



FLINDERS REGIONAL
DEVELOPMENT ASSESSMENT PANEL

NOTICE OF MEETING

NOTICE is hereby given that an Ordinary Meeting of the Flinders Regional Development Assessment Panel will be held as follows:


Time: 9.30am
Date: Friday 24th June 2016
Venue: By telephone conference

* * * * *

Peter McGuinness
Public Officer

17/6/16

Date

	<p style="text-align: center;">FLINDERS REGIONAL DEVELOPMENT ASSESSMENT PANEL</p> <p style="text-align: center;">AGENDA</p>	<p>Version Number Issued : Next Review GDS</p>	<p>1 24 Jun 2016 9.14.1 Page 2 of 6</p>
--	---	--	---

AGENDA & REPORTS

**FOR THE MEETING BEING HELD
FRIDAY 24TH JUNE 2016 AT 9.30AM**

1. PRESENT:

2. APOLOGIES:

3. DECLARATIONS OF INTEREST:

4. CONFIRMATION OF MINUTES:

4.1 ORDINARY MEETING - Held 11th April 2016

A copy of the Minutes from the Meeting (as previously circulated) are attached for the reference of Panel Members.

Recommendation:

That the Minutes of the Ordinary Meeting of the Flinders Regional Development Assessment Panel held on 11th April 2016 as circulated, be confirmed.

5. BUSINESS ARISING FROM MINUTES:

MINUTES

MEETING BEING HELD

MONDAY 11TH APRIL 2016 AT 11.40AM

IN THE MEETING ROOM, TOWN HALL,

108 MAIN STREET, PETERBOROUGH, SA 5422

1. PRESENT:

Members:

Ms Shanti Ditter (Presiding Member);
 Cr Garry Thompson;
 Cr Ralph Goehring;
 Cr Frank Hardbottle &
 Cr Colin Nottle

In Attendance:

Mr Peter McGuiness (Public Officer);
 Mr David Hutchison (Planning Consultant, Access Planning);
 Mr Lawrence Heath (Dev & Reg Services Officer, DCP);
 Ms Sally Kent (Minute Secretary)

Members of the Public:

Mr Graeme Woods (Applicant – G Woods)
 Mr Conor Evans (Applicant – C Evans)

2. APOLOGIES:

NIL

Presiding Member, Ms Ditter explained to the gallery that the Panel Members had undergone a site visit in respect of the Peterborough application prior to the meeting, and apologised for the late start of the meeting.

3. DECLARATIONS OF INTEREST:

NIL

4. CONFIRMATION OF MINUTES:

4.1 ORDINARY MEETING - Held 23rd November 2015

Moved Cr G Thompson Seconded Cr F Hardbottle

That the Minutes of the Ordinary Meeting of the Flinders Regional Development Assessment Panel held on 23rd November 2015 as circulated, be confirmed.

CARRIED

5. BUSINESS ARISING FROM MINUTES:

NIL

6. APPLICATIONS FOR CONSIDERATION:

6.1 THE DISTRICT COUNCIL OF MOUNT REMARKABLE

6.1.1 DA 830/106/15 – Conor Evans – Bicarbonate Sodium Blasting

Details of the application for an industrial development (Bicarbonate Sodium blasting) at 555 (Lot 750) Forest Road, Wirrabara were included in the Agenda papers for the meeting.

Ms Ditter asked the Planning Consultant, David Hutchison, if he would like to add anything further to the proposal.

Mr Hutchison explained that the application was straight forward and everything had been dealt with in the report with nothing to add.

Panel Members had no questions for the Planning Consultant or Applicant.

Ms Ditter asked the Applicant if he was confident in meeting the conditions of the report, to which he replied he was and would be taking the suggestions on board. He has a good relationship with his neighbours and was not aware of any concerns or objections.

The Applicant added that he is a qualified paint sprayer, but was not planning on offering any other services at present, only what the development application was relating to.

Moved Cr F Hardbottle Seconded Cr C Nottle

That Development Application 830/106/15 for an industrial development (Bicarbonate Sodium blasting) at 555 (Lot 750) Forest Road, Wirrabara is not seriously at variance with the District Council of Mount Remarkable's Development Plan, Consolidated 5th September 2013.

and

That Council **Grant** Development Plan Consent to Development Application 830/106/15 for an industrial development (Bicarbonate Sodium blasting) at 555 (Lot 750) Forest Road, Wirrabara subject to the following conditions:

1. That except where minor amendments may be required by other relevant Acts, or by the conditions imposed on this consent, the development shall proceed in accordance with the plans and details submitted with and forming part of Development Application No. 830/106/15.
2. A landscaping plan shall be submitted to Council which provides screening around the building to the satisfaction of Council.
3. Amended plans shall be provided which indicate materials of the rear wall and doors of the blasting booth and location of air/dust extraction unit.
4. The building, including shipping containers, shall be painted or otherwise finished in dull or natural muted colour (such as pale green, brown or grey) to satisfaction of Council.
5. All construction work is to be carried out to the satisfaction of Council at all times.

EPA Directed Conditions

6. All abrasive blasting must be carried out within the confines of the abrasive blasting booth.
7. Spray painting must not occur onsite, any primer/base coat must be applied by brush or roller prior to a fresh development application is submitted for a spray booth.
8. Lead based, mercurious or anti-fouling coatings must not be abrasive blasted on-site unless appropriate test kits, hepafilter (and other specialised equipment) and a waste segregation system has been authorised by a future EPA licence.
9. Air extraction systems for the abrasive blasting booth must be capable of limiting particulate emissions from the booth to less than 250mg/Nm³.
10. Exhaust air from the abrasive blasting booth extraction system must be directed to a flue terminating not less than three metres above the highest structure within a 30-metre radius.
11. Discharge from the abrasive blasting booth must be vertical and unimpeded by any conical type rain protector. Exhaust velocities must be greater than ten metres per second.

The following notes provide important information for the benefit of the applicant and are requested to be included in the approval:

- The applicant is reminded of its general environmental duty, as required by Section 25 of the Environment Protection Act, to take all reasonable and practicable measures to ensure that the activities on the whole site, including during construction, do not pollute the environment in a way which causes or may cause environmental harm.
- An environmental authorisation in the form of a licence is required for the operation of this development. The applicant is required to contact the Environment Protection Authority before acting on this approval to ascertain licensing requirements.
- A licence may be refused where the applicant has failed to comply with any conditions of development approval imposed at the direction of the Environment Protection Authority.
- EPA information sheets, guidelines documents, codes of practice, technical bulletins etc can be accessed on the following web site: <http://www.epa.sa.gov.au>

CARRIED

6.1.2 DA 830/086/15 – Aurecon Australia Pty Ltd – NBN telecommunication facility

Details of the application for a telecommunications facility comprising a 25 metre high monopole with a circular headframe, antennas and associated infrastructure and fencing at Lot 3 Government Road, Port Germein were included in the Agenda papers for the meeting.

Ms Ditter asked the Planning Consultant, David Hutchison, if he would like to add anything further to the report.

Mr Hutchison explained that the application was straight forward; the only area of concern during the submission was the soil at the site, and the longevity and strength of the concrete for the structure which had been addressed, so there was nothing to add.

Panel Members had no questions for the Planning Consultant.

Moved Cr G Thompson Seconded Cr C Nottle

That Development Application 830/086/15 for a telecommunications facility comprising a 25 metre high monopole with a circular headframe, antennas and associated infrastructure and fencing at Lot 3 Government Road, Port Germein SA 5495 is not seriously at variance with the provisions of the District Council of Mount Remarkable's Development Plan, Consolidated 5th September 2013.

That Council **Grant** Development Plan Consent to Development Application 830/086/15 for a telecommunications facility comprising a 25 metre high monopole with a circular headframe, antennas and associated infrastructure and fencing at Lot 3 Government Road, Port Germein SA 5495 subject to the following conditions:

1. Except where minor amendments may be required by other relevant Acts, or by conditions imposed by this application, the development shall be established in strict accordance with the details and plans submitted with and forming part of Development Application No. 830/086/15.
2. The antennas affixed to the monopole shall be painted or otherwise finished in a dull, flat grey colour such as cadet grey or similar.
3. All construction work is to be carried out to the satisfaction of Council at all times.

CARRIED

6.2 DISTRICT COUNCIL OF PETERBOROUGH

6.2.1 DA 504/015/15 – Graeme Woods – Horse Keeping

Details of the application for the keeping of up to 9 horses on land comprising sections 392 and 395, number 113 Victoria Street, Peterborough were included in the Agenda papers for the meeting.

An inspection of the area was undertaken by Panel Members prior to the meeting at 11.10am.

Planning Consultant, David Hutchison of Access Planning was on-site to provide advice on the proposal to Members, along with Mr Graeme Woods the Applicant.

Mr Woods explained the background to the purchase of the property by his wife in the 1990s and the operation they have been running as a Quarter Horse Stud between 113 Victoria Street, acreage out of town, and other properties in the area. He explained that the mares were brought to the site for foaling, and are then taken back out to their rural site after a couple of days once the foals have been monitored. They are then brought back at a later date when the foal needs to be weaned from its mother. They have between 2 and 3 stallions usually on site.

The Applicant explained that they also run live stock, and heifers can be brought to the site if they need assistance with calving.

Discussions were then had in relation to grass and pasture cover, along with vermin control and storage of feed.

When asked about the number of horses on site, and whether the foals were included in the count, the Applicant was unsure of the ruling of this, and would like clarification. It was also added that the Applicant's daughter is interested in the field of 'breaking-in' horses, and has her own 'riding' horses, which are kept on site or at their rural property.

The Applicant was asked why they had applied to keep 9 horses on site, especially as they usually have and want more than that, and he explained that he was told this was the limit set in the 1990s when there had been issues with neighbours, but this was when there were other animals on the property including free-range chickens and sheep. He understood that this was the figure which needed to be worked with, but obviously would like more if possible.

The site visit concluded at 11.30am and discussions resumed during the meeting.

Ms Ditter explained to the Applicant that the Planning Consultant, David Hutchison, had prepared a report for the Members, and thanked him for showing the Panel around the property.

Ms Ditter then asked the Members for their comments.

Cr G Thompson mentioned that a lot of work needed to be done to meet the numerous conditions and asked if the Applicant had seen the list of conditions, which he had not, so was handed a copy at that point.

Ms Ditter asked the District Council of Peterborough CEO how confident he was of policing and enforcing the conditions, due to the number of them, and mentioned that they are enforceable with penalties applicable if not complied with. Council replied they are capable of enforcing the conditions, and the Applicant added that they will endeavour to meet the conditions.

Cr F Hardbottle asked whether having a cow on site was included in the conditions and whether it should be there.

Further discussions were also had in regard to adhering to the rules and regulations and keeping to the conditions, the number of horses kept on site including the foals, the management of the paddocks including coverage, and the proximity to neighbouring dwellings.

Councillors G Thompson and C Nottle both acknowledged that Peterborough is a rural town, and the property is on the edge of town, and that it would be a shame to discourage horse keeping in such an area, especially as the horses seen today appeared to be well fed and cared for. However, they did have concern for the management of the paddocks with very little rainfall in Peterborough.

The Planning Consultant, David Hutchison, then made a suggestion of giving consent for a period of 12 months to see if the conditions were manageable.

The Applicant was then asked if he had had a chance to read the conditions of the report, which he replied only briefly, so the Presiding Member Ms Ditter suggested moving to the next item of the Agenda in order to give the Applicant 10 minutes to do so.

To be Confirmed

6.3 DISTRICT COUNCIL OF ORROROO CARRIETON

6.3.1 DA 502/019/15 – NBN Co Pty Ltd – NBN fixed wireless telecommunications facility

An inspection of the area at lot 4 FP160952 Orroroo – 24 Fourth Street was undertaken by Panel Members prior to the previous FRDAP meeting on 23rd November 2015, in addition to three different vantage points, where Planning Consultant, Mr David Hutchison of Access Planning was on-site to provide advice on the proposal to Members.

The Planning Consultant's report from the previous meeting for the application a fixed wireless telecommunications facility comprising a 40 metre high monopole, antennas and associated infrastructure at lot 4 FP160952 Orroroo – 24 Fourth Street were included in the Agenda papers for the meeting.

A copy of the Applicant's response to the deferred decision and Mr Hutchison's subsequent report were also included in the Agenda papers for the meeting.

Ms Ditter informed the Panel that the Applicant Adam Pfitzner was unfortunately able to attend due to late notice and prior-scheduled commitments.

Planning Consultant David Hutchison informed the Panel that the Applicant had been in contact with the land owners at the Viterra site since the previous FRDAP meeting and they were in negotiations about a lease.

Ms Ditter explained to the Panel that they had deferred their decision previously in order to await additional information on the impact of the Orroroo Airport on the siting of the tower, which had not been forthcoming, and that they need to advise Council if they are going to withdraw their current application and submit a new one for the Viterra site.

Ms Ditter went on to clarify with the Panel that they could not review their previous decision, or indeed conduct a straw poll, as the Applicant had not supplied the information which was requested.

Moved Cr F Hardbottle Seconded Cr G Thompson

That the Panel send a letter to NBN Co explaining the Panel's position on their current site application and advise that they have no particular preference for the type of structure necessary to support the NBN facility if one were to be erected on the Viterra land at Orroroo.

CARRIED

6.2.1 DA 504/015/15 – Graeme Woods – Horse Keeping

Continued ...

The Presiding Member Ms Ditter asked the Applicant if he had had a chance to read the conditions and what his thoughts were regarding them.

The Applicant said that he believed most of them were reasonably achievable except for points 3, 4 and 5, which were in relation to the pasture vegetation, and because the property is north of Goyder's Line it would be very difficult and largely dependent on the seasons.

Regarding points 17 and 18, he was not sure that a wash-down area was required, as it would be very rarely used.

Ms Ditter asked the Applicant that if the Panel were to give consent for a period of 12 months, would he be willing to work towards this, to which the Applicant replied yes because it would give them the opportunity to work to these conditions.

It was then explained to the Applicant that it would be his responsibility to seek consent for his application, at the end of the 12 months, but that this would need to be done at least one to two months prior to the finish date, to enable the Panel time to meet.

Moved Cr G Thompson Seconded Cr R Goehring

That Council Grant Development Planning Consent to Development Application 504/015/15 for the keeping of up to 9 horses on land comprising sections 392 and 395, number 113 Victoria Street, Peterborough, **for a temporary period of 12 months from the date of the consent**, subject to the following conditions:

1. Except as varied by these conditions, the development shall be undertaken in accord with the information contained in the application documents.
2. The subject land and all improvements and fixtures thereon shall be maintained in a good, orderly and serviceable condition at all times to the reasonable satisfaction of the Council.
3. Each year prior to winter the paddocks marked 1, 2, 3 and 5 on the approved plan shall be contour ploughed and, as required, be over sown with suitable winter grass to maintain pasture cover and minimise water runoff.
4. Pasture cover shall be maintained by resting paddocks, through weed control, the irrigation and fertilisation of pasture as required.
5. Paddocks shall be rested when the pasture gets down to 4cm in height, or when pasture cover is below 70%.
6. Horse shelters shall be provided to each paddock in accordance with the approved plans, such shelters to be constructed within 6 months of the date of the consent hereby granted.
7. Landscaping shall be established in accordance with the approved plans utilising Atriplex nummularia (Old Man Saltbush) as the principal species, but shall be interspersed with suitable native shade trees endemic to the locality at regular intervals.
8. Landscaping as required in condition 7 above and as depicted in the approved plans shall be fully established within 12 months of the consent being granted.
9. The landscaping referred to in condition 8 hereof shall be maintained in good heart and condition at all times, with dead, diseased or dying plants being replaced as necessary, to the reasonable satisfaction of Council.

10. The street boundary to yards 9 and 10 shall be fenced with appropriate solid sheet metal or timber fencing to a height of at least 1.5m, such work to be undertaken within 6 months of the date of this consent.
11. Stables and horse yards less than 100m² in area shall have a base of 10cm of compacted rubble or dolomite topped with 15cm of sand, shell grit or sand woodchip mix.
12. Litter from the floor of stables and yards shall be collected regularly as required but will be undertaken at least weekly and the material disposed of along with manure.
13. All horse feed and/or fodder shall be stored in vermin proof containers.
14. Manure and soiled litter shall be collected daily and stored in sealed containers with a fly proof lid which shall be kept closed at all times except when manure is being deposited or removed from the manure bin, or for the purposes of cleaning the manure bin.
15. Manure and litter shall be removed from the land every 2 to 3 days or more regularly as required.
16. Manure bins shall be washed out once week.
17. The proposed wash-down area shall be established with 3 months of the date of this consent.
18. The wash-down area shall be drained to a soakage pit, which shall be cleaned from time to time as required to maintain appropriate soakage and to minimise fly and vermin breeding
19. No water from the stables, runs or paddocks shall be allowed to discharge to the street water table unless all litter material has been removed from that water by way of a suitable stormwater treatment such as a filtration trench which if required shall maintained to the reasonable satisfaction of the Council.
20. Driveways and vehicular trafficable areas shall be paved with quarry rubble or compacted crusher dust, such works to be completed prior to Council's satisfaction prior to winter 2016.

Reason for conditions is ensure compliance with the relevant Development Plan provisions, to maintain the amenity of the locality and to ensure that the property is properly managed to avoid dust, vermin and odour impacts.

CARRIED

6.4 THE FLINDERS RANGES COUNCIL

NIL

7. OTHER BUSINESS:

7.1 THE FLINDERS RANGES COUNCIL

NIL

7.2 DISTRICT COUNCIL OF MOUNT REMARKABLE

NIL

7.3 DISTRICT COUNCIL OF ORROROO CARRIETON

NIL

7.4 DISTRICT COUNCIL OF PETERBOROUGH

8. NEXT MEETING: No date was set for the next meeting of the Panel.

9. CLOSURE: 12.45pm

To be Confirmed

6. APPLICATIONS FOR CONSIDERATION:

6.1 DISTRICT COUNCIL OF ORROROO CARRIETON

6.1.1 DA 502/019/15 – NBN Co Pty Ltd – NBN fixed wireless telecommunications facility

Action	For DECISION
Proponent	Council Officer
Officer	DCOC CEO
Development Application	502/019/15
Associated Reports & Documents <i>(1st Meeting – 23rd Nov 2015)</i>	Development Application / Planning Report, inc preliminary drawing pack, EPBC Act Protected Matters Report and ARPANSA Environmental EME Report 1 x Representor Planning Consultant Report
Associated Reports & Documents <i>(2nd Meeting – 11th Apr 2016)</i>	Letter of Response from Aurecon, following FRDAP meeting 23rd November 2015 Planning Consultant Report
	Letter to Aurecon, following FRDAP meeting 11th April 2016

Officer's Recommendations:

That Development Application 502/019/15 for a fixed wireless telecommunications facility comprising a 40 metre high monopole, antennas and associated infrastructure at lot 4 FP160952 Orroroo – 24 Fourth Street is not seriously at variance with the provisions of the District Council of Orroroo Carrieton's Development Plan, Consolidated 22nd November 2012.

That following consideration and having regard to all relevant matters that the Panel refuse Development Plan consent for a telecommunications facility at 24 Fourth Street, Orroroo, as the proposed development would be at odds with the following provisions of the Development Plan.

Residential zone

Principle 4

Town Centre zone

Objective 4

Principles 4 and 5

General Section

Design and Appearance


Objective 1

Principle 1

Infrastructure

Objective 4

Principle 10

	<p style="text-align: center;">FLINDERS REGIONAL DEVELOPMENT ASSESSMENT PANEL</p> <p style="text-align: center;">AGENDA</p>	<p>Version Number Issued : Next Review GDS</p>	<p>1 24 Jun 2016 9.14.1 Page 4 of 6</p>
--	---	--	---

Orderly and Sustainable Development

Objectives 1 and 6

Siting of Development

Principles 1, 2 and 4

Telecommunications Facilities

Objective 2

Principles 1, 3 and 3

Introduction:

The Flinders Regional Development Assessment Panel is required to determine the application.

Previous Panel Consideration:

FRDAP meeting held 23rd November 2015.

