RECEIVED 25 AUGUST 2023

CITY OF GREATER GERALDTON
PAYMENT RECEIVED AND DEVELOPMENT APPLICATION ACCEPTED 03 OCTOBER 2023

FILE NAME	MullewaLayoutDrawing RevJ.dwg	SCALE 1:100	SHEET
SIZE	A3	DWG NAME	Array Layout
DRAWN	27/07/2023		
ISSUED			

Development Areas
Lot Boundaries
Existing Powerlines
New Powerlines
Western Power Extension
Underground Power
Access Roads

Wind Farm

340
60
40
20
15
30
80

Turbine 1

Lot 5
57.9108ha

5

Lot 6

60
90
20
15
30
80

Turbine 2

200

N

RevNo	Revision note	Date	Signature	Checked
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FILE NAME	MullewaLayoutDrawing RevJ.dwg
SCALE	1:200
SHEET	
SIZE	A3
DRAWN	27/07/2023
ISSUED	
DWG NAME	Turbine Layout

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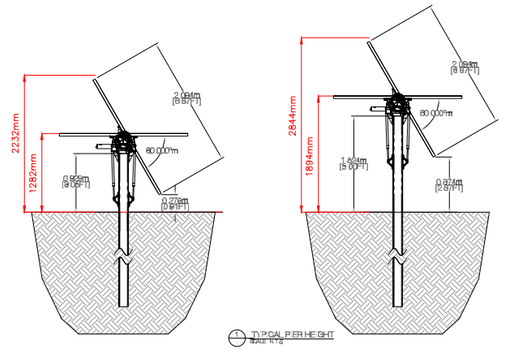
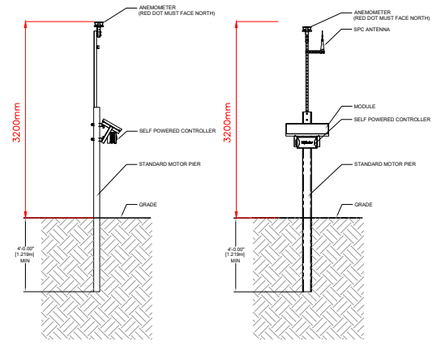
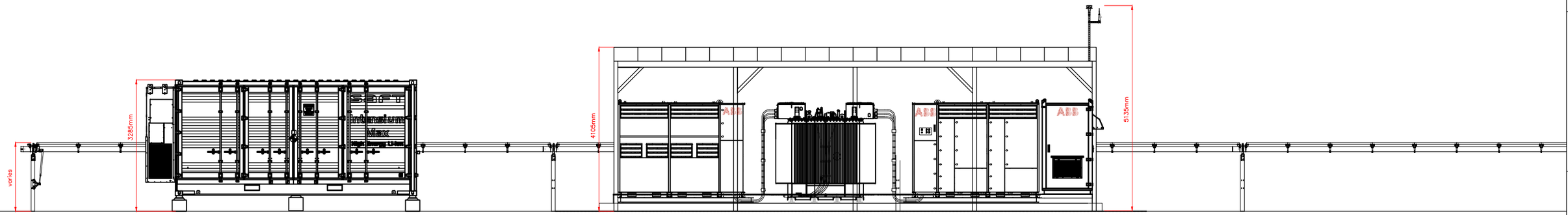


1 TYPICAL PIER HEIGHT
SCALE: N.T.S



2 SPT WEATHER STATION, ULTRASONIC WIND SENSOR
SCALE: N.T.S

Typical View Only
Details Subject to change



TYPICAL ELEVATION OF SOLAR ARRAY, INVERTER & BATTERY

RevNo	Revision note	Date	Signature	Checked
A	FIMER / NEXTracker System	2/11/2022	CY	
B	FIMER / SAFT / NEXTracker System with heights	7/11/2022	CY	

FILE NAME	Typical Elevation View RevB.dwg	SCALE 1:100	SHEET ddd
SIZE	A3	DWG NAME Typical Elevation View FIMER / SAFT / NEXTracker	
DRAWN	02/11/2022		
ISSUED	02/11/2022		

