Statement of Environmental Effects
Proposed Installation of a Hail Proof Netting Structure

5721B and 5758 Sturt Highway, Monak

for G2 Netting Group
September 2025

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Version	Date	Detail	Prepared	Review
v1.0	2 Jul 2025		JW	SAH
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This Statement of Environmental Effects (SEE) has been prepared by MasterPlan Pty Ltd ('MasterPlan') in support of a development application (DA) made by G2 Netting Group (the 'applicant') seeking a development consent for a proposal to install a hail proof netting structure. The DA is made to the Wentworth Shire Council under the *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act) .

The DA is made over land located at 5271B and 5758 Sturt Highway, Monak (the 'Subject Site' or 'Site').

The Site is in RU1 Primary Production Zone of the Wentworth Local Environmental Plan where the proposed development is 'permitted with consent' thereby triggering the need for a development application to be made.

The assessment provided within this report and associated supporting documentation demonstrates that the proposal satisfies the requirements of the relevant planning instruments and represents an appropriate development outcome for the site and its local setting. It is the conclusion of our assessment that there are strong grounds for the Council to approve the application subject to reasonable and relevant conditions.

Site and Proposal Details	
Address of Site	5271B Sturt Highway, Monak 5758 Sturt Highway, Monak
Legal Description	2/-/DP1248259 – Lot 2 in Deposited Plan 1248259 at Monak Local Government Area Wentworth, Parish of Paringi, County of Wentworth 2/-/DP827371 – Lot 2 in Deposited Plan 827371 at Monak Local Government Area Wentworth, Parish of Paringi, County of Wentworth
Site Area	25.42 hectares (ha)
Easements	Right of Carriageway Pipeline Easements Pump Site Easement (*see Section 2.21 for details)
Existing Use	Horticultural land comprising vineyards
Landowner	P & E Marciano Pty Ltd
Proponent	G2 Netting Group
Local Government	Wentworth Shire Council

Site and Proposal Details	
State Environmental Planning Policies (SEPP)	Biodiversity and Conservation Exempt and Complying Development Codes Housing Industry and Employment Planning Systems Primary Production Resilience and Hazards Resources and Energy Sustainable Buildings Transport and Infrastructure
Local Environmental Plan (LEP)	Wentworth Local Environmental Plan 2011
Development Control Plan	Wentworth Shire Development Control Plan, December 2011
Defined Use	Farm Building
Zone	RU1 – Primary Production
Category of Development Consent	Permitted with Consent

Applicant Details	
Applicant	G2 Netting Group
Applicant's Representative	Jasmine Walters (MasterPlan)
Applicant's Contact Details	MasterPlan Pty Ltd 33 Carrington Street, Adelaide SA 5000 (08) 8193 5600 jasminew@masterplan.com.au
MasterPlan Reference	20071

1 Introduction

1.1 Overview

This Statement of Environmental Effects (SEE) has been prepared by MasterPlan in support of an application made by G2 Netting Group (the 'applicant') seeking a development consent for a proposal to install a hail proof netting structure (HPN). The application is made to the Wentworth Shire Council (the 'Council') under the *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act).

MasterPlan delivers urban and regional planning services across Australia through offices in South Australia, the Northern Territory and Queensland. This report has been prepared in MasterPlan's South Australian office.

G2 Netting Group is the proponent of the development. The proposed development for the installation of a hail proof netting (HPN) structure will enable the landowner to continue their existing horticultural activities on the subject land.

The application is made over land located at 5271B Sturt Highway, Monak (the 'Subject Site').

The site is within the RU1 Primary Production Zone of the Wentworth Local Environmental Plan (LEP) where the proposal is 'permitted with consent' thereby triggering the need for a development application.

In accordance with the LEP, the proposed development is defined as a 'farm building', which is permitted with consent in the RU1 Zone. For this purpose, a 'farm building' is defined as:

> *...a structure the use of which is ancillary to an agricultural use of the landholding on which it is situated and includes a hay shed, stock holding yard, machinery shed, shearing shed, silo, storage tank, outbuilding or the like, but does not include a dwelling.*

Applications for development consent are required to be assessed by the Council in accordance with the statutory requirements of the EP&A Act. The purpose of this SEE is to describe the site and its environs, the development and operational details of the proposal, the potential environmental impacts of the proposal, and the steps to be taken to protect the environment or to lessen the expected harm to the environment. This SEE also provides an assessment of the proposal in terms of the matters for consideration under Section 4.15 of the EP&A Act.

1.2 Specialist Consultants

This report should be read in conjunction with plans, drawings, and reports prepared by the following specialist consultants:

- G2 Netting Group – Plans, Elevations and Structural Details

1.3 Pre-Lodgement Engagement with the Council

1.3.1 Communications

Pre-lodgement communications were not conducted with the Council prior to lodging the application

1.3.2 Meetings

A pre-lodgement meeting was not held with the Council prior to lodging the application.

1.4 Pre-Lodgement Engagement with State Government

1.4.1 Communications

Pre-lodgement communications were not conducted with any agency of the NSW State Government prior to lodging the application.

1.4.2 Meetings

Pre-lodgement meetings were not held with any agency of the NSW State Government prior to lodging the application.

1.5 Community Engagement

Engagement was not undertaken with the community prior to lodging the application.

2 Context and Site Information

2.1 Context Information

2.1.1 Location and Land Uses

The subject land is located at 5271B Sturt Highway in the suburb of Monak within in the local government area of the Wentworth Shire Council (the 'Council'). The proposed development comprises three (3) adjoining netting structures which will cover existing vineyards as shown in **Figure 1** below.

Land use patterns within the locality of the subject land are depicted in the Site, Locality and Zone Plan provided in **Appendix A**.

The surrounding uses in the neighbourhood of the Site are described in **Table 1** below.

Table 1: Surrounding Uses

Direction from Site	Surrounding Uses
North	Existing vineyard and ancillary structures including a dwelling
South	Murray River
East	Existing vineyard and ancillary structures including a dwelling
West	Existing vineyard and ancillary structures including a dwelling

Figure 1: Development Site(s) (excerpt from Proposed Site Plan).

2.1.2 Sensitive Land Uses

There are sensitive land uses (i.e., dwellings) located within proximity to the nearest development site as listed in **Table 2** below.

Table 2: Sensitive Land Uses

Land Use	Likely Sensitivity	Proximity to Site	Direction from Site
Dwelling	Visual	12m	South-east
Dwelling	Visual	67m	South-east
Dwelling	Visual	64m	South-east
Dwelling	Visual	112m	South-east
Dwelling	Visual	190m	North-west
Dwelling	Visual	254m	North-west
Dwelling	Visual	533m	North-east
Dwelling	Visual	40m	West
Dwelling	Visual	650m	West

2.1.3 Topographical Context

The land is relatively flat, with a gentle fall from north-west to south-east where the land meets the Murray River. The development comprises netting roof and walls which allows for sunlight penetration. Larger trees along the northern site boundary and adjacent the on-site dwellings will not be materially shaded by the proposed structures.

2.1.4 Transport Networks

The subject land is accessed via Sturt Highway which is a State Highway that extends across the New South Wales, Victorian and South Australian State boundaries.

Within proximity of the subject land, Sturt Highway operates as a two-lane bi-directional road which is sealed without kerbing. The road shoulder is approximately 19m on the northern side of the road and 16m on the southern side. The Highway is an important freight route for the region, and as such, the road is designed to accommodate large vehicles including B-Doubles.

2.1.5 Community Facilities

The townships of Gol Gol and Buronga are nearest the site, being located approximately 13 kilometres north-east of the subject land. These townships include a number of community facilities including supermarkets, hotels, child care centres and recreation facilities.

Approximately 2 kilometres further north-east, on the southern side of the Murray River, is the much larger township of Mildura, Victoria. With a population of some 35,000 persons, this township is equipped to provide a full catalogue of community facilities within the region. Mildura offers a range of medical services including a hospital, a range of recreation facilities, civic facilities including public libraries and museums, educational facilities, and other community facilities including halls, churches and community centres.

2.1.6 Neighbourhood Character

The neighbourhood character is best described as rural farm land with a number of vineyards being prevalent within the immediate locality of the subject land. There are also vast expanses of untouched scrubland within the broader locality, particularly north and east of the subject land.

Riparian land is evident south of the subject land bordering the Murray River.

2.2 Site Information

2.2.1 Title and Survey Details

The Site Plan provided in **Appendix B** depicts land parcel boundaries, land parcels boundaries, road parcels, and easements on the site of the proposed development.

The site comprises one (1) allotment with an area of 25.42 hectares and is held under freehold title by the registered owners of the site as outlined in **Table 3** below.

Table 3: Site Details

Address	Lot And Plan	Lot Area	Owner
5721B Sturt Highway, Monak	Lot 2 in Deposited Plan 1248259	25.42 hectares	P & E Marciano Pty Ltd
5758	Lot 2 in Deposited Plan 827371	20 hectares approximately	P & E Marciano Pty Ltd

Any minerals found on the land are the property of the Crown. In addition, the property is subject to the easements and rights of carriageway described in **Table 4** below.

Table 4: Easements

Easement / Right of Carriageway	Width	Purpose
Right of Carriageway	4 metres	Vehicle access
Right of Carriageway	6 metres	Vehicle access
Easement	6 metres	Pipeline
Easement	3 metres	Pipeline
Easement	6 metres	Pipeline
Easement	9.4 metres	Pump Site

Search copies of Certificates of Title and Survey Plans for the Site are provided in **Appendix C**.

2.2.2 Historical Use

We understand from aerial imagery that the subject land has been used for agricultural purposes, including grazing and cropping activities, since prior to 2002.

2.2.3 Existing Development

The subject land is currently improved by the following:

- Five (5) residential dwellings
- Farm buildings (i.e., hay sheds and outbuildings)

The land in its current form is depicted in the Site Plan contained in **Appendix A**.

2.2.4 Road Access

The site has a primary frontage to Sturt Highway of approximately 186.34 metres with two (2) existing crossovers. The land also has rights of carriageway over the adjoining allotments to the east and west, as well as a right of carriageway across the adjoining allotments from Bonnie Doon Road.

The site also comprises internal tracks within the site boundaries, to allow for vehicular and equipment movement around the site.

2.2.5 Car Parking and Loading

All car parking is located on-site, with formal parking areas located within close proximity to each of the dwellings.

Farm equipment is stored near or within the existing farm buildings.

2.2.6 Fencing

There is no existing boundary fencing evident around the site.

2.2.7 Utilities and Services

Dial Before You Dig records of services infrastructure for the site indicate that it is connected to the reticulated urban electrical and telecommunications infrastructure.

Existing electrical infrastructure for the site runs overhead between posts. We note that there are no high-tension poles located on the subject land.

The site does not have access to reticulated urban sewer or water.

Maps obtained from the Dial Before You Dig service for the site are shown in **Appendix D**.

An Infrastructure Agreement is not applicable to the site.

2.2.8 Landscape Features

The land consists primarily of vineyards with four (4) distinctive crops visible from aerial imagery. Some localised landscaping exists in and around the dwellings located on the site. A row of trees is evident along the primary frontage to Sturt Highway.

Wetlands are evident in the southern portion of the site, with riparian land evident where the land directly adjoins the Murray River.

2.2.9 Topography

The land gently falls from north-west to south-east where the land meets the Murray River.

2.2.10 Terrestrial Biodiversity

The site is identified as containing Terrestrial Biodiversity land consisting of the wetlands and riparian land adjacent the Murray River, as indicated on the maps provided in the State Government's ePlanning Spatial Viewer (refer **Appendix E**).

2.2.11 Groundwater Vulnerability

The site is not identified as being in a Groundwater Vulnerability Area as indicated on the maps provided in the State Government's ePlanning Spatial Viewer. The adjacent Murray River is identified as being in a Groundwater Vulnerability Area and is further identified as Environmentally Sensitive Land.

2.2.12 Riparian Lands and Watercourses

The site is identified as being in a Riparian Lands and Watercourses Area with Natural Resources Sensitivity – Watercourse, as indicated on the maps provided in the State Government's ePlanning Spatial Viewer (refer **Appendix F**).

2.2.13 Wetlands

Wetlands are identified on the site as indicated on the maps provided in the State Government's ePlanning Spatial Viewer (refer **Appendix G**).

2.2.14 Environmentally Sensitive Land

The site is not identified as containing environmentally sensitive land, as indicated on the maps provided in the State Government's ePlanning Spatial Viewer.

2.2.15 Scenic Protection

The site is not identified as containing scenic protection land, as indicated on the maps provided in the State Government's ePlanning Spatial Viewer.

2.2.16 Airport Noise and Obstacle Limitation Surface

The site is not identified as being in an Airport Noise Area or as being impacted by an Obstacle Limitation Surface, as indicated on the maps provided in the State Government's ePlanning Spatial Viewer

2.2.17 Salinity

The site is not identified as having potential salinity issues, as indicated on the maps provided in the State Government's ePlanning Spatial Viewer.

2.2.18 Flood Hazards

The site is not identified as being in a Flood Planning Area, as indicated on the maps provided in the State Government's ePlanning Spatial Viewer.

2.2.19 Bush Fire Hazards

The site is identified as partially containing bush fire prone land Vegetation Category 1, with a Vegetation buffer to the north, as indicated on the maps provided in the State Government's ePlanning Spatial Viewer (refer **Appendix H**).

2.2.20 Contaminated Land

A search of the Contaminated Sites Database and the Reported Sites Register indicates that the site does not contain known or suspected contaminated sites.

2.2.21 Acid Sulfate Soils

The site is not identified as containing potential acid sulfate soils as indicated on the maps provided in the State Government's ePlanning Spatial Viewer.

2.2.22 Heritage, Cultural and Archaeological Values

Dareton is the Local Aboriginal Land Council for the locality.

A search of the Aboriginal Heritage Information Management System (AHIMS) indicates that there are no records or information about Aboriginal places, objects and other significant sites that affect the site (refer **Appendix I**).

The site has no known non-indigenous heritage values.

2.2.23 Mineral and Resource Land

The site is not identified as being Mineral and Resource Land as indicated on the maps provided in the State Government's ePlanning Spatial Viewer.

2.2.24 Minerals and Resources Permits

There are no current exploration or production permits on or surrounding the site.

There is evidence of a historic licence (EL5510) held between 2000 and 2004.

2.2.25 Extractive Resources

There are no extractive resource operations on or surrounding the site.

2.3 Development Approval History

A search of the NSW Planning Portal Application Tracker identifies that no recent development permits have been issued for the site.

3 Proposal

3.1 Proposal Overview

In consideration of Section 1.5(1) of the EP&A Act the proposed development comprises:

1. The erection of three (3) adjoining farm buildings comprising Hail Protective Netting Structures and ancillary posts and anchors.

Development of the site is proposed to occur in a single stage.

The proposed structures will be located over the existing vineyards contained in the north-east and south-western portions of the land, excluding those areas comprising overhead powerlines, dwellings and other ancillary structures.

3.2 Plans of Development

The Proposal is depicted on the Plans of Development listed in **Table 5** below and provided in **Appendix B**.

Table 5: Proposed Details

Plan / Drawing No.	Prepared By	Drawing Title	Date Of Issue
Project No. 1759, Sheet 101A	G2 Netting Group	Existing Site Plan	30 June 2025
Project No. 1759, Sheet 102	G2 Netting Group	Proposed Site Plan	30 June 2025
Project No. 1759, Sheet 001	G2 Netting Group	Site – Plan	30 June 2025
Project No. 1759, Sheet 002	G2 Netting Group	Detail Sheet 01	30 June 2025
1759-CR01 _P&T_ Marciano_ FlatTop_ Structural _ Evaluation_27May25	G2 Netting Group	FLAT TOP Structure Evaluation Spreadsheet V2024-09 [Engineering Specifications]	27 May 2025

3.3 Works Aspects

3.3.1 Construction Works

The proposed development incorporates the construction of hail protective netting (HPN) structures, including ancillary posts, anchors and side netting. The location, scale and form of the proposed structures are summarised in **Table 6**.

Table 6: Key Design Parameters

Building/Structure	Location on Site	Key Design Parameter	Dimensions
HPN 1	South-western portion of the site within proximity of the western site boundary.	Minimum setbacks to boundaries	1m western site boundary
		Maximum building height	5m above natural ground level
		Roof dimensions / area	214.4m (w) x 229.8m (l) Area = 41,497m²
HPN 2	North-eastern portion of the site within proximity of the eastern site boundary.	Minimum setbacks to boundaries	8.6m southern site boundary 2.3m – 5.1m eastern site boundary
		Maximum building height	5m above natural ground level
		Roof dimensions / area	214.4m (w) x 216.6m (l) Area = 48,314m²
HPN 3	North-eastern portion of the site within proximity of the north and east site boundaries.	Minimum setbacks to boundaries	30m eastern site boundary 0.5m northern site boundary
		Maximum building height	5m above natural ground level
		Roof dimensions / area	246m (w) x 293.2m (l) Area = 73,486m²

The total site coverage of the proposed buildings is 163,297m2 (16.3ha) or 64.2% of the site. We note however that the structure is permeable and is covering existing vineyards.

3.3.2 Construction Materials and Colour Schemes

The construction materials and colour schemes of the proposed buildings are summarised in **Table 7**.

Table 7: Construction Materials and Exterior Decorations

Building	Building Component	Construction Materials	Colour Schemes
HPN Structures (*Note - each structure will comprise the same Construction materials and colour scheme)	Top Netting	Lock stitch knitted HDPE monofilament yarn (20mm hexagonal hole)	White
	Side Netting	Lock stitch knitted HDPE monofilament yarn (16-20mm hexagonal hole)	Black
	Posts	Corners – Stainless steel Perimeter – tubular steel Internal – steel Internal breaker – iron bark (timber) Perimeter breaker – steel post base	

Building	Building Component	Construction Materials	Colour Schemes
	Wire and Cables	Galvanised steel	n/a
	Post Footings	Cast-in-Place Concrete	n/a

The buildings proposed to be constructed as part of the development of the site are depicted on the Plans of Development provided in **Appendix B**.

3.3.3 Methods of Construction and Site Management

Netting Structures 1, 2 and 3 will be constructed on-site.

The construction site will be managed to ensure to protect the health, safety and welfare of workers and other people in accordance with the NSW work health and safety legal framework as set out under the:

- *Work Health and Safety Act 2011*
- *Work Health and Safety Regulation 2017*
- Relevant Codes of Practice.

3.3.4 Excavation and Fill

The proponent has confirmed that the proposed development will include post holes of no greater depth than 600 millimetres (mm) to support the HPN structures.

3.3.5 Construction Traffic

The proposed development is anticipated to generate minimal traffic movements associated with:

- Construction materials being delivered to the site.
- Installation specialists being on-site during construction.

The number and frequency of truck movements will be minimal and largely contained within the site boundaries.

The direction of vehicle and truck movements on the adjacent local road network will be in an east/west direction, travelling to/from Mildura to the development site via Sturt Highway.

3.3.6 Services and Infrastructure

It is not anticipated that any site services will be impacted by the proposed building works. Electrical cables servicing the site are generally located above ground and do not encroach on the development site.

The proposal comprises minimal ground works, other than to secure posts and anchors. The Dial Before You Dig Australia service will be utilised to identify any potential conflicts with underground services.

3.3.7 Vegetation Clearance

With the exception of the vineyards, the site of the proposed HPN structures is relatively devoid of vegetation. Localised landscaping exists around the on-site dwellings and a row of trees along the site's frontage to Sturt Highway is also evident. The southern-most portion of the site comprises native vegetation.

The proposed development will not involve the removal, destruction or lopping of trees and the removal of vegetation.

3.3.8 Landscaping

The proposed development will not involve any landscape works.

3.4 Construction Impacts

3.4.1 Noise Impacts

The proposed construction of the development is not anticipated to generate any significant increase in noise generation above existing levels, particularly those experienced by farm equipment and vehicle movements on Sturt Highway.

3.4.2 Traffic Impacts

The construction of the proposed development is not anticipated to generate any significant increase in traffic generation to/from the site above existing levels and the construction period will be relatively short in duration.

4 Planning Controls and Permit Triggers

The requirement to obtain approval prior to the commencement or carrying out of development is derived from Part 4 of the EP&A Act. The relevant State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs) outline when development approval is required or not required.

4.1 Mapped Planning Controls

4.1.1 Property Report

A copy of the Property Report for the site obtained from the State Government's Planning Database is provided in **Appendix J**.

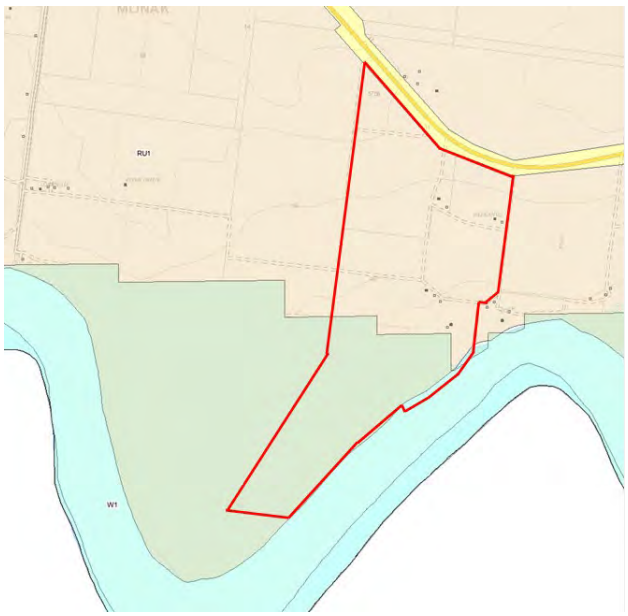
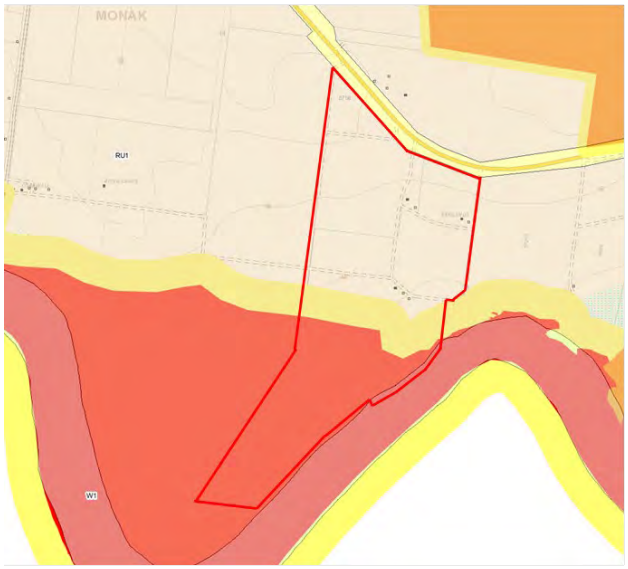
4.1.2 Planning Controls

Under the LEP, the Site is subject to planning controls that apply to the whole or parts of the Site as depicted in **Table 8**.

Table 8: Planning Controls

Map	Applicability
	**RU1 – Primary Production Zone** The site is mapped by the NSW Planning Portal Spatial Viewer as being wholly within the RU1 – Primary Production Zone of the Wentworth Local Environmental Plan 2011 (**Appendix A**).

Map	Applicability
	**Riparian Lands and Watercourses.** The site is identified as being affected by a Watercourse, namely the Murray River which runs adjacent the southern site boundary (**Appendix F**). Notwithstanding, the site of the proposed structures is not located within the portion of affected land and will be setback approximately 60 metres from the watercourse.
	**Terrestrial Biodiversity** The site is identified as comprising some land of Terrestrial Biodiversity (**Appendix E**). The land identified predominantly affects the southern-most portion of the land and the land adjacent the Murray River. A small portion of land along the southern edge of HPN 1 is located within the Terrestrial Biodiversity overlay. Notwithstanding, the land appears to have already been compromised by historical agricultural practices occurring on the land.

Map	Applicability
	**Wetlands** The site is identified as being affected, in part, by Wetlands, namely the Murray River (**Appendix G**). The land identified predominantly affects the southern-most portion of the land and the land adjacent the Murray River. A small portion of land along the southern edge of HPN 1 is located within the Wetlands overlay. Notwithstanding, the land appears to have already been compromised by historical agricultural practices occurring on the land.
	**Bushfire Prone Land** A portion of the site is affected by Bushfire Prone Land (**Appendix H**). The affected land largely pertains to the southern-most portion of the land which is identified as Vegetation Category 1 which typically consists of forest, woodlands, heaths (tall and short), forested wetlands and timber plantations. A portion of the southern parts of HPN 1 and 2 are located within the 100m Vegetation Buffer. Notwithstanding, the affected vegetation comprises existing vineyards and established landscaping surrounding existing dwellings and ancillary buildings. No planting or removal of vegetation is proposed as part of this application.

4.2 Permit Triggers

4.2.1 Demolition

Having regard to clause 2.7 of the LEP, the proposal does not incorporate the demolition of a building or work which may be carried out only with development consent.

4.2.2 Heritage Conservation

Having regard to clause 5.10(2) of the LEP, the proposal does not incorporate activities associated with heritage conservation where development consent is required.

4.2.3 Earthworks

The proposal incorporates earthworks that are:

- Exempt development under Wentworth LEP 2011, Part 7.1, Clause 1(b) as the earthworks to be undertaken are considered minor in nature only; and
- Exempt development under Wentworth LEP 2011, Part 7.1, Clause 2(a) as the earthworks to be undertaken are exempt development under the LEP and SEPP (Exempt and Complying Development Codes); and
- Exempt development under SEPP (Exempt and Complying Development Codes) , Subdivision 15,– Earthworks, retaining walls and structural support, as the works will comply with the criteria outlines in Clause 2.30.

Development consent is therefore not required for the proposed earthworks.

4.2.4 Category of Development Consent for Use

The Wentworth LEP2011 includes the subject site in the RU1 – Primary Production Zone.

The Locality and Zoning Plan in **Attachment A** depicts the zoning of the site and its neighbourhood.

The proposal falls within the definitions of a 'farm building' under the LEP, which is defined as:

> *"... a structure the use of which is ancillary to an agricultural use of the landholding on which it is situated and includes a hay shed, stock holding yard, machinery shed, shearing shed, silo, storage tank, outbuilding or the like, but does not include a dwelling".*

The categories of development consent that are prescribed under the Land Use Table for the TU1 – Primary Production Zone for the defined uses that comprise the development are set out in **Table 9**.

Table 9: Categories of Development

Defined Use	Development Consent
Farm Building	Permitted with consent

The overall category of development consent for the application to use the site for the purposes of the proposal is determined to be permitted with consent.

5 Local Planning Assessment

5.1 Local Environmental Plan

5.1.1 Zone objectives

An assessment of the proposal against the objectives of the RU1 – Primary Production Zone is set out in **Table 10**.

Table 10: Assessment Against Zone Objectives

Objective	Assessment Comments
To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.	The proposed HPN structures will not prejudice the land for primary production. The land is currently used for the growing of grapes.
To encourage diversity in primary industry enterprises and systems appropriate for the area.	The proposed HPN structures will enable continuation of the land for primary production and provide opportunities for diversification of produce.
To minimise the fragmentation and alienation of resource lands.	The proposal does not seek to change the existing use of the land or provide for opportunities to sub-divide the land.
To minimise conflict between land uses within this zone and land uses within adjoining zones.	The proposal does not seek to change the existing use of the land or provide for opportunities to sub-divide the land.
To encourage and promote the growth and diversification of economic and employment opportunities in agriculture, horticulture and tourism.	The proposed HPN structures will protect crops from unseasonable weather events and allow for the continued use of the land for horticultural purposes.
To enable the development of restaurants and cafes and kiosks as part of agritourism development.	Not applicable.

In summary, it is assessed that the proposal will not conflict with the objectives of the RU1 – Primary Production Zone.

5.1.2 Principal Development Standards

There are no principal development standards in the LEP that are relevant to the assessment of the proposed development. The LEP defers to the assessment provisions outlined in the relevant State Environmental Planning Policies.

5.1.3 Miscellaneous Provisions

There are no miscellaneous provisions that are relevant to the assessment of the proposal.

5.1.4 Additional Local Provisions

The additional local provisions (Part 7 of the Wentworth LEP 2011) that are relevant to the assessment of the proposal are:

- Provision 7.4 – Terrestrial Biodiversity
- Provision 7.5 – Wetlands
- Provision 7.7 – Riparian Land and Murray River and other watercourses – general principles

Having regard to Provision 7.5, the assessment against the relevant additional local provisions are contained in **Table 11**.

Table 11: Wentworth LEP 2011 Additional Local Provisions

Provision	Compliance Achieved
Provision 7.4 – Terrestrial Biodiversity 1. The objective of this clause is to maintain terrestrial biodiversity by— (a) protecting native fauna and flora, and (b) protecting the ecological processes necessary for their continued existence, and (c) encouraging the conservation and recovery of native fauna and flora and their habitats. 2. This clause applies to land identified as "Terrestrial Biodiversity" on the *Natural Resource—Terrestrial Biodiversity Map*. 3. Before determining a development application for development on land to which this clause applies, the consent authority must consider whether or not the development— (a) is likely to have any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and (b) is likely to have any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and (c) has any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and (d) is likely to have any adverse impact on the habitat elements providing connectivity on the land. 4. Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that— (a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or (b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or	☒ Complies For the following reasons: • The land is identified in the State Government's ePlanning Spatial Viewer as being affected by Terrestrial Biodiversity. This largely applies to the land within the southern portion of the site which is directly adjacent the Murray River and which does not comprise any built form. The proposed HPN structures will cover existing vineyards and will not adversely impact upon any land containing native vegetation or which has not been historically cleared for horticultural purposes.

Provision	Compliance Achieved
(c) if that impact cannot be minimised—the development will be managed to mitigate that impact. (*see **Appendix E** for map).	
Provision 7.5 – Wetlands 1. The objective of this clause is to ensure that natural wetlands are preserved and protected from the impacts of development. 2. This clause applies to land identified as "Wetlands" on the *Natural Resource—Wetlands Map*. 3. When assessing a development application for development on land to which this clause applies, the consent authority must consider potential adverse impacts from the proposed development on— (a) the growth and survival of native flora and fauna, (b) the condition and significance of the native flora on the land and whether it should be substantially retained, and (c) the provision and quality of habitats for indigenous and migratory species, and (d) the surface and groundwater characteristics of the site, including water quality, natural water flows and salinity, and (e) any wetland in the vicinity of the proposed development and any proposed measures to minimise or mitigate those impacts. 4. Before granting consent to development to which this clause applies the consent authority must be satisfied that— (a) the development is sited, designed and managed to avoid potential adverse environmental impacts, or (b) where an impact cannot be avoided, and having taken into consideration feasible alternatives, the proposed design, construction and operational management of the development will mitigate and minimise those impacts. (*see **Appendix G** for map).	☒ Complies For the following reasons: • The site is identified as being affected, in part, by Wetlands, namely the Murray River (**Appendix G**). • The land identified predominantly affects the southern-most portion of the land and the land adjacent the Murray River. A small portion of land along the southern edge of HPN 1 is located within the Wetlands overlay. Notwithstanding, the land appears to have already been compromised by historical agricultural practises occurring on the land. The proposed HPN structures (including anchors and arbours) will not be located within any designated wetland, nor will they restrict the flow of water over the land.
Provision 7.7 – Riparian Land and Murray River and Other Watercourses – General Principles 1. The objective of this clause is to protect and maintain the following— (a) water quality within the Murray River and other watercourses, (b) the stability of the bed and banks of the Murray River and other watercourses, (c) aquatic riparian habitats, (d) ecological processes within the Murray River and other watercourses and riparian areas. 2. This clause applies to land— (a) identified as "Watercourse" on the Natural Resource—*Watercourse Map*, and	☒ Complies For the following reasons: • The site is identified as being affected, in part, by Riparian Lands and Watercourse, namely the Murray River located adjacent the south-eastern boundary of the site (**Appendix F**). • The proposed HPN structures will not be located within any portion of the site affected by the watercourse and will be setback a minimum of 60 metres from the edge of the Murray River.

Provision	Compliance Achieved
(b) situated within 40 metres of the top of the bank of a watercourse (being a watercourse situated on land referred to in paragraph (a)). 3. Before determining a development application to carry out development on land to which this clause applies, the consent authority must consider whether or not the development— (a) is likely to cause any adverse impact on the following— (i) the water quality and flows within a watercourse, (ii) aquatic and riparian species, habitats and ecosystems, (iii) the stability of the bed, shore and banks of a watercourse, (iv) the free passage of fish and other aquatic organisms within or along a watercourse, (v) any future rehabilitation of a watercourse and riparian areas, and (b) will increase water extraction from a watercourse. 4. Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that— (a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or (b) if that impact cannot be avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact, or (c) if that impact cannot be minimised—the development will be managed to mitigate that impact. (*see **Appendix F** for map).	

5.2 Development Control Plan

The relevant Wentworth Shire Development Control Plan 2011 (DCP) supplements the provisions of the LEP The purpose of the DCP is provide quality development and sustainable environmental outcomes.

The DCP must be read in conjunction with the LEP; and any relevant State Environmental Planning Policies (SEPPs). Where there is a conflict between a provision in the DCP and a provision in an Environmental Planning Instrument (EPI), for example a State Environmental Planning Policy or Local Environmental Plan, the provisions of the EPI shall prevail to the extent of that inconsistency.

There are no relevant chapters of the DCP in this instance, particularly given that the use of the land is established and the proposed structures will retain a level of transparency so as not to adversely affect the rural amenity.

6 State Planning Assessment

6.1 State Environmental Planning Policies

State Environmental Planning Policies (SEPPs) specify planning controls for certain area and/or types of development and are prepared under Part 3 of the EP&A Act. SEPPs prevail over the provisions contained within a Local Environment Plan and the Development Control Plan. Clause 1.9 within the Wentworth LEP 2011 states:

> *This Plan is subject to the provisions of any State environmental planning policy that prevails over this Plan as provided by section 3.28 of the Act.*

6.1.1 Relevant SEPP

The proposal is regulated by the following State Environmental Planning Policies (SEPP):

- SEPP (Biodiversity and Conservation) 2021: Excluded (pub. 21-10-2022)
- SEPP (Biodiversity and Conservation) 2021: Land Application (pub. 02-12-2021)
- SEPP (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- SEPP (Housing) 2021: Land Application (pub. 26-12-2021)
- SEPP (Industry and Employment) 2021: Land Application (pub. 02-12-2021)
- SEPP (Planning Systems) 2021: Land Application (pub. 02-12-2021)
- SEPP (Primary Production) 2021: Land Application (pub. 02-12-2021)
- SEPP (Resilience and Hazards) 2021: Land Application (pub. 02-12-2021)
- SEPP (Resources and Energy) 2021: Land Application (pub. 02-12-2021)
- SEPP (Sustainable Buildings) 2022: Land Application (pub. 29-08-2022)
- SEPP (Transport and Infrastructure) 2021: Land Application (pub. 02-12-2021)

6.1.2 Assessment against relevant SEPP

A comprehensive assessment of the proposed development against the relevant the SEPP's is provided in **Appendix K** of this report. The assessment demonstrates that the proposed development will achieve the objectives identified in the SEPPs.

7 Assessment Against Other Matters

7.1 Planning Agreements

There are no planning agreements that apply to the site.

7.2 Impacts of the Development

An assessment against the likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality follows.

7.2.1 Impacts on Traffic and Access

The proposed development is anticipated to generate minimal traffic movements associated with:

- Construction materials being delivered to the site.
- Installation specialists being on-site during construction.

The number and frequency of truck movements will be minimal and largely contained within the site boundaries. It is not anticipated that any loading/unloading or works within the shoulder of the adjacent Sturt Highway will be required. Should the need arise for these works to occur the direction of vehicle and truck movement on the adjacent local road network will be in an east/west direction travelling to/from Mildura and the subject land.

7.2.2 Impacts on Site Infrastructure

There are easements and rights of carriage over the subject land for the purposes of pipelines, a pump station and vehicle access. The proposed HPN structures will not restrict access to these site facilities.

Dial before you Dig records of services infrastructure of the site indicates that the site is connected to electrical and telecommunications infrastructure.

Overhead powerlines are located within proximity of the dwellings located on-site, along the verge directly adjacent Sturt Highway and adjoining the right of carriageway which provides vehicle access to the site. We note that there are no high-tension poles located on the subject land. The proposed HPN structures will be offset a suitable distance from the electrical poles (i.e., at least 4 metres) and will not exceed 5 metres in height which is below that of the electrical cables. The proposed HPN structures will not restrict access to electricity infrastructure.

A detailed investigation is required to ensure the location of all electrical equipment prior to any excavation or other construction. Development application conditions will be met, and necessary further investigations undertaken prior to any development.

The site does not have access to reticulated urban sewer or water mains. There is an easement over the land which provides for water to be pumped from the adjacent Murray River to the site.

An Infrastructure Agreement is not applicable to the site.

Easements and Rights of Carriage are detailed on the Certificate of Title contained in **Appendix C**, whilst Dial Before You Dig mapping is contained in **Appendix D**.

7.2.3 Impacts on Visual Amenity

The proposed development will be visible from the adjacent sites and from Sturt Highway within proximity of the site boundaries.

Impacts on residential dwellings within proximity of the site will largely be minimised by generous separation distances. Dwellings on the northern side of Sturt Highway will have views of HPN 3, however impacts will be minimised due existing vegetation along the road boundaries and the separation distance, which will be no less than 190 metres. In addition, the topography of the subject land is such that it gently falls away from the road towards the Murray River, as such the land sits at a lower level than the northern properties which will reduce impacts of height.

Proposed HPN 3 will largely obscure views of HPN 2. Proposed HPN 1 will be setback further from Sturt Highway (approximately 335m from the Sturt Highway site boundary). Again, views will be partially obscured by distance and existing vegetation including vineyards located on the western adjoining property. The dwellings located to the east and west of the subject land are ancillary to primary production activities, with vineyards being the dominant land use on both sites. Residential amenity is somewhat lower than what is expected in residential zones as the associated agricultural activities are the primary focus of the land. As such, farm buildings are an anticipated form of development.

Whilst the proposed structures will be visible from the adjacent land, the structural form, materials and external appearance are not outside of the parameters of the type of development anticipated in the RU1 zone or agricultural land. The materials and colours proposed will prevent undue reflection/glare and will retain a level of transparency that enables views to adjoining land. In addition, the structures will be sited as far as possible from boundaries and adjacent residential development.

7.2.4 Impacts on Terrestrial Biodiversity

The site is identified as containing Terrestrial Biodiversity as indicated on the maps provided in the State Government's ePlanning Spatial Viewer (refer **Appendix E**).

The portion of the site affected by terrestrial biodiversity is contained within the southern-most portion of the land which lies adjacent to the Murray River. Proposed HPN 2 will be located approximately 40 metres from the affected land whilst HPN 1 will directly adjoin the affected land. Notwithstanding, impacts are minimised by the fact that the land has already been compromised by historical agricultural practises occurring on the land. HPN 1 will cover an existing vineyard and will not require the removal or disturbance of native vegetation, and excavation will be limited to a depth of 600 millimetres below natural ground level to secure the intermittent posts. HPN 2 will also be built over an existing vineyard and is separated from the terrestrial biodiversity land by an existing dwelling, farm buildings and a right of carriageway.

The proposed development seeks to allow for ongoing agricultural practises on the land with the proposed HPN providing protection to crops/orchards from unseasonable weather events. The development will not materially impact on sensitive biodiverse land as the structures extend over land which has historically been cleared for horticultural purposes and does not require the clearance of native vegetation.

7.2.5 Bushfire Risks

The site is identified as Bushfire Prone Land – Vegetation Category 1 and Vegetation Buffer. Notwithstanding, the affected land largely pertains to the southern-most portion of the land which is devoid of built form and comprises vegetation and wetlands.

The proposed structures are not encouraging habitation through the creation of additional dwellings or a land use aimed at providing occupation for vulnerable persons.

The proposed HPN structures will cover existing farmland, will not restrict evacuation, and will not restrict access for fire fighting vehicles in the event of a bushfire emergency.

The subject site is relatively developed, having been used for agricultural purposes for a number of years. With the exception of the southern-most portion of the site, it is largely devoid of vegetation. Some vegetation is evident along road verges, internal road tracks and surrounding existing dwellings on-site. The proposed development does not involve the planting or removal of vegetation, nor does it restrict any existing internal tracks or vehicle access points.

7.2.6 Impacts on Riparian Lands and Watercourses

The site is identified as being affected by Riparian Land and Watercourses, namely the Murray River located adjacent the south-eastern boundary of the site (**Appendix F**).

The proposed HPN structures will be located at least 60 metres from the affected portion of land, will only occur over land that has been historically cleared for horticultural purposes, and will not restrict the flow of water over the land. No portion of the proposed structures including the anchors or arbours will be located within the watercourse.

7.3 Suitability of the Site

The site is assessed to be suitable for the development for the following reasons:

- The site is used for existing agricultural purposes and has been used for this purpose for decades.
- The site is located within RU1 – Primary Production Zone, where farm buildings are permitted with consent.
- Construction works will predominantly occur on-site with minimal vehicle movements through the existing crossover or to the adjacent road network.
- Visual and environmental impacts are suitably avoided and mitigated where necessary, with sufficient setbacks from sensitive land uses (residential dwellings).

8 Conclusion

This SEE has been prepared by MasterPlan in support of an application made by G2 Netting Group seeking a development consent for a proposal to install three (3) hail proof netting (HPN) structures. The application is made to the Council under the EP&A Act.

The Development Application is made over land located at 5721B and 5758 Sturt Highway, Monak (the 'subject land' or 'site').

This report has demonstrated that the proposal is a suitable development for the site. The assessments contained in this report conclude that:

- The site is suitable for the intended purpose of the proposal.
- The intended development of the site is compatible with the locality.
- The nature and scale of the proposal is suitable for the local context.
- The proposal will not introduce adverse impacts on the environment that are not able to be mitigated.

In addition, our assessment has determined that:

The proposal responds well to the zoning and surrounding character of its locality and achieves a scale and form of development that is consistent with community expectations as expressed through local and State planning instruments.

- The proposal is consistent with the objectives of the LEP.
- Complies with the relevant provisions of the DCP.
- Will achieve the objectives of the relevant SEPP.
- Will not result in significant adverse impacts on the environment.