Moved Cr F Hardbottle, Seconded Cr C Nottle:

That the proposal to construct a fixed wireless telecommunications facility comprising a 40 metre high monopole, antennas and associated infrastructure at lot 4 FP160952 Orroroo – 24 Fourth Street, **be deferred** to request the applicant to provide additional information on the impact of the Orroroo Airport on the siting of the tower. **CARRIED**

FRDAP meeting held 11th April 2016.

Moved Cr F Hardbottle Seconded Cr G Thompson:

That the Panel send a letter to NBN Co explaining the Panel's position on their current site application and advise that they have no particular preference for the type of structure necessary to support the NBN facility if one were to be erected on the Viterra land at Orroroo. **CARRIED**

Officer's Report:

Refer to attached Reports by David Hutchison, Access Planning (dated 3rd November 2015 and dated 29th March 2016).

Statutory Requirement:

District Council of Orroroo Carrieton Development Plan – consolidated 22nd November 2012

Development Act 1993

Development Regulations 2008

Policy/Strategic Implications:

District Council of Orroroo Carrieton Strategic Management Plan 2010-2014:

Strategy Statement:

To provide leadership through open communication to the community and ensuring our activities meet governance and legislation requirements.

Strategy Objective:

To provide good governance and comply with legislation

Strategic Outcomes:

Provide legislative requirements



FLINDERS REGIONAL DEVELOPMENT ASSESSMENT PANEL

AGENDA

Version Number
Issued :
Next Review
GDS

1
24 Jun 2016
9.14.1
Page 5 of 6

Risk/Liability:

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain)	H	H	E	E	E
B (likely)	M	H	H	E	E
C (moderate)	L	M	H	E	E
D (unlikely)	L	L	M	H	E
E (rare)	L	L	M	H	H

Legend: *E: Extreme risk; immediate action required*
H: High risk; senior management attention needed
M: Moderate risk; management responsibility must be specified
L: low risk; manage by routine procedures

Voting Requirements:

Absolute Majority

Aurecon Australasia Pty Ltd
ABN 54 005 139 873
55 Grenfell Street
Adelaide SA 5000
Australia

T +61 8 8237 9777
F +61 8 8237 9778
E adelaide@aurecongroup.com
W aurecongroup.com



10 August 2015



Stephen Rufus
Chief Executive Officer
District Council of Orroroo Carrieton
PO Box 3
ORROROO SA 5431

Dear Stephen

Development Application for a Proposed NBN Fixed Wireless (Telecommunications) Facility at 24 Fourth Street, Orroroo, SA 5431

NBN Co has engaged Ericsson as the equipment vendor and project manager to establish the infrastructure required to facilitate the fixed wireless component of the National Broadband Network (NBN). Ericsson has in turn engaged Aurecon to act on its behalf in relation to the establishment of the required fixed wireless network infrastructure.

The NBN is an upgrade to Australia's existing telecommunications network. It is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

NBN Co plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

To enable the provision of these services to the local community, NBN Co has undertaken a thorough analysis of potential site alternatives and during this process has attempted to select the most appropriate site. Factors such as the ability to meet the required coverage and technical objectives, opportunities for co-location, the surrounding landscape and community needs have all been carefully considered as part of this selection process.

Based on this assessment, NBN Co determined that the above address would be the most appropriate location to establish a facility so as to provide high speed wireless broadband coverage to the Orroroo area. This would also serve as a key communications anchor point for other NBN Fixed Wireless facilities in the wider Mid-North region.

Prior to lodgement of this development application, NBN Co has undertaken consultation to gauge feedback from the Orroroo community. The consultation was undertaken in the form of a Community Information Session that was held on Wednesday 5th August 2015 at the Orroroo Memorial Hall from 3:00pm to 6:00pm. The session provided the community with an opportunity to consider the proposal and the broader benefits of the National Broadband Network. The session was attended by approximately 22 community members with predominately positive feedback being received.

Please find enclosed an application for Development Plan Consent and supporting information for a proposed telecommunications facility comprising a 40 metre high monopole along with ancillary components at the above address which will form part the NBN fixed wireless infrastructure.

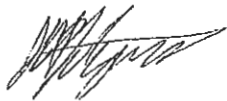
The application is accompanied by:

- Completed Development Application form;
- Completed Electricity Declaration form;

- Planning Report detailing compliance with the Orroroo Carrieton Council Development Plan (Consolidated 22 November 2012);
- A recent copy of the Certificate of Title;
- Preliminary Drawing pack;
- EPBC Act Protected Matters Report; and
- ARPANSA Environmental EME Report.

We trust that you have all the necessary information to commence your assessment of this application. Should you require any additional information regarding this application, please do not hesitate to contact the undersigned on (08) 8237 9989 or by email at adam.pfitzner@aurecongroup.com

Yours faithfully

A handwritten signature in black ink, appearing to read 'Adam Pfitzner'.

Adam Pfitzner
Planner
Aurecon Australasia Pty Ltd
On behalf of **NBN Co Limited**

Planning Report Proposed Fixed Wireless Facility

24 Fourth Street
Orroroo SA 5431

NBN Site Reference

NBN-5PTZ-5PTG-5101 - Orroroo

The contents of this document reflect NBN Co's current position on the subject matter of this document. It is provided solely to explain information relevant to NBN Co's planning proposal. The contents of this document should not be relied upon as representing NBN Co's final position on the subject matter, except where stated otherwise. Any dates provided are indicative only, are subject to change and are dependent upon a number of factors.

Prepared on behalf of NBN Co Limited
By Aurecon Australasia Pty Ltd
10 August 2015

Contents

1	INTRODUCTION	5
2	BACKGROUND	7
2.1	NBN Co and the National Broadband Network	7
2.2	What is Fixed Wireless and how is it different to Mobile Broadband?	7
2.3	The Fixed Wireless Network – Interdependencies	7
3	SITE SELECTION	10
3.1	Identification of areas requiring a Fixed Wireless facility	10
3.2	Site Selection Parameters	10
3.3	Co-Location Opportunities	10
3.4	Candidate Sites	11
3.5	Preferred Site Selection	13
4	SUBJECT LAND & SURROUNDS	14
5	PROPOSED DEVELOPMENT	16
5.1	Facility and Equipment Details	16
5.1.1	Equipment to be Installed	16
5.1.2	Access and Parking Details	16
5.1.3	Construction and Noise	17
6	CURRENT PLANNING CONTROLS	18
6.1	Commonwealth Legislation – The Telecommunications Act	18
6.2	State Policy and Legislation	18
6.3	The Telecommunications Code of Practice	18
7	DEVELOPMENT PLAN ASSESSMENT	19
7.1	Nature of Development	19
7.2	Public Notification	19
7.3	Development Plan Provisions	19
7.4	Development Plan Assessment	20
7.4.1	Building near Airfields	20
7.4.2	Design and Appearance	21
7.4.3	Interface between land uses	22
7.4.4	Telecommunications Facilities and Infrastructure	23
7.4.5	Transportation and Access	25
7.4.6	Residential Zone	25
8	OTHER ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES	27
8.1	Heritage	27
8.2	Electrical Interference and Grounding of the Facility	27

8.3	Erosion, Sedimentation Control and Waste Management	27
8.4	Flora and Fauna and Endangered Species Study	27
8.5	Social and Economic Impacts	28
8.6	Public Safety.....	28
8.6.1	Radiofrequency Emissions.....	28
8.6.2	Access.....	29
8.7	The Public Interest and Benefits of Telecommunications	29
9	CONCLUSION	30
10	APPENDIX.....	31
10.1	Appendix A – Certificate of Title	31
10.2	Appendix B – Proposed Plans.....	32
10.3	Appendix C – EPBC Act Protected Matters Report	33
10.4	Appendix D – ARPANSA Environmental EME Report.....	34

Executive Summary

Proposal	<p>NBN Co propose to install a new fixed wireless facility at 24 Fourth Street, Orroroo SA 5431 comprising of the following:</p> <ul style="list-style-type: none"> ▪ A new 40m high steel monopole; ▪ Three (3) 1077mm long panel antennas at a centreline height of 40m; ▪ Three (3) 500mm long remote radio units (RRUs), mounted behind panel antennas; ▪ One (1) 1800mm diameter parabolic antenna at a centreline height of 37m; ▪ One (1) GPS unit; ▪ Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and ▪ 2.4m high security fencing and associated ancillary equipment.
Purposes	The proposed facility will provide fixed wireless internet services to Orroroo.
Property Details	<p><i>Description of Land:</i> Allotment 4 Filed Plan 160952, in the area named Orroroo, Hundred of Walloway <i>Street Address:</i> 24 Fourth Street, Orroroo, SA 5431 <i>Overall Site Area:</i> approx. 1034m² <i>Property Owner:</i> Trevor McKay</p>
Development Plan	<p><i>Council:</i> District Council of Orroroo Carrieton <i>Zone:</i> Residential Zone <i>Policy Area:</i> N/A <i>Maps:</i> OrCar/3</p>
Application	Construction of a Fixed Wireless Telecommunications Facility comprising a steel monopole, antennas, fencing and associated ancillary equipment.
Applicant	<p>NBN Co Limited (NBN Co) c/- Aurecon Australasia Pty Ltd Level 10, 55 Grenfell Street Adelaide SA 5000 Contact: Adam Pfitzner (08) 8237 9989 adam.pfitzner@aurecongroup.com</p>

1 INTRODUCTION

NBN Co has engaged Ericsson as the equipment vendor and project manager to establish the infrastructure required to facilitate the fixed wireless component of the National Broadband Network (NBN). Ericsson has in turn engaged Aurecon to act on its behalf in relation to the establishment of the required fixed wireless network infrastructure.

The NBN is an upgrade to Australia's existing telecommunications network. It is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

NBN Co plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

To support the Fixed Wireless component of this network, NBN Co requires a fixed wireless site to provide fixed wireless internet services and serve as a key communications anchor point for other NBN Fixed Wireless facilities in the wider region that surrounds the site.

An in-depth site selection process was undertaken in the area prior to confirming the site as the preferred location. This process matched potential candidates against four key factors, specifically:

- Town planning considerations (such as zoning, surrounding land uses, environmental significance and visual impact);
- The ability of the site to provide connection to other sites within the region;
- Construction feasibility; and
- The ability for NBN Co to secure a lease agreement with the landowner.

This application seeks planning consent for:

- A new 40m high steel monopole;
- Three (3) 1077mm long panel antennas at a centreline height of 40m;
- Three (3) 500mm long remote radio units (RRUs), mounted behind panel antennas;
- One (1) 1800mm diameter parabolic antenna at a centreline height of 37m;
- † One (1) GPS unit;
- Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and
- 2.4m high security fencing and associated ancillary equipment.

This submission will provide assessment in respect of the relevant planning guidelines, and demonstrates site selection on the basis of:

- The site is designed so as to be appropriately located & sited so as to minimise visual impact on the immediate & surrounding area;
- The proposal is designed to comply with the relevant Commonwealth, State and Local Legislation;
- The site is designed to achieve the required coverage objectives for the area;
- The proposal is designed to operate within the regulatory framework of Commonwealth, State and Local Government; and

-
- 11 The facility is designed to operate within all current and relevant standards and is regulated by the Australian Communications and Media Authority (ACMA).

2 BACKGROUND

2.1 NBN Co and the National Broadband Network

NBN Co is the organisation responsible for overseeing the upgrade of Australia's existing telecommunications network and for providing wholesale services to retail service providers. The NBN is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

NBN Co plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

The NBN's fixed wireless network will use cellular technology to transmit signals to and from a small antenna fixed on the outside of a home or business, which is pointed directly towards the fixed wireless facility.

NBN Co's fixed wireless network is designed to offer service providers with wholesale access speeds of up to 25Mbps for downloads and 5Mbps for uploads.¹

2.2 What is Fixed Wireless and how is it different to Mobile Broadband?

The NBN's fixed wireless network, which uses advanced technology commonly referred to as LTE or 4G, is engineered to deliver services to a fixed number of premises within each coverage area.

This means that the bandwidth per household is designed to be more consistent than mobile wireless, even in peak times of use.

Unlike a mobile wireless service where speeds can be affected by the number of people moving into and out of the area, the speed available in a fixed wireless network is designed to remain relatively steady.

2.3 The Fixed Wireless Network – Interdependencies

Although fixed wireless facilities are submitted to Council as standalone developments from a planning perspective, they are highly interdependent from a technical perspective. Each fixed wireless facility is connected to another to form a chain of facilities that link back to the fibre network. This is called the 'transmission network'.

The transmission network requires line of sight from facility to facility until it reaches the fibre network. The fixed wireless network will remain unconnected without the transmission network and a break in this chain can have flow on effects to multiple communities.

A typical fixed wireless facility will include three antennas mounted above the surrounding area. Each antenna is designed to cover a set area to maximise signal strength. These network

¹ NBN Co is designing the NBN to provide these speeds to our wholesale customers, telephone and internet service providers. End user experience including the speeds actually achieved over the NBN depends on some factors outside NBN Co's control like equipment quality, software, broadband plans and how the end user's service provider designs its network.

antennas communicate to a small antenna installed on the roof of each customer's home or business.

Each NBN Co Fixed Wireless facility has been designed to heights that allow the panel antennas to have a clear line of sight to the surrounding premises (radio coverage), and also ensure that the radio transmission dish has a clear line of sight to the adjoining network facility to link the sites back into the broader network.

The character of the Fixed Wireless network is visually demonstrated through **Figure 1** below.

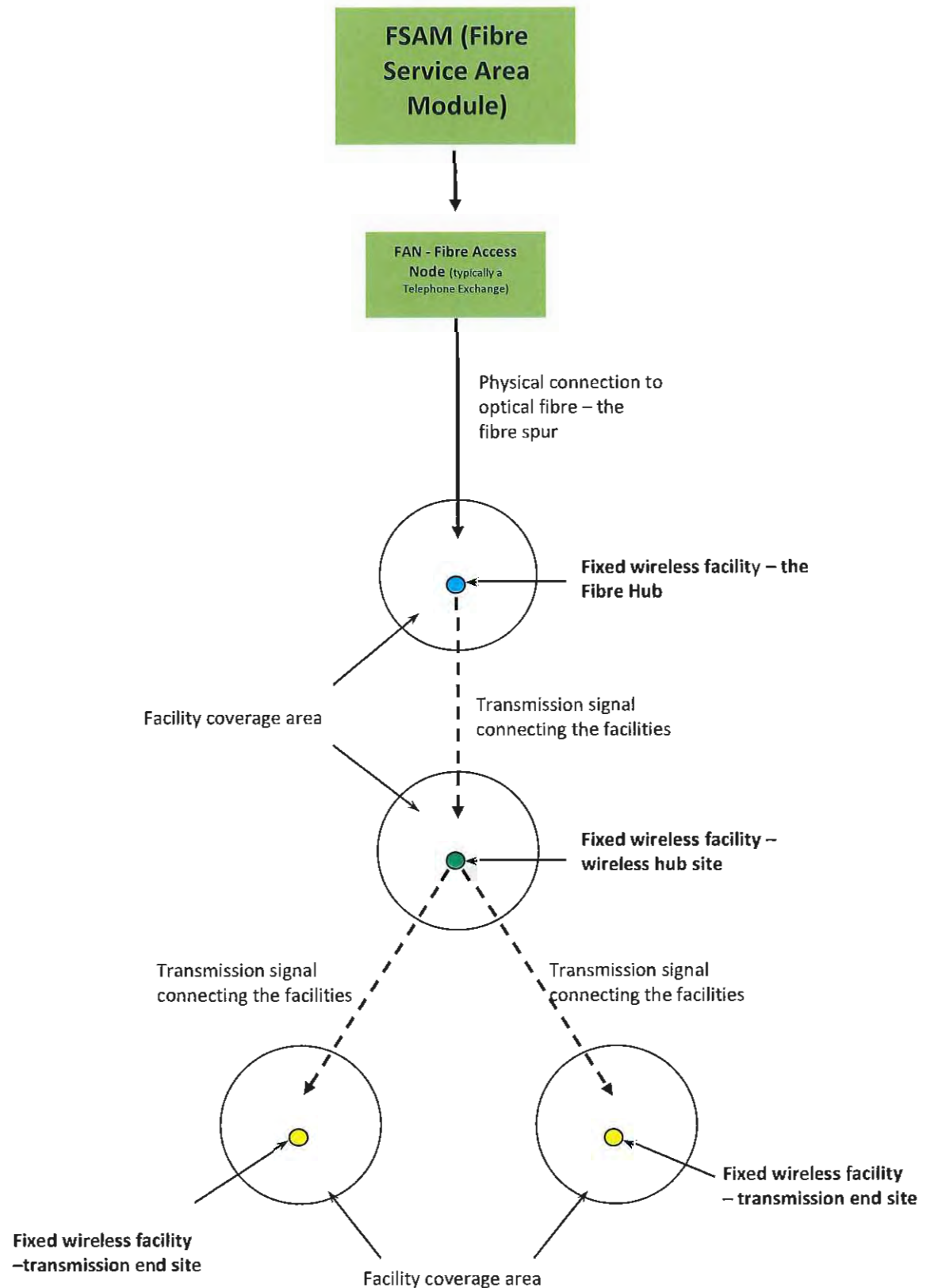


Figure 1: The fixed wireless network

3 SITE SELECTION

Planning for a new fixed wireless broadband facility is a complex process. NBN Co conducts a rigorous multi-stage scoping process, as outlined below.

3.1 Identification of areas requiring a Fixed Wireless facility

NBN Co's Fixed Wireless locations are determined by a number of factors including the availability of both the NBN Co Fibre transit network and the availability of Point of Interconnect (POI) facilities to allow for the installation of NBN Co fibre equipment. NBN Co uses a number of methods to identify those parts of Australia that require Fixed Wireless coverage. When an area is identified as requiring Fixed Wireless coverage, investigations are undertaken to determine the measures required to provide this coverage.

NBN Co has identified a requirement to provide a Fixed Wireless facility in Orroroo to provide fixed wireless internet services to the community.

3.2 Site Selection Parameters

NBN Co generally identifies a 'search area' where a fixed wireless facility would work reliably and provide fixed wireless internet coverage to the community. A preliminary investigation of the area is then generally undertaken, in conjunction with planning and property consultants, radiofrequency engineers and designers in order to identify possible locations to establish a facility.

Generally speaking, new sites must be located within, or immediately adjacent to, the identified search area in order to be technically feasible. However, while the operational and geographical aspects of deploying new facilities are primary factors, there are also many other issues that influence network design, which have to be resolved in parallel.

Some of the issues that may be considered include visual amenity, potential co-location opportunities, the availability and suitability of land as well as a willing site provider, occupational health and safety, construction issues (including structural and loading feasibility and access for maintenance purposes), topographical constraints affecting network line of sight, legislative policy constraints, environmental impacts, and cost implications.

The number, type and height of facilities required to complete the Fixed Wireless network are largely determined by the above operational, geographical and other factors discussed that influence final network design. These compounding factors often severely restrict the available search area within which a facility can be established to provide Fixed Wireless internet services to a local community.

3.3 Co-Location Opportunities

During the preliminary scoping visit, analysis of existing facilities was undertaken to determine if any co-location options were available in order to attach the NBN equipment to an existing tower. The following co-location opportunities were identified:

- A 30 metre high Telstra lattice tower at 1 Fifth Street, Orroroo, SA 5431 – co-location on this facility is not feasible due to the inadequate structural capacity of the existing facility.
- A 55 metre high Optus lattice tower at Section 349 East Terrace, Orroroo, SA 5431 – co-location on this facility is not viable as the land is owned by the Crown which incurs protracted lease negotiations.

In addition to the above, co-location on these facilities is also not technically feasible as the available height (taking into consideration elevations that have been 'reserved' for future Telstra and Optus equipment) for the installation of NBN equipment is too low. This is a particular issue for the parabolic antenna which must provide a line of sight connection to a proposed facility at Peterborough to allow connection to the wider NBN network. The undulating topography of the surrounding locality requires that the antennas be mounted high enough to clear any obstructions.

3.4 Candidate Sites

Following the identification of the search area, a number of candidate sites were examined. Each candidate was assessed based on the ability to meet the transmission objectives and site considerations detailed above. A total of three (3) candidates were selected for in-depth investigation, as per **Figure 2** below. The most feasible site for the proposed development is Candidate C (refer to Figure 2).