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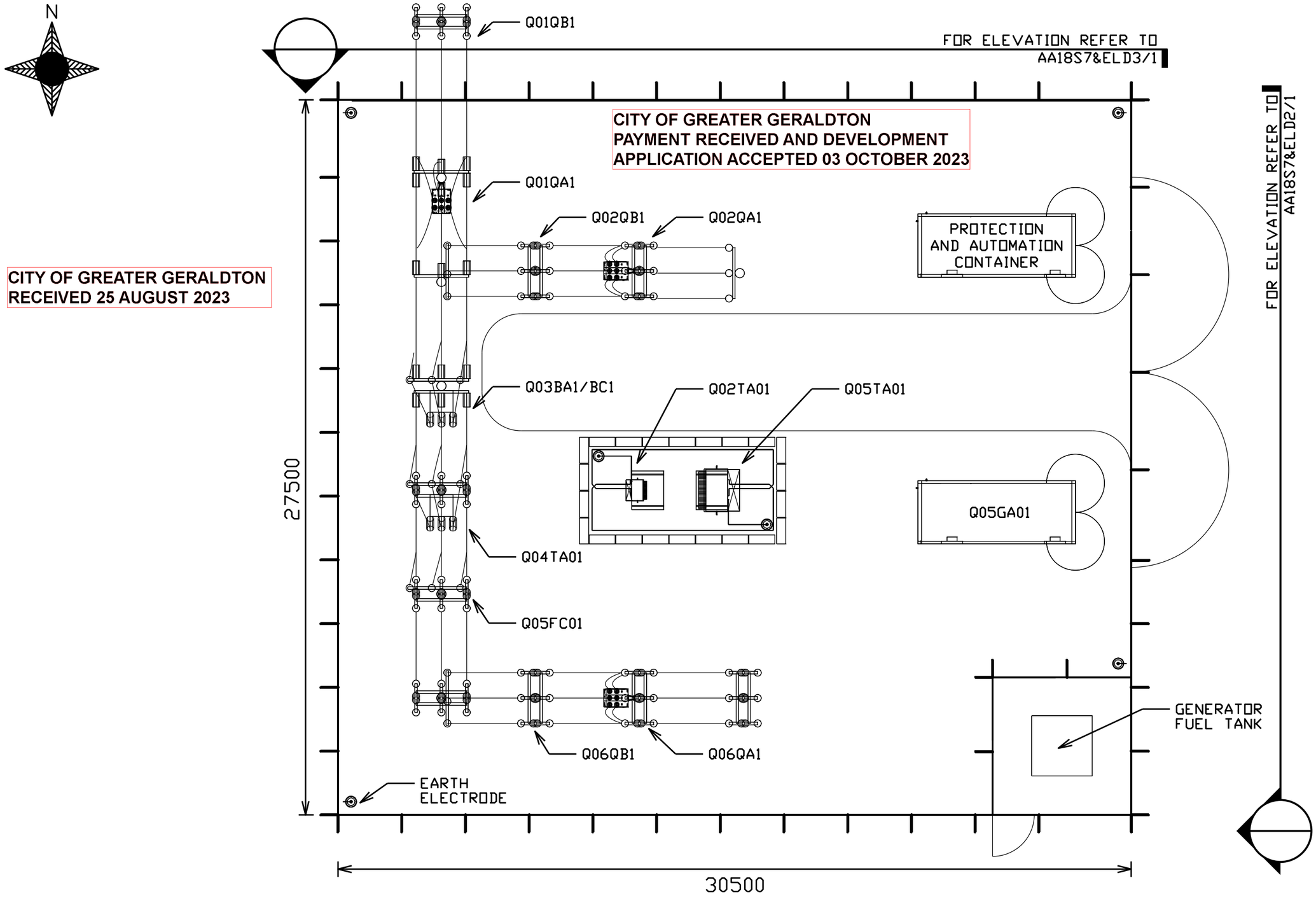

REV	BY	DATE	REVISIONS	CKD	APP	REFERENCES	
A		07/23	ISSUED FOR FEED			AA18S7&EFA1/1 REV D	MULLEWA MICROGRID HV SLD
						DRAWING NUMBER	DRAWING TITLE

PROJECT ID C100248

MULLEWA MICROGRID
HV CONNECTION POINT
GENERAL ARRANGEMENT

DATE	07/23			
SCALE	SIZE	DOCUMENT DESIGNATION	SHT	REV
1:150	A3	AA18S7&ELD1	1	A

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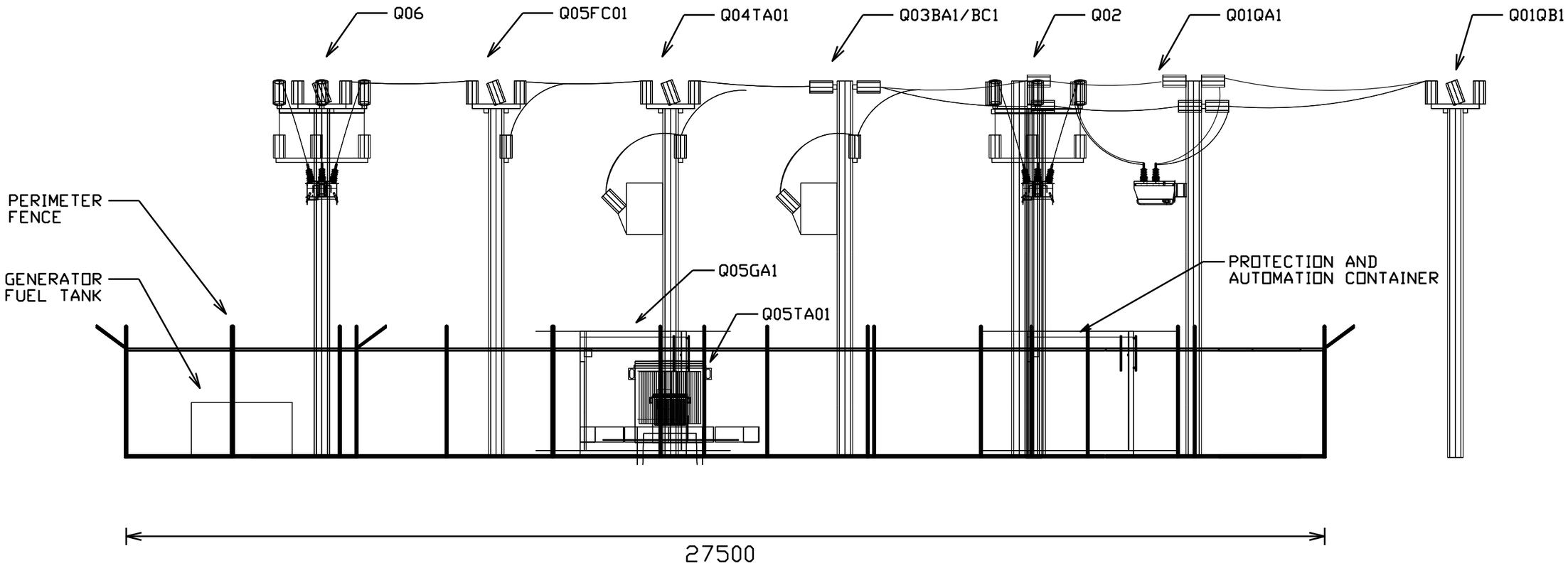