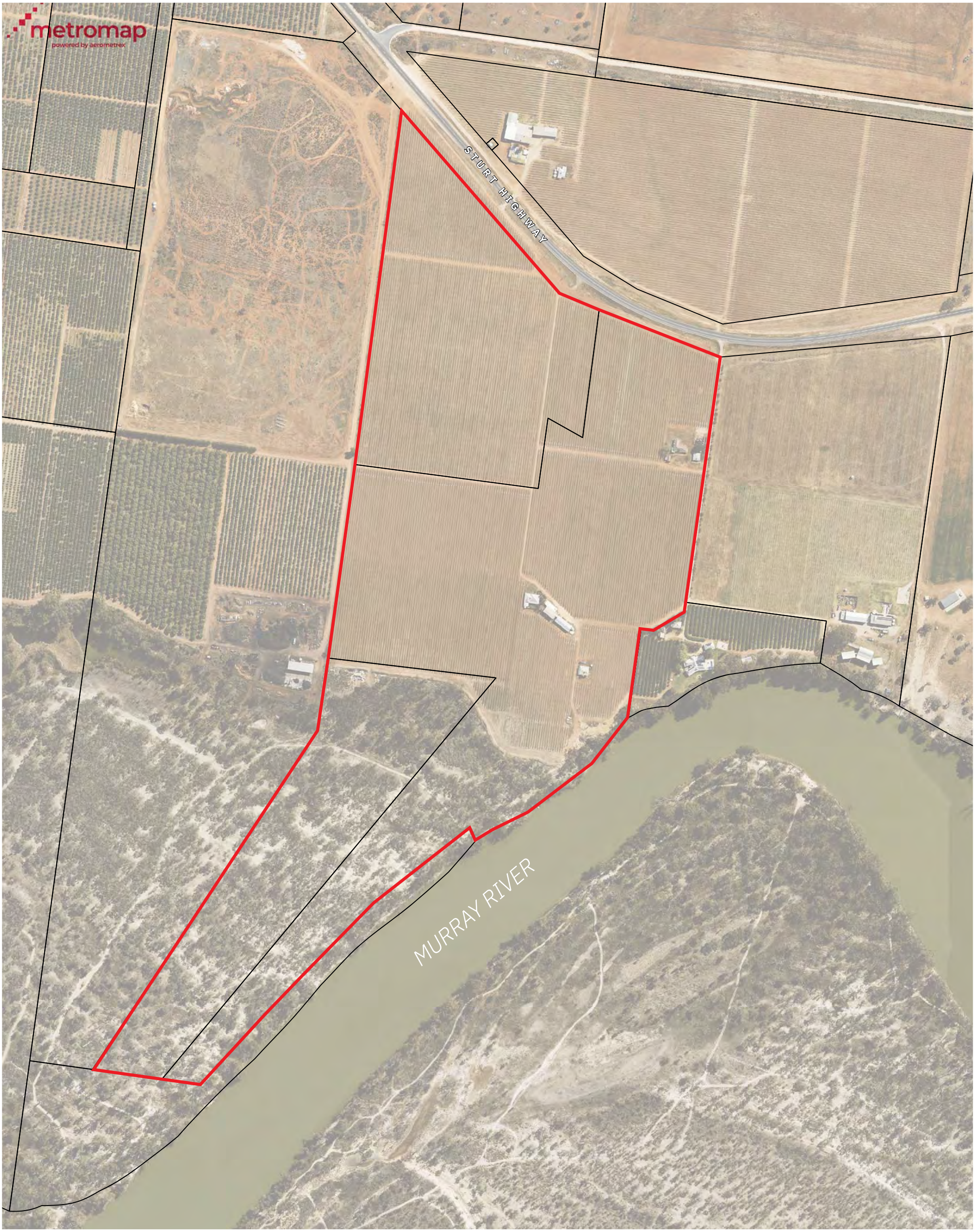
Our assessment in consideration of the requirements of all relevant statutory planning instruments under the EP&A Act is that there are strong grounds for Council to approve the development application subject to reasonable and relevant conditions.

Jasmine Walters MPIA
Bachelor of Urban and Regional Planning (Hons.)

Appendix A

Site, Locality and Zone Plan

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977



Subject Site

SITE PLAN

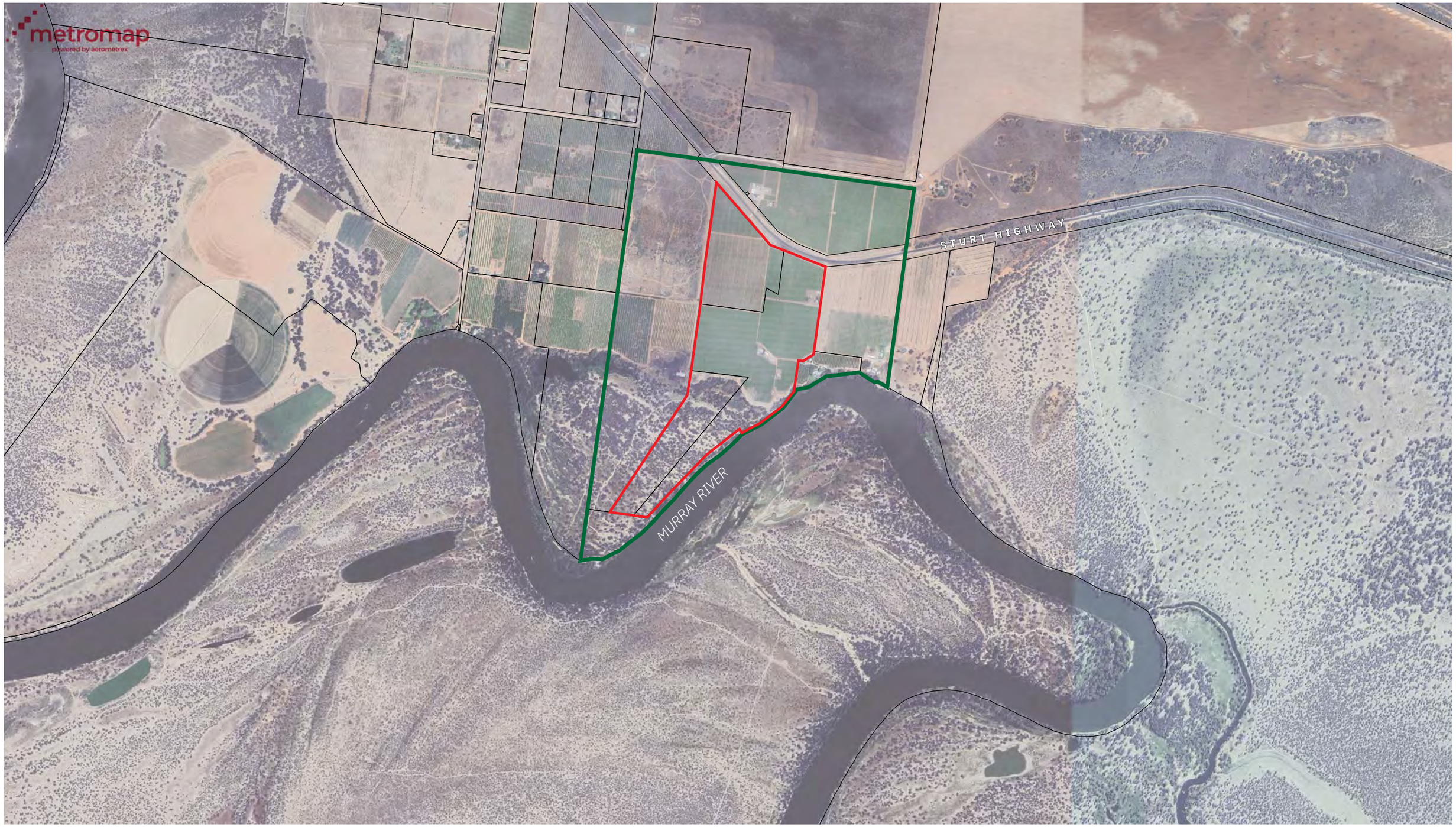
5721B Sturt Highway
MONAK

for Marciano Table Grapes

1:5000 @ A3
0 100

MASTERPLAN.COM.AU

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977



Subject Site

Locality

LOCALITY PLAN

5721B Sturt Highway
MONAK

for Marciano Table Grapes

1:15000 @ A3
0 300

MASTERPLAN.COM.AU

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Subject Site

RU1 Primary Production

SP2 State Highway

ZONE PLAN

5721B Sturt Highway
MONAK

for Marciano Table Grapes

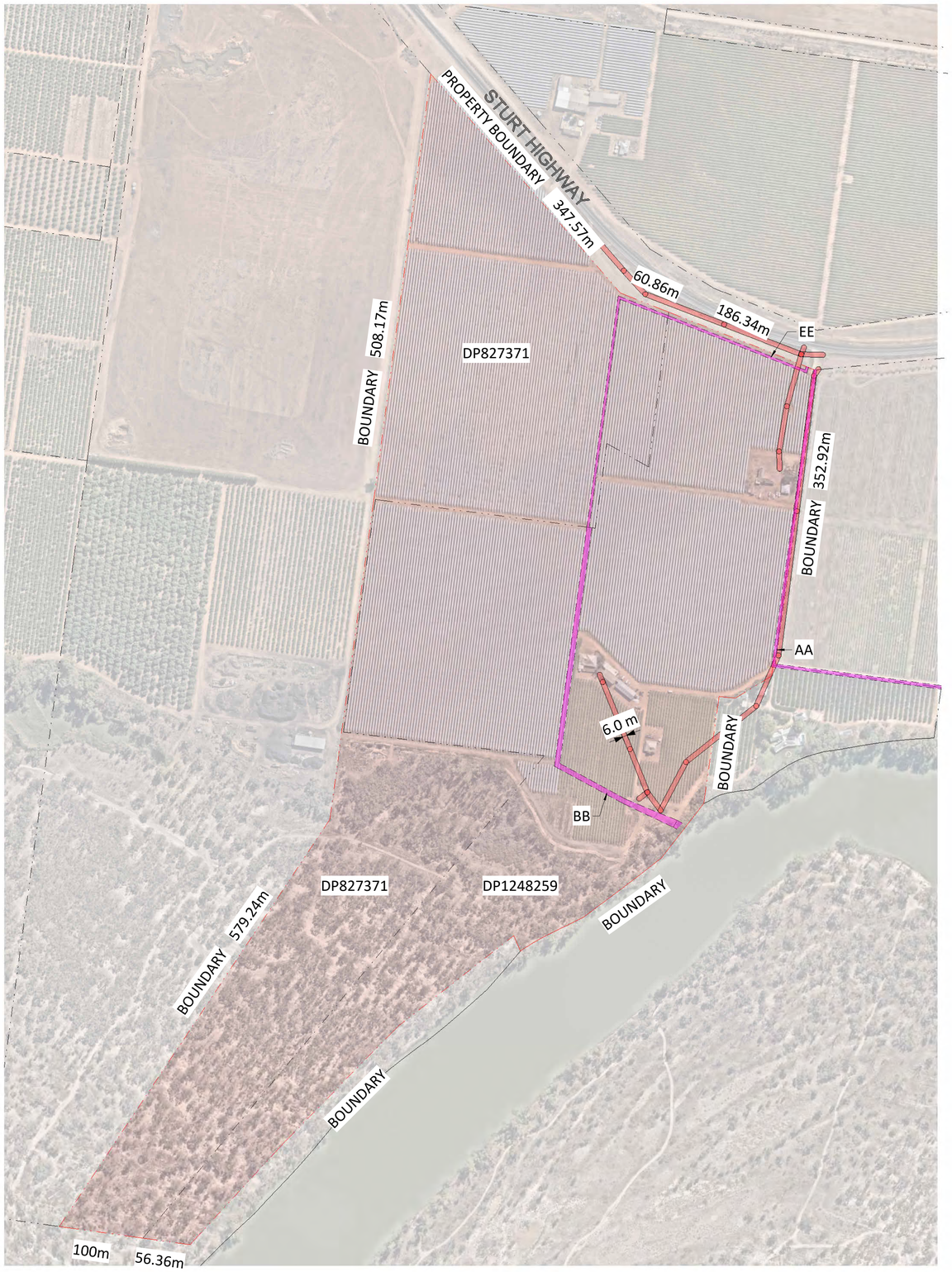
MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Appendix B

Proposed Plan

www.masterplan.com.au

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977



1 DA - Existing Site Plan
1 : 3000

100 m
1:3000 Scale Bar

N

STRUCTURE LEGEND

STRUCTURE HEIGHT:

5.0 METRES

- SITE BOUNDARY
- EASEMENTS
- POWER LINE CLEARANCE

No.	Revision Information	By	Date
...	...	...	...

Structure Height

Description	Height
Flat Top Structure Height (H)	5.0 m

G2 NETTING GROUP

Project
Monak - table grapes

Project Address
5721B Strut Hwy, Monak
NSW 2738

Drawing Title
EXISTING SITE PLAN

Client Name:
P&T Marciano

Date: 30Jun25
Scale @ A1: As indicated
Drawn: HH
Checked: JG2
Project No.: 1759 - 101 -
Sheet No. Rev.: .

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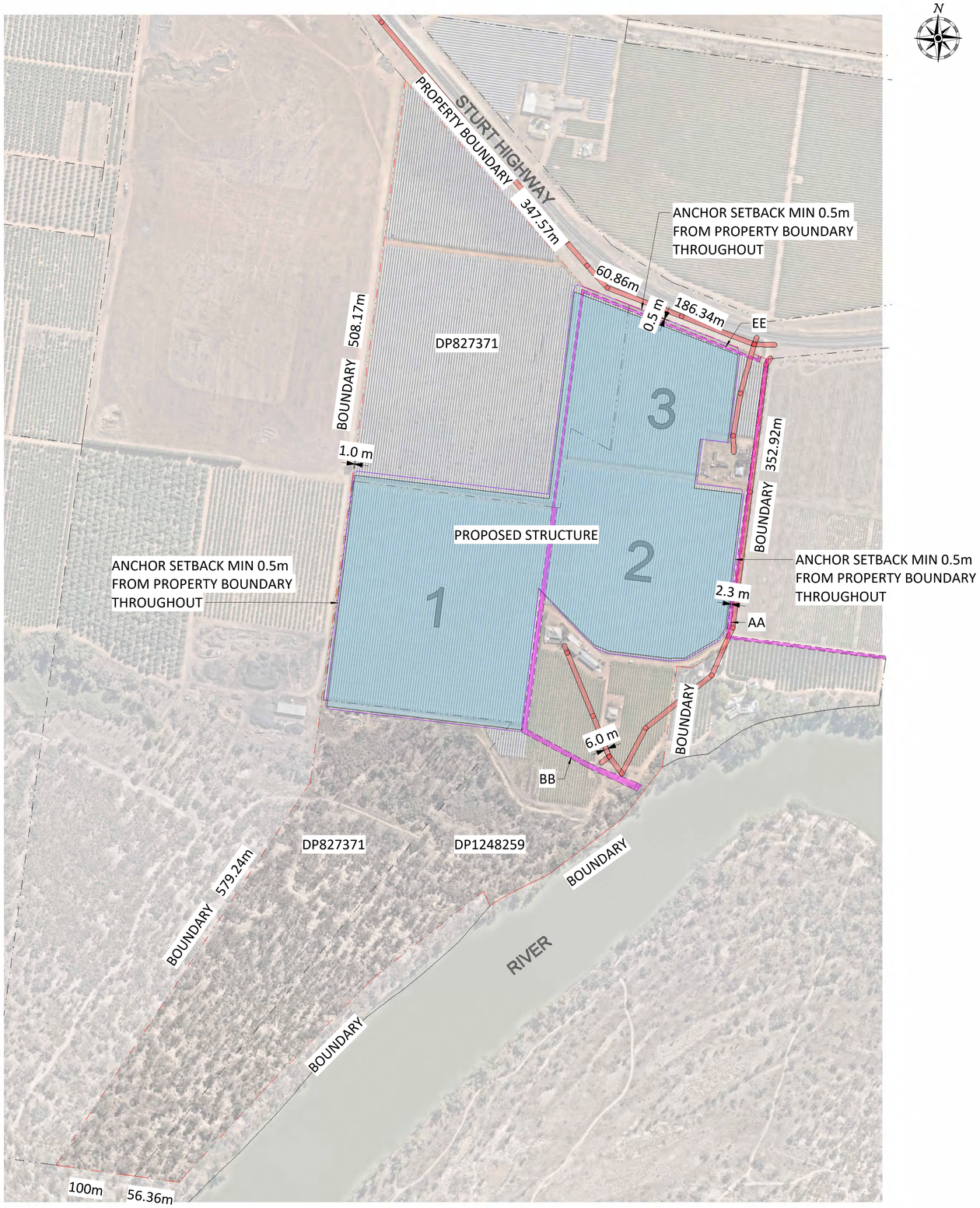

1 DA - Proposed Site Plan
1 : 3000

100 m
1:3000 Scale Bar

STRUCTURE LEGEND

STRUCTURE HEIGHT:

5.0 METRES

TOP NETTING TYPE:

Colour: White
Construction: Lock stitch knitted HDPE monofilament yarns
Hole size: 20mm Hexagonal hole with cross over yarns
Weight of Net: 75 grams/mtr
Nominal shade factor: 12%
Warranty: 10- year UV warranty applies

SITE BOUNDARY
EASEMENTS
POWER LINE CLEARANCE
PROPOSED NETTING STRUCTURE
ANCHOR LINE

No.	Revision Information	By	Date
...	...	...	...

Structure Height

Description	Height
Flat Top Structure Height (H)	5.0 m

G2 NETTING GROUP

Project
Monak - table grapes

Project Address
5721B Strut Hwy, Monak
NSW 2738

Drawing Title
PROPOSED SITE PLAN

Client Name:
P&T Marciano

Date: 30Jun25
Scale @ A1: As indicated
Drawn: HH
Checked: JG2
Project No.: 1759 - 102 - .
Sheet No. Rev.

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Drawing Approvals

These drawings have been reviewed by the client and approved for installation. Any variation, alteration, change or modification to the design and/or materials, following this approval, must be in writing and signed by the client or their authorised representative, and the company reserves the right to vary the quotation accordingly.

Signed: _____ Date: _____

Position: _____

Company: _____

FOR APPROVAL

No.	Revision Information	By	Date
--	First Issue		28Mar25

Sheet List - Sales

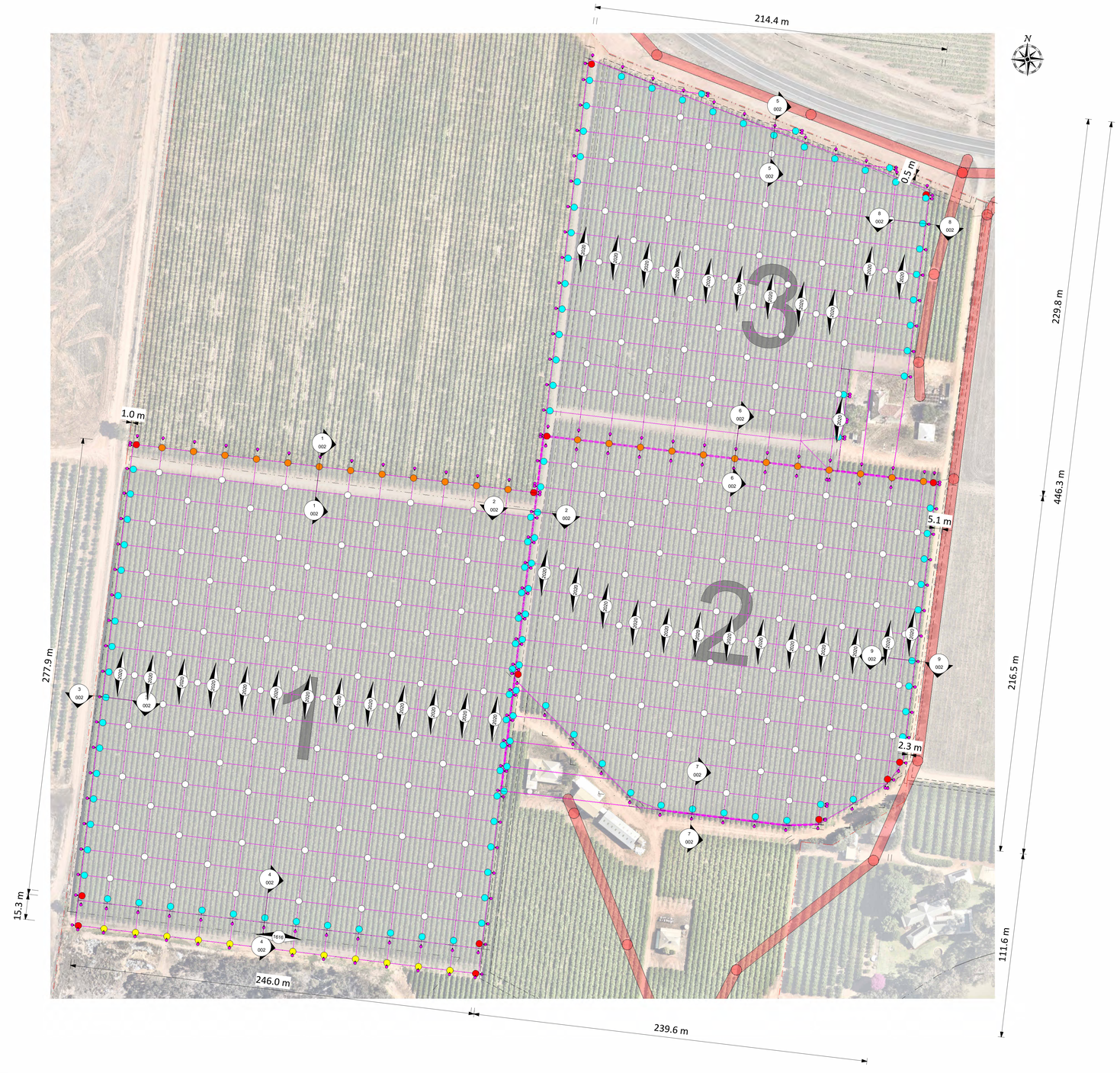
Drawing	Sheet Name
1759-001	SITE PLAN
1759-002	DETAIL SHEET 01

Structure Height

Description	Height
Flat Top Structure Height (H)	5.0 m

Top Net

Ref	G2 Code	Description	
1616	QNW161630	16mm 16x300m White Quad Crossover	
2020	QNW202030	20mm 20x300m White Quad Crossover	



1 Site - Plan (Sales)
1 : 1000

Structure Site Legend - FT

Posts					Anchors	
IP	PP	PPA	CP/PBP	IBP	GA	Typical

Wire and Cable

- Double Cable / Wire
- 7.5mm Cable
- 6mm Cable
- 3.15mm Wire High Tensile
- 3.15mm Spring Wire
- 2.65mm Wire High Tensile

Line Types

- Site Boundary
- Easement Locations
- Overhead Powerlines - Low Voltage
- Overhead Powerlines - High Voltage
- Fence Line

UNLESS OTHERWISE STATED: LINEAR TOLERANCE ± 0.5m, ANGULAR TOLERANCE ± 3° ANCHOR DISTANCE CAN ONLY BE INCREASED

G2 NETTING GROUP

Project
Monak - table grapes

Project Address
5721B Strut Hwy, Monak
NSW 2738

Drawing Title
SITE PLAN

Client Name:
P&T Marciano

Date: 30Jun25
Scale @ A0: As indicated
Drawn: HH
Checked: TA
Project No.: 1759
Sheet No.: 001
Rev.: --

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Drawing Approvals

These drawings have been reviewed by the client and approved for installation. Any variation, alteration, change or modification to the design and/or materials, following this approval, must be in writing and signed by the client or their authorised representative, and the company reserves the right to vary the quotation accordingly.

Signed: _____ Date: _____

Position: _____

Company: _____

FOR APPROVAL

No.	Revision Information	By	Date
--	First Issue		28Mar25

Structure Height

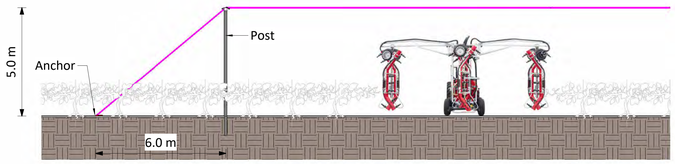
Description	Height
Flat Top Structure Height (H)	5.0 m

Post Summary

Ref	G2 Code	Qty	Post Function
CPA125	G2FTCPA125/5.4	3	69° Corner Post
CPA125	G2FTCPA125/5.8	2	60° Corner Post
CPB125	G2FTCPB125/6.1	5	55.3° Corner Post
PP100	G2FTPP100/5.0	12	90° Perimeter Post
PPA100	G2FTPPA100/5.4	87	69° Perimeter Post
PPA100	G2FTPPA100/5.8	32	60° Perimeter Post
IP100	G2FTIP100/5.0	232	90° Internal Post
IBP125	G2FTIBP125/5.0	24	90° Internal Breaker Post
PBPA125	G2FTPBPA125/5.4	4	69° Perimeter Breaker Post
Post total		401	

Wire and Cable

- 7.5mm Cable
- 6mm Cable
- 3.15mm Wire High Tensile
- 3.15mm Spring Wire
- 2.65mm Wire High Tensile
- Property Boundary



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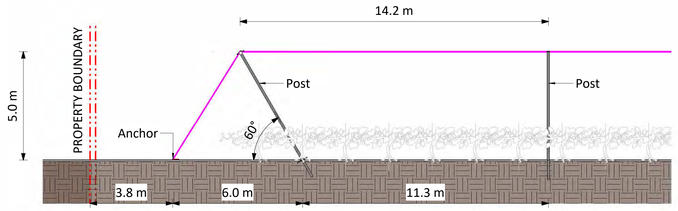

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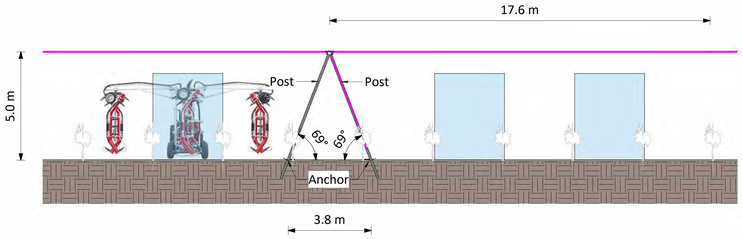

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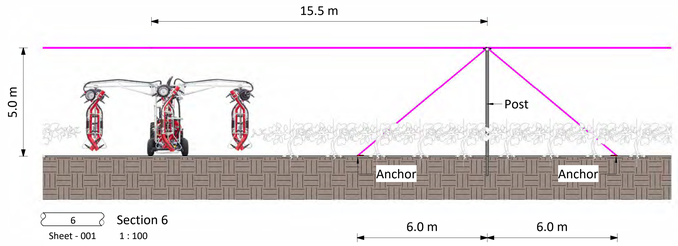

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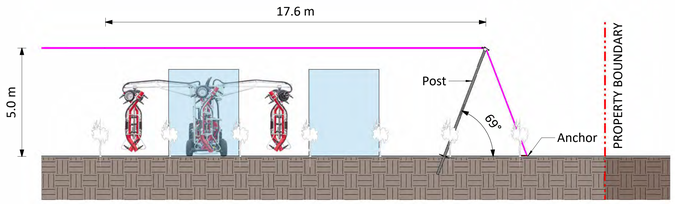

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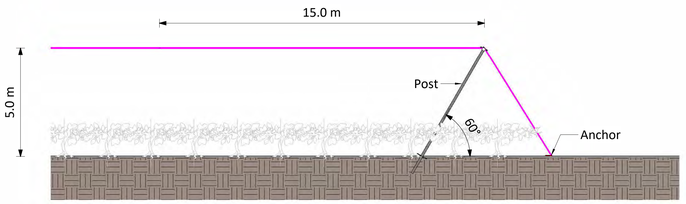

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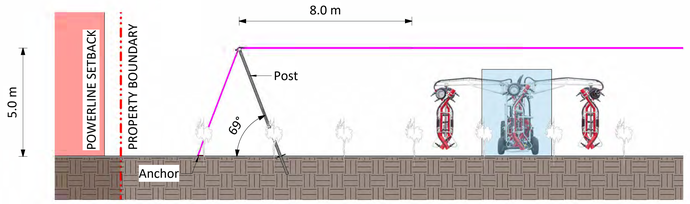

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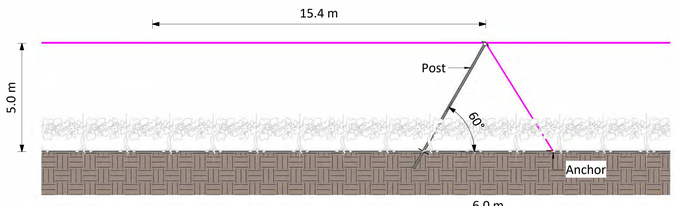

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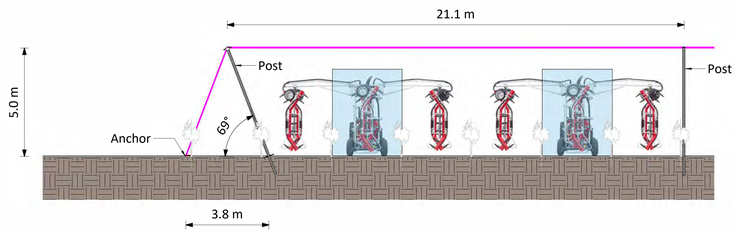

8 Section 8
Sheet - 001 1 : 100

UNLESS OTHERWISE STATED: LINEAR TOLERANCE ± 0.5m, ANGULAR TOLERANCE ± 3° ANCHOR DISTANCE CAN ONLY BE INCREASED

G2 NETTING GROUP

Project
Monak - table grapes

Project Address
5721B Strut Hwy, Monak
NSW 2738

Drawing Title
DETAIL SHEET 01

Client Name:
P&T Marciano

Date: 30Jun25
Scale @ A0: 1 : 100
Drawn: HH
Checked: TA
Project No.: 1759 - 002 -
Sheet No.:
Rev.: --

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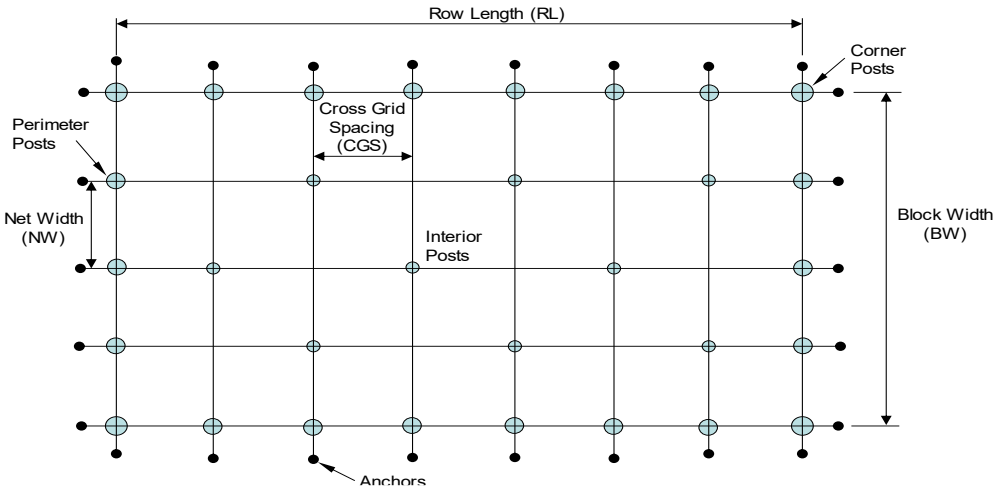
FLAT TOP Structure Evaluation Spreadsheet V2024-09

This spreadsheet is used to provide design guidance for a flat top structure.

Quote, Client & Block ID: *1759-CR01_P&T_Marciano_StructType_27May25*

Basic Layout

Description	Variable	Value	Units
Factor of Safety (Failure)	FoS	1.25	
Regional Wind Speed (V_{100}, Region **A0**, AS/NZS 1170.2:2021)	V_R	41.0	m/s
Climate Change Multiplier (Table 3.3)	M_C	1.0	
Wind Direction Multiplier (Table 3.2A)	M_D	1.0	
Terrain/Height Multiplier (Table 4.1(A) Terrain Category 2)	$M_{Z,cat}$	0.91	
Shielding Multiplier (Section 4.3)	M_S	1.0	*No shielding*
Topographic Multiplier (Section 4.4)	M_T	1.0	*Mh = 1.0, slope < 0.05*
Site Wind Speed (Section 2.2)	$V_{sit,B}$	37.3	m/s
Design Wind Speed (for a structure height of 5.0m)	V_{MW}	37.3	m/s
		135	km/hr
Design Distributed Hail Loading	W_hail	3.0	kg/m^2
Structure Height	H	5.0	m
Average Net Width	NW	19.4	m
Number of Net Runs	nNR	13.0	# rows
Cross-Grid Spacing	CGS	15.5	m
Block Length	RL	288.0	m
Block Width	BW	251.0	m
Interior Post Configuration		Staggered	



Zone	*1*	*2*	*3*	*Max Area*
Structure Height	5.0	5.0	5.0	5.0
Max Net Width	19.4	20.8	20.8	19.4
Number of Net Runs	13	13	13	13
Cross-Grid Spacing	15.5	15.5	15.5	15.5
Block Length	288	216.5	229.8	288
Block Width	251	235	235	251
Hail Load per Bay (kg):	902	**967**	**967**	902
Area Row Direction	**5587**	4503	4780	**5587**
Area CG Direction	**3891**	3643	3643	**3891**

SUMMARY of the Margins of Safety

Cable - 1x7 Galv 7.5 mm 1770	MS_{MIN}	0.01	*See Cables worksheet*
Corner Post (B2 SE) - 90deg Config - 125NB Medium / Grade 250	MS_{MIN}	0.14	*See CP_90 worksheet*
Corner Post (B2 SE) - Insert - 100NB Heavy / Grade 300	MS_{MIN}	0.53	*See CP_90 worksheet*
Corner Post (B2 SE) - Footings - Cast-In-Place Concrete	RtoR	1.32	*See CP_90 worksheet*

Corner Post (TP) - 69deg Config - 125NB Medium / Grade 250	MS_{MIN}	0.15	*See CP_69 worksheet*
Corner Post (TP) - Insert - 100NB Heavy / Grade 300	MS_{MIN}	0.61	*See CP_69 worksheet*
Corner Post (TP) - Footings - Cast-In-Place Concrete	RtoR	1.22	*See CP_69 worksheet*
Corner Post (Angled) - 60deg Config - 125NB Medium / Grade 250	MS_{MIN}	0.30	*See CP_60 worksheet*
Corner Post (Angled) - Insert - 100NB Heavy / Grade 300	MS_{MIN}	0.83	*See CP_60 worksheet*
Corner Post (Angled) - Footings - Cast-In-Place Concrete	RtoR	1.36	*See CP_60 worksheet*
Corner Post (55deg) - 55deg Config - 125NB Medium / Grade 250	MS_{MIN}	0.10	*See CP_55 worksheet*
Corner Post (55deg) - Insert - 100NB Heavy / Grade 300	MS_{MIN}	0.71	*See CP_55 worksheet*
Corner Post (55deg) - Footings - Cast-In-Place Concrete	RtoR	1.08	*See CP_55 worksheet*
Perimeter Breaker Post (SE) - 69deg Config - 125NB Medium / Grade 350	MS_{MIN}	0.31	*See PBP_69_SE worksheet*
Perimeter Breaker Post (SE) - Insert - 100NB Heavy / Grade 300	MS_{MIN}	0.46	*See PBP_69_SE worksheet*
Perimeter Breaker Post (SE) - Footings - Cast-In-Place Concrete	RtoR	1.01	*See PBP_69_SE worksheet*
Perimeter Breaker Post - 69deg Config - 125NB Medium / Grade 250	MS_{MIN}	0.08	*See PBP_69 worksheet*
Perimeter Breaker Post - Insert - 100NB Heavy / Grade 300	MS_{MIN}	0.53	*See PBP_69 worksheet*
Perimeter Breaker Post - Footings - Cast-In-Place Concrete	RtoR	1.10	*See PBP_69 worksheet*
Interior Breaker Post - 125NB Medium / Grade 250	MS_{MIN}	0.37	*See IBP worksheet*
Interior Breaker Post - Insert - 100NB Heavy / Grade 300	MS_{MIN}	0.74	*See IBP worksheet*
Interior Breaker Post - Footings - Rammed Insert	RtoR	1.07	*See IBP worksheet*
Perimeter Post (TP) - 69deg Config - 100NB Light / Grade 350	MS_{MIN}	0.26	*See PP_TP worksheet*
Perimeter Post (TP) - Insert - 90NB Heavy / Grade 300	MS_{MIN}	1.27	*See PP_TP worksheet*
Perimeter Post (TP) - Rammed Insert	RtoR	1.07	*See PP_TP worksheet*
Perimeter Post (CG 69deg) - 69deg Config - 100NB Light / Grade 350	MS_{MIN}	0.20	*See PP_69 worksheet*
Perimeter Post (CG 69deg) - Insert - 90NB Heavy / Grade 300	MS_{MIN}	1.19	*See PP_69 worksheet*
Perimeter Post (CG 69deg) - Rammed Insert	RtoR	1.00	*See PP_69 worksheet*
Perimeter Post (RE) - 60deg Config - 100NB Light / Grade 350	MS_{MIN}	0.13	*See PP_60 worksheet*
Perimeter Post (RE) - Insert - 90NB Heavy / Grade 300	MS_{MIN}	1.29	*See PP_60 worksheet*
Perimeter Post (RE) - Footings - Rammed Insert	RtoR	1.00	*See PP_60 worksheet*
Interior Post - 100NB Light / Grade 350	MS_{MIN}	0.61	*See Interior_Post worksheet*
Interior Post - Footings - Rammed Insert	RtoR	1.20	*See Interior_Post worksheet*
Post Guys - One loop of 1x7 Galv 7.5 mm 1770	MS_{MIN}	0.26	*See Guys worksheet*
Anchors - AU350 Jumbo Type Drill Anchor	MS_{MIN}	0.28	*See Anchors worksheet*

MS = Margin of Safety = Allowable Load / (FoS x Applied Load) - 1 where FoS = Factor of Safety
RtoR = Ratio to Requirement = Allowable Load / Applied Load

Critical Modes of Failure - Calculated using "Margin of Safety" criteria.

1. Cable break - One cable breaking would result in a load redistribution and likely higher loads on neighbouring cables.
2. Anchor Failure - One anchor failing would result in a load redistribution and likely higher loads on neighbouring anchors.

Non-Critical Modes of Failure - Calculated using "Margin of Safety" criteria.

1. Corner or perimeter post buckling and/or bending failure - Results in a loss of tension, but it will remain able to take load as long as no critical modes occur.
2. Interior post buckling and/or bending failure - This will bend until the load goes elsewhere. For example the hail would hit the ground itself and therefore reduce the loading on the interior post. The structure will remain intact as long as no critical failures occur.

Safe but Undesirable Modes of Failure - Calculated using the "Ratio to Requirement" criteria.

1. Exceeding footing or pile allowable loads will result in a slackening of cable tension, with no immediate structural implications.

Certification Statement

I verify that the above structure has been evaluated, using classical engineering methods and tools, and found to have acceptable margin of safety against both the specified wind and hail load conditions.

BY: Robert Grigson BE (Mech), ME (Aero) **DATE:** 27Mar25

Loadings

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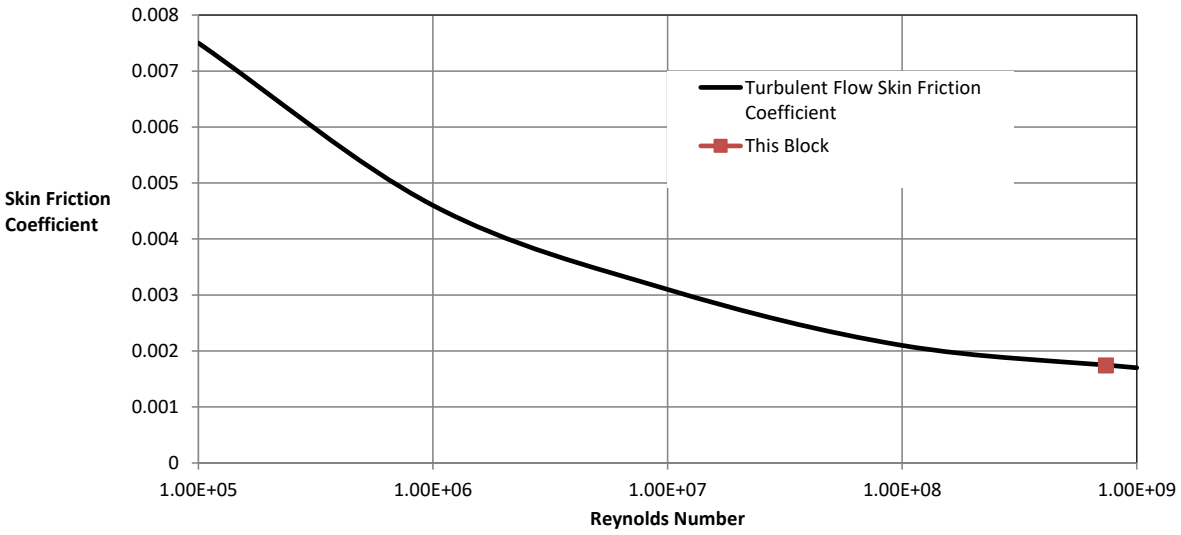
The following inputs are used to size the structure. The most significant is the net drag coefficient and lateral deflections at the top of the perimeter and corner posts due to cable straining.

