

SHIRE OF DERBY / WEST KIMBERLEY  
TOWN PLANNING SCHEME NO.5



**Shire of Derby /  
West Kimberley**

**NOTICE OF PUBLIC ADVERTISEMENT OF A PLANNING PROPOSAL**

*Planning and Development Act 2005*  
Shire of Derby / West Kimberley

The local government has received a development application to use and/or develop land for the following purpose and public comments are invited.

Property Address: Lot 529 (No.2) Wodehouse Street, Derby

Proposal: The construction and use of proposed new telecommunications infrastructure on the abovementioned property to provide faster and more reliable voice and data services in the Derby townsite.

Details of the proposal are attached including various supporting documentation and plans.

Comments on the proposal are now invited and can be emailed to [sdwk@sdwk.wa.gov.au](mailto:sdwk@sdwk.wa.gov.au) or posted to the Shire's Chief Executive Officer at PO Box 94 DERBY WA 6728 by no later than Wednesday 16 November 2022.

All submissions must include the following information:

- Your name, address and contact telephone number;
- How your interests are affected; whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property;
- Address of property affected (if applicable); and
- Whether your submission is in support of, or objecting to the proposal and provide any arguments supporting your comments.

All submissions received may be made public at a Council meeting and included in a Council Agenda, which will be available on the Shire's website, unless a submission specifically requests otherwise.

**Amanda Dexter**  
**Chief Executive Officer**  
**Shire of Derby / West Kimberley**

14 October 2022

4 October 2022

Shire of Derby-West Kimberley  
PO Box 94  
DERBY WA 6728

Via email: [sdwk@sdwk.wa.gov.au](mailto:sdwk@sdwk.wa.gov.au)

Dear Sir/Madam,

**Submission of a development application for a proposed telecommunications facility at 2 Wodehouse Street, Derby WA 6728 (Lot 529 on Deposited Plan 207983).**

Please find enclosed an application and supporting information lodged by Ventia Pty Ltd on behalf of Amplitel, part of the Telstra Group, for planning approval for the proposed installation of a Telecommunications Facility at 2 Wodehouse Street, Derby WA 6728.

Please find enclosed:

- Development application form (signed);
- Written documentation (Planning Report);
- Plans of the proposal;
- Certificate of Title
- Environmental EME Report and a guide to understanding the EME Report

**For application fee payment, please contact Marc Bays of Ventia Pty Ltd on (02) 6124 4423 or [marc.bays@ventia.com](mailto:marc.bays@ventia.com)**

This application has been submitted by Ventia Pty Ltd on behalf of Amplitel, part of the Telstra Group, and involves the installation of a 30m monopole and associated ancillary equipment at 2 Wodehouse Street, Derby WA 6728. Telstra has applied the Precautionary Approach in the Selection and Design of the proposed site in accordance with Sections 4.1 and 4.2 of C564:202 Mobile Phone Base Station Deployment Code.

An application for the approval to commence and carry out development is submitted to the Shire of Derby-West Kimberley for its determination.

Should you require any additional information then please do not hesitate to contact Marc Bays using the details below.

Yours sincerely,



**Marc Bays**

Town Planner  
Ventia Pty Ltd  
T: (02) 6124 4423  
E-mail: [marc.bays@ventia.com](mailto:marc.bays@ventia.com)

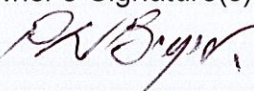
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# Shire of Derby / West Kimberley

## DEVELOPMENT APPLICATION FORM

OWNER DETAILS		
Names(s): THE ROMAN CATHOLIC VICAR APOSTOLIC OF THE KIMBERLEYS OF BROOME		ABN (if applicable): 37040099127
Postal Address: PO Box 76, Broome		State/Post Code: WA, 6725
Home Phone: N/A	Work Phone: T:08 9192 1060	Mobile Phone: 0488 032 656
E-mail Address: <a href="mailto:admin@broomediocese.org">admin@broomediocese.org</a> <a href="mailto:finance@broomediocese.org">finance@broomediocese.org</a>		Fax:
Owner's Signature(s): 		Date:
Contact person for correspondence: Vincenzo Rigoli, Financial Administrator, Diocese of Broome		

APPLICANT DETAILS (IF DIFFERENT FROM OWNER)		
Name(s): Amplitel Pty Ltd C/- Ventia Pty Ltd		ABN (if applicable):
Postal Address: Level 8, 80 Pacific Hwy, North Sydney		State/Post Code: NSW / 2060
Home Phone:	Work Phone: (02) 6124 4423	Mobile Phone:
E-mail Address: <a href="mailto:marc.bays@ventia.com">marc.bays@ventia.com</a>		Fax:
Applicant's Signature: MBays		Date: 04/10/2022
Contact person for correspondence: Marc Bays – Town Planner		

### Derby

(08) 9191 0999 | 30 Loch Street  
sdwk@sdwk.wa.gov.au | PO Box 94, Derby WA 6728

### Fitzroy Crossing

(08) 9191 5355 | Flynn Drive  
sdwk@sdwk.wa.gov.au | PO Box 101, Fitzroy Crossing





# Shire of Derby / West Kimberley

## DEVELOPMENT APPLICATION FORM (con't)

PROPERTY DETAILS		
Location No(s):	Lot No(s): 529	Street No(s) (urban or rural): 2 Wodehouse Street
Diagram or Plan No: 207983	Certificate of Title Volume/Folio: 1245/945	Title Encumbrances (if any):
Street Name: 2 Wodehouse Street	Suburb/Locality: Derby WA 6728	
Nearest Street Intersection: Ashley Street & Alfonsas Street, Derby	Total Land Area (m <sup>2</sup> or ha): 104,250.035 m <sup>2</sup>	

PROPOSED DEVELOPMENT			
Nature of development: (Circle)	Works	Use	<input checked="" type="radio"/> Works and Use
Description of proposed works and/or land use: Installation of a new equipment shelter and 30m concrete monopole with triangular headframe for antennas and other facilities within a new 10m x 10m compound. New telecommunications proposal.			
Nature of any existing buildings and/or use: Large lot zoned for 'Public Purposes – Native Purposes' comprising an existing one storey building, two 10m water tanks, a 30m radio mast tower with guyed wires, a meter pole, light poles, basketball court and dirt access tracks.			
Is an exemption from approval claimed for part of the development? (Circle)			
<input checked="" type="radio"/> No	Yes	If yes, is the exemption for: Works Use	
Description of exemption claimed (if relevant):			
Approximate cost of proposed development: \$500,000	Estimated time of completion: 30/06/2023		
Services known to be available: (tick)	Y	N	Development already commenced or completed? (Circle)
Electricity		✓	
Scheme water	✓		* Y N * Penalty fees may apply
Reticulated sewer	✓		
Stormwater drainage	✓		
Sealed road access	✓		

OFFICE USE ONLY:	Date received: _____	Shire Reference: _____
Checked (Officer's Initials): _____	Fee received: _____	Plans Attached: Y N

### Derby

☎ (08) 9191 0999 | 30 Loch Street  
✉ sdwk@sdwk.wa.gov.au | PO Box 94, Derby WA 6728

### Fitzroy Crossing

☎ (08) 9191 5355 | Flynn Drive  
✉ sdwk@sdwk.wa.gov.au | PO Box 101, Fitzroy Crossing





# Shire of Derby / West Kimberley

## DEVELOPMENT APPLICATION ADVICE

*The signature of the owner(s) is required on all applications. This application will not proceed without that signature. For the purposes of signing this application and owner includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations Schedule 2 clause 62(2).*

*All registered proprietors must sign the application form. If signing on behalf of a Company authority must be signed by: one director of the company accompanied by the company seal; or two directors of the company; or one director and one secretary of the company, or one director if a sole proprietorship company. Applications made by either private owners or companies that have recently changed names must provide supporting documentation showing the change of name.*

*Applications made by prospective purchasers under contract of sale must be accompanied by a letter of consent from the current owners of the property giving the purchaser authority to make the application; or a copy of the Landgate transfer lodgment approval to make the application; or contract(s) of sale or offers and acceptances expressly including a provision of consent by the Vendor to the application proposed.*

*The executor(s) of a deceased estate must provide evidence of grant of probate.*

*Applications made by a State government agency must be signed by an 'authorised officer,' clearly stating their name and position held.*

*An 'authorised officer' of Landgate must sign applications made on Crown Land.*

*Where the Crown Land has been vested in a local/government authority, an 'authorised officer' of that local authority can sign the application form, stating his/her full name and position held.*

*The information and plans provided with this application may be made available by the local government for public viewing in connection with the application.*

### Derby

☎ (08) 9191 0999

✉ [sdwk@sdwk.wa.gov.au](mailto:sdwk@sdwk.wa.gov.au)

30 Loch Street

PO Box 94, Derby WA 6728

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Flynn Drive

PO Box 101, Fitzroy Crossing



# **Shire of Derby / West Kimberley**



# PLANNING ASSESSMENT REPORT

Planning Permit Application for a Telecommunications Facility

2 Wodehouse Street, Derby WA 6728

(Lot 529 on Deposited Plan 207983)

Prepared by Ventia Pty Ltd

On behalf of Amplitel

Project No: WA11207.01

October 2022



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**Document Quality Control**

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## 1.0 EXECUTIVE SUMMARY

### 1.1 Site and Proposal Details

Address of Site	2 Wodehouse Street, Derby WA 6728.
Legal Property Description	Lot 529 on Deposited Plan 207983
Coordinates	-17.313964, 123.640381
Site Area	104250.035m <sup>2</sup>
Registered Owner	The Roman Catholic Vicar Apotolic Of The Kimberleys
Local Authority	Shire of Derby-West Kimberley
Proposal	30m high monopole tower, three (3) panel antennas on a triangular headframe, one (1) equipment shelter not more than 3m high with a base area of not more than 7.5m <sup>2</sup> at the base of the tower and ancillary equipment. This is to be installed within a new 100m <sup>2</sup> fenced compound.
Planning Instrument	Shire of Derby-West Kimberley Local Planning Scheme No. 5
Zone	Public Purposes – Native Purposes
Overlays	Registered Aboriginal Site / Local Heritage
Application seeking	Development permit for a Telecommunications Facility
Use definition	Telecommunications Facility

### 1.2 Applicant Details

Applicant	Amplitel C/- Ventia Australia Pty Ltd
Contact Person	Marc Bays (02) 6124 4423 Marc.bays@ventia.com
Our Reference	WA11207.01 Derby West

## 2.0 INTRODUCTION

This report has been prepared by Ventia on behalf of Amplitel as supporting information to a Planning Permit Application for the works and use of a Telecommunications Facility at 2 Wodehouse Street, Derby WA 6728. The property is formally described as Lot 529 on Deposited Plan 207983.

Amplitel, a new company part of the Telstra Group is currently undertaking work across Australia to support and expand the new mobile phone infrastructure and coverage for Telstra and other Carrier to improve customer experience through faster and more reliable voice and data services.

Due to an industry-specific network requirement, Amplitel have identified the need to install a telecommunications facility on the site to improve both voice and data services within the surrounding area. Furthermore, the facility will provide 4G and 5G services to the surrounding Derby area.

All mobile phone network operators are bound by the operational provisions of the federal *Telecommunications Act 1997 ("The Act")* and the *Telecommunications Code of Practice 2018*. The proposed telecommunications facility installation is not defined as a low-impact facility and is therefore subject to relevant State and local planning provisions.

An extensive site selection process has been completed prior to selecting the subject site as the nominated candidate for a new Telecommunications Facility. This site selection process included considering a variety of factors including planning scheme considerations technical and coverage objectives, cost considerations, land tenure, visual impact and engineering/design criteria. The site was selected as the most appropriate location based on the above considerations, which are outline in **Section 7** of the report.

The proposal is subject to the provisions of the WA Planning and Development Act 2005 and the provisions of the *Shire of Derby-West Kimberley Local Planning Scheme No. 5*.

## 3.0 PROPOSED SCOPE OF WORKS

The proposal is inclusive of the following scope of works:

- Installation of one (1) new 30m high monopole;
- Installation of one (1) new triangular headframe;
- Installation of three (3) new panel antennas (no greater than 2.8m in length);
- Installation of one (1) Telstra Equipment Shelter that is not more than 3m high with a base area of not more than 7.5m<sup>2</sup> at the base of the aforementioned tower; and
- Installation of associated ancillary cabling and equipment.
- Installation of new 10m x 10m fenced compound.

Refer to Plans attached in **Appendix A** for further details and **Appendix B** for Land Titles.

All mobile phone network operators are bound by the operational provisions of the Federal Telecommunications Act 1997 (the "Act") and the Telecommunications Code of Practice 1997. The proposed telecommunications facility installation **is not defined as a low-impact facility** and is therefore subject to relevant State and local planning provisions.

Pursuant to the *Planning and Development Act 2005 (PDA)*, the proposal constitutes a change of use and requires a development application to be made to Shire of Derby-West Kimberley (**Council**) for approval.

The proposal is subject to the *Shire of Derby-West Kimberley Local Planning Scheme No. 5* (the **local planning scheme**). The proposal has addressed the applicable provisions of the planning scheme in **Section 12** of this report.

Under the planning scheme, the proposed scope of works meet the definition for 'public utility' and the site is within a 'native purposes' reserve and subject to a local heritage overlay. As such, the use will not be permitted unless Council has exercised its discretion by granting development approval.

This Planning Assessment Report demonstrates compliance of the proposal against the local planning scheme and the applicable overlay provisions.

Based on the above, the proposed application to install a Telecommunications Facility at 2 Wodehouse Street Derby is considered appropriate for the site and warrants favourable consideration by Council.

## 4.0 PURPOSE OF THE PROPOSAL

To cater for the growing demand for mobile services, Telstra has embarked on a nationwide rollout to deliver an improved, reliable telecommunications network to the Australian public. The rollout will provide improved mobile coverage and enhanced services in metropolitan, regional and rural areas throughout Australia. This rollout consists of the upgrade of existing telecommunications facilities and where required the installation of new mobile base stations to expand the coverage footprint and offer seamless mobile services.

Additional base stations are required where surrounding facilities cannot provide sufficient coverage to a target area. New facilities are also required when existing base stations are fully utilised and cannot serve additional users in the area. Amplitel and Telstra have undertaken analysis of the Telstra mobile network in Derby and has identified areas where coverage and network quality needs to be improved. These includes existing commercial and residential areas, as well as the future residential areas to the west. If this investment is not made, the following main issues will arise:

1. Users may have difficulty connecting to the mobile network or the call may drop out. This impacts businesses, residents, visitors to the area and the ability of the user to contact emergency services.
2. Users may experience reduced data speeds, longer download times and poor network performance at busy times of the day with data intensive and time sensitive applications (e.g. newscasts, social media, mobile banking, weather forecasts, sports highlights etc).

As noted above, the lack of telecommunications facilities in Derby does not only deprive existing users of signal, but also puts at risk the availability of 21<sup>st</sup> century services to facilitate residential expansion.

Once a need for improved network performance has been identified, the optimisation of existing facilities throughout the region is explored and undertaken where required. In some cases this option resolves network deficiencies in an area. However, in this situation the optimisation of



surrounding facilities has not been able to achieve a satisfactory outcome for the network in Derby. Further investigations into the use of other Carrier and broadcast facilities within the area has also been completed. This is discussed in the Site Selection Process of this report.

## 5.0 THE NEED FOR THE PROPOSAL

Access to wireless services is a critical requirement in the modern era. While Australia has among the fastest mobile networks speeds across the globe, there is an identified coverage disparity between urban and rural areas. This disparity is due to the population concentration in urban areas, with existing wireless services covering 99% of the population but only 33% of the total landmass. As a result, major transport routes and large landholdings miss out on the critical wireless services available in urban areas.

While satellite services for mobile phone and data are available in some rural areas, the steep cost for landholders, unreliability and low data caps are all significant impediments to their daily use.

The 2018 Regional Telecommunications Review (the **Edwards Review**) brought these issues into clear focus, with important findings relating to:

- economic benefits; and
- social benefits

The Edwards Review found that economic benefits in regional areas are increasingly linked to wireless services, with regional businesses in a weak position to take advantage of new digital applications and economic opportunities. The Australian Government Response to the review strengthened this argument, stating that *“digital agriculture could increase the gross value of Australian agricultural production by \$20.3 billion, a 25% increase over 2014-15 levels. The greatest gains are expected to come from remote monitoring, automation, better tailoring of inputs such as fertiliser and seed, and environmental benefits such as efficiencies in water and pest management”*.

Tourism is often touted as a key asset to Australia as a whole, with the emerging areas of agri-tourism and eco-tourism combining with the rich and unique history and experiences available in outback areas to provide new economic opportunities for regional areas. Connectivity is a driver of such economic opportunities, even in rural areas. Data from Tourism Australia shows that 289 million visitor nights were spent in regional Australia in 2017, up from 234 million in 2012. The Edwards Report includes first-hand examples from regional tourism operators on the challenges they have faced and how technologies have or could improve their businesses.

The education opportunities in regional areas of Australia have lagged behind those in urban areas for several decades (Karmel. 1973 and Lamb et al. 2014). The need to send children and young adults to cities to obtain the education available in urban areas was long seen as a necessity. The advent of digital education services has proven a boon in ensuring that families in regional areas can stay together while still receiving a high-quality education. Irrespective of students being educated via distance or at local schools, education is increasingly digital. With video being a key component of lessons, access to wireless services is essential.

Social cohesion and connectivity is another important aspect of the digital age. Expanded wireless services allow for regional and rural communities more options to communicate with each other and with relatives and/or friends in other cities and countries. Additionally, rural and remote communities are less likely to have access to a range of health care services (Rural Health

Standing Committee, 2016: National Strategic Framework for Rural and Remote Health). Given the natural hazards such as drought, bushfires and floods that are a frequent and ongoing occurrence in Australia, access to mental health services can be of critical importance. Wireless services allow for more communications opportunities in regional areas and opens additional avenues for mental health services (National Mental Health Commission, 2018).

Wireless services are also important for safety reasons, particularly in relation to the aforementioned natural hazards present in Australia. The 2017-2018 ACMA Communications Report showed that in 2017-2018 there were nine (9) millions calls made to emergency services numbers, and increase of 4.8 per cent from 2016-2017, with the majority made from mobile phones. This increase in emergency numbers calls from mobile phones is a continuing trend, with the share increase by approximately 2-3% on average every year from 2012-2014. In regional and remote communities, where potentially dangerous tasks are undertaken on a daily basis, but where neighbours or family-members are oftentimes out of earshot, the ability to call for assistance from a mobile phone can be critical.

The proposal is an important aspect of bridging the digital disparity between denser urban area and regional communities, and in doing so better supporting their communities in a range of areas, including economic, education, social and safety.

## **6.0 MOBILE TELECOMMUNICATIONS NETWORKS**

A mobile telecommunications network is made up of multiple base stations covering a geographic area. They work by sending and receiving radio signals from their antennas to mobile phones and other mobile devices such as tablet computers, wireless dongles etc. Base stations are designed to provide service to the area immediately surrounding the base station which can be up to several kilometers in distance. Depending on the technical objectives of a base station, the physical characteristics of each telecommunications facility; such as its height, number and size of antennas, equipment, cabling etc. will vary.

As a general rule, the higher the antennas of a base station the greater the range of coverage and the ability to relieve capacity issues. If this height is compromised then additional facilities, and thus more infrastructure, will be required for any given locality. The further a facility is located away from its technically optimum position the greater the compromise of the service. This may result in coverage gaps and require additional or taller base stations to provide adequate service.

Each base station transmits and receives signals to and from mobile devices in the area. As the mobile device users move around their devices will communicate with the nearest base station facility to them at all times. If the users cannot pick up a signal, or the nearest base station is congested because it is already handling the maximum number of phone calls or maximum level of data usage, then the users may not be able to place a call, they may experience call "drop outs" or they might experience a slow data rate while attempting to download content.