NBN Co endeavours to avoid locating search areas in proximity to residential localities and potentially sensitive land uses, where practicable. The search area is predominately located centrally within the Orroroo Township and is generally characterised by a mixture of commercial, residential and recreational land uses.



Figure 2 – NBN Co Candidate Sites (Image Source: Bing Maps)

A summary of the candidates that were proposed is set out in the table below, including a description of the opportunities and constraints resulting from detailed evaluation:

Candidate	Address and Lot Number	Facility Type	Description
A	Section 349 Hundred of Walloway, East Terrace, Orroroo, SA 5431 CR 6076/277	Co-location of NBN equipment on existing Optus facility.	This candidate is an existing 55 metre high Optus lattice tower with associated antennas. Whilst this candidate offers an appropriate co-location opportunity, the subject land is owned by the Crown which incurs protracted tenure negotiations. In addition, current reservations restricts height availability on the existing facility which effects the viability of NBN's transmission link to Peterborough.
B	18 Fifth Street, Orroroo, SA 5431 CT 5687/575	New 40m monopole and associated equipment.	This candidate is located on the Council Works Depot, situated centrally the Orroroo township within the Residential Zone. Whilst this candidate is located within a light industrial land use, it was not selected due to: <ul style="list-style-type: none"> • The condition of the subject land highlights the potential for site contamination issues (being a works depot); • Limited available space for the construction of the facility (required to relocate multiple items of equipment/machinery); • Proximity to residential dwellings and road frontage (more prominent visual impact when compared to Candidate C); • Potential protracted lease negotiations.
C	24 Fourth Street, Orroroo, SA 5431 CT 5309/593	New 40m monopole and associated equipment.	This location was selected as the preferred candidate and is detailed in subsequent sections of this report.

3.5 Preferred Site Selection

The reasons for selecting this site are summarised as follows:

- “ The proposed site has been particularly targeted as it can provide optimal fixed wireless coverage to Orroroo and achieves line-of-sight at an appropriate height as required by NBN Co for connecting to a proposed facility at Peterborough which is crucial for the functioning of the network in the region;
- “ This site is within a property that is used for non-residential purposes, adjacent a Commercial Zone;
- “ The location takes advantage of partial screening provided by existing equipment and vegetation on the subject land.

The proposed development is sited in a location which has a minimal impact on the amenity of the locality whilst being able to provide fixed wireless services to the community in Orroroo and enabling crucial transmission links for other proposed NBN Fixed Wireless facilities in the region.

4 SUBJECT LAND & SURROUNDS

The telecommunications facility is proposed to be located at 24 Fourth Street, Orroroo SA 5431 (the subject land). The land is formally described as Allotment 4 Hundred of Walloway, in the area named Orroroo in Certificate of Title Volume 5309 Folio 593. Refer to **Appendix A** for a copy of the Certificate of Title.

The subject land is a narrow, semi-rectangular shaped allotment which is situated towards the north-western side of the Orroroo Township, setback approximately 60 metres northeast of the main street (Second Street) and approximately 50 metres from Fourth Street. The allotment is used for storage purposes to assist the adjacent Garage that fronts Second Street.

The proposed telecommunications facility and associated lease area is to be located in the north-western corner of the subject land and occupies an area of approximately 80 square metres.

The subject land is within the Residential Zone in accordance with the Orroroo Carrieton Council Development Plan (Consolidated 22 November 2012).

Refer to **Figures 3** and **4** for images which depict the subject land and surrounding locality.

Access to the proposed facility will be from Fourth Street via existing access track on the subject land.

The surrounding locality is characterised by a mix of residential and commercial land uses which are mainly focused on Second Street.



Figure 3: Subject site and surrounding locality (Image Source: Bing Maps)



Image 1: Looking southwest towards site (adjacent tree) on subject land.



Image 2: Looking north towards site on subject land (scrapped cars to be relocated).



Image 3: Looking north-northwest from the median strip on Second Street (near corner of Fourth St) towards subject land (behind Hunts Fuel, adjacent tree)



Image 4: Looking southeast from proposed site towards Fourth Street.

Figure 4: Images of the subject land and surrounding locality

5 PROPOSED DEVELOPMENT

5.1 Facility and Equipment Details

5.1.1 Equipment to be Installed

Approval is sought for the development of a fixed wireless telecommunications facility, comprising the following equipment:

- A new 40m high steel monopole;
- Three (3) 1077mm long panel antennas at a centreline height of 40m;
- Three (3) 500mm long remote radio units (RRUs), mounted behind panel antennas;
- One (1) 1800mm diameter parabolic antenna at a centreline height of 37m;
- One (1) GPS unit;
- Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and
- 2.4m high security fencing and associated ancillary equipment.

The monopole will be constructed from galvanised steel which will fade to a light grey colour within approximately twelve (12) months from construction. The dull colour of the galvanised finish is considered to be the most appropriate finish to mitigate visual impact within the surrounding locality. Associated equipment and cabinets will be a pre-finished light grey colour to match the monopole structure and blend with the surrounding locality.

Please refer to **Appendix B – Proposed Plans** for further details.

5.1.2 Access and Parking Details

The proposed NBN compound will be accessed via an existing access point from Fourth Street which is considered safe and convenient for the proposed development.

NBN Co considers the site access to be appropriate given the NBN Co facility will not be a significant generator of traffic. During the construction phase, it is planned that a truck will be used to deliver the equipment and a crane will be utilised to lift most of the equipment into place. Any traffic impacts associated with construction are expected to be of a short-term duration and are not anticipated to adversely impact on the surrounding road network.

A total construction period of approximately ten weeks (including civil works and network integration and equipment commissioning) is anticipated. Construction activities will involve four basic stages:

- Stage 1 (Week 1) – Site preparation works, including field testing, excavation and construction of foundations;
- Stage 2 (Weeks 2, 3 and 4) – Construction of the mast;
- Stage 3 (Weeks 5 and 6) – Construction of the equipment shelter and fences;
- Stage 4 (Weeks 7 – 10) – Installation of antennas and radio equipment, as well as equipment testing.

Once operational, the facility is designed to function on a continuous, unstaffed basis and will typically only require maintenance works once a year, for approximately one day per year.

5.1.3 Construction and Noise

Noise and vibration emissions associated with the proposed facility are expected to be limited to the construction phase outlined above. Noise generated during the construction phase is anticipated to be of short duration and will be within the standards outlined in the relevant EPA guidelines. Construction works are planned only to occur between the hours of 7.00am and 6.00pm.

There is expected to be some low level noise from the ongoing operation of air conditioning equipment associated with the equipment cabinets, once installed. Noise emanating from the air conditioning equipment is expected to be at a comparable level to domestic air conditioning, and should be consistent with typical background noise levels prescribed by relevant guidelines.

6 CURRENT PLANNING CONTROLS

6.1 Commonwealth Legislation – The Telecommunications Act

The Commonwealth's Telecommunications Act 1997 (the Act) sets the statutory framework for telecommunications carriers to follow. The Commonwealth Department of Broadband, Communications and the Digital Economy are responsible for administering the provisions of the Act. The Act is supported by several other documents of statutory standing, in particular the Telecommunications (Low-Impact Facilities) Determination 1997 as well as the Telecommunications Code of Practice 1997.

When a proposed facility is compliant with the Telecommunications (Low-Impact Facilities) Determination 1997, the Act exempts carriers from State planning legislation. However when a facility is non-compliant with the Telecommunications (Low-Impact Facilities) Determination 1997, the relevant State and Territory planning legislation must be adhered to by the relevant carrier for a proposed facility.

6.2 State Policy and Legislation

Under the *Telecommunications (Low-Impact Facilities) Determination 1997*, the proposed facility is not defined as 'low-impact', due to the proposal involving the construction of a facility that exceeds the maximum requirements that are allowed under the provisions set out by the determination. Therefore the proposed facility is subject to the Development Act 1993 and the Development Regulations 2008.

6.3 The Telecommunications Code of Practice

Under Section 2.11 of the Telecommunications Code of Practice 1997, carriers are required to ensure that the design, planning and installation of their facilities are in accordance with what the industry considers to be 'best practice'.

Section 2.11.3 requires carriers to:

"...minimise the potential degradation of the environment and the visual amenity associated with the facilities."

In order to achieve 'Best Practice', carriers must comply with any relevant industry code or standard, which has been registered by the Australian Communications and Media Authority, under Part 6 of the Telecommunications Act 1997. The planning and siting of the current proposal has regard to Section 3 of the Australian Standard, Siting of Radio-Communications Facilities (AS:3516.2).

7 DEVELOPMENT PLAN ASSESSMENT

7.1 Nature of Development

The subject land is located within the Residential Zone in accordance with the provisions of the Orroroo Carrieton Council Development Plan (Consolidated 22 November 2012).

In accordance with the provisions of the Residential Zone we are of the opinion that the proposed development should be assessed on merit.

7.2 Public Notification

In accordance with Section 38 (2) (c) of the Development Act 1993, we are of the opinion that the proposed telecommunications facility should be assigned Category 3 for Public Notification purposes.

7.3 Development Plan Provisions

The following Objectives and Principles of Development Control (PDC) of the Orroroo Carrieton Council Development Plan (Consolidated 22 November 2012) are considered to be relevant in the assessment of the proposed development.

Council Wide		
Building near Airfields	Objectives	1
	Principles of Development Control	1, 2, 3, 4
Design and Appearance	Objectives	1
	Principles of Development Control	6, 16
Infrastructure	Objectives	1, 2, 4, 5
	Principles of Development Control	10
Interface between land uses	Objectives	1, 2
	Principles of Development Control	1, 2, 6, 7
Siting and Visibility	Objectives	1
	Principles of Development Control	2, 5
Telecommunications Facilities	Objectives	1, 2
	Principles of Development Control	1, 3
Transportation and Access	Objectives	2
	Principles of Development Control	8, 13, 21, 22

Zone Specific		
Residential Zone	Objectives	3
	Principles of Development Control	1, 2, 4, 8

7.4 Development Plan Assessment

7.4.1 Building near Airfields

The proposed location for the NBN Fixed Wireless facility is approximately 7.8 kilometres northwest of the Orroroo Airport runway. The proposed development, in this location, is not considered to affect the long-term operational, safety and commercial aviation requirements of the airfield. In addition to the significant separation distance from the runway, the proposal is located at a bearing of approximately 318.12 degrees from the end of the runway which is not considered to affect the approach/take-off of aircraft.

The development does not propose any lighting as part of this application and is not likely to increase the attraction of birds.

We are of the opinion that the proposed development is consistent with the following provisions:

Building near Airfields

OBJECTIVES

1 Development that ensures the long-term operational, safety and commercial aviation requirements of airfields (airports, airstrips and helicopter landing sites) continue to be met.

PRINCIPLES OF DEVELOPMENT CONTROL

1 The height and location of buildings and structures should not adversely affect the long-term operational, safety and commercial aviation requirements of airfields.

2 Development in the vicinity of airfields should not create a risk to public safety, in particular through any of the following:

- (a) lighting glare
- (b) smoke
- (c) air turbulence
- (d) storage of flammable liquids
- (e) attraction of birds
- (f) materials that affect aircraft navigational aids.

3 Lighting within six kilometres of an airport should be designed so that it does not pose a hazard to aircraft operations.

4 Development that is likely to increase the attraction of birds should not be located within three kilometres of an airport used by commercial aircraft. If located closer than three kilometres the facility should incorporate bird control measures to minimise the risk of bird strikes to aircraft.

7.4.2 Design and Appearance

The proposed NBN fixed wireless telecommunications facility has been designed and sited to provide optimal fixed wireless telecommunications coverage, achieve line-of-sight to other facilities in the region for connection to the wider NBN network and to minimise visual impact where possible.

The proposed location is on a parcel of land primarily used for storage and access for an associated automotive repair and service station on adjoining land within the centre of Orroroo.

The facility has been sited in a location in consultation with the land owner to ensure existing business operations are not affected by the operation of the facility. The location also takes advantage of existing trees adjacent the subject site to provide partial screening to the facility when viewed from the wider locality.

The monopole structure will be constructed of galvanised steel which will fade to a light grey colour within approximately twelve (12) months from the construction of the facility. This finish is considered to be more sympathetic to the surrounding locality in comparison to painted finishes. Associated equipment for the proposed facility is to be of a light grey colour to mitigate potential visual impact with the surrounding locality.

The height of the proposed facility strikes a balance between the need to minimise visual impact on the surrounding locality and technical constraints required for the function of the proposed antennas to provide internet services to Orroroo and connect to the wider NBN network.

We are of the opinion that the proposed development is consistent with the following provisions:

Design and Appearance

OBJECTIVES

- 1. Development of a high architectural standard that responds to and reinforces positive aspects of the local environment and built form.*

PRINCIPLES OF DEVELOPMENT CONTROL

- 6. The external walls and roofs of buildings should not incorporate highly reflective materials which will result in glare.*

- 16. The setback of buildings from public roads should:*

- (a) be similar to, or compatible with, setbacks of buildings on adjoining land and other buildings in the locality*
- (b) contribute positively to the streetscape character of the locality*
- (c) not result in or contribute to a detrimental impact upon the function, appearance or character of the locality.*

Siting and Visibility

OBJECTIVES

- 1. Protection of scenically attractive areas, particularly natural and rural landscapes.*

PRINCIPLES OF DEVELOPMENT CONTROL

- 2. Buildings should be sited in unobtrusive locations and, in particular, should:*

- (a) be grouped together*

(b) where possible be located in such a way as to be screened by existing vegetation when viewed from public roads.

5. The nature of external surface materials of buildings should not detract from the visual character and amenity of the landscape.

7.4.3 Interface between land uses

The proposed Fixed Wireless facility is located at the rear of the property, in the northwest corner, in order to maximise separation from residential dwellings as much as practicable whilst also minimising any potential interference with the existing land use on the subject land. The facility is located approximately 35 metres from the nearest dwelling, which is located northeast of the proposed site and has a frontage to Fourth Street. Established trees on the dwelling's property as well as existing sheds on the subject land assist in minimising potential visual impact from the nearest dwelling. An additional dwelling is located approximately 38 metres southwest of the proposed site and the existing Orroroo Senior Citizens Club Hall assists in screening the lower portion of the facility when viewed from properties that look directly towards the subject land on the opposite side of Fourth Street.

The proposed development is unlikely to cause adverse impacts to the existing land uses in the surrounding locality. The facility has been sited with an existing commercial use which minimises the visual impact of the proposed facility and provides better separation from residential land uses than other centrally located sites which meet coverage requirements.

This facility is to be operated in compliance with the mandatory standard for human exposure to EME – currently the Radio communications (Electromagnetic Radiation Human Exposure) Standard 2003. This standard is set by the Australian Communication and Media Authority (ACMA) and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

During operation, the only noise emitted by this facility is the small cooling system located within the door of each outdoor equipment cabinet. This emits a noise level similar to that of a domestic air conditioner and is unlikely to be noticeable beyond the subject land.

The proposed development is considered to be consistent with the following provisions:

Interface between land uses

OBJECTIVES

- 1. Development located and designed to prevent adverse impact and conflict between land uses.*
- 2. Protect community health and amenity and support the operation of all desired land uses.*

PRINCIPLES OF DEVELOPMENT CONTROL

- 1. Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:*
 - (a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants*
 - (b) noise*
 - (c) vibration*
 - (d) electrical interference*
 - (e) light spill*
 - (f) glare*
 - (g) hours of operation*
 - (h) traffic impacts.*

2. Development should be designed and sited to minimise negative impact on existing and potential future land uses considered appropriate in the locality.

6. Development should be designed, constructed and sited to minimise negative impacts of noise and to avoid unreasonable interference.

7. Development should be consistent with the relevant provisions each of the following documents:

(a) AS 2107 Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors

(b) AS 3671 Acoustics – Road Traffic Noise Intrusion, Building Siting and Construction

(c) the current Environment Protection (Noise) Policy

7.4.4 Telecommunications Facilities and Infrastructure

The proposed facility will provide fast fixed wireless internet services to Orroroo and dwellings in the surrounding locality.

The NBN will enable high speed broadband to be delivered to all Australian households, businesses and enterprises through a combination of fixed line, fixed wireless and satellite technology. The proposed telecommunications facility is part of the National Broadband Network, and will provide fixed wireless services to the community and will have significant benefits for the residents and businesses throughout the Mid North region.

Access to the NBN will provide a wide range of services to meet the need of the community and local businesses in Orroroo, such as:

- High Speed Internet Services
- Upgraded Telephone Services
- Teleworking Opportunities (working from home)
- Distance Education Services
- Online Health Services
- Online Business Services

During the preliminary scoping visit, analysis of existing facilities was undertaken to determine if any co-location options were available for NBN equipment. Two (2) existing telecommunications facilities were identified (55m high Optus lattice tower and 30m high Telstra lattice tower). These facilities are not suitable for co-location of NBN equipment as the available height on the facilities are insufficient for NBN equipment to provide coverage to the town and connect to a proposed facility at Peterborough via line-of-sight. In addition, the existing Optus facility is located on Crown land which can incur protracted tenure negotiations.

NBN Co. endeavours to utilise existing structures where possible, however; height requirements for the antennas and topographic constraints required a new 40m facility be located centrally within the town to provide high quality fixed wireless coverage to residents.

The proposed facility is appropriately sited and designed to minimise the visual impact and amenity of the surrounding locality as much as practicable. The facility has been located with separation from sensitive land uses adjacent a commercial land use and takes advantage of partial screening provided by an established tree and existing buildings within and immediately adjacent the subject land.

The design of the proposed facility balances the need to provide an appropriate standard of fixed wireless services and achieve line of sight to adjacent facilities in the network, whilst minimising visual impact on the surrounding locality as much as practicable. The 40 metre height of the monopole structure is the minimum acceptable height for the antennas to operate effectively.

The proposed development is therefore considered to be consistent with the following provisions:

Telecommunications Facilities

OBJECTIVES

- 1: Telecommunications facilities provided to meet the needs of the community.***
- 2: Telecommunications facilities sited and designed to minimise visual impact on the amenity of the local environment.***

PRINCIPLES OF DEVELOPMENT CONTROL

- 1: Telecommunications facilities should:***
 - (a) be located in a co-ordinated manner to deliver communication services efficiently*
 - (b) use materials and finishes that minimise visual impact*
 - (c) have antennae located as close as practical to the support structure*
 - (d) be located primarily in industrial, commercial, business, office, centre and rural zones*
 - (e) where technically feasible, be co-located with other telecommunications facilities*
 - (f) incorporate landscaping to screen the development, particularly equipment shelters and huts*
 - (g) be designed and sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas.*
- 3. Telecommunications facilities should be located in residential zones only if sited and designed to minimise visual impact by:***
 - (a) using existing buildings and vegetation for screening*
 - (b) where possible, incorporating the facility within an existing structure that may serve another purpose*
 - (c) taking into account the size, scale, context and characteristics of existing structures, landforms and vegetation so as to complement the local environment.*

Infrastructure

OBJECTIVES

- 1. Infrastructure provided in an economical and environmentally sensitive manner.***
- 2. Infrastructure, including social infrastructure, provided in advance of need.***
- 4. The visual impact of infrastructure facilities minimised.***
- 5. The efficient and cost-effective use of existing infrastructure.***

PRINCIPLES OF DEVELOPMENT CONTROL

- 10. Utility buildings and structures should be grouped with non-residential development where possible.***

7.4.5 Transportation and Access

The proposed development utilises an existing access point off of Fourth Street. Given the location of the proposed facility on the subject land, vehicles will be able to enter and exit the site in a forward direction as there is sufficient manoeuvring space. This access arrangement is considered safe and convenient for the proposed development and will not interfere with the free flow of traffic on Fourth Street.

Following construction, traffic generated by this facility will be minimal, with access typically being on a twelve (12) monthly basis for maintenance purposes.