Inputs

Description	Variable	Value	Units	Comments
Cable pre-tension during installation	P_{T0}	1500	kg	*This is the maximum tension each cable is pulled during straining and subsequent net installation.*
Block Reynolds Number	Re	7.4E+08		*Velocity x Length / Kinematic Viscosity*
Flat Plate Skin Friction Coefficient	Cf	0.0017		*Based on Stanford University data. Assumes turbulent flow, and the Reynolds number above.*
Net Drag Coefficient (Roof)	Cdw	0.01		*A value of 0.01 is used. This is selected to be greater than the skin friction coefficient to cover profile and interference drag, and remain conservative. A lower number may be used later as long as it is supported by test data.*
Distributed Aero Loading on Roof	W_aero	0.88	kg/m^2	*Aero loading on net per meter squared*
		8mm Quad Net		
Wall Net Optical Porosity	β	74%		*Optical porosity = 0 for no porosity. Can be computed as the area of holes divided by the total area. Aerodynamic porosity and Drag coefficient from "A wind tunnel study of windbreak drag", by Guan, Zhang and Zhu (China). 8mm Quad Net = 74%, 50% Shade Cloth = 50%, Canopy Net = 86%.*
Wall Net Aerodynamic Porosity	α	89%		
Wall Net Drag Coefficient	Cdw	0.21		*Computed from optical porosity. Note drag CG assumed to be acting at 11/18 of the structure height.*
Distributed Wall Net Loading	Ww_aero	18.5	kg/m^2	*Aero loading on net per meter squared of wall net.*
Distributed Hail Loading	W_hail	3.0	kg/m^2	*The maximum hail load per square meter must be greater than 2.0 at all times for Flat Top Structures. Clients may wish to have more capability therefore this should be set between 2.0 and 5.0.*
Total Hail Load per Bay	W	902	kg	
Maximum Corner and Perimeter Post Top Deflection after Cable Straining	δy_pp	50	mm	*Use 1/2 diameter of the post, applicable to corners and perimeters. After straining the cables during installation, the post setting must not be greater than 1/2 diameter over the length.*
Interior Post Lateral Deflection	δy_ip	83	mm	*Applicable to Interior Post bending analysis. A post is very strong in compression, however this reduces significantly under the onset of bending loads. This criteria condition assumes there is significant wind forcing the top ot the post lateral and inducing sianificant bendina.*
Maximum Net Tension Capability	Pnet	100	kg/m	*Determined from test, not used on this analysis.*
Maximum Wall Net Tension	Pwall_net	50	kg/m	*Determined from test for correctly set wall nets (assumes 8mm quad wall net).*

Skin Friction Coefficient for a Flat Plate



Cables

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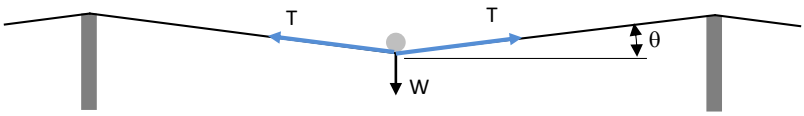
The cables must be able to support the load due to maximum wind, load due to maximum hail, and a hybrid case of 75% wind speed combined with maximum hail. The maximum wind load is obtained for a cable by totalising the total net shear drag load along the full length of the cable. This is conservative due to the fact that the attached lateral cables and interior posts take a small portion of the load (the interior posts bend back with cable stretch, and the lateral cables form a point loaded catenary). The maximum hail load arises from a cable taking the maximum hail load as a point load in between vertical supports. Two further hybrid cases combine the cable load from a 75% wind speed with cable load from maximum hail. All cable loads must be less than the cable allowable load assuming the specified factor of safety.

Description	Variable	Value	Units	Comments
Select Cable Type		1x7 Galv 7.5 mm 1770		
Breaking Tension		6200	kg	
Wire diameter		7.5	mm	
Elastic Modulus		80000	N/mm^2	
Cable pre-tension during installation	P_{T0}	1500	kg	*This is the peak value used during the installation.*
Maximum Hail Load	W_{cable}	902	kg	*Total hail loading per each Cross-Grid & Row Cable between supports.*
Maximum Cable Load due Wind				
Wind in Row Length Direction	Area	5587.2	m^2	*Wind direction parallel to Row Cables*
Maximum Cable Load on Row Cable	$T_{cable\_Row\_Wind}$	4907	kg	
Wind in Block Width Direction	CGS*BW	3891	m^2	*Wind direction parallel to Cross-Grid Cables*
Maximum Cable Load on Cross-Grid Cable	$T_{cable\_CG\_Wind}$	3417	kg	



Maximum Cable Load due Hail (No Pre-Tension)				
Cable tension prior to Hail Loading	P_{T0}	0	kg	*Assuming no cable pre-tension.*
Estimated Top Cable Angle due Hail Load	θ_{Cable0}	7.8	deg	*Cable angle to horizontal at support.*
Top Cable Load (tensioned)	T_{cable0}	3337	kg	*Cable load due to maximum hail with no initial pre-tension.*
Hail load error check		0	kg	*Must be zero.*
Maximum Cable Load due Hail (Pre-Tensioned)				
Cable Tension due to pre-tension	P_{T1}	1500	kg	*Using the nominal cable pre-tension.*
Estimated Top Cable Angle due Hail Load	θ_{Cable1}	6.6	deg	*Cable angle to horizontal at support.*
Top Cable Load (tensioned)	T_{cable1}	3915	kg	*Cable load due to maximum hail with initial pre-tension.*
Hail load error check		0	kg	*Must be zero.*
Maximum Cable Load on Row Cable (75% Wind Speed combined with maximum hail)				
Effective Cable Tension due 75% Wind Load	P_{T2}	2760	kg	*Using cable load due to 75% wind speed in row direction as the pre-tension*
Estimated Top Cable Angle due Hail Load	θ_{Cable2}	5.7	deg	*Cable angle to horizontal at support.*
Top Cable Load (Hybrid Case Row)	T_{cable2_Row}	4547	kg	*Cable load with cable pre-tensioned with wind loading.*
Hail load error check		0	kg	*Must be zero.*
Maximum Cable Load on Cross Grid Cable (75% Wind Speed combined with maximum hail)				
Effective Cable Tension due 75% Wind Load	P_{T3}	1922	kg	*Using cable load due to 75% wind speed in cross-grid direction as the pre-tension*
Estimated Top Cable Angle due Hail Load	θ_{Cable3}	6.3	deg	*Cable angle to horizontal at support.*
Top Cable Load (Hybrid Case Cross-Grid)	T_{cable3_CG}	4111	kg	*Cable load with cable pre-tensioned with wind loading.*
Hail load error check		0	kg	*Must be zero.*

Cable Force Adjustment Factors for the Staggered Interior Post Configuration

Row_Factor	100%	
CG_Factor	100%	

This analysis worksheet analyses the cables based on a staggered interior post configuration. Analytical modelling was used to compare the different interior post configurations, and these factors adjust this analysis to better represent the selected configuration. They only apply to hail only and combined hail and wind load cases.

Cable Tension Analysis

Maximum Cable Loading (Row Cables)	$T_{cable\_Max\_Row}$	4907	kg	*The maximum of 2.0 x pre-tension, theoretical wind loading along row length, wind loading across the block, maximum hail loading and 75% wind sped combined with maximum hail from the two wind directions.*
Maximum Cable Loading (CG Cables)	$T_{cable\_Max\_CG}$	4111	kg	
Maximum Cable Loading (All)	T_{cable_Max}	4907	kg	
Breaking Tension		6200	kg	*Obtained from cable selection at top.*
Margin of Safety (Cable Tensile)	**MS**	**0.01**		*Must be greater than zero, includes the factor of safety*

Corner Post (B2 SE)

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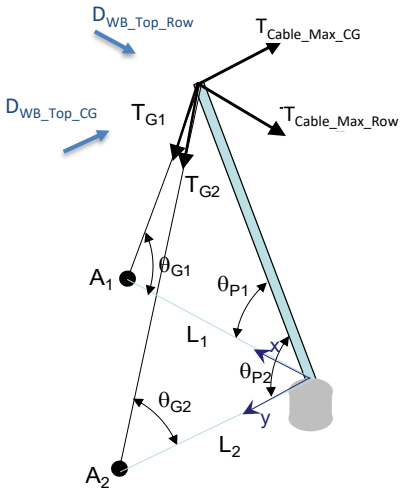
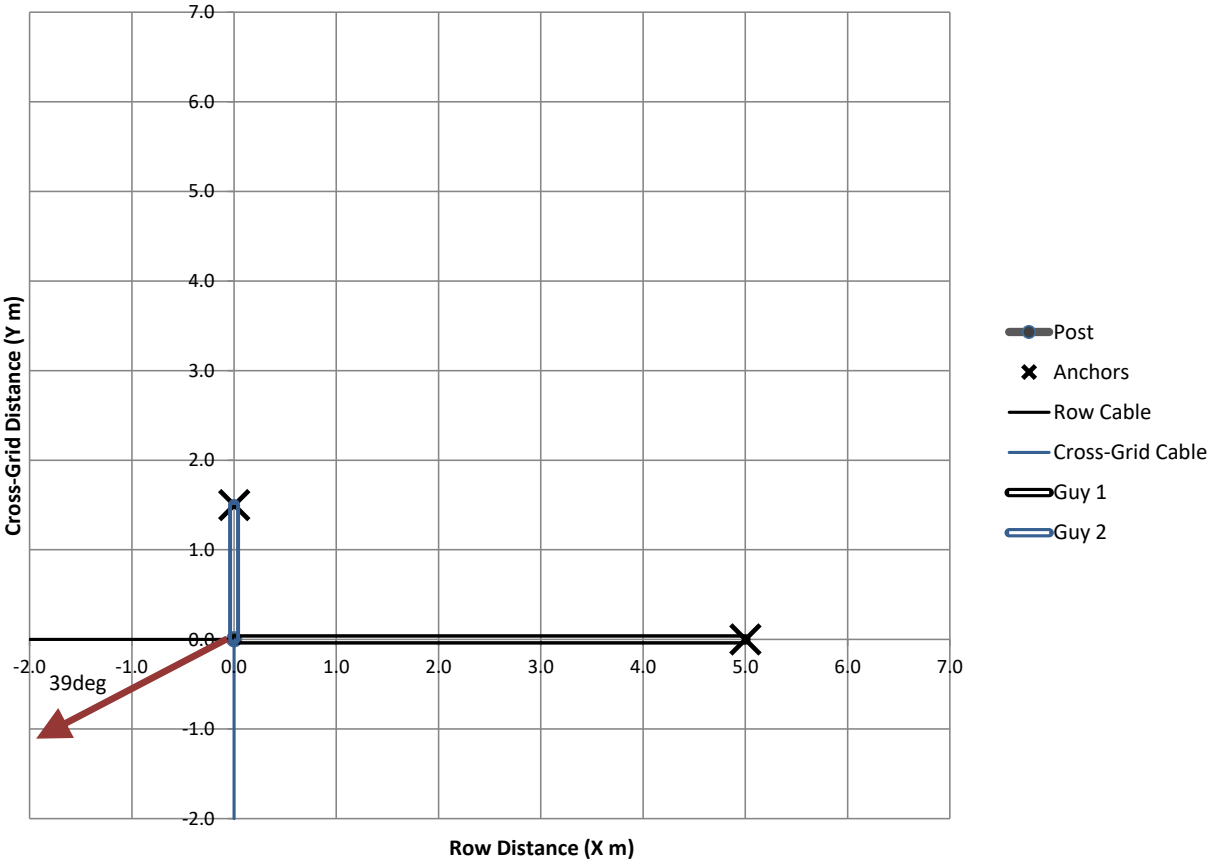
Corner posts are sized using the maximum wind loadings (roof and wall net loadings). Hail loading is considered minimal on a corner post. The analysis below assesses the anchor loadings based on no moment at the base of the corner post. In reality, a moment will exist but this will not have a significant impact on guy and cable forces. However it will have a significant impact on the post stress, and therefore is included in the stress calculations below.

Inputs

Description	Variable	Value	Units	Comments
Select Main Post Material		125NB Medium / Grade 250		
Outside Diameter	D	139.7	mm	
Wall Thickness	t	5.0	mm	
Cross Sectional Area	A	2116	mm^2	
2nd Moment of Area	I	4805412	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	250	N/mm^2	
Tensile Strength	Ft	320	N/mm^2	
Buckling Strength	Fc	200	N/mm^2	
Select Insert Material		100NB Heavy / Grade 300		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	5.4	mm	
2nd Moment of Area	I	2745389	mm^4	
Yield Strength	Fy	300	N/mm^2	
Tensile Strength	Ft	400	N/mm^2	



Corner Post Plan View



Corner Post Configuration

Anchor Locations	A1	5.00	0.00	*(m, m) assuming post base at (0,0)*
	A2	0.00	1.50	*(m, m) assuming post base at (0,0)*
Post Angle (Viewed from CG Direction [Y])	θ_{P1}	90	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Angle (Viewed from Row Direction [X])	θ_{P2}	90	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Angle	θ_{PMIN}	90	deg	*This is the minimum angle the post makes with the ground plane*
Vector on ground this is measured on		0.0	0.0	*(m,m) assuming post base at (0,0)*
Post Length	Lp	5.0	m	*Post length above ground - these posts use an insert*
Walls along row ends of block.		No Wall		*Only applicable if walls are present*
Walls along sides of block.		No Wall		*Only applicable if walls are present*

Determination of Guy Loads and Post Compression Loads (using Global Coordinate System)

Maximum Cross-Grid Cable Load (Loading)	$T_{Cable\_Max\_CG}$	4111	kg	*Only 1 CG Cable runs to this corner post*
Maximum Row-Cable Load	$T_{Cable\_Max\_Row}$	3195	kg	*TCable_Max_CG * cos 39°*
Maximum Cross-Grid Cable Load	$T_{Cable\_Max\_CG}$	2587	kg	*TCable_Max_CG * sin 39°*
Percentage of perimeter cable load (Row)		70%		*This compensates for the fact that only 70% of the CG cable is netted.*
Percentage of perimeter cable load (CG)		70%		
Wall Net Loading applied to Top of CP (X Dir)		0	kg	
Wall Net Loading applied to Top of CP (Y Dir)		0	kg	
Wall Tension Loading applied to CP (X Dir)		0	kg	
Wall Tension Loading applied to CP (Y Dir)		0	kg	
Corner Post Load (Row)	T_{CP_Row}	2237	kg	
Corner Post Load (CG)	T_{CP_CG}	1811	kg	

The above forces act at the top of the post. The post remains in static equilibrium, and therefore the guy forces can be computed from the sum of the forces in 3 dimensions.

Guy 1 Load	T_{G1}	3163	kg	
Guy 2 Load	T_{G2}	6303	kg	
Maximum Guy Load	T_{G_Max}	6303	kg	*Note guys evaluated under "Guys" worksheet*
Post Compression	Pcomp	8274	kg	*The maximum load at any part of the column*
Post Length	Lp	5.0	m	*Post length above ground - these posts use an insert*

Bending Moment due to Lateral Deflection

Maximum lateral deflection after post setting	δy_pp	50	mm	*Must get the final position of the post top within this*
Equivalent lateral load due this deflection	Py	1194	N	
Bending moment due this lateral load	M1	5968322	Nmm	*Maximum at base of post, linear relationship.*
Secondary moment due compression	M2	4056750	Nmm	*Maximum at bottom of post, assuming a square root distribution.*
Combined wall net loadings	M3	0	Nmm	*Maximum at the centre of the post, assuming a quadratic distribution over post height.*

Stress Calculations

Axial Stress	fa	38	N/mm^2
Bending Stress	fb	146	N/mm^2

Allowables

Yield Stress	Fy	250	N/mm^2
Buckling Critical Stress	Fc	200	N/mm^2
Bending Modulus of Rupture Stress	Fb	285	N/mm^2

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.19		*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.51		*Bruhn C4.12, use rupture allowable Fb*
Margin of Safety	**MS**	**0.14**		*Must be greater than zero, includes the factor of safety*

Corner Post Insert Analysis - *Insert is subject to pure bending.*

Bending Stress	fb	209	N/mm^2	*The bending stress at the bottom of the post*
Bending Modulus of Rupture Stress	Fb	400	N/mm^2	*Assume Ftu for bending failure*
Margin of Safety	**MS**	**0.53**		*Must be greater than zero, includes the factor of safety*

Corner Post Footing Analysis

Insert Type		Cast-In-Place Concrete		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter / width	d	0.68	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.80	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.36	m^2	
Footing shaft area	As	1.71	m^2	*Shaft friction*
Footing capability	Pfooting	106814	N	
		10892	kg	
Maximum compression load	Pcomp	8274	kg	
Ratio to Requirement	**RtoR**	**1.32**		*Must be greater than 1.0*

Corner Post (TP)

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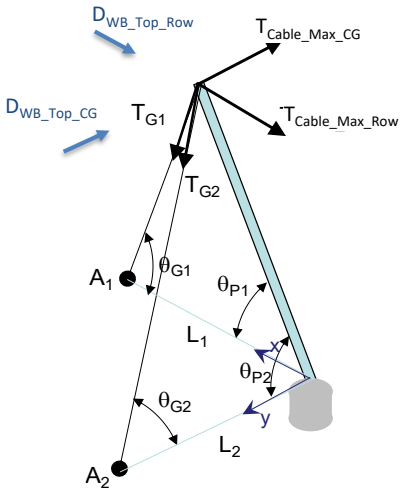
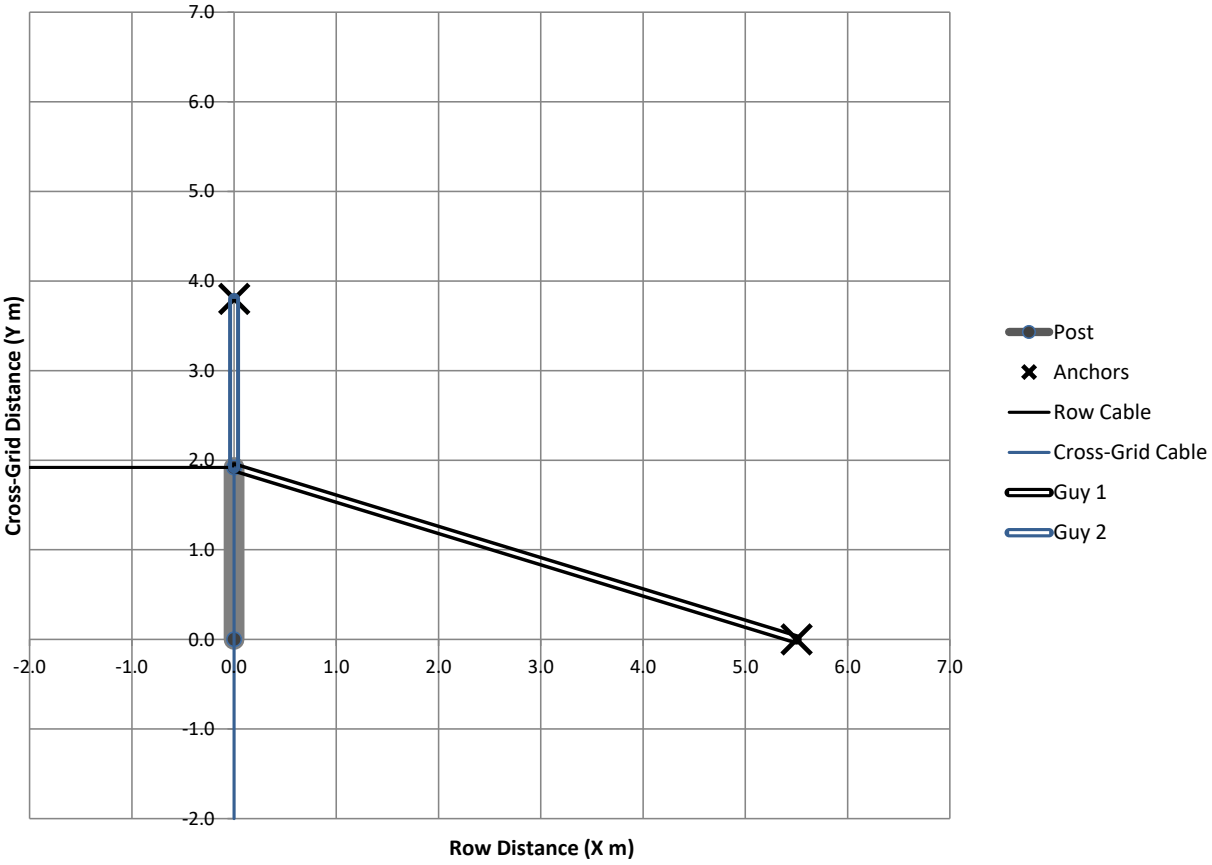
Corner posts are sized using the maximum wind loadings (roof and wall net loadings). Hail loading is considered minimal on a corner post. The analysis below assesses the anchor loadings based on no moment at the base of the corner post. In reality, a moment will exist but this will not have a significant impact on guy and cable forces. However it will have a significant impact on the post stress, and therefore is included in the stress calculations below.

Inputs

Description	Variable	Value	Units	Comments
Select Main Post Material		125NB Medium / Grade 250		
Outside Diameter	D	139.7	mm	
Wall Thickness	t	5.0	mm	
Cross Sectional Area	A	2116	mm^2	
2nd Moment of Area	I	4805412	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	250	N/mm^2	
Tensile Strength	Ft	320	N/mm^2	
Buckling Strength	Fc	200	N/mm^2	
Select Insert Material		100NB Heavy / Grade 300		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	5.4	mm	
2nd Moment of Area	I	2745389	mm^4	
Yield Strength	Fy	300	N/mm^2	
Tensile Strength	Ft	400	N/mm^2	



Corner Post Plan View



Corner Post Configuration

Anchor Locations	A1	5.50	0.00	*(m, m) assuming post base at (0,0)*
	A2	0.00	3.80	*(m, m) assuming post base at (0,0)*
Post Angle (Viewed from CG Direction [Y])	θ_{P1}	90	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Angle (Viewed from Row Direction [X])	θ_{P2}	69	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Angle	θ_{PMIN}	69	deg	*This is the minimum angle the post makes with the ground plane*
Vector on ground this is measured on		0.0	1.9	*(m,m) assuming post base at (0,0)*
Post Length	Lp	5.4	m	*Post length above ground - these posts use an insert*
Walls along row ends of block.		Wall on Guy		*Only applicable if walls are present*
Walls along sides of block.		Wall on Guy		*Only applicable if walls are present*

Determination of Guy Loads and Post Compression Loads (using Global Coordinate System)

Maximum Row-Cable Load	$T_{Cable\_Max\_Row}$	4907	kg	
Maximum Cross-Grid Cable Load	$T_{Cable\_Max\_CG}$	4111	kg	
Percentage of perimeter cable load (Row)		70%		*The perimeter cables only carry 50% of the aerodynamic load compared to the interior cables. To account for other variations, this is increased to 70%.*
Percentage of perimeter cable load (CG)		70%		
Wall Net Loading applied to Top of CP (X Dir)		548	kg	
Wall Net Loading applied to Top of CP (Y Dir)		438	kg	
Wall Tension Loading applied to CP (X Dir)		153	kg	
Wall Tension Loading applied to CP (Y Dir)		153	kg	
Corner Post Load (Row)	T_{CP_Row}	4136	kg	
Corner Post Load (CG)	T_{CP_CG}	3468	kg	

The above forces act at the top of the post. The post remains in static equilibrium, and therefore the guy forces can be computed from the sum of the forces in 3 dimensions.

Guy 1 Load	T_{G1}	5773	kg	
Guy 2 Load	T_{G2}	4876	kg	
Maximum Guy Load	T_{G_Max}	5773	kg	*Note guys evaluated under "Guys" worksheet*
Post Compression	Pcomp	8916	kg	*The maximum load at any part of the column*
Post Length	Lp	5.4	m	*Post length above ground - these posts use an insert*

Bending Moment due to Lateral Deflection

Maximum lateral deflection after post setting	δy_pp	50	mm	*Must get the final position of the post top within this*
Equivalent lateral load due this deflection	Py	971	N	
Bending moment due this lateral load	M1	5201825	Nmm	*Maximum at base of post, linear relationship.*
Secondary moment due compression	M2	4371698	Nmm	*Maximum at bottom of post, assuming a square root distribution.*
Combined wall net loadings	M3	0	Nmm	*Maximum at the centre of the post, assuming a quadratic distribution over post height.*

Stress Calculations

Axial Stress	fa	41	N/mm^2
Bending Stress	fb	139	N/mm^2

Allowables

Yield Stress	Fy	250	N/mm^2
Buckling Critical Stress	Fc	200	N/mm^2
Bending Modulus of Rupture Stress	Fb	285	N/mm^2

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.21		*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.49		*Bruhn C4.12, use rupture allowable Fb*
Margin of Safety	**MS**	**0.15**		*Must be greater than zero, includes the factor of safety*

Corner Post Insert Analysis - *Insert is subject to pure bending.*

Bending Stress	fb	199	N/mm^2	*The bending stress at the bottom of the post*
Bending Modulus of Rupture Stress	Fb	400	N/mm^2	*Assume Ftu for bending failure*
Margin of Safety	**MS**	**0.61**		*Must be greater than zero, includes the factor of safety*

Corner Post Footing Analysis

Insert Type		Cast-In-Place Concrete		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter / width	d	0.68	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.80	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.36	m^2	
Footing shaft area	As	1.71	m^2	*Shaft friction*
Footing capability	Pfooting	106814	N	
		10892	kg	
Maximum compression load	Pcomp	8916	kg	
Ratio to Requirement	**RtoR**	**1.22**		*Must be greater than 1.0*

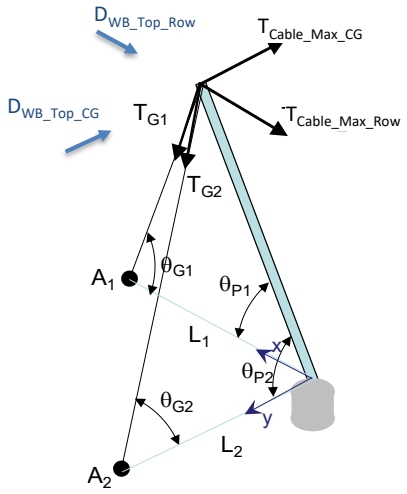
Corner Post (Angled)

1759-CR01_P&T_Marciano_StructType_27May25

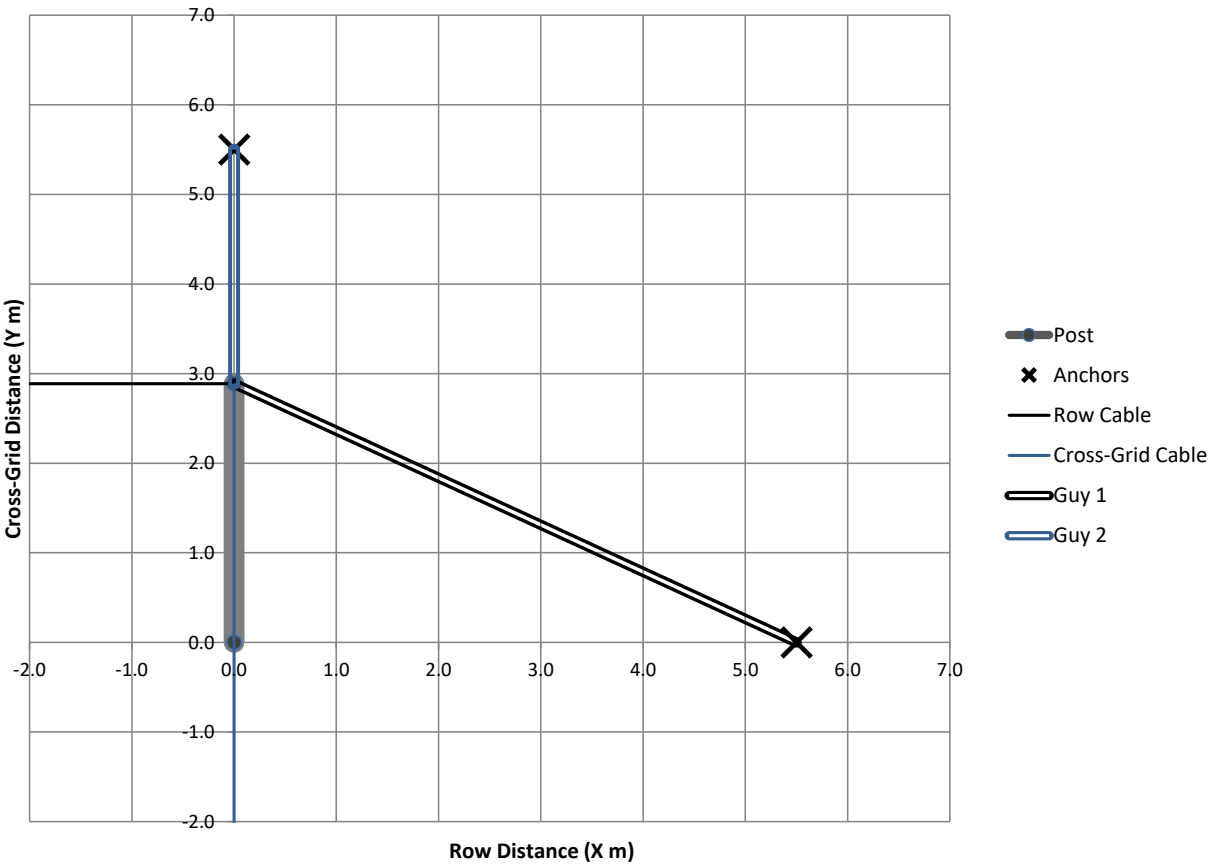
Corner posts are sized using the maximum wind loadings (roof and wall net loadings). Hail loading is considered minimal on a corner post. The analysis below assesses the anchor loadings based on no moment at the base of the corner post. In reality, a moment will exist but this will not have a significant impact on guy and cable forces. However it will have a significant impact on the post stress, and therefore is included in the stress calculations below.

Inputs

Description	Variable	Value	Units	Comments
Select Main Post Material		125NB Medium / Grade 250		
Outside Diameter	D	139.7	mm	
Wall Thickness	t	5.0	mm	
Cross Sectional Area	A	2116	mm^2	
2nd Moment of Area	I	4805412	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	250	N/mm^2	
Tensile Strength	Ft	320	N/mm^2	
Buckling Strength	Fc	196	N/mm^2	
Select Insert Material		100NB Heavy / Grade 300		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	5.4	mm	
2nd Moment of Area	I	2745389	mm^4	
Yield Strength	Fy	300	N/mm^2	
Tensile Strength	Ft	400	N/mm^2	



Corner Post Plan View



Corner Post Configuration

Anchor Locations	A1	5.50	0.00	*(m, m) assuming post base at (0,0)*
	A2	0.00	5.50	*(m, m) assuming post base at (0,0)*
Post Angle (Viewed from CG Direction [Y])	θ_{P1}	90	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Angle (Viewed from Row Direction [X])	θ_{P2}	60	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Angle	θ_{PMIN}	60	deg	*This is the minimum angle the post makes with the ground plane*
Vector on ground this is measured on		0.0	2.9	*(m,m) assuming post base at (0,0)*
Post Length	Lp	5.8	m	*Post length above ground - these posts use an insert*
Walls along row ends of block.		Wall on Guy		*Only applicable if walls are present*
Walls along sides of block.		Wall on Guy		*Only applicable if walls are present*

Determination of Guy Loads and Post Compression Loads (using Global Coordinate System)

Maximum Row-Cable Load	$T_{Cable\_Max\_Row}$	4907	kg	
Maximum Cross-Grid Cable Load	$T_{Cable\_Max\_CG}$	4111	kg	
Percentage of perimeter cable load (Row)		70%		*The perimeter cables only carry 50% of the aerodynamic load compared to the interior cables. To account for other variations, this is increased to 70%.*
Percentage of perimeter cable load (CG)		70%		
Wall Net Loading applied to Top of CP (X Dir)		548	kg	
Wall Net Loading applied to Top of CP (Y Dir)		438	kg	
Wall Tension Loading applied to CP (X Dir)		153	kg	
Wall Tension Loading applied to CP (Y Dir)		153	kg	
Corner Post Load (Row)	T_{CP_Row}	4136	kg	
Corner Post Load (CG)	T_{CP_CG}	3468	kg	

The above forces act at the top of the post. The post remains in static equilibrium, and therefore the guy forces can be computed from the sum of the forces in 3 dimensions.

Guy 1 Load	T_{G1}	5996	kg	
Guy 2 Load	T_{G2}	3558	kg	
Maximum Guy Load	T_{G_Max}	5996	kg	*Note guys evaluated under "Guys" worksheet*
Post Compression	Pcomp	7982	kg	*The maximum load at any part of the column*
Post Length	Lp	5.8	m	*Post length above ground - these posts use an insert*

Bending Moment due to Lateral Deflection

Maximum lateral deflection after post setting	δy_pp	50	mm	*Must get the final position of the post top within this*
Equivalent lateral load due this deflection	Py	775	N	
Bending moment due this lateral load	M1	4476242	Nmm	*Maximum at base of post, linear relationship.*
Secondary moment due compression	M2	3914047	Nmm	*Maximum at bottom of post, assuming a square root distribution.*
Combined wall net loadings	M3	0	Nmm	*Maximum at the centre of the post, assuming a quadratic distribution over post height.*

Stress Calculations

Axial Stress	fa	37	N/mm^2
Bending Stress	fb	122	N/mm^2

Allowables

Yield Stress	Fy	250	N/mm^2
Buckling Critical Stress	Fc	196	N/mm^2
Bending Modulus of Rupture Stress	Fb	285	N/mm^2

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.19		*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.43		*Bruhn C4.12, use rupture allowable Fb*
Margin of Safety	**MS**	**0.30**		*Must be greater than zero, includes the factor of safety*

Corner Post Insert Analysis - *Insert is subject to pure bending.*

Bending Stress	fb	175	N/mm^2	*The bending stress at the bottom of the post*
Bending Modulus of Rupture Stress	Fb	400	N/mm^2	*Assume Ftu for bending failure*
Margin of Safety	**MS**	**0.83**		*Must be greater than zero, includes the factor of safety*

Corner Post Footing Analysis

Insert Type		Cast-In-Place Concrete		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter / width	d	0.68	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.80	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.36	m^2	
Footing shaft area	As	1.71	m^2	*Shaft friction*
Footing capability	Pfooting	106814	N	
		10892	kg	
Maximum compression load	Pcomp	7982	kg	
Ratio to Requirement	**RtoR**	**1.36**		*Must be greater than 1.0*

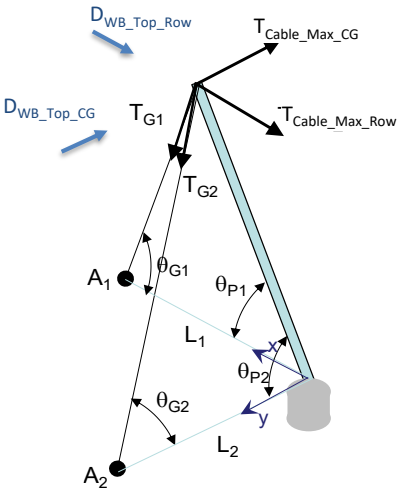
Corner Post (55deg)

1759-CR01_P&T_Marciano_StructType_27May25

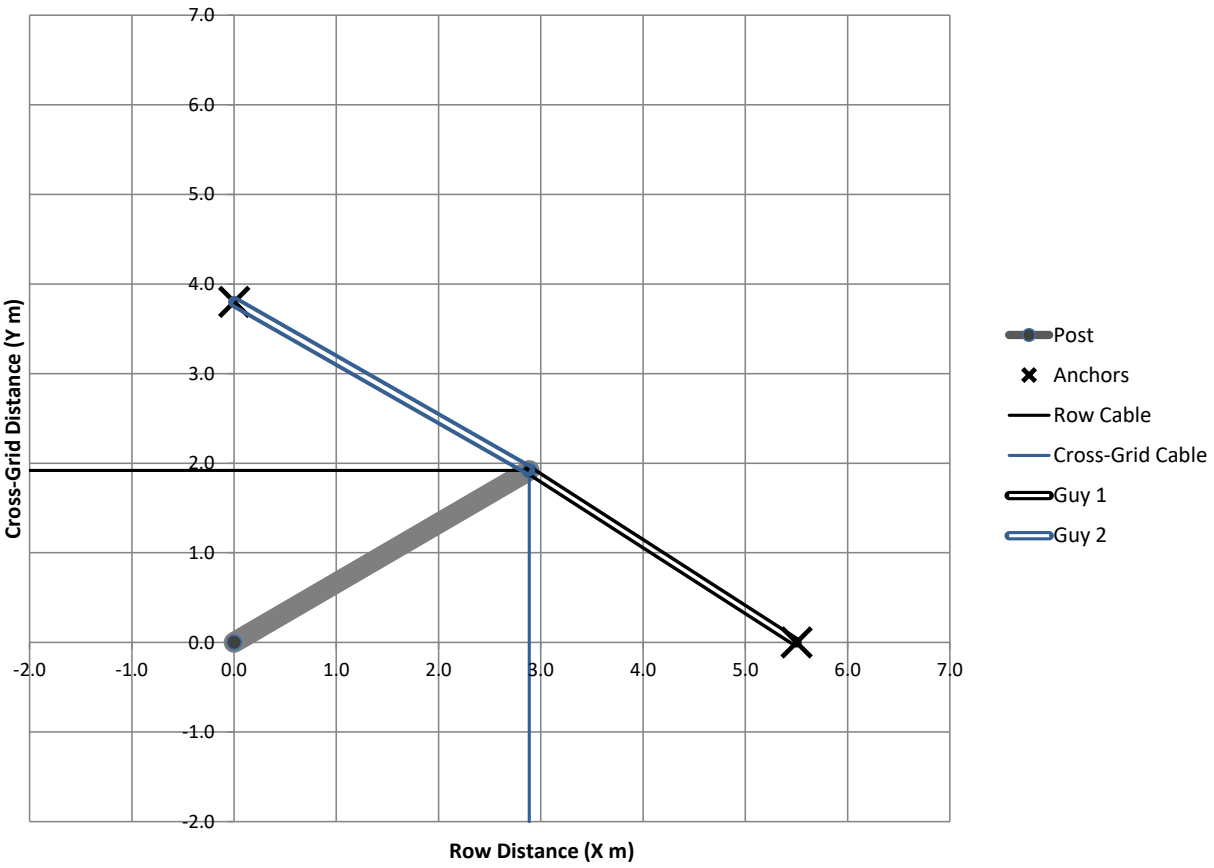
Corner posts are sized using the maximum wind loadings (roof and wall net loadings). Hail loading is considered minimal on a corner post. The analysis below assesses the anchor loadings based on no moment at the base of the corner post. In reality, a moment will exist but this will not have a significant impact on guy and cable forces. However it will have a significant impact on the post stress, and therefore is included in the stress calculations below.

Inputs

Description	Variable	Value	Units	Comments
Select Main Post Material		125NB Medium / Grade 250		
Outside Diameter	D	139.7	mm	
Wall Thickness	t	5.0	mm	
Cross Sectional Area	A	2116	mm^2	
2nd Moment of Area	I	4805412	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	250	N/mm^2	
Tensile Strength	Ft	320	N/mm^2	
Buckling Strength	Fc	177	N/mm^2	
Select Insert Material		100NB Heavy / Grade 300		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	5.4	mm	
2nd Moment of Area	I	2745389	mm^4	
Yield Strength	Fy	300	N/mm^2	
Tensile Strength	Ft	400	N/mm^2	



Corner Post Plan View



Corner Post Configuration

Anchor Locations	A1	5.50	0.00	*(m, m) assuming post base at (0,0)*
	A2	0.00	3.80	*(m, m) assuming post base at (0,0)*
Post Angle (Viewed from CG Direction [Y])	θ_{P1}	60	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Angle (Viewed from Row Direction [X])	θ_{P2}	69	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Angle	θ_{PMIN}	55	deg	*This is the minimum angle the post makes with the ground plane*
Vector on ground this is measured on		2.9	1.9	*(m,m) assuming post base at (0,0)*
Post Length	Lp	6.1	m	*Post length above ground - these posts use an insert*
Walls along row ends of block.		Wall on Guy		*Only applicable if walls are present*
Walls along sides of block.		Wall on Guy		*Only applicable if walls are present*

Determination of Guy Loads and Post Compression Loads (using Global Coordinate System)

Maximum Row-Cable Load	$T_{Cable\_Max\_Row}$	4907	kg	
Maximum Cross-Grid Cable Load	$T_{Cable\_Max\_CG}$	4111	kg	
Percentage of perimeter cable load (Row)		70%		*The perimeter cables only carry 50% of the aerodynamic load compared to the interior cables. To account for other variations, this is increased to 70%.*
Percentage of perimeter cable load (CG)		70%		
Wall Net Loading applied to Top of CP (X Dir)		548	kg	
Wall Net Loading applied to Top of CP (Y Dir)		438	kg	
Wall Tension Loading applied to CP (X Dir)		153	kg	
Wall Tension Loading applied to CP (Y Dir)		153	kg	
Corner Post Load (Row)	T_{CP_Row}	4136	kg	
Corner Post Load (CG)	T_{CP_CG}	3468	kg	

The above forces act at the top of the post. The post remains in static equilibrium, and therefore the guy forces can be computed from the sum of the forces in 3 dimensions.

Guy 1 Load	T_{G1}	4481	kg	
Guy 2 Load	T_{G2}	5542	kg	
Maximum Guy Load	T_{G_Max}	5542	kg	*Note guys evaluated under "Guys" worksheet*
Post Compression	Pcomp	10128	kg	*The maximum load at any part of the column*
Post Length	Lp	6.1	m	*Post length above ground - these posts use an insert*

Bending Moment due to Lateral Deflection

Maximum lateral deflection after post setting	δy_pp	50	mm	*Must get the final position of the post top within this*
Equivalent lateral load due this deflection	Py	663	N	
Bending moment due this lateral load	M1	4030785	Nmm	*Maximum at base of post, linear relationship.*
Secondary moment due compression	M2	4966303	Nmm	*Maximum at bottom of post, assuming a square root distribution.*
Combined wall net loadings	M3	0	Nmm	*Maximum at the centre of the post, assuming a quadratic distribution over post height.*

Stress Calculations

Axial Stress	fa	47	N/mm^2
Bending Stress	fb	131	N/mm^2

Allowables

Yield Stress	Fy	250	N/mm^2
Buckling Critical Stress	Fc	177	N/mm^2
Bending Modulus of Rupture Stress	Fb	285	N/mm^2

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.27		*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.46		*Bruhn C4.12, use rupture allowable Fb*
Margin of Safety	**MS**	**0.10**		*Must be greater than zero, includes the factor of safety*

Corner Post Insert Analysis - *Insert is subject to pure bending.*

Bending Stress	fb	187	N/mm^2	*The bending stress at the bottom of the post*
Bending Modulus of Rupture Stress	Fb	400	N/mm^2	*Assume Ftu for bending failure*
Margin of Safety	**MS**	**0.71**		*Must be greater than zero, includes the factor of safety*

Corner Post Footing Analysis

Insert Type		Cast-In-Place Concrete		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter / width	d	0.68	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.80	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.36	m^2	
Footing shaft area	As	1.71	m^2	*Shaft friction*
Footing capability	Pfooting	106814	N	
		10892	kg	
Maximum compression load	Pcomp	10128	kg	
Ratio to Requirement	**RtoR**	**1.08**		*Must be greater than 1.0*

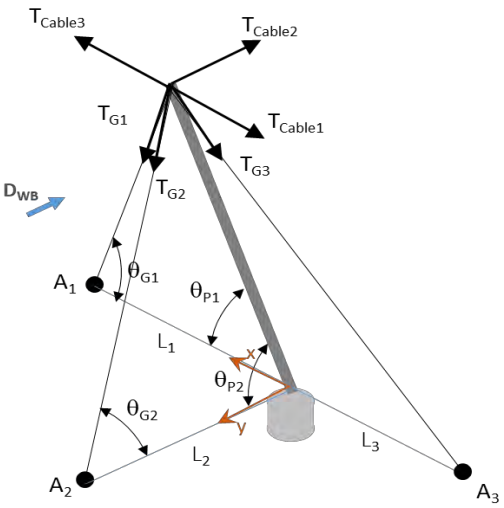
Perimeter Breaker Post (SE)

1759-CR01_P&T_Marciano_StructType_27May25

Breaker posts are used to break up large structures into smaller blocks. If a failure were to occur on one side of the breaker post, the breaker posts prevents the failure cascading into the other side. Perimeter breaker posts are those breaker posts located on the perimeter of a large structure. Given a failure on one side of the structure, the perimeter breaker post effectively becomes a corner post for the opposing side of the structure. When subject to severe wind and hail, the perimeter breaker posts effectively acts like a corner post in one direction and a regular perimeter post in the other direction. The analysis below sizes the post in accordance with this loading.