REV	BY	DATE	REVISIONS	CKD	APP	DRAWING NUMBER	DRAWING TITLE
						AA18S7&ELD1/1 REV A	MULLEWA CONNECTION POINT GA
A		07/23	ISSUED FOR FEED			AA18S7&EFA1/1 REV D	MULLEWA MICROGRID HV SLD

REFERENCES

PROJECT ID C100248

DOCUMENT ID

MULLEWA MICROGRID
HV CONNECTION POINT
ELEVATION 1

DATE 07/23

SCALE	SIZE	DOCUMENT DESIGNATION	SHT	REV
1:150	A3	AA18S7&ELD2	1	A

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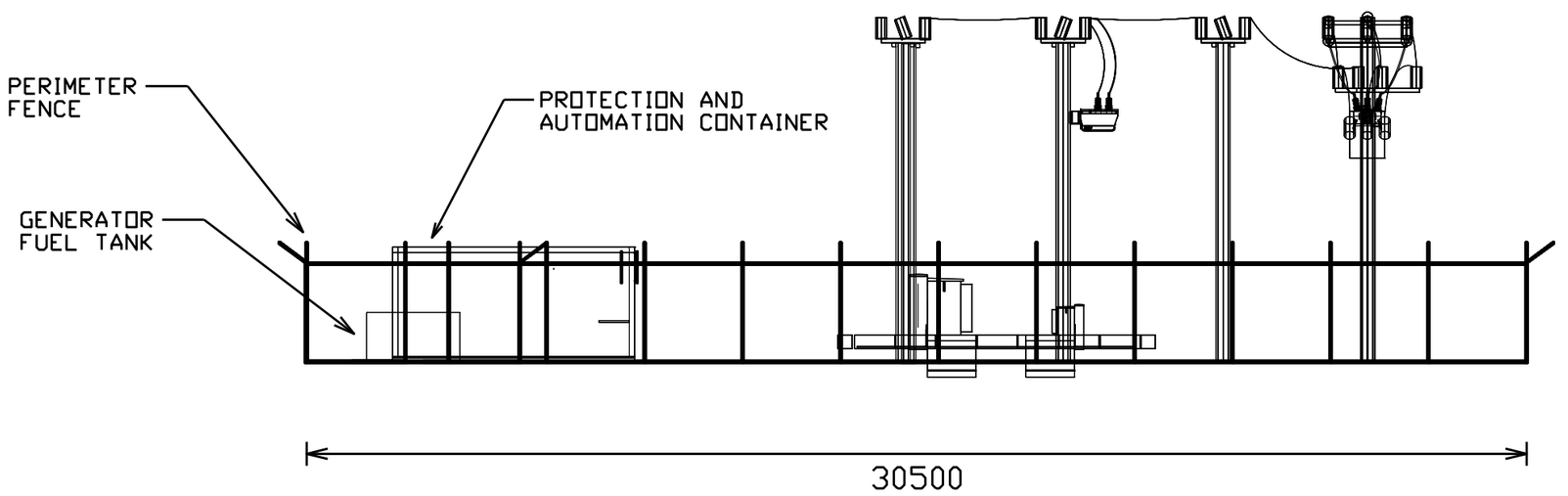

REV	BY	DATE	REVISIONS	CKD	APP	DRAWING NUMBER	DRAWING TITLE
						AA18S7&ELD1/1 REV A	MULLEWA CONNECTION POINT GA
A	JM	07/23	ISSUED FOR FEED	JR	JR	AA18S7&EFA1/1 REV D	MULLEWA MICROGRID HV SLD