The proposed development is therefore considered to be consistent with the following provisions:

Transportation and Access

OBJECTIVES

2. Development that:

- (a) provides safe and efficient movement for all motorised and non-motorised transport modes*
- (b) ensures access for vehicles including emergency services, public infrastructure maintenance and commercial vehicles*
- (c) provides off street parking*
- (d) is appropriately located so that it supports and makes best use of existing transport facilities and networks.*

PRINCIPLES OF DEVELOPMENT CONTROL

8. *Development should provide safe and convenient access for all anticipated modes of transport including cycling, walking, public and community transport, and motor vehicles.*

13. *Development should make sufficient provision on site for the loading, unloading and turning of all traffic likely to be generated.*

21. *Development should have direct access from an all weather public road.*

22. Development should be provided with safe and convenient access which:

- (a) avoids unreasonable interference with the flow of traffic on adjoining roads*
- (b) accommodates the type and volume of traffic likely to be generated by the development or land use and minimises induced traffic through over-provision*
- (c) is sited and designed to minimise any adverse impacts on the occupants of and visitors to neighbouring properties.*

7.4.6 Residential Zone

The Residential Zone encompasses a wide range of residential and small scale non-residential land uses as defined by Principle of Development Control 1.

Although the proposed development is not specifically an envisaged land use for the zone, the proposed facility is considered to provide an essential service for Orroroo and serve as a key part of the NBN network for the wider Mid-North region. The proposed facility is considered to be broadly consistent with key objectives and desired character of the Residential Zone as:

- 1) The desired character statement identifies the importance of the provision of essential services for future development. The proposed development is providing a crucial broadband service that enables a wide range of capabilities for residents and business owners to support their needs.

- 11 The subject site is located in an area selected in consultation with the land owner to ensure the existing land uses are not adversely affected;
- 11 The location on the subject land takes advantage of existing buildings and vegetation adjacent the site for screening purposes;
- 11 The proposed development is located alongside a light industrial / commercial use to minimise its appearance;
- 11 The location is set back from residential properties and other sensitive land uses as much as practical.

The proposed telecommunications facility is not considered to significantly impair the amenity of the locality, nor is it considered to be in conflict with adjoining land uses on the subject land or within the immediate locality. In summary we are of the opinion that the proposed development is considered to be consistent with the provisions as outlined below:

Residential Zone

OBJECTIVES

3. Development that contributes to the desired character of the zone.

PRINCIPLES OF DEVELOPMENT CONTROL

1. The following forms of development are envisaged in the zone:

- *domestic outbuilding in association with a dwelling*
- *domestic structure*
- *dwelling*
- *dwelling addition*
- *small scale non-residential uses that serve the local community, for example:*
 - *child care facilities*
 - *health and welfare services*
 - *open space*
 - *primary and secondary schools*
 - *recreation areas*
 - *shops, offices or consulting rooms*
- *supported accommodation*

2. Development listed as non-complying is generally inappropriate and not acceptable unless it can be demonstrated that it does not undermine the objectives and principles of the Development Plan.

4. Non-residential development such as shops, schools and consulting rooms should be of a nature and scale that:

- (a) serves the needs of the local community*
- (b) is consistent with the character of the locality*
- (c) does not detrimentally impact on the amenity of nearby residents.*

8. Development should not be undertaken unless it is consistent with the desired character for the zone.

8 OTHER ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

8.1 Heritage

In order to determine any possible natural or cultural values of state or national significance associated with the site, a search was conducted through the relevant Heritage Registers. There are no known items of cultural, historical or environmental heritage significance located in the direct vicinity of the proposal site.

There are no listed items Aboriginal heritage identified within the subject land; however, if any artefacts are found, the construction of this facility will be undertaken pursuant to Section 23 of the Aboriginal Heritage Act of 1998, in order to ensure that no damage is made to the historical artefacts.

8.2 Electrical Interference and Grounding of the Facility

The NBN fixed wireless network is licensed by the Australian Communications and Media Authority (ACMA) for the use of the LTE2300 frequency band. As NBN Co is a licensee of this sub-band, emissions from NBN Co equipment within the frequency band should not cause interference.

Filters will also help to ensure that each facility meets the ACMA specifications for emission of spurious signals outside the NBN Co frequency allocations. NBN Co intends to promptly investigate any interference issues that are reported.

The facility is also designed to be grounded (earthed) to the relevant Australian Standards.

8.3 Erosion, Sedimentation Control and Waste Management

All erosion and sediment control mitigation measures will be detailed in construction plans and will be designed to comply with the Building Code of Australia and local Council standards. In addition, NBN Co contractors will be informed that they must comply with the 'NBN Construction Specification' that requires contractors to undertake the necessary erosion and sediment control measures in order to protect the surrounding environment. On completion of the installation, NBN Co intends to restore and reinstate the site to an appropriate standard. No waste which requires collection or disposal should be generated by the operation of the facility.

8.4 Flora and Fauna and Endangered Species Study

In order to determine any possible natural Flora, Fauna and Endangered Species significance associated with the site, a search was conducted through the relevant environmental searches.

It was identified that there are six (6) '*Listed Threatened Species*', one (1) '*Listed Ecological Community*' and five (5) '*Listed Migratory Species*' that may occur within a 0.5km radius of the site.

Given that the footprint of the site is relatively small (10m by 8m); the proposed installation is considered to be of low impact to flora and fauna. Precautions will be taken in order to minimise the removal or damage to any native species that may be present in the area of the proposed site. The siting of the facility ensures no vegetation will be removed or damaged².

Please refer to the Protected Matters Search Report in **Appendix C** for further details.

8.5 Social and Economic Impacts

Access to fast internet is an essential service in contemporary society. Initially, small to medium business customers accounted for a significant part of the demand for broadband technology, but internet services have now been embraced by the general public. Usage of internet services continues to widen as new technologies become progressively more affordable and accessible for the wider community.

The proposed development will enable fast fixed wireless internet coverage to be provided in the District Council of Orroroo Carrieton region by enabling proposed NBN fixed wireless facilities to be connected to the wider NBN network.

The new NBN is designed to provide the community with access to fast and reliable internet services. A reliable internet service is important to help promote the economic growth of communities, and the facility is anticipated to have significant social and economic benefits for the local community.

8.6 Public Safety

8.6.1 Radiofrequency Emissions

In relation to public safety and specifically Electromagnetic Emissions (EME) and public health, NBN Cooperates within the operational standards set by the Australian Communication and Media Authority (ACMA) and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). ARPANSA is a Federal Government agency incorporated under the Health and Ageing portfolio and is charged with the responsibility for protecting the health and safety of both people and the environment from the harmful effects of radiation (ionising and non-ionising).

All NBN Co installations are designed and certified by qualified professionals in accordance with all relevant Australian Standards. This helps to ensure that the NBN Co facility does not result in any increase in the level of risk to the public.

This facility is to be operated in compliance with the mandatory standard for human exposure to EME – currently the Radio communications (Electromagnetic Radiation Human Exposure) Standard 2003. The EME Report associated with this site is attached in **Appendix D**. The report shows that the maximum predicted EME will equate to 0.11% of the maximum exposure limit. This is substantially less than 1% of the maximum allowable exposure limit.

² Whilst all care is taken in the siting of the facility, some native vegetation may be required to be cleared as part of the construction process. If required, a separate application will be submitted to the Native Vegetation Council for the clearing of the native vegetation.

Moreover, all NBN Co equipment has the following features, all of which help to minimise the amounts of energy used and emitted:

- Dynamic/Adaptive Power Control is a network feature that automatically adjusts the power and hence minimises EME from the facility.
- Varying the facility's transmit power to the minimal required level, minimising EME from the network, and
- Discontinuous transmission, a feature that reduces EME emissions by automatically switching the transmitter off when no data is being sent.

8.6.2 Access

The proposed facility will have restrictions aimed at preventing public access, including a secured compound fence with a locked gate and warning signs placed around the facility.

8.7 The Public Interest and Benefits of Telecommunications

The proposed NBN Co facility is expected to have significant benefit for residents in the Orroroo area. NBN Co believes that the approval of the proposal will serve the public interest, given benefits for enhanced internet coverage in the area. The facility is expected to have benefits for local residents and businesses within the district.

There are numerous other benefits of telecommunications connectivity, as follows:³

- There are many potential educational benefits justifying the implementation of the NBN. Curriculum and data sharing, increased availability and accessibility of research materials, and virtual classroom environments are good examples. Such elements are particularly beneficial within a tertiary education context.
- Businesses can, through internet usage, increase efficiency through time, resource and monetary savings. Improved internet services effectively remove physical distance and travel time as a barrier to business.
- Improvements to internet services may also be of benefit for local employees, by enabling telecommuting and home business. The telecommuting trend is heavily reliant on access to fast internet services, and is anticipated to continually increase in popularity.

The public benefits of access to fast internet services have been widely acknowledged for many years. Reliable internet access is now more than ever an integral component of daily life, so much so that its absence is considered a social disadvantage.

³ End user experience including the speeds actually achieved over the NBN depends on some factors outside NBN Co's control like the end user's equipment quality, software, broadband plans and how the end user's service providers designs its network.

9 CONCLUSION

NBN Co considers that the proposed facility, comprising of a 40 metre high monopole with attached antennas, outdoor cabinets and associated ancillary equipment has been situated in the most appropriate location whilst ensuring adequate coverage to Orroroo and surrounding areas is achieved.

The facility has been strategically sited and designed to minimise visibility within the surrounding environment as much as practicable. In this regard NBN Co considers that the proposal satisfies the requirements of the Orroroo Carrieton Council Development Plan, whilst also addressing internet service deficiencies within the Orroroo area. The location of the facility provides an important ongoing benefit to the District Council of Orroroo Carrieton region.

NBN Co considers that the proposal is also consistent with the stated objectives and principles of development control within the Orroroo Carrieton Council Development Plan (Consolidated 22 November 2012). The proposal also considers the Telecommunications Act 1997 and the Telecommunications Code of Practice 1997.

In this regard, the proposal satisfies the provisions of the Orroroo Carrieton Council Development Plan and we are of the opinion that the proposal has sufficient merit to warrant Development Plan Consent.

10 APPENDIX

10.1 Appendix A – Certificate of Title



Title Register Search

LANDS TITLES OFFICE, ADELAIDE

For a Certificate of Title issued pursuant to the Real Property Act 1886

REGISTER SEARCH OF CERTIFICATE OF TITLE * VOLUME 5309 FOLIO 593 *

COST : \$26.50 (GST exempt)	PARENT TITLE : CT 2420/135
REGION : EMAIL	AUTHORITY : CONVERTED TITLE
AGENT : PHPL BOX NO : 000	DATE OF ISSUE : 23/11/1995
SEARCHED ON : 05/08/2014 AT : 13:34:20	EDITION : 5
CLIENT REF N-ORROROO	

REGISTERED PROPRIETOR IN FEE SIMPLE

TREVOR THOMAS MCKAY OF 17 FOURTH STREET ORROROO SA 5431

DESCRIPTION OF LAND

ALLOTMENT 4 FILED PLAN 160952
IN THE AREA NAMED ORROROO
HUNDRED OF WALLOWAY

EASEMENTS

SUBJECT TO A FREE AND UNRESTRICTED RIGHT OF WAY OVER THE LAND MARKED A

SCHEDULE OF ENDORSEMENTS

9763559 MORTGAGE TO WESTPAC BANKING CORPORATION

NOTATIONS

DOCUMENTS AFFECTING THIS TITLE

NIL

REGISTRAR-GENERAL'S NOTES

NIL

END OF TEXT.

This plan is scanned for Certificate of Title 2420/135
See title text for easement details.



1 FOOT = 0.3048 metres
1 INCH = 0.0254 metres

Page 2 of 2

10.2 Appendix B – Proposed Plans

DATE OF ISSUE

DRAWING PACKAGE VERSION

17-12-14	19-12-14								
1	2								

GENERAL

5PTG-51-01-ORRO-T1	COVER SHEET	01	02						
5PTG-51-01-ORRO-C1	SITE SPECIFIC NOTES AND ANTENNA TABLE	01	02						
5PTG-51-01-ORRO-C2	OVERALL SITE PLAN	01	01						
5PTG-51-01-ORRO-C3	SITE SETOUT PLAN	01	02						
5PTG-51-01-ORRO-C4	SITE ELEVATION AND DETAILS	01	02						

STRUCTURAL

ELECTRICAL

EME EXCLUSION ZONES

LEASE / LICENSE PLAN

REFERENCE DOCUMENTS

DISTRIBUTION

ERICSSON	MALCOLM LEWIS	1	1						
AURECON	PHIL PASCHKE	1	1						

**SITE No: 5PTG-51-01-ORRO
ORROROO**

**24 FOURTH STREET
ORROROO
SA 5431**



PROJECT SUMMARY

PROPOSED NBN 40m MONOPOLE WITH CIRCULAR HEADFRAME
PROPOSED NBN OUTDOOR CABINETS INSTALLED ON A CONCRETE SLAB WITHIN THE NBN COMPOUND

Client:



Client:



Client:

Project:

NATIONAL BROADBAND
NETWORK
SITE No: 5PTG-51-01-ORRO
ORROROO
24 FOURTH STREET
ORROROO
SA 5431

PRELIMINARY

02	19.12.14	40m MONOPOLE
01	17.12.14	PRELIMINARY ISSUE
Rev	Date	Revision Details



DESIGNER: KT

CHECKED: *[Signature]*APPROVED: *[Signature]*

Drawing Title:

COVER SHEET

Drawing No.	Revision
5PTG-51-01-ORRO-T1	02

NBN ANTENNA CONFIGURATION

SECTOR	SYMBOL	ANTENNA DETAIL								MAIN FEEDER DETAIL				RRU DETAIL		RF TAIL		RET CABLE	
		TYPE	DIMENSION HxWxD	C/L HEIGHT	AZIMUTH (TN)	E-TILT	MECH TILT	DESTINATION	QUANTITY RAU	TYPE	OVERALL LENGTH	CANISTER HEIGHT	CANISTER TO RRU LENGTH	TYPE	LOCATION	TYPE	LENGTH	TYPE	LENGTH
1	①	ARGUS-LLPX310R-V1	1077x300x115	40.0m	40°	4°	0°	N/A	N/A	H&S HYBRID 19.6mm CABLE	60m	39.0m	2m	RRUS61	BEHIND ANTENNA	H&S 1/2" BIRD PROOFED LISCA CABLE	2m	1/TSR 484 21/2000	1.5m
2	②	ARGUS-LLPX310R-V1	1077x300x115	40.0m	100°	4°	0°	N/A	N/A				2m	RRUS61	BEHIND ANTENNA		2m	1/TSR 484 21/2000	1.5m
3	③	ARGUS-LLPX310R-V1	1077x300x115	40.0m	180°	4°	0°	N/A	N/A				2m	RRUS61	ADJACENT MOUNT		5m	1/TSR 484 21/2000	1.5m
4																			
5																			
6																			
A	Ⓐ	PARABOLIC	Ø1800	37m	139°	N/A	N/A	PETERBOROUGH NORTH	1-OFF	LDF 1-50 CABLE	50m	-	-	-	-	-	-	-	-
B																			
C																			
D																			
GPS		KRE 101282/1	Ø69x96	2.5m	N/A	N/A	N/A	N/A	N/A	LDF 1-50 CABLE	10m	-	-	-	-	-	-	-	-

Client:



Client:



Client:

Project:

NATIONAL BROADBAND
NETWORK
SITE No: 5PTG-51-01-ORRO
ORROROO
24 FOURTH STREET
ORROROO
SA 5431

PRELIMINARY

02 19.12.14 40m MONOPOLE
01 17.12.14 PRELIMINARY ISSUE
Rev Date Revision Details

aurecon
Aurecon Australia Pty Ltd ABN 54 005 139 873

DESIGNER: KT

CHECKED: JC

APPROVED: [Signature]

Drawing Title:
**SITE SPECIFIC NOTES
AND ANTENNA TABLE**

Drawing No.
5PTG-51-01-ORRO-C1 Revision
02

SITE INFORMATION:

1. SITE ADDRESS

24 FOURTH STREET, ORROROO, SA 5431

2. GENERAL

THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT NBN CONSTRUCTION STANDARDS,
CURRENT AUSTRALIAN STANDARDS AND SPECIFICATIONS

3. SITE ACCESS

ACCESS TO THE PROPOSED NBN SITE IS AVAILABLE FROM FOURTH STREET AND ACROSS THE
LANDLORD'S PROPERTY AS SHOWN ON DRAWING C2

4. EQUIPMENT

PROPOSED NBN OUTDOOR CABINETS ARE TO BE INSTALLED ON A CONCRETE SLAB WITHIN
THE NBN COMPOUND & LEASE AREA

5. STRUCTURE

NEW NBN 40m MONOPOLE WITH CIRCULAR HEADFRAME

6. ANTENNA ACCESS

ANTENNA ACCESS WILL BE AVAILABLE TO QUALIFIED RIGGERS ONLY BY CLIMBING THE
ACCESS LADDER INSTALLED ON THE MONOPOLE USING THE LAD-SAF SAFETY CLIMB SYSTEM,
OR VIA EWP

7. EXISTING SERVICES

THE CONTRACTOR SHALL IDENTIFY AND CONFIRM THE LOCATION OF ALL RELEVANT EXISTING
SERVICES AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS

8. EXISTING SITE HAZARDS

- AREA SURROUNDING THE NBN SITE LOCATION IS CURRENTLY
USED FOR STORAGE, BE AWARE OF POSSIBLE TRIP HAZARDS
- VEHICULAR MOVEMENTS ACROSS THE PROPERTY ASSOCIATED
WITH THE LANDLORD'S BUSINESS

9. ELECTRICAL SUPPLY

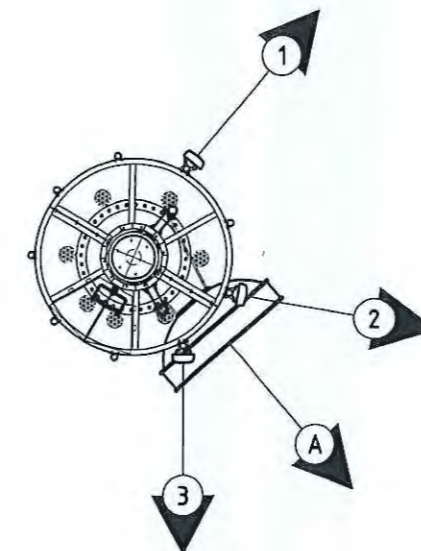
POWER EXISTS AT THE EXISTING BUSINESS ON THE PROPERTY.
THE FINAL SUPPLY POINT IS TO BE CONFIRMED WITH SA POWER
NETWORKS

10. TRANSMISSION LINK

REFER TO TABLE ABOVE

11. SITE SPECIFIC NOTES

- FINAL LAYOUT OF NBN EQUIPMENT SUBJECT TO CONFIRMATION
OF MONOPOLE FOOTING DIMENSIONS
- SECTOR 3 RRU TO BE INSTALLED ON THE MOUNT POLE
ADJACENT THE ANTENNA TO AVOID INTERFERENCE WITH THE
HEADFRAME ACCESS HATCH



ANTENNA SETOUT PLAN

SCALE 1:100

SITE LOCATION



COPYRIGHT © OPENSTREETMAP CONTRIBUTORS, CC BY-SA
<http://www.openstreetmap.org>
<http://creativecommons.org/licenses/by-sa/2.0/>
 Use of this image is subject to the terms and conditions of the Creative Commons Attribution-ShareAlike 2.0
 licence, the full licence of which can be accessed at <http://creativecommons.org/licenses/by-sa/2.0/legalcode>

SITE CO-ORDINATES

MONOPOLE LOCATION

DATUM: MGA (GDA94)	ZONE: 54
LATITUDE	-32.732735
LONGITUDE	138.611978
EASTING	276 224
NORTHING	6 375 819

LEGEND

---	PROPERTY BOUNDARY
— NUE — NUE —	NBN UNDERGROUND ELECTRICAL LINE
— A E — A E —	AERIAL ELECTRICAL LINE
— / — / —	EXISTING FENCE



OVERALL SITE PLAN

SCALE 1:2000

NOTES:

1. THE NBN SUB-MAIN ROUTE SHOWN ON THE DRAWINGS IS INDICATIVE ONLY. ELECTRICAL CONTRACTOR TO DETERMINE AN EXACT ROUTE. ELECTRICAL CONTRACTOR TO LOCATE AND IDENTIFY EXISTING U/G SERVICES PRIOR TO COMMENCEMENT OF WORK.