Inputs

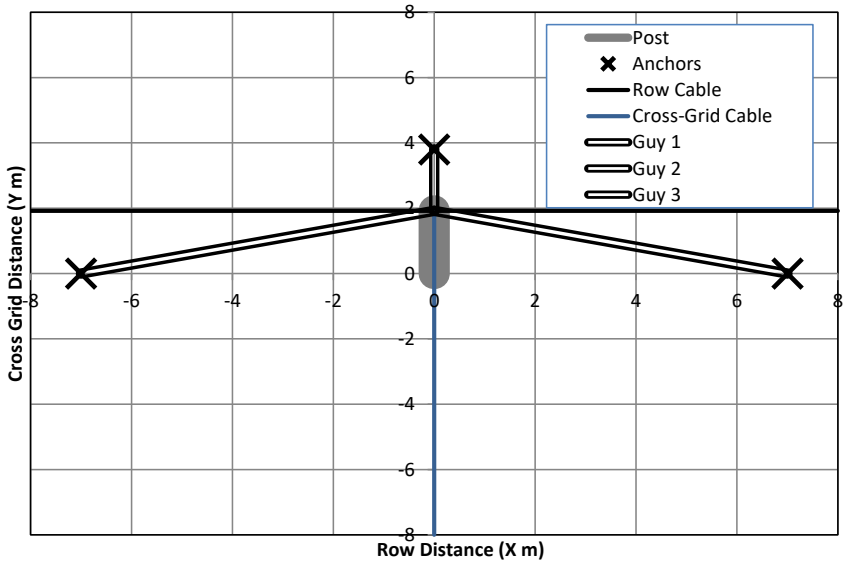
Description	Variable	Value	Units	Comments
Select Main Post Material		125NB Medium / Grade 350		
Outside Diameter	D	139.7	mm	
Wall Thickness	t	5.0	mm	
Cross Sectional Area	A	2116	mm^2	
2nd Moment of Area	I	4805412	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	350	N/mm^2	
Tensile Strength	Ft	430	N/mm^2	
Buckling Strength	Fc	228	N/mm^2	
Select Insert Material		100NB Heavy / Grade 300		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	5.4	mm	
2nd Moment of Area	I	2745389	mm^4	
Yield Strength	Fy	300	N/mm^2	
Tensile Strength	Ft	400	N/mm^2	



Perimeter Breaker Post Configuration

Perimeter Breaker Post Orientation		Row	Cable	*Normally PBP used for breaking row cables*
Post Angle	θ_P	69	deg	*90 deg for vertical PBP, 60 deg for a 60deg PBP*
Anchor Locations A1 and A3	A1, A3	7.0	m	*Distance from post base*
Anchor Location A2 (Double Anchor & Guy)	A2	3.8	m	*Distance from post base*
Wall Net Configuration		Wall on Guy		

Perimeter Breaker Post Plan View



Determination of Guy Forces

Maximum Row-Cable Load	$T_{Cable\_Max\_Row}$	4907	kg	*Maximum cable loadings as obtained from "Cables" Worksheet. The CG load is conservatively increased by 120% to account for two different shorter CG cables terminating at this post.*
Maximum Cross-Grid Cable Load	$T_{Cable\_Max\_CG}$	4933	kg	
Wall Netting Top of Post Loading (Row)	$D_{WB\_Top\_Row}$	0	kg	*Drag force component that applies at the top of the post*
Wall Netting Top of Post Loading (Cross-Grid)	$D_{WB\_Top\_CG}$	876	kg	
Percentage of maximum cable load		70%		*The perimeter cables only carry 50% of the aerodynamic load compared to the interior cables. To account for other variations, this is increased to 70%.*
Perimeter Breaker Post Load (Row)	T_{CP_Row}	3435	kg	*Combination of the elevated cable forces and any forces due to wall net loadings*
Perimeter Breaker Post Load (CG)	T_{CP_CG}	5809	kg	

The above forces act at the top of the post. The post remains in static equilibrium, and therefore the guy forces can be computed from the sum of the forces in 3 dimensions.

Guy 1 Load	T_{G1}	4325	kg	*Obtained from simultaneous equations with post in static equilibrium.*
Guy 2 Load (2 Anchors)	T_{G2}	4083	kg	
Guy 3 Load	T_{G3}	0	kg	*The third guy is assumed to become unloaded when opposing guy (G1) becomes fully loaded.*
Maximum Guy Load	T_{G_Max}	4325	kg	*Note guys evaluated under "Guys" worksheet*
Post Compression	Pcomp	10816	kg	*The maximum load at any part of the column*
Post Length	Lp	5.4	m	*Post length above ground - these posts use an insert*

Bending Moment due to Lateral Deflection

Maximum lateral deflection after post setting	dy_pp	50	mm	*The post must be set straight on installation. In practise this cannot be achieved, so it is assumed that the post top is displaced the following amount.*
Equivalent lateral load due this deflection	Py	971	N	
Bending moment due to the lateral load	M1	5201825	Nmm	*Maximum at base of post, linear relationship.*
Secondary moment due compression	M2	5303207	Nmm	*Maximum at bottom of post, assuming a square root distribution.*
Bending moment due to wall net loading	M3	0	Nmm	*Maximum at the centre of the post, assuming a quadratic distribution over post height. Only applicable if a wall net is attached to the post.*

Stress Calculations

Axial Stress	fa	50	N/mm^2	*Based on the post compression found above.*
Bending Stress	fb	153	N/mm^2	*Obtained from the maximum of (M1+M2) at bottom of post or (M3+0.5*M1+0.7071*M2) at middle of post.*

Allowables

Yield Stress	Fy	350	N/mm^2
Buckling Critical Stress	Fc	228	N/mm^2
Bending Modulus of Rupture Stress	Fb	390	N/mm^2

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.22	*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.39	*Bruhn C4.12, use rupture allowable Fb*

Margin of Safety (Post) **MS** **0.31** *Must be greater than zero, includes the factor of safety*

Perimeter Breaker Post Insert Analysis - *Insert is subject to pure bending.*

Bending Stress	fb	219	N/mm^2	*The bending stress at the bottom of the post*
Bending Modulus of Rupture Stress	Fb	400	N/mm^2	*Assume Ftu for bending failure*
Margin of Safety	**MS**	**0.46**		*Must be greater than zero, includes the factor of safety*

Perimeter Breaker Post Footing Analysis

Insert Type		Cast-In-Place Concrete		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter / width	d	0.68	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.80	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.36	m^2	
Footing shaft area	As	1.71	m^2	*Shaft friction*
Footing capability	Pfooting	106814	N	
		10892	kg	
Maximum compression load	Pcomp	10816	kg	
Ratio to Requirement	**RtoR**	**1.01**		*Must be greater than 1.0*

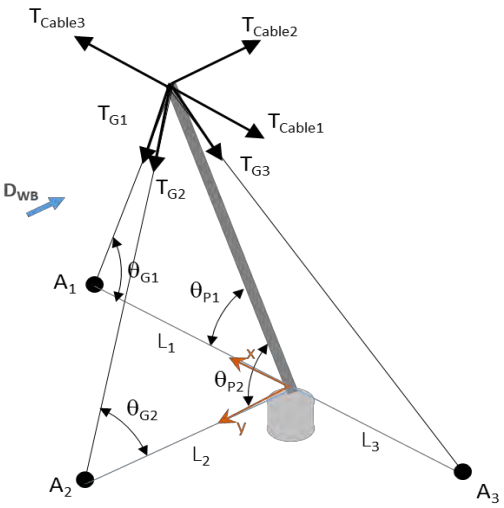
Perimeter Breaker Post

1759-CR01_P&T_Marciano_StructType_27May25

Breaker posts are used to break up large structures into smaller blocks. If a failure were to occur on one side of the breaker post, the breaker posts prevents the failure cascading into the other side. Perimeter breaker posts are those breaker posts located on the perimeter of a large structure. Given a failure on one side of the structure, the perimeter breaker post effectively becomes a corner post for the opposing side of the structure. When subject to severe wind and hail, the perimeter breaker posts effectively acts like a corner post in one direction and a regular perimeter post in the other direction. The analysis below sizes the post in accordance with this loading.

Inputs

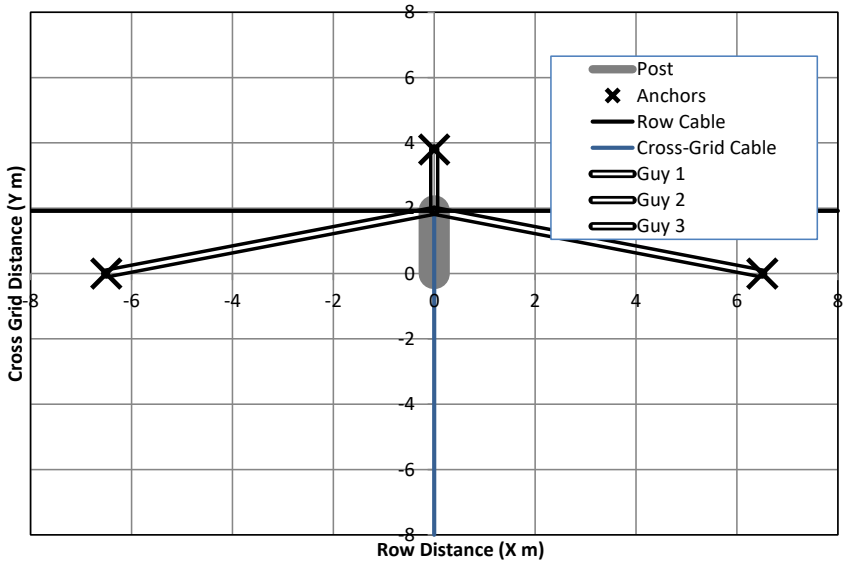
Description	Variable	Value	Units	Comments
Select Main Post Material		125NB Medium / Grade 250		
Outside Diameter	D	139.7	mm	
Wall Thickness	t	5.0	mm	
Cross Sectional Area	A	2116	mm^2	
2nd Moment of Area	I	4805412	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	250	N/mm^2	
Tensile Strength	Ft	320	N/mm^2	
Buckling Strength	Fc	200	N/mm^2	
Select Insert Material		100NB Heavy / Grade 300		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	5.4	mm	
2nd Moment of Area	I	2745389	mm^4	
Yield Strength	Fy	300	N/mm^2	
Tensile Strength	Ft	400	N/mm^2	



Perimeter Breaker Post Configuration

Perimeter Breaker Post Orientation		Row	Cable	*Normally PBP used for breaking row cables*
Post Angle	θ_P	69	deg	*90 deg for vertical PBP, 60 deg for a 60deg PBP*
Anchor Locations A1 and A3	A1, A3	6.5	m	*Distance from post base*
Anchor Location A2 (Double Anchor & Guy)	A2	3.8	m	*Distance from post base*
Wall Net Configuration		Wall on Guy		

Perimeter Breaker Post Plan View



Determination of Guy Forces

Maximum Row-Cable Load	$T_{Cable\_Max\_Row}$	4907	kg	*Maximum cable loadings as obtained from "Cables" Worksheet*
Maximum Cross-Grid Cable Load	$T_{Cable\_Max\_CG}$	4111	kg	
Wall Netting Top of Post Loading (Row)	$D_{WB\_Top\_Row}$	0	kg	*Drag force component that applies at the top of the post*
Wall Netting Top of Post Loading (Cross-Grid)	$D_{WB\_Top\_CG}$	876	kg	
Percentage of maximum cable load		70%		*The perimeter cables only carry 50% of the aerodynamic load compared to the interior cables. To account for other variations, this is increased to 70%.*
Perimeter Breaker Post Load (Row)	T_{CP_Row}	3435	kg	*Combination of the elevated cable forces and any forces due to wall net loadings*
Perimeter Breaker Post Load (CG)	T_{CP_CG}	4987	kg	

The above forces act at the top of the post. The post remains in static equilibrium, and therefore the guy forces can be computed from the sum of the forces in 3 dimensions.

Guy 1 Load	T_{G1}	4451	kg	*Obtained from simultaneous equations with post in static equilibrium.*
Guy 2 Load (2 Anchors)	T_{G2}	3505	kg	
Guy 3 Load	T_{G3}	0	kg	*The third guy is assumed to become unloaded when opposing guy (G1) becomes fully loaded.*
Maximum Guy Load	T_{G_Max}	4451	kg	*Note guys evaluated under "Guys" worksheet*
Post Compression	Pcomp	9859	kg	*The maximum load at any part of the column*
Post Length	Lp	5.4	m	*Post length above ground - these posts use an insert*

Bending Moment due to Lateral Deflection

Maximum lateral deflection after post setting	dy_pp	50	mm	*The post must be set straight on installation. In practise this cannot be achieved, so it is assumed that the post top is displaced the following amount.*
Equivalent lateral load due this deflection	Py	971	N	
Bending moment due to the lateral load	M1	5201825	Nmm	*Maximum at base of post, linear relationship.*
Secondary moment due compression	M2	4834106	Nmm	*Maximum at bottom of post, assuming a square root distribution.*
Bending moment due to wall net loading	M3	0	Nmm	*Maximum at the centre of the post, assuming a quadratic distribution over post height. Only applicable if a wall net is attached to the post.*

Stress Calculations

Axial Stress	fa	46	N/mm^2	*Based on the post compression found above.*
Bending Stress	fb	146	N/mm^2	*Obtained from the maximum of (M1+M2) at bottom of post or (M3+0.5*M1+0.7071*M2) at middle of post.*

Allowables

Yield Stress	Fy	250	N/mm^2	
Buckling Critical Stress	Fc	200	N/mm^2	
Bending Modulus of Rupture Stress	Fb	285	N/mm^2	

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.23		*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.51		*Bruhn C4.12, use rupture allowable Fb*
Margin of Safety (Post)	**MS**	**0.08**		*Must be greater than zero, includes the factor of safety*

Perimeter Breaker Post Insert Analysis - *Insert is subject to pure bending.*

Bending Stress	fb	209	N/mm^2	*The bending stress at the bottom of the post*
Bending Modulus of Rupture Stress	Fb	400	N/mm^2	*Assume Ftu for bending failure*
Margin of Safety	**MS**	**0.53**		*Must be greater than zero, includes the factor of safety*

Perimeter Breaker Post Footing Analysis

Insert Type		Cast-In-Place Concrete		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter / width	d	0.68	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.80	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.36	m^2	
Footing shaft area	As	1.71	m^2	*Shaft friction*
Footing capability	Pfooting	106814	N	
		10892	kg	
Maximum compression load	Pcomp	9859	kg	
Ratio to Requirement	**RtoR**	**1.10**		*Must be greater than 1.0*

Interior Breaker Post

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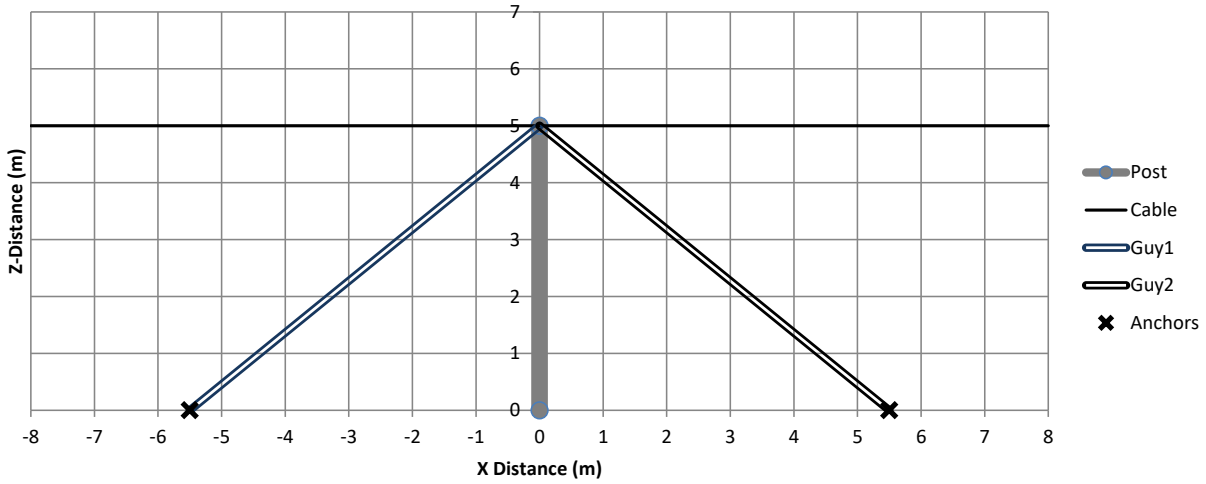
Breaker posts are used to break up large structures into smaller blocks. If a failure were to occur on one side of the breaker post, the breaker posts prevents the failure cascading into the other side. Interior breaker posts are those breaker posts located on the interior of a large structure, normally situated between perimeter breaker posts and located on row direction cable lines. Given a failure on one side of the structure, the interior breaker post effectively becomes a perimeter post for the opposing side of the structure.

Inputs

Description	Variable	Value	Units	Comments
Select Main Post Material		125NB Medium / Grade 250		
Outside Diameter	D	139.7	mm	
Wall Thickness	t	5.0	mm	
Cross Sectional Area	A	2116	mm^2	
2nd Moment of Area	I	4805412	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	250	N/mm^2	
Tensile Strength	Ft	320	N/mm^2	
Buckling Strength	Fc	200	N/mm^2	
Select Insert Material		100NB Heavy / Grade 300		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	5.4	mm	
2nd Moment of Area	I	2745389	mm^4	
Yield Strength	Fy	300	N/mm^2	
Tensile Strength	Ft	400	N/mm^2	

Interior Breaker Post Elevation View



Interior Breaker Post Configuration

Interior Breaker Post Orientation		Row	Cable	*Normally IBP used for breaking row cables*
Anchor Placement Distance	Lx	5.5	m	*Anchor placement distance from base of post*

Axial Compression due Guys

Guy 1				
Maximum Cable Load due Wind & Hail	T_{Max}	4907	kg	*Maximum cable loadings as obtained from "Cables" Worksheet*
Guy wire angle	θ_{G1}	42.3	deg	
Guy load	T_{G1}	6632	kg	
Guy 2				
Cable Load due Hail on no pre-tension cable	T_{Max}	1500	kg	*The other cable on opposing side unloads to zero, but for conservatism it is assumed the other side stays at its initial pre-tension.*
Guy wire angle	θ_{G2}	42.3	deg	*Guy Angle*
Guy load	T_{G2}	2027	kg	
Maximum Guy Load	T_{G_Max}	6632	kg	*Note guys evaluated under "Guys" worksheet*
Post Length	Lp	5.0	m	
Post Compression	Pc	5825	kg	*The maximum load at any part of the column*

Bending Moment due to Lateral Deflection

Maximum lateral deflection after post setting	δy_pp	50.0	mm	*The post must be set straight on installation. In practise this cannot be achieved, so it is assumed that the post top is displaced the following amount.*
Equivalent lateral load due this deflection	Py	1194	N	
Bending moment due this lateral load	M1	5968322	Nmm	*Maximum at base of post, linear relationship.*
Secondary moment due compression	M2	2856092	Nmm	*Maximum at bottom of post.*

Stress Calculations

Axial Stress	fa	27	N/mm^2	*Axial stress due compression*
Bending Stress	fb	128	N/mm^2	*Bending stress due to the moment (M1 + M2)*

Allowables

Yield Stress	Fy	250	N/mm^2	
Buckling Critical Stress	Fc	200	N/mm^2	
Bending Modulus of Rupture Stress	Fb	285	N/mm^2	

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.13		*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.45		*Bruhn C4.12, use rupture allowable Fb*
Margin of Safety	**MS**	**0.37**		*Must be greater than zero, includes the factor of safety*

Interior Breaker Post Insert Analysis - *Insert is subject to pure bending.*

Bending Stress	fb	184	N/mm^2	*The bending stress at the bottom of the post*
Bending Modulus of Rupture Stress	Fb	400	N/mm^2	*Assume Ftu for bending failure*
Margin of Safety	**MS**	**0.74**		*Must be greater than zero, includes the factor of safety*

Interior Breaker Post Footing Analysis

Insert Type		Rammed Insert		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter	d	0.53	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.90	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.27	m^2	
Footing shaft area	As	0.39	m^2	*Shaft friction*
Footing capability	Pfooting	61014	N	
		6222	kg	
Maximum compression load	Pcomp	5825	kg	
Ratio to Requirement	**RtoR**	**1.07**		*Must be greater than 1.0*

Perimeter Post (TP)

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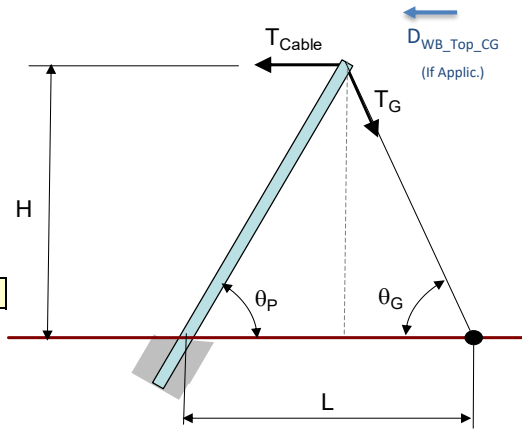
Perimeter posts are sized using the maximum wind loadings (roof and wall nets loadings). This conservative method assumes all wind loading along the longest cross-grid or row run is all taken by that cable run. This ignores the assistance provided by interior posts and perpendicular cable runs.

Inputs

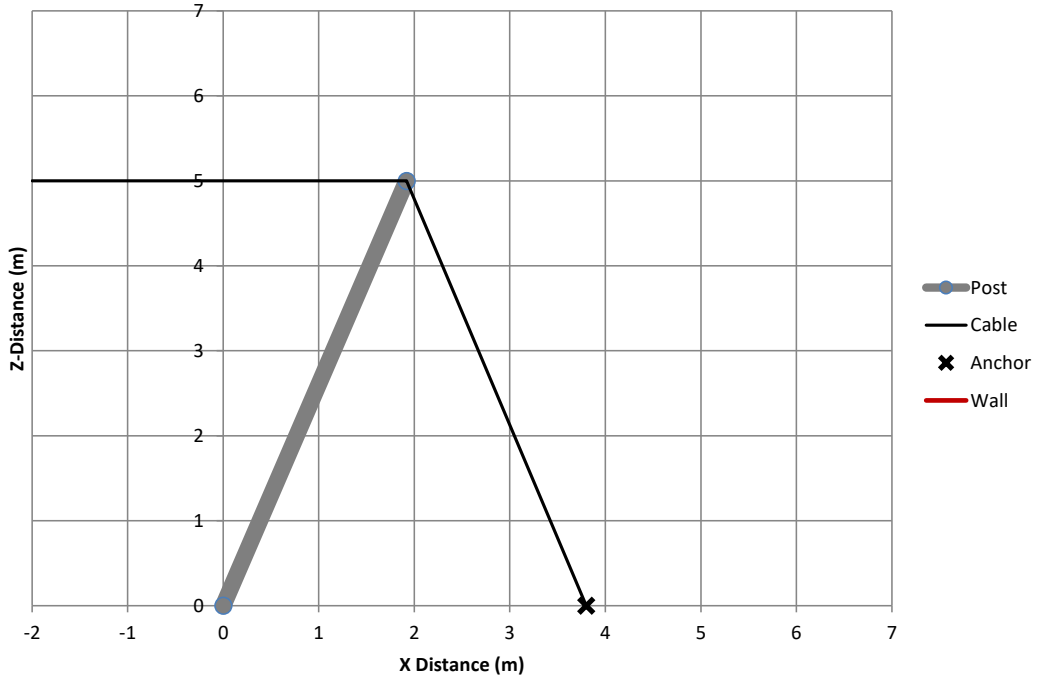
Description	Variable	Value	Units	Comments
Select Main Post Material		100NB Light / Grade 350		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	3.6	mm	
Cross Sectional Area	A	1252	mm^2	
2nd Moment of Area	I	1919837	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	350	N/mm^2	
Tensile Strength	Ft	430	N/mm^2	
Buckling Strength	Fc	154	N/mm^2	
Select Insert Material		90NB Heavy / Grade 300		
Outside Diameter	D	101.6	mm	
Wall Thickness	t	5.0	mm	
2nd Moment of Area	I	1774693	mm^4	
Yield Strength	Fy	300	N/mm^2	
Tensile Strength	Ft	400	N/mm^2	



Perimeter Post Configuration

Perimeter Post Location		Cross-Grid		*Row-end, Cross-Grid, or Either location*
Wall Net Configuration		No Wall		
Anchor Placement Distance	L	3.8	m	*Distance from post base*
Post Angle	θ_P	69	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Length	Lp	5.4	m	*Post length above ground - these posts use an insert*

Perimeter Post Elevation View



Determination of Guy Loads and Post Compression Loads (using Global Coordinate System)

Maximum Cable Load	T_{Cable}	4111	kg	*Obtained from Anchor worksheet, depends on perimeter post locations. Based on maximum aerodynamic forces*
Maximum Wall Loading	T_{Wall}	0	kg	*Assumes 11/18 of the wall net loading ends up at the top of the post (if applicable)*
Total Load at Top of Post	T_{Total}	4111	kg	*Combined Cable & Wall Loading*
Guy wire angle	θ_G	69.4	deg	*Reference to the ground plane.*
Maximum Guy load	T_{G_Max}	5780	kg	*Note guys evaluated under "Guys" worksheet*
Pole Compression	P_{comp}	5794	kg	*The maximum load at any part of the column*

Bending Moment due to Lateral Deflection

Maximum lateral deflection after post setting	δy_pp	50.0	mm	*The post must be set straight on installation. In practise this cannot be achieved, so it is assumed that the post top is displaced the following amount*
Equivalent lateral load due this deflection	Py	388	N	
Bending moment due this lateral load	M1	2078210	Nmm	*Maximum at base of post, linear distribution.*
Secondary moment due compression	M2	2841156	Nmm	*Maximum at bottom of post, assuming a square root distribution.*
Bending moment due wall net loading	M3	0	Nmm	*Maximum at the centre of the post, assuming a quadratic distribution over post height. Only applicable if a wall net is attached to the post.*

Stress Calculations

Axial Stress	fa	45	N/mm^2	*Based on the post compression found above.*
Bending Stress	fb	146	N/mm^2	*Obtained from the maximum of (M1+M2) at bottom of post or (M3+0.5*M1+0.7071*M2) at middle of post.*

Allowables

Yield Stress	Fy	350	N/mm^2	
Critical Buckling Stress	Fc	154	N/mm^2	
Bending Modulus of Rupture Stress	Fb	430	N/mm^2	

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.29		*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.34		*Bruhn C4.12, use rupture allowable Fb*
Margin of Safety	**MS**	**0.26**		*Must be greater than zero, includes the factor of safety*

Perimeter Post Insert Analysis - *Insert is subject to pure bending.*

Bending Stress	fb	141	N/mm^2	*The bending stress at the bottom of the post*
Bending Modulus of Rupture Stress	Fb	400	N/mm^2	*Assume Ftu for bending failure*
Margin of Safety	**MS**	**1.27**		*Must be greater than zero, includes the factor of safety*

Perimeter Post Footing Analysis

Insert Type		Rammed Insert		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter	d	0.53	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.90	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.27	m^2	
Footing shaft area	As	0.32	m^2	*Shaft friction*
Footing capability	$P_{footing}$	60591	N	
		6179	kg	
Maximum compression load	P_{comp}	5794	kg	
Ratio to Requirement	**RtoR**	**1.07**		*To remain stable on the ground when subject to the worst combination loading from wind and hail, it is preferable to have this ratio greater than 1.0.*

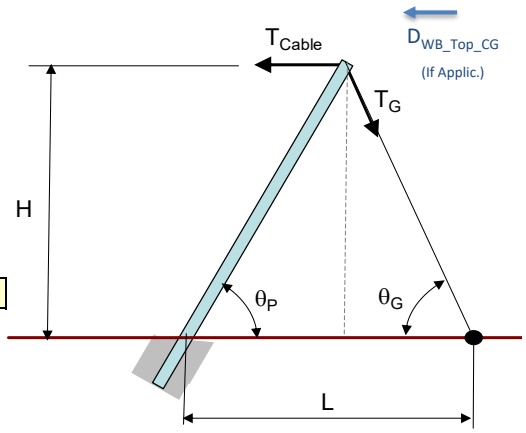
Perimeter Post (CG 69deg)

1759-CR01_P&T_Marciano_StructType_27May25

Perimeter posts are sized using the maximum wind loadings (roof and wall nets loadings). This conservative method assumes all wind loading along the longest cross-grid or row run is all taken by that cable run. This ignores the assistance provided by interior posts and perpendicular cable runs.

Inputs

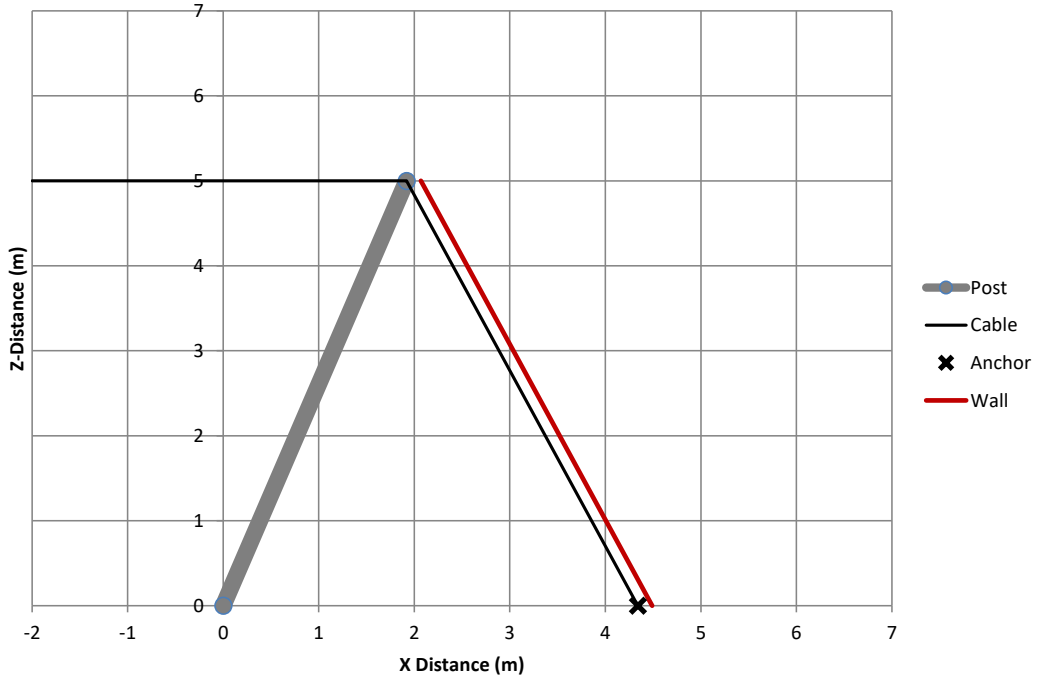
Description	Variable	Value	Units	Comments
Select Main Post Material		100NB Light / Grade 350		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	3.6	mm	
Cross Sectional Area	A	1252	mm^2	
2nd Moment of Area	I	1919837	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	350	N/mm^2	
Tensile Strength	Ft	430	N/mm^2	
Buckling Strength	Fc	154	N/mm^2	
Select Insert Material		90NB Heavy / Grade 300		
Outside Diameter	D	101.6	mm	
Wall Thickness	t	5.0	mm	
2nd Moment of Area	I	1774693	mm^4	
Yield Strength	Fy	300	N/mm^2	
Tensile Strength	Ft	400	N/mm^2	



Perimeter Post Configuration

Perimeter Post Location		Cross-Grid		*Row-end, Cross-Grid, or Either location*
Wall Net Configuration		Wall on Guy		
Anchor Placement Distance	L	4.3	m	*Distance from post base*
Post Angle	θ_P	69	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Length	Lp	5.4	m	*Post length above ground - these posts use an insert*

Perimeter Post Elevation View



Determination of Guy Loads and Post Compression Loads (using Global Coordinate System)

Maximum Cable Load	T_{Cable}	4111	kg	*Obtained from Anchor worksheet, depends on perimeter post locations. Based on maximum aerodynamic forces*
Maximum Wall Loading	T_{Wall}	876	kg	*Assumes 11/18 of the wall net loading ends up at the top of the post (if applicable)*
Total Load at Top of Post	T_{Total}	4987	kg	*Combined Cable & Wall Loading*
Guy wire angle	θ_G	64.2	deg	*Reference to the ground plane.*
Maximum Guy load	T_{G_Max}	6383	kg	*Note guys evaluated under "Guys" worksheet*
Pole Compression	P_{comp}	6154	kg	*The maximum load at any part of the column*

Bending Moment due to Lateral Deflection

Maximum lateral deflection after post setting	δy_pp	50.0	mm	*The post must be set straight on installation. In practise this cannot be achieved, so it is assumed that the post top is displaced the following amount*
Equivalent lateral load due this deflection	Py	388	N	
Bending moment due this lateral load	M1	2078210	Nmm	*Maximum at base of post, linear distribution.*
Secondary moment due compression	M2	3017478	Nmm	*Maximum at bottom of post, assuming a square root distribution.*
Bending moment due wall net loading	M3	0	Nmm	*Maximum at the centre of the post, assuming a quadratic distribution over post height. Only applicable if a wall net is attached to the post.*

Stress Calculations

Axial Stress	fa	48	N/mm^2	*Based on the post compression found above.*
Bending Stress	fb	152	N/mm^2	*Obtained from the maximum of (M1+M2) at bottom of post or (M3+0.5*M1+0.7071*M2) at middle of post.*

Allowables

Yield Stress	Fy	350	N/mm^2	
Critical Buckling Stress	Fc	154	N/mm^2	
Bending Modulus of Rupture Stress	Fb	430	N/mm^2	

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.31		*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.35		*Bruhn C4.12, use rupture allowable Fb*
Margin of Safety	**MS**	**0.20**		*Must be greater than zero, includes the factor of safety*

Perimeter Post Insert Analysis - *Insert is subject to pure bending.*

Bending Stress	fb	146	N/mm^2	*The bending stress at the bottom of the post*
Bending Modulus of Rupture Stress	Fb	400	N/mm^2	*Assume Ftu for bending failure*
Margin of Safety	**MS**	**1.19**		*Must be greater than zero, includes the factor of safety*

Perimeter Post Footing Analysis

Insert Type		Rammed Insert		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter	d	0.53	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.90	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.27	m^2	
Footing shaft area	As	0.32	m^2	*Shaft friction*
Footing capability	$P_{footing}$	60591	N	
		6179	kg	
Maximum compression load	P_{comp}	6154	kg	
Ratio to Requirement	**RtoR**	**1.00**		*To remain stable on the ground when subject to the worst combination loading from wind and hail, it is preferable to have this ratio greater than 1.0.*

Perimeter Post (RE)

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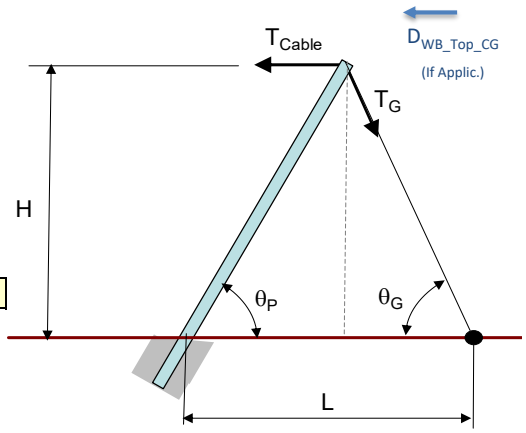
Perimeter posts are sized using the maximum wind loadings (roof and wall nets loadings). This conservative method assumes all wind loading along the longest cross-grid or row run is all taken by that cable run. This ignores the assistance provided by interior posts and perpendicular cable runs.

Inputs

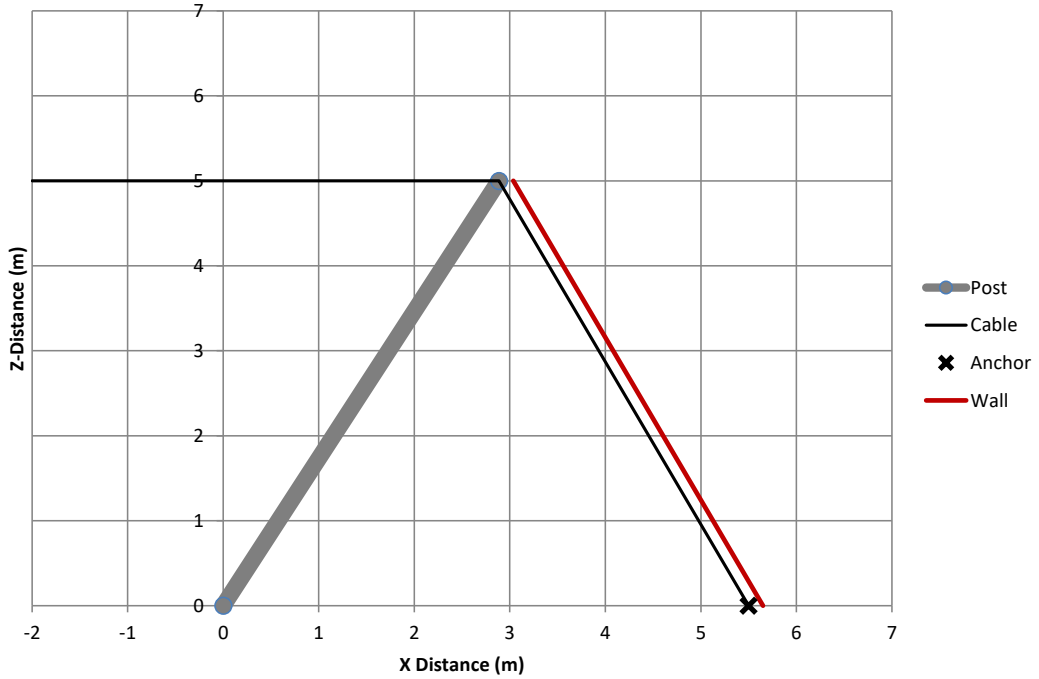
Description	Variable	Value	Units	Comments
Select Main Post Material		100NB Light / Grade 350		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	3.6	mm	
Cross Sectional Area	A	1252	mm^2	
2nd Moment of Area	I	1919837	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	350	N/mm^2	
Tensile Strength	Ft	430	N/mm^2	
Buckling Strength	Fc	133	N/mm^2	
Select Insert Material		90NB Heavy / Grade 300		
Outside Diameter	D	101.6	mm	
Wall Thickness	t	5.0	mm	
2nd Moment of Area	I	1774693	mm^4	
Yield Strength	Fy	300	N/mm^2	
Tensile Strength	Ft	400	N/mm^2	



Perimeter Post Configuration

Perimeter Post Location		Row End		*Row-end, Cross-Grid, or Either location*
Wall Net Configuration		Wall on Guy		
Anchor Placement Distance	L	5.5	m	*Distance from post base*
Post Angle	θ_P	60	deg	*90 deg for vertical, 60 deg for a 60deg post*
Post Length	Lp	5.8	m	*Post length above ground - these posts use an insert*

Perimeter Post Elevation View



Determination of Guy Loads and Post Compression Loads (using Global Coordinate System)

Maximum Cable Load	T_{Cable}	4907	kg	*Obtained from Anchor worksheet, depends on perimeter post locations. Based on maximum aerodynamic forces*
Maximum Wall Loading	T_{Wall}	1096	kg	*Assumes 11/18 of the wall net loading ends up at the top of the post (if applicable)*
Total Load at Top of Post	T_{Total}	6003	kg	*Combined Cable & Wall Loading*
Guy wire angle	θ_G	62.4	deg	*Reference to the ground plane.*
Maximum Guy load	T_{G_Max}	6158	kg	*Note guys evaluated under "Guys" worksheet*
Pole Compression	P_{comp}	6302	kg	*The maximum load at any part of the column*

Bending Moment due to Lateral Deflection

Maximum lateral deflection after post setting	δy_pp	50.0	mm	*The post must be set straight on installation. In practise this cannot be achieved, so it is assumed that the post top is displaced the following amount*
Equivalent lateral load due this deflection	Py	310	N	
Bending moment due this lateral load	M1	1788328	Nmm	*Maximum at base of post, linear distribution.*
Secondary moment due compression	M2	3089960	Nmm	*Maximum at bottom of post, assuming a square root distribution.*
Bending moment due wall net loading	M3	0	Nmm	*Maximum at the centre of the post, assuming a quadratic distribution over post height. Only applicable if a wall net is attached to the post.*

Stress Calculations

Axial Stress	fa	49	N/mm^2	*Based on the post compression found above.*
Bending Stress	fb	145	N/mm^2	*Obtained from the maximum of (M1+M2) at bottom of post or (M3+0.5*M1+0.7071*M2) at middle of post.*

Allowables

Yield Stress	Fy	350	N/mm^2	
Critical Buckling Stress	Fc	133	N/mm^2	
Bending Modulus of Rupture Stress	Fb	430	N/mm^2	

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.37		*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.34		*Bruhn C4.12, use rupture allowable Fb*
Margin of Safety	**MS**	**0.13**		*Must be greater than zero, includes the factor of safety*

Perimeter Post Insert Analysis - *Insert is subject to pure bending.*

Bending Stress	fb	140	N/mm^2	*The bending stress at the bottom of the post*
Bending Modulus of Rupture Stress	Fb	400	N/mm^2	*Assume Ftu for bending failure*
Margin of Safety	**MS**	**1.29**		*Must be greater than zero, includes the factor of safety*

Perimeter Post Footing Analysis

Insert Type		Rammed Insert		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter	d	0.53	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.9	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.28	m^2	
Footing shaft area	As	0.32	m^2	*Shaft friction*
Footing capability	$P_{footing}$	61635	N	
		6285	kg	
Maximum compression load	P_{comp}	6302	kg	
Ratio to Requirement	**RtoR**	**1.00**		*To remain stable on the ground when subject to the worst combination loading from wind and hail, it is preferable to have this ratio greater than 1.0.*

Interior Post

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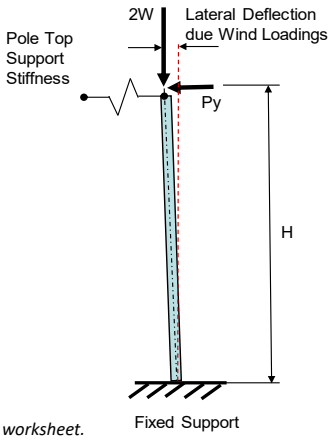
Interior posts are designed to withstand hail loading pulling the net to the ground. The interior posts are staggered in the block and therefore subjected to two bays worth of hail. This analysis assumes that wind loading has displaced the top of the post 100mm (assuming 100% fixed based support), and the post is subject to direct bending due to this displacement and bending due to offset compression.