REFERENCES

PROJECT ID C100248

MULLEWA MICROGRID
HV CONNECTION POINT
ELEVATION 2

DATE	07/23			
SCALE	SIZE	DOCUMENT DESIGNATION	SHT	REV
10:1	A3	AA18S7&ELD3	1	A

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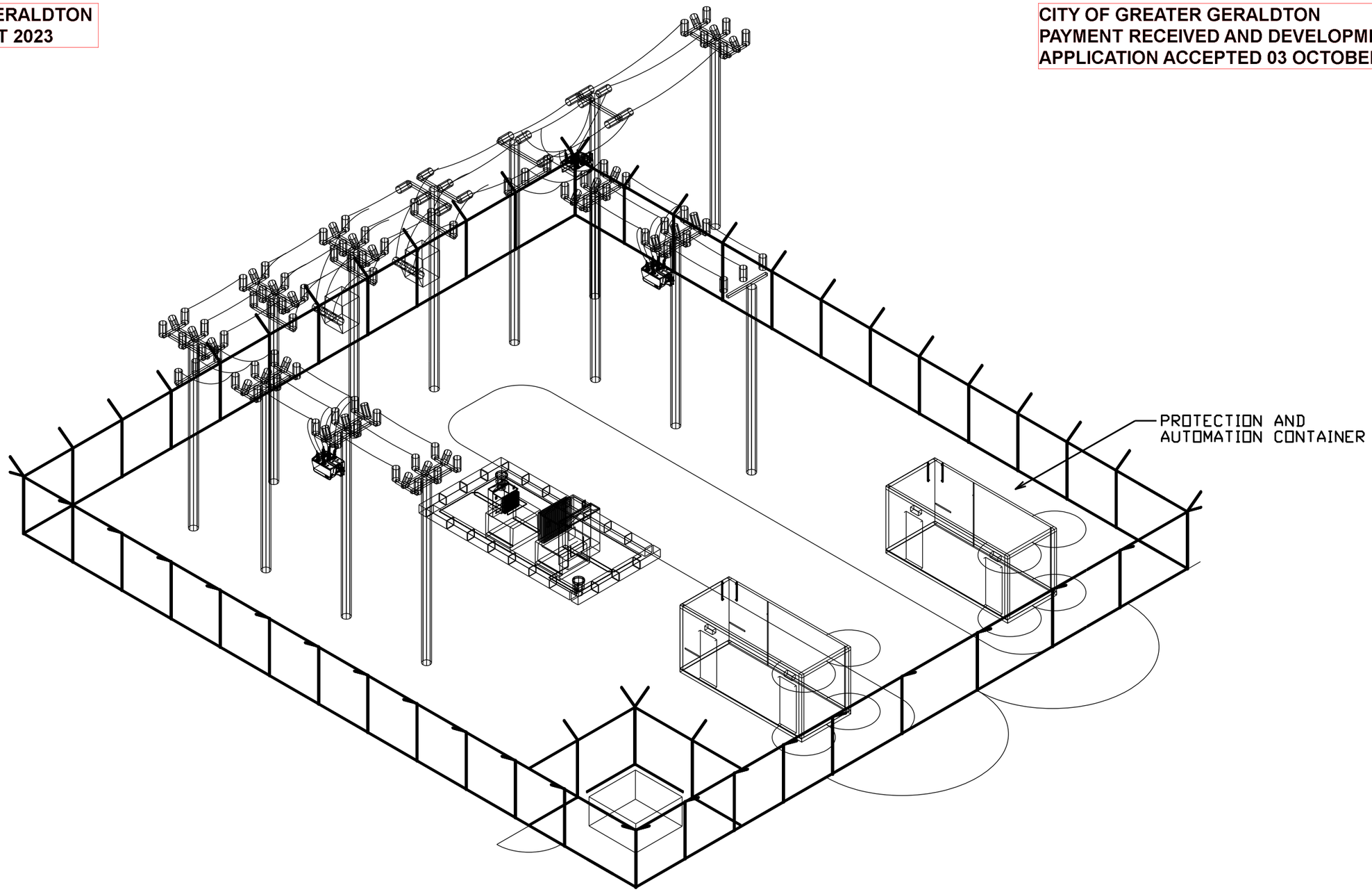

REV	BY	DATE	REVISIONS	CKD	APP	DRAWING NUMBER	DRAWING TITLE
						AA18S7&ELD1/1 REV A	MULLEWA CONNECTION POINT GA
A	JH	07/23	ISSUED FOR FEED	JE	JE	AA18S7&EFA1/1 REV D	MULLEWA MICROGRID HV SLD