Client:



Client:



Client:

Project:

NATIONAL BROADBAND
 NETWORK
 SITE No: 5PTG-51-01-ORRO
 ORROROO
 24 FOURTH STREET
 ORROROO
 SA 5431

PRELIMINARY

01 17.12.14 PRELIMINARY ISSUE
 Rev Date Revision Details



DESIGNER: KT

CHECKED: *[Signature]*

APPROVED: *[Signature]*

Drawing Title:

OVERALL
 SITE PLAN

Drawing No. 5PTG-51-01-ORRO-C2 Revision 01



PROPOSED NBN PANEL ANTENNA WITH
NBN REMOTE RADIO UNITS FIXED BEHIND
THE PANEL ANTENNA (TYP)

PROPOSED NBN 40m MONOPOLE WITH
CIRCULAR HEADFRAME

PROPOSED NBN MONOPOLE FOUNDATION
(INDICATIVELY SHOWN)

PROPOSED MONOPOLE ACCESS LADDER

PROPOSED NBN 2.4m HIGH CHAINWIRE
SECURITY FENCE WITH 3.0m WIDE ACCESS
GATES

EXISTING FENCE

PROPOSED NBN $\phi 1800$ PARABOLIC ANTENNA
(TO PETERBOROUGH NORTH)

EXISTING STORAGE AREA
ASSOCIATED WITH LANDLORDS
BUSINESS

EXISTING CAR BODIES & OTHER MACHINERY
TO BE RELOCATED PRIOR TO COMMENCEMENT
OF CONSTRUCTION (NOT SHOWN FOR CLARITY)

PROPOSED NBN 300mm WIDE CABLE LADDER
WITH 1-OFF CABLE LADDER SUPPORT POST
AND PROPOSED NBN GPS UNIT (1-OFF)

PROPOSED NBN POWER DISTRIBUTION
BOARD/METER PANEL ON H-FRAME

EXISTING PROPERTY BOUNDARY
(TYP)

PROPOSED NBN UNDERGROUND CONSUMER'S
MAIN IN HDuPVC ELECTRICAL CONDUIT
(APPROX 85m)

PROPOSED NBN OUTDOOR CABINET SSC-02
INSTALLED ON A CONCRETE SLAB

NBN OUTDOOR CABINET SSC-02
(FUTURE LOCATION)

DETAIL
SCALE 1:100

1
C2

LEGEND

- PROPERTY BOUNDARY
- NUE — NUE — NBN UNDERGROUND CONSUMER'S MAIN CABLE IN HDuPVC ELECTRICAL CONDUIT
- / — / — NBN COMPOUND FENCE & LEASE AREA
- / — / — EXISTING FENCE

NOTES:

1. THE ELECTRICAL ROUTE SHOWN ON THIS DRAWING IS INDICATIVE ONLY, FINAL ROUTE TO BE DETERMINED ON SITE PRIOR TO CONSTRUCTION
2. CONSTRUCTOR SHALL LOCATE AND IDENTIFY ANY EXISTING UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK ON SITE

Client:



Client:



Client:

Project:

NATIONAL BROADBAND
NETWORK
SITE No: 5PTG-51-01-ORRO
ORROROO
24 FOURTH STREET
ORROROO
SA 5431

PRELIMINARY

02	19.12.14	40m MONOPOLE
01	17.12.14	PRELIMINARY ISSUE
Rev	Date	Revision Details



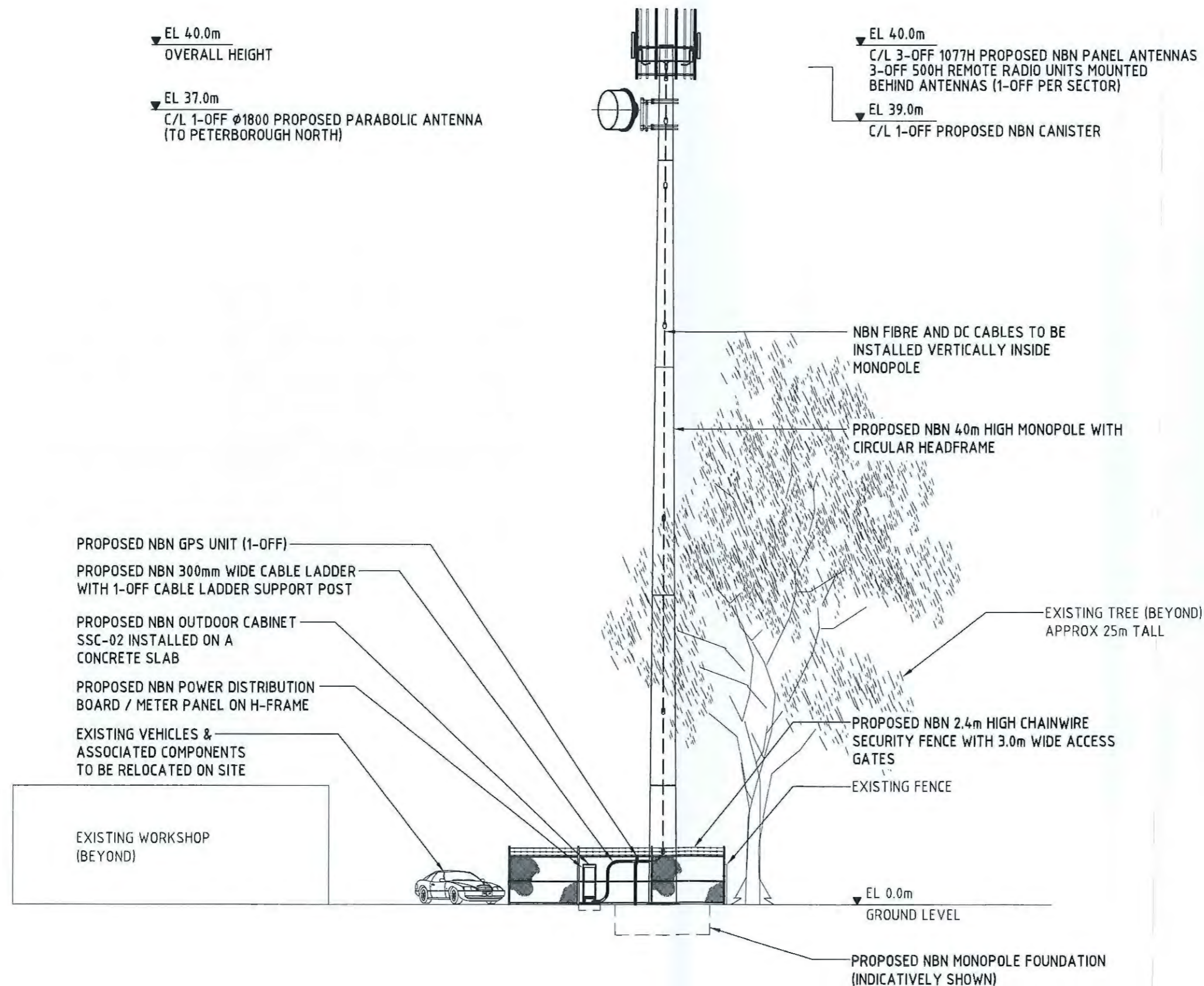
DESIGNER: KT

CHECKED: *PC*

APPROVED: *EL*

Drawing Title:
SITE SETOUT
PLAN

Drawing No. 5PTG-51-01-ORRO-C3
Revision 02



WEST ELEVATION

SCALE 1:200

Client:



Client:



Client:

Project:

NATIONAL BROADBAND
NETWORK
SITE No: 5PTG-51-01-ORRO
ORROROO
24 FOURTH STREET
ORROROO
SA 5431

PRELIMINARY

02	19.12.14	40m MONOPOLE
01	17.12.14	PRELIMINARY ISSUE
Rev	Date	Revision Details



DESIGNER: KT

CHECKED: *KT*

APPROVED: *KT*

Drawing Title:
SITE ELEVATION
AND DETAILS

Drawing No. 5PTG-51-01-ORRO-C4
Revision 02

10.3 Appendix C – EPBC Act Protected Matters 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.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 29/07/15 17:46:20

[Summary](#)

[Details](#)

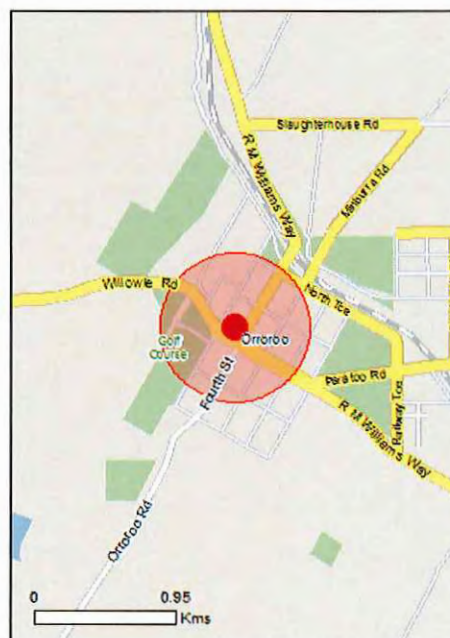
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

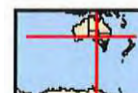
[Acknowledgements](#)



This map may contain data which are
©Commonwealth of Australia
(Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 0.5Km



Summary

Matters of National Environmental 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](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	6
Listed Migratory Species:	5

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 environment anywhere.

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/index.html>

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.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	7
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	26
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [\[Resource Information \]](#)

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, 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.

Name	Status	Type of Presence
Iron-grass Natural Temperate Grassland of South Australia	Critically Endangered	Community likely to occur within area

Listed Threatened Species [\[Resource Information \]](#)

Name	Status	Type of Presence
Birds		

Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat may occur within area
---	-----------------------	--

Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
--	------------	--

Plants

Caladenia tensa Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat likely to occur within area
---	------------	--

Codonocarpus pyramidalis Slender Bell-fruit, Camel Poison [19507]	Vulnerable	Species or species habitat likely to occur within area
--	------------	--

Reptiles

Aprasia pseudopulchella Flinders Ranges Worm-lizard [1666]	Vulnerable	Species or species habitat likely to occur within area
---	------------	--

Tiliqua adelaidensis Pygmy Blue-tongue Lizard, Adelaide Blue-tongue Lizard [1270]	Endangered	Species or species habitat may occur within area
--	------------	--

Listed Migratory Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		

Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
---	--	--

Migratory Terrestrial Species

Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
---	--	--

Migratory Wetlands Species

Name	Threatened	Type of Presence
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

Invasive Species

[Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
<i>Alauda arvensis</i> Skylark [656]		Species or species habitat likely to occur within area
<i>Anas platyrhynchos</i> Mallard [974]		Species or species habitat likely to occur within area
<i>Carduelis carduelis</i> European Goldfinch [403]		Species or species habitat likely to occur within area
<i>Columba livia</i> Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
<i>Passer domesticus</i> House Sparrow [405]		Species or species habitat likely to occur within area
<i>Streptopelia chinensis</i> Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
<i>Sturnus vulgaris</i> Common Starling [389]		Species or species habitat likely to occur within area
<i>Turdus merula</i> Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
<i>Capra hircus</i> Goat [2]		Species or species habitat likely to occur within area
<i>Felis catus</i> Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
<i>Lepus capensis</i> Brown Hare [127]		Species or species habitat likely to occur within area
<i>Mus musculus</i> House Mouse [120]		Species or species habitat likely to occur within area
<i>Oryctolagus cuniculus</i> Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
<i>Vulpes vulpes</i> Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		

Name	Status	Type of Presence
<i>Asparagus asparagoides</i> Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
<i>Austrocylindropuntia</i> spp. Prickly Pears [85132]		Species or species habitat likely to occur within area
<i>Carrichtera annua</i> Ward's Weed [9511]		Species or species habitat likely to occur within area
<i>Cenchrus ciliaris</i> Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
<i>Chrysanthemoides monilifera</i> Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
<i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i> Boneseed [16905]		Species or species habitat likely to occur within area
<i>Genista</i> sp. X <i>Genista monspessulana</i> Broom [67538]		Species or species habitat likely to occur within area
<i>Lycium ferocissimum</i> African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
<i>Olea europaea</i> Olive, Common Olive [9160]		Species or species habitat likely to occur within area
<i>Pinus radiata</i> Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
<i>Rubus fruticosus</i> aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
<i>Ulex europaeus</i> Gorse, Furze [7693]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, 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.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

Coordinates

-32.73274 138.61198

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:

- [Department of Environment, Climate Change and Water, New South Wales](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment and Natural Resources, South Australia](#)
- [Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [Environmental and Resource Management, Queensland](#)
- [Department of Environment and Conservation, Western Australia](#)
- [Department of the Environment, Climate Change, Energy and Water](#)
- [Birds Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [SA 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, Atherton and Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [State Forests of NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- 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.

[© Commonwealth of Australia](#)
Department of the Environment
GPO Box 787
Canberra ACT 2601 Australia
+61 2 6274 1111

10.4 Appendix D – ARPANSA Environmental EME Report



Environmental EME Report

Orroroo 24 Fourth Street, ORROROO SA 5431

This report provides a summary of Calculated RF EME Levels around the wireless base station

Date 11/8/2015

RFNSA Site No. 5431007

Introduction

The purpose of this report is to provide calculations of EME levels from the existing facilities at the site and any proposed additional facilities.

This report provides a summary of levels of radiofrequency (RF) electromagnetic energy (EME) around the wireless base station at Orroroo 24 Fourth Street ORROROO SA 5431. These levels have been calculated by Ericsson using methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

The maximum EME level calculated for the proposed systems at this site is 0.11% of the public exposure limit.

The ARPANSA Standard

ARPANSA, an Australian Government agency in the Health and Ageing portfolio, has established a Radiation Protection Standard specifying limits for general public exposure to RF transmissions at frequencies used by wireless base stations. The Australian Communications and Media Authority (ACMA) mandates the exposure limits of the ARPANSA Standard.

How the EME is calculated in this report

The procedure used for these calculations is documented in the ARPANSA Technical Report "Radio Frequency EME Exposure Levels - Prediction Methodologies" which is available at <http://www.arpansa.gov.au>.

RF EME values are calculated at 1.5m above ground at various distances from the base station, assuming level ground.

The estimate is based on worst-case scenario, including:

- wireless base station transmitters for mobile and broadband data operating at maximum power
- simultaneous telephone calls and data transmission
- an unobstructed line of sight view to the antennas.

In practice, exposures are usually lower because:

- the presence of buildings, trees and other features of the environment reduces signal strength
- the base station automatically adjusts transmit power to the minimum required.

Maximum EME levels are estimated in 360° circular bands out to 500m from the base station.

These levels are cumulative and take into account emissions from all mobile phone antennas at this site.

The EME levels are presented in three different units:

- volts per metre (V/m) – the electric field component of the RF wave
- milliwatts per square metre (mW/m²) – the power density (or rate of flow of RF energy per unit area)
- percentage (%) of the ARPANSA Standard public exposure limit (the public exposure limit = 100%).

Results

The maximum EME level calculated for the proposed systems at this site is 2.076 V/m; equivalent to 11.43 mW/m² or 0.11% of the public exposure limit.

Radio Systems at the Site

There are currently no existing radio systems for this site.

It is proposed that this base station will have equipment for transmitting the following services:

Carrier	Radio Systems
NBN Co	LTE2300 (proposed)

Calculated EME Levels

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.

Distance from the antennas at Orroroo 24 Fourth Street in 360° circular bands	Maximum Cumulative EME Level – All carriers at this site					
	Existing Equipment			Proposed Equipment		
	Electric Field V/m	Power Density mW/m ²	% ARPANSA exposure limits	Electric Field V/m	Power Density mW/m ²	% ARPANSA exposure limits
0m to 50m				0.8	1.71	0.017%
50m to 100m				0.67	1.19	0.012%
100m to 200m				1.75	8.096	0.081%
200m to 300m				2.076	11.43	0.11%
300m to 400m				1.97	10.24	0.1%
400m to 500m				1.54	6.3	0.063%
Maximum EME level				2.076	11.43	0.11
	247.9 m from the antennas at Orroroo 24 Fourth Street					

Calculated EME levels at other areas of interest

This table contains calculations of the maximum EME levels at selected areas of interest that have been identified through the consultation requirements of the Communications Alliance Ltd Deployment Code C564:2011 or via any other means. The calculations are performed over the indicated height range and include all existing and any proposed radio systems for this site.

Additional Locations	Height / Scan relative to location ground level	Maximum Cumulative EME Level All Carriers at this site Existing and Proposed Equipment		
		Electric Field V/m	Power Density mW/m ²	% of ARPANSA exposure limits
Orroroo Area School on West Terrace	0m to 3m	1.22	3.93	0.039%

RF EME Exposure Standard

The calculated EME levels in this report have been expressed as percentages of the ARPANSA RF Standard and this table shows the actual RF EME limits used for the frequency bands available. At frequencies below 2000 MHz the limits vary across the band and the limit has been determined at the Assessment Frequency indicated. The four exposure limit figures quoted are equivalent values expressed in different units – volts per metre (V/m), watts per square metre (W/m²), microwatts per square centimetre (μW/cm²) and milliwatts per square metre (mW/m²). Note: 1 W/m² = 100 μW/cm² = 1000 mW/m².

Radio Systems	Frequency Band	Assessment Frequency	ARPANSA Exposure Limit (100% of Standard)
LTE 700	758 – 803 MHz	750 MHz	37.6 V/m = 3.75 W/m ² = 375 μW/cm ² = 3750 mW/m ²
WCDMA850	870 – 890 MHz	900 MHz	41.1 V/m = 4.50 W/m ² = 450 μW/cm ² = 4500 mW/m ²
GSM900, LTE900, WCDMA900	935 – 960 MHz	900 MHz	41.1 V/m = 4.50 W/m ² = 450 μW/cm ² = 4500 mW/m ²
GSM1800, LTE1800	1805 – 1880 MHz	1800 MHz	58.1 V/m = 9.00 W/m ² = 900 μW/cm ² = 9000 mW/m ²
LTE2100, WCDMA2100	2110 – 2170 MHz	2100 MHz	61.4 V/m = 10.00 W/m ² = 1000 μW/cm ² = 10000 mW/m ²
LTE2300	2302 – 2400 MHz	2300 MHz	61.4 V/m = 10.00 W/m ² = 1000 μW/cm ² = 10000 mW/m ²
LTE2600	2620 – 2690 MHz	2600 MHz	61.4 V/m = 10.00 W/m ² = 1000 μW/cm ² = 10000 mW/m ²
LTE3500	3425 – 3575 MHz	3500 MHz	61.4 V/m = 10.00 W/m ² = 1000 μW/cm ² = 10000 mW/m ²

Further Information

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) is a Federal Government agency incorporated under the Health and Ageing 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:

- Further explanation of this report in the document "Understanding the ARPANSA Environmental EME Report"
- The procedure used for the calculations in this report is documented in the ARPANSA Technical Report; "Radio Frequency EME Exposure Levels - Prediction Methodologies"
- the current RF EME exposure standard
Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), 2002, 'Radiation Protection Standard: Maximum Exposure Levels to Radiofrequency Fields — 3 kHz to 300 GHz', Radiation Protection Series Publication No. 3, ARPANSA, Yallambie Australia.
[Printed version: ISBN 0-642-79400-6 ISSN 1445-9760] [Web version: ISBN 0-642-79402-2 ISSN 1445-9760]

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 <http://emr.acma.gov.au>

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>.

Contact details for the Carriers (mobile phone companies) present at this site and the most recent version of this document are available online at the Radio Frequency National Site Archive, <http://www.rfnsa.com.au>.

Aurecon Australasia Pty Ltd
ABN 54 005 139 873
55 Grenfell Street
Adelaide SA 5000
Australia

T +61 8 8237 9777
F +61 8 8237 9778
E adelaide@aurecongroup.com
W aurecongroup.com



08 September 2015

David Hutchison
Authorised Officer
Orroroo Carrieton Council
C/- Access Planning (SA) Pty Ltd
235 Henley Beach Road
TORRENSVILLE SA 5031

Dear David

Response to Request for Further Information in regard to Proposed nbn™ Fixed Wireless Facility at 24 Fourth Street, Orroroo, SA 5431

We are writing in response to your email dated 25 August 2015 requesting further information in regard to the site selection process identified in the Planning Report submitted to Council.