Description	Inputs Variable	Value	Units	Comments
Select Main Post Material		100NB Light / Grade 350		
Outside Diameter	D	114.3	mm	
Wall Thickness	t	3.6	mm	
Cross Sectional Area	A	1252	mm^2	
2nd Moment of Area	I	1919837	mm^4	
Elastic Modulus	E	207000	N/mm^2	
Yield Strength	Fy	350	N/mm^2	
Tensile Strength	Ft	430	N/mm^2	
Buckling Strength	Fc	177	N/mm^2	



Axial Compression due Hail Loading

Hail loading associated with each interior post	W_hail	3.00	kg/m2	*See the "Loading" worksheet.*
Area associated with each internal post	Anet	601	m2	*Assume two bays per interior post for staggered and two-row interior post configuraitons. Three bays for the stagger three interior post configuration.*
Post compression	Pcomp	1804	kg	

Bending Moments due Wind Loading

Lateral deflection at top of post due wind	δy_ip	83	mm	*See the "Loading" worksheet.*
Lateral loading associated with this deflection	Py	795	N	
Bending moment due lateral force	Mb1	3974062	Nmm	
Secondary moment due lateral deflection	Mb2	1474422	Nmm	

Stress Calculations

Axial Stress	fa	14.1	N/mm^2	
Bending Stress	fb	162.2	N/mm^2	

Allowables

Yield Stress	Fy	350	N/mm^2	
Buckling Critical Stress	Fc	177	N/mm^2	
Bending Modulus of Rupture Stress	Fb	390	N/mm^2	*Use the average of the Yield and Tensile Strength (IP post bending does not failure the structure)*

Combined Compression and Bending Interaction

Axial Stress Ratio	Ra	0.08	*Bruhn C4.12, use minimum of Fc or Fy*
Bending Stress Ratio	Rb	0.42	*Bruhn C4.12, use rupture allowable Fb*

Margin of Safety **MS** **0.61** *Must be greater than zero, includes the factor of safety*

Interior Post Footing Analysis

Insert Type		Rammed Insert		
Soil description		Loose gravel, or loose sand and gravel		
Soil category		Non-cohesive soils		
Presumed bearing value	fbr	200	kPa	
Estimated soil shear capability	fs	20	kPa	*Estimated as 10% of bearing capacity assuming 100% Settlement Factor*
Footing diameter	d	0.29	m	*For a concrete footing, "d" is the auger diameter. For a rammed insert, "d" refers to the square dimension (ie metal plate sized "d" x "d").*
Footing height	h	0.90	m	*Depth of hole or underside length of rammed insert.*
Footing bearing area	Ab	0.07	m^2	
Footing shaft area	As	0.32	m^2	*Shaft friction*
Footing capability	Pfooting	21231	N	
		2165	kg	
Maximum compression load	Pcomp	1804	kg	
Ratio to Requirement	**RtoR**	**1.20**		*Must be greater than 1.0*

Guys

1759-CR01_P&T_Marciano_StructType_27May25

All guys are made using a loop of cable from the anchor to the post top. The anchor has a dedicated thimble head that is screwed to the anchor rod, and the post tops have integrated welded thimbles. The cable is threaded through both and butt spliced together to make a loop of cable. The following analyses collates the guy forces worked out in each of the post worksheets, and verifies the strength through a single analysis.

Maximum Guy Loads from the Post Analyses

Description	Variable	Value	Units	Comments
Corner Post (55deg)		5542	kg	
Corner Post (TP)		5773	kg	
Corner Post (Angled)		5996	kg	
Corner Post (B2 SE)		6303	kg	*Standalone SE Perimeter/Corner Posts*
Perimeter Breaker Post (SE)		4325	kg	*Breaker post has two guys on A2.*
Perimeter Breaker Post		4451	kg	*Breaker post has two guys on A2.*
Interior Breaker Post		6632	kg	
Perimeter Post (TP)		5780	kg	
Perimeter Post (CG 69deg)		6383	kg	
Perimeter Post (RE)		6158	kg	
Maximum Guy Force	T_{G_Max}	6632	kg	
Diameter of Thimble	d_{ROPE}	7.5	mm	
Diameter of Thimble	$D_{THIMBLE}$	60	mm	
Diameter Ratio	D/d	8.0		
Strength Loss due to Thimble	From Chart	16%		
Corrected Guy Breaking Load *		10442	kg	
Margin of Safety	**MS**	**0.26**		*Must be greater than zero, includes the factor of safety*

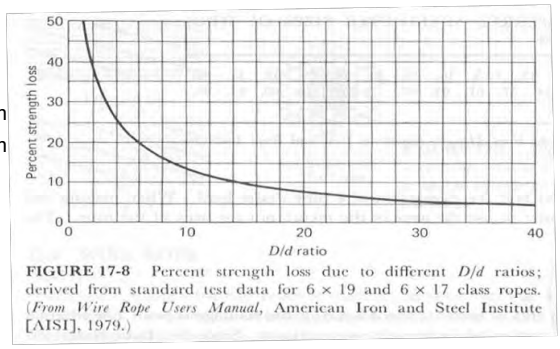


FIGURE 17-8 Percent strength loss due to different *D/d* ratios; derived from standard test data for 6 × 19 and 6 × 17 class ropes. (*From Wire Rope Users Manual*, American Iron and Steel Institute [AISI], 1979.)

** Note that G2 Netting Systems regularly tests the guy loops in order to verify cable, splice and thimble strengths. The testing shows strengths greater than 96 kN, which supports the use of the Table 17-8 above.*

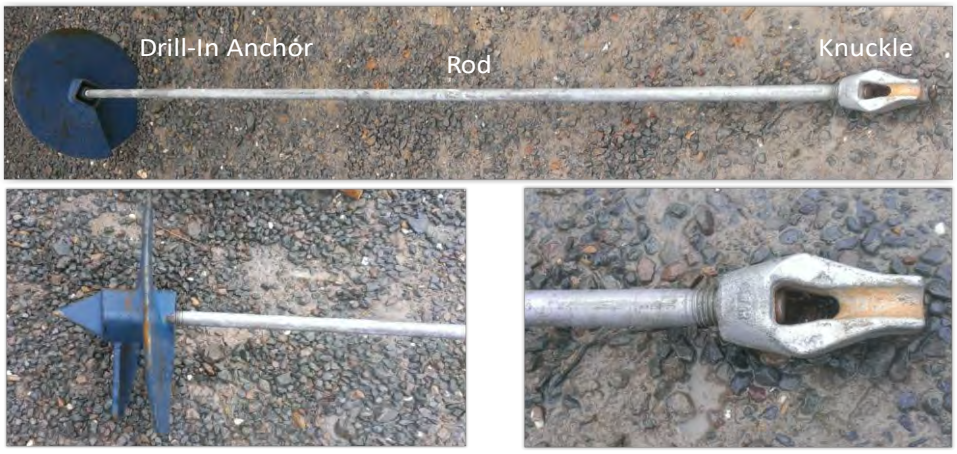
Anchors

1759-CR01_P&T_Marciano_StructType_27May25

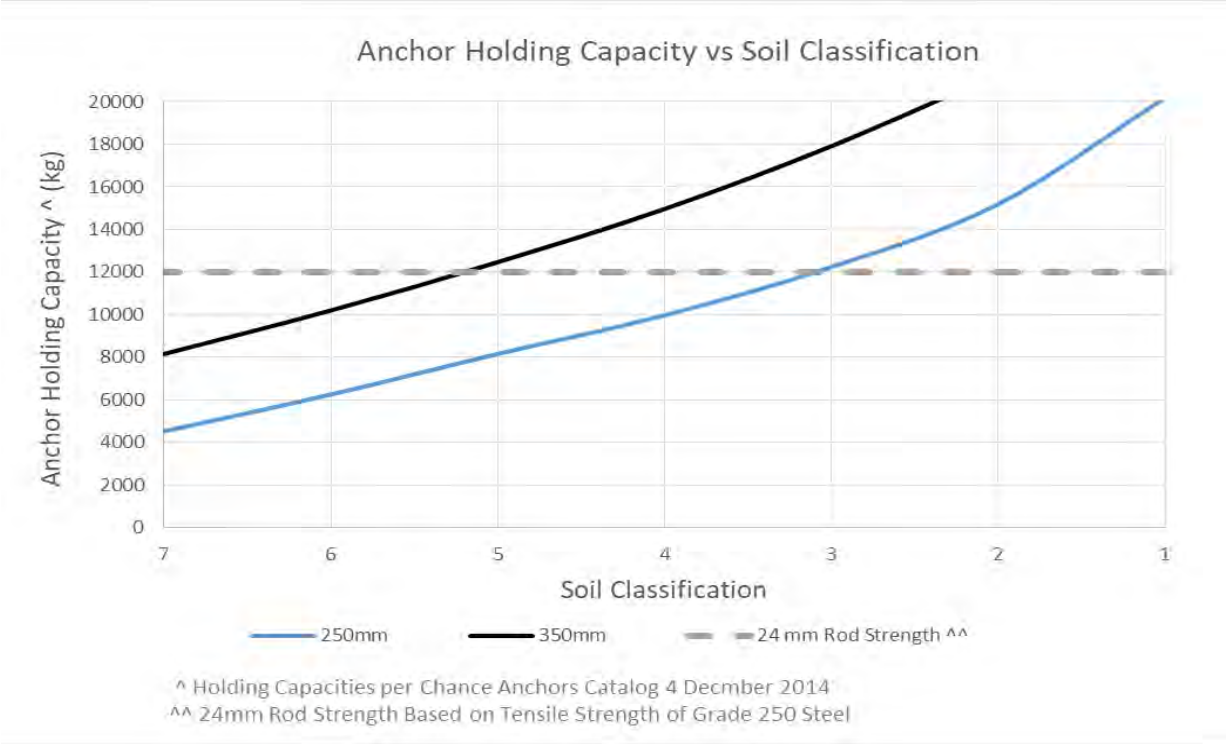
The anchors are sized to withstand the maximum predicted cable load pulling down to the anchor. The maximum cable load is based on wind shear and hail, and is computed on the "Cables" worksheet. The anchor is assumed to be the 250 mm or 350mm equivalent drill anchor using a 24mm steel rod protruding from ground with a screw-on knuckle with thimble (see picture below). The failure modes considered are holding capacity, rod tension and thread shear.

Description	Variable	Value	Units	Comments
Soil Capacity				
Soil Classification		6		*Reference "Chance Anchors Catalogue 4 Dec 2014".*
Soil Description (fit description against site test results)		*Loose to medium dense fine to coarse sands to stiff clays and silts*		
Anchor Selection		AU350		*AU350 Jumbo Type Drill Anchor*
AU350 Drill Anchor Holding Capacity:	P_{Anchor}	10585	kg	*See chart and table below.*
Anchor Mechanical Capacity				
Typical Failure Mode		*Nut thread strips out or tension failure of rod*		
Thread Type		M24 x 2.5		
Rod Diameter away from threaded ends	d_0	22	mm	
Thread Nominal Diameter	d_p	24	mm	
Thread Pitch	p	2.5	mm	
Minor Diameter	d1	20.9	mm	
Pitch Diameter	d2	22.4	mm	
Tensile Stress Area (threaded section)		368	mm^2	*Shigley p 293 1st metric edition, avg of d1 and d2.*
Tensile Stress Area (away from threaded ends)		380	mm^2	
Nut height	h	25	mm	*Assume using the Jumbo Anchors with knuckle.*
Yield Strength	Fty	300	N/mm2	
Shear Strength	Fsu	173	MPa	
Nut Thread Shear Allowable	P_thread	15510	kg	*Based on the minimum thread engagement at either end.*
Rod Tension Allowable	P_tension	11267	kg	*Based on the yield allowable.*
Minimum Anchor Allowable Load	P_{Anchor_Allow}	10585	kg	*Minimum of P_anchor, P_thread, and P_tension*
Maximum Anchor Pull Load	P_{Anchor_Max}	6632	kg	*Equates to the maximum guy force in worksheet "Guys"*
Margin of Safety (Guy load to anchor allowable)	**MS**	**0.28**		*Must be greater than zero, includes the factor of safety*

Notes: 1) During installation the anchor may be upgraded to the 350 mm size if the installation torque is below specification. 2) If any anchor moves in the ground, it is not regarded as a failure. Anchor movement results in the slackening of the structure locally, with cable, post and guy loads reducing. If over time the anchor continues to move, additional anchorage is then employed.



Anchor Holding Capacities



Class	Common Soil-Type Description	Geological Soil Classification
0	Sound hard rock, unweathered (bedrock)	Granite, Basalt, Massive Limestone
1	Very dense and/or cemented sands; coarse gravel and cobbles	Caliche, (Nitrate-bearing gravel/rock),
2	Dense fine sands; very hard silts and clays (may be preloaded)	Basal till; boulder clay; caliche; weathered laminated rock
3	Dense sands and gravel; hard silts and clays	Glacial till; weathered shales, schist, gneiss and siltstone
4	Medium dense sand and gravel; very stiff to hard silts and clays	Glacial till; hardpan; marls
5	Medium dense coarse sands and sandy gravels; stiff to very stiff silts and clays	Saprolites, residual soils
6	Loose to medium dense fine to coarse sands to stiff clays and silts	Dense hydraulic fill; compacted fill; residual soils
**7	Loose fine sands; Alluvium; loess; medium - stiff and varied clays; fill	Flood plain soils; lake clays; adobe; gumbo, fill
**8	Peat, organic silts; inundated silts, fly ash very loose sands, very soft to soft clays	Miscellaneous fill, swamp marsh

** Anchors are required to be drilled deeper, by use of extensions, to penetrate Class 5 or 6 underlying the Class 7 and 8 soils.

Appendix C

Certificate of Title

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Provided by CITEC Confirm

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 2/1248259

SEARCH DATE	TIME	EDITION NO	DATE
25/6/2025	12:04 PM	3	13/5/2021

LAND

LOT 2 IN DEPOSITED PLAN 1248259
AT MONAK
LOCAL GOVERNMENT AREA WENTWORTH
PARISH OF PARINGI COUNTY OF WENTWORTH
TITLE DIAGRAM DP1248259

FIRST SCHEDULE

P & E MARCIANO PTY LTD (T AP86594)

SECOND SCHEDULE (12 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S) WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM
2 I155249 LAND EXCLUDES MINERALS WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM
3 DP827371 RIGHT OF CARRIAGEWAY 4 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
4 DP827371 RIGHT OF CARRIAGEWAY 4 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
5 DP827371 RIGHT OF CARRIAGEWAY 6 METRE(S) WIDE AND VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
6 DP827371 RIGHT OF CARRIAGEWAY 6 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
7 DP827371 EASEMENT FOR PIPELINE 6 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
8 DP827371 EASEMENT FOR PIPELINE 3 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
DP1248259 EASEMENT RELEASED IN SO FAR AS IT BENEFITS LOT 6 IN DP827371
9 DP827371 EASEMENT FOR PIPELINE 3 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
DP1248259 EASEMENT RELEASED IN SO FAR AS IT AFFECTS LOT 6 IN DP827371
10 DP827371 EASEMENT FOR PIPELINE 6 METRE(S) WIDE AND VARIABLE

AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM

11 DP827371 EASEMENT FOR PUMP SITE 9.40 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM

12 AR45254 MORTGAGE TO AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED

END OF PAGE 1 - CONTINUED OVER

20071 PRINTED ON 25/6/2025

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 2/1248259 PAGE 2

SECOND SCHEDULE (12 NOTIFICATIONS) (CONTINUED)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

20071 PRINTED ON 25/6/2025

Provided on 25/06/2025 12:04 PM by CITEC Confirm

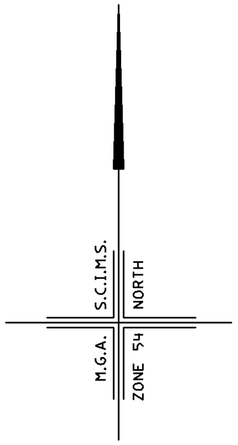
* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register.

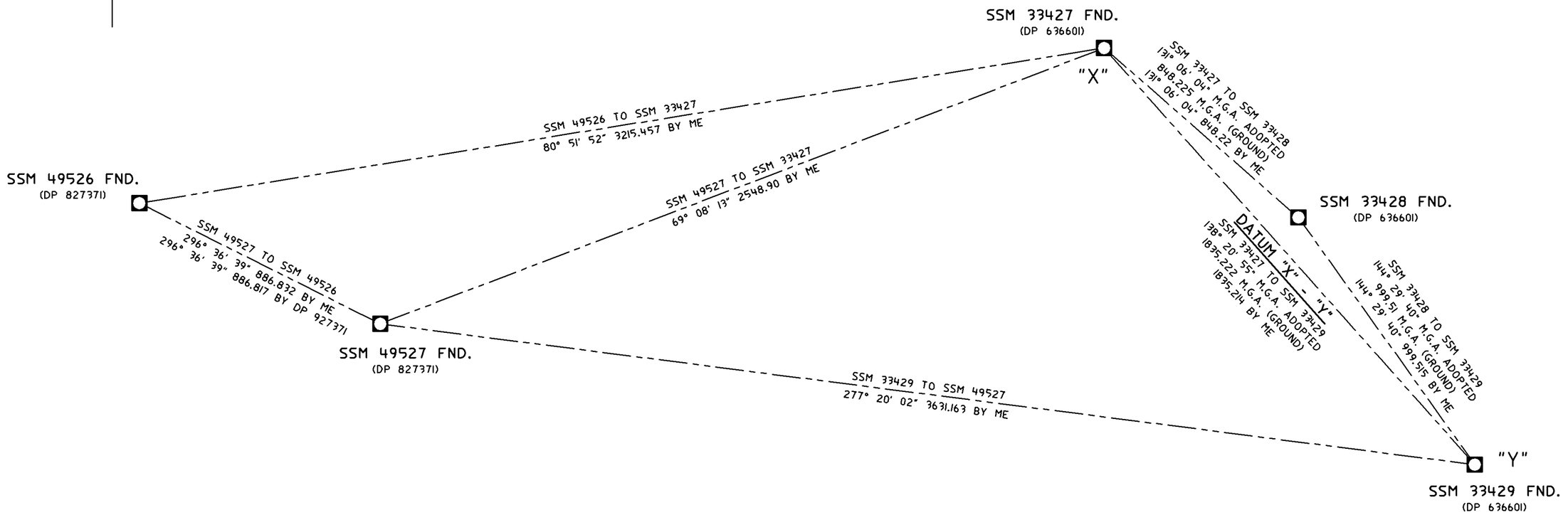
CITEC Confirm hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with section 96B(2) of the Real Property Act, 1900.

Information contained in this document is provided by CITEC Confirm, ABN 52 566 829 700, confirm.com.au, an approved NSW Land Registry Services Information Broker.

SURVEYING AND SPATIAL INFORMATION REGULATION 2017: CLAUSE 70 COORDINATE SCHEDULE						
MARK	MGA COORDINATES		CLASS	ORDER	METHOD	STATE
	EASTING	NORTHING				
SSM 33427	620 982.370	6 205 732.108	B	U	FROM S.C.I.M.S.	FOUND
SSM 33428	621 621.405	6 205 174.620	B	U	FROM S.C.I.M.S.	FOUND
SSM 33429	622 201.776	6 204 361.136	B	U	FROM S.C.I.M.S.	FOUND
SSM 49526	617 808.446	6 205 221.710	U	U	R.T.K. G.N.S.S.	FOUND
SSM 49527	618 601.147	6 204 824.570	U	U	R.T.K. G.N.S.S.	FOUND
DATE OF S.C.I.M.S. COORDINATES: 21-08-2017			M.G.A. ZONE 54		M.G.A. DATUM G.D.A. 94	
COMBINED SCALE FACTOR 0.999 768						

G.N.S.S. VALIDATION SCHEDULE				
FROM	TO	GRID BEARING	DISTANCE	METHOD
SSM 33427	SSM 323429	138° 20' 55"	1835.214	R.T.K. G.N.S.S.
		138° 20' 55"	1835.222	S.C.I.M.S.





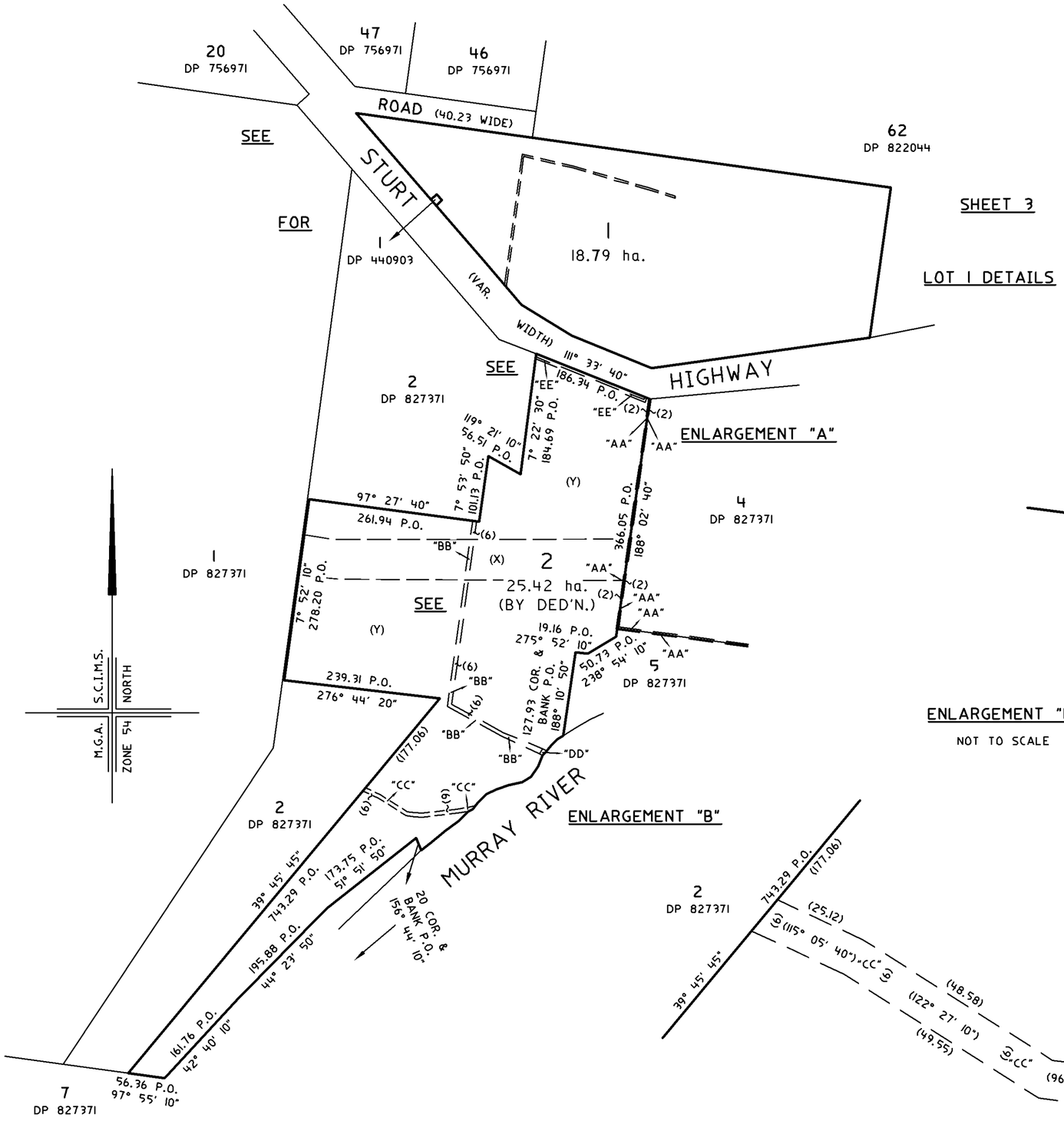
SURVEY CONTROL TRAVERSE

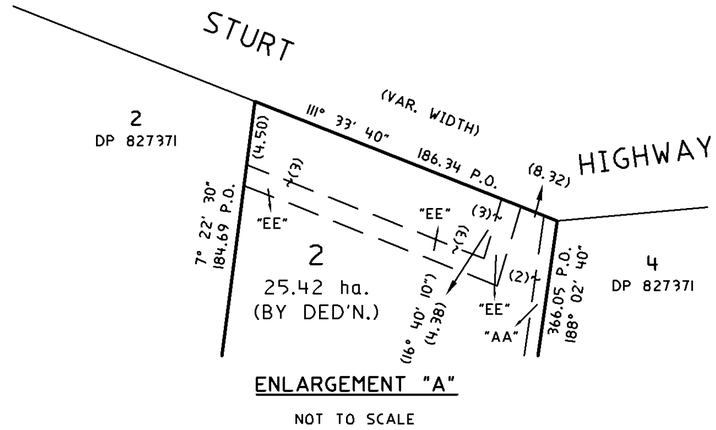
NOTES:-

G.N.S.S. OBSERVATIONS WERE USED TO DRIVE DIMENSIONS OF THE SURVEY CONTROL TRAVERSE, CONNECTIONS AND THE DISTANCES OF THE BOUNDARIES OF THE SITE THAT ARE GREATER THAN 100 METRES

SURVEYOR Name: PETER ROBERT DANSON Date: 6-06-2018 Reference: 9281	PLAN OF SUBDIVISION OF LOTS 3 AND 6 IN DP 827371	LGA: WENTWORTH Locality: ~~PARINGI~~ MONAK Reduction Ratio 1: 10000 Lengths are in metres.	Registered 20.11.2018	DP1248259

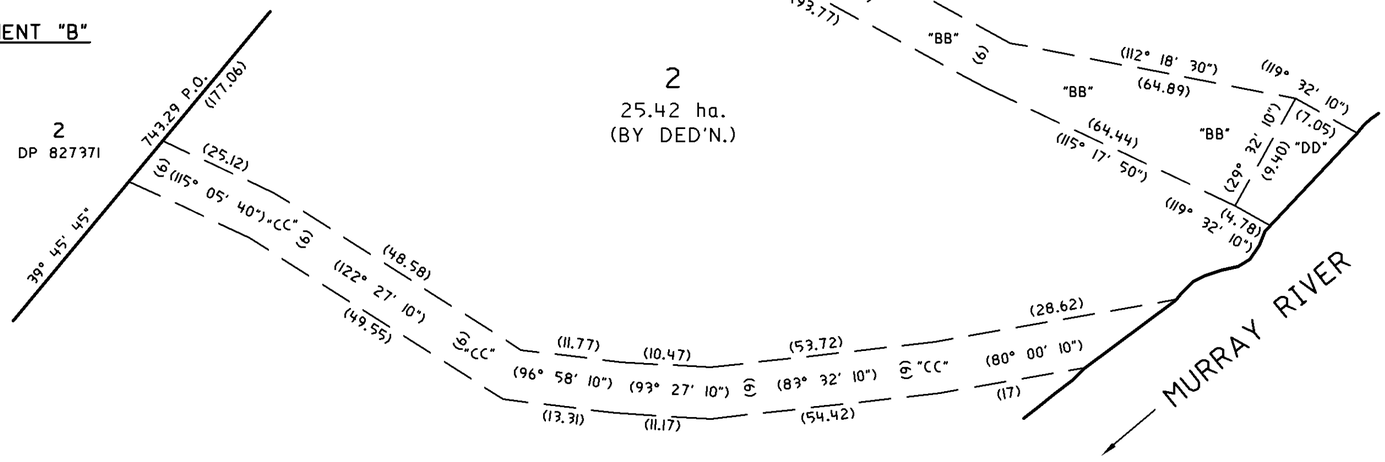
AMENDED IN NSW LRS AT THE SURVEYOR'S REQUEST 20.11.2018





ENLARGEMENT "A"

NOT TO SCALE



ENLARGEMENT "B"

NOT TO SCALE

(X) LAND EXCLUDES MINERALS (I155249)
(Y) RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

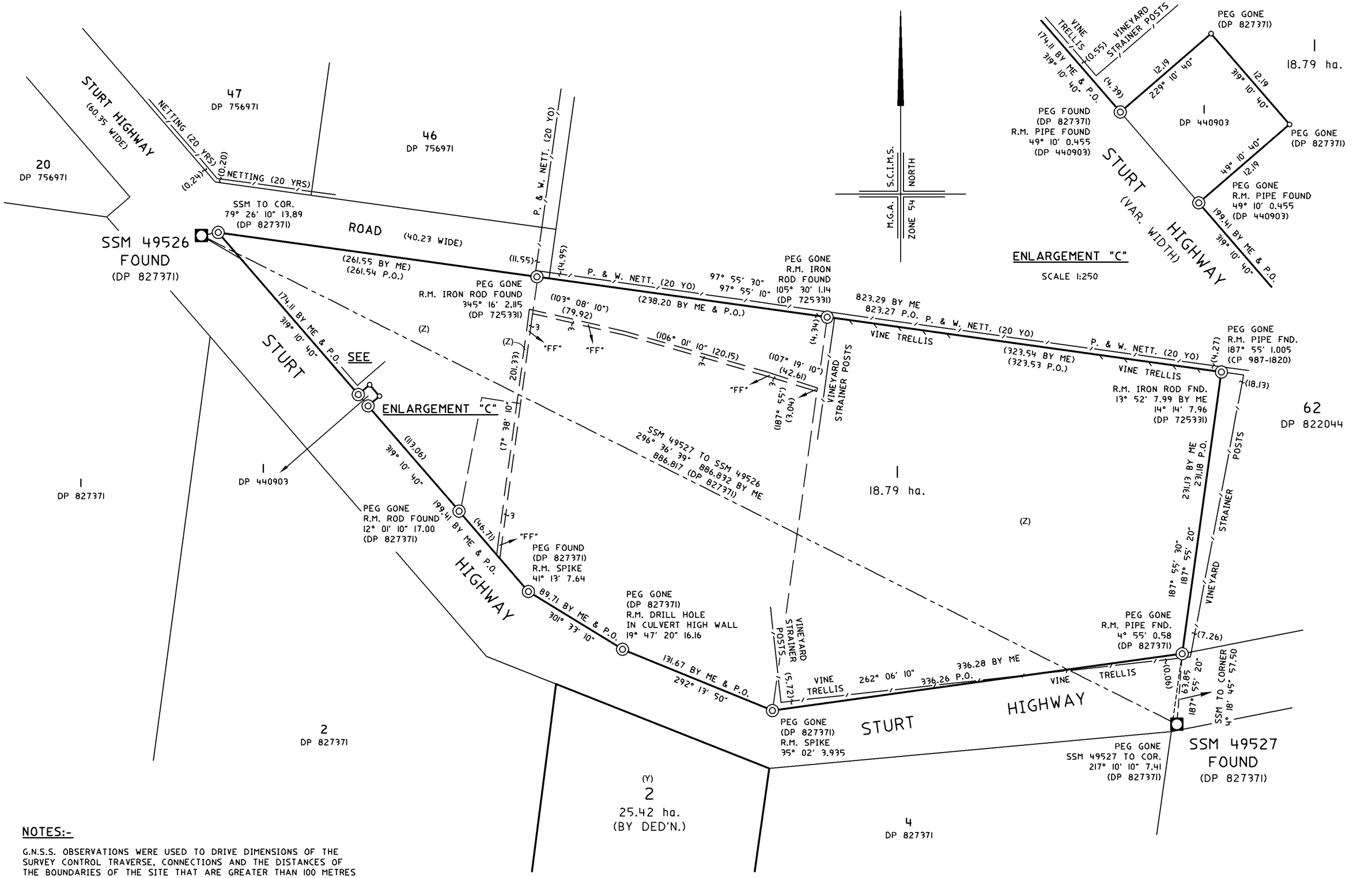
NOTES:-

G.N.S.S. OBSERVATIONS WERE USED TO DRIVE DIMENSIONS OF THE SURVEY CONTROL TRAVERSE, CONNECTIONS AND THE DISTANCES OF THE BOUNDARIES OF THE SITE THAT ARE GREATER THAN 100 METRES

"AA" - EXISTING RIGHT OF CARRIAGEWAY 4 WIDE (DP 827371)
"BB" - EXISTING RIGHT OF CARRIAGEWAY 6 WIDE AND VARIABLE WIDTH (DP 827371)
"BB" - EXISTING EASEMENT FOR PIPELINE 6 WIDE AND VARIABLE WIDTH (DP 827371)
"CC" - EXISTING RIGHT OF CARRIAGEWAY 6 WIDE (DP 827371)
"CC" - EXISTING EASEMENT FOR PIPELINE 6 WIDE (DP 827371)
"DD" - EXISTING EASEMENT FOR PUMP SITE 9.40 WIDE (DP 827371)
"EE" - EXISTING EASEMENT FOR PIPELINE 3 WIDE (DP 827371)

SURVEYOR Name: PETER ROBERT DANSON Date: 6-06-2018 Reference: 9281	PLAN OF SUBDIVISION OF LOTS 3 AND 6 IN DP 827371	LGA: WENTWORTH Locality: ~~PARINGI~~ MONAK Reduction Ratio 1: 5000 Lengths are in metres.	Registered 20.11.2018	DP1248259

AMENDED IN NSW LRS AT THE SURVEYOR'S REQUEST 20.11.2018



NOTES:-

G.N.S.S. OBSERVATIONS WERE USED TO DRIVE DIMENSIONS OF THE SURVEY CONTROL TRAVERSE, CONNECTIONS AND THE DISTANCES OF THE BOUNDARIES OF THE SITE THAT ARE GREATER THAN 100 METRES

"FF" - EXISTING EASEMENT FOR PIPELINE 3 WIDE (DP 827371)

(Y) RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
(Z) BENEFITED BY:
- EASEMENT FOR PIPELINE 6 WIDE AND VARIABLE (DP827371)
- EASEMENT FOR PUMP SITE 9.4 WIDE (DP827371)

SURVEYOR Name: PETER ROBERT DANSON Date: 6-06-2018 Reference: 9281	PLAN OF SUBDIVISION OF LOTS 3 AND 6 IN DP 827371	LGA: WENTWORTH Locality: ~~PARINGI~~ MONAK Reduction Ratio 1: 2000 Lengths are in metres.	Registered 20.11.2018	DP1248259

AMENDED IN NSW LRS AT THE SURVEYOR'S REQUEST 20.11.2018

PLAN FORM 6 (2017)	DEPOSITED PLAN PLAN ADMINISTRATION SHEET	Sheet 1 of 2 Sheet(s)

Office use only

Registered: 20.11.2018

Title System: TORRENS

Office use only

DP1248259 S

PLAN OF SUBDIVISION OF
LOTS 3 AND 6 IN DP 827371

LGA: WENTWORTH

Locality: MONAK

Parish: PARINGI

County: WENTWORTH

Survey Certificate

I, PETER ROBERT DANSON

of 177 WALNUT AVENUE MILDURA

a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:

*(a) The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2017*, is accurate and the survey was completed on ....., or

*(b) The part of the land shown on the plan (*being/*excluding**) ..... LOT 1 AND CONNECTIONS .....) was surveyed in accordance with the Surveying and Spatial Information *Regulation 2017*, the part surveyed is accurate and the survey was completed on 6-06-2018 ..... the part not surveyed was compiled in accordance with that Regulation, or

~~*(c) The land shown in this plan was compiled in accordance with the *Surveying and Spatial Information Regulation 2017*.~~

Datum Line "X" - "Y"

Type*~~*Urban~~/*Rural

The terrain is *Level-Undulating/~~*Steep Mountainous~~

Signature: ..... Dated: 20-06-2018

Surveyor Identification No: 902

Surveyor registered under
the *Surveying and Spatial Information Act 2002*

*Strike out inappropriate words.
**Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.

Crown lands NSW/Western Lands Office Approval

I, ... (Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given.

Signature: .....

Date: .....

File Number: .....

Office: .....

Subdivision Certificate

I, KEN ROSS

Authorised Person/~~General Manager~~/*~~Accredited Certifier~~, certify that the provisions of the s. 109J of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.

Signature: .....

Accreditation number: -

Date of endorsement: 1 AUGUST 2018

Subdivision Certificate number: 09|18

File Number: DA2017|139

*Strike through if inapplicable

Plans used in the preparation of survey/compilation.

CP 987-1820	CP 988-1820	DP 440903
DP 636601	DP 725331	DP 827371

Statements of intention to dedicate public roads, create public reserves and drainage reserves, acquire/resume land.

Surveyor's Reference: 9281

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A

AMENDED IN NSW LRS AT THE SURVEYOR'S REQUEST 20.11.2018

PLAN FORM 6A (2017) DEPOSITED PLAN PLAN ADMINISTRATION SHEET Sheet 2 of ~~2~~ Sheet(s)

Office use only

Registered: 20.11.2018

Office use only

DP1248259

PLAN OF SUBDIVISION OF
LOTS 3 AND 6 IN DP 827371

Subdivision Certificate number: 09/18

Date of endorsement: 01.08.2018

This sheet is for the provision of the following information as required:

- A Schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919.*
- Signatures and seals - see 195D *Conveyancing Act 1919.*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

STREET ADDRESSES OF ALL LOTS ARE NOT AVAILABLE

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919, AS AMENDED, IT IS INTENDED TO RELEASE:

1. EASEMENT FOR PIPELINE 3 WIDE (DP 827371)

2. EASEMENT FOR PIPELINE 3 WIDE (DP 827371)

If space is insufficient use additional annexure sheet.

Surveyor's Reference: 9281

PLAN FORM 6A (2017) **DEPOSITED PLAN ADMINISTRATION SHEET** Sheet 3 of 4 sheet(s)

Office Use Only

Registered: 20.11.2018

Office Use Only

DP1248259

PLAN OF SUBDIVISION OF LOTS 3 AND 6 IN DP 827371

Subdivision Certificate number: 09/18

Date of Endorsement: 1 August 2018

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Executed by Karambi Producers Pty Ltd)
ACN 075 708 324 in accordance with)
Section 127 of the Corporations Act 2001)
by being signed by those persons who are)
Authorized to sign the company)

Director

Director/Secretary

Print Name
GARRY COX

Print name
SHARON COX

Executed by P & E Marciano Pty Ltd)
ACN 075 708 324 in accordance with)
Section 127 of the Corporations Act 2001)
by being signed by those persons who are)
Authorized to sign the company)

Sole Director/Secretary

Print Name
X
FILIPPO MARCIANO

If space is insufficient use additional annexure sheet

Surveyor's Reference: 9281

PLAN FORM 6A (2017) **DEPOSITED PLAN ADMINISTRATION SHEET** Sheet 4 of 4 sheet(s)

Office Use Only

Registered: 20.11.2018

DP1248259

PLAN OF SUBDIVISION OF LOTS 3 AND 6 IN DP 827371

Subdivision Certificate number: 09/18

Date of Endorsement: 1 August 2018

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

NATIONAL AUSTRALIA BANK consent in relation to Mortgage 3831930

Executed on behalf of the National Australia Bank Limited by its Attorney Adrian Paul Hardie who holds the position of Level 3 Attorney under Power of Attorney dated 1 March 2007 on the presence of:

S Clothier ..... Signature of Witness

Sarah Clothier ..... Name of Witness (please print)

..... Signature of Attorney

Mortgagee under Mortgage No. 3831930
Signed at Mildura this 16th day of August 2018
for National Australia Bank Limited ABN 12004044937
by Adrian Paul Hardie its duly appointed Attorney
under Power of Attorney No. 39 Book 4512

Attorney Signature, Level 3 Attorney

Witness Signature

HUGH FLETT
AGRIBUSINESS MANAGER

Witness Name

55 DEAKIN AVENUE
MILDURA VIC 3500

Witness Address.

If space is insufficient use additional annexure sheet

Surveyor's Reference: 9281

INSTRUMENT SETTING OUT TERMS OF EASEMENTS AND RESTRICTION AS TO USER INTENDED TO BE CREATED PURSUANT TO SECTION 88B CONVEYANCING ACT 1919

DP1248259 B

PLAN OF SUBDIVISON OF LOTS 3 AND 6 IN DP 827371
SUBDIVISION CERTIFICATE NO.: 09/18

Full name and address of owner of Lot 3 in DP 827371

Karambi Producers Pty Limited (ACN 075 708 324) 5750 Sturt Highway, Monak 2738

Full name and address of owner of Lot 6 in DP 827371

P & E Marciano Pty Ltd (ACN 119608874) 327 Morpung Avenue, Irymple 3498

PART 1A (Release)

Number of item shown in the intention panel on the plan	Identity of easement, profit a` prendre, to be released and referred to in the plan	Burdened lot(s) or parcel(s):	Benefited lot(s), road(s), bodies or Prescribed Authorities:
1	Easement for pipeline 3 wide (DP827371)	3/827371	6/827371
2	Easement for pipeline 3 wide (DP827371)	6/827371	3/827371

INSTRUMENT SETTING OUT TERMS OF EASEMENTS AND RESTRICTION AS TO USER INTENDED TO BE CREATED PURSUANT TO SECTION 88B CONVEYANCING ACT 1919

DP1248259

PLAN OF SUBDIVISON OF LOTS 3 AND 6 IN DP 827371
SUBDIVISION CERTIFICATE NO.: 09/18

Executed by Karambi Producers Pty Ltd)
ACN 075 708 324 in accordance with)
Section 127 of the Corporations Act 2001)
by being signed by those persons who are)
Authorized to sign the company)

Director

Director/Secretary

Print Name
GARRY COX

Print name
SHARON COX

Executed by P & E Marciano Pty Ltd)
ACN 075 708 324 in accordance with)
Section 127 of the Corporations Act 2001)
by being signed by those persons who are)
Authorized to sign the company)

Sole Director/Secretary

Print Name

X
FILIPPO MARCIANO

INSTRUMENT SETTING OUT TERMS OF EASEMENTS AND RESTRICTION AS TO USER INTENDED TO BE CREATED PURSUANT TO SECTION 88B CONVEYANCING ACT 1919

DP1248259

PLAN OF SUBDIVISON OF LOTS 3 AND 6 IN DP 827371
SUBDIVISION CERTIFICATE NO.: 09/18

NATIONAL AUSTRALIA BANK consent in relation to Mortgage 3831930

Executed on behalf of the National Australia Bank Limited by its Attorney ....Adrian Paul Hardie.... who holds the position of Level 3 Attorney under Power of Attorney dated 1 March 2007 on the presence of:

....S Clothier.... Signature of Witness

Sarah Clothier..... Name of Witness (please print)

..... Signature of Attorney

Mortgagee under Mortgage NO. 3831930
Signed at Mildura this 16th day of August 2018
for National Australia Bank Limited ABN 12004044937
by Adrian Paul Hardie its duly appointed Attorney
under Power of Attorney No. 39 Book 4512

Attorney Signature, Level 3 Attorney.