REFERENCES

PROJECT ID

SCALE -

SIZE A3

HV CONNECTION POINT
ISOMETRIC

AA18S7&ELD4

SHT -

REV A

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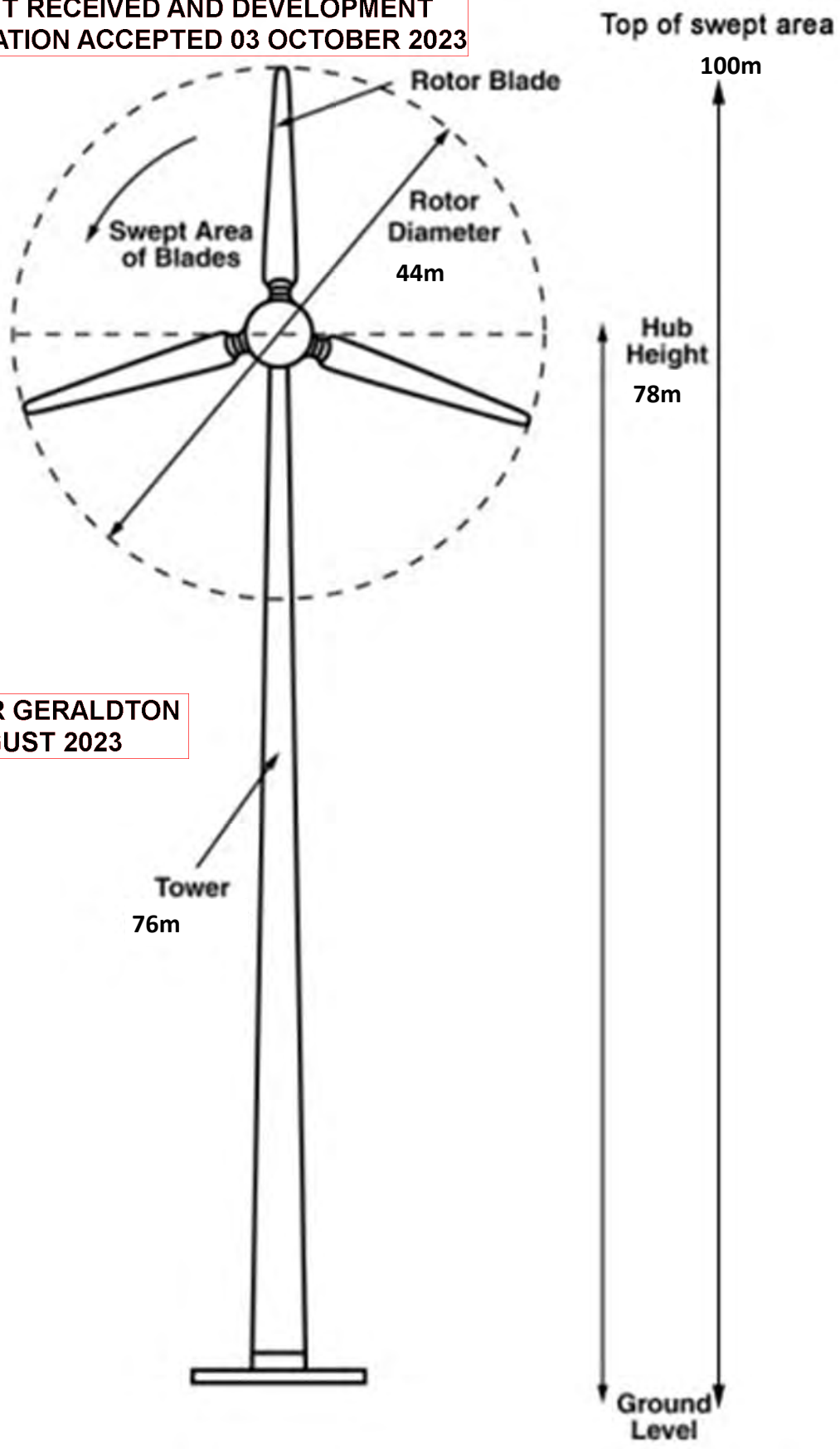
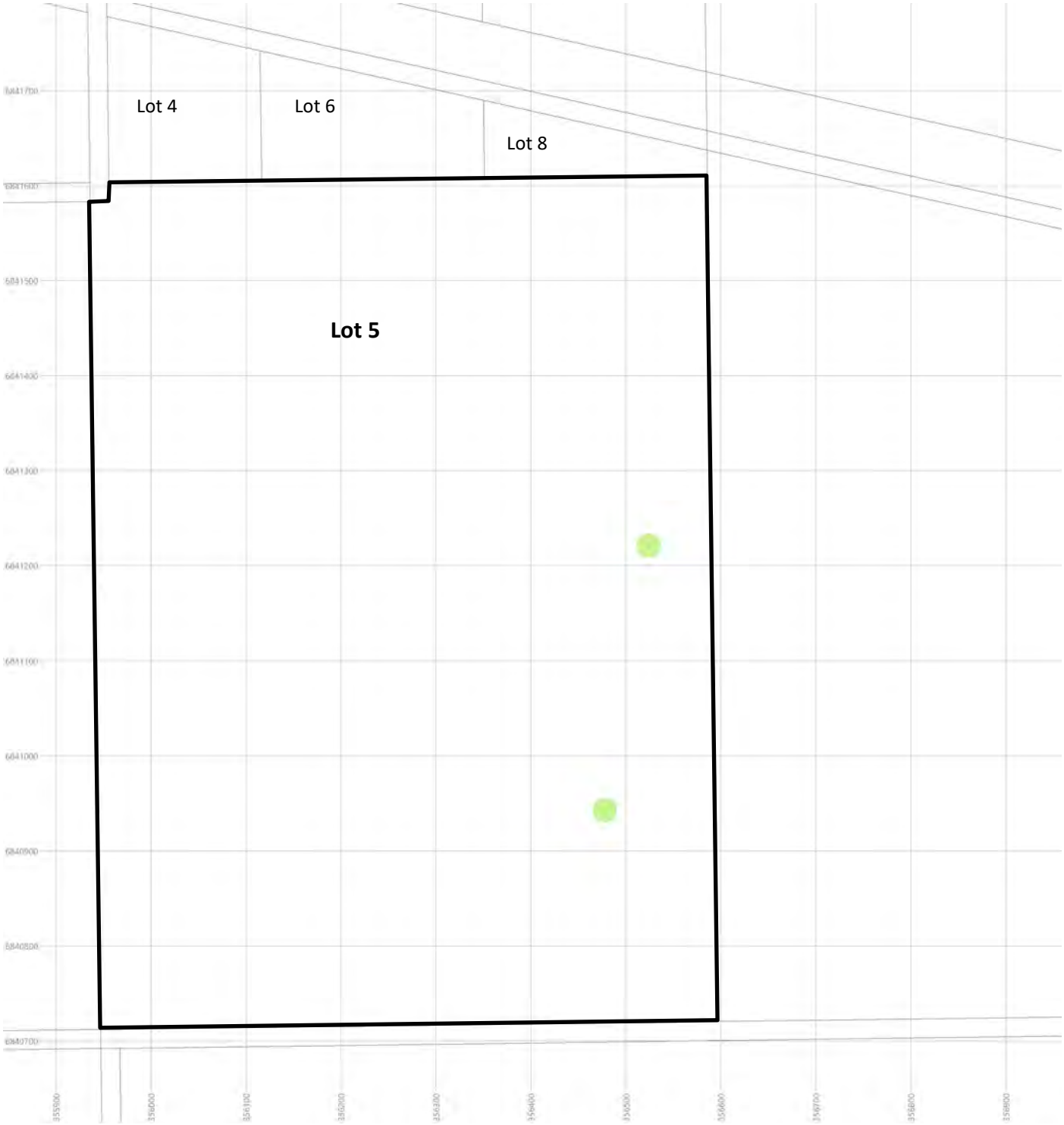


WIND TURBINE ELEVATIONS

Turbine dimensions are shown.

- Tower — 76m
- Hub height - 78m
- Rotor Diameter — 44m
- Top of swept area — 100m

PROJECT	Mullewa Wind Farm WA
TITLE	Enercon E-40 / E2 – 600 KW-78m Dimensions
DATUM	
DATE	28/04/2023
SCALE	
DRAWING NO.	MUL 001
REV	001



Coordinates	X(m)	Y(m)
Turbine 1	356524	6841221
Turbine 2	356478	6840943

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100m

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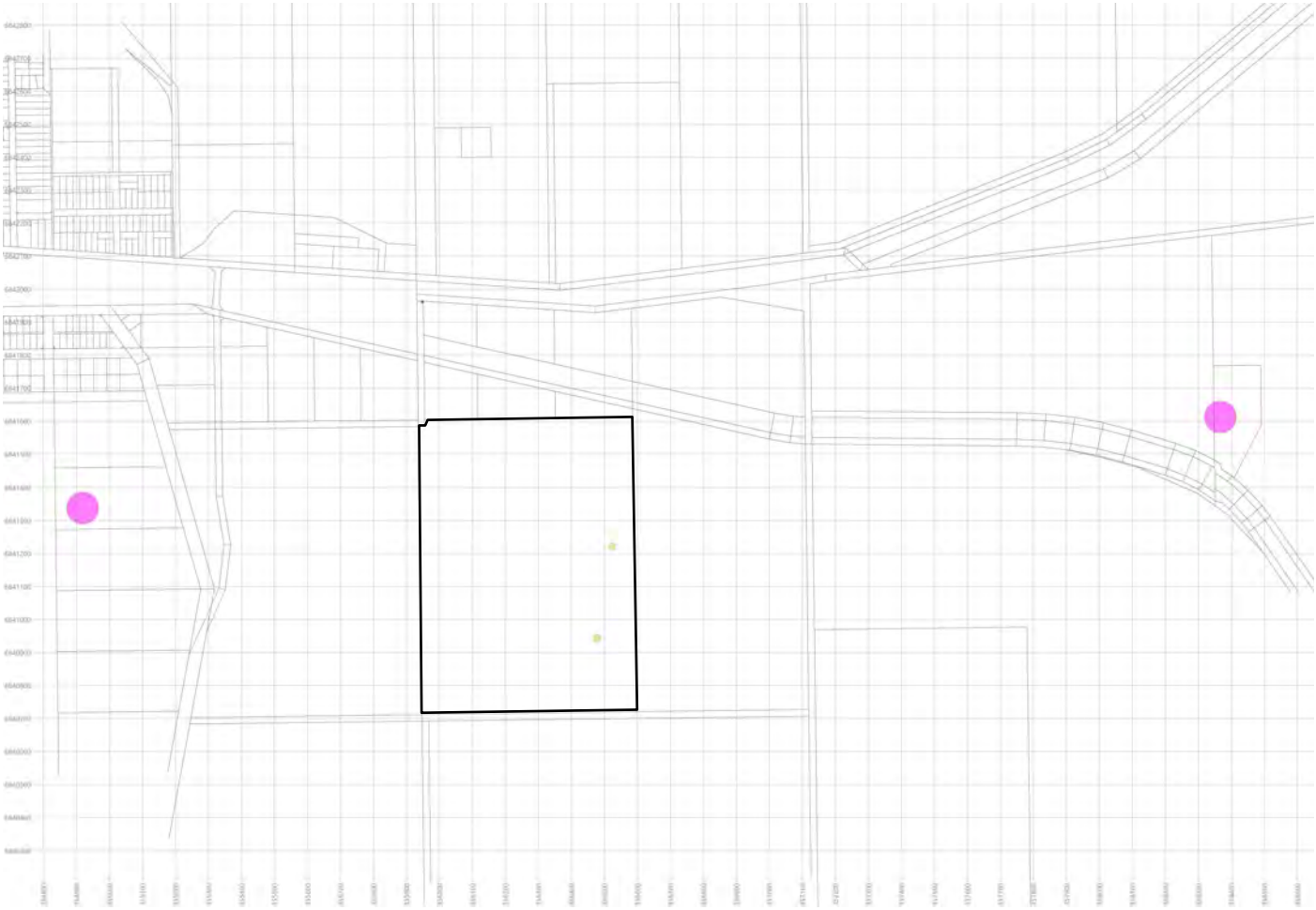
Proposed Turbines

Property Boundary

PROJECT	Mullewa Wind Farm	
TITLE	Turbine Layout and Coordinates	
	DATUM GDA94, MGA 50	DATE 29/04/2023



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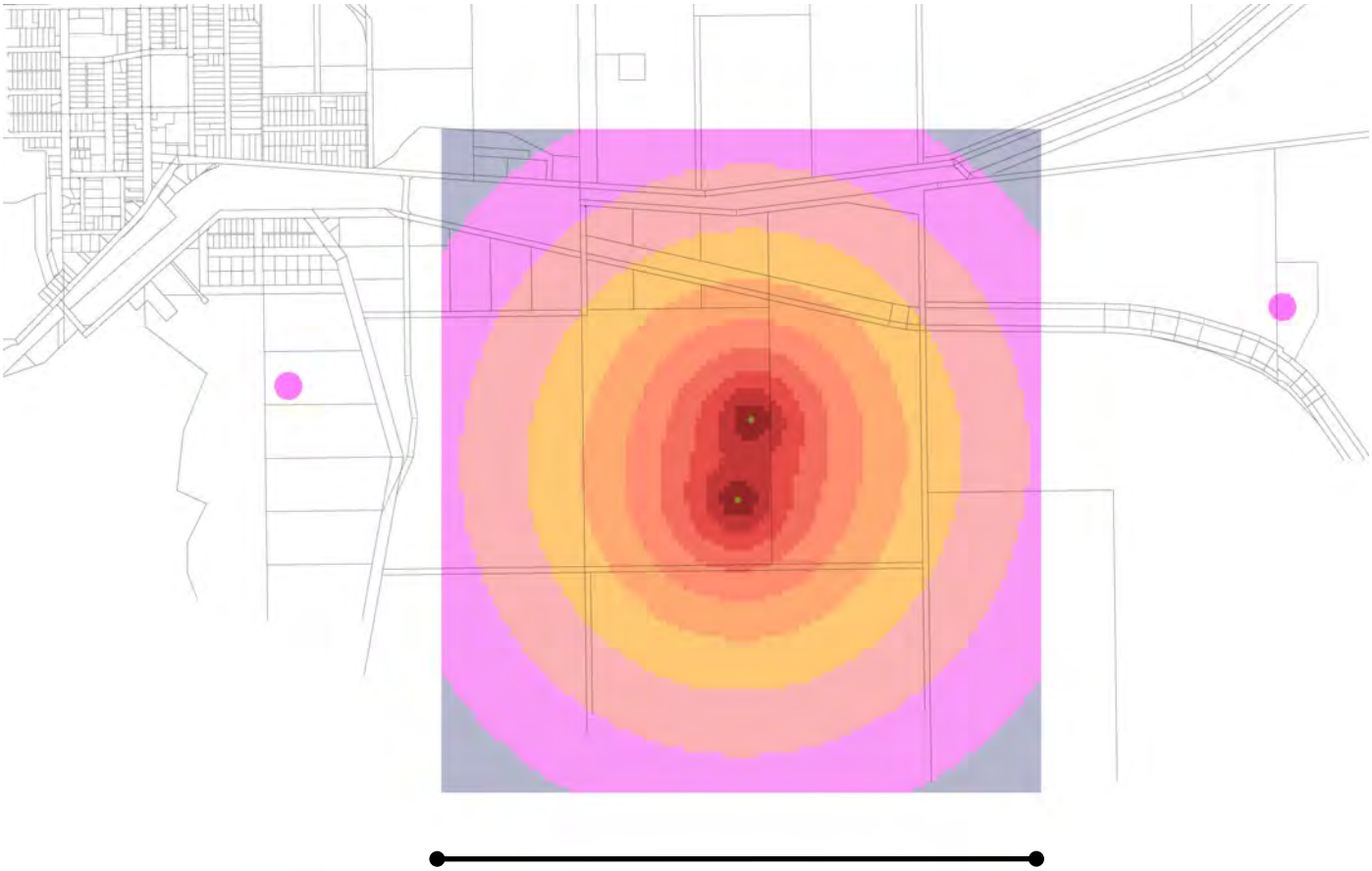
100m

Nearest Dwelling	PROJECT	Mullewa Wind Farm		
Turbine Location	TITLE	Nearest Dwelling		
Lot 5—Property Boundary		DATUM GDA94, MGA 50	DATE 29/04/2023	
		SCALE	DRAWING NO. MUL 002	REV 001



2 km

- > 55.00
- 52.23 < Noise [dB] < 55.00
- 49.46 < Noise [dB] < 52.23
- 46.69 < Noise [dB] < 49.46
- 43.92 < Noise [dB] < 46.69
- 41.15 < Noise [dB] < 43.92
- 38.38 < Noise [dB] < 41.15
- 35.62 < Noise [dB] < 38.38
- 32.85 < Noise [dB] < 35.62
- 30.08 < Noise [dB] < 32.85
- 27.31 < Noise [dB] < 30.08

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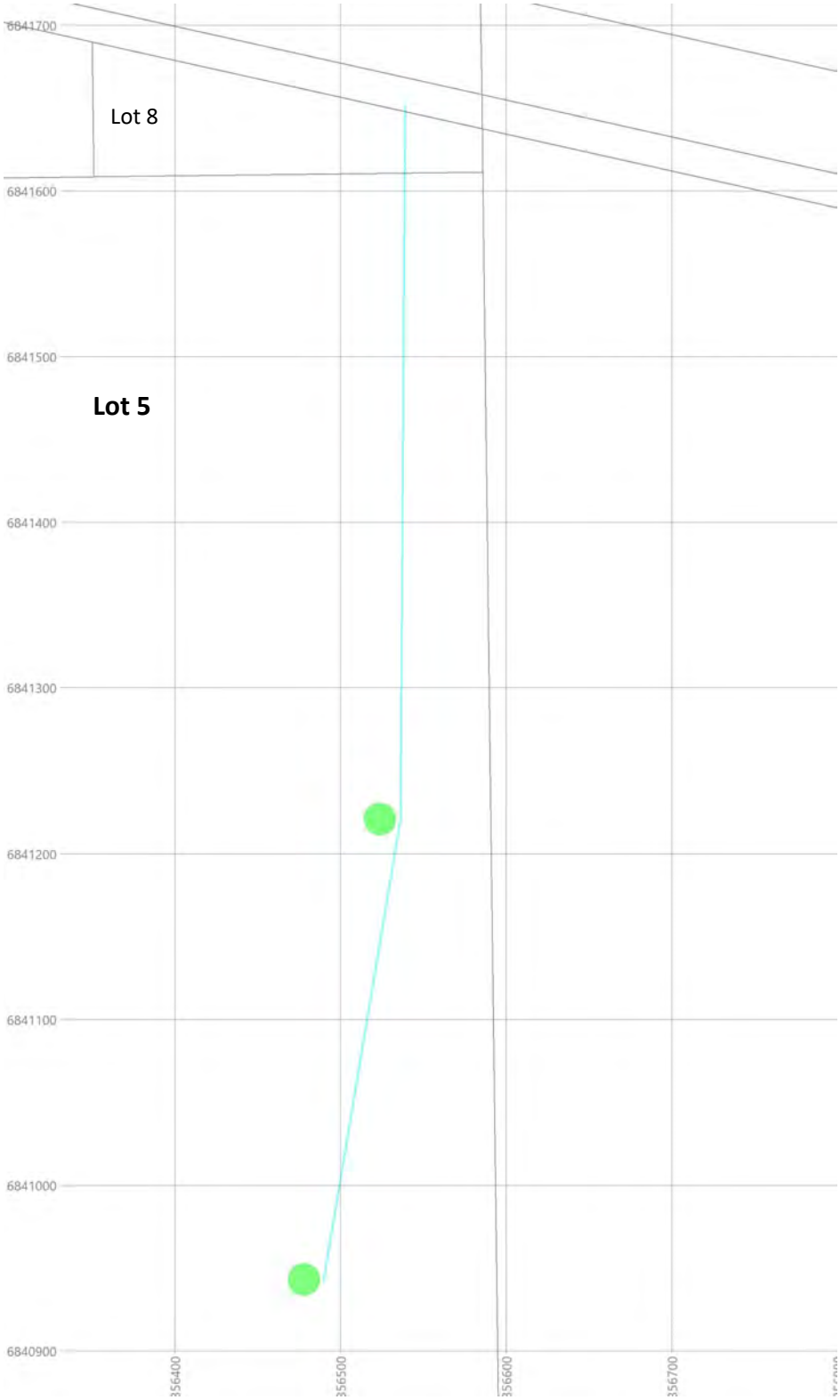
Nearest Dwelling

PROJECT	Mullewa Wind Farm		
TITLE	Noise Contours		
	DATUM GDA94, MGA 50	DATE 29/04/2023	
	SCALE	DRAWING NO. MUL 004	REV 004



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Road Details	
Length	725m
Road width	4m
Clearance width	5m
Clearance height	4.6m
Radius of external curve	28m
Able to withstand axel load	12t
Able to withstand overall vehicle weight	120t

100m

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Proposed Turbines

Access Road

PROJECT	Mullewa Wind Farm		
TITLE	Access Road		
	DATUM GDA94, MGA 50	DATE 07/05/2023	
	SCALE	DRAWING NO. MUL 003	REV 001

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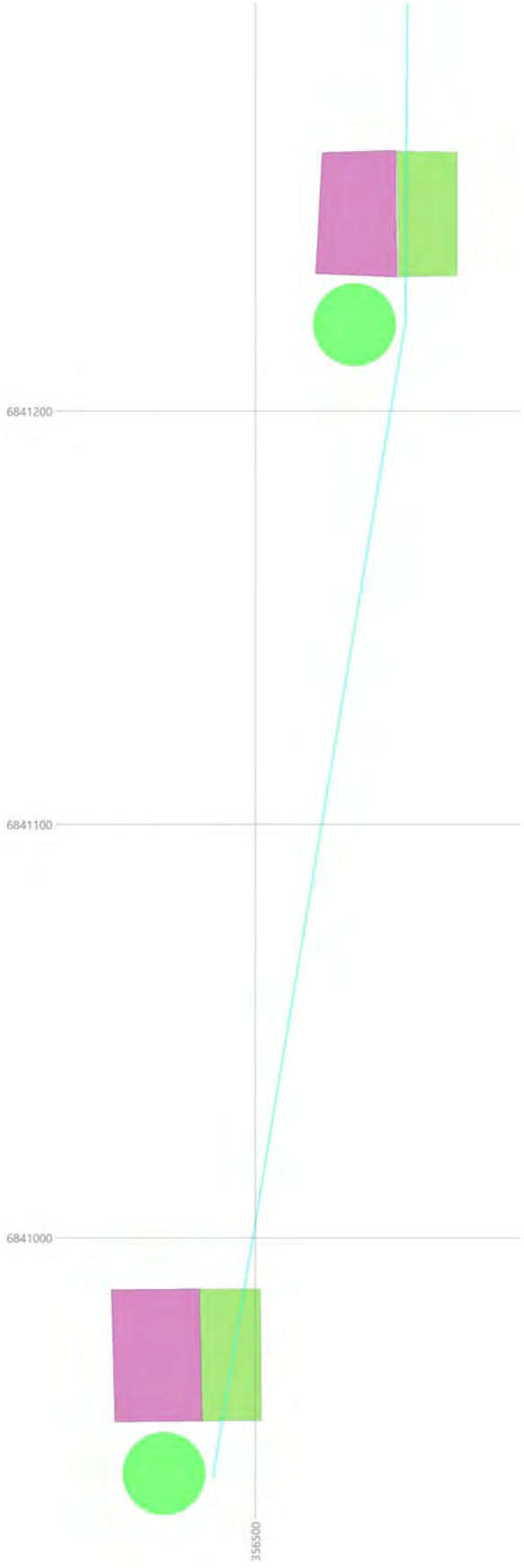

Details	
Crane pad dimensions	20m x 30m
Lay down dimensions	15m x 30m
Distance crane pad from turbine centre point	9.5m
Crane pad withstand pressure	185kN/m2
Laydown Area able to withstand axel load	12t
Material	gravel

100m

Proposed Turbines
Access Road
Crane pad
Laydown area

PROJECT	Mullewa Wind Farm		
TITLE	Crane Pad and Laydown Area		
	DATUM GDA94, MGA 50	DATE 07/05/2023	
	SCALE	DRAWING NO. MUL 0037	REV 001