To begin, it is important to clarify one aspect of the email that was received. The email suggested that we were having issues "negotiating with Crown Castle". It should be noted that the two existing facilities in Orroroo are owned/operated by Telstra and Optus. There is no Crown Castle facility within Orroroo. The issues identified as to why the Optus proposal was not pursued was due to the land being owned by The Crown (not Crown Castle).

Optus facility on Crown Land

nbn™ has had a lot of difficulty securing tenure on Crown owned land, nbn™ consider the limited tenure as a significant risk and do not wish to pursue as it will also significantly delay the rollout of the nbn™ network.

Viterra Silos

The silos were considered for the location of an nbn™ facility but were not selected due to access and Occupational Health and Safety (OHS) issues.

nbn™ require access to the site 24/7 which cannot be guaranteed during harvest season. Fumigation and other Viterra site activities create a significant OHS risk and maintenance issues for nbn™.

In addition, the proposed remote radio units are air cooled, and can become clogged with dust, affecting equipment performance, potentially creating a fire hazard and requiring excessive maintenance to prevent technical and safety issues.

Furthermore, the silos are old concrete structures and we are unable to guarantee the structural integrity which poses additional OHS risk.

We understand that mobile carriers (i.e. Telstra and Optus) have previously installed their equipment on silo structures using older technology, however, the potential risk is not considered reasonable for nbn™.

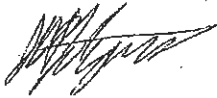
Telstra Facility

Telstra's facility located at 1 Fifth Street was considered for the co-location of nbn™ equipment. The existing facility is a 30 metre high lattice tower. This facility was not selected as it is not technically

feasible to locate **nbn**[™] on the existing tower as it would not provide sufficient height and does not have sufficient structural capacity for additional equipment.

I trust the above provides clarification on the matters raised. Should you require additional information, please contact me on (08) 8237 9989 or adam.pfitzner@aurecongroup.com.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Adam Pfitzner', written in a cursive style.

Adam Pfitzner
Planner
Aurecon Australasia Pty Ltd

DEVELOPMENT ACT 1993
DISTRICT COUNCIL OF ORROROO CARRIETON

STATEMENT OF REPRESENTATION

Pursuant to Section 38 of the Development Act, 1993

TO Chief Executive Officer
District Council of Orroroo Carrieton
PO Box 3
ORROROO SA 5431

DISTRICT COUNCIL OF
ORROROO / CARRIETON
FILE.....

28 SEP 2015

DEVELOPMENT No. 502/019/15

ATTENTION.....
MEETING.....

NAME OF PERSON(S) ROB MCCARTHY
MAKING REPRESENTATION

ADDRESS PO BOX 145
ORROROO SA 5431

NATURE OF INTEREST OWNER OF LAND IN VICINITY
AFFECTED BY DEVELOPMENT

(eg adjoining resident, owner
of land in vicinity, or on behalf
of an organisation or company)

REASONS FOR REFER "ANNEXURE A" ATTACHED
REPRESENTATION

(please attach separate sheet if needed)

MY REPRESENTATION
WOULD BE OVERCOME BY

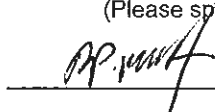
(state action sought)

Please indicate in the appropriate box below whether or not you wish to be heard by Council in respect to this submission: -

I do **not** wish to be heard ☒
I desire to be heard personally ☐
I will be represented by ☐

(Please specify) _____

SIGNED



DATE

25 / 9 / 2015

DEVELOPMENT NO. 502/019/15

REASONS FOR REPRESENTATION

1. A 40 metre high monopole and antennas, sited approximately 60 metres from the main street of Orroroo will have a detrimental impact upon the appearance and character of the locality and will dominate the skyline for tourist and community members.
 - The District Council of Orroroo Carrieton have spent thousands of dollars in recent years developing and significantly improving the visual character of the main street of Orroroo. The main street of Orroroo is a major tourism route between NSW and WA, and it also provides traffic links that facilitate access to the Flinders and other parts of the Mid North.
 - The District Council of Orroroo Carrieton's Development Plan states that telecommunication facilities should be "sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas".
 - The application states that the proposed location takes advantage of partial screening provided by existing vegetation on the subject land. The existing 25m tree mentioned in the application (refer Drawing No. 5PTG-51-01-ORRO-C4 Revision 02) has recently shown obvious signs of stress and is dying. Consequently, the proposed site will not be able to take advantage of partial screening from vegetation.
2. A 40 metre high monopole, antennas and associated infrastructure, sited within a Residential Zone will have a negative impact on the value of the existing and proposed residential properties surrounding the site.
3. A wireless base station will increase the radiofrequency (RF) and electromagnetic energy (EME) levels surrounding the site. As a person with a history of lymphoma this increase is of particular concern.



Aurecon Australasia Pty Ltd
ABN 54 005 139 873
55 Grenfell Street
Adelaide SA 5000
Australia

T +61 8 8237 9777
F +61 8 8237 9778
E adelaide@aurecongroup.com
W aurecongroup.com

aurecon

DISTRICT COUNCIL OF
ORROROO / CARRIETON
FILE.....

22 OCT 2015

ATTENTION.....
MEETING.....
.....

16 October 2015

Ann Frick
Development Officer
District Council of Orroroo Carrieton
PO Box 3
ORROROO SA 5431

Dear Ann

DA: 502/019/15 – Response to Representations Received during Category 3 Public Notification of Development Application for a proposed nbn™ Fixed Wireless Facility at 24 Fourth Street, Orroroo, SA 5431

We are writing in response to Council's letter dated 2 October 2015 in regard to the representations that were received in regard to the **nbn™** Fixed Wireless Facility (DA: 502/019/15) proposed at the above address.

We thank Council for the opportunity to respond, on behalf of **nbn**, to the comments made during the public notification of the application. **nbn** appreciates feedback from residents and is committed to working openly and transparently with communities and key stakeholders in the deployment of **nbn™** infrastructure nationwide to achieve solutions which strike a balance between providing **nbn™** services and minimising impacts on communities and the local environment.

One (1) representation was received and we would like to take this opportunity to respond to the issues raised within the representation. The representor raises concerns that the proposed location will have a high visual impact on a major tourist route and likely to impact on property values and cause health implications.

As the representation has expressed a range of issues, we have categorised and addressed these under the headings below.

The location of an **nbn™** Fixed Wireless telecommunications facility is determined by a number of key considerations. Unlike mobile technologies, the proposed **nbn™** Fixed Wireless Facility is required to be located as close to the centre of the coverage objective as practicable in order to be technically feasible.

Search areas are usually located in proximity to areas which require the service, to ensure balanced and effective coverage is provided to all residents and businesses.

In order to provide effective fixed wireless internet coverage to Orroroo, the facility needs to be located in a central location to ensure each antenna at the top of the facility services an even number of premises in the coverage footprint. In addition, the facility needs to be able to achieve line of sight connection to another **nbn™** facility in Peterborough, which is crucial for the functioning of the facility. These technical constraints mean that the facility can only be located in certain central locations within Orroroo in order to function effectively.

For instance, the following are two (2) of the major constraints within Orroroo:

1. In certain locations within and around Orroroo, the transmission connection that would link the Orroroo and Peterborough facilities may be affected by aircraft using the Orroroo Airport. Whilst the frequency of flights is considered to be low, the impact of the aircraft blocking the transmission signal would affect every user on the **nbn**TM network in Orroroo by way of losing their individual connections. Due to obligations on it, **nbn** does not consider this to be an acceptable risk when delivering a fast, *reliable* broadband internet service.
2. Crown owned land – majority of the land bordering Orroroo (on the outskirts/fringe of the town) is under the ownership of the Crown. Establishing a new telecommunications facility on this land poses a significant and unacceptable risk as, **nbn** cannot secure appropriate tenure. As a lease agreement cannot be resolved, **nbn** cannot construct on the land, and an alternative location must be pursued to avoid substantial delays to the rollout of the **nbn**TM network to Orroroo.

During earlier stages of planning for a facility in Orroroo, three (3) sites were selected for further investigation. A number of sites were ruled out due to the above transmission and Crown land issues, as well as the inability to provide adequate coverage to Orroroo, OH&S issues and site access issues (i.e. a location on Viterra land). Aside from the proposed location (which forms our Development Application) the following two (2) sites were also considered for the installation of the Fixed Wireless facility:

A. Optus Co-location – Recreation Oval, Section 349 North Terrace, Orroroo

In the first instance, **nbn** determined if any existing infrastructure can be used for the co-location of **nbn**TM equipment to avoid the construction of a new facility. This candidate is an existing 55 metre high Optus lattice tower with associated antennas. Whilst this candidate is well separated from residential land uses and negates the need for a new facility, the location also has a number of constraints which prevents the co-location of **nbn**TM equipment, as follows:

- The existing facility is located on Crown owned land in which **nbn** cannot secure an appropriate lease. Whilst Optus has accepted this risk, **nbn** has advised that it is not in a position to do so. As mentioned above, if a lease cannot be secured, **nbn** cannot use the land; and
- The critical transmission link, requiring line of sight to Peterborough is affected by the aircraft utilising the Orroroo Airport, effectively "cutting" the connection if a plane traverses through the point-to-point radio signal between the towers.

Despite **nbn**'s strong preference for co-location solutions, for the reasons outlined above, co-location on this facility was not considered to be a viable option. In addition to this candidate, the existing 30 metre high Telstra facility was also considered as a potential co-location opportunity, however, this facility is not considered to have adequate structural capacity to support additional **nbn**TM equipment.

B. Council Works Depot – 18 Fifth Street, Orroroo

This candidate is located within a Residential Zone towards the centre of Orroroo. Whilst this site is similar to our proposed site, it was not selected due to:

- The condition of the subject land highlights potential for site contamination issues (being a works depot);
- The site is compact and does not offer an appropriate amount of space for the construction of the facility, and would have required the relocation of multiple items of equipment/machinery;

- The site is considered to be in closer proximity to residential land uses than the proposed site and is likely to have a greater visual impact as it was proposed to be located adjacent the Fifth Street frontage.
- The possibility of protracted lease negotiations, delaying the rollout of the **nbn™** network to Orroroo.

In contrast to the above, we are of the opinion that the proposed location achieves an appropriate balance between the technical constraints for the provision of an effective wireless internet service to Orroroo and minimising impact on the locality and town as much as practicable. As identified in the representation, we acknowledge that the facility is in proximity to dwellings to the southwest and northeast of the subject land; however, the siting ensures that the base of the facility (compound area) is not within direct line of sight from the primary frontage of any dwellings.

The representation has raised issue with the location of the facility being in proximity to residential dwellings and the main street (Second Street) as a major tourist route.

We acknowledge the character and amenity value that the refurbished main street brings to Orroroo. There is no doubt that the street offers an open, attractive and inviting atmosphere to both residents and visitors to the town.

We also acknowledge that the established trees planted within the median strip provide a dense 'screen' which restricts views to the northeast when travelling along Second Street from the southeast and is likely to conceal a significant portion of the facility from view by passing motorists.

On the opposite approach into town (from the northwest), the existing native trees and stobie poles provide a balance of vertical elements and whilst there are no existing structures that compare to a 40 metre high monopole, the proposed setback (from Second Street), as well being located behind the existing tree, minimises impact on the character of the main street. In addition, as the proposed site favours one side of the town (i.e. not directly in the centre of the town) once a motorist reaches the refurbished main street, they have already passed the site, which avoids the impact on the main street itself.

It should be noted that whilst the refurbished main street provides a pleasant aesthetic to Orroroo, the town does have precedence of two (2) other telecommunication facilities. Both existing facilities are of a lattice tower design, which is considered to have a greater visual impact when compared to the proposed facility. A lattice design creates a bulky, dominant appearance, whereas the proposed monopole structure is considered to be more sympathetic to the surrounding environment by being a slim and uniform design.

Furthermore, the existing Telstra facility, located at 1 Fifth Street, is considered to have comparable separation from residential dwellings and closer setback distances to road frontages.

Our proposal has set the facility as far back within the property as possible, offering approximately 55 metres from Second Street and approximately 65 metres from Fourth Street. The location utilises the existing "Hunts Fuel" and "Orroroo Senior Citizens Club Inc." buildings to provide reasonable screening to the base of the proposed facility when viewed from adjoining road networks.

In regard to the comment in the representation that the existing 25m high tree is 'dying', we cannot confirm this is the case. However, the application is proposing to retain the tree to provide partial screening of the facility and unfortunately it is beyond the control of this application as to how long that partial screening is available.

Health & EME

The representation also raised the issues regarding the effect of Electromagnetic Energy (EME / EMR) that will be produced by the proposed facility, stating that *"a wireless base station will increase the radiofrequency (RF) and electromagnetic energy (EME) levels surrounding the site."*

nbn acknowledges that some people are concerned about possible health effects from the EME generated by radio frequency technology and are committed to addressing these concerns responsibly.

We note that information about EME and safety was provided at our well-attended community information session held in Orroroo prior to lodging this application on 5th August 2015.

nbn relies on the expert advice of national and international health authorities such as the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and the World Health Organization (WHO) for overall assessments of health and safety impacts.

Organisations such as the WHO routinely review the medical research and science relevant to the Electromagnetic Energy (EME) generated by radio communications services. The consensus is that there is no substantiated scientific evidence of adverse health effects from the EME generated by radio communications services that comply with national and international safety guidelines.

The report which accompanied the application to Council clearly demonstrates that the NBN Fixed Wireless proposal will operate well within the prescribed safety standards developed by ARPANSA, and a summary of the estimated RF EME levels around the proposed Orroroo facility is contained in the "EME Report", which was included with the application documentation.

We also note that research on possible biological and health effects of exposures to RF EME has been underway for more than 50 years. The WHO states that the research has found no adverse health effects from the low level RF signals emitted by base stations and wireless networks:

"considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects"

It is **nbn's** responsibility to comply with the mandated standard for RF EME set by ARPANSA, which is the safety standard recommended by the WHO. The safety standard works by limiting the network signal to a level low enough to protect all people, in all environments, 24 hours a day. The safety limit itself has a significant safety margin built into it. For reference, please find attached EME Report (as sent to Council in a letter dated 24 August 2015) which shows the maximum predicted level of EME equates to 0.11% of the maximum allowable exposure limit (mandated standard) at a distance of 247.9 metres from the facility. This is substantially less than 1% of the maximum allowable exposure limit. In locations that are closer to the facility (0 – 50 metres) the maximum levels much less – equating to 0.017% of the maximum allowable limit (or over 5800 times below that limit).

The proposal will operate at levels that are many orders of magnitude below the standard.

Property Values

Property values may be impacted for a variety of reasons. **nbn** is not aware of any credible evidence to suggest that the construction of a telecommunications facility would influence property value from a positive or negative perspective.

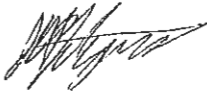
We trust that the above response addresses the key issues raised within the representation received by Council.

We note that the proposed **nbn**TM facility will deliver substantial benefits to premises in Orroroo and the entire community has the potential to benefit from broadband that will be reliable and cost effective.

We confirm our intention to attend a Flinders Regional Development Assessment Panel meeting in support of our response should the opportunity be provided.

Should Council require any further information, please do not hesitate to contact the undersigned on (08) 8237 9989 or by email at adam.pfitzner@aurecongroup.com

Yours sincerely



Adam Pfitzner
Planner

Enc: ARPANSA Environmental EME Report

Cc: David Hutchison
Access Planning (SA) Pty Ltd
235 Henley Beach Road
TORRENSVILLE SA 5031



Environmental EME Report

Orroroo 24 Fourth Street, ORROROO SA 5431

This report provides a summary of Calculated RF EME Levels around the wireless base station

Date 11/8/2015

RFNSA Site No. 5431007

Introduction

The purpose of this report is to provide calculations of EME levels from the existing facilities at the site and any proposed additional facilities.

This report provides a summary of levels of radiofrequency (RF) electromagnetic energy (EME) around the wireless base station at Orroroo 24 Fourth Street ORROROO SA 5431. These levels have been calculated by Ericsson using methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

The maximum EME level calculated for the proposed systems at this site is 0.11% of the public exposure limit.

The ARPANSA Standard

ARPANSA, an Australian Government agency in the Health and Ageing portfolio, has established a Radiation Protection Standard specifying limits for general public exposure to RF transmissions at frequencies used by wireless base stations. The Australian Communications and Media Authority (ACMA) mandates the exposure limits of the ARPANSA Standard.

How the EME is calculated in this report

The procedure used for these calculations is documented in the ARPANSA Technical Report "Radio Frequency EME Exposure Levels - Prediction Methodologies" which is available at <http://www.arpansa.gov.au>.

RF EME values are calculated at 1.5m above ground at various distances from the base station, assuming level ground.

The estimate is based on worst-case scenario, including:

- wireless base station transmitters for mobile and broadband data operating at maximum power
- simultaneous telephone calls and data transmission
- an unobstructed line of sight view to the antennas.

In practice, exposures are usually lower because:

- the presence of buildings, trees and other features of the environment reduces signal strength
- the base station automatically adjusts transmit power to the minimum required.

Maximum EME levels are estimated in 360° circular bands out to 500m from the base station.

These levels are cumulative and take into account emissions from all mobile phone antennas at this site.

The EME levels are presented in three different units:

- volts per metre (V/m) – the electric field component of the RF wave
- milliwatts per square metre (mW/m²) – the power density (or rate of flow of RF energy per unit area)
- percentage (%) of the ARPANSA Standard public exposure limit (the public exposure limit = 100%).

Results

The maximum EME level calculated for the proposed systems at this site is 2.076 V/m; equivalent to 11.43 mW/m² or 0.11% of the public exposure limit.

Radio Systems at the Site

There are currently no existing radio systems for this site.

It is proposed that this base station will have equipment for transmitting the following services:

Carrier	Radio Systems
NBN Co	LTE2300 (proposed)

Calculated EME Levels

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.

Distance from the antennas at Orroroo 24 Fourth Street in 360° circular bands	Maximum Cumulative EME Level – All carriers at this site					
	Existing Equipment			Proposed Equipment		
	Electric Field V/m	Power Density mW/m ²	% ARPANSA exposure limits	Electric Field V/m	Power Density mW/m ²	% ARPANSA exposure limits
0m to 50m				0.8	1.71	0.017%
50m to 100m				0.67	1.19	0.012%
100m to 200m				1.75	8.096	0.081%
200m to 300m				2.076	11.43	0.11%
300m to 400m				1.97	10.24	0.1%
400m to 500m				1.54	6.3	0.063%
Maximum EME level				2.076	11.43	0.11
				247.9 m from the antennas at Orroroo 24 Fourth Street		

Calculated EME levels at other areas of interest

This table contains calculations of the maximum EME levels at selected areas of interest that have been identified through the consultation requirements of the Communications Alliance Ltd Deployment Code C564:2011 or via any other means. The calculations are performed over the indicated height range and include all existing and any proposed radio systems for this site.

Additional Locations	Height / Scan relative to location ground level	Maximum Cumulative EME Level All Carriers at this site Existing and Proposed Equipment		
		Electric Field V/m	Power Density mW/m ²	% of ARPANSA exposure limits
Orroroo Area School on West Terrace	0m to 3m	1.22	3.93	0.039%

RF EME Exposure Standard

The calculated EME levels in this report have been expressed as percentages of the ARPANSA RF Standard and this table shows the actual RF EME limits used for the frequency bands available. At frequencies below 2000 MHz the limits vary across the band and the limit has been determined at the Assessment Frequency indicated. The four exposure limit figures quoted are equivalent values expressed in different units – volts per metre (V/m), watts per square metre (W/m²), microwatts per square centimetre (µW/cm²) and milliwatts per square metre (mW/m²). Note: 1 W/m² = 100 µW/cm² = 1000 mW/m².