There are three main factors that can cause the above:

- You may be too far away from a facility to receive a signal, or there may be objects blocking the signal from the nearest facility; such as hills and large trees. To ensure optimum service the radio signals transmitted between the facility's antennas and mobile devices need to be unimpeded, maintaining a "line-of-sight" between them.

- The facility may be transmitting as much data and calls as it can handle. This can result in call drop-outs and slower data rates when too many users are connected to a facility at once.
- The depth of coverage, which affects the ability to make calls inside buildings, may be insufficient in some local areas.

The current proposal will form part of Telstra's 4G and 5G network solution to the Derby locality and will deliver essential mobile services (voice calling, SMS), as well as live video calling, video-based content including; news, finance and sports highlights, and high-speed wireless internet – wireless broadband. With a coverage footprint of more than 2.1 million square kilometers and covering more than 99% of the Australian population, Telstra's 4GX is Australia's largest and fastest national mobile broadband network and as such requires more network facilities, located closer together to ensure a high-quality signal strength to achieve reliable service and the fastest possible data transfer rates.

## 7.0 SITE SELECTION PROCESS

Amplitel commences the site selection process with a search of potential sites that meet the network's technical requirements, with a view to also having the least possible impact on the amenity of the surrounding locality. Amplitel applies and evaluates a range of criteria as part of this site selection process.

Telstra and Amplitel assess the technical viability of potential sites through the use of computer modelling tools that produce predictions of the coverage that may be expected from these sites as well as from the experience and knowledge of the radio engineers.

There are also a number of other important criteria that Telstra uses to assess options and select sites that may be suitable for a proposed new facility. These take into account factors other than the technical performance of the site, and include:

- The potential to co-locate on an existing telecommunications facility.
- The potential to locate on an existing building or structure.
- Visual impact and the potential to obtain relevant town planning approvals.
- Proximity to community sensitive locations and areas of environmental heritage.
- The potential to obtain tenure at the site.
- The cost of developing the site and the provision of utilities (power, access to the facility and transmission links).

In making the proposal for this site at Derby, Amplitel has carefully weighed all of the aforementioned criteria. This analysis is detailed in the next section.

## 8.0 CANDIDATE SITES

Amplitel carefully examined a range of possible deployment options in the area before concluding that a new mobile base station at 2 Wodehouse Street, Derby would be the most appropriate solution to provide necessary mobile phone coverage to the Derby locality.

Accordingly, this section of the report will demonstrate the following:

- Colocation opportunities and existing telecommunications infrastructure within proximity to the proposed installation; and



- An analysis of the locations considered when determining an appropriate location for a new telecommunications installation within the required coverage area.

## 8.1 Colocation opportunities

The Communications Alliance Ltd. (formerly Australian Communications Industry Forum Ltd. - ACIF) Industry Code C564:2020 – Mobile Phone Base Station Deployment promotes the use of existing sites in order to mitigate the effects of facilities on the landscape. It should also be noted that as a first preference, Amplitel attempts to utilise, where possible, any existing infrastructure or co-location opportunities. Co-location is the beneficial reuse of an existing tall structure to negate a need for a new tower in the area, with antennas and equipment being placed on the existing tall structure and the immediate ground area. Co-locations will commonly include an existing Telecommunications Facility, but can include tall residential buildings, radio towers, or government assets such as water tanks.

**Figure 1** shows all existing tall infrastructure and existing and proposed telecommunications facilities surrounding within the surrounding area.



**Figure 1:** Location of candidates for co-location Source: [www.rfnsa.com.au](http://www.rfnsa.com.au) and Google Earth

The characteristics of the co-location candidates identified in **Figure 1** are provided below in **Table 1**.

**Table 1:** Summary of co-location opportunities within the Derby area

RFNSA Site No.	Site Address	Structure type	Is site constructed?	Suitable for co-location?	Comments
6728001	LOT 62 Plan 56660 Dampier Drive Derby WA 6728	76.2m Steel Lattice Tower plus 5.1m Extension	Yes	No	Tower in Derby is approximately 1.7KM away from Derby town centre and has existing Telstra and Optus antennas on it. It is not able to provide adequate coverage to the north western part of Derby and the Derby town centre targeted area and cannot support future co-located facilities.
	2 Wodehouse Street, Derby WA 6728 (Lot 529 on Deposited Plan 207983)	30m Radio Tower (150 m away from prime Candidate B site)	Yes	No	Radio tower could not adequately support triangular headframe and 6 panel antennas proposed, let alone future carrier co-located facilities. If not significant strengthening works, it would require the tower to be replaced with a different structure.

As indicated in **Figure 1**, the closest existing telecommunications facility is located at Plan 56660 Dampier Drive, Derby WA 6728 (RFNSA 6728001) which is over 1.7KM from the approximate centre of the targeted coverage area. As this facility is unable to provide coverage to the targeted coverage area it was not considered a feasible co-location option.

## 8.2 Candidates considered

The site selected is deemed to be the most optimal location to achieve the required coverage for the targeted coverage area and requires the installation of a new mobile base station. Alternative candidates were considered, though the residential areas in between the candidates



were excluded due to issues with amenity, land size and existing use conflicts. The target coverage area was identified as largely comprising predominantly single dwelling residential unit lots, along with a small portion of holiday parks, a school and a couple parks and reserves. No industrial premises were found in the site selection search ring and the one or two commercial premises were not deemed to be appropriate for a monopole tower due to their proximity to residences and various hotels and accommodation facilities nearby.

**Figure 2** provides a map of the non-colocation candidates considered for the proposed facility. Details on these alternative candidates are further outlined in **Table 2** along with the balance of alternative candidates considered as part of the site selection process.



**Figure 2:** Location of non-colocation candidates *Source: Google Earth*

**Table 2:** Summary of non-colocation candidates considered

Candidate	Location	Proposal	Zoning	Reason for exclusion/comments
Candidate A	14 Knowsley Street Derby, WA, 6728  Lat: -17.311778° Long: 123.643123°	Greenfield  30.0-40.0m monopole	Public Purpose s - Water Supply	This is considered the back-up candidate site, however it is in closer proximity to residences than the prime Candidate B site and approvals and agreements with landowner is considered to take longer.

Candidate B	2 Wodehouse Street Derby, WA, 6728  Lat: -17.313964° Long: 123.640381°	Greenfield 30.0m monopole	Public Purpose s - Native Purpose s	This is the preferred candidate and the subject of this application. The subject site keeps great separation from the nearest residences and community sensitive places and achieves the coverage objectives of Telstra. Some clearing of scrubland would be required, however the site is not subject to environmental protections.
Candidate D	Nicholson Square (Council Park), 153 Loch Street Derby, WA, 6728  Lat: -17.30863 ° Long: 123.64292°	Greenfield 30.0-40.0m monopole	Parks and Recreation	This candidate site is zoned 'Parks and Recreation' and would pose more of an impact on community and recreational amenities than the Candidate B site. It is still close to residences also.
Candidate E	98-100 Loch Street Derby, WA, 6728  Lat: -17.308574° Long: 123.638026°	Greenfield 30.0-40.0m monopole	Special Use – Tourist Accom odation	This candidate site is zoned for 'Tourist Accomodation' and is in closer proximity to residential housing and community places of interest than the Candidate B site.
Candidate F	12 Rowan Street Derby, WA, 6728  Lat:-17.307762° Long: 123.630587°	Greenfield 30.0-40.0m monopole	Special Use – Carava n and Campin g Parking	This candidate site is zoned for 'Caravan and Camping Parking' and would likely generate far more visual impact than the Candidate B site as the site is close to seascape and various low rise accommodation premises.

### 8.3 Nominated Candidate

A preferred nominated candidate was selected for the proposed facility based on the radiofrequency objectives, property tenure, planning and environmental issues, potential community sensitive uses and engineering criteria as noted above. For this project, co-location on an existing telecommunications facility is not considered feasible and a new macro tower is considered suitable given:

- the site is technically feasible and can achieve Amplitel's coverage and capacity objectives by installing the new mobile base station;
- the site will provide improved coverage to the Derby area;
- the proposed monopole will be located in a site with favourable zoning;



- the facility will maintain good separation from community sensitive places of interest such as Derby District High School and a childcare centre;
- the facility will not alter the land use and will support future carrier co-located facilities;
- the site is not located within a register for heritage or environmental conservation;
- the site is appropriately serviced and has access to the electricity supply network and existing transport network;
- the site will require only minimal clearing of low lying scrubland;
- the costs associated with delivering the site and constructing the facility are considered by Amplitel to be reasonable.

As stated above, the site selection process carefully considered environmental and visual constraints, existing and future land use characteristics, the orderly planning of the area and the design of the facility. On balance, it is considered that the location and height of the facility ensure optimal service provision to the area whilst minimising any perceived impacts. The proposed Amplitel site has been sited and designed to minimise any adverse impact on the amenity of the surrounding locality. The site is located at a reserve away from sensitive sites such as schools and childcare centres and is not within an identified heritage area.

As a result of the aforementioned points it is considered that the siting and design effectively responds to the landscape setting in the area.

## 8.4 Site context

The proposed facility is located near the centre of Derby township, inside the local planning scheme map '01' for Derby Townsite north west.

The subject property is the reserve at 2 Wodehouse Street, Derby. The entrance to the property is taken directly off Wodehouse street. Within the large 104,250m<sup>2</sup> lot is the single storey Derby Media Aboriginal Corporation building, formerly St Josephs Hostel, a hostel for Aboriginal school children established 1950s by the Roman Catholic Church. Also featured within the property boundary is two 10m high water towers next to each other, a 30m radio tower with guyed wires, a basketball court, dirt access tracks and several tall mature trees. Across from the site to the east separated by a high density of shrubbery is a power station, race course and golf course. Further south from the site, again separated by several trees and dirt access tracks is land reserved for mostly recreational amenities, with recreational centre buildings, tennis courts and parking. West of the site is predominantly undeveloped land zoned for future residential land. It is adjacent to the One Tree Derby Childrens Service, a community sensitive place of interest which is approximately 320m away from the selected candidate. The lot north of the adjacent undeveloped lot is zoned for 'community welfare'. It is Aboriginal short stay accommodation housing with the nearest building approximately 150m away from the proposed monopole. North of the subject lot is largely R12.5 to R25 density one storey residential housing along the tree lined streets. The nearest residence to the monopole will be approximately 170m away.

Other than the child care identified, the only other community sensitive places of interest close found in Derby is the Derby District Highschool which is over 700m away from the proposed monopole.

The subject lot itself is also covered fully by the St Joseph's Hostel local heritage curtilage, a category 6 rated item within the municipal inventory, with the large undeveloped parcel of land across to the east also intersected fully by another local heritage item curtilage area. Within the

candidate site search ring there are many heritage items, some of which featured also on the WA heritage register.



**Figure 3:** Aerial view of subject site and surrounds *Source: Google Earth, 2022*

The subject site at 2 Wodehouse Street, Derby is surrounded by reserves, undeveloped land, low lying residential and light industrial uses. The with specific cardinal borders are provided in **Table 3**

**Table 3:** Summary of adjoining land uses

North	Residential.
East	Power Station, Water Corporation, Parks and Recreation.
South	Parks and Recreation.
West	Residential Development, Child Care, Community Welfare.

The surrounding area can be described as being built-up with low lying premises with a moderate separation from each other, with a low distribution of shrubbery, mostly small to mid-size mature trees. The below figures show the surrounding areas from the proposed tower's location

## 8.5 Site details

Site Details	
Site address	2 Wodehouse Street, Derby WA 6728
Real property description	Lot 529 on Deposited Plan 207983
Coordinates	-17.313964, 123.640381
Site area	104250.035m <sup>2</sup>
Registered owner	The Roman Catholic Vicar Apotolic Of The Kimberleys
Existing land use	Public Purposes - Native Purposes
Vegetation	Predominantly low lying shrubland with a low density of moderate to tall trees
Topography	The proposal area is relatively flat







**Figure** to **Figure** show the area to be a reserve in nature surrounded by trees and access tracks with vacant undeveloped land in the immediate vicinity to the west.



**Figure 6** View from the southern face of the proposed compound looking North Source:  
Ventia 2022



**Figure 7** View from the eastern face of the proposed compound looking East Source:  
Ventia 2022





**Figure 3** View from the northern face of the proposed compound looking South Source:  
*Ventia 2022*



**Figure 9** View from the eastern face of the proposed compound looking West Source:  
*Ventia 2022*



## 9.0 PROPOSAL DETAILS

The proposal is necessary to provide improved 4G and 5G telecommunications services within the Derby area. The proposal is part of Telstra's network coverage expansion program but through Amplitel will support additional Carriers to co-locate on the proposed structure.

### 9.1 Facility and Equipment Overview

The proposed telecommunication installation requires the following works:

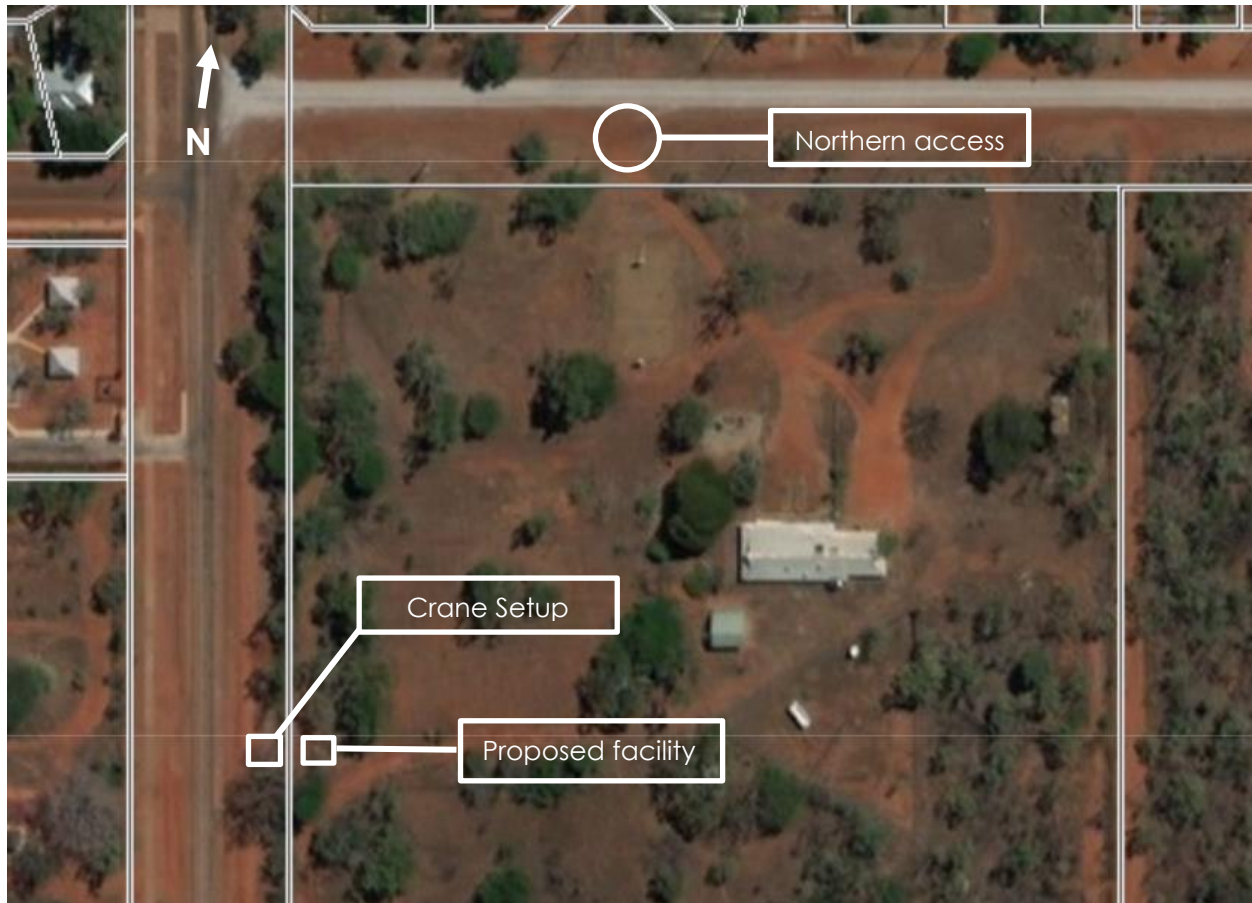
- Installation of one (1) new 30m high monopole;
- Installation of one (1) triangular headframe;
- Installation of three (3) new panel antennas (no greater than 2.8m in length);
- Installation of one (1) Telstra Equipment Shelter that is not more than 3m high with a base area of not more than 7.5m<sup>2</sup> at the base of the aforementioned tower;
- Installation of associated ancillary cabling and equipment; and
- Installation of a 10m by 10m fenced compound.

The proposed monopole will be an unpainted/untreated galvanized grey in colour so that it blends in with the sky backdrop. This is considered appropriate given the moderate level of visual impact from the proposed facility. The proposed Telstra equipment shelter will utilise a pale eucalypt colour as the green-coloured facility will better surrounding shrubbery and natural features.

The proposal is demonstrated through the proposal plans, attached in **Appendix A**.

## 9.2 Access, traffic and parking

The subject site has a dirt access track (not gated) off Wodehouse Street from the north of its boundary. (Figure 4).



**Figure 4** Existing access to subject site Source: Nearmap 2022

Access to the facility will be via the northern dirt access route off Wodehouse Street. (Figure 4).



**Figure 5** Space for temporary crane and works setup 16m of between the sealed section of Ashley Street road reserve and the boundary fence *Source: Ventia 2022*

Mobile phone base stations require only infrequent maintenance visits (i.e. only two (2) to four (4) times per year). Furthermore, the site will operate on a continually unmanned basis. As such, the proposal will not be a significant generator of vehicular and/or pedestrian traffic.

The existing access will provide appropriate access to the site for the infrequent maintenance inspections. Furthermore, dedicated parking spaces are not considered necessary for the site given the very low traffic generation of the site and the unmanned nature of the site.

During the construction phase various vehicles will be used to deliver equipment and construct the proposed development. Any traffic impacts associated with construction and establishment will be of a short-term in duration (i.e. approximately five weeks over non-consecutive periods) and will be temporary in nature and will not affect existing traffic flows of the surrounding area. In the unlikely event that road closure is required Telstra will apply to the relevant authorities for permission.

### 9.3 Utilities

The proposal will involve a new below ground fibre and electrical route which connects with the existing meter pole on the subject property and a telecommunications asset outside the lot.

The unmanned nature of the proposed mobile base station removes the need for connection to water or sewer services.



Furthermore, the proposal incorporates very minimal hard surfaces and therefore will generate insignificant stormwater runoff from the site. As such, the proposal does not require connection to the stormwater network.

## 9.4 Construction schedule

The construction of the mobile base station will take approximately five to six weeks over non-consecutive periods, subject to weather.

The construction of the proposed mobile phone base station primarily consists of the following processes:

- Site preparation and foundation earthworks – Including site clearing and access track preparation
- Tower foundation installation – Concreting of foundations and installation of underground conduits.
- Tower assembly including head frame and equipment shelter – Crane on site for duration of tower assembly
- Installation of new equipment using an EWP and laying of cabling – reflective of the scope of works outlined within this Development Application; and
- Network Integration – Ensuring that the mobile phone base station can connect with both end users and other sites within the Telstra network.

No road closures will be required for the erection and installation of equipment, as all construction equipment can be set-up on the subject property and adjacent reserve away from traffic.

## 9.5 Acoustic

Noise and vibration emissions associated with the proposed facility would be limited to the construction/demolition phase outlined above. The works are to be concluded in a timely manner with construction occurring over a period of 4 weeks, so that residents in the surrounding area should not be inconvenienced in the long term.