Witness Signature.

HUGH FLETT
AGRIBUSINESS MANAGER

witness Name.

55 DEAKIN AVENUE
MILDURA VIC 3500

witness Address.

REGISTERED 20.11.2018

Provided by CITEC Confirm

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 2/827371

SEARCH DATE	TIME	EDITION NO	DATE
22/8/2025	12:06 PM	8	13/5/2021

LAND

LOT 2 IN DEPOSITED PLAN 827371
AT MONAK
LOCAL GOVERNMENT AREA WENTWORTH
PARISH OF PARINGI COUNTY OF WENTWORTH
TITLE DIAGRAM DP827371

FIRST SCHEDULE

P & E MARCIANO PTY LTD (T AM209341)

SECOND SCHEDULE (11 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 DP827371 RIGHT OF CARRIAGEWAY 4 WIDE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN THE TITLE DIAGRAM
3 DP827371 RIGHT OF CARRIAGEWAY 6 WIDE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN THE TITLE DIAGRAM
4 DP827371 EASEMENT FOR PIPELINE 6 WIDE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN THE TITLE DIAGRAM
5 DP827371 EASEMENT FOR PIPELINE 3 WIDE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN THE TITLE DIAGRAM
6 DP827371 RIGHT OF CARRIAGEWAY APPURTENANT TO THE LAND ABOVE DESCRIBED
7 DP827371 RIGHT OF CARRIAGEWAY 6 WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
8 DP827371 EASEMENT FOR PIPELINE 3 WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
9 DP827371 EASEMENT FOR PIPELINE 6 WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
10 DP827371 EASEMENT FOR PUMP SITE 9.40 WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
11 AR45254 MORTGAGE TO AUSTRALIA AND NEW ZEALAND BANKING GROUP

LIMITED

NOTATIONS

END OF PAGE 1 - CONTINUED OVER

20071 PRINTED ON 22/8/2025

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 2/827371 PAGE 2

NOTATIONS (CONTINUED)

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

20071 PRINTED ON 22/8/2025

Provided on 22/08/2025 12:06 PM by CITEC Confirm

* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register.

CITEC Confirm hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with section 96B(2) of the Real Property Act, 1900.

Information contained in this document is provided by CITEC Confirm, ABN 52 566 829 700, confirm.com.au, an approved NSW Land Registry Services Information Broker.

Appendix D

Dial Before You Dig Service Maps

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Job ID 50510249

Redlands 5721b Sturt Hwy

Review responses online

Received 3 of 3 responses

All responses received

Redlands 5721b Sturt Hwy, Monak NSW 2738

Job dates
31/10/2025 → 31/12/2025

These plans expire on
23 Jul 2025

Lodged by
Jasmine Walters

Authority	Status	Page
BYDA Confirmation		2
Essential Energy	Received	4
Powercor - Mildura	Received	13
Telstra VICTAS	Received	19

Job No 50510249

BEFORE YOU DIG byda.com.au — Look up and Live

Zero damage - Zero harm - Zero disruption

byda.com.au

Contact Details

Contact	Contact number	Company	Enquirer ID
Jasmine Walters	(08) 8193 5600	MasterPlan Pty Ltd	3600898

Email
jasminew@masterplan.com.au

Address
338a Carrington Street
Adelaide SA 5000

Job Site and Enquiry Details

WARNING: The map below only displays the location of the proposed job site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.

Enquiry date	Start date	End date	On behalf of	Job purpose	Locations	Onsite activities
25/06/2025	31/10/2025	31/12/2025	Private	Design	Private	Planning & Design

Check that the location of the job site is correct. If not, you must submit a new enquiry.

If the scope of works change or plan validity dates expire, you must submit a new enquiry.

Do NOT dig without plans. Safe excavation is your responsibility. If you don't understand the plans or how to proceed safely, please contact the relevant asset owners.

User Reference	Address	Notes/description
Redlands 5721b Sturt Hwy	Redlands 5721b Sturt Hwy Monak NSW 2738	-

Your Responsibility and Duty of Care

- **Lodging an enquiry does not authorise project commencement.** Before starting work, you must obtain all necessary information from all affected asset owners.
- If you don't receive plans within 2 business days, contact the asset owner & quote their sequence number.
- Always follow the 5Ps of Safe Excavation (page 2), and locate assets before commencing work.
- Ensure you comply with State legislative requirements for Duty of Care and safe digging.
- If you damage an underground asset, you MUST advise the asset owner immediately.
- By using the BYDA service, you agree to the Privacy Policy and Term of Use.
- For more information on safe digging practices, visit www.byda.com.au

Asset Owner Details

Below is a list of asset owners with underground infrastructure in and around your job site. It is your responsibility to identify the presence of these assets. Plans issued by Members are indicative only unless specified otherwise. Note: not all asset owners are registered with BYDA. You must contact asset owners not listed here directly.

Referral ID (Seq. no)	Authority Name	Phone	Status
257040418	Essential Energy	13 23 91	NOTIFIED
257040419	Powercor - Mildura	13 22 06	NOTIFIED
257040420	Telstra VICTAS	1800 653 935	NOTIFIED

END OF UTILITIES LIST

The 5Ps of Safe Excavation

Plan

Plan your job. Use the BYDA service at least one day before your job is due to begin, and ensure you have the correct plans and information required to carry out a safe project.

Prepare

Prepare by communicating with asset owners if you need assistance. Look for clues onsite. Engage a skilled Locator.

Pothole

Potholing is physically sighting the asset by hand digging or hydro vacuum extraction.

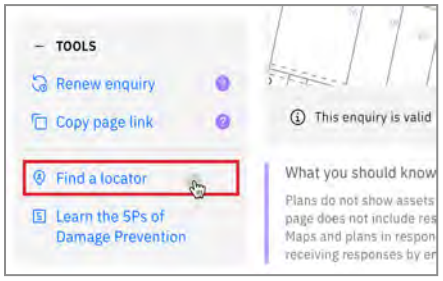
Protect

Protecting and supporting the exposed infrastructure is the responsibility of the excavator. Always erect safety barriers in areas of risk and enforce exclusion zones.

Proceed

Only proceed with your excavation work after planning, preparing, potholing (unless prohibited), and having protective measures in place.

Engage a skilled Locator



When you lodge an enquiry you will see skilled Locators to contact

Visit the Certified Locator website directly and search for a locator near you

certloc.com.au/locators

Get FREE Quotes for Contractors & Equipment Fast

GET QUOTE

Use iseekplant's FREE marketplace to get quotes for the equipment or services you need on your project. Compare quotes from trusted local contractors and get your project done on time and in budget.

1. Fill out your job details in our FREE quick quote form.
2. We send the request to trusted local contractors.
3. The local contractors will contact you directly with quotes

Use iseekplant to find trusted contractors near you today, visit:
blog.iseekplant.com.au/byda-isp-get-quotes

Book a FREE BYDA Session

BOOK NOW

BYDA offers free training sessions to suit you and your organisation's needs covering safe work practices when working near essential infrastructure assets. The free sessions are offered in two different formats - online and face-to-face.

To book a session, visit:
byda.com.au/contact/education-awareness-enquiry-form

Lodge your FREE enquiry online any time at byda.com.au

Essential Energy

Referral
257040418

Member Phone
13 23 91

Responses from this member

Response received Wed 25 Jun 2025 3.53pm

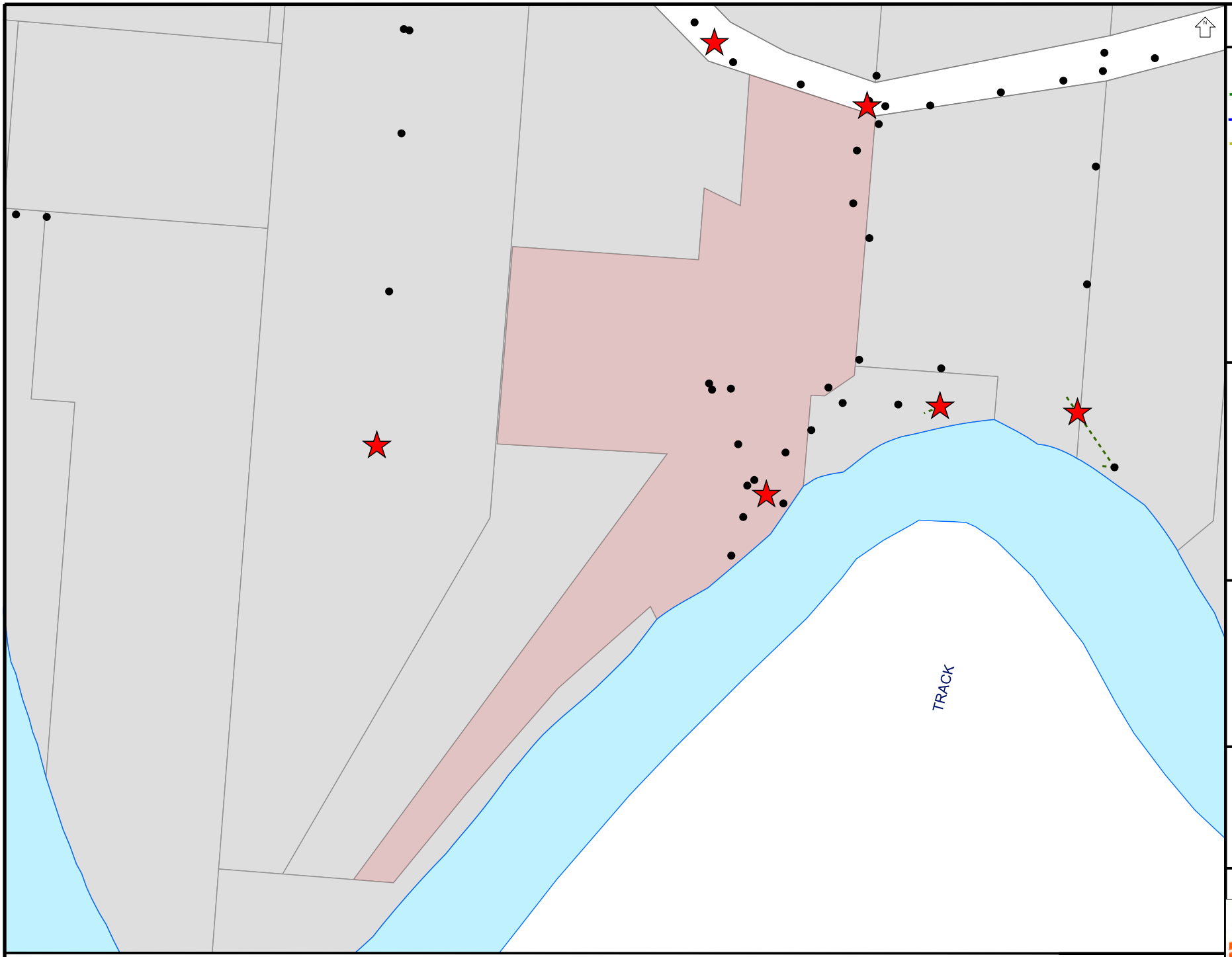
File name	Page
Response Body	5
EW_ASSETS_FOUNDsafetyNotice.pdf	6
plot16106385239213752223.pdf	10
Coversheet_EW_ASSETS_FOUND.pdf	11

Asset Name: 50215
Date of enquiry: 25/06/2025 4:21:00 PM
Notification No: 50510249 (Job No)
Sequence No: 257040418

Customer's Name: Jasmine Walters
Customer's Phone No: +61881935600

Address supplied for dig site location
Redlands 5721b Sturt Hwy, Monak, NSW

You will require a PDF viewer such as Adobe Acrobat Reader to view the attached documents.
Adobe Acrobat Reader is freely available at http://get.adobe.com/reader/.



Overhead wires not shown
LOOK UP & LIVE!

LEGEND

- LV Underground Cable
- HV Underground Cable
- Underground Pipe
- Underground Earth or Wires
- Ground Substation
- Pole
- Cubicle
- Pit
- Area of Interest

Critical Assets

Contact Essential Energy on 13 23 91

- Zone Substation
- Underground Cable
- Underground Fibre

Proposed Works

- Area of proposed works

Proposed assets are shown as orange symbols

THE INFORMATION ON THIS MAP MAY NOT BE ACCURATE. If details are incorrect, please notify Essential Energy on 13 23 91 (or fax 1800 354 636)

ISSUE DATE: 25/06/2025

You must resubmit your request if you have not started work within 4 weeks of the 'Issue Date' above

A4 | SCALE: 1:7051

Essential Energy

Job Number: 50510249 Sequence number: 257040418 Job location: Redlands 5721b Sturt Hwy, Monak

Map Centre: 142° 16' 51.0", -34° 17' 45.0"

CABLE/PIPE LOCATION

Assets were found in the search area

COMPANY NAME:	MasterPlan Pty Ltd
ATTENTION:	Jasmine Walters
SEARCH LOCATION:	Redlands 5721b Sturt Hwy Monak NSW 2738
SEQUENCE NO:	257040418
DATE:	Wednesday, 25 June 2025

Provision of Plans:
Please find enclosed plans depicting approximate locations of **Essential Energy** assets in the search location***. The excavator must not assume that there may not be assets owned by other network operators in the search location.***

Underground assets searched for	Underground assets found
Essential Energy Electrical	☑
Essential Energy Water & Sewerage	☐

Plans are updated from time to time to record changes to underground assets and may be updated by Essential Energy without notice. In the event that excavation does not commence within 28 days of receipt of a plan, a new plan should be obtained.

The excavator must retain the plans on site for the duration of the works.

The excavator shall report all damage made to Essential Energy assets immediately. Note that damage includes gouges, dents, holes and gas escapes.

IN CASE OF EMERGENCY OR TO REPORT DAMAGE:
PHONE 13 20 80

DISCLAIMER

Please be aware that plans may **not** reflect alterations to surface levels or the position of roads, buildings, fences etc. **Cable and pipe locations are approximate,** and the plans are **not** suitable for scaling purposes. *Essential Energy does not retain plans for privately-owned underground electrical or water & sewerage assets located on private property.* ***Privately-owned underground electrical assets located on private property are the responsibility of the owner.***

The plans have been prepared for Essential Energy's sole use and benefit. **Essential Energy cannot and does not warrant the accuracy or completeness of the plans**. Essential Energy supplies them at no cost with the object of reducing the serious risk of unintentional damage being caused to its cables and pipes. **Essential Energy does not accept any responsibility for any omissions, inaccuracies or errors in the plans, or any reliance place on the material. Any reliance placed on any plan provided in response to your request is at your own risk.**

www.essentialenergy.com.au
ABN 37 428 185 226
PO Box 5730 Port Macquarie NSW 2444
Telephone: 13 23 91

Essential Energy retains all intellectual and industrial property rights which exists or may exist in or with respect to the plan(s). The material provided is not to be copies or distributed beyond you.

You release Essential Energy from and against all claims, demands, actions and proceedings arising out of or in any way related to the use of the provided material.

Location of Assets on Site:
The plans indicate only that cables and pipes may exist in the general vicinity – they do not pinpoint the exact location of the cables and pipes.

If it is found that the location of cables or pipes on the plans can be improved, please notify Essential Energy on 13 23 91.

All individuals have a duty of care they must observe when working in the vicinity of underground cables and pipes. It is the **excavator's responsibility to visually expose the underground cables and pipes manually**, **ie. by using hand-held tools and non-destructive pot-holing techniques prior to any mechanical excavation.** The excavator will be held responsible for all damage caused to the Essential Energy network or cables and pipes, and for the costs associated with the repair of any such damage. The excavator will also be held responsible for all damage caused to any persons.

When digging in the vicinity of underground assets, persons should observe the requirements of the applicable Codes of Practice published by the NSW Work Cover Authority or Safe Work Australia, and any amendments from time to time by the Authorities, including although not limited to:

- Excavation Work
- Managing Electrical Risks in the workplace
- How to manage and control asbestos in the workplace

(Please refer to https://www.nsw.gov.au/search?q=codes+of+practice)

When digging in the vicinity of **electrical assets** persons should observe the requirements of the **Electricity Supply Act 1995.**
Persons excavating near live underground electrical reticulation and/or earthing cables **must exercise extreme caution at all times and adhere to the requirements of Essential Energy's Electrical Safety Rules.** (These are available on our website: http://www.essentialenergy.com.au/content/safety-community and include:

- **Company Procedure: Work Near Essential Energy's Underground Assets**
- **Asbestos Fact Sheet**

In some situations, these procedures call for work to be performed by authorised staff.
Should there be any doubt as to the exact location of any underground electrical assets, and the potential for conflict with live underground cables caused by excavation at your work site, you should contact **13 23 91** to arrange for an on-site visit by an Essential Energy representative**.** No construction or mechanical excavation work is to commence prior to this on-site visit and approval being obtained.

When digging in the vicinity of **water or sewer assets** persons should observe the requirements of the **Water Management Act 2000.**
Should there be any doubt as to the exact location of any underground water and sewer assets, and the potential for conflict with underground water and sewer pipes caused by excavation at your work site, you should contact **13 23 91** to arrange for an on-site visit**.** No construction or excavation work is to commence prior to this on-site visit and approval being obtained.

Prior Notification:
Please note that for excavation depths greater than 250mm near power poles and stays you should allow for **advance notice** in your construction program to permit Essential Energy time to allocate the necessary field resources to carry out the inspection at the site a **minimum of fourteen (14) working days prior to work commencing.**

For further information please call 13 23 91.

www.essentialenergy.com.au
ABN 37 428 185 226
PO Box 5730 Port Macquarie NSW 2444
Telephone: 13 23 91

Referral
257040419

Member Phone
13 22 06

Responses from this member

Response received Wed 25 Jun 2025 7.27pm

File name	Page
Response Body	14
CitiPower Powercor UG Electricity Hazard Awareness Instructions.pdf	15
257040419 - Citipower Powercor Response letter.pdf	17
257040419 - Citipower Powercor Overview Plan.pdf	18

This referral has been successfully processed by CitiPower Ltd / Powercor Australia Ltd and the results are contained in the attached files.

Understanding your DBYD Response Files

- Read the "257040419 - Citipower Powercor Response letter.pdf" and the "CitiPower Powercor UG Electricity Hazard Awareness Instructions.pdf" documents for an overview of your impact on CitiPower/Powercor assets and your obligations
- The remaining (PDF) attachments are detailed construction drawings within your area of works.
- Attachments over 13MB are split into multiple emails (eg, Part 1 of X) - ensure you have all documents

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Please DO NOT REPLY TO THIS EMAIL as it has been automatically generated and replies are not monitored.

Sequence No:	257040419
Date:	25 Jun 2025
Enquirer:	MasterPlan Pty Ltd
Contact:	Jasmine Walters
Email:	qe2vck1mnp9877.drsmm5nta8n1jj@smarterwx-mail.byda.com.au
Phone:	+61881935600
Address:	338a Carrington Street, Adelaide SA
Site Address:	Redlands 5721b Sturt Hwy, Monak NSW
Activity:	Planning & Design
Job Number:	50510249

If you require assistance, clarification or Permit to Works please contact 132 206.

We thank you for your enquiry and appreciate your continued use of the "Dial Before You Dig" service.

UNDERGROUND ELECTRICITY HAZARD AWARENESS INSTRUCTIONS

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 Generate

UNDERGROUND ELECTRICITY HAZARD AWARENESS INSTRUCTIONS

For CitiPower & Powercor Dial Before You Dig customers

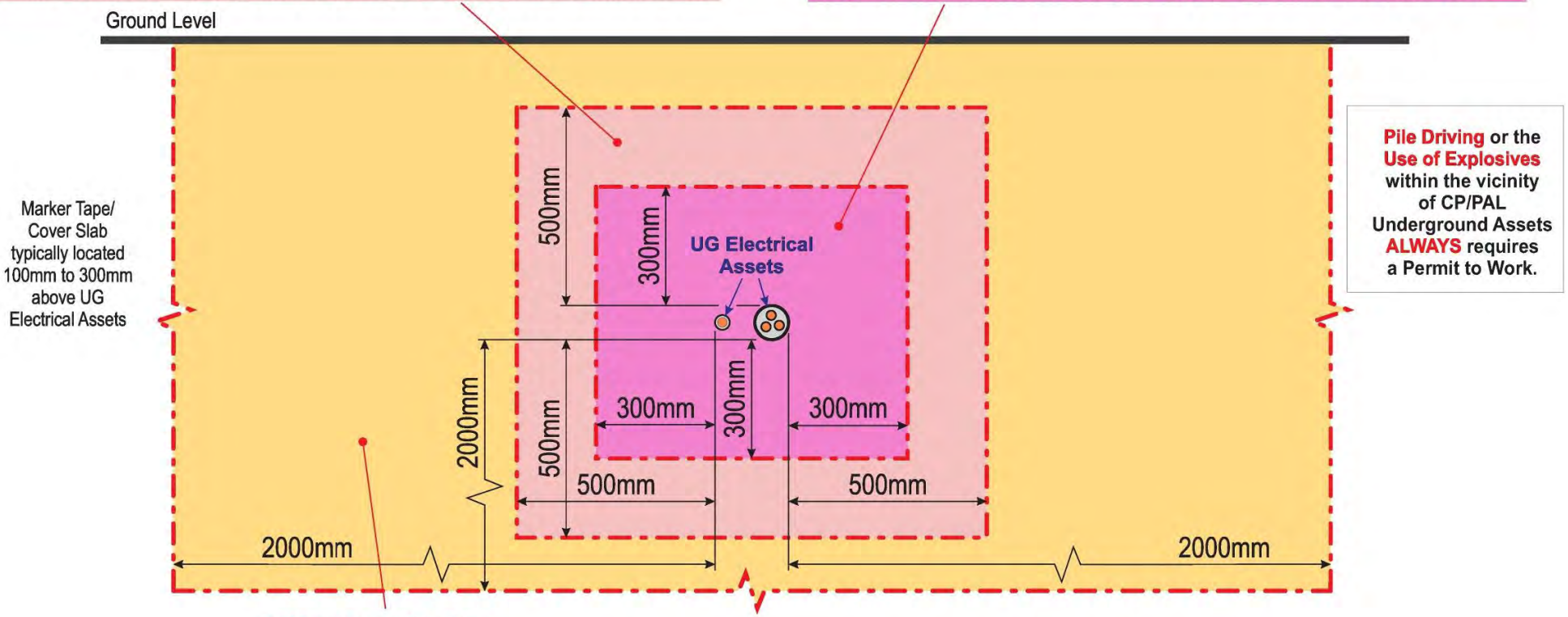
EXCLUSION ZONES

500mm Exclusion Zone
Heavy Machinery & Mechanical Excavation

Heavy (Crawler Type) Machinery operation and Mechanical Excavation within a 500mm distance of Underground Electricity Assets requires a Permit to Work

300mm Exclusion Zone
Hand Tools Only

All Excavation within a 300mm distance of Underground Electricity Assets requires a Permit to Work and must only be performed with Hand Tools



Pile Driving or the **Use of Explosives** within the vicinity of CP/PAL Underground Assets **ALWAYS** requires a Permit to Work.

2000mm Exclusion Zone
Works within this area that require a Site Technical Assessment and may require a Permit to Work includes:

Pot Hole Boring Machine (Vertical Boring), Directional Boring Machine,
Excavations Parallel to Underground Electricity Assets, Excavations Across Underground Electricity Assets

For Underground Electricity Asset location purposes:

Careful Excavation by hand may be performed under a Permit to Work above energised Underground Electricity Assets within the Exclusion Zone
Excavation must cease once either Marker Tape, Cover Slab or top of asset is located. All excavation must be performed BY HAND using only non-powered tools
No disturbance of the Marker Tape, the Protective Cover or the Asset is allowed. Any disturbance must be reported immediately to CitiPower/Powercor

Excavation Below Underground Electricity Assets:

All excavation BELOW Underground Electricity Assets outside of the Exclusion Zone must ensure that there is no disturbance to the asset and that the area is restored to full pre-excavation integrity upon reinstatement

Dial Before You Dig (DBYD)
Electrical Asset Location Information

CitiPower/Powercor

Locked Bag 14090, Melbourne VIC 8001

General Enquiries Telephone: 132 206

To: ('Enquirer')

Jasmine Walters

338a Carrington Street

Adelaide SA 5000

Enquiry Details	
Utility ID	50024
Sequence Number	257040419
Enquiry Date	25/06/2025
Response	**ALL CLEAR**
Address	Redlands 5721b Sturt Hwy Monak, NSW 2738
Location in Road	
Activity	Planning & Design

Enquirer Details	
Customer ID	3600898
Contact	Jasmine Walters
Company	MasterPlan Pty Ltd
Email	qe2vck1mnp9877.drsmm5nta8n1jj@smarterwx-mail.byda.com.au
Phone	+61881935600

Enquirer Responsibilities

This notification is valid for 28 days from the issue date. CitiPower/Powercor assets are critical infrastructure and great care must be taken to avoid asset damage and risk to public safety. The information supplied in the DBYD Response is intended to be indicative only. External parties should make their own enquiries to ensure the accuracy of the information, including but not limited to:

- Check that the location of the dig site indicated is correct, if not you must submit a new enquiry.
- Should your scope of works change or the plan validity dates expire, you must submit a new enquiry.
- If you do not understand the plans provided please contact CitiPower/Powercor prior to works commencing.
- Always perform an onsite inspection to establish the presence of assets.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.

Report any asset damage immediately on 132 206. Note: CitiPower/Powercor reserves the right to recover compensation for damages.

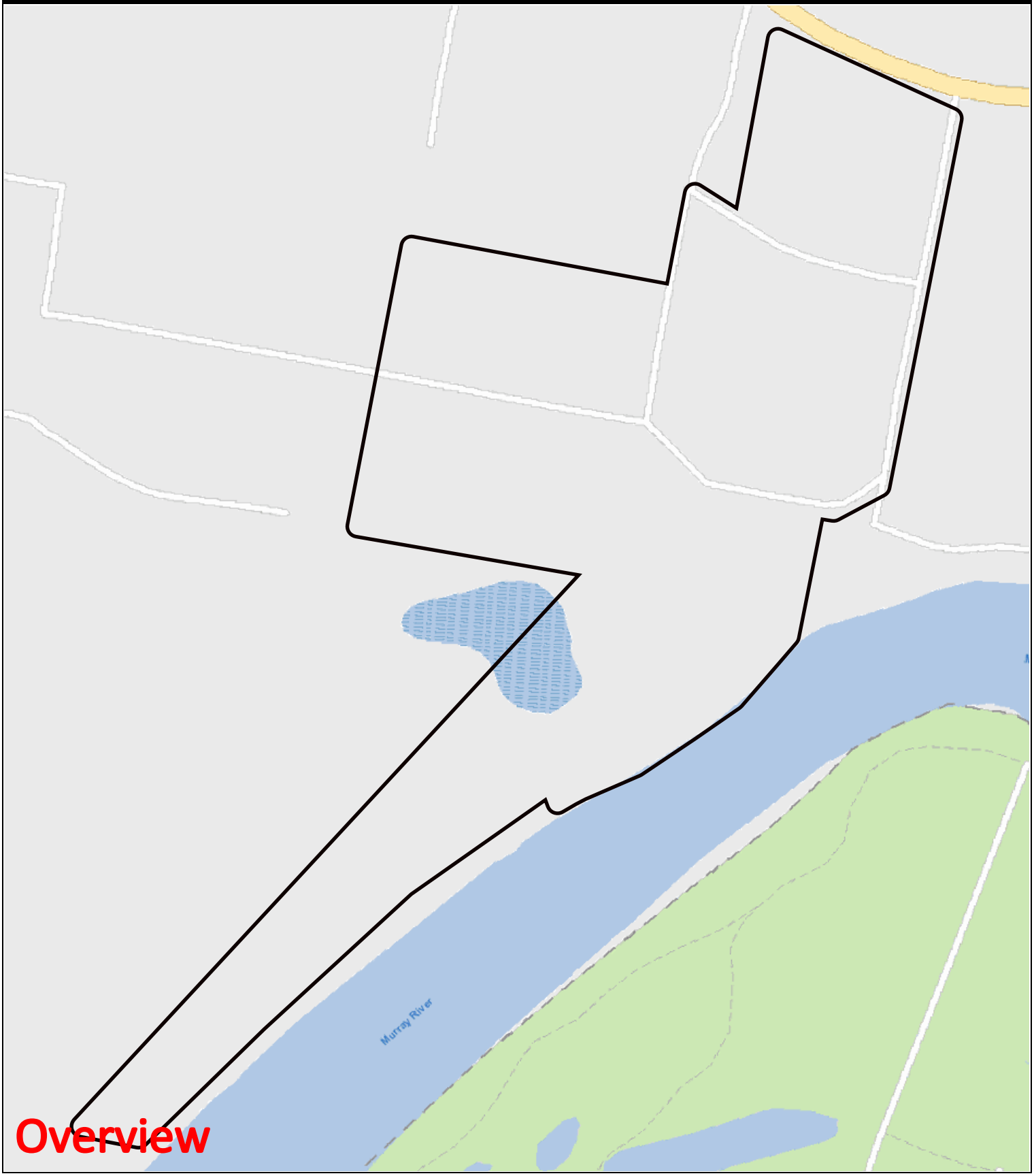
Date: 25 Jun 2025

Locality Map

257040419

Redlands 5721b Sturt Hwy, Monak, NSW 2738

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



LEGEND:

- BYDA Work Area
- Zone Substation
- High Voltage Cable
- Low Voltage Cable
- Communication Cable
- Earth Cable
- SWER Substation
- Distribution Substation
- Pole
- HV Pits

This map represents the location of the submitted BYDA Work Area and all Citipower/Powercor responses are based on this location. It is the responsibility of the enquirer to ensure the accuracy of the BYDA Work Area.

Scale: 1:5000

N

Referral
257040420

Member Phone
1800 653 935

Responses from this member

Response received Wed 25 Jun 2025 4.00pm

File name	Page
Response Body	20
Telstra Duty of Care v32.0c.pdf	22
AccreditedPlantLocators 2025-01-08a.pdf	24
257040420.dwf	Excluded
Telstra Map Legend 4.0b.pdf	25

Attention: Jasmine Walters

Site Location: Redlands 5721b Sturt Hwy, Monak, NSW 2738

Your Job Reference: Redlands 5721b Sturt Hwy

Please do not reply to this email, this is an automated message -

Thank you for requesting Telstra information via Before You Dig Australia (BYDA).

This response contains Telstra information relating to your recent BYDA request.

Please refer to all enclosed attachments for more information.
Information for opening Telstra Asset Plans as well as some other useful contact information is noted in the attached documents.

Report Damage to Telstra Equipment: Report damages to Telstra equipment - Telstra

Please note:
When working in the vicinity of telecommunications plant you have a 'Duty of Care' that must be observed.
Ensure you read all documents (attached) - they contain important information.
Please also refer to the **Before you Dig Australia - BEST PRACTISE GUIDES and The five Ps of safe excavation** https://www.byda.com.au/before-you-dig/best-practice-guides/, The essential steps that must be undertaken prior to commencing construction activities.

WARNING - MAJOR CABLES and/or OPTIC FIBRE IN THE AREA.
Phone 1800 653 935 for further assistance.

Note: In some areas Telstra fibre routes may be marked as "Amcom", as Telstra has purchased much of this infrastructure. If in doubt, please contact Telstra Plan services on the number above. Telstra plans and information are only valid for 60 days from the date of issue.

WARNING:
Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing them. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy. Further on site investigation is required to validate the exact location of Telstra assets prior to commencing work. A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. See the **Before You Dig Australia - BEST PRACTISE GUIDES and The five Ps of safe excavation** https://www.byda.com.au/before-you-dig/best-practice-guides/.

Please note that:
- it is a criminal offence under the *Criminal Code Act* 1995 (Cth) to tamper or interfere with telecommunications infrastructure.
- Telstra will take action to recover compensation for damage caused to property and assets, and for interference with the operation of Telstra's networks and customers' services.

Telstra's plans contain Telstra's confidential information and are provided on the basis that they are used solely for identifying the location or vicinity of Telstra's infrastructure to avoid damage to this infrastructure occurring as part of any digging or other excavation activity. You must not use Telstra's plans for any other purpose or in a way that will cause Telstra loss or damage and you must comply with any other terms of access to the data that have been provided to you by Telstra (including Conditions of Use or Access).

(See attached file: Telstra Duty of Care v32.0c.pdf)

(See attached file: Telstra Map Legend 4.0b.pdf)

Disclaimer and legal details

*Telstra advises that the accuracy of the information provided by Telstra conforms to Quality Level D as defined in AS5488-2013.

It is a criminal offence under the Criminal Code Act 1995 (Cth) to tamper or interfere with telecommunications infrastructure.

Telstra will also take action to recover costs and damages from persons who damage assets or interfere with the operation of Telstra's networks.

By receiving this information including the indicative plans that are provided as part of this information package you confirm that you understand and accept the risks of working near Telstra's network and the importance of taking all the necessary steps to confirm the presence, alignments and various depths of Telstra's network. This in addition to, and not in replacement of, any duties and obligations you have under applicable law.

When working in the vicinity of a telecommunications plant you have a "Duty of Care" that must be observed. Please read and understand all the information and disclaimers provided below.

The Telstra network is complex and requires expert knowledge to interpret information, to identify and locate components, to pothole underground assets for validation and to safely work around assets without causing damage. If you are not an expert and/or qualified in these areas, then you must not attempt these activities. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers. Construction activities and/or any activities that potentially may impact on Telstra's assets must not commence without first undertaking these steps. Construction activities can include anything that involves breaking ground, potentially affecting Telstra assets.

If you are designing a project, it is recommended that you also undertake these steps to validate underground assets prior to committing to your design.

This Notice has been provided as a guide only and may not provide you with all the information that is required for you to determine what assets are on or near your site of interest. You will also need to collate and understand all information received from other Utilities and understand that some Utilities are not a part of the BYDA program and make your own enquiries as appropriate. It is the responsibility of the entities undertaking the works to protect Telstra's network during excavation / construction works.

Telstra owns and retains the copyright in all plans and details provided in conjunction with the applicant's request. The applicant is authorised to use the plans and details only for the purpose indicated in the applicant's request. The applicant must not use the plans or details for any other purpose.

Telstra plans or other details are provided only for the use of the applicant, its servants, agents, or CERTLOC Certified Locating Organisation (CLO). The applicant must not give the plans or details to any parties other than these and must not generate profit from commercialising the plans or details.

Telstra, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Telstra against any claim or demand for any such loss or damage.

Please ensure Telstra plans and information provided always remains on-site throughout the inspection, location, and construction phase of any works.

Telstra plans are valid for 60 days after issue and must be replaced if required after the 60 days.

Data Extraction Fees

In some instances, a data extraction fee may be applicable for the supply of Telstra information. Typically, a data extraction fee may apply to large projects, planning and design requests or requests to be supplied in non-standard formats. For further details contact Telstra Location Intelligence Team.

Telstra does not accept any liability or responsibility for the performance of or advice given by a CERTLOC Certified Locating Organisation (CLO). Certification is an initiative taken by Telstra towards the establishment and maintenance of competency standards. However, performance and the advice given will always depend on the nature of the individual engagement.

Neither the Certified Locating Organisation nor any of its employees are an employee or agent for Telstra. Telstra is not liable for any damage or loss caused by the Certified Locating Organisation or its employees.

Once all work is completed, the excavation should be reinstated with the same type of excavated material unless specified by Telstra.

The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

When using excavators and other machinery, also check the location of overhead power lines.

Workers and equipment must maintain safety exclusion zones around power lines

WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. The exact position of Telstra assets can only be validated by physically exposing them. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

Privacy Note

Your information has been provided to Telstra by BYDA to enable Telstra to respond to your BYDA request. Telstra keeps your information in accordance with its privacy statement. You can obtain a copy at www.telstra.com.au/privacy or by calling us at 1800 039 059 (business hours only).

General Information

Before you Dig Australia – BEST PRACTISE GUIDES

The five Ps of safe excavation
https://www.byda.com.au/before-you-dig/best-practice-guides/

OPENING ELECTRONIC MAP ATTACHMENTS –

Telstra Cable Plans are generated automatically in either PDF or DWF file types.
Dependent on the site address and the size of area selected.
You may need to download and install free viewing software from the internet e.g.

DWF Map Files (all sizes over A3)
Autodesk Viewer (Internet Browser) https://viewer.autodesk.com/ or
Autodesk Design Review http://usa.autodesk.com/design-review/ for DWF files. (Windows PC)

PDF Map Files (max size A3)
Adobe Acrobat Reader http://get.adobe.com/reader/

Telstra BYDA map related enquiries email Telstra.Plans@team.telstra.com
1800 653 935 (AEST Business Hours only)

REPORT ANY DAMAGE TO THE TELSTRA NETWORK IMMEDIATELY
Report online - https://www.telstra.com.au/forms/report-damage-to-telstra-equipment
Ph: 13 22 03
If you receive a message asking for a phone or account number say:
"I don't have one" then say "Report Damage" then press 1 to speak to an operator.

Telstra New Connections / Disconnections
13 22 00

Telstra asset relocation enquiries: 1800 810 443 (AEST business hours only).
NetworkIntegrity@team.telstra.com
https://www.telstra.com.au/consumer-advice/digging-construction

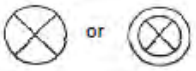
Telstra Aerial Assets Group (overhead network)
1800 047 909

CERTLOC Certified Locating Organisation (CLO)
certloc.com.au/locators/
Only Telstra authorised personnel and CERTLOC Locators can access Telstra's Pit and Pipe Network.

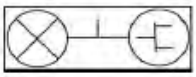
LEGEND

Exchange
(Major Cable Present)

Footway Access Chamber
(can vary from 1-lid to 12-lid)



Pillar / Cabinet
(above ground / free standing)



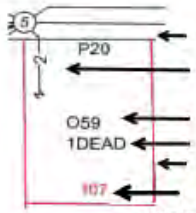
Above ground complex equipment housing (eg RIM)
Please Note: This equipment is powered by 240V Electricity

OC — Other Carrier Telecommunications Cable/Asset

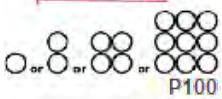
Dist — Distribution cables in Main Cable ducts

MC — Main Cable ducts on a Distribution plan

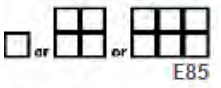
▲ — Blocked or damaged duct.



Roadside / Front Boundary
2 pair lead-in to property from pit in street 1
pair working (pair ID 059)
1 pair dead (i.e. spare, not connected)
Side / Rear Property Boundary
Property Number



Single to multiple round conduit
Configurations 1,2,4,9 respectively
(attached text denotes conduit type and size)



Multiple square conduit
Configurations 2, 4, 6 respectively
(attached text denotes conduit type and size)

Cable Jointing Pit
(number / Letter indicating Pit Type)

Elevated Joint
(above ground joint on buried cable)

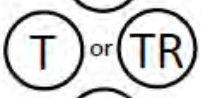
Telstra Plant in shared Utility trench

Aerial Cable

Aerial Cable
(attached to joint Use Pole eg. Power)

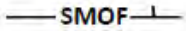
Direct Buried Cable

Marker Post Installed



Buried Transponder

Marker Post, Transponder

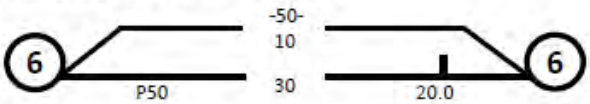


Optical Fibre cable direct buried

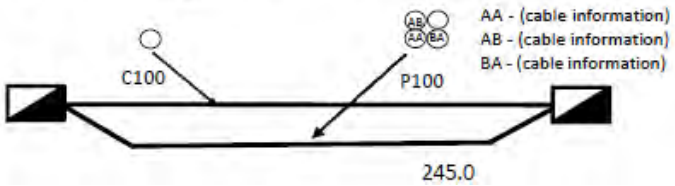
Some examples of conduit type and size:

A - Asbestos cement, P - PVC / Plastic, C - Concrete,
GI - Galanised iron, E - Earthenware
Conduit sizes *nominally* range from 20mm to 100mm
P50 50mm PVC conduit
P100 100mm PVC conduit
A100 100mm asbestos cement conduit

Some Examples of how to read Telstra Plans



One 50mm PVC conduit (P50) containing a 50-pair and a 10-pair cable between two 6-pits. approximately 20.0m apart, with a direct buried 30-pair cable along the same route



Two separate conduit runs between two footway access chambers (manholes) approximately 245m apart A nest of four 100mm PVC conduits (P100) containing assorted cables in three ducts (one being empty) and one empty 100mm concrete duct (C100) along

Protect our Network:

by maintaining the following distances from our assets:

- 1.0m Mechanical Excavators, Farm Ploughing, Tree Removal
- 500mmVibrating Plate or Wacker Packer Compactor
- 600mm Heavy Vehicle Traffic (over 3 tonnes) not to be driven across Telstra ducts or plant.
- 1.0mJackhammers/Pneumatic Breakers
- 2.0m Boring Equipment (in-line, horizontal and vertical)

For more info contact a CERTLOC Certified Locating Organisation (CLO) or Telstra Location Intelligence Team 1800 653 935

Job ID 51095528

5758 Sturt Hwy

Review responses online

Received 3 of 3 responses

All responses received

5758 Sturt Hwy, Monak NSW 2738

Job dates
01/11/2025 → 31/12/2025

These plans expire on
2 Oct 2025

Lodged by
Jasmine Walters

Authority	Status	Page
BYDA Confirmation		2
Essential Energy	Received	4
Powercor - Mildura	Received	13
Telstra VICTAS	Received	19

Job No 51095528

byda.com.au

Zero damage - Zero harm - Zero disruption

Contact Details

Contact	Contact number	Company	Enquirer ID
Jasmine Walters	(08) 8193 5600	MasterPlan Pty Ltd	3600898

Email
jasminew@masterplan.com.au

Address
338a Carrington Street
Adelaide SA 5000

Job Site and Enquiry Details

WARNING: The map below only displays the location of the proposed job site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.

Enquiry date	Start date	End date	On behalf of	Job purpose	Locations	Onsite activities
04/09/2025	01/11/2025	31/12/2025	Private	Design	Private	Planning & Design

Check that the location of the job site is correct. If not, you must submit a new enquiry.

If the scope of works change or plan validity dates expire, you must submit a new enquiry.

Do NOT dig without plans. Safe excavation is your responsibility. If you don't understand the plans or how to proceed safely, please contact the relevant asset owners.

User Reference	Address	Notes/description
5758 Sturt Hwy	5758 Sturt Hwy Monak NSW 2738	-

Your Responsibility and Duty of Care

- **Lodging an enquiry does not authorise project commencement.** Before starting work, you must obtain all necessary information from all affected asset owners.
- If you don't receive plans within 2 business days, contact the asset owner & quote their sequence number.
- Always follow the 5Ps of Safe Excavation (page 2), and locate assets before commencing work.
- Ensure you comply with State legislative requirements for Duty of Care and safe digging.
- If you damage an underground asset, you MUST advise the asset owner immediately.
- By using the BYDA service, you agree to the Privacy Policy and Term of Use.
- For more information on safe digging practices, visit www.byda.com.au

Asset Owner Details

Below is a list of asset owners with underground infrastructure in and around your job site. It is your responsibility to identify the presence of these assets. Plans issued by Members are indicative only unless specified otherwise. Note: not all asset owners are registered with BYDA. You must contact asset owners not listed here directly.

Referral ID (Seq. no)	Authority Name	Phone	Status
260644907	Essential Energy	13 23 91	NOTIFIED
260644908	Powercor - Mildura	13 22 06	NOTIFIED
260644909	Telstra VICTAS	1800 653 935	NOTIFIED

END OF UTILITIES LIST

The 5Ps of Safe Excavation

Plan

Plan your job. Use the BYDA service at least one day before your job is due to begin, and ensure you have the correct plans and information required to carry out a safe project.

Prepare

Prepare by communicating with asset owners if you need assistance. Look for clues onsite. Engage a skilled Locator.

Pothole

Potholing is physically sighting the asset by hand digging or hydro vacuum extraction.

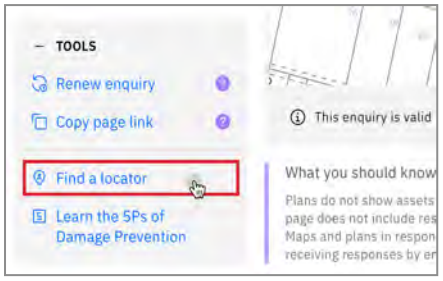
Protect

Protecting and supporting the exposed infrastructure is the responsibility of the excavator. Always erect safety barriers in areas of risk and enforce exclusion zones.

Proceed

Only proceed with your excavation work after planning, preparing, potholing (unless prohibited), and having protective measures in place.

Engage a skilled Locator



When you lodge an enquiry you will see skilled Locators to contact

Visit the Certified Locator website directly and search for a locator near you

certloc.com.au/locators

Get FREE Quotes for Contractors & Equipment Fast

GET QUOTE

Use iseekplant's FREE marketplace to get quotes for the equipment or services you need on your project. Compare quotes from trusted local contractors and get your project done on time and in budget.

1. Fill out your job details in our FREE quick quote form.
2. We send the request to trusted local contractors.
3. The local contractors will contact you directly with quotes

Use iseekplant to find trusted contractors near you today, visit:
blog.iseekplant.com.au/byda-isp-get-quotes

Book a FREE BYDA Session

BOOK NOW

BYDA offers free training sessions to suit you and your organisation's needs covering safe work practices when working near essential infrastructure assets. The free sessions are offered in two different formats - online and face-to-face.

To book a session, visit:
byda.com.au/contact/education-awareness-enquiry-form

Lodge your FREE enquiry online any time at byda.com.au

Essential Energy

Referral
260644907

Member Phone
13 23 91

Responses from this member

Response received Thu 4 Sep 2025 1.47pm

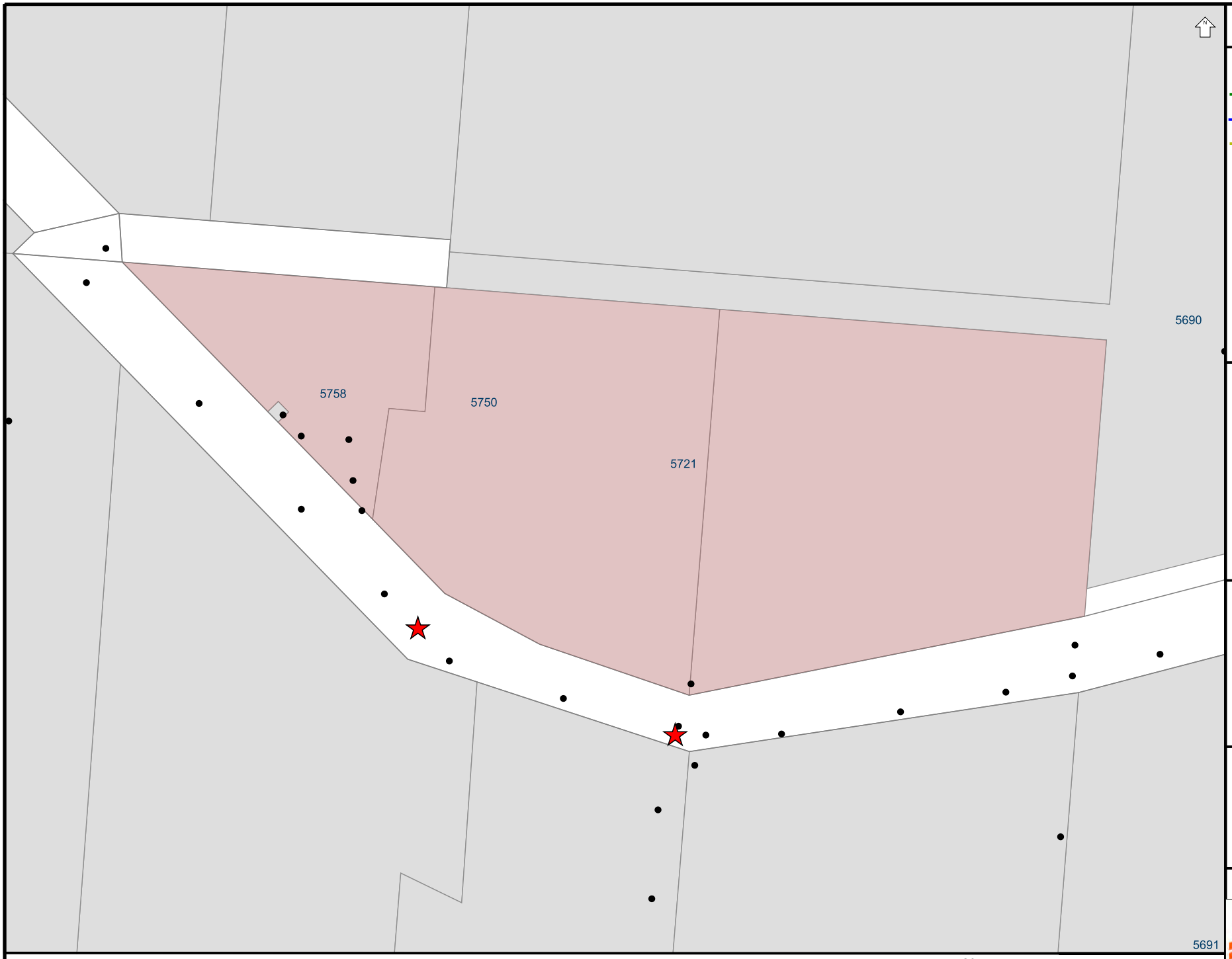
File name	Page
Response Body	5
EW_ASSETS_FOUNDsafetyNotice.pdf	6
Coversheet_EW_ASSETS_FOUND.pdf	10
plot16106385103801782618 18.pdf	12

Asset Name: 50215
Date of enquiry: 4/09/2025 2:15:00 PM
Notification No: 51095528 (Job No)
Sequence No: 260644907

Customer's Name: Jasmine Walters
Customer's Phone No: +61881935600

Address supplied for dig site location
5758 Sturt Hwy, Monak, NSW

You will require a PDF viewer such as Adobe Acrobat Reader to view the attached documents.
Adobe Acrobat Reader is freely available at http://get.adobe.com/reader/.



Overhead wires not shown
LOOK UP & LIVE!

LEGEND

- LV Underground Cable
- HV Underground Cable
- Underground Pipe
- Underground Earth or Wires
- Ground Substation
- Pole
- Cubicle
- Pit
- Area of Interest

Critical Assets

Contact Essential Energy on 13 23 91

- Zone Substation
- Underground Cable
- Underground Fibre

Proposed Works

- Area of proposed works

Proposed assets are shown as orange symbols

THE INFORMATION ON THIS MAP MAY NOT BE ACCURATE. If details are incorrect, please notify Essential Energy on 13 23 91 (or fax 1800 354 636)

ISSUE DATE: 04/09/2025

You must resubmit your request if you have not started work within 4 weeks of the 'Issue Date' above

A4 | SCALE: 1:4185

Essential Energy

Job Number: 51095528 Sequence number: 260644907 Job location: 5758 Sturt Hwy, Monak

Map Centre: 142° 17' 4.2", -34° 17' 21.5"

Powercor - Mildura

Referral
260644908

Member Phone
13 22 06

Responses from this member

Response received Thu 4 Sep 2025 4.02pm

File name	Page
Response Body	14
260644908 - Citipower Powercor Overview Plan.pdf	15
CitiPower Powercor UG Electricity Hazard Awareness Instructions.pdf	16
260644908 - Citipower Powercor Response letter.pdf	18

This referral has been successfully processed by CitiPower Ltd / Powercor Australia Ltd and the results are contained in the attached files.

Understanding your DBYD Response Files

- Read the "260644908 - Citipower Powercor Response letter.pdf" and the "CitiPower Powercor UG Electricity Hazard Awareness Instructions.pdf" documents for an overview of your impact on CitiPower/Powercor assets and your obligations
- The remaining (PDF) attachments are detailed construction drawings within your area of works.
- Attachments over 13MB are split into multiple emails (eg, Part 1 of X) - ensure you have all documents

---

Please DO NOT REPLY TO THIS EMAIL as it has been automatically generated and replies are not monitored.

Sequence No:	260644908
Date:	04 Sep 2025
Enquirer:	MasterPlan Pty Ltd
Contact:	Jasmine Walters
Email:	qe2vck1mnp9877.j03vp9y77kkiqk@smarterwx-mail.byda.com.au
Phone:	+61881935600
Address:	338a Carrington Street, Adelaide SA
Site Address:	5758 Sturt Hwy, Monak NSW
Activity:	Planning & Design
Job Number:	51095528

If you require assistance, clarification or Permit to Works please contact 132 206.

We thank you for your enquiry and appreciate your continued use of the "Dial Before You Dig" service.

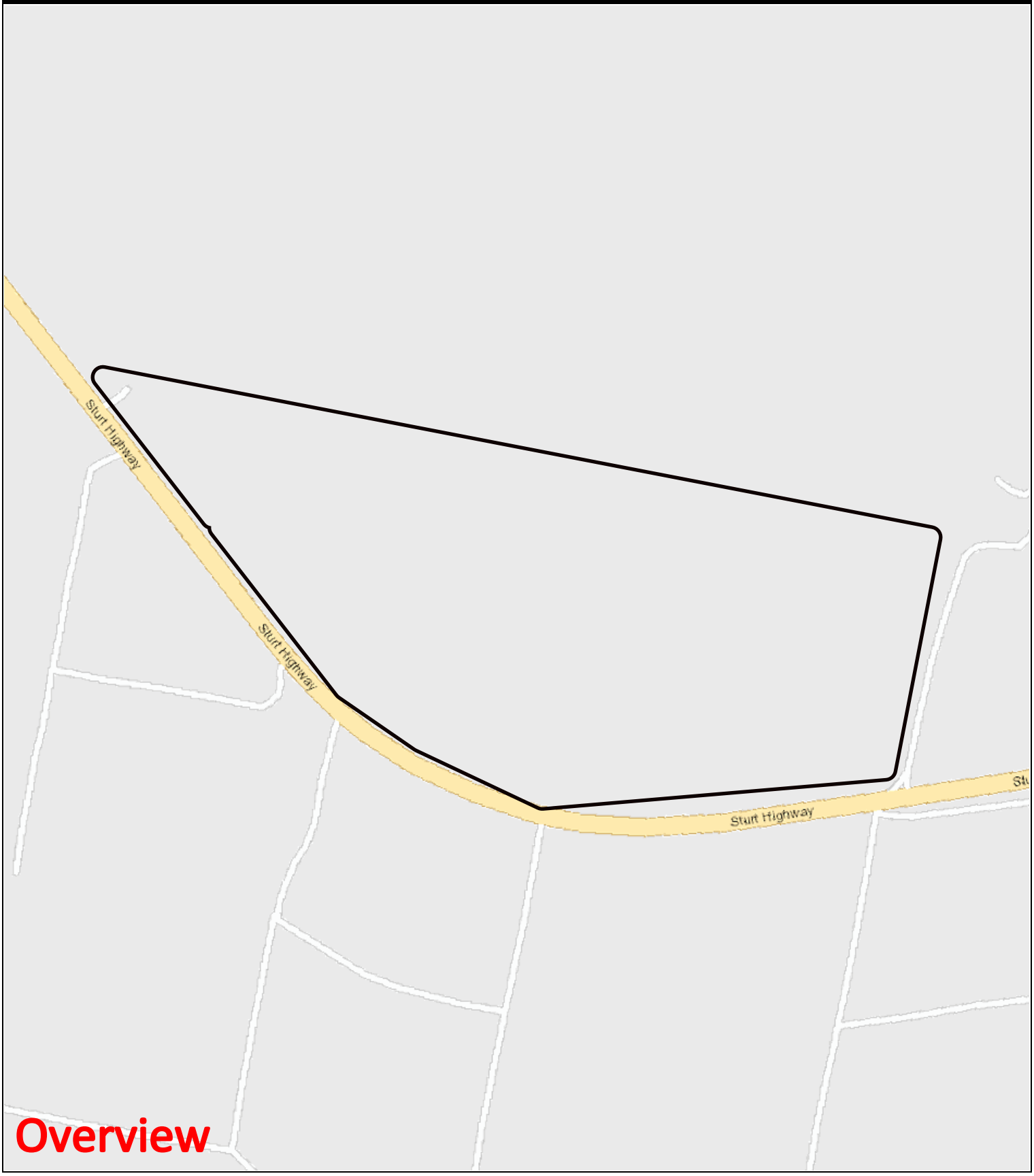
Date: 04 Sep 2025

Locality Map

260644908

5758 Sturt Hwy, Monak, NSW 2738

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



Overview

LEGEND:

- BYDA Work Area
- Zone Substation
- High Voltage Cable
- Low Voltage Cable
- Communication Cable
- Earth Cable
- SWER Substation
- Distribution Substation
- Pole
- HV Pits

This map represents the location of the submitted BYDA Work Area and all Citipower/Powercor responses are based on this location. It is the responsibility of the enquirer to ensure the accuracy of the BYDA Work Area.

Scale: 1:5000

N

UNDERGROUND ELECTRICITY HAZARD AWARENESS INSTRUCTIONS

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 Generate

UNDERGROUND ELECTRICITY HAZARD AWARENESS INSTRUCTIONS

For CitiPower & Powercor Dial Before You Dig customers

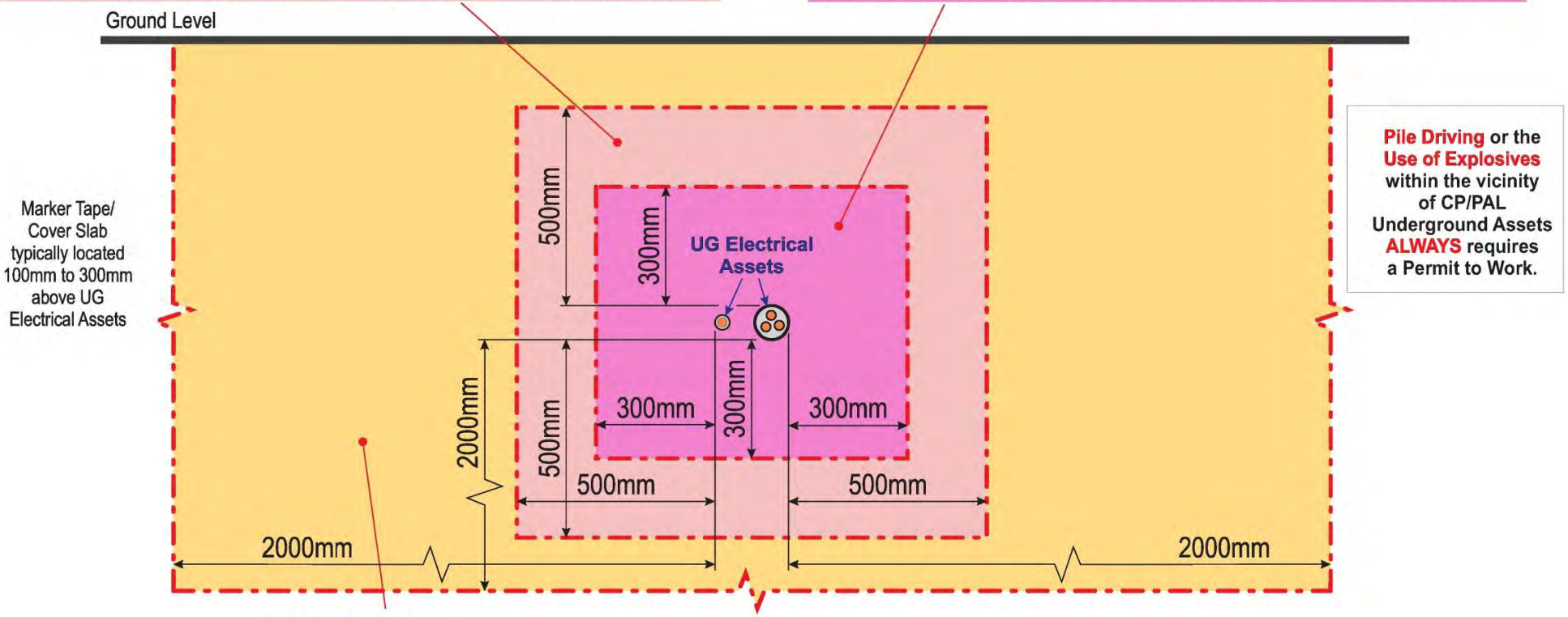
EXCLUSION ZONES

500mm Exclusion Zone
Heavy Machinery & Mechanical Excavation

Heavy (Crawler Type) Machinery operation and Mechanical Excavation within a 500mm distance of Underground Electricity Assets requires a Permit to Work

300mm Exclusion Zone
Hand Tools Only

All Excavation within a 300mm distance of Underground Electricity Assets requires a Permit to Work and must only be performed with Hand Tools



Pile Driving or the **Use of Explosives** within the vicinity of CP/PAL Underground Assets **ALWAYS** requires a Permit to Work.

2000mm Exclusion Zone
Works within this area that require a Site Technical Assessment and may require a Permit to Work includes:

Pot Hole Boring Machine (Vertical Boring), Directional Boring Machine,
Excavations Parallel to Underground Electricity Assets, Excavations Across Underground Electricity Assets

For Underground Electricity Asset location purposes:

Careful Excavation by hand may be performed under a Permit to Work above energised Underground Electricity Assets within the Exclusion Zone
Excavation must cease once either Marker Tape, Cover Slab or top of asset is located. All excavation must be performed BY HAND using only non-powered tools
No disturbance of the Marker Tape, the Protective Cover or the Asset is allowed. Any disturbance must be reported immediately to CitiPower/Powercor

Excavation Below Underground Electricity Assets:

All excavation BELOW Underground Electricity Assets outside of the Exclusion Zone must ensure that there is no disturbance to the asset and that the area is restored to full pre-excavation integrity upon reinstatement

Dial Before You Dig (DBYD)
Electrical Asset Location Information

CitiPower/Powercor

Locked Bag 14090, Melbourne VIC 8001

General Enquiries Telephone: 132 206

To: ('Enquirer')

Jasmine Walters

338a Carrington Street

Adelaide SA 5000

Enquiry Details	
Utility ID	50024
Sequence Number	260644908
Enquiry Date	04/09/2025
Response	**ALL CLEAR**
Address	5758 Sturt Hwy Monak, NSW 2738
Location in Road	
Activity	Planning & Design

Enquirer Details	
Customer ID	3600898
Contact	Jasmine Walters
Company	MasterPlan Pty Ltd
Email	qe2vck1mnp9877.j03vp9y77kkiqk@smarterwx-mail.byda.com.au
Phone	+61881935600

Enquirer Responsibilities

This notification is valid for 28 days from the issue date. CitiPower/Powercor assets are critical infrastructure and great care must be taken to avoid asset damage and risk to public safety. The information supplied in the DBYD Response is intended to be indicative only. External parties should make their own enquiries to ensure the accuracy of the information, including but not limited to:

- Check that the location of the dig site indicated is correct, if not you must submit a new enquiry.
- Should your scope of works change or the plan validity dates expire, you must submit a new enquiry.
- If you do not understand the plans provided please contact CitiPower/Powercor prior to works commencing.
- Always perform an onsite inspection to establish the presence of assets.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.

Report any asset damage immediately on 132 206. Note: CitiPower/Powercor reserves the right to recover compensation for damages.

Referral
260644909

Member Phone
1800 653 935

Responses from this member

Response received Thu 4 Sep 2025 1.53pm

Attention: Jasmine Walters

Site Location: 5758 Sturt Hwy, Monak, NSW 2738

Your Job Reference: 5758 Sturt Hwy

Please do not reply to this email, this is an automated message -

Thank you for requesting Telstra information via Before You Dig Australia (BYDA).

This response contains Telstra information relating to your recent BYDA request.

Please refer to all enclosed attachments for more information.
Information for opening Telstra Asset Plans as well as some other useful contact information is noted in the attached documents.

Report Damage to Telstra Equipment: Report damages to Telstra equipment - Telstra

Please note:
When working in the vicinity of telecommunications plant you have a 'Duty of Care' that must be observed.
Ensure you read all documents (attached) - they contain important information.
Please also refer to the **Before you Dig Australia - BEST PRACTISE GUIDES and The five Ps of safe excavation** https://www.byda.com.au/before-you-dig/best-practice-guides/, The essential steps that must be undertaken prior to commencing construction activities.

WARNING - MAJOR CABLES and/or OPTIC FIBRE IN THE AREA.
Phone 1800 653 935 for further assistance.

Note: In some areas Telstra fibre routes may be marked as "Amcom", as Telstra has purchased much of this infrastructure. If in doubt, please contact Telstra Plan services on the number above. Telstra plans and information are only valid for 60 days from the date of issue.

WARNING:
Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing them. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy. Further on site investigation is required to validate the exact location of Telstra assets prior to commencing work. A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. See the **Before You Dig Australia - BEST PRACTISE GUIDES and The five Ps of safe excavation** https://www.byda.com.au/before-you-dig/best-practice-guides/.

Please note that:
- it is a criminal offence under the *Criminal Code Act* 1995 (Cth) to tamper or interfere with telecommunications infrastructure.
- Telstra will take action to recover compensation for damage caused to property and assets, and for interference with the operation of Telstra's networks and customers' services.

Telstra's plans contain Telstra's confidential information and are provided on the basis that they are used solely for identifying the location or vicinity of Telstra's infrastructure to avoid damage to this infrastructure occurring as part of any digging or other excavation activity. You must not use Telstra's plans for any other purpose or in a way that will cause Telstra loss or damage and you must comply with any other terms of access to the data that have been provided to you by Telstra (including Conditions of Use or Access).

(See attached file: Telstra Duty of Care v32.0c.pdf)

(See attached file: Telstra Map Legend 4.0b.pdf)

General Information

Before you Dig Australia – BEST PRACTISE GUIDES

The five Ps of safe excavation
https://www.byda.com.au/before-you-dig/best-practice-guides/

OPENING ELECTRONIC MAP ATTACHMENTS –

Telstra Cable Plans are generated automatically in either PDF or DWF file types.
Dependent on the site address and the size of area selected.
You may need to download and install free viewing software from the internet e.g.

DWF Map Files (all sizes over A3)
Autodesk Viewer (Internet Browser) https://viewer.autodesk.com/ or
Autodesk Design Review http://usa.autodesk.com/design-review/ for DWF files. (Windows PC)

PDF Map Files (max size A3)
Adobe Acrobat Reader http://get.adobe.com/reader/

Telstra BYDA map related enquiries email Telstra.Plans@team.telstra.com
1800 653 935 (AEST Business Hours only)

REPORT ANY DAMAGE TO THE TELSTRA NETWORK IMMEDIATELY
Report online - https://www.telstra.com.au/forms/report-damage-to-telstra-equipment
Ph: 13 22 03
If you receive a message asking for a phone or account number say:
"I don't have one" then say "Report Damage" then press 1 to speak to an operator.

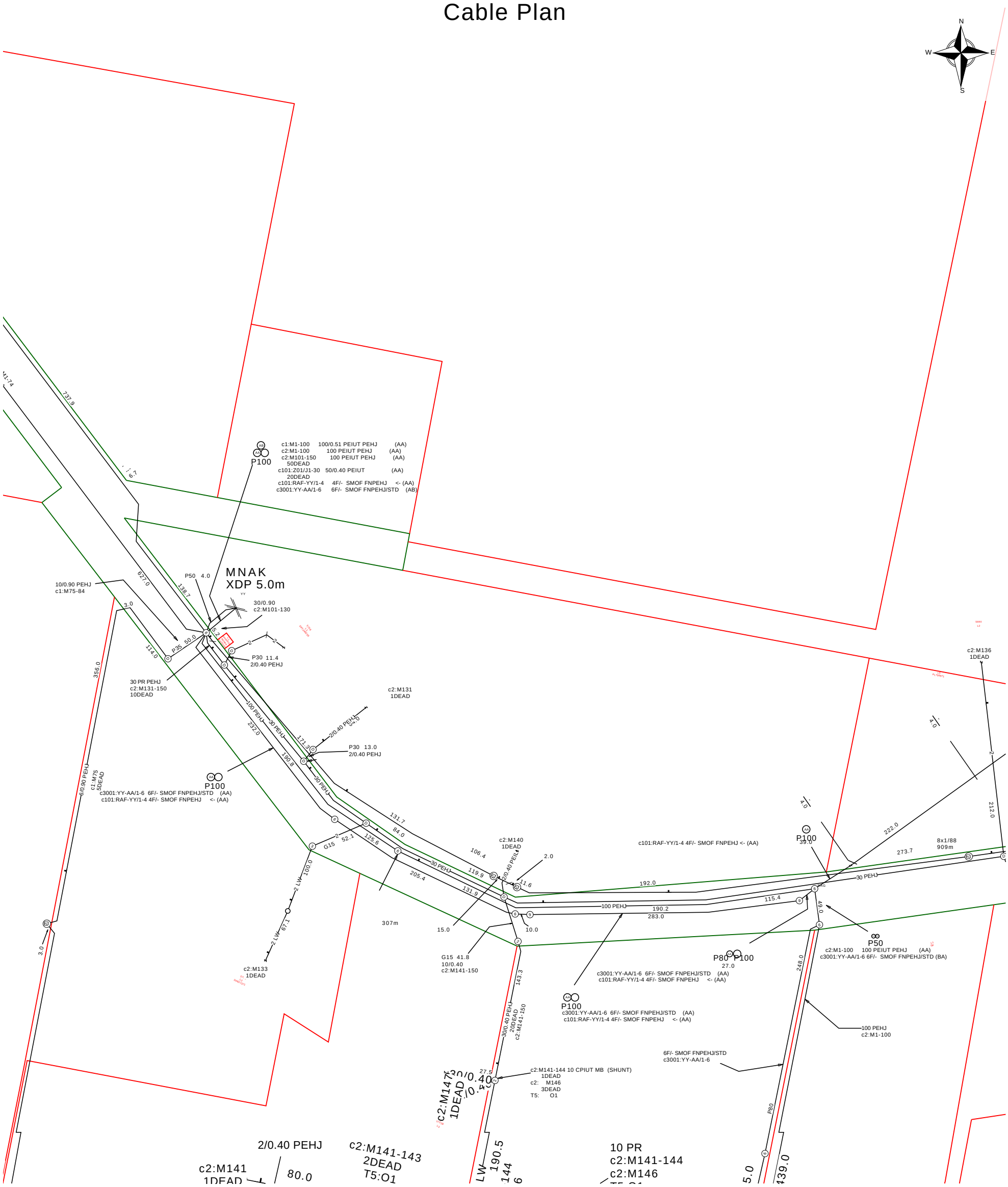
Telstra New Connections / Disconnections
13 22 00

Telstra asset relocation enquiries: 1800 810 443 (AEST business hours only).
NetworkIntegrity@team.telstra.com
https://www.telstra.com.au/consumer-advice/digging-construction

Telstra Aerial Assets Group (overhead network)
1800 047 909

CERTLOC Certified Locating Organisation (CLO)
certloc.com.au/locators/
Only Telstra authorised personnel and CERTLOC Locators can access Telstra's Pit and Pipe Network.

Cable Plan



Report Damage:https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-(Ph - 13 22 03 Email - Telstra.Plans@team.telstra.com Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries	Sequence Number: 260644909
TELSTRA LIMITED A.C.N. 086 174 781	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.
Generated On 04/09/2025 14:21:35	

WARNING
Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information.
As such,Telstra supplied location information is indicative only.Spatial accuracy is not applicable to Quality Level D.
Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing it.
Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy.
Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work.
A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.

See the Steps- Telstra Duty of Care that was provided in the email response.

Disclaimer and legal details

*Telstra advises that the accuracy of the information provided by Telstra conforms to Quality Level D as defined in AS5488-2013.

It is a criminal offence under the Criminal Code Act 1995 (Cth) to tamper or interfere with telecommunications infrastructure.

Telstra will also take action to recover costs and damages from persons who damage assets or interfere with the operation of Telstra's networks.

By receiving this information including the indicative plans that are provided as part of this information package you confirm that you understand and accept the risks of working near Telstra's network and the importance of taking all the necessary steps to confirm the presence, alignments and various depths of Telstra's network. This in addition to, and not in replacement of, any duties and obligations you have under applicable law.

When working in the vicinity of a telecommunications plant you have a "Duty of Care" that must be observed. Please read and understand all the information and disclaimers provided below.

The Telstra network is complex and requires expert knowledge to interpret information, to identify and locate components, to pothole underground assets for validation and to safely work around assets without causing damage. If you are not an expert and/or qualified in these areas, then you must not attempt these activities. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers. Construction activities and/or any activities that potentially may impact on Telstra's assets must not commence without first undertaking these steps. Construction activities can include anything that involves breaking ground, potentially affecting Telstra assets.

If you are designing a project, it is recommended that you also undertake these steps to validate underground assets prior to committing to your design.

This Notice has been provided as a guide only and may not provide you with all the information that is required for you to determine what assets are on or near your site of interest. You will also need to collate and understand all information received from other Utilities and understand that some Utilities are not a part of the BYDA program and make your own enquiries as appropriate. It is the responsibility of the entities undertaking the works to protect Telstra's network during excavation / construction works.

Telstra owns and retains the copyright in all plans and details provided in conjunction with the applicant's request. The applicant is authorised to use the plans and details only for the purpose indicated in the applicant's request. The applicant must not use the plans or details for any other purpose.

Telstra plans or other details are provided only for the use of the applicant, its servants, agents, or CERTLOC Certified Locating Organisation (CLO). The applicant must not give the plans or details to any parties other than these and must not generate profit from commercialising the plans or details.

Telstra, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Telstra against any claim or demand for any such loss or damage.

Please ensure Telstra plans and information provided always remains on-site throughout the inspection, location, and construction phase of any works.

Telstra plans are valid for 60 days after issue and must be replaced if required after the 60 days.

Data Extraction Fees

In some instances, a data extraction fee may be applicable for the supply of Telstra information. Typically, a data extraction fee may apply to large projects, planning and design requests or requests to be supplied in non-standard formats. For further details contact Telstra Location Intelligence Team.

Telstra does not accept any liability or responsibility for the performance of or advice given by a CERTLOC Certified Locating Organisation (CLO). Certification is an initiative taken by Telstra towards the establishment and maintenance of competency standards. However, performance and the advice given will always depend on the nature of the individual engagement.

Neither the Certified Locating Organisation nor any of its employees are an employee or agent for Telstra. Telstra is not liable for any damage or loss caused by the Certified Locating Organisation or its employees.

Once all work is completed, the excavation should be reinstated with the same type of excavated material unless specified by Telstra.

The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

When using excavators and other machinery, also check the location of overhead power lines.

Workers and equipment must maintain safety exclusion zones around power lines

WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. The exact position of Telstra assets can only be validated by physically exposing them. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

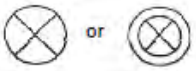
Privacy Note

Your information has been provided to Telstra by BYDA to enable Telstra to respond to your BYDA request. Telstra keeps your information in accordance with its privacy statement. You can obtain a copy at www.telstra.com.au/privacy or by calling us at 1800 039 059 (business hours only).

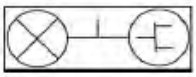
LEGEND

Exchange
(Major Cable Present)

Footway Access Chamber
(can vary from 1-lid to 12-lid)



Pillar / Cabinet
(above ground / free standing)



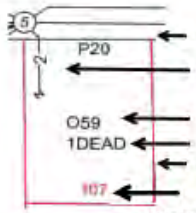
Above ground complex equipment housing (eg RIM)
Please Note: This equipment is powered by 240V Electricity

OC — Other Carrier Telecommunications Cable/Asset

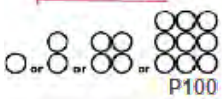
Dist — Distribution cables in Main Cable ducts

MC — Main Cable ducts on a Distribution plan

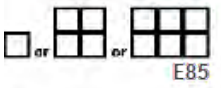
▲ — Blocked or damaged duct.



Roadside / Front Boundary
2 pair lead-in to property from pit in street 1
pair working (pair ID 059)
1 pair dead (i.e. spare, not connected)
Side / Rear Property Boundary
Property Number



Single to multiple round conduit
Configurations 1,2,4,9 respectively
(attached text denotes conduit type and size)



Multiple square conduit
Configurations 2, 4, 6 respectively
(attached text denotes conduit type and size)

Cable Jointing Pit
(number / Letter indicating Pit Type)

Elevated Joint
(above ground joint on buried cable)

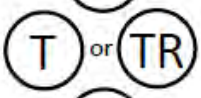
Telstra Plant in shared Utility trench

Aerial Cable

Aerial Cable
(attached to joint Use Pole eg. Power)

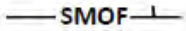
Direct Buried Cable

Marker Post Installed



Buried Transponder

Marker Post, Transponder

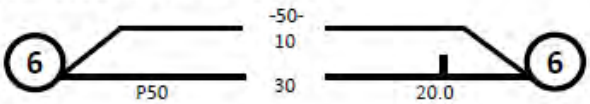


Optical Fibre cable direct buried

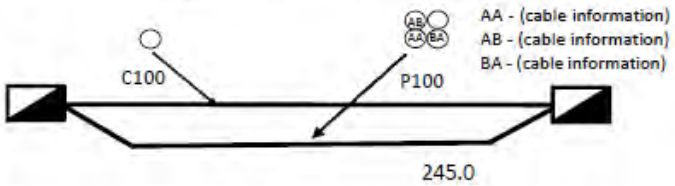
Some examples of conduit type and size:

A - Asbestos cement, P - PVC / Plastic, C - Concrete,
GI - Galanised iron, E - Earthenware
Conduit sizes *nominally* range from 20mm to 100mm
P50 50mm PVC conduit
P100 100mm PVC conduit
A100 100mm asbestos cement conduit

Some Examples of how to read Telstra Plans



One 50mm PVC conduit (P50) containing a 50-pair and a 10-pair cable between two 6-pits. approximately 20.0m apart, with a direct buried 30-pair cable along the same route



Two separate conduit runs between two footway access chambers (manholes) approximately 245m apart A nest of four 100mm PVC conduits (P100) containing assorted cables in three ducts (one being empty) and one empty 100mm concrete duct (C100) along

Protect our Network:

by maintaining the following distances from our assets:

- 1.0m Mechanical Excavators, Farm Ploughing, Tree Removal
- 500mmVibrating Plate or Wacker Packer Compactor
- 600mm Heavy Vehicle Traffic (over 3 tonnes) not to be driven across Telstra ducts or plant.
- 1.0mJackhammers/Pneumatic Breakers
- 2.0m Boring Equipment (in-line, horizontal and vertical)

For more info contact a CERTLOC Certified Locating Organisation (CLO) or Telstra Location Intelligence Team 1800 653 935

Appendix E

Terrestrial Biodiversity Map

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Subject Site

Biodiversity Overlay

LOCALITY PLAN

Biodiversity Sensitivity - Terrestrial Biodiversity

5721B Sturt Highway
MONAK

for Marciano Table Grapes

1:15000 @ A3

0 300

MASTERPLAN.COM.AU

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Appendix F

Riparian Land and Watercourses Map

www.masterplan.com.au

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Subject Site

Biodiversity Overlay

LOCALITY PLAN
Riparian Land/Watercourse

5721B Sturt Highway
MONAK

for Marciano Table Grapes

1:15000 @ A3
0 300

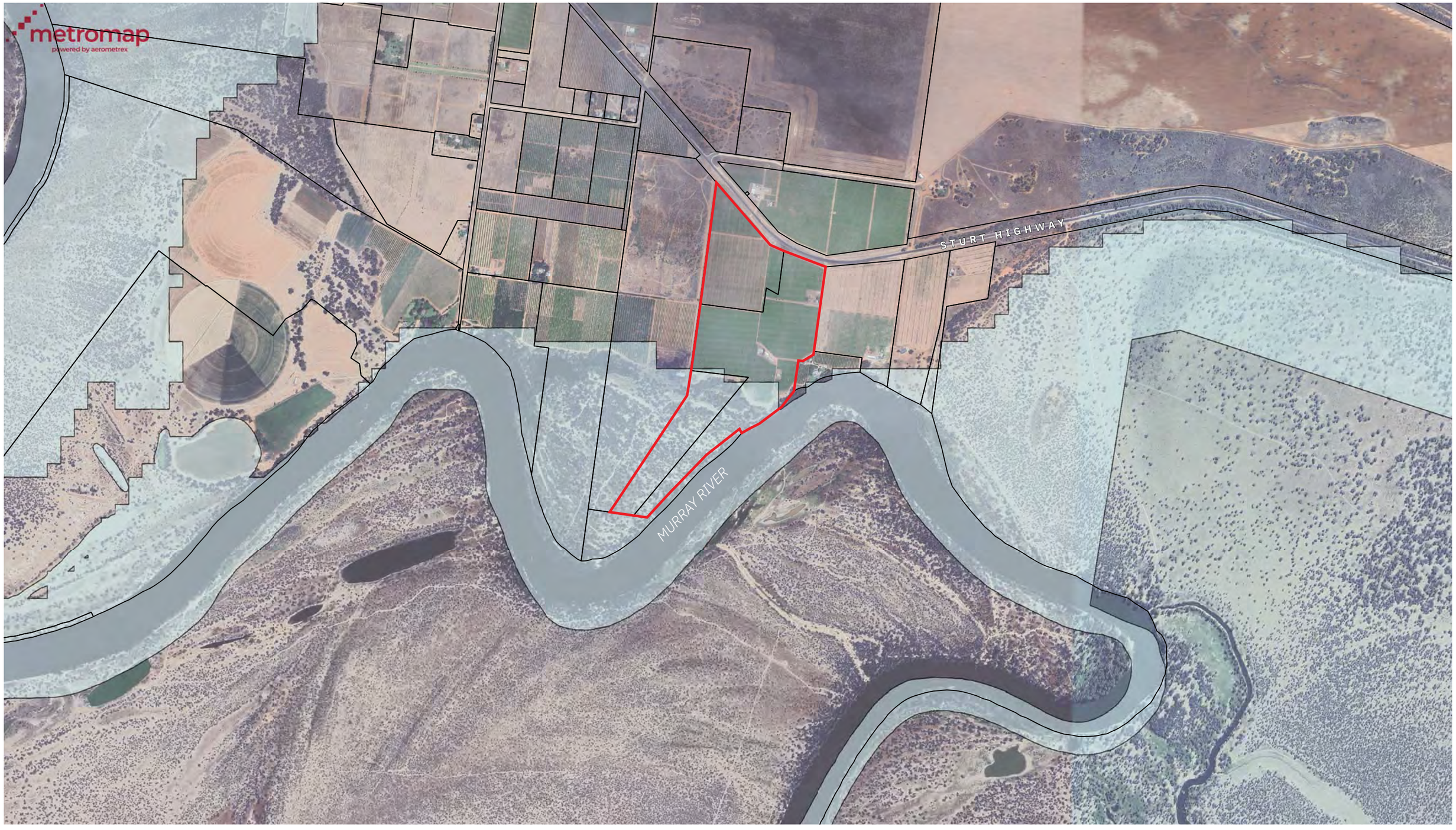
MASTERPLAN.COM.AU

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Appendix G

Wetlands Map

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977



Subject Site

Wetland Overlay

LOCALITY PLAN
Wetlands

5721B Sturt Highway
MONAK

for Marciano Table Grapes

1:15000 @ A3
0 300

MASTERPLAN.COM.AU

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Appendix H

Bushfire Prone Land Map

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Subject Site
Vegetation Category 1
Vegetation Category 2
Vegetation Category 3
Vegetation Buffer

LOCALITY PLAN
Bushfire Prone Area

5721B Sturt Highway
MONAK

for Marciano Table Grapes

1:15000 @ A3
0 300

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MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Appendix I

AIHMS Search Results

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 20071

Client Service ID : 1018155

Masterplan Consultants

Date: 27 June 2025

tba
tba

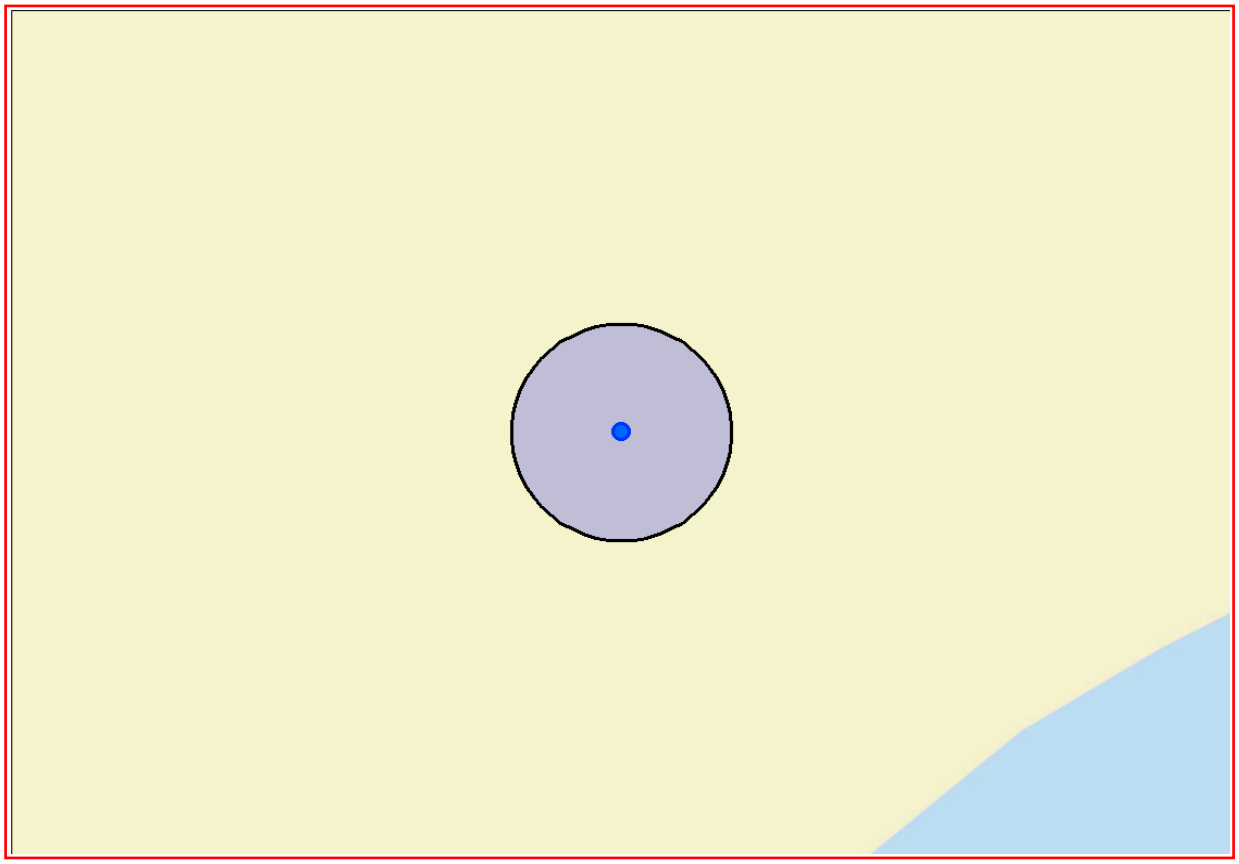
Attention: Jasmine Walters

Email: jasminew@masterplan.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Address : 5721B STURT HIGHWAY MONAK 2738 with a Buffer of 50 meters, conducted by Jasmine Walters on 27 June 2025.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 20071

Client Service ID : 1040817

Masterplan Consultants

Date: 04 September 2025

tba
tba

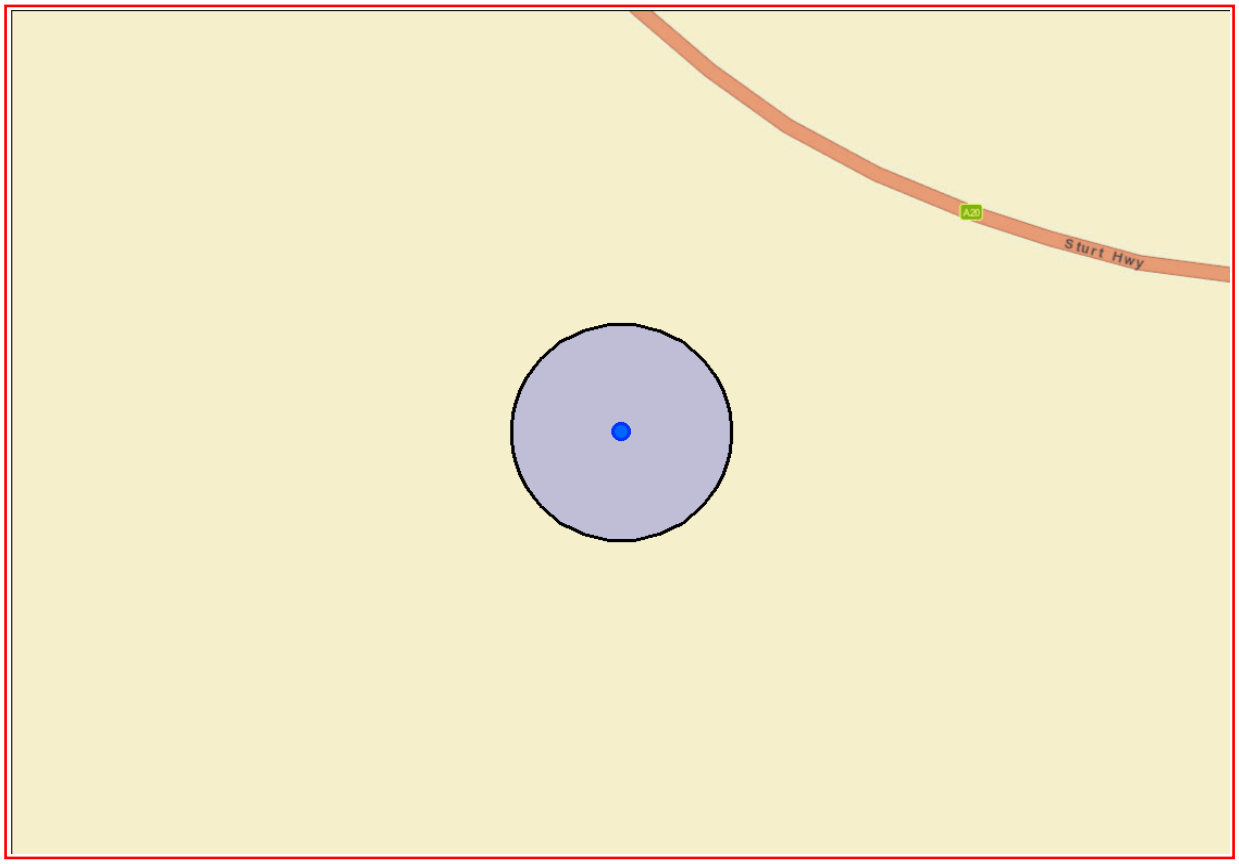
Attention: Jasmine Walters

Email: jasminew@masterplan.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Address : 5758 STURT HIGHWAY MONAK 2738 with a Buffer of 50 meters, conducted by Jasmine Walters on 04 September 2025.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



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0	Aboriginal sites are recorded in or near the above location.
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Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

Appendix J

NSW Planning Portal – Property Report

www.masterplan.com.au

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

Property Report

5721B STURT HIGHWAY MONAK 2738

Property Details

Address:	5721B STURT HIGHWAY MONAK 2738
Lot/Section /Plan No:	2/-/DP1248259
Council:	WENTWORTH SHIRE COUNCIL

Summary of planning controls

Planning controls held within the Planning Database are summarised below. The property may be affected by additional planning controls not outlined in this report. Please contact your council for more information.

Local Environmental Plans	Wentworth Local Environmental Plan 2011 (pub. 16-12-2011)
Land Zoning	RU1 - Primary Production: (pub. 21-4-2023)
Height Of Building	NA
Floor Space Ratio	NA
Minimum Lot Size	10000 ha
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA
Riparian Lands and Watercourses	Watercourse
Terrestrial Biodiversity	Terrestrial Biodiversity
Wetlands	Wetlands

Detailed planning information

State Environmental Planning Policies which apply to this property

State Environmental Planning Policies can specify planning controls for certain areas and/or types of development. They can also identify the development assessment system that applies and the type of environmental assessment that is required.

- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Excluded (pub. 21-10-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- State Environmental Planning Policy (Housing) 2021: Land Application (pub. 26-11-2021)
- State Environmental Planning Policy (Industry and Employment) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Planning Systems) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Primary Production) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resilience and Hazards) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resources and Energy) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Sustainable Buildings) 2022: Land Application (pub. 29-8-2022)
- State Environmental Planning Policy (Transport and Infrastructure) 2021: Land Application (pub. 2-12-2021)

Other matters affecting the property

Information held in the Planning Database about other matters affecting the property appears below. The property may also be affected by additional planning controls not outlined in this report. Please speak to your council for more information

1.5 m Buffer around Classified Roads	Classified Road Adjacent
Biodiversity Value (BV) Map	Clearing native vegetation for a development on an area on the BV Map may require a Biodiversity Development Assessment Report. Consult your local council.
Bushfire Prone Land	Vegetation Buffer
	Vegetation Category
Land near Electrical Infrastructure	This property may be located near electrical infrastructure and could be subject to requirements listed under Transport and Infrastructure SEPP 2021 Clause 2.48. Please contact Essential Energy for more information.
Local Aboriginal Land Council	DARETON
Regional Plan Boundary	Far West

Property Report

5758 STURT HIGHWAY MONAK 2738

Property Details

Address:	5758 STURT HIGHWAY MONAK 2738
Lot/Section /Plan No:	1/-/DP1248259 2/-/DP827371
Council:	WENTWORTH SHIRE COUNCIL

Summary of planning controls

Planning controls held within the Planning Database are summarised below. The property may be affected by additional planning controls not outlined in this report. Please contact your council for more information.

Local Environmental Plans	Wentworth Local Environmental Plan 2011 (pub. 16-12-2011)
Land Zoning	RU1 - Primary Production: (pub. 21-4-2023)
Height Of Building	NA
Floor Space Ratio	NA
Minimum Lot Size	10000 ha
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA
Terrestrial Biodiversity	Terrestrial Biodiversity
Wetlands	Wetlands

Detailed planning information

State Environmental Planning Policies which apply to this property

State Environmental Planning Policies can specify planning controls for certain areas and/or types of development. They can also identify the development assessment system that applies and the type of environmental assessment that is required.

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- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- State Environmental Planning Policy (Housing) 2021: Land Application (pub. 26-11-2021)
- State Environmental Planning Policy (Industry and Employment) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Planning Systems) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Primary Production) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resilience and Hazards) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resources and Energy) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Sustainable Buildings) 2022: Land Application (pub. 29-8-2022)
- State Environmental Planning Policy (Transport and Infrastructure) 2021: Land Application (pub. 2-12-2021)

Other matters affecting the property

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1.5 m Buffer around Classified Roads	Classified Road Adjacent
Bushfire Prone Land	Vegetation Buffer
	Vegetation Category
Land near Electrical Infrastructure	This property may be located near electrical infrastructure and could be subject to requirements listed under Transport and Infrastructure SEPP 2021 Clause 2.48. Please contact Essential Energy for more information.
Local Aboriginal Land Council	DARETON
Regional Plan Boundary	Far West

Appendix K

SEPP Assessment

www.masterplan.com.au

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TOWN + COUNTRY PLANNERS SINCE 1977

SEPP Assessment

A comprehensive assessment of the proposed development against the relevant State Environmental Planning Policies (SEPP's)is provided in Tables K.1 to K.6. The assessment takes into consideration the relevant objectives and applicable development standards that are contained in the SEPP's.

State Environmental Planning Policy (Biodiversity and Conservation) 2021

Table K.1 – 3.6 Is the land potential koala habitat?

PROVISION	ASSESSMENT
(1) Before a council may grant consent to a development application for consent to carry out development on land to which this Part applies, the council must be satisfied as to whether or not the land is a potential koala habitat. (2) The council may be satisfied as to whether or not land is a potential koala habitat only on information obtained by it, or by the applicant, from a person who is qualified and experienced in tree identification. (3) If the council is satisfied— (a) that the land is not a potential koala habitat, it is not prevented, because of this Chapter, from granting consent to the development application, or (b) that the land is a potential koala habitat, it must comply with section 3.7.	☒ Complies For the following reasons: • The subject land has been used for agriculture for a number of years. • On-site trees are typically arranged in clusters directly adjacent dwellings or around the site boundaries. • The proposed structures will be sited over existing agricultural land and will not require the removal of vegetation. • The subject land has not been identified as koala habitat by the State Government's ePlanning Spatial overlays.

Table K.2 – 3.7 Is the land core koala habitat?

PROVISION	ASSESSMENT
(1) Before a council may grant consent to a development application for consent to carry out development on land to which this Part applies that it is satisfied is a potential koala habitat, it must satisfy itself as to whether or not the land is a core koala habitat. (2) The council may be satisfied as to whether or not land is a core koala habitat only on information obtained by it, or by the applicant, from a person with appropriate qualifications and experience in biological science and fauna survey and management. (3) If the council is satisfied— (a) that the land is not a core koala habitat, it is not prevented, because of this Chapter, from granting consent to the development application, or (b) that the land is a core koala habitat, it must comply with section 3.8.	☒ Complies For the following reasons: • The subject land has not been identified as a core koala habitat by the State Government's ePlanning Spatial overlays.

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

Table K.3 – Subdivision 15 Earthworks, retaining walls and structural support, 2.29 Specified development

PROVISION	ASSESSMENT
Earthworks and the construction or installation of a retaining wall or other form of structural support is development specified for this code if it is not carried out, constructed or installed on or in a heritage item or a draft heritage item, on a flood control lot or in an environmentally sensitive area.	☒ Complies For the following reasons: • The proposed development will not be undertaken on a (or draft) heritage item. • The subject land is not affected by flooding. • The subject land is not identified as an environmentally sensitive area.

Table K.4 – Subdivision 15 Earthworks, retaining walls and structural support, 2.30 Development Standards

PROVISION	ASSESSMENT
The standards specified for that development are that the development must— (a) not be a cut or fill of more than 600mm below or above ground level (existing), and (b) be located at least 1m from each lot boundary, and (c) if it is carried out, constructed or installed in a heritage conservation area or a draft heritage conservation area—be located in the rear yard, and (d) be located at least 40m from a waterbody (natural), and (e) not redirect the flow of any surface water or ground water or cause sediment to be transported onto an adjoining property, and (f) if it is a retaining wall or structural support for excavation or fill, or a combination of both— (i) be not be more than 600mm high, measured vertically from the base of the development to its uppermost portion, and (ii) be separated from any retaining wall or other structural support on the site by at least 2m, measured horizontally, and (iii) be located at least 1m from any registered easement, sewer main or water main, and (iv) have adequate drainage lines connected to the existing stormwater drainage system for the site, and (g) if the fill is more than 150mm deep—not occupy more than 25% of the area of the lot, and	☒ Does not Comply For the following reasons: • The proposed development will not be located at least 1m from the northern site boundary. • Proposed HPN 1 will be located 0.5m from the northern site boundary, this is to allow for adequate coverage of the existing vineyards. Whilst the net will be setback approximately 5m from the northern boundary, the support posts and anchors will be located within 0.5m. Notwithstanding, the northern site boundary lies directly adjacent Sturt Highway and is separated from the road by a road reserve of approximately 16 metres. The proposed structure will not adversely impact upon the functionality of the road or road reserve and will be contained wholly within the site boundaries.

PROVISION	ASSESSMENT
(h) if the fill is imported to the site—be free of building and other demolition waste, and only contain virgin excavated natural material (VENM) as defined in Part 3 of Schedule 1 to the Protection of the Environment Operations Act 1997, and (i) if the land is in a rural or conservation zone—not be fill of more than 100 cubic metres on each lot. **Note—** ***It is an offence to transport waste to a place other than an appropriate and lawful waste facility (see section 143 of the Protection of the Environment Operations Act 1997).***	

Table K.5 – Subdivision 16 Farm Buildings (other than stock holding yards, grain silos and grain bunkers), 2.31 Specified development

PROVISION	ASSESSMENT
The construction or installation of a farm building (other than a stock holding yard, grain silo or grain bunker) that is not used for habitable purposes is development specified for this code if it is— (a) constructed or installed on land in Zone RU1, RU2, RU3, RU4 or RU6, and (b) not constructed or installed on or in a heritage item or a draft heritage item or in an environmentally sensitive area, and (c) not constructed or installed on land shown on any relevant Procedures for Air Navigation Services—Aircraft Operations Map prepared by the operator of an aerodrome or airport operating within 2 kilometres of the proposed development and for which a PANS-OPS surface is identified that may compromise the effective and on-going operation of the relevant aerodrome or airport. **Note 1—** ***Farm building is defined in the Standard Instrument as a structure the use of which is ancillary to an agricultural use of the landholding on which it is situated and includes a hay shed, stock holding yard, machinery shed, shearing shed, silo, storage tank, outbuilding or the like, but does not include a dwelling.*** **Note 2—** ***Subdivisions 16A and 16B make special provision for farm buildings that are stock holding yards, grain silos or grain bunkers.***	☒ Complies For the following reasons: • The proposed development meets the criteria for a 'farm building' as defined in Note 1 of clause 2.31. • The proposed development will not be installed on or in a draft heritage item or in an environmentally sensitive area. • The proposed development will not be constructed or install on land shown on any relevant Procedures for Air Navigation Services – Aircraft Operations Map of an aerodrome or airport operating within 2km of the Site.

Table K.6 – Subdivision 16 Farm Buildings (other than stock holding yards, grain silos and grain bunkers), 2.32 Development Standards

PROVISION	ASSESSMENT
(1) The following standards are specified for that development— (a) the development must not be higher than— (i) for a landholding that has an area of less than 10ha—7m above ground level (existing), and (ii) for a landholding that has an area of 10ha or more—10m above ground level (existing), (b) if the development is located on land that is identified for the purposes of an environmental planning instrument as "Land with scenic and landscape values" on a Scenic and Landscape Values Map or as "Scenic Protection Area" on a Scenic Protection Map or Scenic Protection Area Map—it must not be higher than 7m, (c) if the development— (i) is on a landholding that has an area of more than 4ha, and (ii) is on a landholding in relation to which the natural ground at any point within 100m of the ridgeline of any hill is at least 20m lower than the ridgeline, and (iii) is located within 100m of that ridgeline, it must be sited on the landholding so that the highest point of the development is at least 5m below that ridgeline, (d) subject to paragraph (e), the footprint of a farm building must not exceed 200m2, (e) the footprint of all farm buildings (other than grain bunkers) on a landholding must not exceed the footprint shown in the following table—	☒ Does not Comply For the following reasons: • The proposed farm buildings will exceed 2,000m² both individually and cumulatively. • HPN 3 will be located within 20m of the road boundary. • Each of the farm buildings will be located within 50m of the site boundaries. • Proposed farm building B will adjoin the existing HPN structure. • The proposed farm buildings will adjoin each other and thereby not achieve a 6 metre separation from other farm buildings • The proposed hail proof netting structures will be contained entirely within the site boundaries with minimal impact on the surrounding environment. The structures do not incorporate solid walls and thereby provide some transparency to the land internal to and external of the structures. The proposed structures do not prejudice the land for its primary purpose being primary production and instead supporting ongoing use of the land for agricultural purposes, namely the growing of table grapes. The netting structures seek only to protect existing vineyards from undue weather events.

Landholding area	Maximum footprint of all farm buildings (other than grain bunkers)
0–4ha	2.5% of the area of the landholding
>4ha–10ha	1,000m2
>10ha	2,000m2

(f) the development must be located at least 20m from any road boundary and have a minimum setback from any other boundary as shown in the table to this paragraph—

Building footprint	Minimum setback from boundary
0–100m2	10m
>100m2–200m2	50m

PROVISION	ASSESSMENT
(g) a farm building must be located at least 6m from any other farm building (including any farm building that is a stock holding yard, grain silo or grain bunker) on the landholding or on an adjoining landholding, (h) the development must be located at least 50m from a waterbody (natural), (i) the development must be designed by, and constructed in accordance with the specifications of, a professional engineer, (j) if the development is a shipping container, there must not be more than the following number of shipping containers per landholding— (i) for a landholding that has an area of less than 400ha—1, (ii) for a landholding that has an area of 400ha or more—5, (k) the development must not penetrate any obstacle limitation surface shown on any relevant Obstacle Limitation Surface Plan that has been prepared by the operator of an aerodrome or airport operating within 2 kilometres of the proposed development and reported to the Civil Aviation Safety Authority, (l) despite clause 2.30(a), excavation for the purposes of structural supports may exceed a depth of 600mm, measured from ground level (existing), unless the land is identified for the purposes of an environmental planning instrument as Class 1–5 on an Acid Sulfate Soils Map. (2) In this clause, footprint means the area of the ground surface occupied by a building, including the walls, footings and roofing of the building, and extending to the perimeter of the foundations and other means of structural support to the building, but does not include the area of access ramps, eaves and sunshade devices. **Note 1—** ***There are other existing legislative requirements relating to the clearance of power lines, substations and Obstacle Limitation Surfaces near airport flight paths.*** **Note 2—** ***The consent of the appropriate roads authority is required under section 138 of the Roads Act 1993 for the carrying out of certain works in relation to roads, including the building of any crossover or creating road access.***	

MASTERPLAN
TOWN + COUNTRY PLANNERS SINCE 1977

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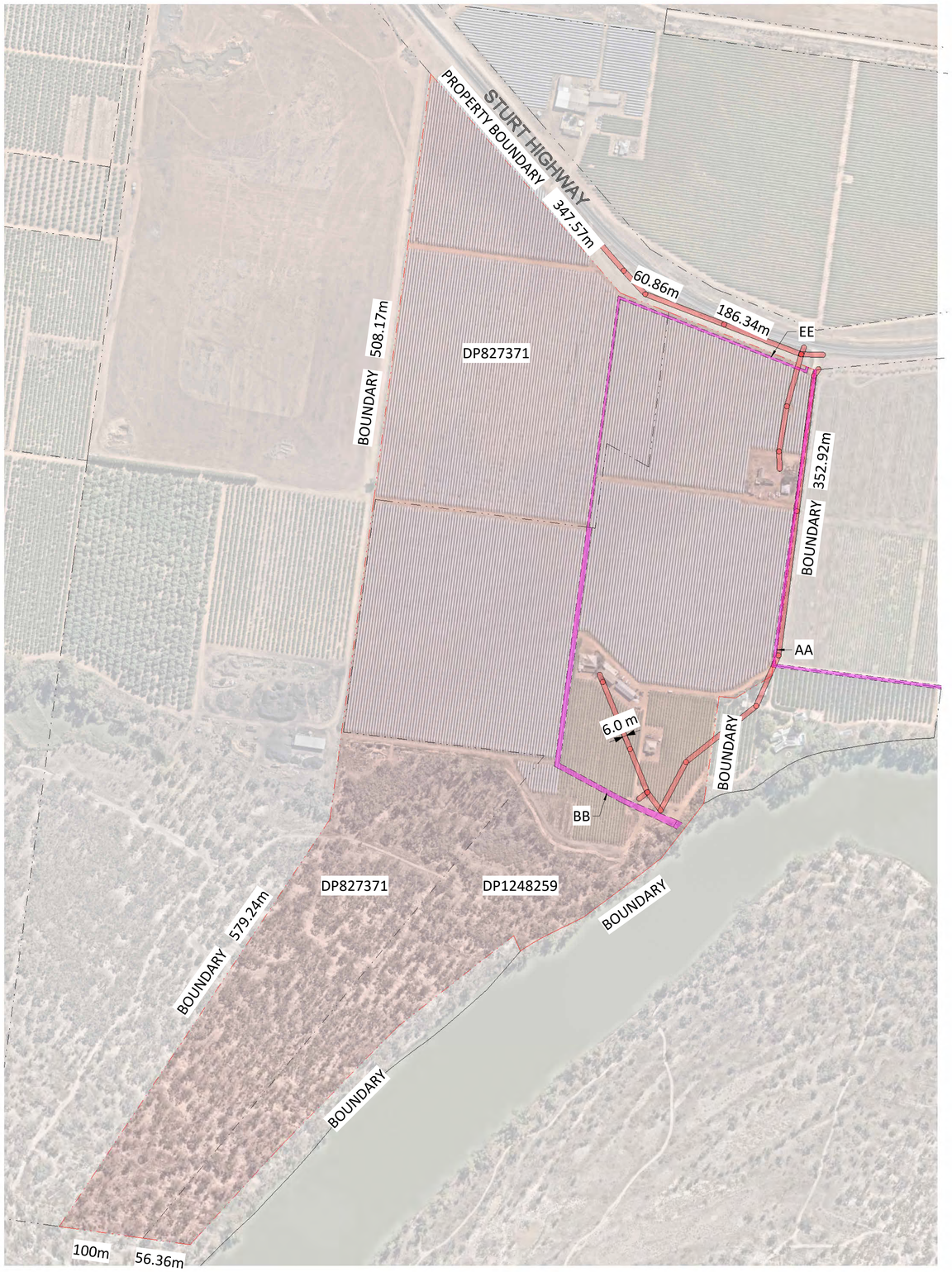

1 DA - Existing Site Plan
1 : 3000

100 m
1:3000 Scale Bar

N

STRUCTURE LEGEND

STRUCTURE HEIGHT:

5.0 METRES

- SITE BOUNDARY
- EASEMENTS
- POWER LINE CLEARANCE

No.	Revision Information	By	Date
...	...	...	...

Structure Height

Description	Height
Flat Top Structure Height (H)	5.0 m

G2 NETTING GROUP

Project
Monak - table grapes

Project Address
5721B Strut Hwy, Monak
NSW 2738

Drawing Title
EXISTING SITE PLAN

Client Name:
P&T Marciano

Date: 30Jun25
Scale @ A1: As indicated
Drawn: HH
Checked: JG2
Project No.: 1759 - 101 -
Sheet No. Rev.: .

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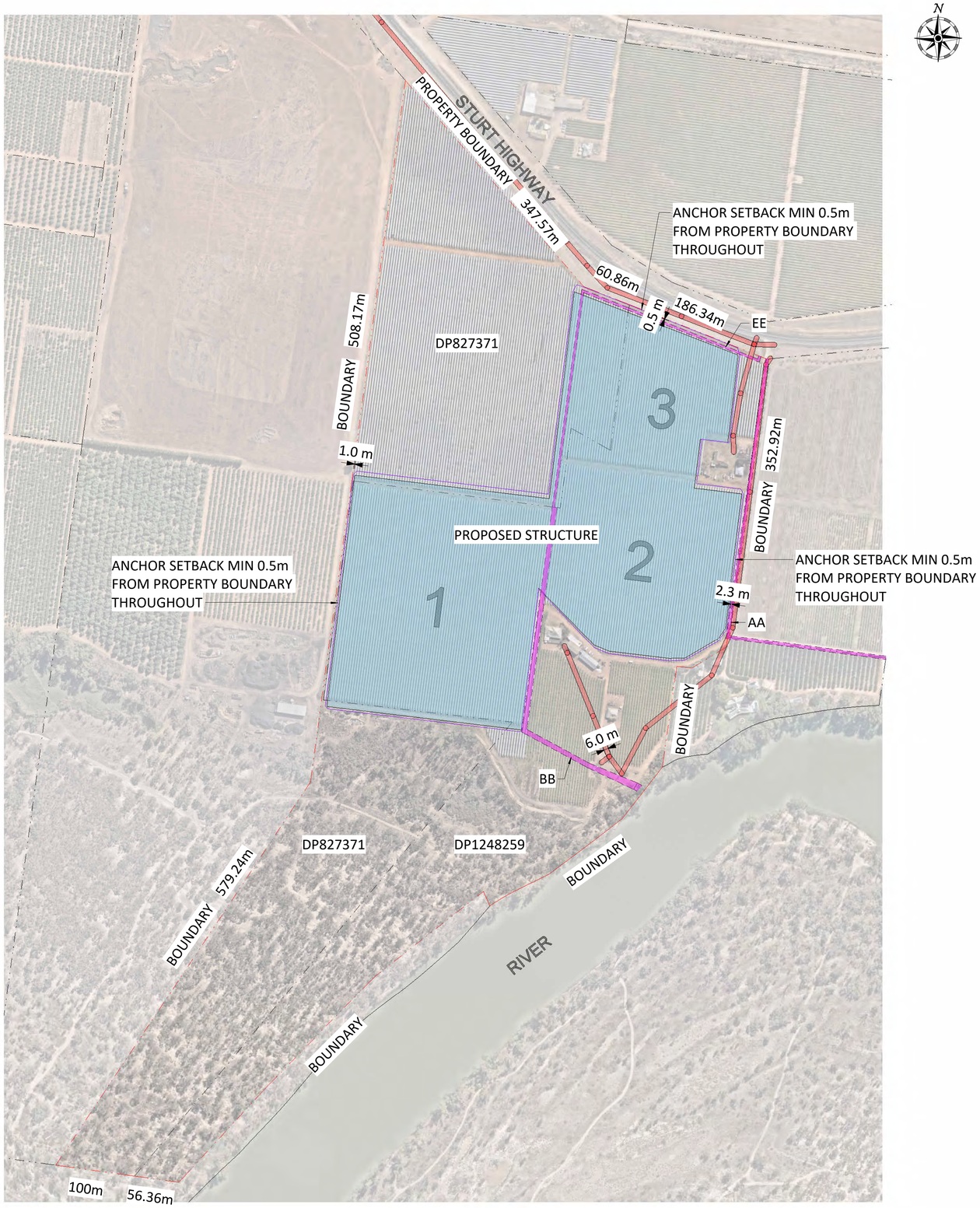

1 DA - Proposed Site Plan
1 : 3000

100 m
1:3000 Scale Bar

STRUCTURE LEGEND

STRUCTURE HEIGHT:

5.0 METRES

TOP NETTING TYPE:

Colour: White
Construction: Lock stitch knitted HDPE monofilament yarns
Hole size: 20mm Hexagonal hole with cross over yarns
Weight of Net: 75 grams/mtr
Nominal shade factor: 12%
Warranty: 10- year UV warranty applies

SITE BOUNDARY
EASEMENTS
POWER LINE CLEARANCE
PROPOSED NETTING STRUCTURE
ANCHOR LINE

No.	Revision Information	By	Date
...	...	...	...

Structure Height

Description	Height
Flat Top Structure Height (H)	5.0 m

G2 NETTING GROUP

Project
Monak - table grapes

Project Address
5721B Strut Hwy, Monak
NSW 2738

Drawing Title
PROPOSED SITE PLAN

Client Name:
P&T Marciano

Date: 30Jun25
Scale @ A1: As indicated
Drawn: HH
Checked: JG2
Project No.: 1759 - 102 - .
Sheet No. Rev.

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Drawing Approvals

These drawings have been reviewed by the client and approved for installation. Any variation, alteration, change or modification to the design and/or materials, following this approval, must be in writing and signed by the client or their authorised representative, and the company reserves the right to vary the quotation accordingly.

Signed: _____ Date: _____

Position: _____

Company: _____

FOR APPROVAL

No.	Revision Information	By	Date
--	First Issue		28Mar25

Sheet List - Sales

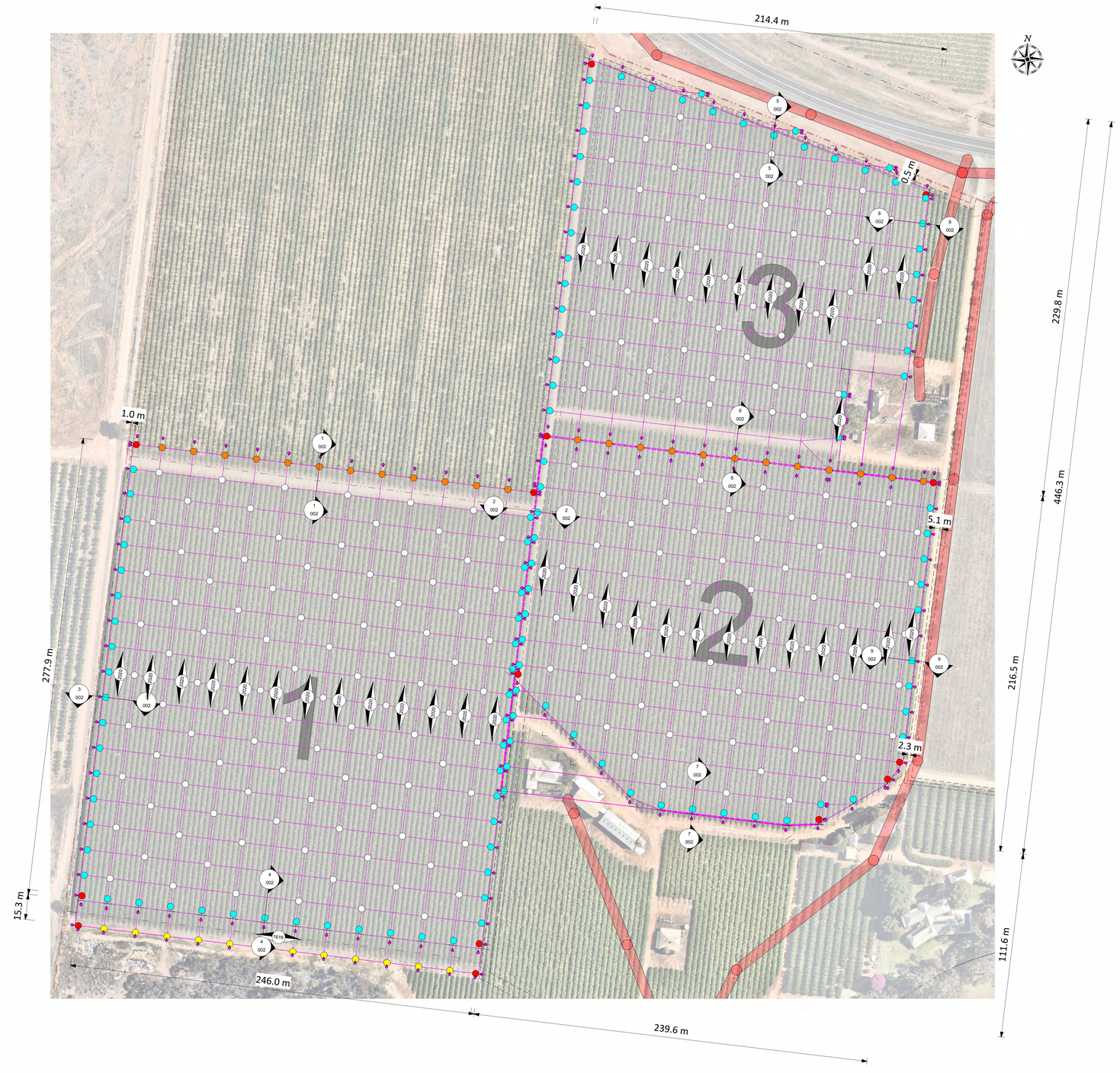
Drawing	Sheet Name
1759-001	SITE PLAN
1759-002	DETAIL SHEET 01

Structure Height

Description	Height
Flat Top Structure Height (H)	5.0 m

Top Net

Ref	G2 Code	Description	
1616	QNW161630	16mm 16x300m White Quad Crossover	
2020	QNW202030	20mm 20x300m White Quad Crossover	



1 Site - Plan (Sales)
1 : 1000

Structure Site Legend - FT

Posts					Anchors	
IP	PP	PPA	CP/PBP	IBP	GA	Typical

Wire and Cable

- Double Cable / Wire
- 7.5mm Cable
- 6mm Cable
- 3.15mm Wire High Tensile
- 3.15mm Spring Wire
- 2.65mm Wire High Tensile

Line Types

- Site Boundary
- Easement Locations
- Overhead Powerlines - Low Voltage
- Overhead Powerlines - High Voltage
- Fence Line

UNLESS OTHERWISE STATED: LINEAR TOLERANCE ± 0.5m, ANGULAR TOLERANCE ± 3° ANCHOR DISTANCE CAN ONLY BE INCREASED

G2 NETTING GROUP

Project
Monak - table grapes

Project Address
5721B Strut Hwy, Monak
NSW 2738

Drawing Title
SITE PLAN

Client Name:
P&T Marciano

Date: 30Jun25
Scale @ A0: As indicated
Drawn: HH
Checked: TA
Project No.: 1759
Sheet No.: 001
Rev.: --

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FOR APPROVAL

No.	Revision Information	By	Date
--	First Issue		28Mar25

Structure Height

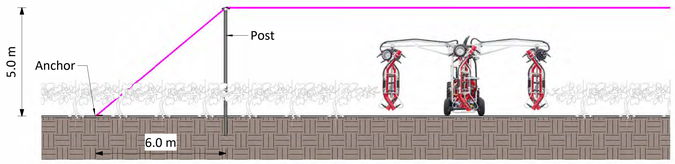
Description	Height
Flat Top Structure Height (H)	5.0 m

Post Summary

Ref	G2 Code	Qty	Post Function
CPA125	G2FTCPA125/5.4	3	69° Corner Post
CPA125	G2FTCPA125/5.8	2	60° Corner Post
CPB125	G2FTCPB125/6.1	5	55.3° Corner Post
PP100	G2FTPP100/5.0	12	90° Perimeter Post
PPA100	G2FTPPA100/5.4	87	69° Perimeter Post
PPA100	G2FTPPA100/5.8	32	60° Perimeter Post
IP100	G2FTIP100/5.0	232	90° Internal Post
IBP125	G2FTIBP125/5.0	24	90° Internal Breaker Post
PBPA125	G2FTPBPA125/5.4	4	69° Perimeter Breaker Post
Post total		401	

Wire and Cable

- 7.5mm Cable
- 6mm Cable
- 3.15mm Wire High Tensile
- 3.15mm Spring Wire
- 2.65mm Wire High Tensile
- Property Boundary



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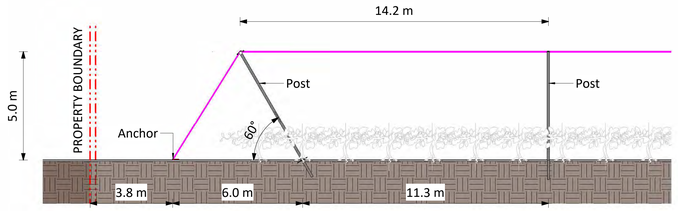

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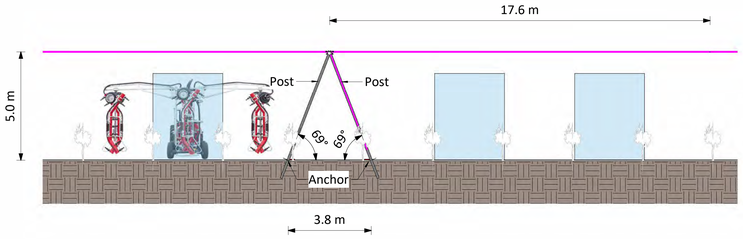

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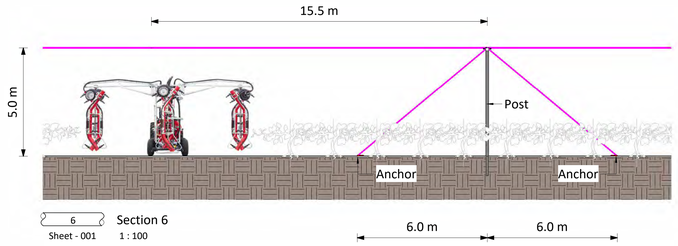

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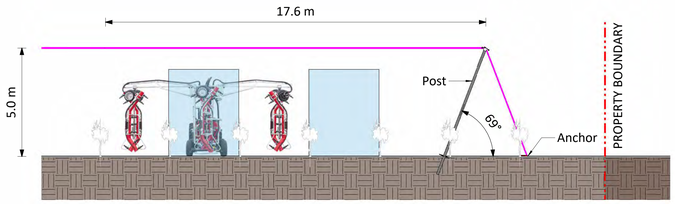

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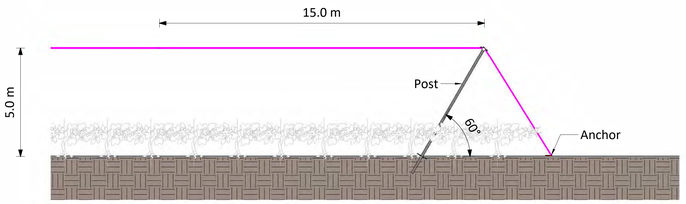

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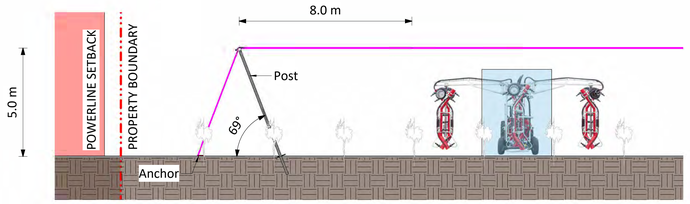

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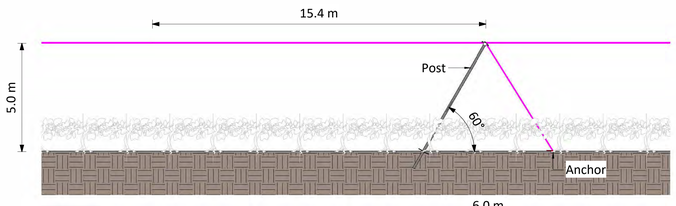

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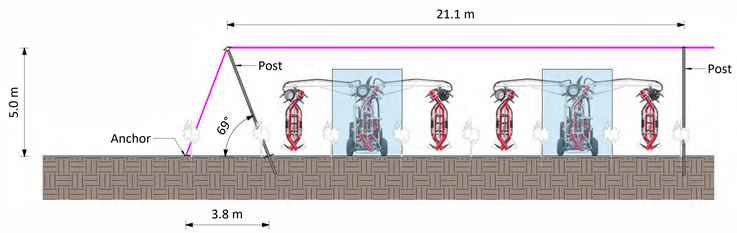

8 Section 8
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G2 NETTING GROUP

Project
Monak - table grapes

Project Address
5721B Strut Hwy, Monak
NSW 2738

Drawing Title
DETAIL SHEET 01

Client Name:
P&T Marciano

Date: 30Jun25
Scale @ A0: 1 : 100
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Sheet No.:
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