Radio Systems	Frequency Band	Assessment Frequency	ARPANSA Exposure Limit (100% of Standard)
LTE 700	758 – 803 MHz	750 MHz	37.6 V/m = 3.75 W/m ² = 375 µW/cm ² = 3750 mW/m ²
WCDMA850	870 – 890 MHz	900 MHz	41.1 V/m = 4.50 W/m ² = 450 µW/cm ² = 4500 mW/m ²
GSM900, LTE900, WCDMA900	935 – 960 MHz	900 MHz	41.1 V/m = 4.50 W/m ² = 450 µW/cm ² = 4500 mW/m ²
GSM1800, LTE1800	1805 – 1880 MHz	1800 MHz	58.1 V/m = 9.00 W/m ² = 900 µW/cm ² = 9000 mW/m ²
LTE2100, WCDMA2100	2110 – 2170 MHz	2100 MHz	61.4 V/m = 10.00 W/m ² = 1000 µW/cm ² = 10000 mW/m ²
LTE2300	2302 – 2400 MHz	2300 MHz	61.4 V/m = 10.00 W/m ² = 1000 µW/cm ² = 10000 mW/m ²
LTE2600	2620 – 2690 MHz	2600 MHz	61.4 V/m = 10.00 W/m ² = 1000 µW/cm ² = 10000 mW/m ²
LTE3500	3425 – 3575 MHz	3500 MHz	61.4 V/m = 10.00 W/m ² = 1000 µW/cm ² = 10000 mW/m ²

Further Information

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) is a Federal Government agency incorporated under the Health and Ageing 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:

- Further explanation of this report in the document "Understanding the ARPANSA Environmental EME Report"
- The procedure used for the calculations in this report is documented in the ARPANSA Technical Report; "Radio Frequency EME Exposure Levels - Prediction Methodologies"
- the current RF EME exposure standard
Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), 2002, 'Radiation Protection Standard: Maximum Exposure Levels to Radiofrequency Fields — 3 kHz to 300 GHz', Radiation Protection Series Publication No. 3, ARPANSA, Yallambie Australia.
[Printed version: ISBN 0-642-79400-6 ISSN 1445-9760] [Web version: ISBN 0-642-79402-2 ISSN 1445-9760]

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 <http://emr.acma.gov.au>

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>.

Contact details for the Carriers (mobile phone companies) present at this site and the most recent version of this document are available online at the Radio Frequency National Site Archive, <http://www.rfnsa.com.au>.

3rd November 2015

Ref: 6481rept

The Chief Executive Officer
District Council of Orroroo Carrieton
PO Box 3
ORROROO SA 5431

ATTENTION: Ms. Ann Frick

Access Planning (SA) Pty Ltd
ABN 57 089 702 241

235 Henley Beach Road
Torrensville SA 5031

Telephone 08 8130 7222
Facsimile 08 8130 7299
admin@accessplanning.com.au

www.accessplanning.com.au

Dear Ann,

**RE: FIXED WIRELESS TELECOMMUNICATIONS FACILITY COMPRISING A 40 METRE
HIGH MONOPOLE, ANTENNAS AND ASSOCIATED INFRASTRUCTURE
(DA: 502/019/15)**

The following is a planning assessment of the above mentioned development application.

In preparing this report I have reviewed the Council file and associated documents, inspected the subject land and locality and assessed the development against the relevant provisions of the Development Plan.

1.0 DEVELOPMENT DETAILS

Development Application No:	502/019/2015
Applicant:	NBN Co. C/- Aurecon Australasia Pty Ltd, 55 Grenfell Street, Adelaide, SA 5000
Owner:	Mr. Trevor McKay 17 Fourth Street, Orroroo, SA 5431
Property Location:	Lot 4 FP160952 Orroroo - 24 Fourth Street.
Certificate of Title:	Volume: 5309 Folio: 593
Existing Use:	Vacant land used for parking and storage
Proposed Development:	Fixed Wireless Telecommunications Facility comprising a 40 Metre High Monopole, Antennas and Associated Infrastructure
Zone:	Residential Zone (Map OrCar/3)
Public Notification:	Category 3 - Merit
Authorised Development Plan:	Orroroo Carrieton Council, 22 November 2012

2.0 PROPOSED DEVELOPMENT

The development proposes to the establishment of a wireless transmission facility for the provision of broadband internet and landline phone services.

The development will include the following features:

- A new 40m high steel monopole;
- Three (3) 1077mm long panel antennas at a centre line height of 40m;
- Three (3) 500mm long remote radio units (RRUs), mounted behind panel antennas;
- One (1) 1800mm diameter parabolic antenna at a centerline height of 37m;
- One (1) GPS unit;
- Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and
- 2.4m high security fencing and associated ancillary equipment.

The proposed facility is to be located in the a secure compound located in the north west corner of the site, putting the facility some 60m from the alignment of Fourth Street and 50m from the alignment of Second Street.

The tower has a base dimension of about 1.5m, is about 400mm wide at the top and supports a head frame supporting the antennas which is about 3m across; the antennas being about 3.4 in height.

The NBN network has been described in the application documents thus;

“Although fixed wireless facilities are submitted to Council as standalone developments from a planning perspective, they are highly interdependent from a technical perspective. Each fixed wireless facility is connected to another to form a chain of facilities that link back to the fibre network. This is called the “transmission network.”

The transmission network requires line of sight from facility to facility until it reaches the fibre network. The fixed wireless network will remain unconnected without the transmission network and a break in this chain can have flow on effects to multiple communities.

A typical fixed wireless facility will include three antennas mounted above the surrounding area. Each antenna is designed to cover a set area to maximise signal strength. These network antennas communicate to a small antenna installed on the roof of each customer’s home or business.

Each NBN Co Fixed Wireless facility has been designed to heights that allow the panel antennas to have a clear line of sight to the surrounding premises (radio coverage), and also ensure that the radio transmission dish has a clear line of sight to the adjoining network facility to link the sites back into the broader network.”

The applicant advises that the site for the development has been selected by a range of parameters including;

- A need to be located within or immediate adjacent to the area to serviced;
- Visual amenity impacts;
- Potential co-location option;
- The availability and suitability of land as well as a willing site provider;
- Occupational health and safety and construction issues;
- Access for maintenance purposes;
- Topographical constraints affecting network line of sight;
- Legislative policy constraints;
- Environmental impact;, and

- Cost implications.

As part of the process of selecting a site, co-location options must be considered. Co-location involves locating the facility on an existing tower if one exists in the area under investigation. Two co-location options were investigated,

- The 30 metre high Telstra lattice tower at 1 Fifth Street, Orroroo – co-location on this facility was not considered feasible due to the inadequate structural capacity of the existing facility.
- The 55 metre high Optus lattice tower at Section 349 East Terrace, Orroroo – co-location was not considered feasible as the land is owned by the Crown which incurs protracted lease negotiations.

The applicant advises that neither site was considered appropriate because the height available to locate the facility was too low, especially for the parabolic antenna which needs 'line of sight' to the facility at Peterborough.

Other sites considered included the Council works depot at 18 Fifth Street and the land now the subject of this application.

Reasons for excluding the Council works depot include potential site contamination issues, limited space to locate the facility, the proximity of houses and subsequent visual impact issues, and the possibility of having to enter into protracted lease negotiations with the Council.

The subject land was ultimately selected as it was in the search area and provided line of sight access to the NBN Co. facility at Peterborough, is a property used for non-residential purposes (despite being in the Residential zone) and can take advantage of the partial screening provided by existing development and landscaping on the land.

3.0 THE SUBJECT LAND AND LOCALITY

The subject land is an irregular shaped allotment having a frontage of 15m to Fourth Street and a depth of some 60m. All up the land has an area of 1023m².

The land is more particularly described as being allotment 4 in Filed Plan 160592, Fourth Street Orroroo; Certificate of Title Volume 5309 Folio 593.

The land forms part of a larger land holding that includes the garage located at the corner of Second and Fourth Streets and is used for access purposes to the garage and for outdoor storage purposes.

The land is surfaced with a combination of crushed rubble and natural earth and a small stone building (which appears to have been a modest cottage occupies part of the north eastern boundary of the land.

There is a large gum tree in the south western corner of the land.

At the time of my inspection the gum tree appeared dead or very close to it, with only marginal leaf growth at the tips of the upper branches.

Various views of the subject land are available in the application documents and in Appendix 1 of this report.

I note that the report accompanying the Development Application cites the gum tree on the subject land as having a height in the order of 25m. I estimate the height at something less than 20m.

The gum tree provides a useful reference for the height of the 40m high tower.



Figure 1: The Subject Land

For the purpose of defining the locality I have adopted the whole of the Town and its surrounds and in particular those areas adjacent to the town where the proposed tower will have a visual impact.

To this end there is a primary locality, which is the built up area of the town in which the proposed development will have its most significant visual impact, with the secondary locality being the rural area surrounding the town and in particular the road entries to the Town.

The facility will be visible to varying degrees within both localities and will depend on the screening providing by roadside or plantation vegetation, the direction of the road from which the facility will be seen (focus of the view) and the elevation of the road relative to the subject land.

Orroroo is located in a relatively flat environment and development within the town is low scale, primarily single storey building arranged along very wide road reserves.

Unlike many country towns, private television antennas are rare and overhead infrastructure is low.

The most visible features of the Town, particularly on the approaches to the Town from the north and west are the grain silos and the Telstra tower on the northern approach and the Optus tower, CFS tower and grain silos on the approach from the west.

The degree of visibility of these features depends on the extent of screening from roadside vegetation as well as its location in relation to the focus of the view.



Figure 2: Entry to Orroroo from the north. The proposed tower sits just to the right of the road in the middle distance



Figure 3: Entry to Orroroo from the west. The proposed tower sits just to the left of the road in the middle distance.

In both cases the very low scale of development is obvious, with features such as the Telstra tower in the case of Figure 2 and the CFS tower in the case of figure 3 being in the drivers peripheral vision as opposed to the proposed tower which will sit almost directly in the line of vision.

Landscaping, roadside vegetation and intervening buildings will hide the lower portion of the tower but the upper section, headframe and antennas will highly visible above the trees and buildings.

In other circumstances on the entry to the town the Telstra and Optus Towers are visible clustered together with the silos, and for the most part are viewed in the peripheral vision of a person passing along the main entry routes into the town.

As identified by Aurecon, much of the Town is surrounded by Crown land as indicated in Figure 4 below.

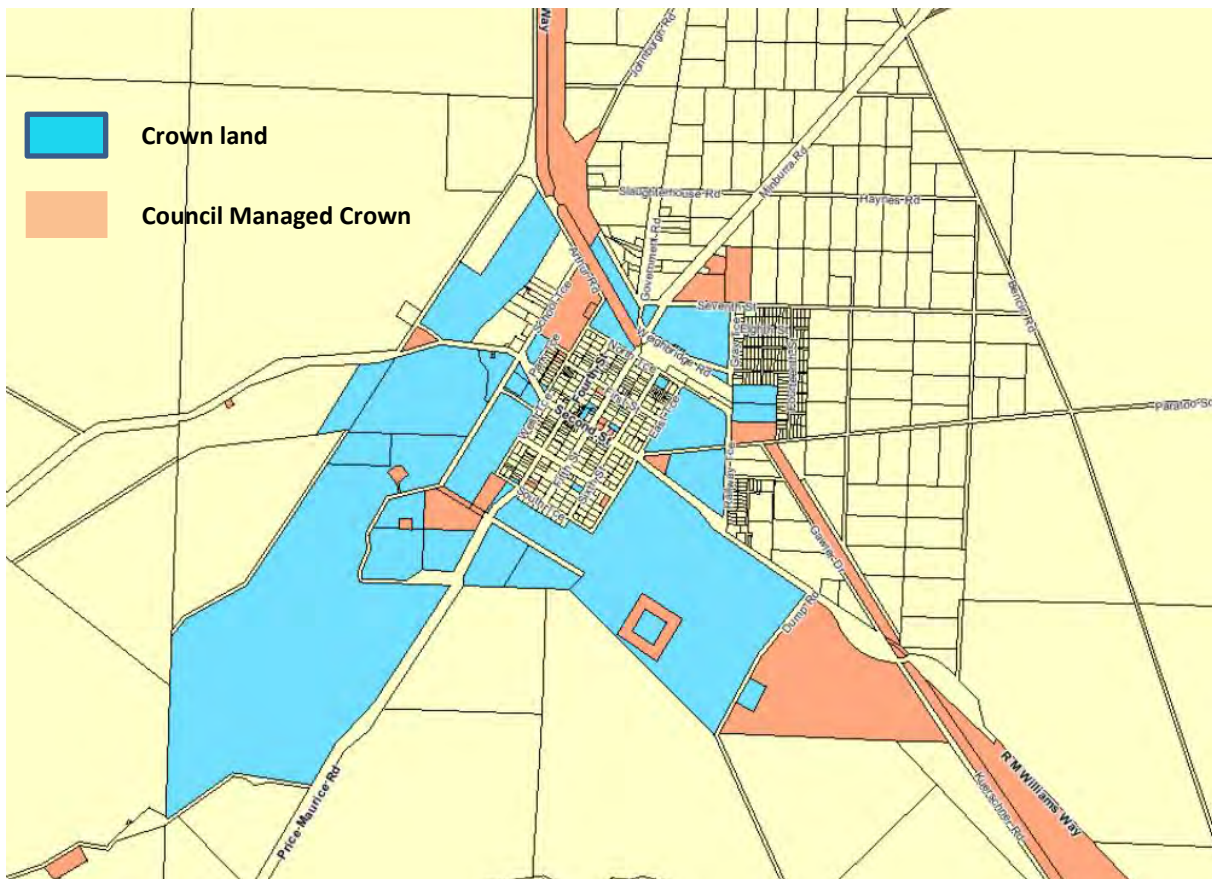


Figure 4: Crown Land around Orroroo

The Crown land is problematic only in so far as most of the vacant Crown Land is subject to Native Title Claim.

That said existing developed land such as the oval is not subject to Native Title claim.

4.0 ZONING

The subject land is located in the Residential zone. It adjoins the Town Centre zone as depicted in the extract from zone Map OrCar/3 below.

Notwithstanding its residential zoning, the land is used for Commercial purposes as described above.



Figure 5: Zoning

The Adelaide Road – Second Street and Fourth Street are shown on Development Plan Location Map OrCar/3 as a tourist route and the Wilmington – Ucolta Road, Second Street and Adelaide Road are identified as a Primary Arterial Road, whilst Fourth Street is identified as a Secondary Arterial Road on Plan Overlay Map OrCar/3.

These are shown on the extract from Location Map OrCar/3 below.



Figure 6: Tourist Route

5.0 PUBLIC CONSULTATION

Pursuant to Schedule 9 of the *Development Regulations 2008*, the proposed development was classed as a Category 3 form of development for the purposes of Public Consultation, and as such underwent public notification.

One response were received, a summary of which is provided below.

- A 40 metre high monopole and antennas, sited approximately 60 metres from the main street of Orroroo will have a detrimental impact upon the appearance and character of the locality and will dominate the skyline for tourist and community members.
- The District Council of Orroroo Carrieton have spent thousands of dollars in recent years developing and significantly improving the visual character of the main street of Orroroo. The main street of Orroroo is a major tourism route between NSW and WA, and it also provides traffic links that facilitate access to the Flinders and other parts of the Mid North.
- The District Council of Orroroo Carrieton's Development Plan states that telecommunication facilities should be "sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas".
- The application states that the proposed location takes advantage of partial screening provided by existing vegetation on the subject land. The existing 25m tree mentioned in the application has recently shown obvious signs of stress and is dying. Consequently, the proposed site will not be able to take advantage of partial screening from vegetation.
- A 40 metre high monopole, antennas and associated infrastructure, sited within a Residential Zone will have a negative impact on the value of the existing and proposed residential properties surrounding the site.
- A wireless base station will increase the radio frequency (RF) and electromagnetic energy (EME) levels surrounding the site. As a person with a history of lymphoma this increase is of particular concern.

6.0 RESPONSE TO REPRESENTATIONS

Siting of the facility

The applicant has responded to the above by restating the reasons for siting the tower where they have (as set out in section 2 above), with the added advise that;

- Certain location in the Town are subject to interference from aircraft taking off from the airfield which would break the link to Peterborough, and
- Much of the land around Orroroo is Crown land and there is some difficulty securing a lease with the Crown.

They maintain that the subject land achieves a balance between the technical issues around siting the facility and minimising the visual impact of the facility.

Visual impact

In response to issues raised about the visual impact they say that;

- They acknowledge the character and amenity brought to the Town by the main street.
- Trees planted on the main street conceal the development to motorists passing through.
- Trees otherwise in the area provide screening for the facility from many vantage points.
- Stobie poles provide a balance to the tower by establishing a vertical element along the road(s).
- The tower has less visual impact than the Optus lattice tower as the monopole is more sympathetic to the surrounding by being slim and of uniform design.
- The Telstra tower is sited closer to the road and houses than the proposed tower.
- The existing tree on the site screens the development somewhat. Moreover, they cannot confirm the tree is dying and it is beyond their control how long the tree will provide screening in the event that it is dying.

Health Issues

In respect to Health issues arising from Electromagnetic energy generated by the facility they point to the fact the facility operates well within the guidelines for EME exposure established by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and the World Health Organisation.

Property Values

They advise that there is no credible evidence that property values are affected by Telecommunications facilities of the kind proposed.

7.0 COMMENTS ON PUBLIC CONSULTATION

In respect to the matter of health issues and property values, these matters have been considered numerous times by the ERD Court.

In respect to the possible health impacts arising to exposure to EME the Court has adopted the approach that the standards imposed on EME emissions by ARPANA are a precautionary standard and compliance with the standards is sufficient to ensure that health impacts from EME exposure are unlikely, noting that the EME levels associated with the proposed development are many times less than that set by ARPANSA.

Similarly the Court has noted on many occasions that property values can be affected by a wide range of factors, which may or may not be directly related to local conditions and that the Development Plan does not refer to land values except in the most oblique and inferential way, and certainly not in direct reference to specific forms of development.

For this reason the proposal must be assessed against the relevant provisions of the Development Plan and not assertions as to impacts on property values or health impacts arising from EME exposure.

8.0 DEVELOPMENT PLAN ASSESSMENT

The subject land is located in the Residential Zone. It immediately adjoins the Town Centre zone.

The relevant provisions of the Development Plan are reproduced below.

A telecommunications facility is a consent use in the Residential zone.

Residential Zone

Objectives

- 1 A residential zone comprising a range of dwelling types.**
- 2 Increased dwelling densities in close proximity to centres, public transport routes and public open spaces.**
- 3 Development that contributes to the desired character of the zone.**

Desired Character

The zone comprises a large proportion of Orroroo township and incorporates most of the residential and pockets of community-related development, including a home for the elderly.

Orroroo has retained its low-density development pattern and an attractive character which provide a pleasant living environment for its residents. Although a variety of housing styles exist in the zone, dwellings in general have remained in good physical condition.

It is important that future development is orderly and compact for the economic provision of essential services, and easy access to the town's facilities.

Principles

- 1 The following forms of development are envisaged in the zone:**
 - domestic outbuilding in association with a dwelling
 - domestic structure
 - dwelling
 - dwelling addition
 - small scale non-residential uses that serve the local community, for example:
 - child care facilities
 - health and welfare services
 - open space
 - primary and secondary schools
 - recreation areas
 - shops, offices or consulting rooms
 - supported accommodation
- 4 Non-residential development such as shops, schools and consulting rooms should be of a nature and scale that:**
 - (a) serves the needs of the local community
 - (b) is consistent with the character of the locality
 - (c) does not detrimentally impact on the amenity of nearby residents.
- 8 Development should not be undertaken unless it is consistent with the desired character for the zone.**

Town Centre zone

Objectives

- 4 Development that contributes to the desired character of the zone.**

Desired Character

The zone is located at the crossroads of the Adelaide Road and Morchard Road, in the western part of Orroroo. It incorporates a mixture of land uses, including business, commercial, hotel, tourist-related and some civic/community uses.

The town centre evolved as the main service centre as it provides convenient access from other parts of the district, and has traffic links that facilitate access to other parts of the Mid North and to the Flinders.

The appearance and historic style of the built environment should be retained, in particular the veranda facades which are seen as an important historic component of the overall style.

Preservation of the zone's character and its built-form, where set-backs, materials, scales, roof pitch, gables, signs and colour schemes reinforce the existing streetscape, is an important element.