During normal operation the noise emanating from the air- conditioning equipment would be similar to those used in domestic situations and will comply with the background noise levels given in *Australian Standard AS 1055*.

## 10.0 RELEVANT FEDERAL LEGISLATION

The following information provides a summary of the Federal legislation relevant to telecommunications deployment.

While Amplitel is not a Carrier itself, it is part of the Telstra Group and the proposed facility will serve Telstra initially. As a licensed telecommunications carrier, Telstra must operate under the provisions of the *Telecommunications Act 1997* and the following legislation and industry codes:

- The Telecommunications Code of Practice 2018;
- The Telecommunications (Low-impact Facilities) Determination 2018 (as amended);
- Mobile Phone Base Station Deployment Code; and
- The Environment Protection and Biodiversity Conservation (EPBC) Act 1999

## 10.1 Telecommunications Act 1997

The *Telecommunications Act 1997* (the Act) came into operation on 1 July 1997. The Act provides a system for regulating telecommunications and the activities of carriers and service providers. The aim of the *Telecommunications Act 1997* is to provide a regulatory framework that promotes:

- The long-term interests of end users of carriage services or of services provided by means of carriage services; and
- The efficiency and international competitiveness of the Australian Telecommunications Industry.

Under the Act, telecommunications carriers are no longer exempt from State and Territory planning laws except in three limited instances:

1. There are exemptions for the inspection of land, maintenance of facilities, installation of “low impact facilities”, subscriber connections and temporary defense facilities. These exemptions are detailed in the Telecommunications (Low-impact Facilities) Determination 2018 and these exemptions are subject to the Telecommunications Code of Practice 2018;
2. A limited case-by-case appeals process exists to cover the installation of facilities in situations of national significance; and
3. There are some specific powers and immunities from the previous Telecommunications Act 1991.

## 10.2 Telecommunications Code of Practice 2018

The Telecommunications Code of Practice 2018 (The Code) authorizes a carrier to enter land, inspect land and install and maintain a facility. The Code emphasizes “best practice” for the installation of facilities, compliance with industry standards and minimization of adverse impacts, particularly in terms of degradation of the environment and visual impact. The proposal is considered to comply with “best practice” given the proposal will:

- provide improved telecommunications and wireless internet coverage in the Derby area;
- be located on a non-residential site within the local area, which maximizes separation to residential and other sensitive uses; and
- Comprises the smallest configuration possible for the site to reduce the visual impact of the proposal, while providing appropriate coverage to the surrounding area.

## 10.3 Telecommunications (Low-impact Facilities) Determination 2018

The Telecommunications (Low-impact Facilities) Determination 2018 came into effect in March 2018.

The *Determination* contains a list of Telecommunications Facilities that the Commonwealth will continue to regulate. These are facilities that are essential to maintaining telecommunications networks and are unlikely to cause significant community disruption during their installation or operation. These facilities are therefore considered to be ‘Low-impact’ and do not require planning approval under State or Territory laws.

The proposed facility at Derby does not fall under the *Determination* and, therefore, requires approval under State planning legislation.

## **10.4 Communications Alliance Ltd. Industry Code C564: 2020 – Mobile Phone Base Station Deployment**

The Communications Alliance Limited – *Mobile Phone Base Station Deployment C564:2020* (the Deployment Code) is an industry code of practice registered by the Australian Communications and Media Authority. All licensed telecommunications carriers must abide by the Deployment Code provisions.

The code does not change any regulations at a local, State or Federal level, but supplements these regulations applying to telecommunications carriers, including Telstra. The code sets guidelines for site selection, community consultation, design, installation and operation of telecommunication facilities.

The subject proposal, not being designated a 'Low-impact' Facility', is not subject to the notification or consultation requirements associated with the Deployment Code. These processes are handled within the relevant State and Local consent procedures.

Though the Code does not apply to the proposed development, the intent of the Code is to ensure Carriers follow a 'precautionary approach' to the siting of infrastructure away from sensitive land uses and this approach has been followed in the selection of this site, as demonstrated in the *Deployment Code* section 4.1 and 4.2 Precautionary Approach Checklists. The checklists will be uploaded to the RFNSA website, reference number 6044002.

Included in these section's Checklist is a statement of how the public's exposure to EME from the site has been minimised. All emissions from the site will be well within the requirements of the relevant Australian Standard. Details of this standard are contained in the following section.

This site has been selected and designed to comply with the requirements of the *Deployment Code* in so much as the precautionary approach has been adhered to and, as a result, the best design solution has been achieved.

## **10.5 Environment Protection and Biodiversity Conservation Act 1999**

The *Environment Protection Biodiversity Conservation Act 1999* (the EPBC Act) controls matters of national environmental significance. The key objectives of the EPBC Act include:

- a. "To provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance; and
- b. To promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; and
- c. To promote the conservation of biodiversity; and
- d. To provide for the protection and conservation of heritage..."

Amongst other aspects, the EPBC Act relates to matters of national environmental significance, including world heritage areas, natural heritage places (including declared RAMSAR wetland areas), listed threatened species in communities, listed migratory species, protection of environment on nuclear actions, and environment matters.

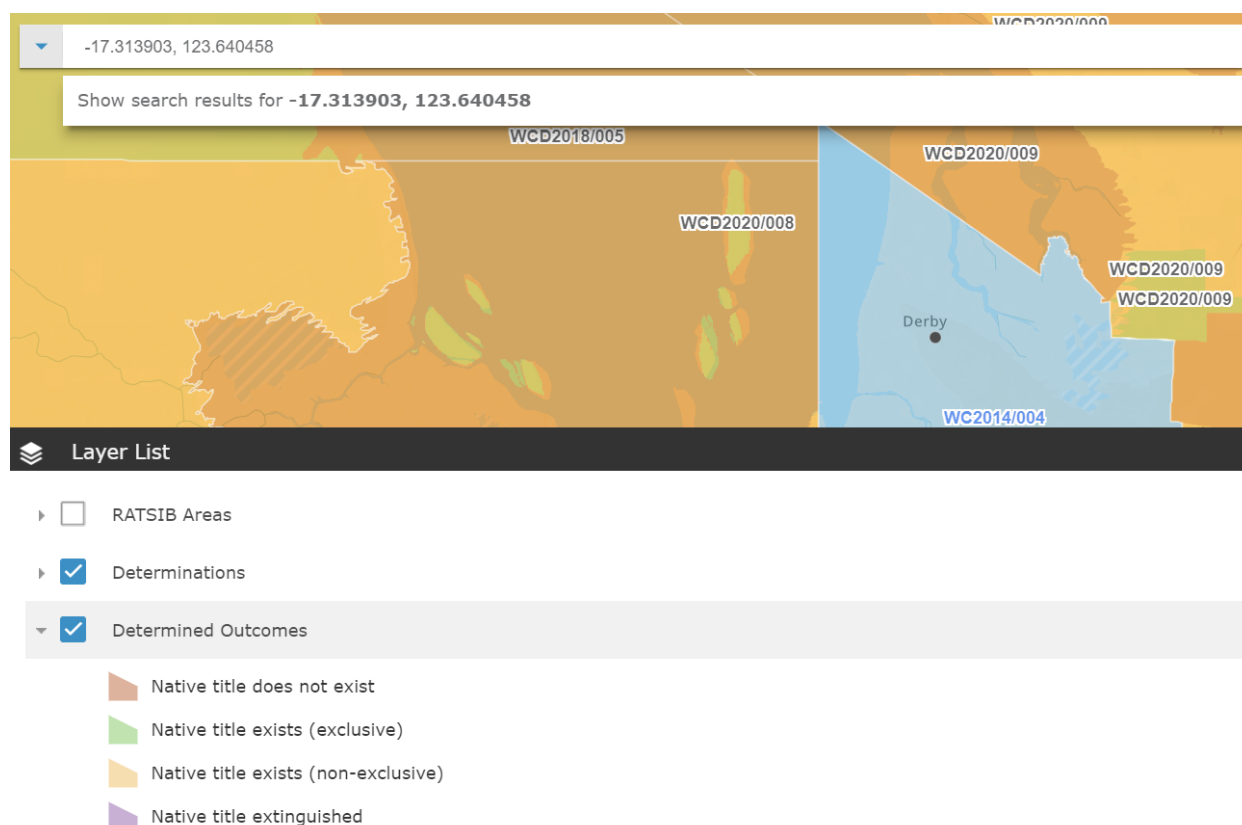
The proposal is **not** identified as having a significant impact on any of the above matters of national environmental significance. Therefore, the proposal will not require referral to the Government Minister for the Environment for assessment.

## 10.6 Native Title Act 1993

The *Native Title Act 1993* (the **Native Title Act**) was given effect on 1 January 1994 and recognises the rights and interests of Aboriginal and Torres Strait Islander people in land and waters according to their traditional laws and customs. The Native Title Act also sets out processes through which development as a Future Act can proceed with regards to the rights and interests of Traditional Owners.

The subject site is identified on a site that is the subject of a single Native Title claim. (WC2016/005) No determination has since been made whether Native Title exists does exist or not over the claim area (**Figure**).

Under section 23B of the Native Title Act, native title can be extinguished by previous exclusive possession, where that previous exclusive possession includes a grant or vesting that was granted or created on or before 23 December 1996. The current land title shows the land has been freehold since before this date. Accordingly, Native Title is not considered to be extinguished based on previous exclusive possession under the existing Title.



**Figure 12:** Excerpt of Native Title Tribunal Vision showing relevant Native Title determination in area surrounding subject site Source: *Native Title Tribunal Vision, 2022*



## 11.0 STATE REGULATORY FRAMEWORK

The following information provides a summary of the State legislation/guidelines relevant to telecommunications development proposals.

### 11.1 Aboriginal Heritage Act 1972

The Aboriginal Heritage Act 1972 (the **Aboriginal Heritage Act**) is the main piece of legislation within Western Australia with regards to Aboriginal cultural heritage. The Aboriginal Heritage Act sets out the requirements for ensuring that Aboriginal heritage is appropriately identified and protected.

Under the Aboriginal Heritage Act the Western Australian must maintain an Aboriginal Sites Register where specific places of importance and significance to Aboriginal people are recorded and protected by Law.

Section 5 of the Aboriginal Heritage Act defines an Aboriginal site as;

- a) Any place of importance or significance where people of Aboriginal descent have, or appear to have, left any object, natural or artificial, used for, or made or adapted for use for, any purpose connected with the traditional cultural life of Aboriginal people, past or present;
- b) Any sacred, ritual or ceremonial site, which is of importance and special significance to people of Aboriginal descent;
- c) Any place which, in the opinion of the committee, is or was associated with Aboriginal people and which is of historical, anthropological, archaeological or ethnographical interest and should be preserved because of its importance and significance to the cultural heritage of the State; and
- d) Any place where objects to which this Act applies are traditionally stored, or to which, under the provisions of the Act, such objects have been taken or removed.

As a result of this definition a breach of Section 17 of the Aboriginal Heritage Act occurs when a person excavates, destroys, damages, conceals or in any way alters any Aboriginal site; or who deals with in a manner not sanctioned by relevant custom, or assumes the possession, custody or control of, any object on or under an Aboriginal site, commits an offence unless he is acting with the authorization of the Registrar under Section 16 or the consent of the Minister under Section 18.

Regulation 10 Consent can be granted by authorization by the Registrar or Minister under the AHA, usually granted for non-deleterious, site-preservation land uses (rehabilitation) or in emergencies. Aboriginal sites broadly fall into two categories, archaeological and anthropological or ethnographic sites. Archaeological sites are generally where material evidence of Aboriginal people's traditional cultural life is found. Sites of this type consist of artefact scatters, stone structures, marked trees, fish traps, middens, cave or rock paintings/engravings, arranged stones and burial sites. Most archaeological sites are prehistoric, but some are also more contemporary in nature and are where Aboriginal cultural material objects from the post settlement period are found.

Ventia has conducted an assessment of the area against the Aboriginal Heritage Due Diligence guidelines (the **Guidelines**), as published originally by the Department of Aboriginal Affairs & Department of the Premier and Cabinet. This assessment considered that the Aboriginal Heritage

Inquiry System did show that the works area is within the public boundary of Aboriginal site ID 12392 (MARADJA) however Department of Planning, Lands and Heritage (DPLH) have determined that it is not within the actual boundary as administered by DPLH and therefore immune from approvals under the *Aboriginal Heritage Act 1972*. See **Appendix F** for further details.

Given the site has been subject to previous disturbance with the clearing of vegetation for access tracks, water towers, the former St Joseph's Hostel building and a radio tower with its guyed wire anchors, it is considered less likely that aboriginal relics could be unearthed during the works.

The area where works (including ground disturbance) are proposed (the **works area**) is just a 100m<sup>2</sup> (10m x 10m) area of land located at 2 Wodehouse Street Derby and the site is not in close proximity to potential risk factors including freshwater, elevated lookouts, exposed stone or rock and other relevant factors.

This assessment has determined the area is not of high or medium risk for aboriginal heritage, therefore the works may proceed without further approval.

## 11.2 Planning and Development Act 2005

The Minister of Planning and Infrastructure has ultimate authority for town planning in Western Australia. Development within Western Australia is controlled by the *Planning and Development Act 2005* through the application of environmental planning instruments. Under the *Planning and Development Act 2005*, the Western Australian Planning Commission (**WAPC**) is the responsible authority for land use planning and development matters and this report seeks to demonstrate compliance with the WAPC and other items of relevant legislation which pertain to the subject application.

## 11.3 State Planning Policy No. 5.2 – Telecommunications Infrastructure (WAPC)

State Planning Policy 5.2: Telecommunications Infrastructure Policy aims to balance the need for effective telecommunications services and effective roll-out of networks, with the community interest in protecting the visual character of local areas. The SPP applies for above and below telecommunications infrastructure, other than those exempted under the Commonwealth Telecommunications Act 1997.

Under section 5.1.1 of the State Planning Policy 5.2: Telecommunications Infrastructure Policy the West Australian Planning Commission provides a set of measures in assessing the visual impact of a proposed telecommunications facility.

An assessment of these guidelines below has found that the proposed Telstra Mobile Phone Base Station is compliant with the intent and requirements of the State Planning Policy 5.2: Telecommunication Infrastructure Policy.

**Table 4:** Assessment against State Planning Policy 5.2, Policy Measure 5.1.1

Measures	Comments	Complies
Be located where it will not be prominently visible from significant viewing locations such as scenic routes,	The proposed 30m monopole has been sited to maintain the primary use of the land whilst considering the impact to the surrounding locality. The site carefully considered environmental and visual constraints, existing and future land use	✓

<p>lookouts and recreation sites;</p>	<p>characteristics, the orderly planning of the area and the design of the facility. On balance, it is considered that the location and height of the facility ensure optimal service provision to the area whilst minimising any perceived impacts. Furthermore, the proposed 30m facility will have the height to allow numerous other Carriers to co-locate in the future which helps to reduce the need for more structures to be built in the area which in turn helps to reduce impacts upon the amenity of the area.</p>	
<p>Be located to avoid detracting from a significant view of a heritage item or place, a landmark, a streetscape, vista or a panorama, whether viewed from public or private land;</p>	<p>Amplitel has selected a site and location that seeks to minimise perceived negative impacts on the visual amenity of the area. In doing that, it has settled on a specific location within the reserve at 2 Wodehouse Street as the prime candidate site. The proposed 30m monopole will be in further proximity away from the category 6 rated former 'St Josephs Hostel' building listed in the municipal inventory than the existing 30m radio tower within the same subject lot. The new 30m monopole will not obstruct limited distant views towards the building from Ashley Street, as it is presently concealed by several trees lining the gate already.</p>	<p>✓</p>
<p>Not be located on sites where environmental, cultural heritage, social and visual landscape values may be compromised;</p>	<p>The chosen compound area for the new monopole and shelter keeps great separation away from the category 6 rated former 'St Josephs Hostel' building listed in the municipal inventory at 120m of distance. The proposal also will not be visually prominent from the nearest residences and accommodation stays. Any visual impact has been mitigated through a variety of design elements along with existing visual buffers present surrounding the location.</p>	<p>✓</p>
<p>Display design features, including scale, materials, external colours and finishes that are sympathetic to the surrounding landscape;</p>	<p>The proposed 30m concrete monopole will remain unpainted (dull grey in colour) blending in with the sky. It will have a slimmer body than the typical lattice tower and will be positioned approximately 150m away from the existing 30m radio tower on site in order to reduce visual clutter. It's height will not exceed the existing radio mast towers and it will not require significant clearing of surrounding vegetation as opposed to the existing radio mast tower which required trees to be removed for the guyed wires to be anchored into the ground.</p>	<p>✓</p>
<p>Be located where it will facilitate continuous network coverage and/or improved telecommunications services to the community;</p>	<p>The proposed location at 2 Wodehouse Street is strategically well positioned within the candidate search area and will provide improved and continuous coverage to the locality, also providing other Carriers with the opportunity to co-locate their infrastructure in the future.</p>	<p>✓</p>
<p>Telecommunications infrastructure should be co-located and whenever possible:</p>	<p>As per Section 7 of this report, no suitable opportunities for co-location were identified in the area and it has been identified that the proposed Amplitel site location is seen as the preferred site location. Colocation was investigated; however,</p>	<p>✓</p>



<p>Cables and lines should be located within an existing underground conduit or duct; and Overhead lines and towers should be co-located with existing infrastructure and/or within an existing infrastructure corridor and/or mounted on existing or proposed buildings.</p>	<p>the locations are too far from the subject area to meet the coverage objectives of the project or lack the structural capacity to support a new headframe, panel antennas and other facilities.</p> <p>Therefore, it has been identified that the area of land at the 2 Wodehouse Street reserve is seen as the preferred site location. As mentioned previously, the proposed Amplitel monopole will also provide other Carriers with the opportunity to co-locate their infrastructure in the future.</p> <p>Overhead lines are not applicable to this application.</p>	
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Overall the proposed development application is consistent with the intent and requirements of the SPP 5.2.

## 11.4 Statement of Planning Policy No. 5.2 – Telecommunications Infrastructures (WAPC)

With the gazettal of State Planning Policy 5.2, the WAPC *Statement of Planning Policy No. 5.2 – Telecommunications Infrastructure* (Statement 5.2) has been repealed. However, it is recognised that the Statement 5.2 provides a more holistic set of criteria than SPP 5.2 which largely focuses on visual impacts. Given this, an assessment of the guiding principles of Statement 5.2 is provided in **Table 5**.

**Table 5** Assessment against Statement 5.2 Guiding Principles

Principles	Comments	Complies
<p>There should be a co-ordinated approach to the planning and development of telecommunications infrastructure, although changes in the location and demand for services require a flexible approach.</p>	<p>Telstra undertakes a carefully co-ordinated and planned approach to the development of their network.</p>	<p>✓</p>
<p>Telecommunications infrastructure should be strategically planned and co-ordinated, similar to planning for other essential infrastructure such as networks and energy supply.</p>	<p>The proposed facility is strategically planned and co-ordinated to ensure that the facility will provide high level coverage to the Derby area.</p> <p>The proposed facility will allow for future co-location by other telecommunication providers, ensuring no other similar scale facilities are required in the future to provide essential telecommunication services.</p>	<p>✓</p>

<p>Telecommunications facilities should be located and designed to meet the communication needs of the community.</p>	<p>The proposed facility is strategically planned and co-ordinated to ensure that the facility will provide high level coverage to the Derby area.</p>	<p>✓</p>
<p>Telecommunications facilities should be designed and sited to minimise any potential adverse visual impact on the character and amenity of the local environment, in particular, impacts on prominent landscape features, general views in the locality and individual significant views.</p>	<p>The proposed 30m monopole has been sited to maintain the primary use of the land whilst considering the impact to the surrounding locality. The site carefully considered environmental and visual constraints, existing and future land use characteristics, the orderly planning of the area and the design of the facility. On balance, it is considered that the location and height of the facility ensure optimal service provision to the area whilst minimising any perceived impacts. Furthermore, the proposed 30m facility will have the height to allow numerous other Carriers to co-locate in the future which helps to reduce the need for more structures to be built in the area which in turn helps to reduce impacts upon the amenity of the area.</p>	<p>✓</p>
<p>Telecommunications facilities should be designed and sited to minimise impacts on areas of natural conservation value and places of heritage significance or where declared rare flora are located.</p>	<p>The proposed telecommunications facility will not be located within an environmentally sensitive area and has been determined by DPLH to not fall within the actual boundaries of a Aboriginal heritage site administered by them. Minimal clearing of low-lying scrubland and trees will be required for the new compound and below ground fibre and power route, avoiding the cluster of trees lining the northern section of the lots western boundary. None of the affected flora is identified as belonging to a threatened or priority ecological community.</p> <p>In order to minimise impacts on the category 6 rated former 'St Josephs Hostel' building listed in the municipal inventory, the proposed 30m monopole will be positioned further away from the building than the existing 30m radio tower within the subject lot is. The new 30m monopole will not obstruct limited distant views towards the building from Ashley Street, as it is presently concealed by several trees lining the gate already. The tower will also not detract from views towards the building from Wodehouse Street road reserve.</p>	<p>✓</p>
<p>Telecommunications facilities should be designed and sited with specific consideration of</p>	<p>Prior to the commencement of work Telstra will undertake such measures as deemed necessary by Council to effectively protect</p>	<p>✓</p>

<p>water catchment protection requirements and the need to minimise land degradation.</p>	<p>water catchments within the immediate area, though none are identified in available planning documents.</p>	
<p>Telecommunications facilities should be designed and sited to minimise adverse impacts on the visual character and amenity of residential area.</p>	<p>The proposed 30m concrete monopole achieves exceptional separation from residences in Derby given land within the search area was predominantly zoned as residential. The nearest residential premise will be 170m away from the structure. The monopole will remain unpainted (dull grey in colour) blending in with the sky from a distance, with a slimmer body than the typical lattice tower. It will also be positioned approximately 150m away from the existing 30m radio mast tower at the subject site in order to reduce visual clutter.</p>	<p>✓</p>
<p>Telecommunications cables should be placed underground, unless it is impractical to do so and there would be no significant effect on visual amenity or, in the case of regional areas, it can be demonstrated that there are long-term benefits to the community that outweigh the visual impact.</p>	<p>Overhead cabling is not proposed for this site.</p>	<p>N/A</p>
<p>Telecommunications cables that are installed overhead with other infrastructure such as electricity cables should be removed and placed underground when it can be demonstrated and agreed by the carrier that it is technically feasible and practical to do so.</p>	<p>This principle does not apply to the subject of this application.</p>	<p>N/A</p>
<p>Unless it is impractical to do so telecommunications towers should be located within commercial, business, industrial and rural areas and areas outside identified conservation areas.</p>	<p>The proposed site is a 'Public Purposes – Native Purposes' reserve as identified by the <i>Shire of Derby-West Kimberley Local Planning Scheme No. 5</i>. As the candidate search ring overlaid only within metropolitan Derby town, it is considered that the prime candidate selected on the reserve adjacent to an undeveloped lot best resembles a more rural part of Derby available. Of the few commercial zoned properties considered, it was found that they were significantly closer to residences than the prime candidate, posing more of a threat to community amenities. Whilst the subject lot is not a natural conservation area</p>	<p>✓</p>



	<p>it is overlaid in entirety by the 'St Josephs Hostel' heritage item featured in the municipal inventory. As the heritage item is rated as a category 6 site and the proposed structure will be located approximately 120m away from the actual building itself, Amplitel consider it impractical on this basis to reject this candidate and favour the other candidates closer to residences and other community sensitive places of interest. The building today functions as a radio station and the tower will not encroach on views towards its façade.</p>	
<p>The design and siting of telecommunications towers and ancillary facilities should be integrated with existing buildings and structures, unless it is impractical to do so, in which case they should be sited and designed so as to minimise any adverse impact on the amenity of the surrounding area.</p>	<p>As per Section 7 of this report, no suitable opportunities for co-location were identified in the area and it has been identified that the proposed Amplitel site location is seen as the preferred site location. Colocation was investigated; however, the existing structures explored were either too far from the subject area to meet the coverage objectives or lacked both the structural integrity and capacity to host the new Telstra facilities proposed, let alone other future carrier co-located facilities.</p>	✓
<p>Co-location of telecommunications facilities should generally be sought, unless such an arrangement would detract from local amenities or where operation of the facilities would be significantly compromised as a result.</p>	<p>As per Section 7 of this report, no suitable opportunities for co-location were identified in the area and it has been identified that the proposed Amplitel site location is seen as the preferred site location. Colocation was investigated; however, the existing structures explored were either too far from the subject area to meet the coverage objectives or lacked both the structural integrity and capacity to host the new Telstra facilities proposed, let alone other future carrier co-located facilities.</p>	✓
<p>Measures such as surface mounting, concealment, colour co-ordination, camouflage and landscaping to screen at least the base of towers and ancillary structures, and to draw attention away from the tower, should be used, where appropriate, to minimise the visual impact of telecommunications facilities.</p>	<p>The proposed 30m concrete monopole will remain unpainted (dull grey in colour) blending in with the sky and will have a slimmer body than the typical lattice tower.</p> <p>Both the new 30m concrete monopole and equipment shelter will be significantly concealed by existing natural features within the subject site, including the cluster of trees lining the boundary fence along with the existing distribution of trees encircling the selected space for the compound.</p>	✓
<p>Design and operation of a telecommunications facility should accord with the licensing requirements of the Australian Communications Authority, with physical</p>	<p>Telecommunications facilities include radio transmitters that radiate electromagnetic energy (EME) into the surrounding area. The levels of these electromagnetic fields must comply with safety limits imposed by the Australian Communications and Media</p>	✓

isolation and control of public access to emission hazard zones and use of minimum power levels consistent with quality services.	Authority (ACMA, previously ACA). All Telstra installations are designed to operate within these limits.	
Construction of a telecommunications facility (including access to a facility) should be undertaken so as to minimise adverse effects on the natural environment and the amenity of users or occupiers of adjacent property and to ensure compliance with relevant health and safety standards.	During construction Telstra contractors will endeavour to minimise the impact of their works on the amenity of the nearest residents and on the surrounding environment. As the proposed site is located in a reserve area, adverse effects on the nearest properties will be minimal. Following construction, maintenance (excluding emergency repair work) activities should not interfere with the amenity of users. All Health and Safety standards will be adhered to.	✓

Overall the proposed development application is consistent with the intent and requirements of the Statement 5.2

## 12.0 LOCAL REGULATORY FRAMEWORK

The following information provides a summary of the local provisions relevant to telecommunications development proposal.

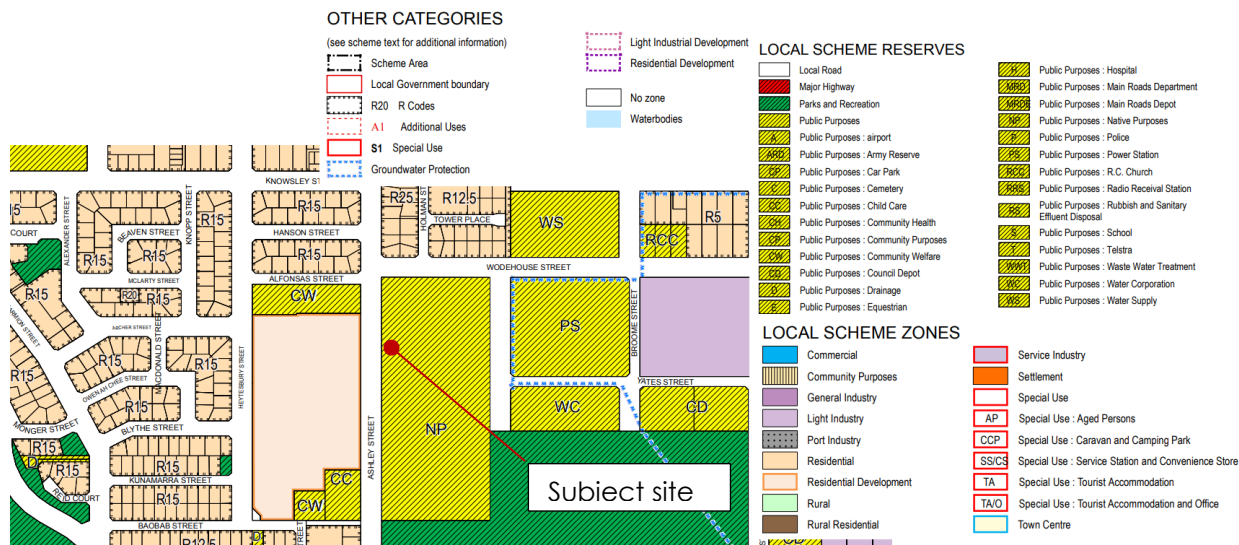
### 12.1 Shire of Derby-West Kimberley Local Planning Scheme No. 5

The *Shire of Derby-West Kimberley Local Planning Scheme No. 5* provides the basis for planning in the Shire of Derby-West Kimberley local government area.

The proposed site is within the Public Purposes – Native Purposes Area (**Figure 6**) further outlined in **section 12** of this report.

For the purposes of this proposal the Principal Designated Use of the property is 'Native Purposes'.

As telecommunications infrastructure is not listed as a specific single activity in the Shire of Derby-West Kimberley's Local Planning Scheme text, an activity involving 'public utility' is the landuse most applicable to this proposal, defined as providing 'communications or other similar services'. As the subject lot is a local scheme reserve, the schemes table 2 zoning table is not applicable in determining the development approval pathway. Part 2, section 2.2 of the scheme does not identify landuse activities prohibited within public purposes reserves, therefore it is considered that the proposal for new telecommunications facilities within the reserve for native purposes is permissible, subject to councils assessment and final determination following consideration of feedback from relevant authorities.



**Figure 6:** Zoning Map No. 01 Derby Townsite North West Source: Shire of Derby-West Kimberley Local Planning Scheme No. 5

Overall the proposed development application is consistent with the intent and requirements of the Western Australian Planning Commission SPP 5.2 and the Shire of Derby-West Kimberley Local Planning Scheme No. 5.

## 13.0 GENERAL PROVISIONS

This proposal is for a new Telstra Mobile Base Station Facility in the Derby area.

Amplitel considers that the proposal is appropriate for the locality, given the existing use of the proposed site which comprises utility facilities such as two 10m water towers and a 30m radio mast tower. It will not threaten the existing and anticipated uses of surrounding land.

Environmental considerations such as visual impact, heritage, flora and fauna, traffic, flooding, bushfire, social and economic aspects, health and safety have been discussed within the below sub sections.

### 13.1 Visual Impacts

The 2 Wodehouse Street site is featured in the councils local planning scheme as a reserve for native purposes, however in its present state comprises a one storey building and utility facilities such as two cylindrical 10m water towers, a meter pole and a 30m radio mast tower with guyed wires anchored within a triangular fenced compound evidently cleared of vegetation. Amplitel therefore considers the site as already relatively disturbed. As a result, the proposal for a new 30m concrete monopole and shelter with miscellaneous other facilities within this site is not considered to be visually out of character with its existing uses or atypical in any way with the appropriate selection of an area within the site for the new compound. Please see **Figure 14** and **Figure 16** below for more context.

As there is the onus on Amplitel and Telstra to ensure that their structures can adequately support the future co-location of facilities by other carriers and enable them to provide a sufficient level of coverage, Amplitel cannot replace the existing 30m radio mast tower with a like-for-like structure standing at the same height, nor can Telstra and other future carrier antennas co-locate



on to it due to its structural incompatibility. The proposed 30m concrete monopole tower will maintain the same 30m height as the existing radio mast tower, however the base of the concrete monopole will be thicker and visually bulkier than the mast and will include a robust triangular headframe for the antennas. In order to compensate for the required larger components, the proposed tower will be positioned 150m away from the existing radio mast tower and will preserve a significant amount of the vegetation encircling the compound. This will ensure there is no visual clutter of towers from distant views and that the base of the equipment shelter and monopole is more visually concealed than the existing radio mast tower, maintaining greater separation also from the former Aboriginal hostel building.

In order to retain the telecommunications site as being sympathetic to its surrounds with as little disturbance possible, there are other design measures which have been applied. As an example, the proposed ICS equipment shelter will not be more than 3m high or have a base area exceeding 7.5m<sup>2</sup> and will be coloured a bland pale eucalypt shade so that it sits unremarkably among the surrounding shrubbery and blends in. The proposed 30m concrete monopole also will remain an unpainted (dull grey in colour) so that it blends in with the sky and power lines from a distance. The overall design proposed is growingly familiar across towns and cities in Australia and is considered to be modern, symmetrical and aesthetic with best practice spotting.

As Derby has a relatively flat terrain and can be characterised by streetscapes lined with lots of trees, short statured premises and large nature strips, the proposed 30m concrete monopole exceeding a distance of 100m from the nearest built environmental features is not anticipated to unacceptably disturb the localities visual amenities.

The proposed works will not be visually prominent from residences, particularly those facing south towards it from Wodehouse Street as highlighted by the pedestrian view in **Figure 14** below. The existing 30m radio mast tower can be faintly seen and will be concealed less by shrubbery than the new 30m monopole. If the new monopole is even faintly visible from the Wodehouse Street residences 180m away, it will likely also blend in with the streets electricity powerlines and the properties light poles from a distance.

Very little visual impact is also foreseeable to the Derby Aboriginal Short Stay Accommodation Facility on Alfonsa's Street 100m away, as the closest eastern portion of the lot is a long driveway and carpark entrance. It is likely a great majority if not all of the accommodation units will not have window views facing towards the proposal. The residences on the northern side of Alfonsa's Street too will be only minimally impacted visually by the proposal, as both the short stay accommodation premise and tall shrubbery will offset views looking south east towards the new 30m monopole.

As can be seen from **Figure 15** below, the subject lot on the eastern side of Ashley Street is adjacent to a presently undeveloped, vacant lot with an abundance of trees to the western side of Ashley Street. While the large lot in its existing form will provide a visual buffer to residents looking on approximately 280m away from Heytesbury Street, Amplitel acknowledge that the large lot is zoned for residential development in the local planning scheme. It is believed that the proposal does not compromise negatively the development of future housing within the lot, instead it will positively promote residential expansion within the lot with the provision of 4G and 5G coverage.

On the whole, Amplitel accepts there is a low to moderate visual impact to the nearby community, though considers it to be at an acceptable level in light of the above assessment and a better alternative than to develop a new greenfield tower at the other candidate sites closer to residences and less secluded.



**Figure 7:** View from Wodehouse Street towards existing 10m water tanks and 30m radio mast tower  
Source: Google Earth



**Figure 8:** View looking South towards proposal along Ashley Street approximately 70m North  
Source: Ventia 2022





**Figure 16:** View west towards proposal from approximately 50m east inside the lot Source: Ventia 2022

## 13.2 Heritage

The subject lot of this application is overlaid with the 'St Joseph's Hostel', heritage place no. 09758 which although listed in the municipal inventory, is not bound by any statutory listings or protections under the *Heritage Act 2018*, which pertains to items featured on the state heritage register. The 'St Joseph's Hostel' was a timber framed, former hostel for Aboriginal school children established in the 1950s by the Roman Catholic Church and is considered to be of significance to the historical development of Derby, operating from 1956 to 1986 when it closed. The building today hosts the Derby Media Aboriginal Corporation.

While the location of the proposed 30m concrete monopole does intersect with the category 6 rated 'St Joseph's Hostel' heritage curtilage, it will be approximately 120m WWS from the actual former Aboriginal hostel building and is separated from it by existing shrubbery shown in **Figure 17** below. As the proposal is longitudinally and latitudinally separated from the building with existing natural vegetation buffers, it will not disturb views towards the building to the extent that the existing 30m radio mast tower does, which is closer to the building, approximately 50m south with all former scrubland between the existing structure and building cleared. Therefore based on the aforementioned points and that the façade of the building faces away from the proposal,



Amplitel do not consider these works as unacceptably detracting from the heritage significance of 'St Joseph's Hostel'.

Outside of the subject lot, the proposal is not considered to be detrimental in any way to the heritage significance of the heritage item adjacent to the subject lot 'UAM Hostel' place no. 09759 listed in the municipal inventory. As this site at corner Ashley Street and Alfonsas Street Derby is also category 6 rated and part of the area within the heritage curtilage has been since redeveloped to comprise the Derby Aboriginal Short Stay, it is considered unlikely that the proposed 30m monopole will threaten any features of the heritage area reminiscent of its 1950's past as a site for Aboriginal school children. Majority of the land within the heritage boundary is currently undeveloped with several trees and access tracks and is zoned in the local planning scheme for residential development.

As such, Amplitel do not regard the proposal as harboring any unacceptable impact to the heritage significance of its subject site or any other heritage items in the vicinity.



**Figure 17:** View 50m east from proposal towards the Derby Media Aboriginal Corp building: Ventia 2022

### 13.3 Flora and Fauna

In order to determine any possible natural Flora and Fauna significance associated with the site, a search was conducted during a visit to the subject site and an online search conducted through the relevant environmental registers.

The subject site is a large lot previously cleared for an existing 30m radio mast tower with guyed wires, access tracks and firebreaks. Within the area of the lot for the proposed facilities near the

western gate abutting Ashley Street is small to moderate sized trees and low lying scrubland with evidence of having been fire ravaged or backburned. These native grasses and shrubbery are close to a 5.7m wide firebreak from the western gate, neither of which are considered valuable or protected. There was no apparent fauna on the trees likely to be cleared, though there is likely habitat for animals within the lot as some of the larger trees in the vicinity may have a nest.

The proposed underground fibre and electrical route towards the existing power metre on site and assets within the road reserve will detour its pathway away from surface tree roots to ensure clearing is kept to a minimum. Vegetation within the proposed 10m x 10m compound will be cleared while all else in immediate proximity will be cleared or pruned where possible.

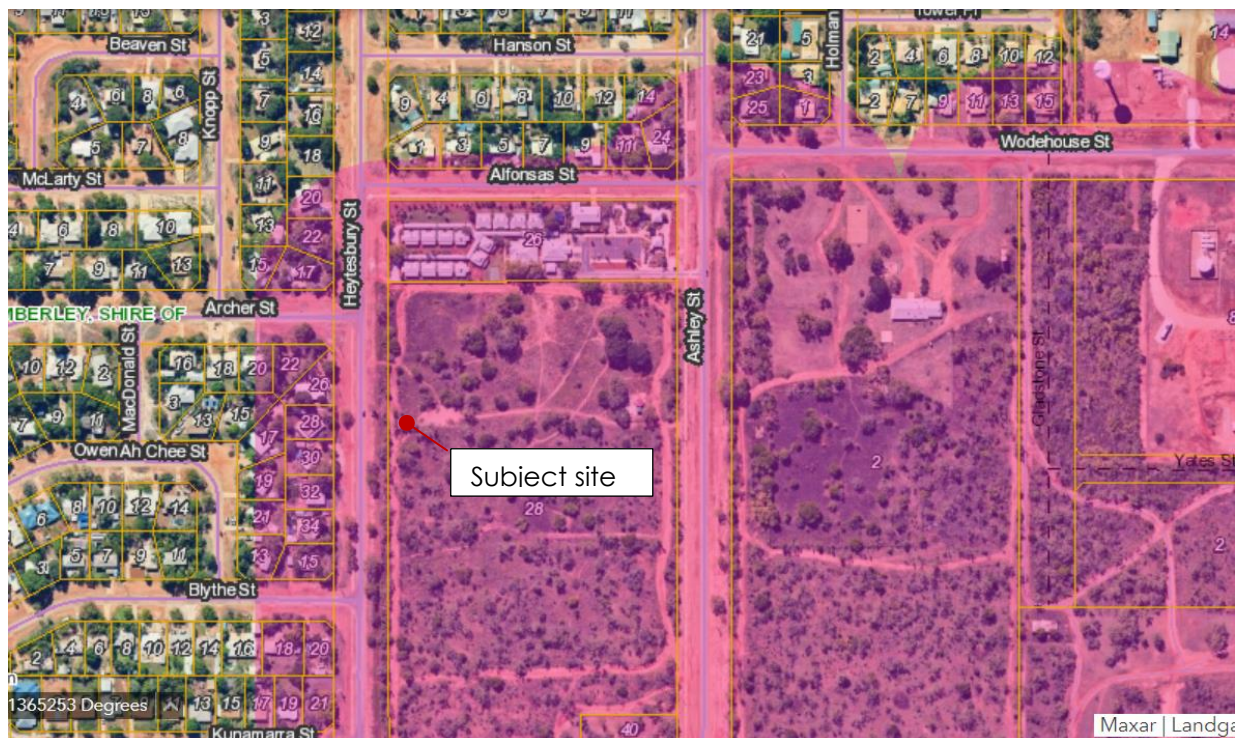
The Protected Matters Search Tool from the Department of the Environment and Energy shows matters of national environmental significance or other matters protected by the *Environment Protection and Biodiversity Conservation Act 1999*. A search using this tool found that no significant environmental matter was identified on the subject site. Further details regarding the report findings can be found in **Appendix C** which identifies 15 threatened species and 21 migratory species which may occur within the area.

Department of Water and Environmental Regulation have also confirmed that the site is not within an environmentally sensitive area or environmental conservation area, with the property not located within any threatened or priority ecological communities.

On the whole, very minimal disturbance to communities of flora and fauna is anticipated, with clearing and pruning of vegetation kept to a minimum.

### 13.4 Bushfire

The specific site location is identified as being within a Bush Fire Prone Area by the Fire and Emergency Services Commissioner (**Figure** ).



**Figure 18:** Bushfire Prone Areas Mapping Source: *SLIP Map of Bushfire Prone Areas*



Natural disasters, including the continuing threat of bushfires, have served to highlight the critical importance of effective telecommunications. Previous bushfire incident reviews have demonstrated effective telecommunications networks are essential for disaster response management, allowing emergency services providers to be alerted to medical or fire emergencies.

In its Communications Report 2014-2015 the Australian Communications and Media Authority reported that in 2014-15, 66.9% of calls to the 000 emergency number were made from mobile phones. Therefore, in addition to day-to-day personal and business applications, effective telecommunications networks can be the difference between life and death in disaster situations.

The entirety of the facility will be earthed in accordance with the Australian Standard. Earthing draws any lightning strike underground away from combustible material. It is submitted that contrary to being a risk factor for fires, the site in this case could reduce the risk of lightning strike causing fires, by attracting the strike and earthing it underground.

The State Planning Policy 3.7 provides the foundation for land use planning to address bushfire risk management in Western Australia. Notwithstanding the Department of Planning updated [Planning Bulletin 111/2016](#) to clarify that for telecommunications infrastructure, SPP 3.7 should be applied pragmatically.

The Planning Bulletin states:

*"Exemptions from the requirements of SPP 3.7 and the deemed provisions should be applied pragmatically by the decision maker. If the proposal does not result in the intensification of development (or land use), does not result in an increase of residents or employees; or does not involve the occupation of employees on site for any considerable amount of time, then there may not be any practicable reason to require a BAL Assessment. Exemptions may apply to infrastructure including roads, telecommunications and dams; and to rural activities, including piggeries and chicken farms which do not involve employees on site for a considerable amount of time."*

With respect to the above, Amplitel believe that all necessary design measures have been undertaken to ensure the facility does not increase or affect the bushfire risk to the area. The subject site is on a flat terrain and within the more sparsely vegetated section of the large lot. The proposed compound will be adjacent to a 5.7m wide firebreak separating it's western face from the property gate. In order to mitigate bushfire hazard risks, some trees and low lying scrub in close proximity to and intersecting with the proposed 10m x 10m compound area will be cleared. Additionally, the proposed facility will operate on an unmanned basis acquiring only 2-4 maintenance visits per year. As a result, the proposed works do not increase the extent of bushfire risk currently affecting the land.

## 13.5 Health and Safety

Telstra acknowledges some people are genuinely concerned about the possible health effects of electromagnetic energy (EME) from mobile phone base stations and is committed to addressing these concerns responsibly.

Telstra, along with the other mobile phone carriers, must strictly adhere to Commonwealth Legislation and regulations regarding mobile phone facilities and equipment administered by the Australian Communications and Media Authority (ACMA).



In 2003 the ACMA adopted a technical standard for continuous exposure of the general public to RF EME from mobile base stations. The standard, known as the *Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003*, was prepared by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and is the same as that recommended by ICNIRP (International Commission for Non- Ionising Radiation Protection), an agency associated with the World Health Organisation (WHO). Mobile carriers must comply with the Australian Standard on exposure to EME set by the ACMA.

The Standard operates by placing a limit on the strength of the signal (or RF EME) that any Carrier can transmit to and from any network base station. The general public health standard is not based on distance limitations or the creation of “buffer zones”. The environmental standard restricts the signal strength to a level low enough to protect everyone at all times. It has a significant safety margin, or precautionary approach, built into it.

In order to demonstrate compliance with the standard, the ARPANSA created a prediction report using a standard methodology to analyse the maximum potential impact of any new telecommunications facility. Carriers are obliged to undertake this analysis for each new facility and make it publicly available.

Importantly, the ARPANSA-created compliance report demonstrates the maximum signal strength of a proposed facility, assuming that it is handling the maximum number of users 24-hours a day.

In this way, the ARPANSA requires network carriers to demonstrate the greatest possible impact that a new telecommunications facility could have on the environment to give the community greater peace of mind. In reality base stations are designed to operate at the lowest possible power level to accommodate only the number of customers using the facility at any one time. This design function is called “adaptive power control” and ensures that the base station operates at minimum, not maximum, power levels at all times.

Using the ARPANSA standard methodology, Telstra is required to complete and make available an EME report which predicts the maximum environmental EME level the facility will emit. Telstra has completed this EME report and it shows that the maximum level of EME emitted by the proposed facility is 0.62% (1/161) (**Appendix D**). To better understand the information within this EME report, an ARPANSA published *A Guide to the Environmental EME Report* (**Appendix E**).

Amplitel and Telstra rely on the expert advice of national and international health authorities such as the ARPANSA and the WHO for overall assessments of health and safety impacts.

The WHO advises that all expert reviews on the health effects of exposure to radiofrequency fields have concluded that no adverse health effects have been established from exposure to radiofrequency fields at levels below the international safety guidelines that have been adopted in Australia.

Telstra has strict procedures in place to ensure its mobile phones and base stations comply with these guidelines. Compliance with all applicable EME standards is part of Telstra's responsible approach to EME and mobile phone technology.

## 13.6 Social and Economic Impact

Reliable mobile phone coverage is important to ensure the economic growth of communities. It is not expected to have any adverse social or economic impacts as a result of the development.

Indeed, it is anticipated that there would be positive impacts because of the mobile telephone coverage, and the proposed facility could also be utilised in the event of an emergency with reference to mobile phone and internet use.

The proposed development is essential to enable Carriers to remain competitive and increase the choice of mobile telephone services to consumers. Additional competition in the market will have economic benefits for individual consumers and the community as a whole. The development is consistent, with the objectives of the *Telecommunications Act 1997*, namely:

- To promote "the efficiency and international competitiveness of the Australian telecommunications industry" (s.3 (1)); and
- To ensure that telecommunications services "are supplied as efficiently and economically as practicable" (s.3 (2) (a) (ii)).

## 14.0 CONCLUSION

This application is a direct result of the community's requests for reliable telecommunications to be provided to the Derby area. There is strong State policy support for telecommunications facilities if, when balancing improved telecommunications services with environmental impacts; including for example, visual impact and flood or fire hazard, a particular proposal provides a net community benefit.

The proposed works provide the community with reliable 4G and 5G access which in turn supports the various residential customers and tourist, commercial and industrial uses in the area and forms part of a wider plan to ensure reliable and accessible coverage during emergency situations such as in the event of bush fires or any other natural disaster.

Ventia on behalf of Telstra and Amplitel has undertaken an assessment of the relevant matters as required by the *Telecommunications Act 1997*, State Legislation and the *Shire of Derby-West Kimberley Local Planning Scheme No. 5*. The proposal is considered appropriate in light of the relevant legislative, environmental, technical, radio coverage and public safety requirements.

The proposed development is considered appropriate for the subject site for the following reasons:

- The proposed works will provide reliable mobile phone service to Derby. The improved coverage is increasing access to new technologies for key regional sectors and communities, which rely on a fast, reliable and affordable mobile network.
- The proposal will not significantly encroach on views looking on towards the proposal from the nearest residences and accommodation stays.
- The proposal will not detract from the heritage significance of the category 6 rated 'St Joseph's Hostel' municipal inventory item, heritage place number 09758.
- The proposal achieves great separation from schools, childcare centres and existing residential premises.
- The proposal will mitigate visual impacts through various design measures employed, relating to the material and colours used, along with the size and positioning of facilities without compromising the proposals structure and coverage objectives.
- The proposal is consistent with the relevant provisions of the *Shire of Derby-West Kimberley Local Planning Scheme No. 5* or presents only minor conflicts with them.

- The proposal will improve Telstra 4G and 5G communications services to the area, including voice calls, video calling and Wireless Broadband, and allow or other Carriers to provide similar services.
- The proposal will require minimal vegetation clearing, confined only to non-environmentally significant flora.
- The proposal will not affect the existing site or adjacent sites landuses or their potential to developed or redeveloped.
- Emissions from the proposed facility will be significantly below the Australian Radiation Protection and Nuclear Safety Agency standards adopted by the Australian Communications and Media Authority.

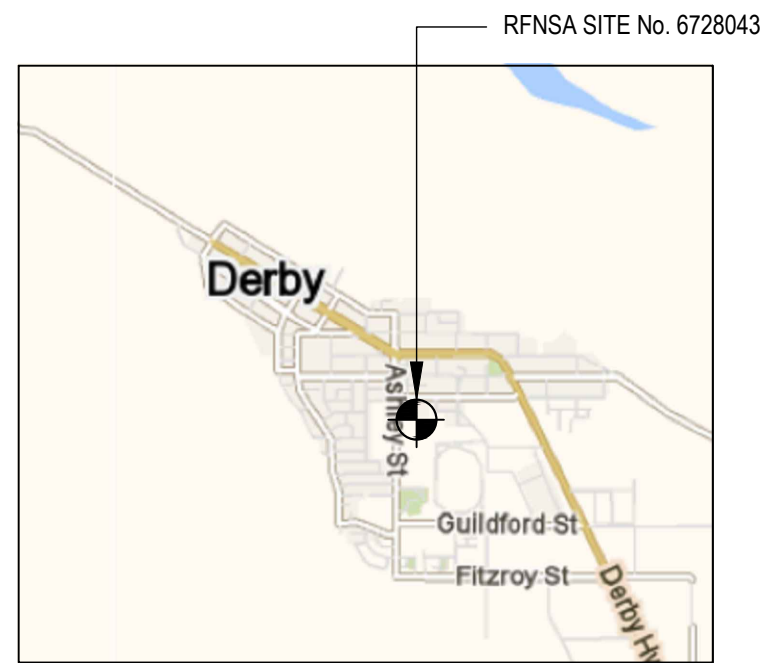
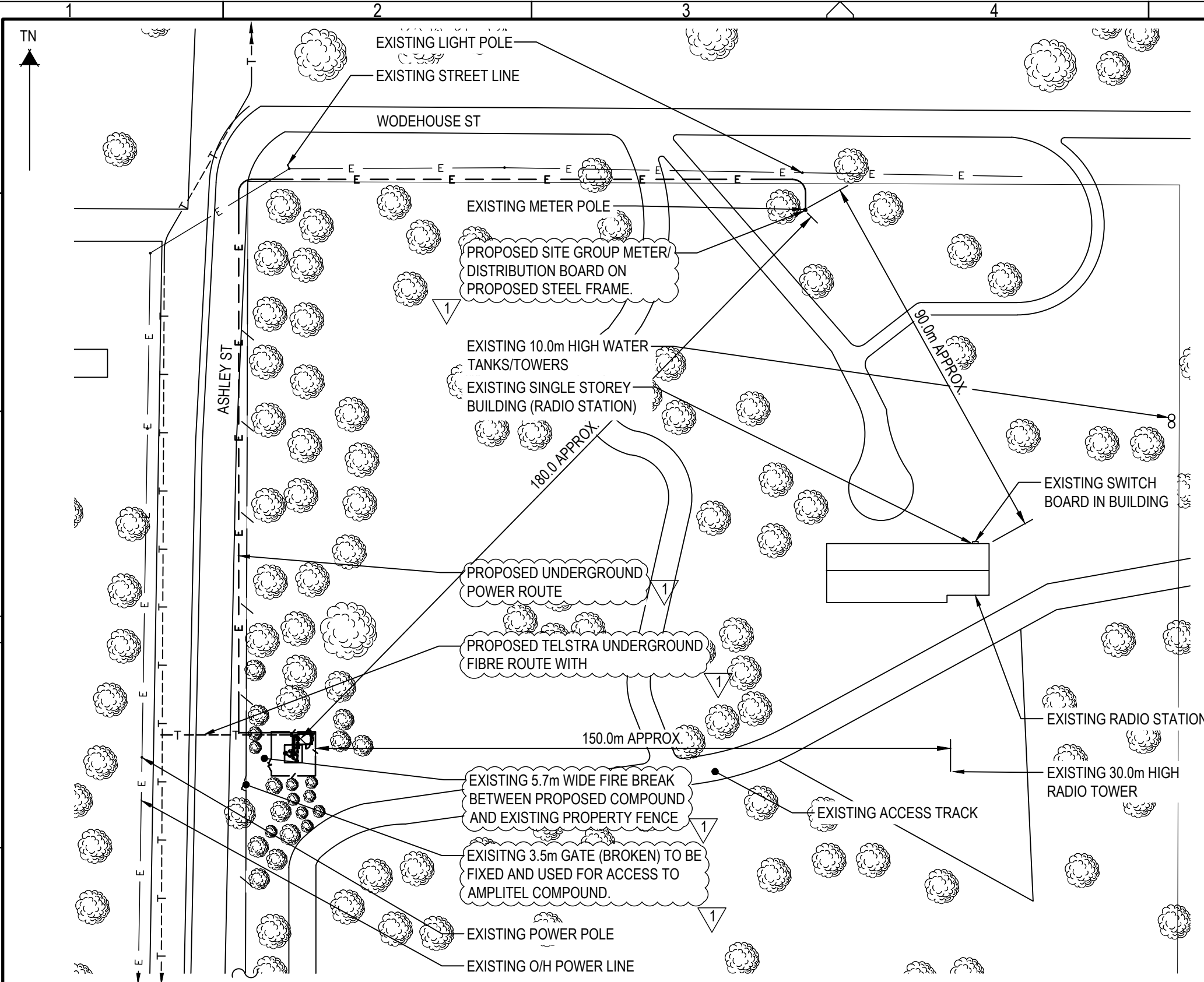
The assessment of the proposal demonstrates that the proposal represents sound and proper town planning and it is respectfully requested that consent is granted for this development application.

Should Council have any further queries regarding the subject application, please do not hesitate to contact the nominated representative outlined within this document.



## **APPENDIX A – PLANS OF THE PROPOSAL**

Plot date: 5 September 2022 - 3:47 PM



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### LOCALITY PLAN

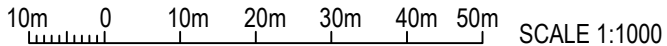
NOT TO SCALE

### SERVICES LEGEND

- OPTICAL FIBRE ABOVE GROUND
- OPTICAL FIBRE BELOW GROUND
- ABOVE GROUND ELECTRICAL SUPPLY
- BELOW GROUND ELECTRICAL SUPPLY

### SITE ACCESS

SCALE 1:1000



### PROPERTY DESCRIPTION

LOT 529, DP 207983  
VOLUME 1245, FOLIO 945  
SHIRE OF DERBY - WEST KIMBERLEY

### SITE STRUCTURE CO-ORDINATES (GDA94)

GPS READING ACCURACY: ± 10m  
CENTRE OF POLE

LATITUDE	-17.31396° (GDA94)
LONGITUDE	123.64039° (GDA94)



TO BE READ IN CONJUNCTION WITH SHEETS S1-1, S1-2, S3 & S3-1.

ORDER	DRAWN	CHKD	AMENDMENT	EXAM	APPD	DATE	ISS
WA11207.01	RA	AH	PRELIMINARY 30095329WO20VENTIA - LTE700/2600/NR850	ET	SR	10.08.22	1

**PRELIMINARY**



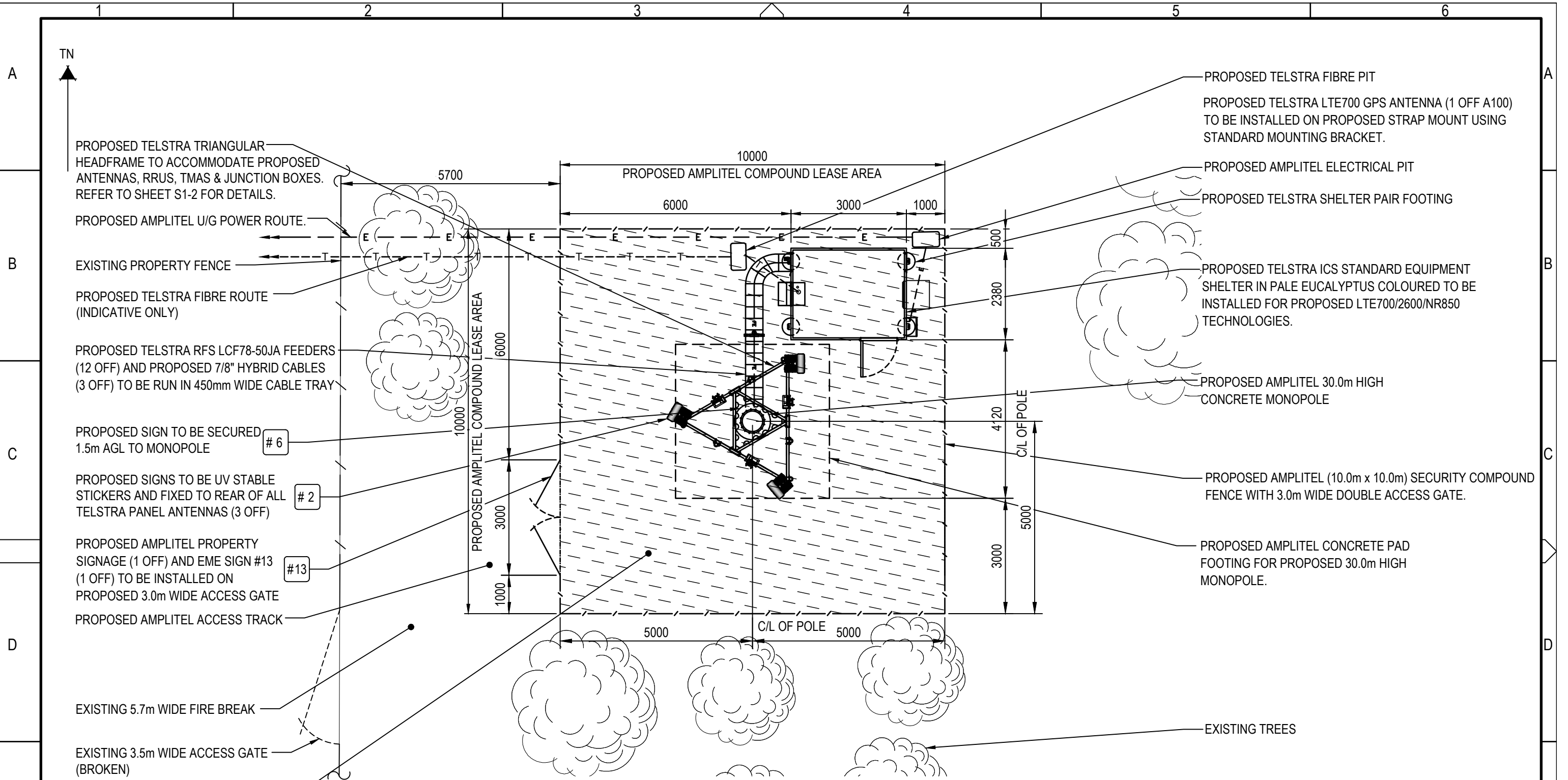
**TOWER AMS SITE WA008206**  
**DERBY WEST**  
SITE ACCESS AND LOCALITY PLAN  
ADJ 2 WODEHOUSE ST, DERBY, WA 6728

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DWG NO.	<b>W110105</b>	SHT NO.	S1
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Cad file: W110105.dwg

Plot date: 5 September 2022 - 3:47 PM



**SITE LAYOUT**

SCALE 1:100  
 1m 0 1m 2m 3m 4m 5m SCALE 1:100

**NOTES :**

1. ALL FEEDER ACCESS POINTS ON THE STRUCTURE MUST BE BIRD PROOFED AS PER EXTERNAL PLANT POLICY 003615.
2. FOR EME SIGNS NOTED AS (#) REFER TO 005486 DOCUMENTS FOR DETAILS.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
4. [Hatched Box] PROPOSED AMPLITEL LEASE AREA.
5. THIS DRAWING SET IS A PRELIMINARY DRAWING ONLY AND IS ISSUED FOR COMMENT. IT IS NOT A DETAILED SURVEY/ STRUCTURAL DRAWING AND THEREFORE COULD BE SUBJECT TO CHANGE.
6. CLEAR ALL TALL GRASS, WEEDS, SMALL TREES AND LOW LYING SHRUBS WITHIN AMPLITEL COMPOUND AND PROPOSED SITE ACCESS TRACK.



TO BE READ IN CONJUNCTION WITH SHEETS S1, S1-2, S3 & S3-1.

ORDER	DRAWN	CHKD	AMENDMENT	EXAM	APPD	DATE	ISS
WA11207.01	RA	AH	PRELIMINARY 30095329WO20VENTIA - LTE700/2600/NR850	ET	SR	10.08.22	1

**PRELIMINARY**



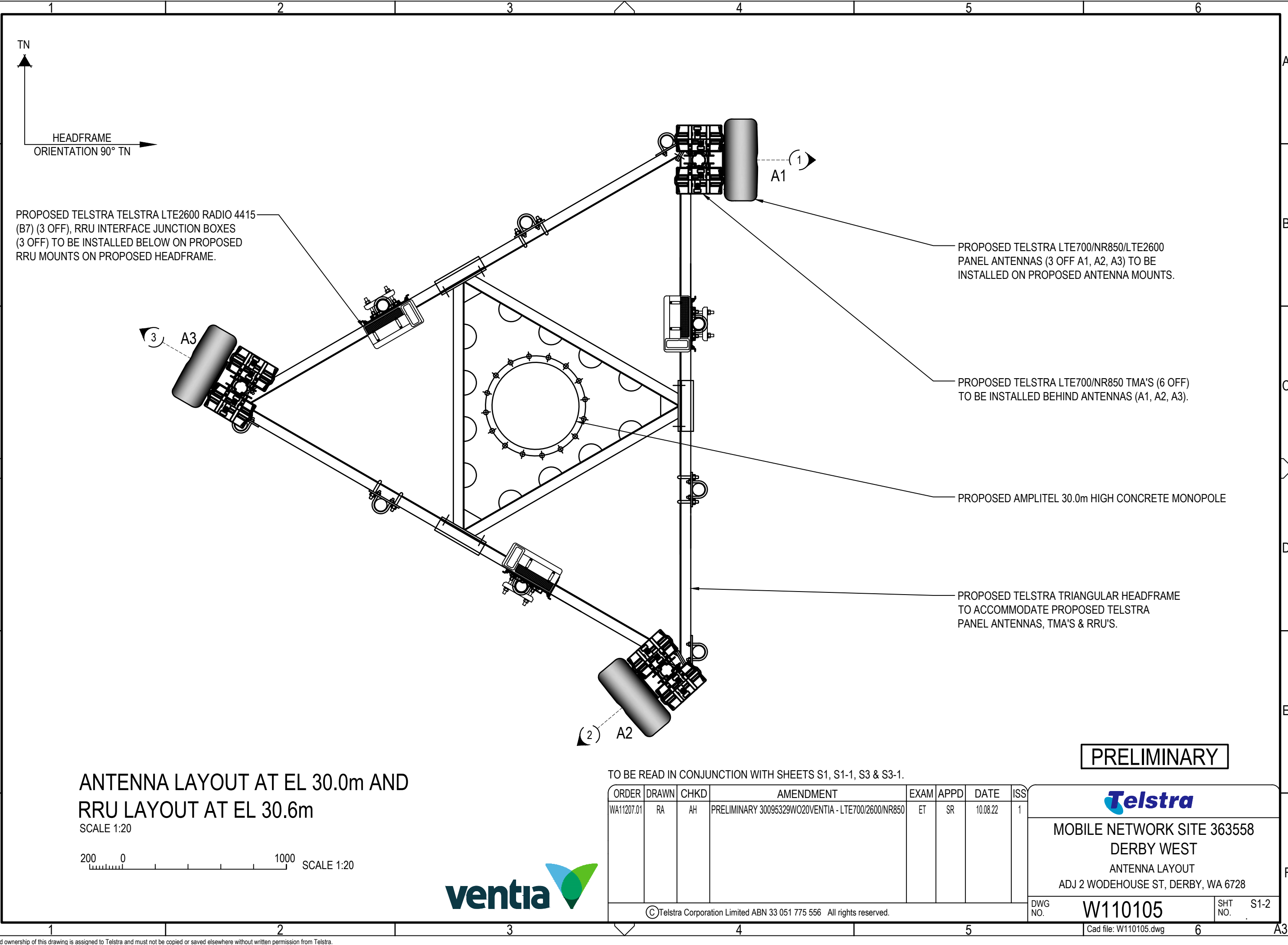
**TOWER AMS SITE WA008206**  
**DERBY WEST**  
 SITE LAYOUT  
 ADJ 2 WODEHOUSE ST, DERBY, WA 6728

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DWG NO. **W110105** SHT NO. S1-1

Cad file: W110105.dwg





PROPOSED TELSTRA TELSTRA LTE2600 RADIO 4415 (B7) (3 OFF), RRU INTERFACE JUNCTION BOXES (3 OFF) TO BE INSTALLED BELOW ON PROPOSED RRU MOUNTS ON PROPOSED HEADFRAME.

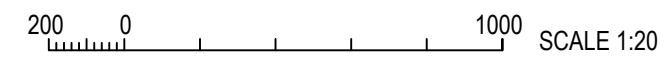
PROPOSED TELSTRA LTE700/NR850/LTE2600 PANEL ANTENNAS (3 OFF A1, A2, A3) TO BE INSTALLED ON PROPOSED ANTENNA MOUNTS.

PROPOSED TELSTRA LTE700/NR850 TMA'S (6 OFF) TO BE INSTALLED BEHIND ANTENNAS (A1, A2, A3).

PROPOSED AMPLITEL 30.0m HIGH CONCRETE MONOPOLE

PROPOSED TELSTRA TRIANGULAR HEADFRAME TO ACCOMMODATE PROPOSED TELSTRA PANEL ANTENNAS, TMA'S & RRU'S.

**ANTENNA LAYOUT AT EL 30.0m AND RRU LAYOUT AT EL 30.6m**  
SCALE 1:20



TO BE READ IN CONJUNCTION WITH SHEETS S1, S1-1, S3 & S3-1.

ORDER	DRAWN	CHKD	AMENDMENT	EXAM	APPD	DATE	ISS
WA11207.01	RA	AH	PRELIMINARY 30095329WO20VENTIA - LTE700/2600/NR850	ET	SR	10.08.22	1

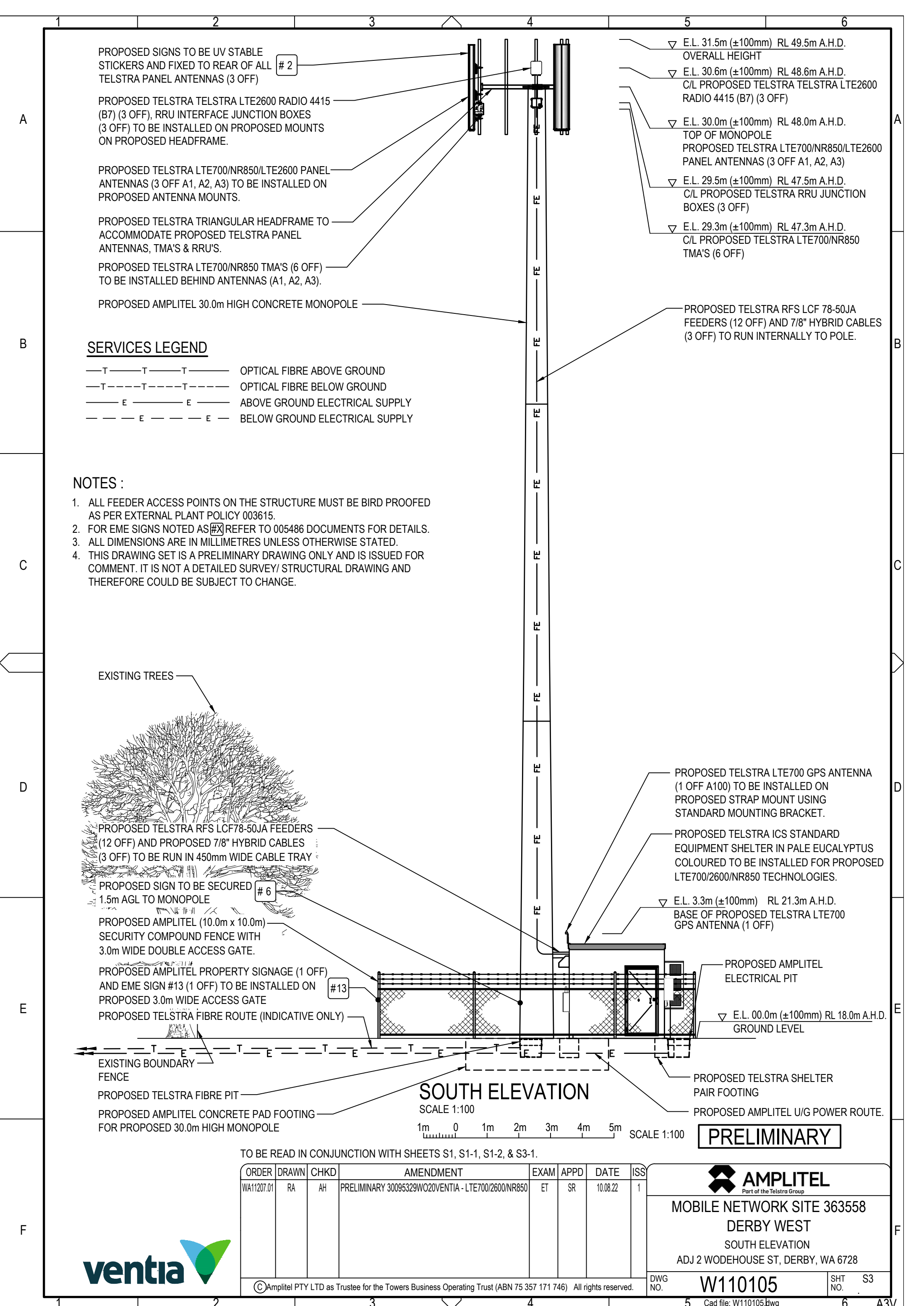
**PRELIMINARY**



**MOBILE NETWORK SITE 363558**  
**DERBY WEST**  
ANTENNA LAYOUT  
ADJ 2 WODEHOUSE ST, DERBY, WA 6728

DWG NO.	<b>W110105</b>	SHT NO.	S1-2
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Plot date: 5 September 2022 - 3:47 PM



PROPOSED SIGNS TO BE UV STABLE STICKERS AND FIXED TO REAR OF ALL TELSTRA PANEL ANTENNAS (3 OFF) # 2

PROPOSED TELSTRA TELSTRA LTE2600 RADIO 4415 (B7) (3 OFF), RRU INTERFACE JUNCTION BOXES (3 OFF) TO BE INSTALLED ON PROPOSED MOUNTS ON PROPOSED HEADFRAME.

PROPOSED TELSTRA LTE700/NR850/LTE2600 PANEL ANTENNAS (3 OFF A1, A2, A3) TO BE INSTALLED ON PROPOSED ANTENNA MOUNTS.

PROPOSED TELSTRA TRIANGULAR HEADFRAME TO ACCOMMODATE PROPOSED TELSTRA PANEL ANTENNAS, TMA'S & RRU'S.

PROPOSED TELSTRA LTE700/NR850 TMA'S (6 OFF) TO BE INSTALLED BEHIND ANTENNAS (A1, A2, A3).

PROPOSED AMPLITEL 30.0m HIGH CONCRETE MONOPOLE

- ▽ E.L. 31.5m (±100mm) RL 49.5m A.H.D. OVERALL HEIGHT
- ▽ E.L. 30.6m (±100mm) RL 48.6m A.H.D. C/L PROPOSED TELSTRA TELSTRA LTE2600 RADIO 4415 (B7) (3 OFF)
- ▽ E.L. 30.0m (±100mm) RL 48.0m A.H.D. TOP OF MONOPOLE PROPOSED TELSTRA LTE700/NR850/LTE2600 PANEL ANTENNAS (3 OFF A1, A2, A3)
- ▽ E.L. 29.5m (±100mm) RL 47.5m A.H.D. C/L PROPOSED TELSTRA RRU JUNCTION BOXES (3 OFF)
- ▽ E.L. 29.3m (±100mm) RL 47.3m A.H.D. C/L PROPOSED TELSTRA LTE700/NR850 TMA'S (6 OFF)

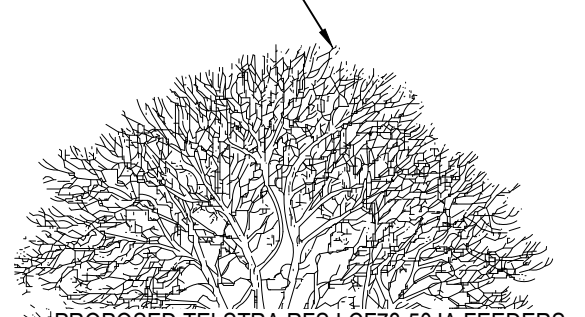
**SERVICES LEGEND**

- T — T — T — OPTICAL FIBRE ABOVE GROUND
- - - T - - - T - - - T - - - OPTICAL FIBRE BELOW GROUND
- E — E — E — ABOVE GROUND ELECTRICAL SUPPLY
- - - E - - - E - - - BELOW GROUND ELECTRICAL SUPPLY

**NOTES :**

1. ALL FEEDER ACCESS POINTS ON THE STRUCTURE MUST BE BIRD PROOFED AS PER EXTERNAL PLANT POLICY 003615.
2. FOR EME SIGNS NOTED AS #X REFER TO 005486 DOCUMENTS FOR DETAILS.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
4. THIS DRAWING SET IS A PRELIMINARY DRAWING ONLY AND IS ISSUED FOR COMMENT. IT IS NOT A DETAILED SURVEY/ STRUCTURAL DRAWING AND THEREFORE COULD BE SUBJECT TO CHANGE.

EXISTING TREES



PROPOSED TELSTRA RFS LCF78-50JA FEEDERS (12 OFF) AND PROPOSED 7/8" HYBRID CABLES (3 OFF) TO BE RUN IN 450mm WIDE CABLE TRAY

PROPOSED SIGN TO BE SECURED 1.5m AGL TO MONOPOLE # 6

PROPOSED AMPLITEL (10.0m x 10.0m) SECURITY COMPOUND FENCE WITH 3.0m WIDE DOUBLE ACCESS GATE.

PROPOSED AMPLITEL PROPERTY SIGNAGE (1 OFF) AND EME SIGN #13 (1 OFF) TO BE INSTALLED ON PROPOSED 3.0m WIDE ACCESS GATE # 13

PROPOSED TELSTRA FIBRE ROUTE (INDICATIVE ONLY)

EXISTING BOUNDARY FENCE

PROPOSED TELSTRA FIBRE PIT

PROPOSED AMPLITEL CONCRETE PAD FOOTING FOR PROPOSED 30.0m HIGH MONOPOLE

PROPOSED TELSTRA LTE700 GPS ANTENNA (1 OFF A100) TO BE INSTALLED ON PROPOSED STRAP MOUNT USING STANDARD MOUNTING BRACKET.

PROPOSED TELSTRA ICS STANDARD EQUIPMENT SHELTER IN PALE EUCALYPTUS COLOURED TO BE INSTALLED FOR PROPOSED LTE700/2600/NR850 TECHNOLOGIES.

▽ E.L. 3.3m (±100mm) RL 21.3m A.H.D. BASE OF PROPOSED TELSTRA LTE700 GPS ANTENNA (1 OFF)

PROPOSED AMPLITEL ELECTRICAL PIT

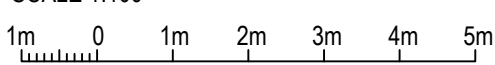
▽ E.L. 00.0m (±100mm) RL 18.0m A.H.D. GROUND LEVEL

PROPOSED TELSTRA SHELTER PAIR FOOTING

PROPOSED AMPLITEL U/G POWER ROUTE.

**SOUTH ELEVATION**

SCALE 1:100



SCALE 1:100

**PRELIMINARY**

TO BE READ IN CONJUNCTION WITH SHEETS S1, S1-1, S1-2, & S3-1.

ORDER	DRAWN	CHKD	AMENDMENT	EXAM	APPD	DATE	ISS
WA11207.01	RA	AH	PRELIMINARY 30095329WO20VENTIA - LTE700/2600/NR850	ET	SR	10.08.22	1



MOBILE NETWORK SITE 363558  
DERBY WEST  
SOUTH ELEVATION  
ADJ 2 WODEHOUSE ST, DERBY, WA 6728



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DWG NO. **W110105** SHT NO. S3

Cad file: W110105.dwg

A3V

TELSTRA ANTENNA CONFIGURATION TABLE					
ANTENNA No	ANTENNA TYPE & SIZE H x W x D	ANTENNA ACTION REQUIRED	ANTENNA HEIGHT C/L A.G.L.	ANTENNA BEARING (x°T)	SECTOR NO. & TECHNOLOGY
A1	RRV4-65D-R6-V4 PANEL 2688 x 498 x 197mm	INSTALL	30.0m	90°	S1: LTE700 / NR850 S1: LTE700 / NR850
					S1: LTE700 / NR850 S1: LTE700 / NR850
					S1: LTE2600 S1: LTE2600
					S1: SPARE S1: SPARE
					S1: LTE2600 S1: LTE2600
					S1: SPARE S1: SPARE
A2	RRV4-65D-R6-V4 PANEL 2688 x 498 x 197mm	INSTALL	30.0m	230°	S2: LTE700 / NR850 S2: LTE700 / NR850
					S2: LTE700 / NR850 S2: LTE700 / NR850
					S2: LTE2600 S2: LTE2600
					S2: SPARE S2: SPARE
					S2: LTE2600 S2: LTE2600
					S2: SPARE S2: SPARE
A3	RRV4-65D-R6-V4 PANEL 2688 x 498 x 197mm	INSTALL	30.0m	300°	S3: LTE700 / NR850 S3: LTE700 / NR850
					S3: LTE700 / NR850 S3: LTE700 / NR850
					S3: LTE2600 S3: LTE2600
					S3: SPARE S3: SPARE
					S3: LTE2600 S3: LTE2600
					S3: SPARE S3: SPARE
A200	GPS ANTENNA KRE 101 2082/1 Ø68 x 96	INSTALL	BASE OF GPS 3.3m	0°	-

**PRELIMINARY**

TO BE READ IN CONJUNCTION WITH SHEETS S1, S1-1, S1-2, & S3.

ORDER	DRAWN	CHKD	AMENDMENT	EXAM	APPD	DATE	ISS
WA11207.01	RA	AH	PRELIMINARY 30095329WO20VENTIA - LTE700/2600/NR850	ET	SR	10.08.22	1

**MOBILE NETWORK SITE 363558  
DERBY WEST**

ANTENNA CONFIGURATION TABLE  
ADJ 2 WODEHOUSE ST, DERBY, WA 6728





## **APPENDIX B – CERTIFICATES OF TITLE**

WESTERN



AUSTRALIA

REGISTER NUMBER <b>529/DP207983</b>	
DUPLICATE EDITION <b>N/A</b>	DATE DUPLICATE ISSUED <b>N/A</b>

**RECORD OF CERTIFICATE OF TITLE**  
 UNDER THE TRANSFER OF LAND ACT 1893

VOLUME **1245** FOLIO **945**

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

*BGRoberts*  
 REGISTRAR OF TITLES



**LAND DESCRIPTION:**

LOT 529 ON DEPOSITED PLAN 207983

**REGISTERED PROPRIETOR:**  
 (FIRST SCHEDULE)

THE ROMAN CATHOLIC VICAR APOSTOLIC OF THE KIMBERLEYS OF BROOME  
 (XE A000001A ) REGISTERED 1/1/0001

**LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:**  
 (SECOND SCHEDULE)

1. CROWN GRANT IN TRUST. SEE CROWN GRANT FOR CONDITIONS.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.  
 \* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.  
 Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

**STATEMENTS:**

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 1245-945 (529/DP207983)  
 PREVIOUS TITLE: 1245-945  
 PROPERTY STREET ADDRESS: 2 WODEHOUSE ST, DERBY.  
 LOCAL GOVERNMENT AUTHORITY: SHIRE OF DERBY-WEST KIMBERLEY

NOTE 1: A000001A LAND PARCEL IDENTIFIER OF DERBY TOWN LOT/LOT 529 (OR THE PART THEREOF) ON SUPERSEDED PAPER CERTIFICATE OF TITLE CHANGED TO LOT 529 ON DEPOSITED PLAN 207983 ON 06-MAY-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.

NOTE 2: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE OR ON THE CURRENT EDITION OF DUPLICATE CERTIFICATE OF TITLE.

## APPENDIX C – ENVIRONMENTAL ANALYSIS REPORT





# EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 09-May-2022

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

# Summary

## Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance (Ramsar)</a>	None
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	None
<a href="#">Listed Threatened Species:</a>	15
<a href="#">Listed Migratory Species:</a>	21

## Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

<a href="#">Commonwealth Lands:</a>	12
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	26
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None
<a href="#">Habitat Critical to the Survival of Marine Turtles:</a>	None

## Extra Information

This part of the report provides information that may also be relevant to the area you have

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">EPBC Act Referrals:</a>	1
<a href="#">Key Ecological Features (Marine):</a>	None
<a href="#">Biologically Important Areas:</a>	5
<a href="#">Bioregional Assessments:</a>	None
<a href="#">Geological and Bioregional Assessments:</a>	None

# Details

## Matters of National Environmental Significance

### Listed Threatened Species

[ [Resource Information](#) ]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
<b>BIRD</b>			
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Erythrura gouldiae</a> Gouldian Finch [413]	Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Falco hypoleucos</a> Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Limosa lapponica menzbieri</a> Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Pezoporus occidentalis</a> Night Parrot [59350]	Endangered	Species or species habitat may occur within area	In feature area



Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Polytelis alexandrae</a> Princess Parrot, Alexandra's Parrot [758]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
<b>MAMMAL</b>			
<a href="#">Dasyurus hallucatus</a> Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Macroderma gigas</a> Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Macrotis lagotis</a> Greater Bilby [282]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Trichosurus vulpecula arnhemensis</a> Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat may occur within area	In feature area
<b>SHARK</b>			
<a href="#">Pristis pristis</a> Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In feature area
<b>Listed Migratory Species</b>		<b>[ Resource Information ]</b>	
Scientific Name	Threatened Category	Presence Text	Buffer Status
<b>Migratory Marine Birds</b>			
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
<b>Migratory Marine Species</b>			
<a href="#">Crocodylus porosus</a> Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
<a href="#">Pristis pristis</a> Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<b>Migratory Terrestrial Species</b>			
<a href="#">Cecropis daurica</a> Red-rumped Swallow [80610]		Species or species habitat may occur within area	In feature area
<a href="#">Cuculus optatus</a> Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area	In feature area
<a href="#">Hirundo rustica</a> Barn Swallow [662]		Species or species habitat known to occur within area	In feature area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat known to occur within area	In feature area
<b>Migratory Wetlands Species</b>			
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat known to occur within area	In feature area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Charadrius veredus</a> Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area	In feature area
<a href="#">Glareola maldivarum</a> Oriental Pratincole [840]		Species or species habitat may occur within area	In feature area
<a href="#">Limnodromus semipalmatus</a> Asian Dowitcher [843]		Species or species habitat may occur within area	In feature area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat known to occur within area	In feature area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

## Other Matters Protected by the EPBC Act

### Commonwealth Lands [\[ Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
<b>Defence</b>		
Defence - NORFORCE DEPOT - DERBY [50144]	WA	In buffer area only
<b>Unknown</b>		
Commonwealth Land - [51831]	WA	In buffer area only
Commonwealth Land - [51085]	WA	In buffer area only
Commonwealth Land - [51089]	WA	In buffer area only



Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51087]	WA	In buffer area only
Commonwealth Land - [51086]	WA	In buffer area only
Commonwealth Land - [51830]	WA	In buffer area only
Commonwealth Land - [51092]	WA	In buffer area only
Commonwealth Land - [51090]	WA	In buffer area only
Commonwealth Land - [51084]	WA	In buffer area only
Commonwealth Land - [51091]	WA	In buffer area only
Commonwealth Land - [51840]	WA	In buffer area only

### Listed Marine Species [ Resource Information ]

Scientific Name	Threatened Category	Presence Text	Buffer Status
<b>Bird</b>			
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
<a href="#">Anseranas semipalmata</a> Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#">Bubulcus ibis as Ardea ibis</a> Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area	In feature area
<a href="#">Cecropis daurica as Hirundo daurica</a> Red-rumped Swallow [80610]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Chalcites osculans as Chrysococcyx osculans</a> Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Charadrius veredus</a> Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Glareola maldivarum</a> Oriental Pratincole [840]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
<a href="#">Hirundo rustica</a> Barn Swallow [662]		Species or species habitat known to occur within area overfly marine area	In feature area
<a href="#">Limnodromus semipalmatus</a> Asian Dowitcher [843]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat known to occur within area overfly marine area	In feature area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat known to occur within area	In feature area
<a href="#">Rostratula australis as Rostratula benghalensis (sensu lato)</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area
<b>Reptile</b>			
<a href="#">Crocodylus johnstoni</a> Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area	In feature area
<a href="#">Crocodylus porosus</a> Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area

## Extra Information

EPBC Act Referrals				[ Resource Information ]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
<a href="#">Controlled action</a>				
<a href="#">Derby Tidal Power Project</a>	2010/5544	Controlled Action	Final PER Or EIS	In feature area

Biologically Important Areas			
Scientific Name	Behaviour	Presence	Buffer Status
<a href="#">River shark</a>			
<a href="#">Pristis clavata</a>			
Dwarf Sawfish [68447]	Juvenile	Known to occur	In feature area
<a href="#">Pristis clavata</a>			
Dwarf Sawfish [68447]	Nursing	Known to occur	In feature area
<a href="#">Pristis clavata</a>			
Dwarf Sawfish [68447]	Pupping	Known to occur	In feature area
<a href="#">Pristis pristis</a>			
Freshwater Sawfish [60756]	Foraging	Known to occur	In feature area
<a href="#">Pristis pristis</a>			
Freshwater Sawfish [60756]	Nursing	Known to occur	In feature area



# Caveat

## 1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

## 2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

## 3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

## 4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

# Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

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## APPENDIX D – EME REPORT



# Environmental EME Report

<b>Location</b>	Adjacent 2 Wodehouse Street, DERBY WA 6728		
<b>Date</b>	11/08/2022	<b>RFNSA No.</b>	6728043

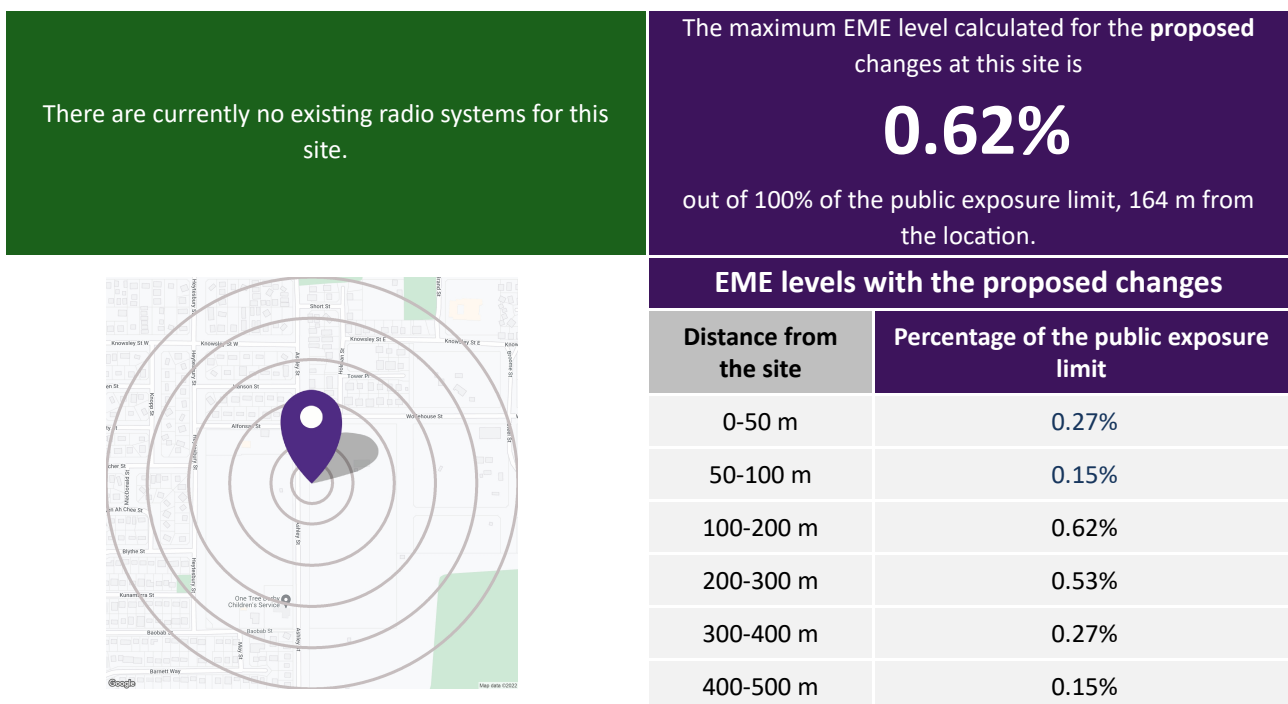
## How does this report work?

This report provides a summary of levels of radiofrequency (RF) electromagnetic energy (EME) around the wireless base station at Adjacent 2 Wodehouse Street, DERBY WA 6728. These levels have been calculated by Visionstream using methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

A document describing how to interpret this report is available at ARPANSA's website:

[A Guide to the Environmental Report.](#)

## A snapshot of calculated EME levels at this site



For additional information please refer to the EME ARPANSA Report annexure for this site which can be found at <http://www.rfnsa.com.au/6728043>.

## Radio systems at the site

This base station currently has equipment for transmitting the services listed under the existing configuration. The proposal would modify the base station to include all the services listed under the proposed configuration.

	Existing		Proposed	
Carrier	Systems	Configuration	Systems	Configuration
<b>Telstra</b>			4G, 5G	LTE700 (proposed), NR850 (proposed), LTE2600 (proposed)

## An in-depth look at calculated EME levels at this site

This table provides calculations of RF EME at different distances from the base station for emissions from existing equipment alone and for emissions from existing equipment and proposed equipment combined. All EME levels are relative to 1.5 m above ground and all distances from the site are in 360° circular bands.

Distance from the site	Existing configuration			Proposed configuration		
	Electric field (V/m)	Power density (mW/m <sup>2</sup> )	Percentage of the public exposure limit	Electric field (V/m)	Power density (mW/m <sup>2</sup> )	Percentage of the public exposure limit
0-50m				2.30	13.98	0.27%
50-100m				2.12	11.92	0.15%
100-200m				3.41	30.92	0.62%
200-300m				3.27	28.33	0.53%
300-400m				2.36	14.82	0.27%
400-500m				1.77	8.29	0.15%

## Calculated EME levels at other areas of interest

This table contains calculations of the maximum EME levels at selected areas of interest, identified through consultation requirements of the [Communications Alliance Ltd Deployment Code C564:2020](#) or other means. Calculations are performed over the indicated height range and include all existing and any proposed radio systems for this site.

### Maximum cumulative EME level for the proposed configuration

Location	Height range	Electric field (V/m)	Power density (mW/m <sup>2</sup> )	Percentage of the public exposure limit
No locations identified				



## APPENDIX E – GUIDE TO EME REPORT



# A Guide to the Environmental EME Report

## What is an Environmental EME Report?

The Environmental EME Report provides calculations of the maximum levels of radiofrequency (RF) electromagnetic energy (EME) around an existing and/or proposed wireless base station that may include mobile telephony, broadband and data services. The report is generally produced by a network operator (such as a mobile phone company) or consultants working on their behalf.

All deployment of public mobile telecommunications service infrastructure in Australia, which includes wireless base stations, small cells and antennas, must be carried out according to the Industry Code C564:2020 Mobile Phone Base Station Deployment (the Code)<sup>1</sup>. The Code requires the supply of certain information as part of the consultative process with the local community and local government authority. The environmental EME report is part of this process and is produced according to a methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)<sup>2</sup>. It provides objective estimates of the maximum levels of EME from a wireless base station or small cell for both existing and proposed upgrades to telecommunications systems at the site. There are two types of environmental EME report, each representing either a wireless base station or a small cell.

## Why is there an EME Report?

Wireless base stations and small cells work by sending out RF EME in the form of waves carrying information. When the RF EME reaches objects, including people and animals, some of the energy carried by the waves is deposited in the object<sup>3</sup>. This can lead to heating of the object and, if levels are too high, can cause harmful effects. The ARPANSA RF Standard<sup>4</sup> provides limits of exposure which must be complied with by all radio installations, including wireless base stations and small cells. The limits for EME exposure given in the ARPANSA Standard are intended to provide protection for people of all ages and medical conditions when exposed 24 hours per day, 7 days per week. The EME Report shows the maximum

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<sup>1</sup> The Communications Alliance Ltd Industry Code C564:2011 'Mobile Phone Base Station Deployment' is available from the Communications Alliance Ltd website, <http://commsalliance.com.au>.

<sup>2</sup> The ARPANSA methodology produces overconservative calculations for multiple-input and multiple-output (MIMO) systems

<sup>3</sup> Information on RF EME and its effects is available from ARPANSA <http://www.arpansa.gov.au/RadiationProtection/basics/rf.cfm>

<sup>4</sup> The ARPANSA RF Standard is available from <http://www.arpansa.gov.au/Publications/Codes/rps3.cfm>



calculated levels for a specific installation and compares them against the exposure limits in the ARPANSA Standard.

## What information is on the report?

The report gives the address of the installation, together with a list of the companies using the site and the types of mobile network currently installed and being proposed. It also includes details of calculated levels of RF EME. If the site already has antennas in place, the report includes separate information on the existing and the combined existing and proposed installations. The report estimates RF EME from all of the identified wireless transmitters at this site; it does not estimate RF EME from all surrounding sites. The calculated levels do not include RF EME from other types of radio transmitters (that are not subject to the industry Code) which may be installed on the same structure, e.g. AM and FM radio, TV etc.

## EME Levels

The tables of calculated EME levels on the report provide maximum levels of EME found at various distances from the base of the tower or supporting structure for wireless base stations. Within each range of distances, the highest value is given regardless of direction. For small cells mounted on light and power poles or other structures, the report shows the maximum EME level and the distance where this occurs. This provides more relevant exposure information to account for the lower overall power and the much shorter range of the transmitted radio signals from small cells.

For wireless base stations the values of EME are presented in 3 different units:

- volts per metre (V/m) – the electric field component of the RF wave
- milliwatts per square metre ( $\text{mW}/\text{m}^2$ ) – the power density (or rate of flow of RF energy per unit area)<sup>5</sup>
- percentage (%) of the ARPANSA Standard

In reports for small cells the EME levels are only presented as a percentage of the ARPANSA Standard.

When expressed as a percentage, a value of 100% corresponds to the general public exposure limit. For example, a typical highest value of 1% means that the total EME level from all wireless network transmitters on the site, all operating at their maximum power, will be no more than one hundredth (1/100) of the limit set by the ARPANSA Standard for members of the public.

The table below shows the actual EME limits in the ARPANSA RF Standard used for the frequency bands representing different types of mobile network. At frequencies below 2000 megahertz (MHz) the limits vary across the band and the limit values shown in the table have been determined at the Assessment Frequency indicated. The table shows the three equivalent exposure limit figures in V/m,  $\text{mW}/\text{m}^2$  and % ARPANSA Standard.

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<sup>5</sup> Power density is often expressed in units other than  $\text{mW}/\text{m}^2$ , other common units are watts per square metre ( $\text{W}/\text{m}^2$ ) and microwatts per square centimetre ( $\mu\text{W}/\text{cm}^2$ ). Where conversion is required: 1 watt per square metre ( $\text{W}/\text{m}^2$ ) = 100 microwatts per square centimetre ( $\mu\text{W}/\text{cm}^2$ ) = 1000 milliwatts per square metre ( $\text{mW}/\text{m}^2$ ).

Radio Systems	Frequency Band	Assessment Frequency	ARPANSA Standard public exposure limits at the Assessment Frequency		
			Electric Field V/m	Power Density mW/m <sup>2</sup>	% of ARPANSA exposure limits
LTE700	758 – 803 MHz	750 MHz	37.5 V/m	3750 mW/m <sup>2</sup>	100%
WCDMA850	870 – 890 MHz	900 MHz	41.1 V/m	4500 mW/m <sup>2</sup>	100%
GSM900, LTE900, WCDMA900	935 – 960 MHz	900 MHz	41.1 V/m	4500 mW/m <sup>2</sup>	100%
GSM1800, LTE1800	1805 – 1880 MHz	1800 MHz	58.1 V/m	9000 mW/m <sup>2</sup>	100%
LTE2100, WCDMA2100	2110 – 2170 MHz	2100 MHz	61.4 V/m	10000 mW/m <sup>2</sup>	100%
LTE2300	2302 – 2400 MHz	2300 MHz	61.4 V/m	10000 mW/m <sup>2</sup>	100%
LTE2600	2620 – 2690 MHz	2600 MHz	61.4 V/m	10000 mW/m <sup>2</sup>	100%
LTE3500	3425 – 3575 MHz	3500 MHz	61.4 V/m	10000 mW/m <sup>2</sup>	100%

## Effect of Landscape (topography)

The tables of calculated EME levels provide values at 1.5 m above a flat landscape. Commonly, wireless base stations and small cells are located on a high point and the assumption of flat ground provides a worst-case estimate for these situations. Sometimes, however, the ground may slope upwards away from the installation and this can cause concern that levels may be higher than calculated. In these cases the 'Calculated EME levels at other areas of interest' table should include the levels of EME at a selection of heights where maximum levels are expected.

Generally, locations very close to the base of the antenna will experience very low levels of EME compared to the surrounding areas. This may not be true if a location is both close, say within 100 m, and elevated above the height of the base of the antenna structure. This may occur because a building is located nearby or the ground rises sharply. In either of these circumstances, EME levels may actually be higher than found at the height of flat ground or a community member may have reasonable concerns that this is so. If such locations exist, carefully calculated estimates in a representative sample of such situations should be provided in the 'Calculated EME levels at other areas of interest' table. It is important to note that in many cases the location may not be in the direction of significant radiated EME and the EME levels may be very low.

## Other Areas of Interest

The Code requires the mobile network companies to take account of Community Sensitive Locations. The Code defines Community Sensitive Location to include land uses such as residential areas, childcare centres, schools, aged care centres, hospitals and regional icons which may be considered as sensitive uses in some communities. It is acknowledged that each location should be evaluated on a site by site basis to determine community sensitive locations.

The table 'Calculated EME levels at other areas of interest' on the report provides additional estimates of EME levels at a small number of such locations. These locations may be identified as being of particular concern to the community during the consultation process required by the Code. Typically, levels may be given for the closest point of a children's facility, or for a small number of other locations. It is expected that for an average report, there may be 3 to 5 additional areas of interest calculations. These should be chosen to be representative of both community concern and locations where higher levels of EME may actually be expected on technical grounds. Community Sensitive Locations would be expected to include a small number of floors of a multistorey building if it is close to the antennas and in the direction of significant radiated EME. For some sites there may be no indication for other areas of interest, such as where there is flat ground, no elevated buildings and no locations identified as being of particular community concern. In these cases, after checking:

- the Code's community consultation plan
- topography or buildings near the antennas
- other locations, such as those identified as being of significant previous community concern

no other areas of interest will have been identified. In this case, the EME Report should include the statement 'No locations identified' in the 'Calculated EME levels at other areas of interest' table.

## Can I expect to have an EME calculation done for my house?

Whilst the Environmental EME report is a basic report, members of the public are free to request (in writing) a Carrier to provide additional information under section 3.3 of the Code

The Carrier will choose how best to service that request, but it will not be considered as part of the ARPANSA EME report.

## Why do the EME levels vary with distance?

The calculations of the maximum EME levels are based on well understood principles of physics that deal with how electromagnetic waves travel and spread out. The total amount of energy emitted from the antenna is limited by the power of the amplifier used to drive the antenna. As the energy leaves the antenna, it spreads out to cover bigger and bigger areas and so gets less intense the further away it gets, this is illustrated in Figure 1 which shows a basic 2-dimensional view of what happens to the EME around a real base station.

The antenna is usually designed to direct most of the energy out towards the horizon, or a few degrees below, so that most of the energy goes where it is needed to communicate with the mobile phone handsets or other user equipment. As one moves away from a base station at ground level, the levels first increase before reaching a maximum and then get less as you move still further away. Typically, the maximum EME level at ground level will occur between 75 m and 200 m from the base of the antenna.

The mobile network companies sometimes need to adjust the angle of the antennas to obtain the best coverage and this can alter slightly the distance at which the maximum occurs and exactly what EME level is found there. Often, the ARPANSA EME Report will take likely alterations into account and include the

highest levels that might occur if the antenna is moved in the future. Some antennas use self-tilt and pan to dynamically change direction; in these situations the orientation that produces the highest maximum EME level is used for the calculation.

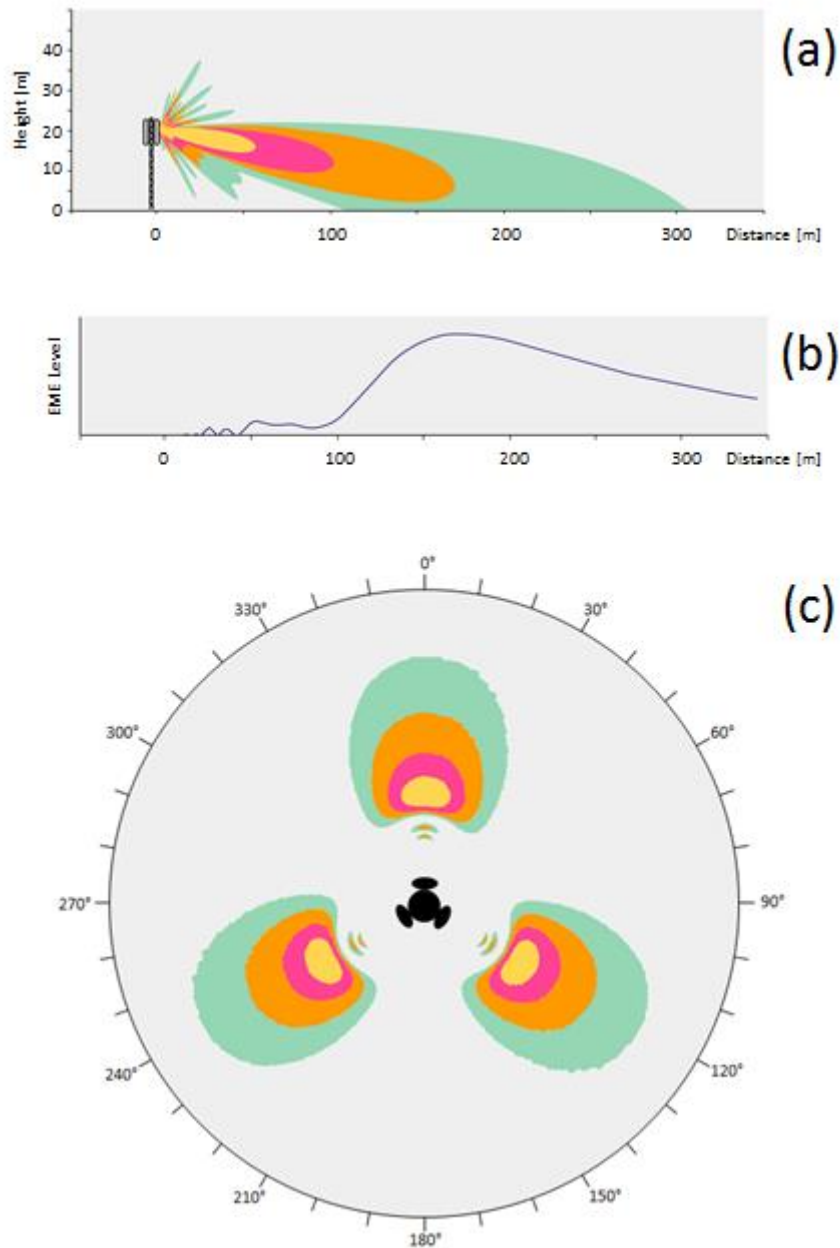


Figure 1. How the EME levels vary as you move away from a base station tower.  
(a) Side view of a single antenna pattern. (b) EME level at 1.5 m above ground.  
(c) Aerial view of three sector antenna pattern



The EME transmitted from small cells is more localised and, depending on its configuration, may not follow the same emission profile as a larger base station. Typically, the EME levels are very low and they decrease rapidly with distance away from the source much like the larger base stations.

## How Accurate are the Calculated Values?

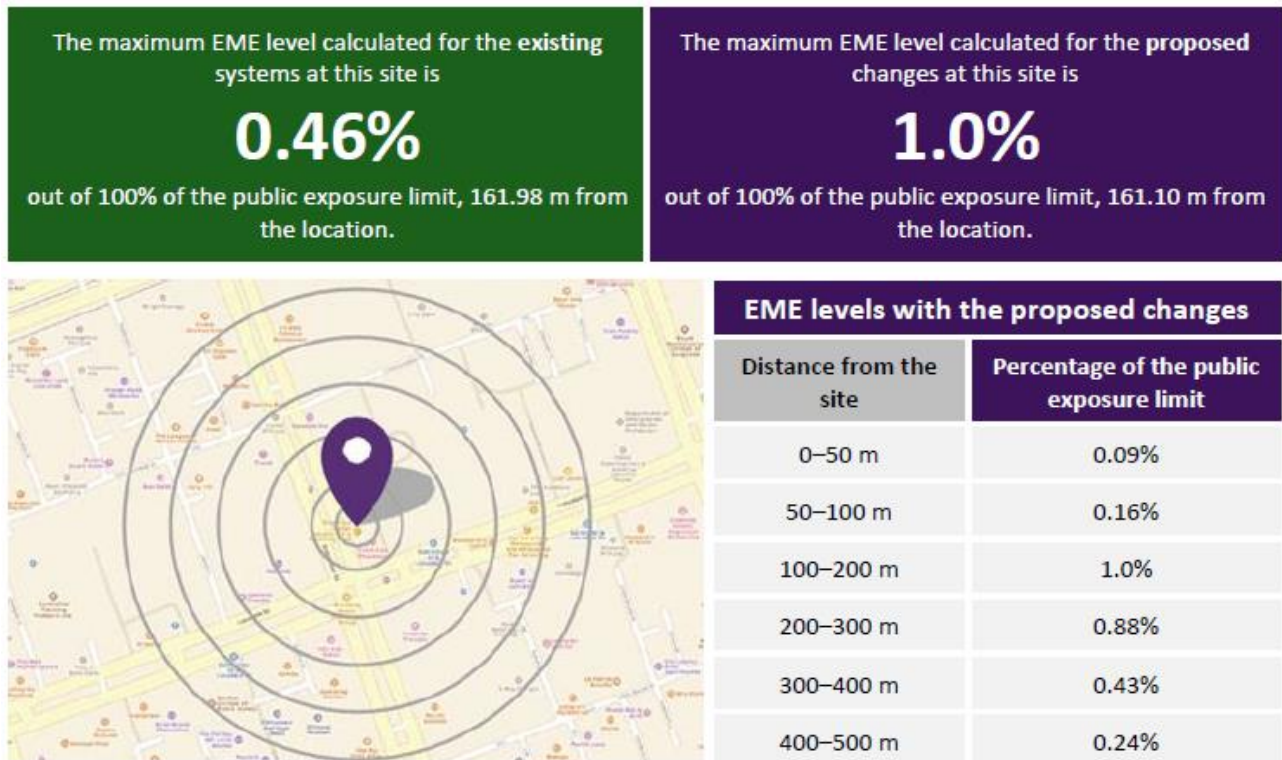
The values of EME provided in the report are intended to be maximum levels that can almost never be exceeded when the base station is operating. The values assume, for example, that all the planned transmitters are installed and are all operating at maximum power. Some of the transmitters at a base station are only used when there are a certain number of telephone calls or data transmissions actually in progress; otherwise they are turned off. Even when a call is in progress, the power transmitted is adjusted to be only as high as necessary to communicate with the handset. If the handset is close, or in a good signal area, the base station transmitter will reduce its power automatically.

The calculations do not take into account trees, vegetation or buildings which may alter the EME levels, generally decreasing them. Some of the EME is reflected from buildings and the ground and often this signal is used by a handset when the direct signal is blocked by a building. When the reflected signal and direct signal combine the overall level can be lower or higher than the direct signal alone depending on the exact location.

Measurements around base stations have shown actual values of EME are usually less than calculation by factors of 10 to 1000 or even more. Values of EME indoors will typically be even lower as walls, windows and roofs absorb or reflect the energy.

A similar situation applies to the emissions from small cells. The EME emissions from small cells follow the same physical process and are similarly affected by surrounding objects.

## Example Snapshot of Calculated EME Levels



The example snapshot above applies to the calculated EME levels around a typical base station and provides the following information:

- The highest calculated level of RF EME coming from the existing equipment at this base station is found at a distance of approximately 161.98 m and is 0.46% or less than 1/200 of the ARPANSA Standard exposure limit.
- Subsequent to the proposed alterations to the equipment at this site, the highest calculated level of RF EME rises to 1.04%, which is found at a distance of 161.10 m from the base of the tower.

The information detailing EME levels at radial distances from the installation is not included in EME reports for small cells due to the more localised emission of the antennas. In this case, information about the highest calculated EME level at the corresponding distance associated with the small cell is included. This is reported for both existing and proposed systems at the site in the same way as wireless base stations.

## Example Table of an In-depth Look at Calculated EME Levels

Distance from the site	Existing configuration			Proposed configuration		
	Electric field (V/m)	Power density (mW/m <sup>2</sup> )	Percentage of the public exposure limit	Electric field (V/m)	Power density (mW/m <sup>2</sup> )	Percentage of the public exposure limit
0–50 m	0.57	0.87	0.01%	1.7	7.2	0.09%
50–100 m	0.96	2.5	0.04%	1.9	9.2	0.16%
100–200 m	3.4	31	0.46%	5.0	66	1.0%
200–300 m	3.2	27	0.40%	4.6	56	0.88%
300–400 m	2.3	13	0.20%	3.2	28	0.43%
400–500 m	1.7	7.7	0.11%	2.4	16	0.24%

The example table above provides the following information:

- At any location on level ground within 50 m of the base of the tower, the highest calculated level of RF EME coming from the existing equipment at this base station is 0.01% or approximately 1/10000 of the ARPANSA Standard exposure limit. In physical units this is a power density of 0.87 milliwatts per metre squared (mW/m<sup>2</sup>), equivalent to an electric field strength of 0.57 volts per metre (V/m).
- Subsequent to the proposed alterations to the equipment at this site, at any location on level ground within 50 m of the base of the tower, the highest calculated level of RF EME rises to a power density of 7.18 mW/m<sup>2</sup> or an electric field strength of 1.65 V/m which is equivalent to 0.09% of the ARPANSA Standard exposure limit (or less than 1/1000 of the limit).
- The values reported here are only expected to occur when the transmitters are all operating at full power and where there is clear line-of-sight to all antennas. Levels indoors will be lower.
- At any distance within 500 m of the tower the table can be used to determine the maximum level. For example at a location 330 m from the tower, that is between 300 m and 400 m, the calculated level will be less than 0.2% of the ARPANSA Standard exposure limit for the existing equipment and 0.43% of the ARPANSA Standard exposure limit for the existing and proposed equipment. In many directions, and at most times, the actual level will be much lower than this calculated level.
- For a new wireless base station where there are no antennas already installed, the above table will only contain data under the 'Proposed Configuration' columns. Similarly, for a wireless base station that is not being upgraded, the table will only contain data under the 'Existing Configuration' columns.

This table is not included in EME reports for small cells due to the more localised emission from these installations.

It should be noted that all values quoted in the above two tables are calculated at 1.5 m above ground level in a flat landscape. As stated in the section “Effects of Landscape (topography)”, If the ground height changes enough to cause significant under estimation of the worst case environmental levels, further calculations shall be reported in the “Other Areas Of Interest” section.

## Example Table of Calculated EME levels at Other Areas of Interest

Location	Height range	Electric field (V/m)	Power density (mW/m <sup>2</sup> )	Percentage of the public exposure limit
ABC Primary School	0–6 m	2.6	18	0.29%
123 Sports Centre	0–6 m	2.4	15	0.23%
XYZ Community Centre	0–6 m	2.6	18	0.29%

The 'Calculated EME levels at other areas of interest' table provides calculated levels of RF EME at locations considered to be of special community interest or at elevated locations where there may be concern about higher levels of EME. The calculations are performed over the indicated height range and include all existing and any proposed radio systems for this site. This table is included in reports for both wireless base stations and small cells. In reports for small cells the EME levels are only presented as a percentage of the ARPANSA Standard.

## Further Information

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) is a Federal Government agency incorporated under the Health portfolio. ARPANSA is charged with responsibility for protecting the health and safety of people, and the environment, from the harmful effects of radiation (ionising and non-ionising).

Information about RF EME can be accessed at the ARPANSA website, <http://www.arpansa.gov.au>, including:

- The procedure used for the calculations in this report is documented in the ARPANSA Technical Report; "Radio Frequency EME Exposure Levels - Prediction Methodologies" <sup>2</sup>
- The ARPANSA RF Standard<sup>4</sup>

The Australian Communications and Media Authority (ACMA) is responsible for the regulation of broadcasting, radiocommunications, telecommunications and online content. Information on EME is available at <https://www.acma.gov.au/our-rules-eme>.

The Communications Alliance Ltd Industry Code C564:2020 Mobile Phone Base Station Deployment is available from the Communications Alliance Ltd website, <http://commsalliance.com.au>.

Contact details for the Carriers (mobile network companies) operating in Australia and the most recent version of each site's Environmental EME Report are available online at the Radio Frequency National Site Archive, <http://www.rfnsa.com.au>.



1. The Communications Alliance Ltd Industry Code C564:2020 Mobile Phone Base Station Deployment is available from the Communications Alliance Ltd website, <https://www.commsalliance.com.au/Documents/all/codes/c564>
2. The ARPANSA methodology produces overconservative calculations for multiple-input and multiple-output (MIMO) systems. ([Radio frequency EME exposure levels - prediction methodologies technical report.](#))
3. Information on RF and its effects is available from ARPANSA <https://www.arpansa.gov.au/understanding-radiation/what-is-radiation/non...>
4. The ARPANSA RF Standard is available from <https://www.arpansa.gov.au/regulation-and-licensing/regulatory-publications/radiation-protection-series/codes-and-standards/rpss-1>
5. Power density is often expressed in units other than  $\text{mW}/\text{m}^2$ , other common units are watts per square meter ( $\text{W}/\text{m}^2$ ) and microwatts per square centimetre ( $\mu\text{W}/\text{cm}^2$ ). Where conversion is required: 1 watt per square metre ( $\text{W}/\text{m}^2$ ) = 100 microwatts per square centimetre ( $\mu\text{W}/\text{cm}^2$ ) = 1000 milliwatts per square metre ( $\text{mW}/\text{m}^2$ ).

## APPENDIX F – ABORIGINAL HERITAGE ADVICE

RE: Query regarding Aboriginal Heritage approval conditions for a 30 metre telecommunications monopole tower at 2 Wodehouse Street Derby - Sit...



Paul Reed <Paul.Reed@dphl.wa.gov.au>  
To: Marc Bays

Reply Reply All Forward

Wed 17/08/2022 12:15 PM

**External Email:** This email was received from outside our company. Do not click links or open attachments you were not expecting. Report all suspicious emails using Phish Alert on your Outlook toolbar or menu. Block all unwanted email using your [Email Management Portal](#).

Dear Marc

Thank you for your email. A review of the Register of Places and Objects as well as the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Database concludes that the location of the proposed telecommunications monopole tower at 2 Wodehouse Street Derby is within the public boundary of Aboriginal site ID 12392 (MARADJA), but not within the actual boundary as administered by DPLH. Based on the information held by DPLH, no approvals under the *Aboriginal Heritage Act 1972* are required for the proposed works.

Please don't hesitate to contact me if you have any questions.

Kind regards

**Paul Reed** | Senior Heritage Officer, Aboriginal Heritage Conservation | Heritage and Property Services  
140 William Street, Perth WA 6000  
6551 7937  
[www.dphl.wa.gov.au](http://www.dphl.wa.gov.au)



Department of Planning,  
Lands and Heritage



Advancing gender equality through  
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