The appearance of the zone should be further improved by extensive landscaping along the roadsides.

New development should have regard to the scale, design and the unique quality of the built-form and be sympathetic to the individual and small-scale style of the existing buildings, and not overwhelm their historic and cultural significance and their setting.

The overall special character of the town centre should be preserved and new development be encouraged to reflect values that reinforce the nature of the existing development.

Principles

- 4 Development should not be undertaken unless it is consistent with the desired character for the zone.**
- 5 Buildings and structures should be designed and constructed in sympathy with adjoining buildings so as to complement and enhance the existing character and appearance of the streetscape. Particular regard should be taken of the scale of buildings and roof heights, set-backs, façade treatment, profile, verandas, construction materials and colours.**
- 6 Landscape and other features that contribute to the historic character of the streetscape should not be modified unless the final effect will enhance its character.**

Design and Appearance

Objective

- 1 Development of a high architectural standard that responds to and reinforces positive aspects of the local environment and built form.**

Principle

- 1 The design of a building may be of a contemporary nature and exhibit an innovative style provided the overall form is sympathetic to the scale of development in the locality and with the context of its setting with regard to shape, size, materials and colour.**

Infrastructure

Objectives

- 1 Infrastructure provided in an economical and environmentally sensitive manner.**
- 2 Infrastructure, including social infrastructure, provided in advance of need.**
- 3 Suitable land for infrastructure identified and set aside in advance of need.**
- 4 The visual impact of infrastructure facilities minimised.**
- 5 The efficient and cost-effective use of existing infrastructure.**

Principles

- 10 Utility buildings and structures should be grouped with non-residential development where possible.**

Orderly and Sustainable Development

Objectives

- 1 Orderly and economical development that creates a safe, convenient and pleasant environment in which to live.**
- 4 Development that does not prejudice the achievement of the provisions of the Development Plan.**

- 6 Urban development contained within existing townships and settlements and located only in zones designated for such development.

Principles

- 6 Development should be located and staged to achieve the economical provision of public services and infrastructure, and to maximise the use of existing services and infrastructure.

Siting and Visibility

Objectives

- 1 Protection of scenically attractive areas, particularly natural and rural landscapes.

Principles

- 1 Development should be sited and designed to minimise its visual impact on:
 - (a) the natural, rural or heritage character of the area
 - (b) areas of high visual or scenic value, particularly rural areas
 - (c) views from public reserves, tourist routes and walking trails.
- 2 Buildings should be sited in unobtrusive locations and, in particular, should:
 - (a) be grouped together
 - (b) where possible be located in such a way as to be screened by existing vegetation when viewed from public roads.
- 4 Buildings and structures should be designed to minimise their visual impact in the landscape, in particular:
 - (a) the profile of buildings should be low and the rooflines should complement the natural form of the land
 - (b) the mass of buildings should be minimised by variations in wall and roof lines and by floor plans which complement the contours of the land
 - (c) large eaves, verandas and pergolas should be incorporated into designs so as to create shadowed areas that reduce the bulky appearance of buildings.

Telecommunications Facilities

Objectives

- 1 Telecommunications facilities provided to meet the needs of the community.
- 2 Telecommunications facilities sited and designed to minimise visual impact on the amenity of the local environment.

Principles

- 1 Telecommunications facilities should:
 - (a) be located to meet the communication needs of the community
 - (b) use materials and finishes that minimise visual impact
 - (c) have antennae located as close as practical to the support structure
 - (d) be located primarily in industrial, commercial, business, office, centre and rural zones
 - (e) where technically feasible, be co-located with other telecommunications facilities
 - (f) incorporate landscaping to screen the development, particularly equipment shelters and huts
 - (g) be designed and sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas.
- 2 Telecommunications facilities in areas of high visitation and community use should use innovative design techniques (eg sculpture and other artworks) where possible and where the resulting design would positively contribute to the character of the area.
- 3 Telecommunications facilities should be located in residential zones only if sited and designed to minimise visual impact by:
 - (a) using existing buildings and vegetation for screening
 - (b) where possible, incorporating the facility within an existing structures that may serve another purpose maintaining that structure's character

- (c) taking into account the size, scale, context and characteristics of existing structures, landforms and vegetation so as to complement the local environment.
- 4 Telecommunications facilities should not have a direct or significant effect on the amenity, character and settings of Historic (Conservation) Zones or Policy Areas, local heritage places, State heritage places or State Heritage Areas.



Note that a location amongst existing tall structures as shown in Figure 7 would go some way to reducing the visual prominence of the proposed facility

Figure 7: View of the entry to Orroroo from the north looking westwards from the roadside

As indicated above, the character of Orroroo is defined predominantly by low scale buildings, wide to very wide road alignments and low overhead infrastructure, all of which imparts a spacious, human character to the Town. The Town centre itself has an historic interest, with building lined side by side, located on or close to the street alignment and with verandahs, footpaths and the planted central median reinforcing the historic character of the locality, whilst the Residential part of the town is of detached dwellings on large allotments. These elements of the character of the Town are well explained in the Desired Character statements for both the Residential zone and Town centre zone.

Orroroo as identified in the desired character statement is on the primary tourist route to the Flinders Ranges and is a mid-way stopping point for travellers either on their way to or from the Ranges.

Whilst the importance of telecommunications facilities is recognised, that does not mean that they should be considered without regard to the relevant provisions of the Development Plan.

The applicants have provided reasons for seeking approval on the subject land but that is not to say that alternative locations are not available or equally suitable which are likely to be less (directly) visible and out of scale with adjoining or nearby development.

They have indicated that Crown land is not suitable because of the concern that they may take longer to negotiate a lease or that a lease period may not be long as they want. These are not technical issues but rather are matter of convenience. Optus for example have been able to locate their facility on Crown land without similar concerns standing in the way.

Inevitably telecommunications infrastructure of the type proposed will be visible; it is matter of where it is located and how it relates to views that becomes a critical factor.

The proposed development is highly visible in view paths along both of the main entry roads to Orroroo and from the secondary entries via Orroroo Road the Wilmington Road where, in all cases it sits just off side of the main view paths along these roads.

It is recognised that the views of the facility are screened from time to time by intervening trees and buildings, but the height of the facility is such that the upper portion of the tower at least will be highly visible from a wide area in and around the Town. Moreover, the tower will become a significant focal point at the intersection of Second and Fourth Street, which is the main tourist route through the Town.

Aurecon argue that the existing tree will go some way to screening the tower from this vantage point. I am no expert but the tree looks to be well and truly dying. Its health will not be assisted by the digging of substantial footings for the tower in the critical root zone of the tree, which I suspect will be the final element that finish the tree off.

There is limited opportunity on site to undertake site landscaping, which in any event is only going to be able to assist in screening the ground level infrastructure.

The Development Plan seeks that telecommunications facilities in areas of high visitation, main focal points and significant vistas should minimise the visual impact of the facility. I see nothing in the application that seeks to achieve this goal. Further, the facility does not relate to scale size, context and characteristics of existing structures.

Aurecon point to the stobie poles as elements within the locality that assist in offsetting the visual impact of the facility. Certainly the stobie poles are a minor feature of the streetscape. They are however generally low, well-spaced and separated (by the wide road reserves) such that they do not become a defining feature of the streetscape/landscape. At about 8m in height, they do not provide a comparable reference for a 40m high tower with a base of 1.5m and 3m wide headframe.

By reference to views 1 and 2 in the appendix, the visual impact of the tower relative to the open streetscape of the intersection of Second and Fourth Street becomes obvious.

Aurecon also suggest that the solid slim line tower is a better option than a lattice tower as it has less visual impact.

This is at odds with most comparative assessments that find lattice towers less visible.

A preferable alternative would be located the tower together with other tall structures on the north eastern side of town.

A location along Railway Terrace should still meet the coverage requirements on NBN Co but would either move the location away from the main focal viewpoints and /or reduce its visual impact by locating it together with other tall structures such as the Telstra Tower, Optus Tower and silos, which will go some considerable way to reducing its visual prominence.

9.0 CONCLUSION

I am of the opinion that the provisions of the Development Plan weigh against the siting of the development where it has been proposed.

In particular the development is located in a residential zone and on a highly visible site. Little has been done to reduce its visual prominence either at ground level or for the upper sections of the tower.

It is located in a relatively open and thus highly visible locality, and in an area that comprises very low level development in an open and spacious streetscape.

The development does not have regard to the existing character of adjoining development and the one tree that might provide some relief for its visual prominence is clearly unhealthy and unlikely to survive the works that are proposed to be undertaken at its base.

Whilst acknowledging the need for the facility, I not consider that there is a technical reason that the facility cannot be located in a better position where its visual prominence may be minimised.

.

10.0 RECOMMENDATION

Following consideration and having regard to all relevant issues that Panel resolve;

- 1 That development application number 502/019/2015 for a telecommunications facility at 24 Fourth Street, Orroroo is not seriously at variance with the provisions of the Development Plan.
- 2 That following consideration and having regard to all relevant matters that the Panel refuse Development Plan consent for a telecommunications facility at 24 Fourth Street, Orroroo, as the proposed development would be at odds with the following provisions of the Development Plan.

Residential zone

Principle 4

Town Centre zone

Objective 4

Principles 4 and 5

General Section

Design and Appearance

Objective 1

Principle 1

Infrastructure

Objective 4

Principle 10

Orderly and Sustainable Development

Objectives 1 and 6

Siting of Development

Principles 1, 2 and 4

Telecommunications Facilities

Objective 2

Principles 1, 3 and 3

Please do not hesitate to contact me in the event that you have any questions.



David Hutchison BA MPIA CPP

Appendix 1 Views of the subject land



View 1: The subject land from Fourth Street. The proposed tower sits just to the right of the gum tree. I estimate the gum tree to be about 15m high



View 2: Wider view of the subject land from the intersection of Second and Fourth Streets



The subject land looking from the east on the Wilmington - Orroroo Road adjacent the caravan park. Note the gum tree on the subject land in left middle of the photograph.



Subject land from the north north west (rear). Note survey pegs adjacent to the blue vehicle which denote the north western boundary of secure compound in which the facility is to be located.

09 March 2016

David Hutchison
Planning Consultant
District Council of Orroroo Carrieton
C/- Access Planning (SA) Pty Ltd
235 Henley Beach Road
TORRENSVILLE SA 5031

Dear David

DA 502/019/15 – Response following FRDAP meeting on 23 November 2015

We are writing in response to your email, dated 5 February 2016, seeking an update on the further investigations for the **nbn** Application at Orroroo. We are now in a position to provide the following update to Council and, in addition, **nbn** has asked that we seek some direction from the FRDAP regarding the status of the current Application (502/019/15).

At the meeting on the 23rd November 2015 the FRDAP clearly conveyed to us that it would be inclined to refuse Application 502/019/15, if we were to continue to pursue this.

Since the FRDAP meeting on the 23rd November, where the FRDAP's consideration of this application was deferred, we have been actively pursuing transmission analysis, including liaison with relevant aircraft authorities and users within the area. This analysis is currently on-going in order to satisfy our client's objectives. Unfortunately, with the limited amount of information available regarding flight paths and frequency of flights, **nbn** cannot confirm the exact impact that the transmission link will face until the facility is in service.

In parallel, and based upon feedback at, and immediately following the FRDAP meeting that we should be pursuing an alternative site preferably on Viterra land, we have commenced discussions with Viterra on the possibility of establishing the **nbn** facility on their land. We have only just been able to obtain an in-principle agreement from Viterra that they would consider a lease proposal. The likely protracted leasing negotiations with Viterra were foreshadowed in our original Application, and it is clear that the process will not be able to be expedited as was suggested by Council. Securing tenure will undoubtedly be protracted in this location. Whilst uncertainties about the outcome remain, we are willing to pursue an option on Viterra land, but this is subject to seeking clarity on the availability of land resulting from Council's proposal to upgrade the road to create a heavy vehicle bypass. Based upon progress to-date (and past experience in negotiations with Viterra), it is anticipated that it will take approximately 12 months before a lease will be secured.

Of course, this delay in property negotiations, will impact the rollout of the **nbn**[™] network and service delivery to the Orroroo community, and it is likely that residents and businesses in the area will have to wait at least approximately 18 months before an **nbn** facility is commissioned. We consider that it is the only responsible course to reiterate that a facility could be established very soon if the FRDAP was to approve our current Application. **nbn** has specifically asked us to advise the FRDAP and Council that last year, just prior to the FRDAP meeting, **nbn** forecast commissioning of the **nbn**[™] fixed wireless facility in Orroroo for February 2016. We note that only one objection was received to the current Application. **nbn** places a high priority on delivering improved service to the many hundreds of

premises in Orroroo and is perplexed that despite extensive pre-application consultation and one objection that Application (502/019/15) is unlikely to be supported by the FRDAP.

If the FRDAP and Council direct **nbn** to continue to proceed with securing tenure at the Viterra site and then we proceed to lodge an Application at this site, we would hope that minimal delays are experienced during the statutory planning process.

If **nbn** is to continue to pursue the establishment of a facility on the Viterra land, we also seek the FRDAP and/or Council's early advice regarding its preference for the type of structure. This advice would be one factor amongst others (including engineering) that would contribute to a decision by **nbn**. The reason we raise this and seek this advice is because of conflicting commentary which appeared in the Council Planning Reports relating to both the proposed Wirrabarra **nbn** facility and the Orroroo **nbn** facility at the FRDAP meeting in November.

Specifically, when commenting on the proposed slim-line monopole, comprising the Orroroo **nbn** facility, the Council Planning Report advises (page 14) "*this is at odds with most comparative assessments that find lattice towers less visible*". In contrast, in the Council report on the proposed **nbn** slim-line monopole at Wirrabara, this report praises the merits of monopoles: (page 6) "*The design of the facility will also assist to minimise its visual impact, as the monopole is a relatively slender structure which carries little bulk, other than its vertical element*". Having regard to the conflicting advice, we seek the FRDAP and Council's early advice on the preference for a facility type so that this may be factored in to a decision on the facility type at Viterra.

Please note that by pursuing a site on Viterra land, **nbn** is accepting of the fact that the transmission link to Peterborough remains restricted to some extent.

Noting the facts that the **nbn**TM network will be delayed in Orroroo for a further 18 months and the minimal objection to the current application, we ask the FRDAP and Council to confirm its' position that the current development application (502/019/15) should be withdrawn because there is no prospect of the FRDAP approving the Application. As soon as direction is received we will withdraw.

Yours sincerely



Adam Pfitzner
Planner

29 March 2016

Ref: 6481furtherrept

The Chief Executive Officer
District Council of Orroroo Carrieton
PO Box 3
ORROROO SA 5431

ATTENTION: Ms. Ann Frick

Access Planning (SA) Pty Ltd
ABN 57 089 702 241

235 Henley Beach Road
Torrensville SA 5031

Telephone 08 8130 7222
Facsimile 08 8130 7299
admin@accessplanning.com.au

www.accessplanning.com.au

Dear Ann,

**RE: FIXED WIRELESS TELECOMMUNICATIONS FACILITY COMPRISING A 40 METRE
HIGH MONOPOLE, ANTENNAS AND ASSOCIATED INFRASTRUCTURE
(DA: 502/019/15)**

Panel members will recall that at its last meeting on the 23rd November 2015, the Panel deferred a decision in relation to the above development and requested the applicant to provide additional information on the impact of the Orroroo Airport on the siting of the tower.

Council has now received the attached response from Aurecon re the facility.

In effect they are saying that there is insufficient information available to determine the exact impact of airport activities on the transmission link.

They have also advised that they are pursuing an alternative location of the facility of the Viterra land which may lead to a delay in residents at Orroroo being able to access the NBN.

Aurecon for NBN advise that they now have in-principle approval from Viterra to locate the facility on the Viterra land which is the land around the silos to the west of Railway Terrace.

Viterra's land holdings include the land in red on the following plan.



Apart from the delays they say they and the community will suffer, I consider the Viterra land to be a much better location for the facility than the site proposed (subject to knowing just where it will go). It is also zoned (Community Use) with some discussion, (not far advanced) about it being rezoned to Industry.

This land has the benefit of the silos, two existing towers and is outside the primary viewshed of the tourist roads into and from Orroroo.

It is thus a more supportable proposition.

They have asked that the Panel to;

- 1 confirm whether it would prefer a lattice tower or a monopole;
- 2 confirm its' position that the current development application (502/019/15) should be withdrawn because there is no prospect of the FRDAP approving the Application;

I am not sure that the Panel should be giving advice as to its preference of structure or confirming that there is no prospect of the application being approved as that is tantamount to refusing the application.

In the circumstances I have no preference either way for the structure but think a monopole would be the preferred structure for minimising its visual impact.

Secondly, I wonder if the Panel could not respond by taking a straw poll to find out the members views on the application.

In this way we could respond by advising that a straw poll of members determined that the application was likely to be refused if it was to be pursued on the current site. That is a much more indirect response but gives them a pretty good idea of the likely outcome if the application were to be pursued on the current site.

Recommendation

- 1 The Panel advise NBN Co that it has no particular preference for the type of structure necessary to support the NBN facility if one were to be erected on the Viterra land at Orroroo.
- 2 The Panel carry out a straw poll to determine Panel members' thoughts on the likelihood of the application for the tower at the present site being approved, and the result of the straw poll be communicated to NBN Co.

Yours sincerely



David Hutchison BA PIA CPP
Access Planning (SA)

12 April 2016

Ref: 6481Panelresponse

Aurecon Australasia
55 Grenfell Street
ADELAIDE SA 5000

Access Planning (SA) Pty Ltd
ABN 57 089 702 241

235 Henley Beach Road
Torrensview SA 5031

Telephone 08 8130 7222
Facsimile 08 8130 7299
admin@accessplanning.com.au
www.accessplanning.com.au

ATTENTION: Mr. Adam Pfitzner

Dear Adam,

RE: NBN CO FACILITY, ORROROO (DA: 502/019/15)

Further to your correspondence of 9th March 2016 I can advise that the Flinders Ranges Development Assessment Panel considered the matters set out in your letter and resolved that it was unable, in the circumstances, to provide you with any direction in respect to pursuing an alternative site, or the form in which that development might take (monopole or lattice tower). The Panel also resolved that it could not confirm one way or another as to its position on the current application without making a formal decision.

The Panel resolved that the only way it could progress the matter would be for NBN Co to either withdraw the present application or to ask the Panel to formally consider it.

It arrived at this decision on the basis that it has no information before it on the possible siting of an alternative facility, and did not want to preempt a formal decision of the Panel which may then exclude the Panel from determining an application when and if such an application is submitted.

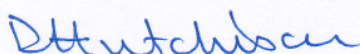
I think it is fair to say however that your interpretation of the Panel's attitude to the development on the current site is already identified in your letter.

Given the above, please advise the Council whether you wish the Panel to formally consider the present application or alternatively withdraw the application and pursue the alternative site.


I would be happy to continue to provide assistance to you as you negotiate a site and alternative development proposal for the Viterra land.

Please do not hesitate to contact me in the event I can be of any assistance.

Yours sincerely



David Hutchison BA PIA CPP
Access Planning (SA) Pty Ltd
Authorised Officer DC Orroroo

	<p align="center">FLINDERS REGIONAL DEVELOPMENT ASSESSMENT PANEL</p> <p align="center">AGENDA</p>	<p>Version Number Issued : Next Review GDS</p>	<p>1 24 Jun 2016 9.14.1 Page 6 of 6</p>
--	---	--	---

6.2 THE FLINDERS RANGES COUNCIL

NIL

No Applications for The Flinders Ranges Council require consideration at this Meeting.

6.3 THE DISTRICT COUNCIL OF MOUNT REMARKABLE

NIL

No Applications for The District Council of Mount Remarkable require consideration at this Meeting.

6.4 THE DISTRICT COUNCIL OF PETERBOROUGH

NIL

No Applications for The District Council of Peterborough require consideration at this Meeting.

7. OTHER BUSINESS:

7.1 DISTRICT COUNCIL OF ORROROO CARRIETON

7.2 THE FLINDERS RANGES COUNCIL

7.3 DISTRICT COUNCIL OF MOUNT REMARKABLE

7.4 DISTRICT COUNCIL OF PETERBOROUGH

8. NEXT MEETING:

9. CLOSURE: