



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: 11.30am
Date: Monday 11th April 2016
Venue: Meeting Room (Upstairs Town Hall)
District Council of Peterborough
108 Main Street
Peterborough, SA 5422

* * * * *

- Site Inspection in relation to DA 504/015/15 – Graeme Woods
Please meet at 113 Victoria Street, Peterborough at 11.00am


Peter McGuinness
Public Officer
1st April 2016
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 11 Apr 2016 9.14.1 Page 2 of 13</p>
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AGENDA & REPORTS

**FOR THE MEETING BEING HELD
MONDAY 11th APRIL 2016 AT 11.30AM**

1. PRESENT:

2. APOLOGIES:

3. DECLARATIONS OF INTEREST:

4. CONFIRMATION OF MINUTES:

4.1 ORDINARY MEETING - Held 23rd November 2015

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 23rd November 2015 as circulated, be confirmed.

5. BUSINESS ARISING FROM MINUTES:

MINUTES
MEETING BEING HELD
MONDAY 23RD NOVEMBER 2015 AT 1.00PM
IN THE COUNCIL CHAMBERS OF
THE DISTRICT COUNCIL OF ORROROO CARRIETON
12 SECOND STREET, ORROROO, SA 5431

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 Wayne Hart (CEO District Council of Mount Remarkable);
 Mr David Hutchison (Planning Consultant, Access Planning);
 Mr Stewart Payne (Planning Consultancy Services);
 Ms Sally Kent (Minute Secretary)

Members of the Public: Mr Adam Pfitzner (Applicant – Aurecon)
 Mr Matt Evans (Ericsson – Aurecon technical adviser)

2. APOLOGIES:

NIL

Presiding Member, Ms Ditter welcomed Cr R Goehring to the Flinders Regional Development Assessment Panel.

Ms Ditter explained to the gallery that the Panel Members had undergone a site visit in respect of all applications prior to the meeting.

3. DECLARATIONS OF INTEREST:

NIL

4. CONFIRMATION OF MINUTES:

4.1 ORDINARY MEETING - Held 23rd September 2015

Moved Cr F Hardbottle Seconded Cr G Thompson

That the Minutes of the Ordinary Meeting of the Flinders Regional Development Assessment Panel held on 23rd September 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 830/082/15 – District Council of Mount Remarkable – Winter storage pond for treated wastewater

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

The applicant, CEO Mr Wayne Hart, of the District Council of Mount Remarkable was on-site to provide any advice on the proposal to Members.

Details of the application for a winter storage pond for treated wastewater at Section 426, Hundred of Appila, Wilds Road, Wirrabara were included in the Agenda papers for the meeting.

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

Mr Payne explained that the application was straight forward with nothing to add.

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

Moved Cr G Thompson, Seconded Cr F Hardbottle


That Development Application 830/082/15 for a winter storage pond for treated wastewater at Section 426, Hundred of Appila, Wilds 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 830/082/15 for a winter storage pond for treated wastewater at Section 426, Hundred of Appila, Wilds Road, Wirrabara, subject to the following conditions:

1. A Construction Environmental Management Plan must be prepared prior to construction and adhered to during construction activity. The plan must address the mitigation or minimisation of impacts (especially from noise, dust and waste) and prevention of soil, sediment and pollutants leaving the site or entering waters during construction.
2. The lagoon must be constructed so that the contents of the lagoon cannot intersect any underlying seasonal water table.
3. Prior to use of the pond, a 1.5mm HDPE liner must be installed in accordance with manufacturer's directions which includes weld overlap and anchoring.
4. Prior to use of the pond, a leak detection drain must be installed on the edge of the southern pond wall (with inspection pits).
5. A minimum freeboard of 600 mm must be maintained in the lagoon to provide adequate buffer capacity in cases of heavy rainfall events and high inflows.
6. Any chemicals used on site must be stored within a bunded compound/area, which has a capacity of at least 120% of the volume of the largest container (or 133% for flammables e.g. diesel) to be stored within the bund, and which is designed and constructed to prevent the escape of material into surface or underground water resources.

Note: EPA Guidelines on Bunding and Spill Management will assist with meeting this condition: http://www.epa.sa.gov.au/files/47717_guide_bunding.pdf

	<p align="center">FLINDERS REGIONAL DEVELOPMENT ASSESSMENT PANEL</p> <p align="center">MINUTES</p>	<p>Version Number Issued : Next Review GDS</p>	<p>1 23 Nov 2015 9.14.1 Page 3 of 7</p>
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7. Landscaping of the site perimeter shall be undertaken to comprise trees and shrubs utilising species which are indigenous to the area, within an at least 3m wide landscape reserve, with plantings to be tended and watered and maintained in a good condition.
8. Natural ground covers and grass growth shall be promoted on earth embankments and disturbed earth surfaces adjacent to the storage pond to improve site amenity and reduce potential for windblown dust and site erosion.

Plus - Decision Notification per EPA requirement:

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.

CARRIED

To be Confirmed

6.1.2 DA 830/044/15 – Trevor & Evelyn Bertrand – Change of land use, dwelling to shop (bakery/café)

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

The applicant, Mr & Mrs T Bertrand along with Mr David Hutchison, of Access Planning were on-site to provide any advice on the proposal to the Members.

Details of the application for a change of land use – dwelling to shop (bakery/café) at Allotment 70, 25 High Street, 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 with the only concern raised by DPTI in relation to parking, which in his opinion was not an issue.

The proposed hours of operation were discussed, 8.30am to 5.30pm, and whether these should be extended to allow any small adjustments by the business if required.

Amendment to proposed hours of operation, **Moved Cr F Hardbottle, Seconded Cr G Thompson**, 7.30am to 7.30pm.

Moved Cr F Hardbottle, Seconded Cr G Thompson

That Development Application 830/044/15 for a change of land use – dwelling to shop (bakery/café) at Allotment 70, 25 High Street, Wirrabara, SA 5481 is **not** seriously at variance with the provisions of the District Council of Mount Remarkable's Development Plan, Consolidated 5th September 2013.

and

That Council **Grant** Development Plan Consent to Development Application 830/044/15 for a change of land use, dwelling to shop (bakery/café) at Allotment 70, 25 High Street, Wirrabara, SA 5481, subject to the following conditions:

1. That except where minor amendments may be required by other relevant Acts, or by conditions imposed on this consent, the development shall proceed in accordance with the details and plans submitted with and forming part of development application number 830/044/15.
2. The hours of operation shall not exceed 7.30am to 7.30pm on any day.
3. Delivery vehicles that serve the premises, shall be restricted to between 8.30am to 5.30pm Monday to Friday.

Advisory Notes:

The applicant is advised that the signage has been excluded from this application and this component of the development will be the subject of a further application to Council under the Development Act 1993.

CARRIED

6.1.3 DA 830/081/15 – Aurecon Australia Pty Ltd – NBN fixed wireless telecommunication facility

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

Planning Consultant, Mr David Hutchison of Access Planning was on-site to provide any advice on the proposal to Members.

Details of the application for a fixed wireless telecommunications facility comprising a 40 metre high monopole with a circular headframe, antennas and associated infrastructure and fencing at 41 Crew 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 with nothing to add.

Moved Cr C Nottle, Seconded Cr G Thompson

That Development Application 830/081/15 for a fixed wireless telecommunications facility comprising a 40 metre high monopole with a circular headframe, antennas and associated infrastructure and fencing at 41 Crew Road, Wirrabara 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 830/081/15 for a fixed wireless telecommunications facility comprising a 40 metre high monopole with a circular headframe, antennas and associated infrastructure and fencing at 41 Crew Road, Wirrabara, subject to the following conditions:

1. The development shall proceed in accordance with the plans and details submitted with and forming part of Development Application No 830/081/15.
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 ORROROO CARRIETON

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

An inspection of the area was undertaken by Panel Members prior to the meeting, in addition to three different vantage points.

Planning Consultant, Mr David Hutchison of Access Planning was on-site to provide any advice on the proposal to Members.

Details of the application for 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.

Ms Ditter invited Mr David Hutchison to speak first in regards to the application.

Mr Hutchison explained to the Panel Members his concerns of the application were primarily of the visual impact the facility would have in the proposed location, especially being at the intersection of the main tourist route, and that a relocation to an alternate site would be preferential.

Ms Ditter then invited the applicant, Mr Adam Pfitzner of Aurecon to speak to the Panel Members and clarified to him that the Panel had viewed various alternate locations around the town, and would like to hear from him the justification of why they had selected the proposed site.

Mr Pfitzner highlighted the reasons for the choice of location, which are covered in the Agenda papers, and the various other locations considered and the reasons why they were not proposed. Mr Pfitzner then introduced Mr Matt Evans who was in attendance to answer any technical questions.

Panel Members engaged in discussion with Mr Pfitzner and Mr Evans over the issue of transmission connection, which may be affected by aircraft using the Orroroo Airport, if an alternate site was proposed.

Panel Members also queried the fate of the tree which is sited adjacent to the proposed site.

Ms Ditter explained to the Panel Members that their decision in regards to this application was solely to this particular site and this particular application, and not their responsibility to propose new site locations.

Ms Ditter asked the Applicant that if the Panel deferred their decision, if they had the ability to answer more detailed questions concerning the transmission connection, and to communicate with the Planning Consultant regarding this.

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

6.3 DISTRICT COUNCIL OF PETERBOROUGH

NIL

6.4 THE FLINDERS RANGES COUNCIL

NIL

7. OTHER BUSINESS:

8.1 THE FLINDERS RANGES COUNCIL

NIL

8.2 DISTRICT COUNCIL OF MOUNT REMARKABLE

NIL

8.3 DISTRICT COUNCIL OF ORROROO CARRIETON

NIL

8.4 DISTRICT COUNCIL OF PETERBOROUGH

Mr Hutchison advised that an application is near to obtaining all the necessary information for an application to be considered before the Flinders Regional Development Assessment Panel at a future meeting.

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

10. CLOSURE: 1.45pm

6. APPLICATIONS FOR CONSIDERATION:

6.1 THE DISTRICT COUNCIL OF MOUNT REMARKABLE

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


Action	For DECISION
Proponent	Council Officer
Officer	DCMR CEO
Development Application	830/106/15
Associated Reports & Documents	Development Application & covering letter Site plans & amended plan Abrasive Blasting – Code of Practice Australian Business Licence Micronair Dust Control EPA Report Planning Consultant Report Nil Representations

Officer's Recommendations:

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.

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.

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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 any 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>

Introduction:

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

Previous Panel Consideration:

Nil

Officer's Report:

Refer to attached Report by Tom Hateley, Access Planning (dated 30th March 2016).

Statutory Requirement:

The District Council of Mount Remarkable Development Plan – consolidated 5th September 2013
 Development Act 1993
 Development Regulations 2008

Policy/Strategic Implications:

The District Council of Mount Remarkable Strategic Management Plan 2008-2020:

Strategy Statement:

With visionary, respected and strong leadership, Council will be in a position to successfully develop constructive partnerships with other levels of government and our communities, to ensure our aspirations are met and our futures are secured.(Reference 1)

Strategy Objective:

To not only meet, but to excel in satisfying the requirements of the Local Government Act (Reference 1.7)

Strategic Outcomes:

Ensure that Council satisfactorily meets all legislative compliance requirements (Reference 1.7.3)

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

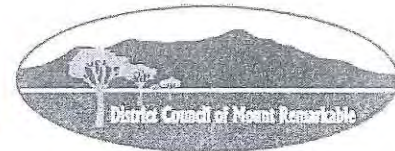
Legend: E: Extreme risk; immediate action required
 H: High risk; senior management attention needed
 M: Moderate risk; management responsibility must be specified
 L: low risk; manage by routine procedures

Voting Requirements:

Absolute Majority

Development Application

ENTERED



Please use BLOCK LETTERS and black or blue ink so photocopies may be made of your application.

PLEASE ENSURE ALL AREAS OF THIS FORM ARE COMPLETED

DA2015-112.

APPLICANT:	Conor Evans		
Postal Address:	Po box 51 Forest rd		
	wirrabara	P/Code 5481	
OWNER:	Conor Evans		
Postal Address:	as above		
		P/Code	
BUILDER:			
Postal Address:			
		P/Code	
CONTACT PERSON:			
Mobile:	0437669266	Phone:	0437669266
Email:		Fax:	
LOCATION OF PROPOSED DEVELOPMENT:			
House No:	—	Lot No:	750
		Section:	359
Street:	Forest RD		
Town:	Wirrabara		
Volume:	Folio:	Hundred: Appila	
CONSTRUCTION MATERIALS DETAILS: please complete			
Materials & colour - Walls:			
Materials & colour - Roof:			
Materials - Floor			
Sqm living:		Sqm Non-Living:	

Application No: 830/ 106 /15 Assessment No: A23393
DESCRIPTION OF PROPOSED DEVELOPMENT (eg single storey dwelling, carport, etc NOTE: Sheds – please ensure to <u>describe</u> its use eg domestic storage, store caravan/boat, Hay, Machinery) <u>Possible change of title use</u>
EXISTING USE
COST OF DEVELOPMENT \$ <u>3700</u>
I WISH TO APPLY FOR: Planning consent only: <input type="checkbox"/> Building Consent only: <input type="checkbox"/> Planning & Building Consent: <input type="checkbox"/>
Has the Construction Industry Training Levy been paid? (for development over \$15,000). Phone 8172 9500 or levy can be paid at www.citb.org.au . Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
FOR COMMERCIAL OR INDUSTRIAL DEVELOPMENTS ONLY If Class 5, 6, 7, 8 or 9 is sought state the proposed number of employees: Male _____ Female _____ If Class 9a is sought state the number of persons for whom accommodation is provided: _____ If Class 9b is sought state the proposed number of occupants of the various spaces at the premises: _____

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 1993.

Signature Conor Evans

Date: 8/12/15

District Council of Mount Remarkable ABN 34 847303998

3 Stuart Street, Melrose SA 5483 Postal Address: PO Box 94, Melrose SA 5483

Telephone: 08 8666 2014 Fax: 08 8666 2169 Email postmaster@mtr.sa.gov.au

Electricity Declaration

ENTERED

PLEASE ENSURE THIS FORM IS COMPLETED WITH THE DEVELOPMENT APPLICATION OVERLEAF

District Council of Mount Remarkable

Development Regulations 1993

Form of Declaration (Schedule 5 Clause 2A)

Date: 8/12/15

To: **District Council of Mount Remarkable**

Location of proposed development: Volume _____ Folio _____

House No: — Lot No: 750 Section: 359 Hundred: Appila

Street: Forest rd Town: Nirrabara

Nature of proposed development: *Please circle*

Dwelling Dwelling Addition Pergola Shed Verandah
Carport Garage Other _____

I Gordon Evans

being the applicant /a person acting on behalf of the applicant (circle applicable statement) for the development described above declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of Section 86 of the Electricity Act 1996. I make this declaration under Clause 2A(1) of Schedule 5 of the Development Regulations 1993.

Signed: Gordon Evans

Information brochures 'Powerline Clearance Declaration Guide' and 'Building Safely near Powerlines' have been prepared by the Technical Regulator to assist applicants and other interested persons. Copies of these brochures are available from the Office of the Technical Regulator. The brochures and other relevant information can also be found at www.technicalregulator.sa.gov.au



Mail Room:	
File Ref:	
Agenda Item:	
Meeting:	
Copy to:	

Att. Tammy

District council of MT Remarkable

RE; development application for Lot 750 Forest rd Wirrabara 5481

To whom it may concern,

I am looking to start a small buisness; Bi-carbanate sodium blasting and would like to use my property Lot 750 Forest rd Wirrabara and its existing infrastructure as a base for my operations.

I believe the chosen location can meet all requirements for its proposed use with minimal further development (subject to council and EPA requirements)

I propose to use the site as follows;

sheds #1, #2, are wood framed, corrugated iron with cement floors and 3 phase power,

Shed #1 is to be used as a media blasting area with storage for the blasting media and waste product.

Shed#2 is to be used as a workshop for assembly and dissassembly and minor painting procedures.

shed #3 is steel framed, zincalume with cement floor and 3 phase power.

Shed #3 is used for personal and farm implement storage with room for potential business expansion.

From the proposed site, i plan to operate a mobile soda blast unit between 8am and 5pm weekdays, specialising in vehicles and antiques.

ie. removal of paint, scale and oxidisation from steel, stainless steel, iron, corrugated iron, brass, copper, aluminium, glass, stone, brick, cement, wood, glass, plastics, rubber, fibreglass and composite materials.

I have included information relevant to my proposal concerning the blasting media, the process and EPA guidelines. I believe site and waste water contamination can be mitigated with the appropriate use of swails, soakage pits and reed beds and i am willing to comply with suggestions from the EPA in regards to this matter.

thank you for considering my application sincerely,

Conor Evans

Connor Evans



Map data is compiled from a variety of sources and hence its accuracy is variable.

AW Region - 2007 and Arid Lands - 2007 Imagery (Copyright © JAXA) cannot be used for commercial purposes

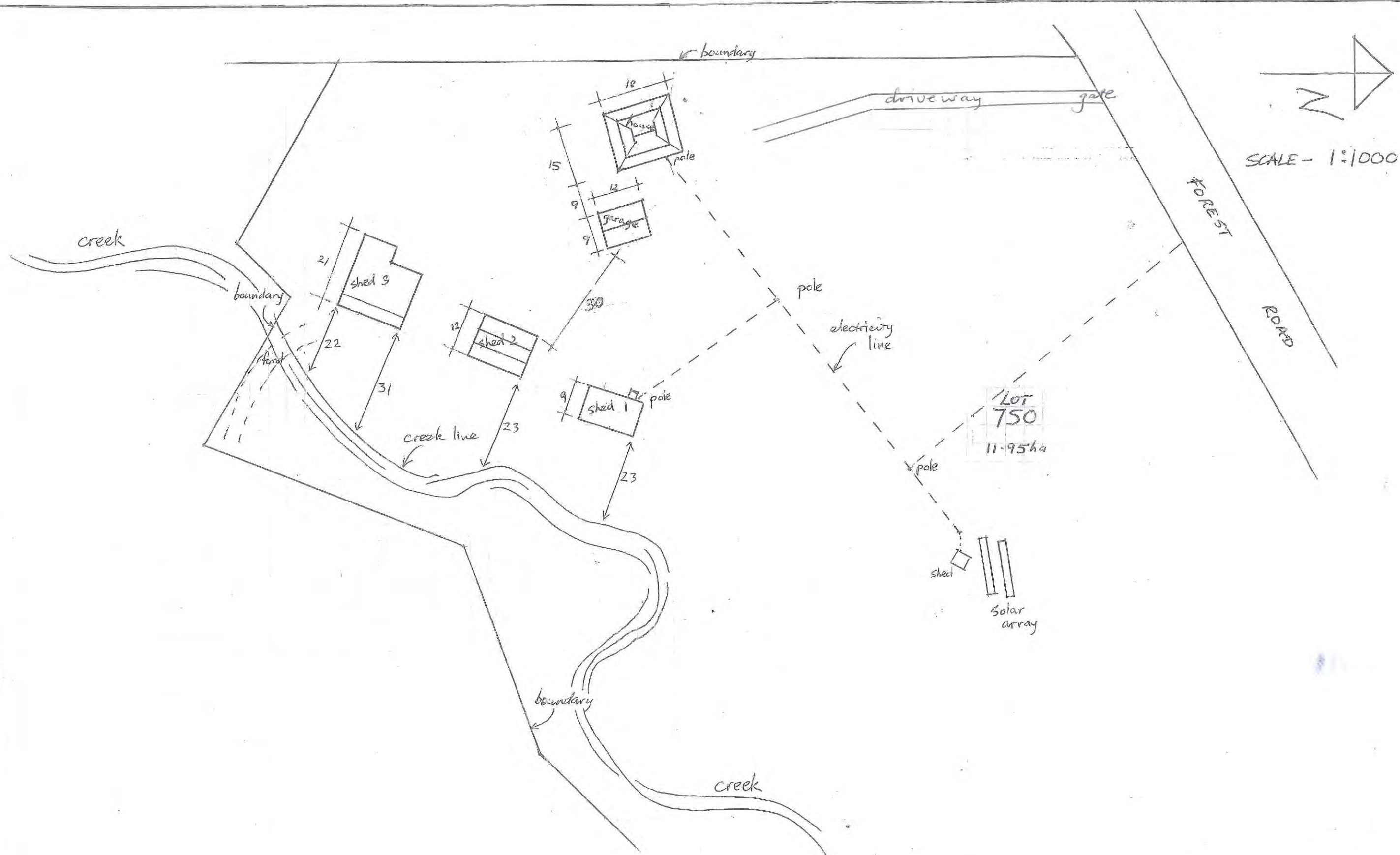
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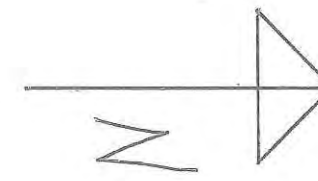
Compiled: 2-May-2014
Generated at: www.naturemaps.sa.gov.au
Datum: Geocentric Datum of Australia, 1994
Projection: Lambert Conformal Conic



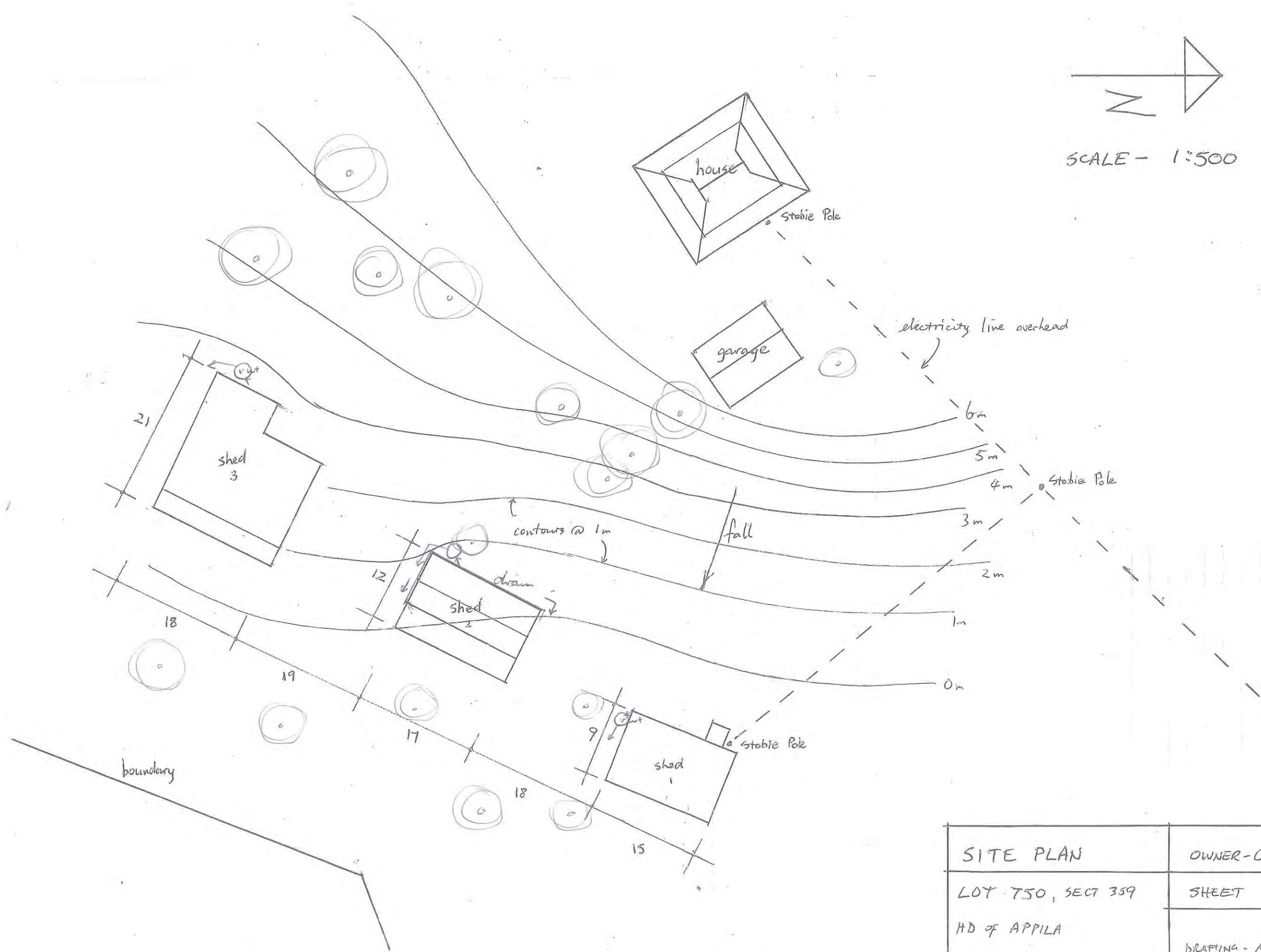
Government of South Australia
Department of Environment,
Water and Natural Resources



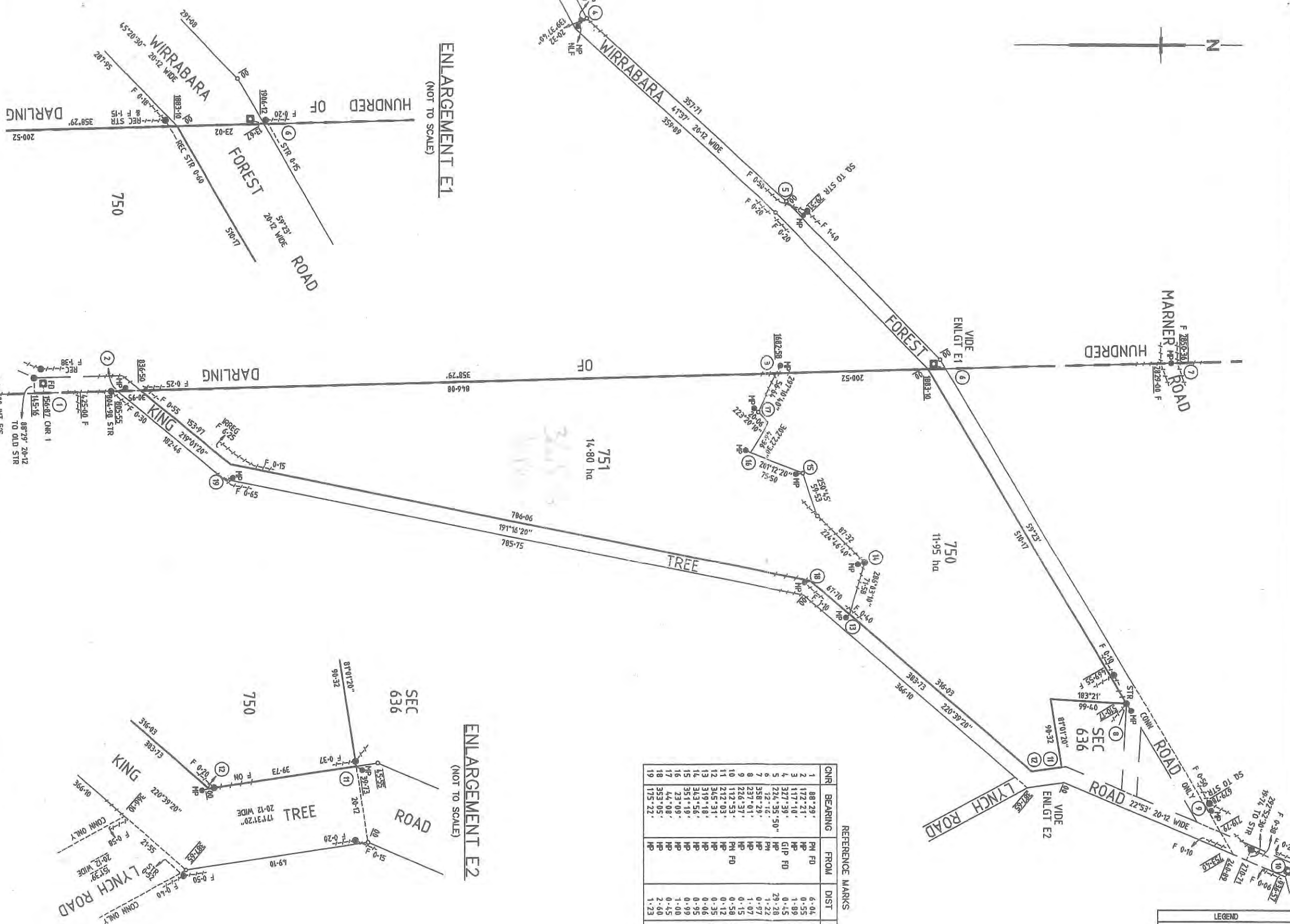
SITE PLAN	OWNER- CONNOR EVANS
LOT 750, SECT 359	SHEET 1 OF 2
HD of APPILA	DRAFTING- Neil Hyde 0409091424



SCALE - 1:500



SITE PLAN	OWNER - CONNOR EVANS
LOT 750, SECT 359	SHEET 2 of 2
HD of APPILA	DRAFTING - New style 0409091424



ENLARGEMENT E1
(NOT TO SCALE)

ENLARGEMENT E2
(NOT TO SCALE)

REFERENCE MARKS

CNR	BEARING	FROM	DIST	PM NO
1	88°29'	PM FD	6.04	6531/2049
2	172°21'	PM FD	0.55	
3	117°10'	PM FD	1.89	
4	327°39'	GIP FD	0.45	
5	224°35'50"	PM FD	29.28	6531/2306
6	12°16'	PM FD	1.22	
7	358°29'	PM FD	0.97	
8	237°01'	PM FD	1.07	
9	226°37'	PM FD	0.15	
10	112°53'	PM FD	0.12	6531/1985
11	112°03'	PM FD	0.35	
12	345°31'	PM FD	0.06	
13	319°18'	PM FD	0.95	
14	343°56'	PM FD	0.99	
15	351°19'	PM FD	1.00	
16	23°09'	PM FD	0.45	
17	44°08'	PM FD	2.60	
18	353°05'	PM FD	1.23	
19	175°22'	PM FD		

LEGEND

NETWORK PSM	FD
NETWORK STATION	FD
PERMANENT SURVEY MARK	FD FOUND FD GONE
REFERENCE MARKS	MP OR RM SPK FD BT GONE
DRILL HOLE & WING	
DIRECTION CHANGE	(20-32)
PART DISTANCES	20-86 CALC.
CALCULATED DATA	100-65
COPIED DATA	

PLAN NUMBER

THIS IS SHEET 1 OF 1 SHEETS

DEPOSITED / /20 PRO REGISTRAR GENERAL

ACCEPTED FOR FILING

MAP REF. 6531-4 DEV. No. B30/D003/06

TITLE SYSTEM REAL PROPERTY ACT

TITLE REFERENCE CT 5739/952

O.B. / LAST PLAN REF. TOTAL AREA

DOCKET No.

FIELD BOOK No.

CLOSURE CHECKED	PLAN EXAMINED	PLAN APPROVED	P.M.S. APPROVED
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IRRIGATION AREA DIVISION

HUNDRED APPILA

AREA WIRRABARA

COUNCIL D.C. OF MT. REMARKABLE

PLAN OF DIVISION SECTION 359

SCALE 0 60 120 180 240 300 METRES

STATEMENTS CONCERNING EASEMENTS ANNOTATIONS AND AMENDMENTS

NO OCCUPATION EXISTS ON SUBJECT LAND BOUNDARIES EXCEPT WHERE INDICATED

ALL DISTANCES ARE GROUND DISTANCES

COMBINED SCALE FACTOR 1.00037 ZONE 54, MGA, 94...

BEARING DATUM MGA 94 DISTANCE

DERIVED FROM GPS OBSERVATIONS

I, MAX, ALFRED, MICHAEL, SAYER
Licensed Surveyor of South Australia do hereby certify-

1) That this plan has been made from surveys carried out by me or under my personal supervision and in accordance with the Survey Act 1992

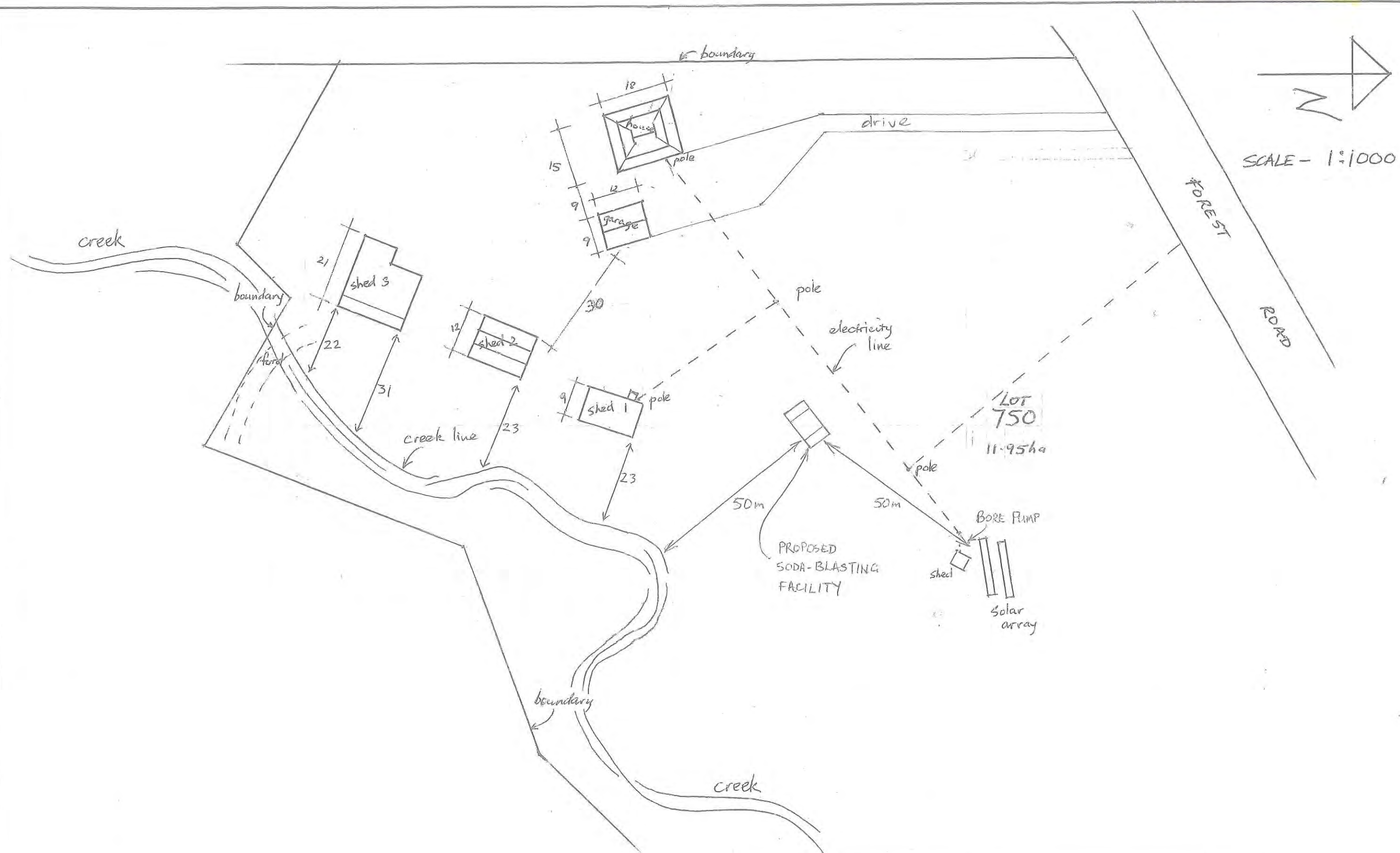
2) That the field work was completed on the 13th day of October 2006

(except for the placement of survey marks (strike out if not applicable))

Date

Licensed Surveyor

sawley lock o'callaghan
 Licensed surveyors spatial information consultants
 45 Helen Street prospect road
 prospect road 5082
 phone 08 8344 1022
 fax 08 8344 1022
 revision 1 REF: 1137002



ADDENDUM 1	SITE PLAN	OWNER- CONNOR EVANS
SHOWING PROPOSED SODA-BLASTING FACILITY	LOT 750, SECT 359	SHEET 1 OF 2
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ABRASIVE BLASTING

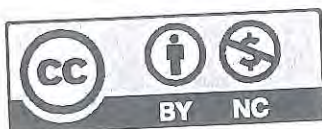
Code of Practice

October 2012

Safe Work Australia is an Australian Government statutory agency established in 2009. Safe Work Australia consists of representatives of the Commonwealth, state and territory governments, the Australian Council of Trade Unions, the Australian Chamber of Commerce and Industry and the Australian Industry Group.

Safe Work Australia works with the Commonwealth, state and territory governments to improve work health and safety and workers' compensation arrangements. Safe Work Australia is a national policy body, not a regulator of work health and safety. The Commonwealth, states and territories have responsibility for regulating and enforcing work health and safety laws in their jurisdiction.

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FOREWORD

This Code of Practice on abrasive blasting is an approved code of practice under section 274 of the *Work Health and Safety (WHS) Act*.

An approved code of practice is a practical guide to achieving the standards of health, safety and welfare required under the WHS Act and the Work Health and Safety Regulations (the WHS Regulations).

A code of practice applies to anyone who has a duty of care in the circumstances described in the code. In most cases, following an approved code of practice would achieve compliance with the health and safety duties in the WHS Act, in relation to the subject matter of the code. Like regulations, codes of practice deal with particular issues and do not cover all hazards or risks which may arise. The health and safety duties require duty holders to consider all risks associated with work, not only those for which regulations and codes of practice exist.

Codes of practice are admissible in court proceedings under the WHS Act and Regulations. Courts may regard a code of practice as evidence of what is known about a hazard, risk or control and may rely on the code in determining what is reasonably practicable in the circumstances to which the code relates.

Compliance with the WHS Act and Regulations may be achieved by following another method, such as a technical or an industry standard, if it provides an equivalent or higher standard of work health and safety than the code.

An inspector may refer to an approved code of practice when issuing an improvement or prohibition notice.

This Code of Practice has been developed by Safe Work Australia as a model code of practice under the Council of Australian Governments' *Inter-Governmental Agreement for Regulatory and Operational Reform in Occupational Health and Safety* for adoption by the Commonwealth, state and territory governments.

SCOPE AND APPLICATION

This Code provides practical guidance for persons conducting a business or undertaking on how to manage health and safety risks associated with abrasive blasting. This Code applies to all workplaces covered by the WHS Act where abrasive blasting processes are carried out and where abrasive blasting products and equipment are used and stored.

How to use this code of practice

In providing guidance, the word 'should' is used in this Code to indicate a recommended course of action, while 'may' is used to indicate an optional course of action.

This Code also includes various references to provisions of the WHS Act and Regulations which set out the legal requirements. These references are not exhaustive. The words 'must', 'requires' or 'mandatory' indicate that a legal requirement exists and must be complied with.

1. INTRODUCTION

1.1 What is abrasive blasting?

Abrasive blasting means propelling a stream of abrasive material at high speed against a surface using compressed air, liquid, steam, centrifugal wheels or paddles to clean, abrade, etch or otherwise change the original appearance or condition of the surface.

It is used in a wide range of industries for many different purposes, including cleaning surfaces such as steel, bricks, cement and concrete. The most common method uses compressed air to propel abrasive material from a blast pot, through a blasting hose to a nozzle that is manually controlled by the operator. Automated abrasive blasting machines such as centrifugal wheel systems and tumblers are also used. Blasting is generally performed in enclosed environments like blasting chambers or cabinets, or on open sites, for example on buildings, bridges, tanks, boats or mobile plant.

Common hazards include dusts, hazardous chemicals and risks associated with the use of plant and equipment.

1.2 Who has health and safety duties in relation to abrasive blasting?

A **person conducting a business or undertaking** has the primary duty to ensure, so far as is reasonably practicable, that workers and other persons are not exposed to health and safety risks arising from the business or undertaking.

A person conducting a business or undertaking that carries out abrasive blasting must eliminate risks arising from abrasive blasting, or if that is not reasonably practicable, minimise the risks so far as is reasonably practicable.

The WHS Regulations include more specific requirements to manage the risks of hazardous chemicals, airborne contaminants and plant, as well as other hazards associated with the abrasive blasting activities such as noise and manual tasks.

Designers, manufacturers, importers and suppliers of plant or substances used in abrasive blasting must ensure, so far as is reasonably practicable, that the plant or substance is without risks to health and safety. This duty includes carrying out testing and analysis as well as providing specific information about the plant or substance.

Officers, such as company directors, have a duty to exercise due diligence to ensure that the business or undertaking complies with the WHS Act and Regulations. This includes taking reasonable steps to ensure that the business or undertaking has and uses appropriate resources and processes to eliminate or minimise risks that arise from abrasive blasting.

Workers have a duty to take reasonable care for their own health and safety and that they do not adversely affect the health and safety of other persons. Workers must comply with any reasonable instruction and cooperate with any reasonable policy or procedure relating to health and safety at the workplace. If personal protective equipment is provided by the person conducting the business or undertaking, the worker must use it in accordance with the information, instruction and training provided.

1.3 What is required to manage risks associated with abrasive blasting?

The WHS Regulations require a person conducting a business or undertaking to 'manage risks' associated with specific hazards, including noise, hazardous chemicals, plant and electricity.

Regulation 32-38: In order to manage risk under the WHS Regulations, a duty holder must:

- a) identify reasonably foreseeable hazards that could give rise to the risk
- b) eliminate the risk so far as is reasonably practicable
- c) if it is not reasonably practicable to eliminate the risk, minimise the risk so far as is reasonably practicable by implementing control measures in accordance with the hierarchy of risk control
- d) maintain the implemented control measure so that it remains effective
- e) review, and if necessary revise all risk control measures so as to maintain, so far as is reasonably practicable, a work environment that is without risks to health and safety.

This Code provides guidance on managing the risks of abrasive blasting by following a systematic process that involves:

- identifying hazards
- if necessary, assessing the risks associated with these hazards
- implementing control measures, and
- reviewing control measures.

Guidance on the general risk management process is available in the *Code of Practice: How to Manage Work Health and Safety Risks*.

Consulting your workers

Consultation involves sharing of information, giving workers a reasonable opportunity to express views and taking those views into account before making decisions on health and safety matters.

Section 47: A person conducting a business or undertaking must consult, so far as is reasonably practicable, with workers who carry out work for them who are (or are likely to be) directly affected by a work health and safety matter.

Section 48: If the workers are represented by a health and safety representative, the consultation must involve that representative.

Consultation with workers and their health and safety representatives is required at each step of the risk management process. By drawing on the experience, knowledge and ideas of your workers you are more likely to identify all hazards and choose effective control measures.

Consultation with workers can help you select appropriate control measures, including any personal protective equipment they may require.

Consulting, co-operating and coordinating activities with other duty holders

Section 46: A person conducting a business or undertaking must consult, cooperate and coordinate activities with all other persons who have a work health or safety duty in relation to the same matter, so far as is reasonably practicable.

Sometimes you may share responsibility for a health and safety matter with other business operators who are involved in the same activities or who share the same workplace. In these situations, you should exchange information to find out who is doing what and work together in a cooperative and coordinated way so that all risks are eliminated or minimised so far as is reasonably practicable.

For example, if you engage a contractor to carry out abrasive blasting activities at your workplace, then you should find out what blasting medium and what work processes are being used, any associated hazards and how the risks will be controlled. This may include jointly conducting a risk assessment for the work and determining the control measures to implement. After the risk assessment has been conducted, it is important for all duty holders to cooperate and coordinate activities with each other to implement the control measures.

Further guidance on consultation is available in the *Code of Practice: Work Health and Safety Consultation, Co-operation and Co-ordination*.

2. THE RISK MANAGEMENT PROCESS

2.1 Identifying the hazards

The first step in managing risks associated with abrasive blasting activities is to identify all the hazards that have the potential to cause harm.

Potential hazards may be identified in a number of different ways including:

- conducting a walk through assessment of the workplace
- observing the work and talking to workers about how work is carried out
- inspecting the plant and equipment that will be used during the abrasive blasting activity
- reading product labels, safety data sheets and manufacturer's instruction manuals
- talking to manufacturers, suppliers, industry associations and health and safety specialists
- reviewing incident reports.

Examples of abrasive blasting hazards include:

- airborne contaminants such as dust
- hazardous chemicals, particulate matter, for example small particles or pieces of the substrate or blasting medium
- noise
- abrasive blasting plant and equipment.

Exposure standards

Regulation 49: A person conducting a business or undertaking must ensure that no person at the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the exposure standard for the substance or mixture.

Exposure standards represent airborne concentrations of a particular substance or mixture that must not be exceeded. There are three types of exposure standard:

- 8-hour time-weighted average
- peak limitation
- short term exposure limit.

Exposure standards are based on the airborne concentrations of individual substances that, according to current knowledge, should not cause adverse health effects nor cause undue discomfort to nearly all workers.

Chemicals with workplace exposure standards are listed in the *Workplace Exposure Standards for Airborne Contaminants*. These exposure standards are also available from the Hazardous Substances Information System (HSIS) on the Safe Work Australia website. The HSIS database contains additional information and guidance for many substances. Although exposure standards may also be listed in Section 8 of the Safety Data Sheet (SDS), you should always check the *Workplace Exposure Standards for Airborne Contaminants* or HSIS to be certain.

If the blasting medium or the surface being blasted contains any crystalline silica, lead or any other substance with an exposure standard, you must ensure that workers are not exposed to levels that exceed the relevant exposure standard.

To comply with the WHS Regulations, monitoring of workplace contaminant levels for chemicals with exposure standards may need to be carried out.

Guidance on interpreting exposure standards is available in the *Guidance on the Interpretation of Workplace Exposure Standards for Airborne Contaminants*.

2.2 Assessing the risks

Under the WHS Regulations, a risk assessment is not mandatory for abrasive blasting activities however it is required for specific situations, for example when working in a confined space. In many circumstances a risk assessment will assist in determining the control measures that should be implemented. It will help to:

- identify which workers are at risk of exposure
- determine what sources and processes are causing that risk
- identify if and what kind of control measures should be implemented
- check the effectiveness of existing control measures.

The following questions may help to assess the risk:

- How often, and for how long, will exposure to the hazard occur?
- In the event of exposure to the hazard, will the outcome be severe, moderate or mild?
- What are the properties of the blasting medium being used?
- What is the substrate being blasted?
- What are the surface coatings of the items being blasted? For example do they contain lead or other toxic metals
- What are the conditions under which abrasive blasting is carried out (for example, confined spaces)?
- What are the skills, competence and experience of the operator?

Monitoring airborne contaminant levels

Regulation 50 A person conducting a business or undertaking at a workplace must ensure that air monitoring is carried out to determine the airborne concentration of a substance or mixture at the workplace to which an exposure standard applies if:

- the person is not certain on reasonable grounds whether or not the airborne concentration of the substance or mixture at the workplace exceeds the relevant exposure standard; or
- monitoring is necessary to determine whether there is a risk to health.

The results of air monitoring must be recorded and kept for 30 years after the date the record is made.

Air monitoring is the sampling of workplace atmospheres to obtain an estimate of workers' potential inhalation exposure to hazardous chemicals.

Air monitoring can be used:

- when there is uncertainty about the level of exposure
- to indicate whether the exposure standards are being exceeded or approached
- to test the effectiveness of the control measures.

Air monitoring should be carried out by a person such as an occupational hygienist with skills to carry out the monitoring according to standards and to interpret the results.

Where monitoring of airborne contaminants is used to determine a person's exposure, the monitoring must be undertaken in the breathing zone of the worker (i.e. inside the abrasive blasting helmet) to ensure the effectiveness of the abrasive blasting helmet.

Monitoring should also be conducted in the breathing zones of other workers in the vicinity, to ensure that they are not exposed to hazardous levels of dust.

Results from air monitoring indicate how effective your control measures are, for example whether ventilation systems are operating as intended. If monitoring identifies that the exposure standard is being exceeded, the control measures must be reviewed and any necessary changes made.

In dense clouds of dust it is often necessary to take a measurement more than once to ensure an accurate reading. Air monitoring is particularly important in measuring exposure when a toxic material is introduced into the blasting process.

Air monitoring cannot be used to determine a risk to health via skin contact of airborne chemicals.

2.3 Controlling the risks

The hierarchy of control measures

Some control measures are more effective than others. Control measures can be ranked from the highest level of protection and reliability to the lowest. This ranking is known as the *hierarchy of control*.

You must always aim to eliminate a hazard and associated risk first. If this is not reasonably practicable, the risk must be minimised by using one or more of the following approaches:

- *Substitution* – for example, use a less hazardous abrasive material
- *Isolation* – for example, carry out blasting in a blasting cabinet or enclosure
- *Implementing engineering controls* – for example, use automatic cut-off devices on abrasive blasting equipment.

If risk remains, it must be minimised by implementing *administrative controls*, so far as is reasonably practicable, for example by establishing exclusion zones around open air blasting activities. Any remaining risk must be minimised with suitable *personal protective equipment* (PPE).

Administrative control measures and PPE rely on human behaviour and supervision, and used on their own, tend to be least effective in minimising risks.

A combination of these control measures may be required in order to adequately manage the risks with abrasive blasting. You should check that your chosen control measure does not introduce new hazards.

Chapters 3 and 4 of this Code provide information on control measures for abrasive blasting activities.

2.4 Reviewing control measures

The control measures that are put in place to protect health and safety should be regularly reviewed to make sure they are effective. This may involve, for example, air monitoring to measure the concentration of crystalline silica in the worker's breathing zone during the abrasive blasting process. If the control measure is not working effectively it must be revised to ensure it is effective in controlling the risk.

Common review methods include workplace inspection, consultation, testing and analysing records and data.

You can use the same methods as in the initial hazard identification step to check control measures. You should also consult your workers and their health and safety representatives and consider the following questions:

- Are the control measures working effectively in both their design and operation?
- Have the control measures introduced new problems?
- Have all hazards been identified?
- Have new work methods, new equipment or chemicals made the job safer?
- Are safety procedures being followed?
- Has the training and instruction provided to workers on how to work safely been successful?
- Are workers actively involved in identifying hazards and possible control measures?

- Are they openly raising health and safety concerns and reporting problems promptly?
- Are the frequency and severity of health and safety incidents reducing over time?
- If new legislation or new information becomes available, does it indicate current control measures may no longer be the most effective?

If problems are found, go back through the risk management steps, review your information and make further decisions about risk control.

Health monitoring

Regulation 368: A person conducting a business or undertaking must ensure health monitoring is provided to a worker carrying out work for the business or undertaking if:

- the worker is carrying out ongoing work at a workplace using, handling, generating or storing hazardous chemicals and there is a significant risk to the worker's health because of exposure to a hazardous chemical referred to in Schedule 14, table 14.1, column 2; or
- the person identifies that because of ongoing work carried out by a worker using, handling, generating or storing hazardous chemicals there is a significant risk that the worker will be exposed to a hazardous chemical (other than a hazardous chemical referred to in Schedule 14, table 14.1) and either:
 - valid techniques are available to detect the effect on the worker's health; or
 - a valid way of determining biological exposure to the hazardous chemical is available and it is uncertain, on reasonable grounds, whether the exposure to the hazardous chemical has resulted in the biological exposure standard being exceeded.

Health monitoring of a person means monitoring the person to identify changes in the person's health status because of exposure to certain substances. It involves the collection of data in order to evaluate the effects of exposure to determine whether or not the absorbed dose is within safe levels. This allows decisions to be made about implementing ways to eliminate or minimise the worker's risk of exposure, for example, reassigning a worker to other duties that involve less exposure or improving control measures.

Substances commonly encountered during abrasive blasting (either in the blasting medium or the surface being blasted) that may require health monitoring to be carried out include:

- asbestos
- crystalline silica
- cadmium
- inorganic arsenic
- inorganic chromium, and
- inorganic lead.

Health monitoring, which may include biological monitoring, can assist in:

- establishing whether an identifiable disease or health effect known to be linked to exposure to dust, chemicals or noise has occurred
- determining levels of toxic substances in the body so that informed decisions can be made about the effectiveness of control measures and whether any further action needs to be taken (e.g. a reduction in or cessation of exposure).

Biological monitoring is a way of assessing exposure to hazardous chemicals that may have been absorbed through the skin, ingested or inhaled, therefore, biological monitoring techniques should also be used. For example, workers exposed to lead may require biological monitoring to measure the level of lead in their blood.

Biological monitoring has the specific advantage of being able to take into account individual responses to particular hazardous chemicals. Individual responses are influenced by factors including size, fitness, personal hygiene, work practices, smoking and nutritional status.

A person conducting a business or undertaking must ensure that where health monitoring must be provided to a worker, the type of health monitoring referred to in the WHS Regulations is provided unless:

- an equal or better type of health monitoring is available, and
- the use of that other type of monitoring is recommended by a registered medical practitioner with experience in health monitoring.

Health monitoring is not an alternative to implementing control measures. If the results indicate that a worker is experiencing adverse health effects or signs of exposure to a hazardous chemical, the control measure must be reviewed and if necessary revised.

A person conducting a business or undertaking must:

- inform workers and prospective workers about health monitoring requirements
- ensure health monitoring is carried out by or under the supervision of a registered medical practitioner with experience in health monitoring
- consult workers in relation to the selection of the registered medical practitioner
- pay all expenses relating to health monitoring
- provide certain information about a worker to the registered medical practitioner
- take all reasonable steps to obtain a report from the registered medical practitioner as soon as practicable after the monitoring has been carried out
- provide a copy of the report to the worker and the regulator if the report contains adverse test results or recommendations that remedial measures should be taken. Also provide the report to all other persons conducting a business or undertaking who have a duty to provide health monitoring for the worker
- keep reports as confidential records for at least 30 years after the record is made (40 years for reports relating to asbestos exposure), and
- not disclose the report to anyone without the worker's written consent unless required to under the WHS Regulations.

The WHS Regulations also contain specific requirements relating to health monitoring for lead. If a worker is carrying out lead risk work, health monitoring must be provided to a worker before the worker first commences lead risk work and one month after the worker first commences lead risk work.

Further information on health monitoring can be found in the *Health Monitoring for Exposure to Hazardous Chemicals – Guide for Workers* and *Health Monitoring for Exposure to Hazardous Chemicals – Guide for Persons Conducting a Business or Undertaking*.

3. SPECIFIC HAZARDS AND CONTROL MEASURES

3.1 Prohibited and restricted chemicals

The WHS Regulations prohibit and restrict the use of some hazardous chemicals as abrasive material in an abrasive blasting process.

Regulation 381: A person conducting a business or undertaking must not use, handle or store, or direct a worker to use, handle or store the hazardous chemicals listed in table 1 for abrasive blasting.

Table 1 – Restricted hazardous chemicals

Any substance that contains greater than:

- 1 % free silica (crystalline silicon dioxide)
- 0.1 % antimony
- 0.1 % arsenic
- 0.1 % beryllium
- 0.1 % cadmium
- 0.5 % chromium (except as specified for wet abrasive blasting)
- 0.1 % cobalt
- 0.1 % lead (or which would expose the operator to levels in excess of those set in the WHS Regulations covering lead)
- 0.1 % nickel
- 0.1 % tin

For wet abrasive blasting, any substance that contains chromate, nitrate or nitrite

Polychlorinated biphenyls (PCBs)

There are also other carcinogenic chemicals that are prohibited or their use is restricted under the WHS Regulations and therefore cannot be used in abrasive blasting, for example acrylonitrile (CAS number 107-13-1) must not be used, handled or stored for *any purpose*, including abrasive blasting, unless the regulator has properly authorised it. Restricted and prohibited carcinogenic chemicals and restricted hazardous chemicals are listed in Schedule 10 of the WHS Regulations.

Asbestos

R.446 A person conducting a business or undertaking must not use, direct or allow a worker to use high pressure water spray or compressed air on asbestos or asbestos containing materials.

The use of high pressure water spray or compressed air on asbestos or asbestos containing materials is prohibited. Asbestos can release airborne fibres whenever it is disturbed, and the inhalation of these fibres into the lungs is a significant health risk.

Asbestos has been used in products including:

- certain textured coatings and paints
- roofing materials
- vinyl or thermoplastic floor tiles, profiled sheets used on roofs and walls and flat sheets in flashings
- imitation brick cladding, and
- plaster patching compounds.

The WHS Regulations contain specific requirements on asbestos and asbestos-containing material.

It can be difficult to identify the presence of asbestos by sight so having a sample of the suspected material analysed will confirm whether it is asbestos or not. Sampling can be hazardous and should only be undertaken by a competent person and samples should only be analysed by a National Association of Testing Authorities (NATA) accredited laboratory or a laboratory approved by the regulator or operated by the regulator.

Further guidance is available in the *Code of Practice: How to Safely Remove Asbestos* and the *Code of Practice: How to Manage and Control Asbestos in the Workplace*.

Lead

Lead may be present in surface coatings or the object being blasted. The WHS Regulations contain specific requirements for working with lead in addition to the hazardous chemicals requirements. These include the identification of lead risk work and removing a worker from lead risk work in certain circumstances.

Naturally occurring radioactive material

Some abrasive blasting mediums such as garnet and staurolite may contain trace levels of thorium. Thorium is a naturally occurring radioactive material. While the concentration of thorium or other radioactive materials is low, mineral extraction may concentrate naturally occurring radioactive material. Exposure to naturally occurring radioactive material is through inhaled dust. Exposure to radioactive materials may increase the risk of cancer.

The use of abrasives containing any radioactive substance where the level of radiation exceeds 1 becquerels per gram (Bq/g) is prohibited, so far as reasonably practicable. You should actively source material with lower radioactive content levels to minimise the risks from radiation.

Further information on selecting an abrasive blasting medium is at Appendix A.

3.2 Dust

One of the main hazards in abrasive blasting is dust which in many cases can be toxic. Crystalline silica and lead are typical examples of toxic dusts that can be generated during abrasive blasting activities.

Identifying dust hazards

Abrasive blasting can generate large quantities of respirable and inhalable dust from the abrasive blasting medium and the surface of the object being blasted.

'Inhalable' dust means the dust present in the air which a worker can inhale through the nose or mouth during breathing. 'Respirable' dust is that portion of inhalable dust that is small enough to enter the lungs down to the lower bronchioles and alveolar regions.

Respirable dusts may be more hazardous than inhalable dusts for some materials, such as crystalline silica which can result in permanent scarring of the lung tissue.

Labels and SDSs should be checked to identify dust hazards in the blasting medium. Manufacturers, importers and suppliers of hazardous chemicals have a duty under the WHS Regulations to ensure that the current SDS is provided to a person at the workplace if the person asks for it. The SDS provides information about the chemical, possible health effects, control measures that may be used to minimise exposure and first aid requirements.

You should also consider dust hazards presented by the surface being blasted, which could discharge particles of hazardous chemicals. Hazards include any paint or coating on the surface (which, for example, could contain lead) and the composition of the object or structure being blasted (which could contain asbestos or other hazardous chemicals).

Crystalline silica dust

Crystalline silica dust can be generated by:

- using abrasive materials that contain traces of crystalline silica, (e.g. staurolite or garnet), or
- abrasive blasting surfaces that contain crystalline silica (e.g. concrete, sandstone masonry, calcium silicate bricks, foundry castings).

Exposure to respirable crystalline silica can result in silicosis, which is stiffening and scarring of the lungs. It results in shortness of breath, coughing, and chest pain. The effects are irreversible and lead to a degeneration in the person's health, invariably resulting in death. Exposure to respirable crystalline silica is also associated with chronic lung diseases and cancer.

Silicosis can result from short-term exposure to high concentrations of crystalline silica dust (acute silicosis) or it can develop after long-term exposure over a number of years.

Lead dust

Lead dust can be generated by:

- using an abrasive material that contains lead (prohibited under the WHS Regulations)
- the abrasive blasting of surfaces containing lead, or
- abrasive blasting surfaces covered by paint that contains lead.

These surfaces commonly occur on bridges, ships, machinery, vehicles and recycled old housing timber.

Lead is easily absorbed or taken into the body by:

- inhaling dust or fumes
- eating contaminated food, or
- eating, drinking or smoking using contaminated fingers.

The major risk associated with lead is lead poisoning (plumbism). This affects the blood system and can cause anemia. Other symptoms include abdominal pain, convulsions, hallucinations, coma, weakness, tremors and the possible increased risk of cancer. Lead exposure can also affect both male and female reproductive systems. A developing foetus is particularly at risk, especially in the early weeks before a pregnancy becomes known.

The rate of absorption of lead depends on the size of the particles and the route of entry. Abrasive blasting produces particles small enough to be absorbed rapidly, leading to more acute and severe toxic effects.

Regulation 392: Under the WHS Regulations using a power tool, including abrasive blasting and high pressure water jets to remove a surface coated with paint containing more than 1 percent by dry weight of lead metal and handling waste containing lead is a *lead process*.

This means certain requirements in the WHS Regulations apply including:

- giving information to a person likely to be engaged to carry out a lead process, before the person is so engaged, on the health risks and toxic effects associated with lead, and the need for medical examinations and biological monitoring of workers carrying out a lead process, and
- assessing each lead process to determine if the lead process is lead risk work, i.e. if the work is likely to cause a worker's blood lead level to be more than 10 micrograms per decilitre (for a female of reproductive capacity) or 30 micrograms per decilitre (for all other cases).

Assessing the risks from dust exposure

There are a number of factors that affect the degree of risk associated with dust produced in abrasive blasting activities. These factors include:

- the concentration of airborne dust in the breathing zone of the worker
- the size of the dust particles generated (whether dust particles are inhalable or respirable)
- the duration of exposure, and
- the type of dust and its biological effect

You should also identify situations where dust could spread to other workplaces or the environment.

Control of dust

Using a less hazardous abrasive material

Before purchasing any abrasive blasting mediums, you should look at the label and SDS to check the concentration of impurities and whether its use is prohibited or restricted under the WHS Regulations. Where a material is prohibited from use, your supplier may be able to advise alternative abrasive blasting medium (see Appendix A).

It is important to select an abrasive blasting medium with qualities that will generate minimum dust levels. Metallic abrasives have proven characteristics that resist shattering on impact, which is the major cause of the dust produced during blasting. Environmentally clean and recyclable abrasives, such as chilled iron grit or cast steel grit, should be used where reasonably practicable.

Using a less hazardous surface preparation method

The selection of methods of surface preparation can also affect the amount of dust in the air.

Wet abrasive blasting

A standard blast machine and compressed air are used to propel the abrasive with just enough water added to suppress the dust. Inhibitors are sometimes added to the water to minimise flash rusting. For effective dust suppression, the water should be added before the abrasive leaves the nozzle. The use of inhibitors such as chromate, nitrate or nitrite must comply with the restrictions on use in Table 10.3 of Schedule 10 of the WHS Regulations.

Water jetting (high and ultra high pressure)

High pressure water jetting is an alternative method to abrasive blasting. For further information on high pressure water jetting you should refer to AS/NZS 4233.1 *High pressure water (hydro) jetting systems Part 1:- Guidelines for safe operation and maintenance* and AS/NZS 4233.2: *High pressure water (hydro) jetting systems Part 2:- Construction and performance*.

Centrifugal wheel blasting

Centrifugal wheel blasting involves a rotating wheel assembly, either air or electrically driven, inside an enclosure fitted with a dust collector. Abrasive is propelled outwards from the spinning wheel by centrifugal force, striking the surface to be cleaned and removing rust, paint and mill scale.

Abrasives used include steel shot, steel grit, cut wire and chilled iron grit. They are recyclable and are continuously recovered, cleaned and returned for re-use.

Centrifugal wheel blasting is normally used where the work is of a consistent size, (e.g. pipes, valves, or steel sections). Normally, the rotating wheel assembly remains fixed and the surface to be cleaned is passed through the enclosure, but centrifugal wheel blasting can also be used on-

site, (e.g. on a tank), with special adaptors where the wheel assembly moves across a stationary work surface.

Because all blasting takes place within an enclosure, there is no contact with airborne dust or high velocity particles. This minimises the risk to operators. However, attention should be paid to seals on wheel abrading equipment to ensure that toxic dusts cannot escape into the workplace during operation and that sufficient extraction clearance time is allowed before access doors are opened.

Vacuum blasting

Vacuum blast cleaning uses a standard abrasive blast nozzle, operating inside a shroud which is in close contact with the work surface, forming a tight seal. As the abrasive impinges on the surface, a vacuum is applied inside the shroud, removing the debris. The abrasive material, which typically can be steel shot, steel grit, chilled iron grit, aluminium oxide or garnet, is separated, and returned for re-use.

A variety of heads may be used to achieve a tight seal for inside corners, outside corners, and flat surfaces. In practice, however, operators tend not to change heads, lifting the assembly from the surface to clean odd shapes and inaccessible surfaces. While this may save time, it breaks the seal, defeating the purpose of the vacuum and exposing workers and the environment to hazards. This practice should be avoided where possible.

When used properly, vacuum blast cleaning can clean effectively with minimal dust generation.

Other removal methods

There are many emerging techniques and equipment that may minimise airborne dust levels. These include:

- sodium bicarbonate blasting
- blast cleaning with reusable sponge abrasives
- carbon dioxide (dry ice) blast cleaning.

You should also consider cleaning techniques that do not involve blasting, particularly for smaller jobs. These include:

- chemical strippers
- heat guns
- power tools with dust collection systems
- manual sanding
- scraping.

Although these techniques should generate low levels of dust, and therefore generally present lower risks to workers than abrasive blasting, other risks involved in using such techniques still need to be assessed and controlled.

Isolation and engineering controls

Abrasive blasting should be carried out in a blasting cabinet or blasting chamber where practicable.

Blasting cabinets

These are suitable for blasting small objects. The cabinet (see Figure 1) is fully sealed and the operator manipulates the work piece and the blasting hose from outside, viewing the object through a sealed window.

When using a properly designed and maintained cabinet, there is no need to wear a respiratory device. However, a low toxicity abrasive should still be used as poor maintenance of the cabinet may expose workers to dust.

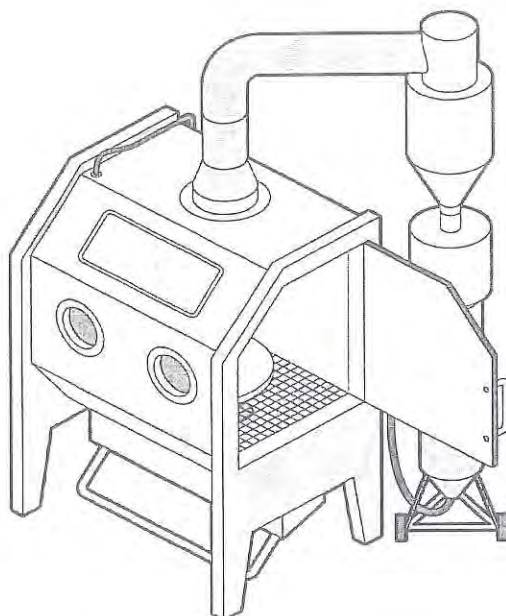


Figure 1: Blasting cabinet

Blasting chambers

Blasting chambers (also known as blast rooms – see Figure 2) should be used for cleaning transportable objects that are too large to be treated inside a blasting cabinet.

Blasting is done manually by operators working inside the chamber. Operators working inside blasting chambers must wear a hood or helmet type airline respirator which should be fitted with an inner bib and a high visibility shoulder cape, jacket or protective suit. Further information on hood or helmet type airline respirators can be found in *AS/NZS 1716: Respiratory protective devices*. The necessary capacity of any air service for respiratory protection should be calculated on a minimum requirement of 170 litres per minute continuous flow for each person, measured at the regulator. Where air cooling or encapsulated suits are used additional air will be required and advice should be sought from a competent person. Further information on quality of breathing air can be found in *AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment*.

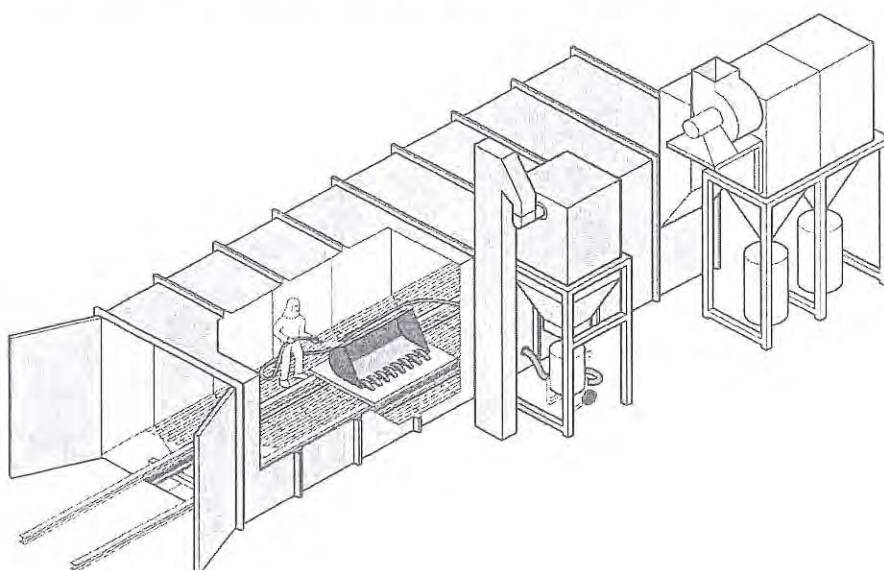


Figure 2: Blasting chamber

Temporary enclosures

Temporary enclosures should be used when the object or structure to be blasted is unable to be transported or too large for a blasting chamber. Temporary enclosure should also be used for fixed structures such as bridges or water tanks.

Where monitoring indicates that persons in surrounding areas may be exposed to dust levels in excess of the exposure standards, they should be excluded from the area where possible by warning signs and barricading, or provided with PPE.

Regardless of the control measures chosen, you must ensure that no-one at the workplace is exposed to dust levels in an airborne concentration that exceeds the relevant exposure standard.

Further information on blasting cabinets, blasting chambers and temporary enclosures can be found in Section 3.4 of this Code.

Administrative controls

Exclusion zones

Although open air blasting activities are not recommended, there may be occasions when there is no alternative. In these circumstances, exclusion zones (also known as buffer zones) should be used to protect workers and other persons in the vicinity from exposure to hazardous dust (see Figure 3). Exclusion zones may also be used in conjunction with blasting chambers and temporary enclosures.

The size of the exclusion zone should be determined after assessing the risk to all unprotected people. The prevailing conditions at the time of blasting should be taken into account, for example, the exclusion zone may need to be extended down-wind.

An exclusion zone should be established and maintained to exclude workers and other persons who are not wearing respiratory protective equipment (RPE). Warning signs should be located so that they are clearly visible before entering the area.

Signs should warn that:

- abrasive blasting is in progress and that there is a dust hazard
- access to the area is restricted to authorised persons
- RPE should be worn in the exclusion zone.

Where an exclusion zone interferes with other activities at a workplace, other workers should only work within the exclusion zone after being provided with RPE.

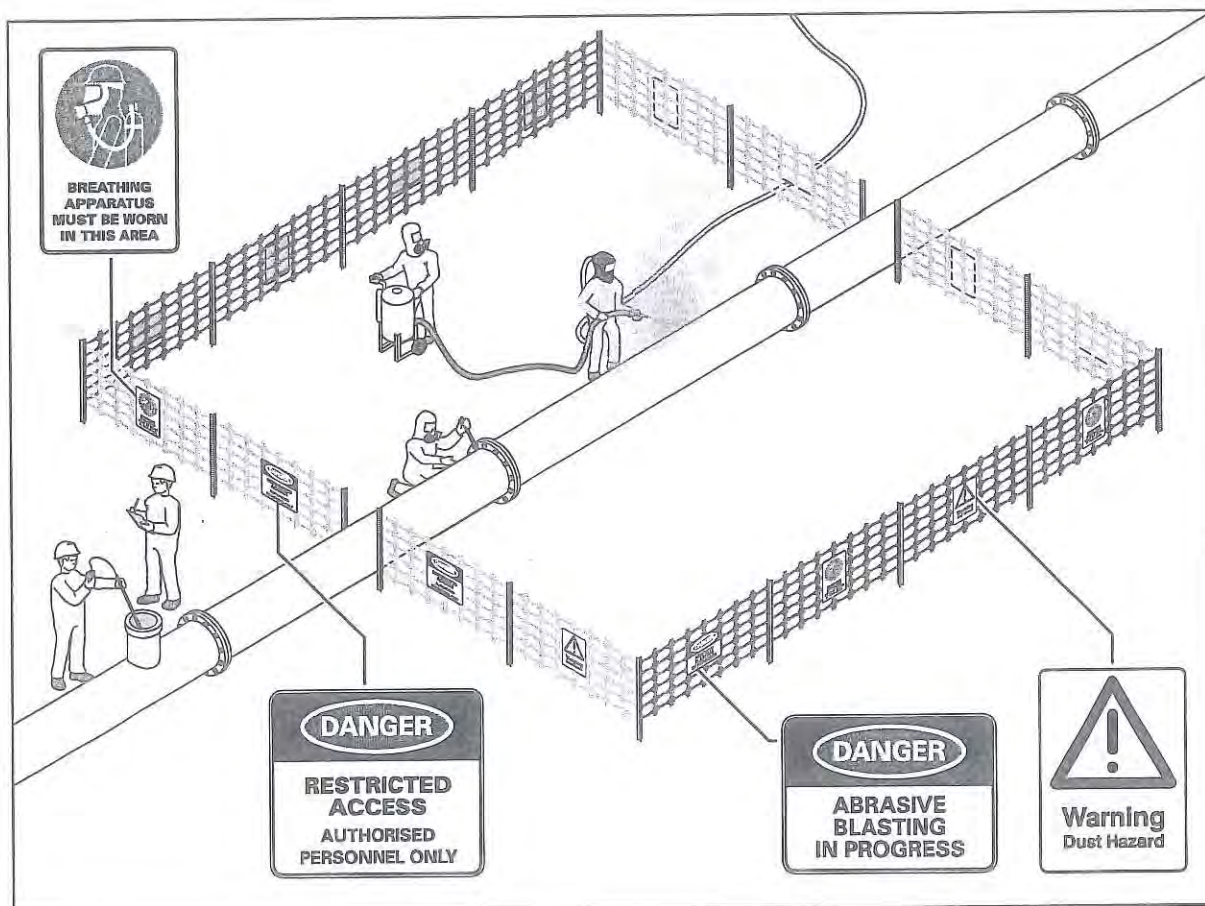


Figure 3: Exclusion Zone

Scheduling abrasive blasting activities

The number of people who will be exposed to dust should be reduced by:

- shifting the site of abrasive blasting away from other workers
- scheduling blasting outside normal working hours
- ceasing blasting in windy conditions
- stopping other work on a site and clearing people while blasting is taking place.

Housekeeping

Drift from abrasive blasting can be harmful not only to workers but also to members of the public. Good housekeeping can minimise the risk of exposure.

While other control measures should prevent dust escaping from the area where blasting is being done, any dust or residue that does make its way into the workplace should be removed as soon as practicable after blasting has finished. This includes the surfaces in an exclusion zone.

Where practicable, accumulated dust should be removed using wet cleaning methods, or High Efficiency filter vacuum methods.

Because workers undertaking cleaning work may be exposed to dust levels that exceed the exposure standard, they should wear PPE.

Facilities

Decontamination facilities should be provided to allow workers to shower and change clothes after the completion of blasting. Many types of dust (particularly lead dust) may enter the body by

ingestion. It is therefore important that workers take care with personal hygiene by washing hands and face prior to eating or drinking. A clean area, separated from the blast site, should be provided for consuming food.

Further guidance on the type of facilities that should be provided is available in the *Code of Practice: Managing the Work Environment and Facilities*.

Personal protective equipment

PPE should include:

- an airline respirator of the hood or helmet type, fitted with an inner bib and a high visibility shoulder cape
- protective clothing (a jacket or protective suit)
- protective gloves (canvas or leather) protective footwear
- personal hearing protectors.

Regulation 44: If personal protective equipment (PPE) is to be used at the workplace, the person conducting the business or undertaking must ensure that the equipment is selected to minimise risk to health and safety including by ensuring that the equipment is:

- suitable for the nature of the work and any hazard associated with the work
- a suitable size and fit and reasonably comfortable for the person wearing it
- maintained, repaired or replaced so it continues to minimise the risk
- used or worn by the worker, so far as is reasonably practicable.

A person conducting a business or undertaking who directs the carrying out of work must provide the worker with information, training and instruction in the proper use and wearing of personal protective equipment; and the storage and maintenance of personal protective equipment.

A worker must, so far as reasonably able, wear the PPE in accordance with any information, training or reasonable instruction and must not intentionally misuse or damage the equipment.

As abrasive blasting is a high hazard activity, some PPE should always be worn regardless of other control measures in place.

Respiratory protection

Workers engaged in abrasive blasting should be supplied with and wear an airline positive pressure hood or helmet fitted with an inner bib and a high visibility shoulder cape, jacket or protective suit.

Respirator helmets must be supplied with breathing air of an adequate quality. If the air is supplied from compressed air cylinders, the source should be fitted with an alarm device that warns the wearer or an attendant when the cylinder pressure falls below a predetermined level. For information on air quality refer to *AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment*.

Any air-fed respirator should have an alarm that warns and logs the incidence of carbon monoxide gas.

An air purifying respirator should also be worn by the pot attendant and any other person within the work area while abrasive blasting is in progress, during maintenance or repair work or during the clean-up of dust. For further information refer to *AS/NZS 1716: Respiratory protective devices*.

Care should be taken to ensure breathing air lines cannot be run over by vehicles or damaged by the blasting process. Air intakes to breathing air compressors should be situated well away from sources of contaminants, particularly exhaust gases from mobile liquid fuel engines, or areas where exhaust fumes may accumulate.

Respirators should be fitted for each person individually and if one is to be used by another operator, it should be disinfected and refitted before use. The tightness of all connections and the condition of the face piece, headbands and valves should be checked before each use.

Respirators should be selected, fitted, used and maintained in accordance with the manufacturer's instructions. For further information also refer to AS/NZS 1715: *Selection, use and maintenance of respiratory protective equipment*.

Protective clothing

To keep out dust and abrasive grit, protective suits or clothing should be worn and should have leather or elastic straps at the wrist and ankles and overlapping flaps at all suit closures.

Protective gloves should be industrial safety gloves or mittens of an appropriate material to reduce penetration of particulate matter. For further information refer to AS/NZS 2161: *Occupational protective gloves*.

Protective footwear should be made of material which reduces penetration from particulate matter, and where appropriate, should be waterproof. For further information refer to AS/NZS 2210: *Occupational protective footwear*.

If disposable clothing is worn, the clothing should be appropriately disposed of after use, without risk to the safety and health of others.

Helmets and eye protection

Helmets will provide protection from flying fragments to the eyes, head and neck.

Helmets should not be held or hung up by the air feed hose, dropped or left in areas where they might be exposed to dust and dirt or be subject to distortion. After removing the helmet, dust should be vacuumed and the cleaned helmet placed in an airtight plastic bag. It should be stored in a dust-free area, away from direct sunlight. At least once a week, the inside of the helmet should be washed with warm water and mild detergent.

The helmet cape requires frequent inspection, periodic cleaning and immediate replacement if damaged. You should never use tape to repair holes or worn areas. The inner collar should be replaced when the elastic becomes stretched out of shape.

For further information on the selection, use and maintenance of helmets refer to AS/NZS 1800: *Occupational protective helmets – selection, care and use*.

Protective eye equipment includes safety glasses, goggles, face shields, hoods or helmets with lenses designed to withstand medium to high velocity impact by flying objects. For further information refer to AS/NZS 1336 *Recommended practices for occupational eye protection* and AS/NZS 1337: *Eye protectors for industrial applications*.

Maintenance of PPE

The WHS Regulations require that PPE is maintained, repaired or replaced so as to ensure that it continues to be effective. A maintenance program should include procedures for:

- daily cleaning and inspection of PPE by the worker for wear and damage
- identification and repair or replacement of any worn or defective components of equipment
- regular periodic inspection, maintenance and testing of respiratory protective equipment in accordance with the manufacturer's instructions
- regular periodic testing of breathing air quality, in accordance with the manufacturer's instructions or, where manufacturer's instructions are not available, the instructions of a competent person.

3.3 Particulate matter

Identifying particulate matter

Particulate matter is small particles or pieces of the substrate being blasted, or of the blasting medium which are generated during abrasive blasting. Particulate matter can also include water.

Workers carrying out abrasive blasting can be struck by particulate matter. Serious injuries or death can result from being struck by particulate matter discharged under high pressure.

Common injuries include:

- eye damage
- severe lacerations
- burns
- skin penetration.

Assessing the risks

You should observe workers undertaking abrasive blasting. This will allow you to see if they are following correct procedures and using the PPE provided. The risk of sustaining a serious injury from particulate matter is increased when:

- blasting in a confined space
- working in an elevated position
- the operator is out of the line of sight of a pot tender or there is no dedicated pot tender who can provide assistance if required.

Controlling the risks

Isolation

Abrasive blasting activities should be isolated from other workplace activities to minimise the possibility of workers being struck by particulate matter. This can be done by using blasting chambers, blasting cabinets, temporary enclosures and exclusion zones.

Abrasive blasting plant can also incorporate guards to reduce the possibility of particulate matter striking the operator.

Engineering controls

Abrasive blasting equipment should be fitted with a fast acting self-actuating cut-off device under the direct control of the nozzle operator that will immediately stop the flow of abrasive material. The device most commonly used is called a 'dead man control' (see Figure 4).

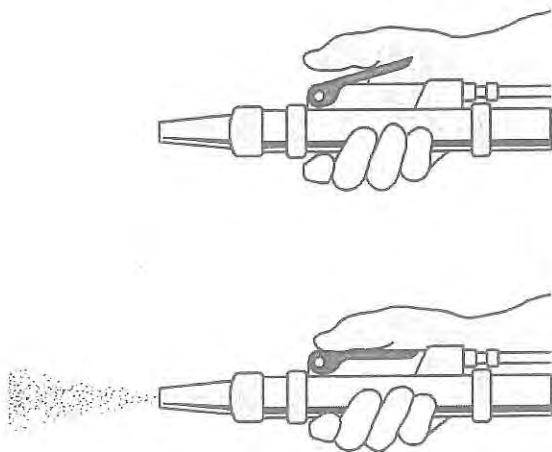


Figure 4: Nozzle with dead man control

Using a blast machine without a dead man control (under the direct control of the operator) is dangerous and may result in serious injury or death.

The dead man control is usually attached to the nozzle. When the nozzle is dropped, the air supply shuts off and prevents the hose from whipping and injuring the worker and the abrasive material firing at the operator or other people nearby. For more information on dead man controls, refer to the following section on abrasive blasting plant and equipment.

Administrative controls

When blasting, the nozzle should only be pointed at the work. A blast nozzle should never be pointed at any person. Blast hoses should be uncoiled when in use and operators should be adequately trained in the use and maintenance of this equipment.

PPE

Workers exposed to high velocity particulate material should wear suitable PPE to protect against flying abrasive particles. The PPE should include:

- eye protection
- protective gloves (canvas or leather)
- protective footwear
- protective clothing (overalls, long trousers, blast suits, aprons)
- RPE

3.4 Abrasive blasting plant and equipment

Persons conducting businesses or undertakings who have management or control of plant at a workplace must ensure, so far as is reasonably practicable, that the plant is without risks to the health and safety of any person.

Designers of plant must ensure, so far as is reasonably practicable, that the plant is designed to be without risks to the health and safety of persons.

When purchasing abrasive blasting plant and equipment you should ensure that safety features have been incorporated into the design. The following information must be passed on from the designer through to the manufacturer and supplier to the end user:

- the purpose for which plant was designed or manufactured
- the results of any calculations, analysis, testing or examination
- any conditions necessary to ensure the safe use of the plant.

A supplier must give this information to each person who receives the plant (which may be in the form of a manufacturer's manual).

Air compressors and blast pots

All valves should be of a rating equivalent to that of the pressure vessel and be correctly attached. A safety relief valve should be fitted on the compressor or air supply system and regularly checked. Further information on the design of pressure vessels can be found in *AS/NZS 1200: Pressure equipment*.

Blow-down procedures (if applicable), should be developed and implemented. Never exceed the rated working pressure as this may lead to explosion.

A muffler should be attached to blast pots to minimise the noise from escaping air when the machine is depressurised.

Portable blast pots should have wheels and be ergonomically designed.

Planned inspection and routine maintenance should be carried out by a competent person. Further information can be found in *AS/NZS 378: Pressure equipment – In-service inspection, and the manufacturer's instructions*.

Nozzle

Where dry blasting is being conducted, an efficient means for the discharge of static electrical charge from the blast nozzle and the object being blasted should be provided.

The nozzle lining and threads should be checked for wear and damage. Use nozzle washers, and replace them when they show signs of wear.

Dead man controls (also known as fast acting automatic cut-off device)

Abrasive blasting equipment should be fitted with an automatic cut-off device (deadman control) near the blast nozzle so that it is under direct control of the nozzle operator to quickly stop the flow of abrasive material to the nozzle.

Dead man controls can be either pneumatic or electric. Pneumatic controls are only suitable for distances up to 40 metres because the response time increases with distance. Electric controls are recommended for distances over 40 metres as they respond almost instantly and response times do not increase with distance. Dead man controls are subjected to rough treatment because they are located at the nozzle which results in damage and rapid wear. Deadman controls (especially the lever and lever lock) should be inspected and tested several times each working day. Moving parts should be cleaned regularly to prevent jamming. You should also:

- replace the rubber buttons and seals as necessary to prevent air escaping and abrasive from entering
- inspect and clean control hose line fittings before connecting them to prevent dust and dirt clogging air passageways throughout the system which can damage control valve cylinder walls.

You should never modify, remove or substitute parts and never tape down or prevent free movement of the control handle. This defeats the safety purpose of the remote control system and may cause serious injury if an uncontrolled nozzle is dropped.

Blast hoses, hose whips and couplings

Hoses should be constructed with anti-static rubber linings or fitted with an earth wire or similar mechanism to prevent electric shock. Static electricity may build up in dry blasting operations, from abrasive blasting equipment and/or from the surfaces being blasted. Static electricity can shock workers and create an ignition source, with the potential for explosion if there is a combustible atmosphere (for example, an atmosphere containing metal dust, organic abrasive or fine paint particles). You should ensure that:

- hoses or couplings are purpose designed
- the rated working pressure of a blast hose is not exceeded
- the hose from the pot to the blast nozzle is kept as straight as possible.
In situations where a hose needs to be curved around an object, a long radius curve should be used. The use of sharp curves may create rapid wear on the hose, leading to the possibility of the hose malfunctioning
- blasting does not take place with a coiled hose
- hose whip checks or hose coupling safety locks or both are fitted to hoses
- safety cables are used to support the weight of elevated hoses
- pin holes are not taped in the blast hose. The hole will enlarge quickly and will cause a blow-out
- blast hoses are coiled and stored away from water, oil and chemicals to prevent rotting
- coupling fit is checked
- screws provided by the coupling manufacturer are used
- the hose end fits uniformly flush with the coupling shoulder

- nozzle holders and couplings fit snugly on the blast hose. Reject those that are loose
- hoses that have a damaged outer cover are replaced
- all hoses or lines are positioned in locations where they are not subject to damage, fouling or restrictions
- hoses, hose whips and couplings are inspected, tested and maintained in accordance with the manufacturer's instructions.

Blasting cabinets

Blasting cabinets should be used for blasting small objects. The cabinets should be constructed from an abrasive resistant, non-combustible material and should also:

- have a sealed window so that the operator can view the object being cleaned
- be fitted with a dust extraction/collection system which has a sufficient air change rate to increase visibility and keep dust exposures less than the relevant exposure standards when the cabinet is opened
- have a dust tight light fixture, and
- have interlocked doors to eliminate the possibility of the machine being operated while the door is open.

In conjunction with the air change rate, a suitable clearing time should also be allowed before opening the cabinet.

Cabinets should be regularly inspected and maintained in accordance with the manufacturer's instructions, especially in relation to gloves, gasket, door seals and structural integrity.

Blasting chambers

Blasting chambers should be constructed from an abrasive resistant, non-combustible material designed to prevent the escape of dust and minimise internal projections on which dust may settle.

Blasting chambers should have a mechanical exhaust system that effectively extracts the dust from the blasting chamber and which is arranged so as to prevent re-entry of the extracted dust into the blasting chamber and the workplace. Extracted air should be passed through a filtering or cleaning device that removes airborne contaminants before discharge. In a down-draught air flow blasting chamber, the ventilation system should produce a minimum air velocity of 0.3 linear metres per second; and in a cross-draught air flow blasting chamber, the ventilation system should produce a minimum air velocity of 0.4 linear metres per second in the direction of extraction. The ventilation system ducts should be fitted with inspection ports and cleaning ports, ideally at locations where dust might be reasonably expected to accumulate. Bonding and grounding should be used to prevent static build-up.

Blasting chambers should also have:

- easily accessible operating controls and interlocked doors to prevent the machinery being operated while the door is open
- windows or inspection ports which are fixed in a metal sash and constructed of toughened safety glass, laminated safety glass or safety wired glass. Windows or inspection ports should be maintained so as to allow effective visibility
- an emergency exit located at the furthestmost position from the main entrance that is signposted and backlit so that it is visible if the power is cut
- a ventilation system kept in continuous operation whenever blasting is being done and for at least 5 minutes after blasting has finished or when cleaning, maintenance or repair is carried out on the chamber or cabinet, except where the operation of the ventilation system may create a hazard (in which case effective alternative means of ventilation should be provided)

- an illumination of at least 200 lux measured on a horizontal plane one metre above the floor of the blasting chamber or enclosure
- an electrical supply which complies with relevant standards, for example AS/NZS 2381: *Electrical equipment for explosive gas atmospheres* and AS/NZS 3000: *Electrical installations* (known as the Australian /New Zealand Wiring Rules).

Blasting chambers should be maintained so as to prevent dust from escaping. Doors should be kept closed during blasting.

Only abrasive blasting work, work incidental to abrasive blasting, or maintenance or repairs to the blast room or its equipment should be carried out in the blasting room.

Manufacturers of blasting chambers should conduct testing to ascertain the level of ventilation required under normal operating conditions. This should assist you to select a chamber appropriate to your needs.

Testing of the ventilation should be conducted on-site when the chamber is installed to ensure that it is operating to the design specifications. Ventilation should also be tested when there is a change in blasting procedures (e.g. use of a different abrasive material), after damage or repairs and on a regular basis (e.g. every 12 months). This testing can be conducted by an occupational hygienist or other competent person.

Temporary enclosures

Where possible the object being blasted should be fully enclosed. Where full enclosure is not possible, screening should extend two metres above the structure and blasting should be conducted downwards. Where persons outside the structure may be exposed to dust, exclusion zones, signage and PPE should be used. Stringent monitoring may be necessary to ensure that people outside the structure are not exposed to dust levels greater than national exposure standards.

Temporary enclosures should have:

- dust extraction/collection systems fitted, and
- containment screens made of puncture- and tear-resistant materials (for example, woven polypropylene fabric or rubber) for high abrasion areas inside the enclosure. Selection should also consider fire retardancy, burst strength, and ultraviolet (UV) resistance.

Porous material like shade cloth will not prevent the escape of fine dust, and should not be used for temporary enclosures if the work generates silica, lead, or other toxic dusts.

Maintenance of plant and equipment

Regular inspection and maintenance is particularly important for abrasive blasting plant and equipment as the process is self-destructive by nature. Every blasting chamber, blasting cabinet, ventilating system duct, filtering or cleaning device and item of abrasive blasting equipment should be inspected by a competent person in accordance with the manufacturer's instructions. In addition, plant and equipment should be checked daily by the operator for wear and damage. You should keep log books and inspection reports containing a full history of service and repairs. Further guidance on plant is available in the *Code of Practice: Managing the risks of plant in the workplace*.

3.5 Recycling of blast material

The recycling of blast material involves three stages - collection, cleaning and reuse of spent material that contains some useable abrasive grains. During abrasive blasting, the spent material has endured high velocity impact with the surface being cleaned, producing shattered abrasive and dust, combined with particles of the material being removed. The recycling process needs to separate these and allow the recovered abrasive to be reused efficiently and safely without an increase in dust levels. Abrasive that has become wet cannot be recycled as dust separation is not possible. It may not be possible to remove toxic chemicals such as lead paint from used abrasive and the abrasive should be disposed of in accordance with relevant environmental and waste management regulations.

Collection

Collection of the spent material from the blasting site is best done using the method that least disturbs the spent material. Vacuum recovery equipment offers the best protection for operators. Using methods that generate dust (e.g. sweeping or compressed air blowdown) should be avoided.

Cleaning

The following contaminants should be extracted before the blast material is reused:

- oversized trash – all particles (e.g. rust, paint flakes and other foreign matter) that are of sufficient size to clog the blast machine metering valve or nozzle
- toxic dust – any toxic contaminants that have been introduced or released into the media (e.g. lead from lead paint material)
- nuisance dust – fine shattered abrasive grains
- respirable dust – powdered material that is respirable and will penetrate to the lower respiratory system.

If abrasive blasting has been carried out on a substrate containing grains of sand (e.g. foundry castings, concrete), it may subsequently contain a significant amount of crystalline silicon dioxide in a particle size range similar to that of the spent abrasive material which is to be re-cycled. Abrasive materials used in this kind of work should not be recycled unless it can be established that the concentration of crystalline silicon dioxide remains below the allowed amount.

Reuse

The collected material will contain various contaminants (see above) as well as the reusable abrasive grains. The contaminants should be separated from the media by passing through engineered equipment including airwashes, cyclones and screens as required, before it can be returned to the blast machine for reuse.

3.6 Disposal of waste

To minimise risks, waste products from abrasive blasting should be covered to prevent them from becoming airborne.

The waste material resulting from abrasive blasting should be disposed of in accordance with any local laws that apply to the disposal of waste materials.

4. OTHER HAZARDS AND CONTROL MEASURES

4.1 Noise

Regulation 57: A person conducting a business or undertaking must manage risks to health and safety relating to hearing loss associated with noise. The person conducting a business or undertaking must ensure that the noise a worker is exposed to at the workplace does not exceed the exposure standard for noise.

Regulation 58: Audiometric testing must be provided to a worker who is frequently required to use personal protective equipment to protect the worker from the risk of hearing loss associated with noise that exceeds the exposure standard for noise.

Exposure to high noise levels can cause permanent hearing loss. Abrasive blasting equipment can generate various noise levels that may cause workers to be exposed to noise that exceeds the exposure standard.

The exposure standard for noise in relation to hearing loss, is defined in the WHS Regulations as an $L_{Aeq,8h}$ of 85 dB(A) or an $L_{C,peak}$ of 140 dB(C). There are two parts to the exposure standard for noise because noise can either cause gradual hearing loss over a period of time or be so loud that it causes immediate hearing loss.

In the abrasive blasting industry, the main sources of noise for the operator are:

- discharge of compressed air from the blast nozzle – 112 to 119 dB (A)
- the feed air inside the protective helmet – 94 to 102 dB (A)
- blast cabinets – 90 to 101 dB (A)
- air compressors – 85 to 88 dB(A).

Maximum noise levels up to 137dB(A) have been measured at the operator's position during blasting activities when the abrasive runs out.

Operators of small abrasive blasting cabinets are particularly at risk. They may not perceive the noise to be damaging because of the relatively short periods of use. However, average noise levels at the operator's ears have been measured between 90 - 101 dB (A). This means that at 101 dB(A), for instance, an exposure of unprotected ears of only 12 minutes is allowed in any eight hour shift so as not to exceed the exposure standard of $L_{Aeq,8h}$ 85 dB(A). Following such exposure, other work activities must not contribute to further noise exposure.

Unprotected workers and others close to the blasting process may also be exposed to excessive noise.

Control measures

- Using an alternative, quieter method to clean or prepare surfaces, where possible
- Isolating workers and other persons from the noise source by:
 - using blast chambers
 - relocating or enclosing noisy equipment - blast cabinets, air compressors, and grit pots can be located in sound proof enclosures or separate rooms away from the work area. In the open air, mobile enclosures lined internally with sound absorbent material could be used at locations where noisy work has to be carried out and other people may be affected. Such enclosures could reduce operator exposure by about five to 20 dB(A) depending on their construction.
- Using engineering controls, for example:
 - reducing the amount of pressure used to abrade the substrate
 - improving mufflers on blast pots
 - silencers on intake and exhaust systems
 - baffles and muffling materials in air supply hoses for blast helmets
 - sound attenuating material on walls and ceilings, and

- sound transmission barriers around compressors.
- Using administrative controls, for example:
 - undertaking abrasive blasting out of normal working hours to minimise noise exposure to other workers
 - stopping other work and clearing people from a site while blasting is taking place
 - establish a rotation system for work to be carried out in shifts
 - establishing exclusion zones where noise exposure levels are in excess of the exposure standard and restricting entry to only persons with adequate hearing protectors
 - regularly maintaining abrasive blasting plant and equipment
 - providing quiet areas for rest breaks for workers exposed to noisy work, and
 - limit the time workers spend in noisy areas by moving them to quiet work before their daily noise exposure levels exceed the exposure standard.
- Providing personal hearing protectors such as ear plugs, ear canal caps, ear muffs, and hearing protective helmets. Further information on requirements relating to PPE can be found in *AS/NZS 1269.3: Occupational Noise management – Hearing protector program*.

Further guidance on how to identify, assess, control and monitor exposure to noise is available in the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work*.

4.2 Heat

Heat is also a common hazard associated with carrying out abrasive blasting. Workers are at risk of heat strain due to working in hot, poorly ventilated or confined spaces and the type of personal protective equipment that is worn, for example blast helmets, protective suits or leather coveralls.

Heat strain is a serious medical condition which could lead to heat exhaustion and death.

When assessing the risks associated with heat, you should consider a number of factors including the workplace temperature, humidity, air movement, exposure to sources of heat, the work demands, how much clothing is worn (including PPE), individual risk factors, and whether the worker is acclimatised to the conditions.

Control measures

- fitting cooling devices to the air supply of blast helmets
- providing PPE that is selected and fitted to minimise the build up of heat and wearing cotton undergarments
- providing a cool, well-ventilated area where workers can take rest breaks or carry out other tasks
- scheduling work so that abrasive blasting is done at cooler times and
- ensuring cool drinking water is readily available.

Further guidance on controlling the risks of heat exposure is available in the *Code of Practice: Managing the Work Environment and Facilities*.

4.3 Vibration

The force of the abrasive moving through the blast hose transmits vibration to the hands and arms of operators holding the equipment. Prolonged use of abrasive blasting equipment may lead to a condition known as occupational Raynaud's disease (also called white finger or dead finger). It results from persistent microscopic damage to nerves and blood capillaries. It may also cause carpal tunnel syndrome.

Symptoms include:

- blanching (whiteness) and numbness in the fingers
- fingers are cold to touch

- loss of dexterity or increased clumsiness
- decreased sensitivity to touch, temperature and pain, and
- loss of muscular control.

Chronic exposure may result in gangrenous and necrotic changes in the finger. The condition may take months or years to develop. There is no effective treatment to reverse the effects of white finger.

The risk of injury or disease from vibration will vary depending on the equipment being used, the intensity of the vibration, frequency and duration of exposure, the force of grip applied by the worker, maintenance of the equipment and insulation provided by protective gloves.

Further information on measuring exposure to hand/arm vibration is available in AS 2763: *Vibration and shock – Hand transmitted vibration – guidelines for the measurement and assessment of human exposure*.

Control measures:

- Using an alternative method to clean or prepare surfaces, where possible
- Using engineering controls, for example vibration-reduced equipment such as vibration isolating handles incorporated into blasting nozzles and/or supports to reduce the pressure of the hand to control the nozzle
- Using administrative controls, for example reducing the amount of time an operator is required to operate a blast nozzle by job rotation or more frequent breaks. Frequent maintenance of equipment may also reduce the level of vibration
- Using PPE, for example vibration absorbing gloves may assist in dampening vibration.

4.4 Manual tasks

Regulation 60: A person conducting a business or undertaking must manage risks to health and safety relating to a musculoskeletal disorder associated with a hazardous manual task.

Abrasive blasting may result in musculoskeletal disorders from performing hazardous manual tasks, for example:

- back strain from lifting or pushing
- muscle strain from working in awkward positions
- strain from hose whip
- Occupational Overuse Syndrome from controlling the blast hose.

Ways of reducing the risk of musculoskeletal disorders include:

- appropriately designed plant and hoses which are tied to prevent hose whip
- reducing the amount of force necessary to perform tasks, for example, fixing wheels to heavy equipment, and moving heavy objects into and out of blasting chambers by using specially designed equipment
- ensuring workers do not have to perform manual tasks in excess of their capability
- job rotation.

Further information on how to manage the risks of hazardous manual tasks can be found in the *Code of Practice: Hazardous Manual Tasks*.

4.5 Confined spaces

Regulation 66: A person conducting a business or undertaking must manage the risks to health and safety associated with a confined space at a workplace including risks associated with

entering, working in, on or in the vicinity of a confined space (including a risk of a person inadvertently entering the confined space).

Hazards that may be encountered in a confined space include:

- Flammable gases or vapours, toxic gases or vapours, flammable, combustible or toxic liquids or solids, or potentially explosive dusts
- oxygen deficiency or excess
- physical agents such as thermal extremes, radiation, noise or flooding
- engulfment
- mechanical equipment.

A wide range of injuries can be sustained from working in a confined space including:

- burns
- electrocution
- asphyxiation and suffocation
- poisoning
- brain damage and death
- crush injuries.

A risk assessment must be carried out by a competent person before workers enter confined spaces. Any identified risks must be eliminated or minimised and a confined space entry permit issued for the work.

Control measures

- Elimination – assess the need to undertake abrasive blasting in a confined space
- Isolation – the confined space should be isolated to avoid the introduction of harmful substances or activation of moving parts (e.g. isolate the confined space from power sources, lock or tag all moveable components)
- Engineering – mechanical ventilation systems should be used to remove hazardous contaminants produced by the work being performed in the confined space
- Administrative – develop and document a method for confined space entry.

Further information on how to work safely in confined spaces can be found in *Code of Practice: Confined Spaces*.

APPENDIX A – SELECTING AN ABRASIVE BLASTING MEDIUM

Do not use:	Blast material which may be used:
<ul style="list-style-type: none"> • Materials with any radioactive substances where the level of radiation exceeds 1 becquerels per gram, so far as is reasonably practicable • Materials containing more than: <ul style="list-style-type: none"> ○ 0.1% antimony ○ 0.1% arsenic ○ 0.1% beryllium ○ 0.1% cadmium ○ 0.5% chromium (except as specified for wet blasting) ○ 0.1% cobalt ○ 0.1% lead (or which would expose the operator to levels in excess of those set out in Part 7.2 of the Regulations) ○ 0.1% nickel ○ 0.1% tin • Materials containing more than 1% free silica (crystalline silicon dioxide) including: <ul style="list-style-type: none"> ○ River sand ○ Beach sand or other white sand ○ Dust from quartz rock ○ Diatomaceous earth (pool filter material) <p>In dry abrasive blasting:</p> <ul style="list-style-type: none"> • Recycled materials which have not been treated to remove respirable dust • Recycled materials for which treatment has not removed toxic materials to below the prescribed concentrations • Any substance likely to harm the upper respiratory tract <p>In wet abrasive blasting:</p> <ul style="list-style-type: none"> • any substance that contains chromate, nitrate or nitrite 	<p>The following materials will not usually result in exposures greater than national exposure standards. However, you should check the Safety Data Sheet to ensure the composition of substances does not exceed prohibited levels</p> <ul style="list-style-type: none"> • ilmenite • aluminium oxide • garnet (low crystalline silica content only) • other rocks and mineral sands which do not contain significant levels of silica • metal shot • steel grit • crushed glass • sodium bicarbonate • plastic beads • glass beads • some metal slags (check content analysis before purchase) • dry ice <p>Note: There are environmental requirements in relation to abrasive blasting mediums. If in doubt, seek advice from your local council.</p>



Government of South Australia

Department for Manufacturing,
Innovation, Trade, Resources and Energy

GPO Box 1264
Adelaide SA 5001

18 November 2014

Australian Business Licence and Information Service Report (n2j7d7d4w4)

This report contains information on the licences that you have selected. You can contact the relevant agencies directly, but we also suggest that you check with your business advisor that all requirements have been covered.

You may like to utilise other services of the South Australian government to ensure your business success. Information on starting and managing your business is available on our website at <http://www.dmitre.sa.gov.au/sbs>

Thank you for using the Australian Business Licence and Information Service (ABLIS). If you have any questions, please do not hesitate to contact us on 1800 188 018 and quote report number n2j7d7d4w4.

Regards,
The SA ABLIS team

Disclaimer

The information contained on the Australian Business Licence and Information Service (ABLIS) web site, or via packages or other sources is intended for general guidance only.

To the full extent permitted by law, the Federal, State, Territory and Local Governments make no representations or warranties (expressed or implied) in relation to the information, including its accuracy, currency or completeness.

The business information provided does not constitute professional or legal advice, nor is the use of any third party resource an endorsement of the information contained, the associated organisation, product or service. It is recommended that you obtain appropriate professional and /or independent legal advice to ensure that the material provided here is relevant to your particular circumstances.

To the full extent permitted by law the Federal, State, Territory and Local Governments, their employees and agents do not accept any liability for any reason, including without limitation, liability in negligence, to any person for the general information which is provided herein, or in respect of anything, including the consequences of anything done, or not done, by any such person in whole or partial reliance upon the information.

Your search criteria

The following is the search criteria you used during your search that forms the basis of this ABLIS package.

Business location

South Australia

Business type

Sand blasting or steam cleaning of building exteriors

Index of services

The following services have been included in this ABLIS package:

Sand blasting or steam cleaning of building exteriors

Key services and requirements

Notification of Commencement of Certain Work - South Australia20

Other services and requirements

Registration of an Item of Plant - South Australia25

Business Registration and Structure

Incorporations Association - South Australia 11

National Business Name Registration - Australian Government 14

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Employment

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Costs of Going into Business - South Australia8

Help for a Small Business - South Australia9

How an Accountant Can Help You Manage Your Business - South Australia 10

Insurance - South Australia 13

Starting Your Own Business - South Australia27

Approval for the Distribution of Printed Matter - South Australia

Council approval may be required for the distribution of printed matter, such as brochures or handbills.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Duration

As designated.

Fees

Variable; refer to your local Council

Administering Agency

SA Local Government Agencies

Contact Details

your local council

Business Licence Information - South Australia

The "Bizfact - Business Licence Information" sheet provides information for new businesses regarding their licensing requirements.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Other Resources

Resources

[Bizfact - Business Licence Information](#)

Administering Agency

Department of State Development

Contact Details

✉ GPO Box 1264
Adelaide SA 5000

☎ Phone: 0883032400

📠 Fax: 0883032410

<http://www.southaustralia.biz/>

Business Planning - South Australia

The Bizfact - Business Planning information sheet provides information on why and how to plan for the future of the business.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Other Resources

Resources

Bizfact - Business Planning

Administering Agency

Department of State Development

Contact Details

✉ GPO Box 1264
Adelaide SA 5000

☎ Phone: 0883032400

📠 Fax: 0883032410

<http://www.southaustralia.biz/>

Costs of Going into Business - South Australia

The Department for Manufacturing, Innovation, Trade, Resources and Energy provide a number of helpful information sheets for new businesses to use, to estimate the costs of going into business.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Administering Agency

Department of State Development

Contact Details

✉ GPO Box 1264
Adelaide SA 5000

☎ Phone: 0883032400

📠 Fax: 0883032410

<http://www.southaustralia.biz/>

Help for a Small Business - South Australia

The Bizfact - Help for a Small Business information sheet provides a list of contacts useful during the planning stage of a business.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Administering Agency

Department of State Development

Contact Details

✉ GPO Box 1264
Adelaide SA 5000

☎ Phone: 0883032400

📠 Fax: 0883032410

<http://www.southaustralia.biz/>

How an Accountant Can Help You Manage Your Business - South Australia

The Bizfact - How an Accountant Can Help You Manage Your Business information sheet provides advice on the different aspects of a business in which an accountant may be able to offer assistance.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Other Resources

Resources

[Bizfact - How an Accountant Can Help You Manage Your Business](#)

Administering Agency

Department of State Development

Contact Details

✉ GPO Box 1264
Adelaide SA 5000

☎ Phone: 0883032400

📠 Fax: 0883032410

<http://www.southaustralia.biz/>

Incorporations Association - South Australia

Associations wishing to incorporate must apply to Consumer and Business Services, Corporate Affairs and Compliance Branch.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Duration

Annual.

Fees

2014/2015 Fees

Incorporation (s19) 1&2 \$181.00

Amalgamation (s22) 4 \$181.00

Change to Constitution / Lodging New Constitution 6&7 \$61.00

Change to Name 6&7 \$61.00

Lodging New Constitution 6&7 \$61.00

Periodic Return (s36) 9 \$86.00

Deregistration 9C \$127.00

Reservation of Name (s53A[1]) 9D \$127.00

Ministerial Consent \$61.00.

Credit card, money order, cheque.

Forms

Form

[Application for Incorporation of an Association](#)

Other Resources

Resources

[How to Incorporate - Associations Incorporation Act 1985](#)

[Check-List for the Proposed Rules/Alteration of Rules of an Association](#)

[An example of Rules for an Incorporated Association](#)

Administering Agency

Consumer and Business Services
Licensing and Registrations

Act(s) Name

Associations Incorporation Act 1985 (SA)

Contact Details**Business & Occupational Services**

Monday to Friday 8.30am to 5pm (except public holidays)

📍 Level 3, Chesser House
91-97 Grenfell Street
Adelaide SA 5000

✉ GPO Box 1719
Adelaide SA 5001

📞 Phone: 131882

📠 Fax: 0882049771

businessnames@agd.sa.gov.au

<http://www.cbs.sa.gov.au/wcm/licensing-and-registration/>

Insurance - South Australia

The Bizfact - Insurance information sheet provides advice on the different types of insurance available that may be applicable to your business.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Other Resources

Resources

[Bizfact - Insurance](#)

Administering Agency

Department of State Development

Contact Details

✉ GPO Box 1264
Adelaide SA 5000

☎ Phone: 0883032400

📠 Fax: 0883032410

<http://www.southaustralia.biz/>

National Business Name Registration - Australian Government

A new national system of business name registration has commenced. If you intend to, or currently, carry on a business in Australia your business name must be on the new Business Names Register.

This new national registration service replaces past state and territory services, so that all businesses in Australia only need to register each name once, on a single national register.

You must register your business name unless you trade under:

- Your own individual name;
- All of the individual names of the partners in a partnership; or
- A company or registered body name.

Please note that there are various words that are restricted for use in business names unless an application is made. The Business Names Registration (Availability of Names) Determination sets out the rules for restricted words and applications to use a restricted word.

Application, renewal, cancellation and transfer of business names are processed and handled online using the Australian Securities and Investments Commission online system (ASIC Connect). If you can't access this system you will need to consult the Contact Officer for more information.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Eligibility Requirements

To register for a new business name you will need an Australian Business Number (ABN), and to provide certain information in your online application, including:

- Details of the ABN and specifics of the proposed business name holder;
- The proposed business name;
- The preferred registration period (1 or 3 years); and
- A street address for the principal place of business and the service of documents from ASIC.

For full details please consult ASIC Connect - the new online registry service.

Duration

1 or 3 years.

Fees

	Type	Description
Apply	Application	One year: \$34; Three years: \$78.

Other Resources

Resources

Comply	How to Apply for a Business Name for the First Time - Please consult the Contact Officer for more information regarding this form.
Renew	ASIC Connect Login

Administering Agency

Australian Securities and Investments Commission
ASIC Service Centres/Information Processing Centre

Act(s) Name

Business Names Registration Act 2011 (AG)

Regulation(s) Name

Business Names Registration Regulation 2011 (AG)

Contact Details

Enquiries Officer

Australian Securities and Investments Commission
ASIC Service Centres/Information Processing Centre

📍 Level 2

2 Allsop Street
Canberra
Australian Capital Territory 2600

✉ GPO Box 9827

Canberra
Australian Capital Territory 2600

📠 Fax: 03 51773999

☎ Phone: 1300300630

info@asic.gov.au

Enquiries Officer

Australian Securities and Investments Commission
ASIC Service Centres/Information Processing Centre

📍 Level 20

240 Queen Street
Brisbane
Queensland 4000

✉ GPO Box 9827
Brisbane
Queensland 4001

📠 Fax: 03 51773999

☎ Phone: 1300300630

info.enquiries@asic.gov.au

Enquiries Officer

**Australian Securities and Investments Commission
ASIC Service Centres/Information Processing Centre**

📍 Level 7
100 Pirie Street
Adelaide
South Australia 5000

✉ GPO Box 9827
Adelaide
South Australia 5001

📠 Fax: 03 51773999

☎ Phone: 1300300630

info.enquiries@asic.gov.au

Enquiries Officer

**Australian Securities and Investments Commission
ASIC Service Centres/Information Processing Centre**

📍 Level 5
100 Market Street
Sydney
New South Wales 2000

✉ GPO Box 9827
Sydney
New South Wales 2001

📠 Fax: 03 51773999

☎ Phone: 1300300630

info.enquiries@asic.gov.au

Enquiries Officer

**Australian Securities and Investments Commission
ASIC Service Centres/Information Processing Centre**

📍 Level 24
120 Collins St
Melbourne
Victoria 3000

✉ GPO Box 9827
Melbourne
Victoria 3001

📠 Fax: 03 51773999

☎ Phone: 1300300630

info.enquiries@asic.gov.au

Enquiries Officer
Australian Securities and Investments Commission
ASIC Service Centres/Information Processing Centre

✉ GPO Box 9827

Hobart
Tasmania 7001

☎ Fax: 03 51773999

☎ Phone: 1300300630

info.enquiries@asic.gov.au

Enquiries Officer
Australian Securities and Investments Commission
ASIC Service Centres/Information Processing Centre

📍 Level 3
66 St Georges Terrace
Perth
Western Australia 6000

✉ GPO Box 9827

Perth
Western Australia 6001

☎ Fax: 03 51773999

☎ Phone: 1300300630

info.enquiries@asic.gov.au

Enquiries Officer
Australian Securities and Investments Commission
ASIC Service Centres/Information Processing Centre

📍 Level 2 Telstra Centre
70 Collins Street
Hobart
Tasmania 7000

✉ PO Box 4000

Gippsland Mail Centre
Victoria 3841

☎ Fax: 03 51773999

☎ Phone: 1300300630

info@asic.gov.au

Supporting Information

<http://asic.gov.au/asic/ASIC.NSF/byHeadline/Business%20names>

National Standard for Manual Tasks - Australian Government

You must comply with this standard if you are going to be involved in manual work. This standard applies to employers, owners and employees of workplaces, designers and manufacturers or suppliers of workplace-related items.

The standard sets out the principles for the effective management of hazardous manual tasks to avert injuries arising from manual tasks in the workplace.

Manual task means a task comprised wholly or partly by any activity requiring a person to perform work that includes the use of force for lifting, lowering, pushing, pulling, carrying or otherwise moving, holding or restraining any person, animal or item.

Hazardous manual tasks can include:

- Repetitive or sustained awkward posture;
- Sustained movement or application of force;
- The application of high force (e.g. hitting something with a hammer);
- Exposure to sustained vibration (e.g. using a drill for an extended period);
- Working with people or animals;
- Handling unstable or unbalanced loads; or
- Handling loads which are difficult to grasp or hold.

Please consult the Agency Contact Officer for more information and to ascertain the level of compliance (if any) that may be required.

Service type

Code of Practice

A code of practice can be either a legal requirement or non-legal requirement. Legal codes of practice are defined as a result of legislation. Non-legal codes of practice are defined by industry regulators and bodies.

Forms

Form

Apply National Standard for Manual Tasks

Administering Agency

Safe Work Australia

Act(s) Name

Safe Work Australia Act 2008 (AG)

Regulation(s) Name

Safe Work Australia (Consequential and Transitional Provisions) Regulations 2010 (AG)

Contact Details

General Enquiries

Safe Work Australia

📍 220 Northbourne Avenue

Braddon

Australian Capital Territory 2612

✉ GPO Box 641
Canberra
Australian Capital Territory 2601

☎ Phone: 1300551832

info@swa.gov.au

Notification of Commencement of Certain Work - South Australia

All persons intending to commence notifiable work, such as demolition, must submit a notice to SafeWork SA prior to commencement of the work. The notice must be submitted at least 24 hours before work commences.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Fees

None

Application

The paper form 'OHS&W Regulations 1995 Division 6.5 Notification of Commencement of Certain Work' is available from the agency.

The paper form 'Industry Team List' is available from the agency.

Administering Agency

Department of the Premier & Cabinet
SafeWork SA

Act(s) Name

Occupational Health, Safety & Welfare Act 1986 (SA)

Contact Details

Administration Officer

📍 Level 4
33 Richmond Road
Keswick SA 5035

✉ GPO Box 465
Adelaide SA 5001

☎ Phone: 0883030258

📠 Fax: 0884634966

pancho.iris@dpc.sa.gov.au

<http://www.safework.sa.gov.au/>

Supporting Information

http://www.safework.sa.gov.au/show_page.jsp?id=2087

Registration as an Australian Company - Australian Government

You will require this registration if you intend to operate a business as a company in Australia. An Australian public or proprietary company comes into existence when it is registered by the Australian Securities and Investments Commission (ASIC).

The reservation of a company name enables an applicant to reserve their proposed company name before registration. An application for reservation of a company name is optional.

Please consult the Contact Officer for more information.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Eligibility Requirements

You are advised to seek legal or accounting advice regarding the drawing up of the company constitution, if adopting one, before completing the application.

Please consult the Contact Officer for more information regarding eligibility requirements.

Duration

Ongoing - Annual fees apply, and a review of company details is required.

Fees

	Type	Description
Apply	Application	Public Company with share capital \$457; Public company limited by guarantee \$377; Proprietary company \$457.

Forms

	Form
Apply	<u>Application for Registration as an Australian Company - Form 201</u>
Apply	<u>Application for Reservation of a Name - Form 410</u>
Apply	<u>Application for Registration of a Body Corporate as an Australian Company - Form 202</u>

Administering Agency

Australian Securities and Investments Commission
Financial Services Regulation

Act(s) Name

Corporations Act 2001 (AG)

Regulation(s) Name

(AG)

Contact Details

Enquiries, ASIC ACT Service Centre, Licensing and Business Operations
Australian Securities and Investments Commission
Financial Services Regulation

📍 Level 2
2 Allsop Street
Canberra
Australian Capital Territory 2600

✉ GPO Box 9827
Canberra
Australian Capital Territory 2600

📠 Fax: 02 62503811

📞 Phone: 02 62503800

📞 Phone: 1300300630

Enquiries, ASIC QLD Service Centre, Licensing and Business Operations
Australian Securities and Investments Commission
Financial Services Regulation

📍 Level 20, Commonwealth Bank Building
240 Queen Street
Brisbane
Queensland 4000

✉ GPO Box 9827
Brisbane
Queensland 4001

📞 Phone: 07 38674700

📠 Fax: 07 38674725

📞 Phone: 1300300630

Enquiries, ASIC SA Service Centre, Licensing and Business Operations
Australian Securities and Investments Commission
Financial Services Regulation

📍 Level 7
100 Pirie Street
Adelaide
South Australia 5000

✉ GPO Box 9827
Adelaide
South Australia 5001

📞 Phone: 08 82028400

📠 Fax: 08 82028410

📞 Phone: 1300300630

Enquiries, ASIC NSW Service Centre, Licensing and Business Operations

**Australian Securities and Investments Commission
Financial Services Regulation**

📍 Level 5
100 Market Street
Sydney
New South Wales 2000

✉ GPO Box 9827
Sydney
New South Wales 2001

☎ Phone: 02 99112000

📠 Fax: 02 99112414

☎ Phone: 1300300630

**Enquiries, ASIC Vic Service Centre, Licensing and Business Operations
Australian Securities and Investments Commission
Financial Services Regulation**

📍 Level 24
120 Collins St
Melbourne
Victoria 3000

✉ GPO Box 9827
Melbourne
Victoria 3001

☎ Phone: 03 92803200

📠 Fax: 03 92803444

☎ Phone: 1300300630

**Enquiries, ASIC Tas Service Centre, Licensing and Business Operations
Australian Securities and Investments Commission
Financial Services Regulation**

📍 level 2, Telstra Centre
70 Collins Street
Hobart
Tasmania 7000

✉ GPO Box 9827
Hobart
Tasmania 7001

☎ Phone: 03 62356800

📠 Fax: 03 62356811

☎ Phone: 1300300630

**Enquiries, ASIC WA Service Centre, Licensing and Business Operations
Australian Securities and Investments Commission
Financial Services Regulation**

📍 Level 3
66 St Georges Terrace
Perth

Western Australia 6000

✉ GPO Box 9827

Perth

Western Australia 6001

☎ Fax: 08 92614227

☎ Phone: 08 92614000

☎ Phone: 1300300630

**Enquiries, ASIC NT Service Centre, Licensing and Business Operations
Australian Securities and Investments Commission
Financial Services Regulation**

📍 Level 7 TIO Centre

24 Mitchell Street

Darwin

Northern Territory 0800

✉ GPO Box 9827

Darwin

Northern Territory 0801

☎ Phone: 08 89430900

☎ Fax: 08 89430910

☎ Phone: 1300300630

Supporting Information

<http://www.asic.gov.au/asic/ASIC.NSF/byHeadline/Starting%20a%20company%20or%20business>

Registration of an Item of Plant - South Australia

Under the Work Health and Safety Act and Regulations the following items of plant require registration as specified in Schedule 5 Part 2 of the Regulations:

- boilers with a hazard level of A, B or C according to the criteria specified in AS 4343:2005;
- pressure vessels with a hazard level of A, B or C according to the criteria specified in AS 4343:2005, other than:

- (a) gas cylinders; and
- (b) LP gas fuel vessels for automotive use; and
- (c) serial produced vessels;

- tower cranes;
- lifts, escalators and moving walkways;
- building maintenance units;
- Amusement devices covered by section 2 of AS3533.1:2009 except those specified in clause 4(2)
- concrete placing units (truck mounted with boom); and
- mobile cranes with a safe working load exceeding 10 tonnes.

Please refer to <http://www.safework.sa.gov.au/> for additional information on requirements.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.

Duration

5 years.

Fees

\$328.00.

Cheque, cash, money order, Visa, Mastercard, eftpos

Payment available online www.safework.sa.gov.au.

Forms

Form

[Application for Registration of an Item of Plant](#)

[Application for Registration of a Lift](#)

[Application for Registration of an Amusement Structure](#)

Administering Agency

Department of the Premier & Cabinet
SafeWork SA

Act(s) Name

Work Health & Safety Act 2012 (SA) 2012 (SA)

Contact Details

Licensing Unit, Business Performance Team
Opening Hours: 8.30am to 5.30pm

📍 Level 4, 33 Richmond Road
Keswick SA 5035

✉ PO Box 465
Adelaide SA 5001

📞 Phone: 0883030400

📠 Fax: 0883039903

licensing@dpc.sa.gov.au

Supporting Information

<http://www.safework.sa.gov.au/>

Starting Your Own Business - South Australia

The Department for Manufacturing, Innovation, Trade, Resources and Energy provides a number of fact sheets to businesses who require further information about the start up phase of a new business.

Service type

Licence

A licence defines the need to obtain recognition / certification and registration to undertake a certain business activity.


Other Resources

Resources

[Bizfact - Starting Your Own Business](#)

[Bizfact - Planning to Start a Business](#)

Administering Agency

 Department of State Development

Contact Details

✉ GPO Box 1264
Adelaide SA 5000

☎ Phone: 0883032400

📠 Fax: 0883032410

<http://www.southaustralia.biz/>

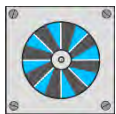
Thank you for your inquiry re our MICRONAIR Dust Control systems.

At MICRONAIR our total focus is on designing and building the best systems to efficiently extract and capture Dust, Fibers and Fumes.



FLEXIBLE DESIGN

We custom match fan types, motors, types of filter media and cleaning techniques with waste bin sizes and waste storage and disposal systems. This flexibility allows us to efficiently meet individual demand levels and special requirements.



CLEAN AIR AND NEGATIVE PRESSURE

Our clean-air fans protect against abrasive dust damage to the fans and fine dust escape. With our negative pressure extraction chambers air is 'drawn through' the filter chamber rather than blown in under pressure dust sealing is 100% as even if there were a void in a seal it would simply draw air in from atmosphere at that point – not expel dust. This also makes sealing to waste bins simple and effective.



ENERGY SAVINGS

For companies keen to save Energy MICRONAIR's OPTI-FLOW system delivers savings typically around 50%. At the heart is a Variable Speed Drive to automatically monitor and optimize airflow in the extraction trunks. This can be combined with manual shut-off gates or OPTI-FLOW electric servo auto gates linked to the machines power supply.



AUSTRALIAN MADE

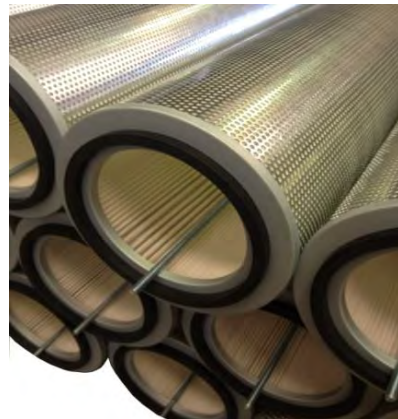
MICRONAIR design and manufacture our Extractors here in Australia and have a 15 year track record and experience in this market. In addition to Extractors we supply a full Ducting design and install service.

VIBRA-CLEAN

VIBRACLEAN models clean the Filter Cartridges automatically when the Extractor shuts down. No Operator intervention needed! This 'off-line' cleaning suits applications with light to medium dust loads.

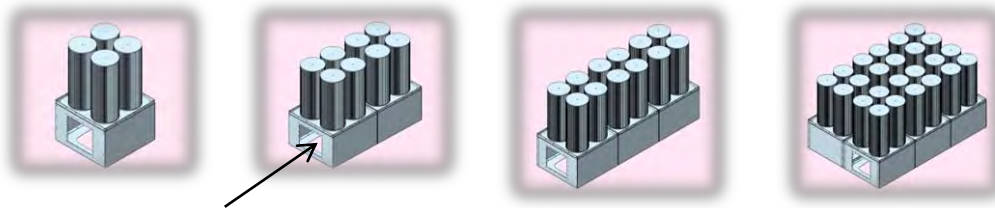


Large volumes of dust laden air are handled with a minimal Extractor footprint thanks to the large filter areas achieved through the pleated profile. The efficient Vibration 'shake' cycle can be varied in duration and intensity plus start delay to suit your application.

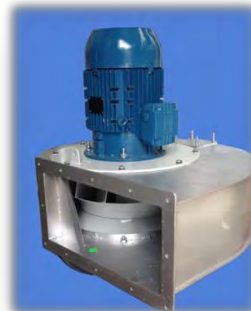


The Cartridge filters are manufactured using tough spun bonded Polyester with a filtration capability below 1 Micron ($1/1000^{\text{th}}$ of a Millimeter!) to ensure a clean, safe working environment. They are encased in heavy perforated metal cylinders to maintain shape and prevent large waste particles entering the pleats. Durable and washable – these Cartridges offer you a long and efficient service life.

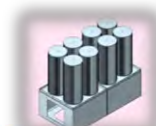
Across the model range the dirty air enters an expansion chamber below the filters pre-separation entry chamber which immediately and effectively separates the heavier waste straight into the collection bins and then circulates the fines downwards in a spiral motion over the filters. This is a very important advantage as it stops these fines being entrained in the filters. **It all works!**



Built to perform. Built to last. Inside or outside!



www.micronair.com.au



CLEAN-FLOW **ULTRA-FLOW** **VIBRA-CLEAN** **ECO**

Model

VC8D (Vibration Clean, 8 filters, dump bin waste collection)

Inlet: 400mm Standard (position can be left, right or rear)

Filters: 8 Spun Bond Polyester pleated cartridges, 136 square meters of surface area. No more than 100 pleats for optimum dust release.

Dimensions:

Length 2400mm x width 925mm x height 4700mm (approx. only)



Fan and Motor



We use WEG motors throughout our range.

Power 15 kW

Roof mount direct drive

Micronair Centrifugal High Efficiency Fan

Air

Maximum pressure 3,470 Pascals

Maximum volume 14,200m³ hr

Typical : 13,500 m³ hr @ 3000 Pascals

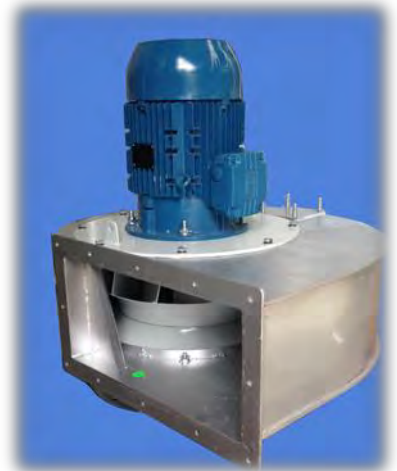
Impeller

Backward inclined High Pressure air handling design

Motor

3Phase, 415v, 2900RPM, Full Load Current 27.6amp Ave Current 19.7amp

Only MEPS Certified Motors Used (Australian Legal Requirement)



Dump Bins for larger volumes

When waste volumes are higher our Dump Bin system is the answer. The 'quick fit' pneumatically operated seal is designed to fit your choice of Dump-Bin from 1.5 to 3 cube with larger sizes on request. Bins are released and resealed at the flick of a switch.



Keeping things quiet

All units are supplied as standard with a Rockwool lined Industrial Silencer. The discharge direction can be chosen to suit the site – horizontal, vertical – connected to external venting of the exhaust etc. This system is rated at 82dba at 1m.



Standard Electrical Control: VIBRACLEAN

This switch control box is 'supply only' and requires your electrician to hard wire from your power supply. This allows you to locate the Control Cabinet at a convenient location remote from the Extractor. Star Delta auto 2 stage starting is standard



Tammy Bastian

From: Tom Hateley - Access Planning <tom@accessplanning.com.au>
Sent: Tuesday, 22 March 2016 12:12 PM
To: Tammy Bastian
Subject: FW: Development application for lot 750 forest rd wirrabara [DLM=For-Official-Use-Only]

FYI

From: Russell, Mike (EPA) [mailto:Mike.Russell@sa.gov.au]
Sent: Tuesday, 22 March 2016 11:54 AM
To: Tom Hateley - Access Planning <tom@accessplanning.com.au>
Subject: FW: Development application for lot 750 forest rd wirrabara [DLM=For-Official-Use-Only]

For Official Use Only

Mike Russell Senior Environmental Planner

Work (08) 82042098 Fax (08) 81244673

Environment Protection Authority
GPO Box 2607, Adelaide, S.A. 5001, AUSTRALIA



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From: Patricia Evans [mailto:evanstrish3@gmail.com]
Sent: Monday, 21 March, 2016 4:09 PM
To: Russell, Mike (EPA) <Mike.Russell@sa.gov.au>
Subject: Fwd: Development application for lot 750 forest rd wirrabara

----- Forwarded message -----

From: "Patricia Evans" <evanstrish3@gmail.com>
Date: Mar 21, 2016 4:07 PM
Subject: Development application for lot 750 forest rd wirrabara
To: <Mike.Russell@sa.gov.au>
Cc:

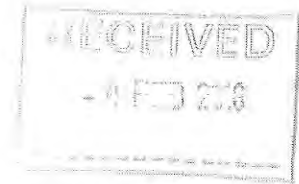
Hello mike ,

To confirm your inquiry into some of the issues raised in my development application, I am aware of the minimum requirements as set forth by the abrasive blasting code of practice as as a result I would like to adress the issus raised in your latest email, they are listed as follows;

1. All abrasive blasting procedures will be confined to the enclosed booth as listed on the ammended devolopment application, the booth will have appropriate dust extraction that will meet required airflow and dust particle emmision requirements,
2. Exhaust ducting will be installed as per requirements I will attempt to attach a copy of the pdf. For the micronair vibraclean vc8 dust collection equiptment I am currently getting quotes for.
3. I have no intention of abrasive blasting any lead or mercryios based paints as these are toxic and require special procedures for removal and waste desposal.I will however carry test kits to assist in identifying these coatings.
4. Dry abrasive blasting is the prefferd method of blasting with bi-carbonate sodium expecially when used for abrasive blasting motor vehicles as is my intention.
5. Spray painting will not be done on site as stated, spray painting will be a service I would like to offer in about two years time, adiquate facilities will adressed in ammended development application to be submitted at a later date or as funds dictate.

Thank you for your concideration

Conor evans



Untitled

Att. David Hutchison
Development application Lot 750 Forest Rd Wirrabara DA.830/106/15

RE;

I am proposing to start a small buisness (bieng the sole oner/ operator) Bi-carbonate sodium blasting and i am seeking permission to utilise existing infrastructure on my property Lot 750 Forest Rd Wirrabara (sheds #1 and #2) as i believe they will be adequate for my purpose with minimal alteration due to previous industrial use; for the process, manufacture and export of honey.

At it peak employing upto 26 people (1970s)and operational up to the eary 1990s.

Shed #1; was used as a saw mill producing materials for bee boxes and packing crates for export

Shed #2; was used as a workshop assembling of bee boxes, packing crates and labelling of jars

Shed #3; was used for the extraction, processing, jarring and packing of honey for sale or export

this information may or may not be used in your decicion making process

thank you for your concideration Conor Evans

P.O. Box 51
WIRABARA 5481.

Untitled

Shed #1; will be used as a blasting area suitable for abrasive blasting of objects limited in size by the 4.5 m wide and 4.0 m high entrance, this may include but is not limited to;

Cars, Small trucks (up to 4 ton G.M.V), Small farm or industrial machinery, Stationary engines, Boats, Motorcycles, Antiques, Furniture, Building materials, Household items or individual parts or panels associated.

Items larger than the entrance of the shed or not easily transported to site will be best managed off site with the use of mobile plant and appropriate EPA mobile abrasive blasting licensing, this may include but is not limited to;

Large trucks, Large farm or industrial machinery, Building facias or roofing, Driveways, Monuments, Graffiti and Heritage items or individual parts or pieces associated.

I plan to manage dust emissions by restricting all abrasive blasting to the confines of the designated blasting area, by using proper procedure (blasting in a downward, inward manner), the use of small amounts of water for dust suppression, the use of curtains and nuisance dust extraction as used in mobile applications and by disassembly of items for efficiency and thoroughness if required.

Waste products will be managed by daily housekeeping procedures, the sweeping of floors and disposal of dust in plastic bags and transferred to a skip bin to be taken off site by a appropriate waste disposal facility on a monthly basis. Waste water will be managed by the appropriate use of soakage pits yet to be established.

Alterations proposed for shed #1 include;

- . large soakage pit to be established along the south eastern wall
- . 10 sheets of alsonite for additional natural light
- . Sealing of cement floor with an industrial floor sealer to aid in clean up
- . Replacement of two electrical meters located in room marked STORE
- . Relocation of a 20 foot shipping container adjacent to the west northwest wall for the storage of Armex blasting media, hoses, fittings and equipment used in mobile blasting operations

Mobile plant (Toyota Dyna truck, large mounted air compressor, Trailer mounted blast pot) will be parked adjacent to the southern wall when in use and garaged in shed# 1 when not in use.

Untitled

Shed #2

will be used as a workshop for the assembly and dissassembly of items to be blasted (if required) for efficiancy and thoroughness,
the storage of individual parts or pieces and fittings, abrasive blasting of small or individual items in a large self contained blasting cabinet
these items may include but not limited to;

Cars, Small trucks, Small farm or industrial equiptment, Boats,
Motorcycles, Antiques, stationary engines, Funiture, Household items
or individual parts or pieces associated

Equiptment to be used in shed #1 include;

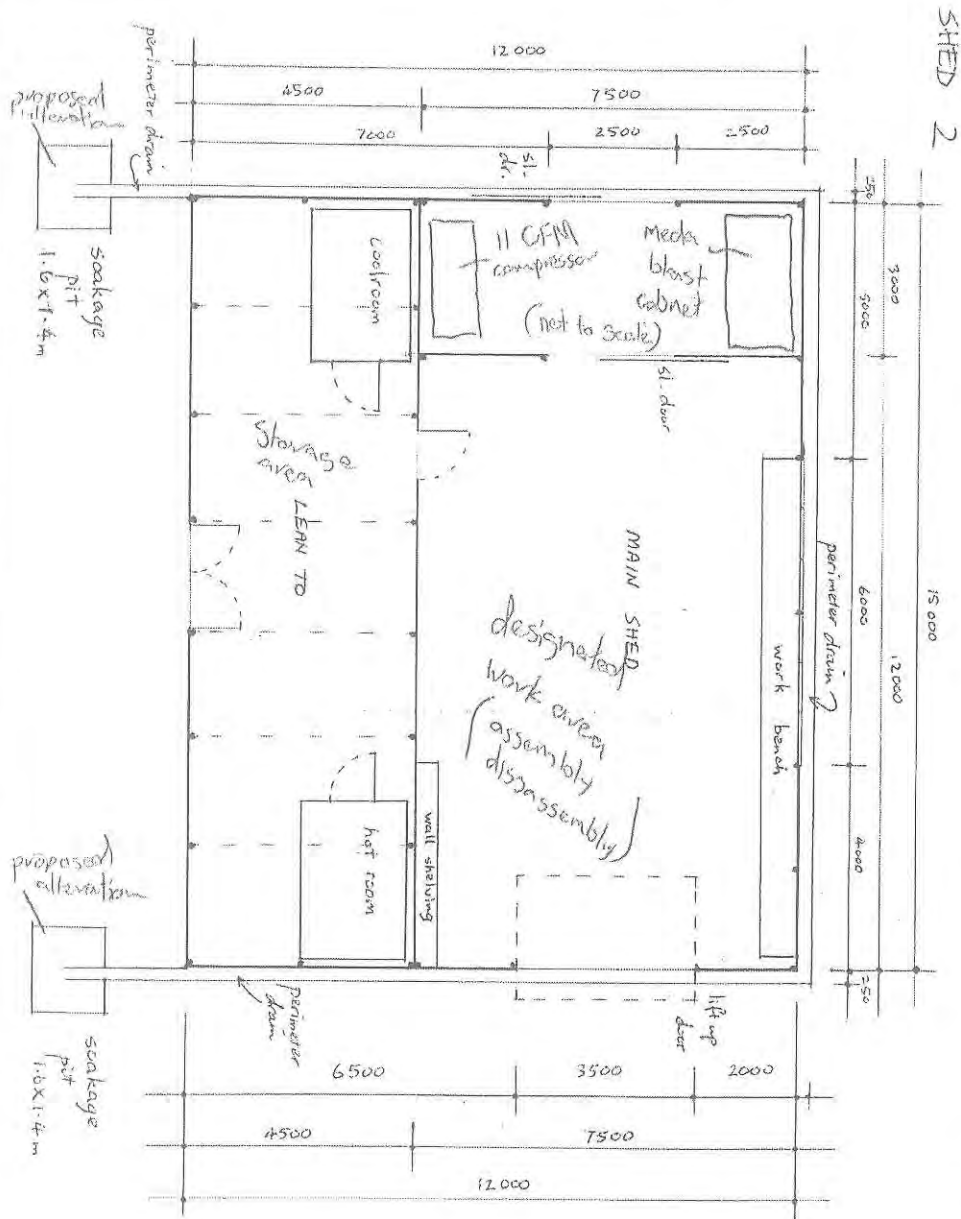
- .11 C.F.M shop air compressor
- .large self contained media blasting cabinet
- .various workshop tools including bench grinders, drill press and hand held

tools

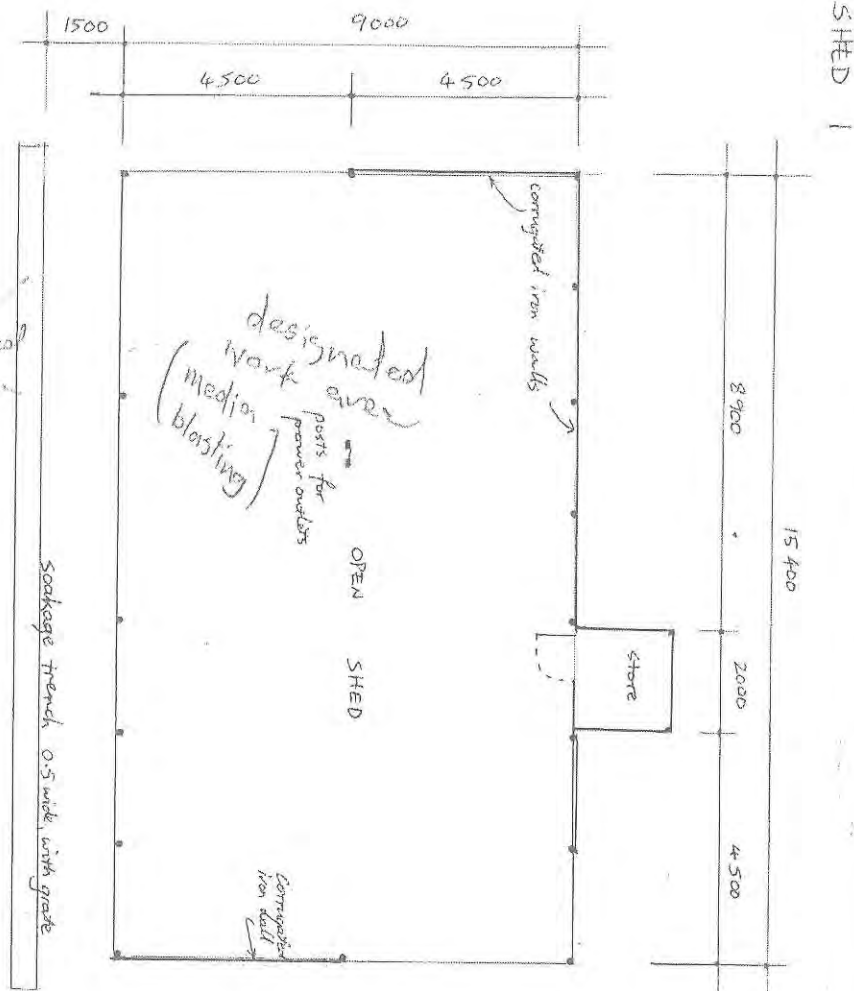
Proposed alterations to shed #2 include;

- .Soakage pitt(s) to be established on eastern side
- .10 sheets of alsonite for additional light
- .sealing of cement floor with industrial floor sealer to aid in clean up
- .removal of Hot and Cold rooms
- .addition of a large shop compressor and a large blast cabinet
- .additional shelving for the storage of individual parts and panels

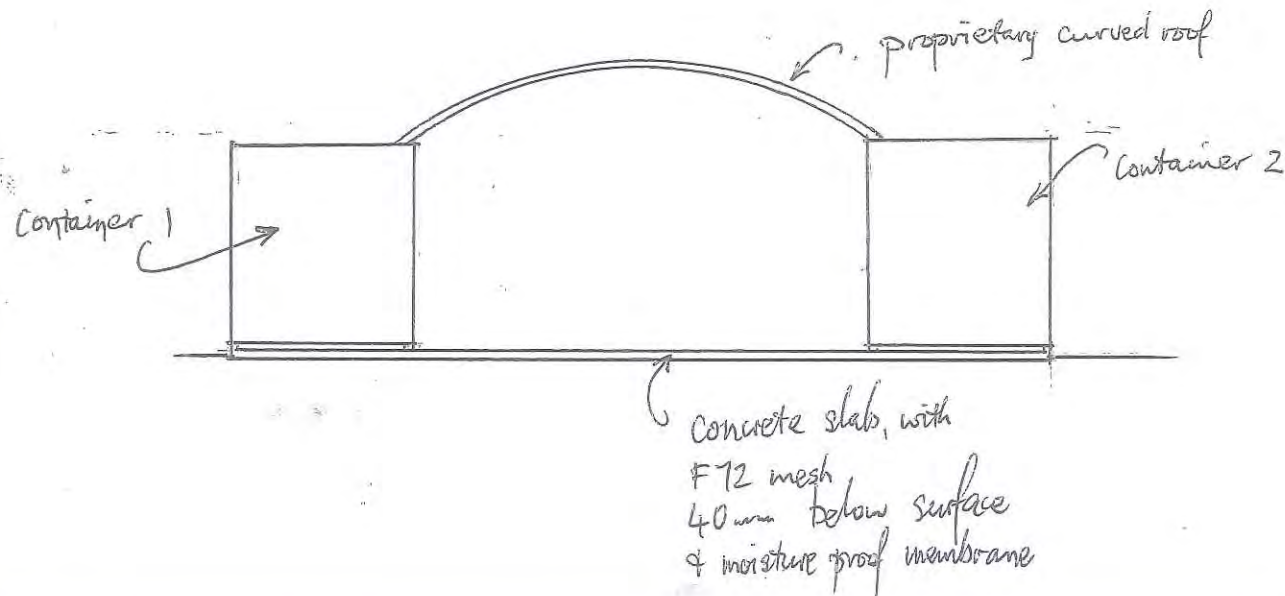
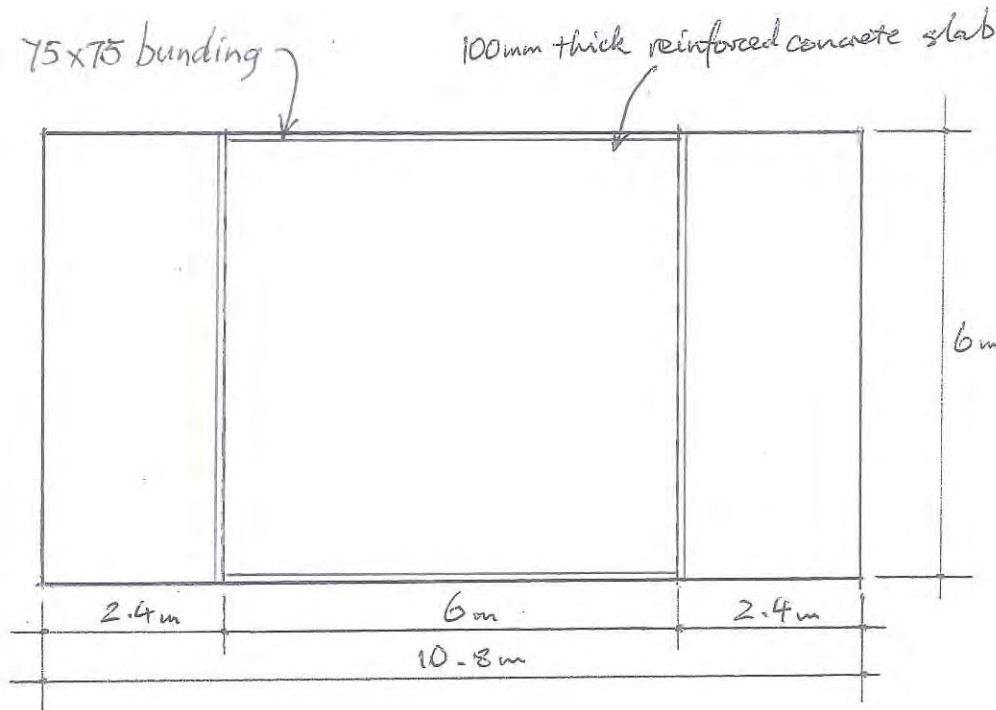
Any waste generated in assembly and dissassembly procedures will be managed using daily housekeeping procedures and by the appropriate use of soakage pits yet to be established.



SCALE - 1:100



SHED PLANS	OWNER - CONNOR EVANS
LOT 750, SECT 359	SHEET 3 - ADDENDUM
HD of APPILA	DRAFTING - Nev Hude 0409 071 484



ADDENDUM 2

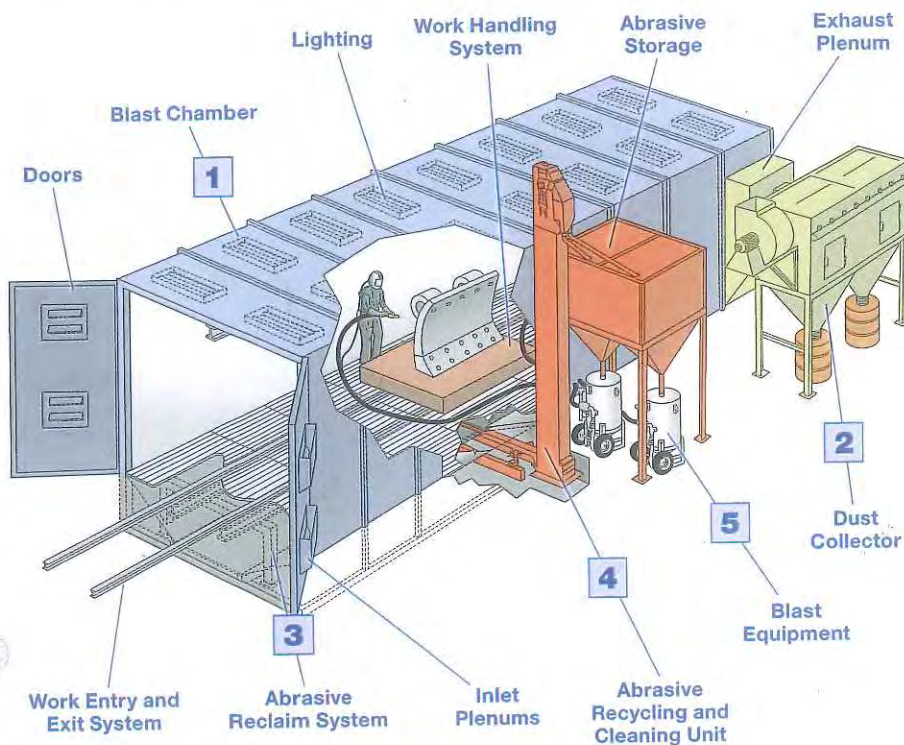
SODA-BLASTING FACILITY

LOT 750, SECT 359

HD of APPILA

OWNER-CONNOR EVANS

DRAFTING - NEV HYDE
0409 091 484



Main Features of a Performance Blast Room

There are 5 main components in a Performance Blasting Chamber.

- 1** The Chamber itself which includes lights, rugged doors and normally a lined heavy duty steel plate on all surfaces to resist abrasion from ricochet. The room must also have correctly sized air entry and exit plenums for efficient ventilation without allowing abrasive to escape.
- 2** The Dust Collection and Ventilation system provides sufficient airflow in the Blast Room to keep dust levels low, increase operator visibility and to quickly clear the room of dust when blasting ceases.
- 3** An Abrasive Recovery System – normally under-floor – conveys the spent abrasive to a central point for recycling and cleaning. An efficient recovery system will collect automatically from 100% of the floor area or just from part of the floor requiring operators to sweep abrasive to the system.
- 4** The Abrasive Recycling and Cleaning Unit will clean the used abrasive by separating all dusts, fines, paint flakes and trash from the good reusable abrasive. The abrasive is then stored ready to be used again.
- 5** Blasting Pots, Hoses and Nozzles are selected to suit the Blast Room function. Typically multiple outlets are installed to allow more than one operator to blast continuously.



Blast Room Dust Collectors

A Dust Collector is a vital part of any Blast Chamber. It provides ventilation inside the chamber and it cleans contaminants from the exhaust air.

It is essential that the Dust Collector is carefully selected to suit the size of the Blast Chamber, to maintain visibility and required air velocity in the room. In general, the larger the cross section of the Blast Chamber, the larger the Dust Collector. Your Blast-One™ dealer can assist in all design and engineering calculations.

A Dry Cartridge Collector offers high efficiency dust filtration. Dust is trapped on specially designed cartridges which are automatically cleaned by a Smart Pulse™ cleaning system. Dust is collected in bins for easy disposal.



Dust collectors can be simply added to existing blast sheds.



Poor Ventilation equals poor visibility and lots of rework! By installing a Dust Collector, visibility problems are solved! A much safer environment!



When the neighbors complain, it's time to install a Blast Room and Dust Collector.

EPA Reference: 33743

22 March 2016

Mr Tom Hateley
Consultant Planner
District Council of Mount Remarkable
PO Box 94
MELROSE SA 5483

Dear Mr Hateley

DIRECTION - Activities of Major Environmental Significance

Development Application No.	830/106/15
Applicant	Conor Evans
Location	A750 DP73525, Hundred Appila, 555 Forest Road, Wirrabarra SA 5481.
Activity of Environmental Significance	Schedule 8 Item 11; Schedule 22 Part A Activities, Item 22-2(1)
Proposal	Bi-Carbonate Sodium Blasting Business.
Decision Notification	A copy of the decision notification must be forwarded to: Client Services Officer Environment Protection Authority GPO Box 2607 ADELAIDE SA 5001

I refer to the above development application forwarded to the Environment Protection Authority (EPA) in accordance with Section 37 of the *Development Act 1993*. The proposed development involves an activity of major environmental significance as described above.

The following response is provided in accordance with Section 37(4)(b)(ii) of the *Development Act 1993* and Schedule 8 Item 11 of the *Development Regulations 2008*.

In determining this response the EPA had regard to and sought to further the objects of the *Environment Protection Act 1993*, and also had regard to:

- the General Environmental Duty, as defined in Part 4, Section 25 (1) of the Act; and
- relevant Environment Protection Policies made under Part 5 of the Act.

Please direct all queries relating to the contents of this correspondence to Mike Russell on telephone (08) 8204 2098 or facsimile (08) 8124 4673 or email Mike.Russell@epa.sa.gov.au.

THE PROPOSAL

The proposal is to establish an abrasive blasting business which uses sodium bicarbonate as a blast medium within a purpose built blasting booth. The activity of spray painting does not form part of this application.

SITE DESCRIPTION

The site of the proposed development is Allotment 750 DP73525, 555 Forest Road Wirrabara. the land is registered under Certificate of Title Volume 5894 Folio 437. The property is approximately eight kilometres from the township of Wirrabara and is located within a rural setting.

CONSIDERATION

Advice in this letter includes consideration of the location with respect to existing land uses and is aimed at protecting the environment and avoiding potential adverse impacts upon the locality. Such advice does not take into account zoning or future development.

In support of the application the applicant has provided the following information:

- applicant's covering letter to council dated 15 December 2015
- note from the applicant to David Hutchison (council planning representative) dated 4 February 2016
- Certificate of Title
- aerial photograph and four site location/layout plans
- amended location plan, blast booth equipment and applicant's report dated 29 February 2016
- two emails from the applicant dated 21 march 2016 (to Mike Russell at the EPA and Tom Hateley on behalf of the District Council of Mount Remarkable).

ENVIRONMENTAL ISSUES

Air Quality

In relation to blasting activities, the EPA's prime concern relates to air quality (including airborne dust and particulates) from small particles of removed surface coating and spent blasting media. The applicant intends to use sodium bicarbonate (NaHCO_3) exclusively which is a EPA preferred abrasive (compared to copper slag, garnet etc.). However, this is a product that has a once only use and cannot be recycled.

The blasting area would consist of a 10.8 metre by six metre concrete slab with 75 mm bunding. On top of the slab would be two shipping containers with a curved roof to link the two structures. There would be a wall at the rear and doors at the front to seal the blast room.

The applicant has provided detail in regard to a generic chamber and dry dust collector and ventilation system.

The system would use filter cartridges to capture the dust and particulate and minimise escape to the environment and maintain visibility within the blast booth. This is acceptable to the EPA.

The dust and spent blasting media/removed coatings would be pulled through the filter media by the fan and 'clean air' would exit via the flue which would discharge above the roof. This is acceptable to the EPA and a condition is directed below.

At this early stage of the business lead based surface coatings are not to be blasted, however if in the future lead based coatings are to be removed, there would be additional equipment required, e.g. hepa filters, test kits, waste segregation etc. Should this application be approved this can be addressed at the licensing stage. A condition in this regard is directed below.

All blasting operations must occur within the confines of the booth and under the influence of the dust extraction system. A condition in this regard is directed below.

The flue must be installed to be three metres above the highest point of the roof within a thirty metre radius and be fitted with a vertical rain protector. Air extraction systems must be capable of limiting particulate emissions from the booth to less than $250\text{mg}/\text{Nm}^3$. Exhaust velocities must be more than ten metres per second. Conditions in this regard are directed below.

Provided the booth is constructed as per the details provided in the application and as per the conditions directed below, the EPA is satisfied that the proposal is acceptable with regard to the *Environment Protection (Air Quality) Policy 2004*. The activity of abrasive blasting would also be managed on an ongoing basis through the EPA authorisation (licence).

Surface coating

The applicant has decided not to include a spray booth as part of this application therefore the activity of spray painting and/or powder coating must not be undertaken on the property. (refer to email dated 21 March 2016) A condition in this regard is directed below. Any material that has been etched or have a surface coating removed due to abrasive blasting must be primed/protected from flash rust using a brush or a roller until a fresh development application is submitted.

Noise

Potential noise sources include exhaust stack fans, blasting activities, compressors, equipment and material movements, forklifts and trucks. The proposed site is considered isolated and therefore the activities would be confined to the interior of the booth and the noise generated is not expected to become a nuisance at the nearest sensitive receivers.

Separation Distances

The EPA *Guidelines for Separation Distances 2007* recommends a 500 metre separation distance between abrasive blasting activities not undertaken within a fully enclosed facility

and a sensitive receiver (i.e. dwelling). However, for abrasive blasting activities undertaken within a fully enclosed booth only a 100 metre separation distance is required.

Given that the closest sensitive receiver is located approximately 140 metres away from the proposed abrasive blasting activities (to be undertaken within a fully enclosed booth), the recommended separation distance is satisfied.

Waste Management

Waste generated may include waste paint, residual coating, abrasive and metal fines. All blasting must take place within the confines of the booth. Any material not captured in the filter media would drop on the floor and then be swept up and placed within an appropriate waste bin. This is acceptable to the EPA.

Lead based, anti-fouling or mercurious paints are not to be removed by blasting onsite. (refer to email dated 21 March 2016).

Wet blasting is not proposed to occur onsite (refer to email dated 21 March 2016),

Water Quality

The amended location ensures that the proposed blast booth would be at least 50 metres from both the watercourse and the nearest bore.

CONCLUSION

It is not anticipated that there would be significant environmental impacts generated as a result of the applicant's activities. The applicant has demonstrated appropriate infrastructure and strategies would be in place to minimise potential impacts to air, noise, water and land.

The potential for adverse impacts can be managed within acceptable limits provided the site is operated in accordance with the following directed conditions and adherence to EPA licence conditions.

DIRECTION

The planning authority is directed to attach the following conditions to any approval:

1. All abrasive blasting must be carried out within the confines of the abrasive blasting booth.
2. 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.
3. 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.

4. Air extraction systems for the abrasive blasting booth must be capable of limiting particulate emissions from the booth to less than $250\text{mg}/\text{Nm}^3$.
5. 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.
6. 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 any 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>

Yours faithfully



Hayley Riggs
Delegate

ENVIRONMENT PROTECTION AUTHORITY

30 March 2016

Ref: 6554 DAP Report

Chief Executive Officer
District Council of Mount Remarkable
PO Box 94
MELROSE, SA 5483

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

ATTENTION: Tammy Bastian

Dear Tammy,

**RE: PROPOSED INDUSTRY 555 (Lot 750) FOREST ROAD, WIRRABARA
DA 830/106/15**

As instructed, the following is a planning assessment of the abovementioned development application.

In preparing this report I have reviewed the Council file on the application and familiarised myself with the subject land and relevant provisions of the Development Plan.

1.0 DEVELOPMENT DETAILS

Proposed Development:	Industrial Development – Bicarbonate Sodium Blasting
Development Application Number:	830/106/15
Location:	555 (Lot 750) Forest Road, Wirrabara
Certificate of Title:	Volume 5984 Folio 437
Applicant/Owner:	Conor Evans
Zone:	Primary Production Zone
Public Notification:	Cat 3 (merit)
Lodgement Date:	15 December 2015
Authorised Development Plan:	5 September 2013

2.0 SUBJECT LAND AND LOCALITY

The subject land consists of an irregular shaped allotment comprising an area of 11.95 hectares located within the Primary Production Zone approximately 4 kilometres to the south west of Wirrabarra.

The land has frontages of approximately 510 metres to Forest Road to the north west, 316 metres to King Tree Road to the south east and 39 metres to the Lynch Road to the east.

The subject land contains a dwelling and a number of sheds sited within the south western portion of the site. I understand that the existing sheds were previously used in association with a honey processing and storage operation that occurred on the property, however, this use ceased some 20 years ago.

The property contains vegetation adjacent a watercourse which traverses the site along the southern boundary. Vegetation is also located around the existing dwelling and sheds and along the western property boundary.

The balance of the land has been cleared and is used for low intensity primary production activities.

Vehicle access is provided from Forest Road via an existing driveway located towards the western property boundary.

The subject land is adjoined by Primary Production zoned land. Except for the land to the west which is heavily vegetated, land in the locality is principally used for agricultural purposes. A number of dwellings are scattered throughout the locality, including on the adjoining properties to the north and south east.

The subject land and locality are more particularly depicted below in figures 1 and 2.



Figure 1: Subject Land and Locality

Source: Property Location Browser (www.maps.sa.gov.au)

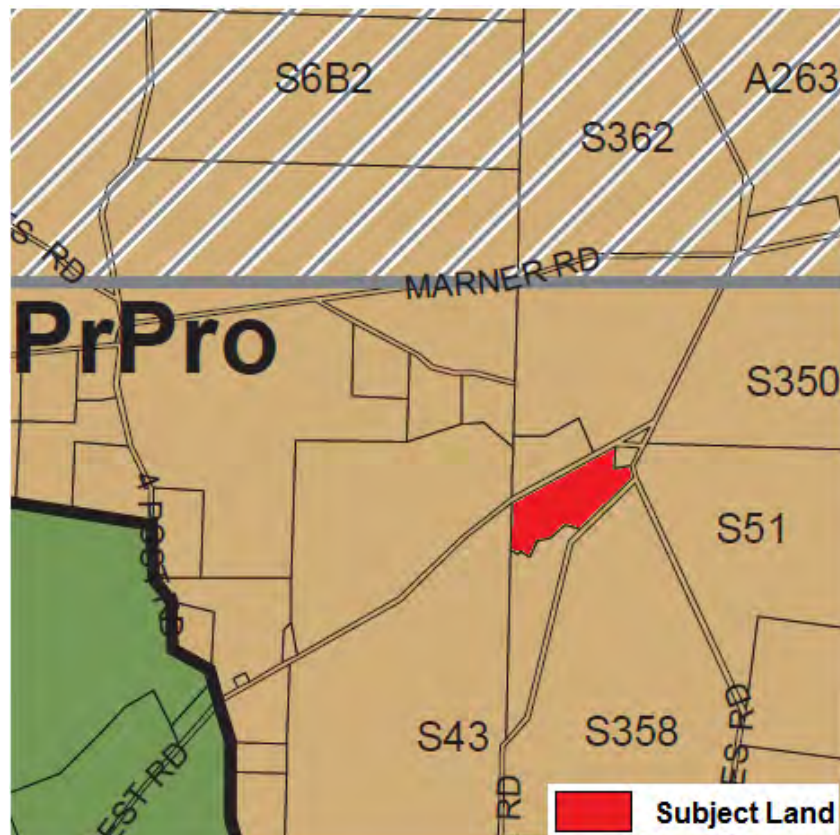


Figure 2: Zoning

Source: Zone Map MtR/9 of DC Mt Remarkable Development Plan

3.0 PROPOSED DEVELOPMENT

The proposal seeks to establish a Bicarbonate Sodium blasting business on the property.

Bicarbonate Sodium blasting is a form of abrasive blasting where media is propelled via compressed air onto the surface to be stripped or cleaned. Bicarbonate Sodium (baking soda) is used as the blasting media instead of traditional abrasives (i.e. sand).

The blasting area will consist of a 10.8 metre by 6 metre concrete slab with 75mm bunding. On top of the slab is to be two shipping containers with a curved roof to the link the two structures. A wall (rear) and doors will be constructed at either end to seal the blasting area. The shipping containers will be used for storage purposes associated with blasting activities.

An air/dust extraction unit will be fitted to the building.

The proposed building will comprise an area of 64.8 square metres and an overall height of 4 metres. The building is to be setback approximately 120 metres from Forest Road, 100 metres east of the existing dwelling and 50 metres from the watercourse on the property.

The proposed development will principally be used for the blasting of cars, small trucks, small farm and industrial machinery, engines, boats, motorcycles, antiques, furniture, building material and household items.

The other sheds on the property will also be used for storage, dismantling and assembling purposes in association with the abrasive blasting activities.

No spray painting is to occur onsite as part of this application. The applicant has advised that if this service was to be provided as part of the business in the future then a new application would be submitted.

In addition, there will be no blasting of any lead based surface coating as this requires specific procedures for removal and waste disposal.

The proposed blasting business is to employ one person (the applicant) who also resides on the property and all activities will occur during normal business hours 8.00am - 5pm Monday-Friday.

The vehicles, equipment and articles to be worked on will either be driven to the site or delivered via a ute and/or trailer. Existing access points will be utilised to service the proposed development.

No signage is proposed as part of this application.

The proposed development is more particularly illustrated in the submitted plans and associated documents.

4.0 AGENCY REFERRALS

Abrasive blasting is defined as an activity of major environmental significance pursuant to Schedule 22 of the Development Regulations. As a result, the application was referred to the Environment Protection Authority pursuant to Schedule 8 of the Development Regulations 2008.

The EPA's comments are summarised below:

Conclusion

It is not anticipated that there would be significant environmental impacts generated as a result of the applicant's activities. The applicant has demonstrated appropriate infrastructure and strategies would be in place to minimise potential impacts to air, noise, water and land.

The potential for adverse impacts can be managed within acceptable limits provided the site is operated in accordance with the following directed conditions and adherence to EPA licence conditions.

The planning authority is directed to attach the following conditions to any approval:

1. *All abrasive blasting must be carried out within the confines of the abrasive blasting booth.*
2. *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.*
3. *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.*
4. *Air extraction systems for the abrasive blasting booth must be capable of limiting particulate emissions from the booth to less than 250mg/Nm³.*
5. *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.*
6. *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 any 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>*

5.0 PUBLIC NOTIFICATION

Pursuant to Schedule 9 of the Development Regulations 2008 the proposed development represents a Category 3 form of development for the purposes of public notification. The application therefore underwent full public notification.

No representations were received during the notification period.

6.0 DEVELOPMENT ASSESSMENT

The subject land is located within the Primary Production Zone as indicated on Zone Map MtR/9 of the Mount Remarkable (DC) Development Plan, Consolidated 5 September 2013.

The Objectives and Principles of the Mount Remarkable (DC) Development Plan considered most relevant to the assessment of this application are provided and discussed below:

6.1 Land Use

Primary Production Zone Objectives

- 3 Protection of primary production from encroachment by incompatible land uses and protection of scenic qualities of rural landscapes.**
- 5 Development that contributes to the desired character of the zone.**

Desired Character

It is desirable that the zone continues to maintain a diversity of activities suited to the terrain, rainfall and capability of the land. Retention of agricultural productivity by preserving or increasing rural property holdings will be an important consideration in ensuring that the established rural character is maintained. There is however some opportunity for small scale low impact commercial and industrial development.

Numerous creeks lined with mature vegetation, together with roadside vegetation enhance the district's rural character. These features should be preserved.

Principles

- 4 Industry and warehousing should only be developed if it supports primary production, processing, storage and distribution of local primary produce or products produced on the same site, and should be developed where:**
 - (a) it has a direct relationship with primary production**
 - (b) it is unlikely to limit or inhibit the use of adjoining land for primary production**
 - (c) the particular use requires a site in proximity to a particular natural resource or other product or materials sourced from the locality**
 - (d) it will not result in the alienation of land or water resources identified as significant for primary production or ecological reasons**
 - (e) the use would be inappropriate within a township.**

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

Pursuant to Regulation 16 of the Development Regulations 2008 the relevant authority must determine the nature of the development. With regard to the definitions provided in Schedule 1 of the Regulations, it is my opinion that the proposed development is most appropriately defined as an industry.

Outside of the Township Fringe Policy Area (which the land is) an industry is designated as a consent form of development within the zone.

The intent of the Primary Production zone is to retain the land for primary production activities.

Whilst an industry is not an envisaged use as outlined in zone Principle 1, the desired character identifies that there is *some opportunity for small scale low impact commercial and industrial development*.

Notwithstanding the above, Principle 4 requires industry to be associated with primary production activities.

The proposed use is not associated with primary production activities which is inconsistent with the primary intent of the zone and Principle 4, however, the proposed development will have minimal impact on the viability of existing agricultural activities on the subject land.

The proposed development is a small scale operation which is to employ one person who also resides on the property. Further the proposed building is to occupy 64.8 squares metres of the 11.95 hectare site (site coverage 0.05%). Therefore the proposed scale of the building will not adversely impede or affect current/future farming activities on the subject land.

With the exception of part (a) of zone Principle 4, it is considered that the proposed development satisfies the intent of Principle 4, especially as the proposed use will have no impact outside of the property and will therefore not inhibit the use of the adjoining properties for primary production activities. In addition, as per the EPA requirements, the proposed development is a type of use that requires separation distances (100 metres) to other sensitive uses which may not be able to be achieved within a township, however, these separation distances can be achieved on the subject land.

Having regard to the above, the proposed development is considered to appropriate for the subject land and is of scale and nature that will not impact on adjoining primary production uses or prejudice the intent of the Primary Production Zone.

6.2 Design and Siting

Primary Production Zone

Principle

6 Buildings should primarily be limited to farm buildings, a detached dwelling associated with primary production on the allotment and residential outbuildings that are:

- (a) grouped together on the allotment and set back from allotment boundaries to minimise the visual impact of buildings on the landscape as viewed from public roads**
- (b) screened from public roads and adjacent land by existing vegetation or landscaped buffers.**

Design and Appearance

17 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.

19 Except where specified in a particular zone, policy area, or precinct, buildings and structures should be set back from road boundaries having regard to the requirements set out in Table MTR/2 – Building Setbacks from Road Boundaries.

Siting and Visibility

Objectives

1 Protection of scenically attractive areas, particularly natural, rural and coastal 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 and coastal areas

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.

3 Buildings outside of urban areas and in undulating landscapes should be sited in unobtrusive locations and in particular should be:

- (a) sited below the ridgeline
- (b) sited within valleys or behind spurs
- (c) sited in such a way as to not be visible against the skyline when viewed from public roads
- (d) set well back from public roads, particularly when the allotment is on the high side of the road.

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.

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

6 The number of buildings and structures on land outside of urban areas should be limited to that necessary for the efficient management of the land.

8 Development should be screened through the establishment of landscaping using locally indigenous plant species:

- (a) around buildings and earthworks to provide a visual screen as well as shade in summer, and protection from prevailing winds

- (b) along allotment boundaries to provide permanent screening of buildings and structures when viewed from adjoining properties and public roads**
- (c) along the verges of new roads and access tracks to provide screening and minimise erosion.**

The Development Plans requires buildings within the Primary Zone to be sited and designed in a manner which minimises its impact on the rural and natural character of the area.

The proposed building is to be well setback from Forest Road (120 metres) and other road and property boundaries which is consistent with Design and Siting Principles 17 and 19.

Zone Principle 6 (a) and Siting and Visibility Principle 2 (a) requires buildings to be grouped with other building on the site. The proposed building will be, to a certain extent, grouped with other buildings on the property although its separation from the existing buildings could be reduced. I do note however, that the proposed site has been chosen given its proximity to the power source on the property and ability to achieve a 50 metre setback from the existing watercourse that traverses the property, as recommended by the EPA.

As discussed above, I also note that the building is of scale and is to be located in a position which is unlikely to adversely restrict the current/future agricultural activities on the site.

The proposed building will be largely screened from adjoining properties to the east, west and south by existing vegetation on the subject land. However, notwithstanding the proposed setback, the building will likely be viewed from Forest Road.

I note that no landscaping is proposed as part of the application which is inconsistent with Zone Principle 6 (b) and Siting and Design Principle 8. As a result, it is recommended that (if approved) a condition of consent be imposed requiring a landscaping plan be submitted which provides screening landscaping around the proposed building to assist to minimise its visual impact, particularly on views from the Forest Road.

It is noted that the plans are lacking information in relation to the materials for the rear wall and doors of the blasting area. Also details of external finishes have not been provided.

The use of shipping containers is not ideal from a visual appearance perspective, however, to minimise visual impacts it is recommended that (in addition to the landscaping) the building, including shipping containers, be painted or finished in a dull natural colour which will also assist to give the appearance of a permanent structure.

It is recommended that these issues can be address by an appropriate condition/s of consent.

6.3 Amenity and Environment Impacts

Industrial Development Principle

- 6 Industrial development should minimise significant adverse impact on adjoining uses due to hours of operation, traffic, noise, fumes, smell, dust, paint or other chemical over-spray, vibration, glare or light spill, electronic interference, ash or other harmful or nuisance-creating impacts.**

Interface between Lands Uses Objectives

- 1 Development located and designed to prevent adverse impact and conflict between land uses.**

Principles

- 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 sited and designed to minimise negative impact on existing and potential future land uses considered appropriate in the locality.**

Given its industrial nature and considering the proposed land use is not associated with primary production activities, the key issue with the proposal is what impact the use may have on the amenity of the locality and/or environment.

With respect to amenity and environmental impacts the proposed development has been assessed by the EPA with respect to air quality, noise, separation distances, waste management and water quality issues.

The proposed development was deemed to be appropriate and the EPA advised that any potential issues can be addressed by the recommended conditions of consent and future licensing requirements.

The proposal therefore is unlikely to impact the amenity of the locality and/or create any land use conflicts which complies with the abovementioned provisions.

In addition, given the scale of the development it is not expected traffic generated by the development will be at a level which will adversely impact the amenity of the locality.

7.0 CONCLUSION

Having regard to the above assessment of the proposed development against the relevant provisions of the Mount Remarkable (DC) Development Plan, on balance, I consider that the proposal is an appropriate form of development, due to the following;

- The proposed development is of a scale and nature that will not impact Primary Production activities on the subject land or adjoining properties;
- The proposed development is designed and sited to minimise its impact on the rural character of the locality;
- The proposal will not result in any adverse amenity or environmental impacts within locality.

8.0 RECOMMENDATION

That Development Application 830/106/15 is not seriously at variance with the provisions of the District Council of Mount Remarkable Development Plan, consolidated 5 September 2013.

That Development Application 830/106/15 for an industrial development (Bicarbonate Sodium blasting) at 555 (Lot 750) Forest Road, Wirrabara be **granted** Development Plan Consent, 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 any 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>



Tom Hateley MPIA
ACCESS PLANNING (SA) PTY LTD

6.1 THE DISTRICT COUNCIL OF MOUNT REMARKABLE

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

Action	For DECISION
Proponent	Council Officer
Officer	DCMR CEO
Development Application	830/086/15
Associated Reports & Documents	Development Application Amended plans Planning Report, inc proposed plans, Environmental EME Report Nil Representations Planning Consultant Report

Officer's Recommendations:

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.

Introduction:

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

Previous Panel Consideration:

Nil

Officer's Report:

Refer to attached Report by Tom Hateley, Access Planning (dated 31st March 2016).

Statutory Requirement:

The District Council of Mount Remarkable Development Plan – consolidated 5th September 2013
 Development Act 1993
 Development Regulations 2008

Policy/Strategic Implications:

The District Council of Mount Remarkable Strategic Management Plan 2008-2020:

Strategy Statement:

With visionary, respected and strong leadership, Council will be in a position to successfully develop constructive partnerships with other levels of government and our communities, to ensure our aspirations are met and our futures are secured.(Reference 1)

Strategy Objective:

To not only meet, but to excel in satisfying the requirements of the Local Government Act (Reference 1.7)

Strategic Outcomes:

Ensure that Council satisfactorily meets all legislative compliance requirements (Reference 1.7.3)

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

DEVELOPMENT APPLICATION FORM

Please use BLOCK LETTER and Black or Blue ink so that photocopies can be made of your application.

COUNCIL: DISTRICT COUNCIL OF MOUNT REMARKABLE

APPLICANT: NBN CO LIMITED

Postal Address	C/- AURECON AUSTRALASIA PTY LTD, 55 GRENFELL STREET, ADELAIDE, SA 5000
----------------	--

OWNER: SHANE MALCHOW AND MICHELLE MALCHOW

Postal Address	PO BOX 34, PORT GERMEIN, SA 5495
----------------	----------------------------------

BUILDER: N/A

Postal Address	
Licence No	

CONTACT PERSON FOR FURTHER INFORMATION

Name	ADAM PFITZNER	
Telephone	(08) 8237 9989	
Email	adam.pfitzner@aurecongroup.com	

EXISTING USE: COASTAL VEGETATION / AGRICULTURE (GRAZING)

FOR OFFICE USE

Development No.

Previous Development No.

Assessment No.

<input type="checkbox"/> Complying <input type="checkbox"/> Non Complying <input type="checkbox"/> Notification Cat 2 <input type="checkbox"/> Notification Cat 3 <input type="checkbox"/> Referrals/Concurrences <input type="checkbox"/> DA Commission	Application forwarded to DA Commission/ Council on: / / Decision: Type: Date: / /
---	---

	Dec Req	Fees	Rec No	Date
Planning				
Building				
Land Division				
Additional				
Development				
Approval:				

APPLICATION FOR: DEVELOPMENT PLAN CONSENT

DESCRIPTION OF PROPOSED DEVELOPMENT FIXED WIRELESS TELECOMMUNICATIONS FACILITY COMPRISING A 30 METRE HIGH MONOPOLE, ANTENNAS AND ASSOCIATED INFRASTRUCTURE.

LOCATION OF PROPOSED DEVELOPMENT:

House No.	LOT 3	GOVERNMENT ROAD	PORT GERMEIN SA 5495	
Allotment:	3		HUNDRED OF TELOWIE	VOLUME 5659 FOLIO 395
Section No (full/part)				

LAND DIVISION: N/A

Site Area (m ²)	Reserve Area (m ²)	No of existing allotments:	
Number of additional allotments (excluding road and reserve)		Lease:	Yes <input type="checkbox"/> No <input type="checkbox"/>
BUILDING RULES CLASSIFICATION SOUGHT		Present classification	
If Class 5, 6, 7, 8 or 9 classification is sought, state the proposed number of employees:		Male	Female
If Class 9a classification is sought, state the number of persons for whom accommodation is to be provided:			
If Class 9b classification is sought, state the proposed number of occupants of the various spaces of the premises:			
DOES EITHER SCHEDULE 21 OR 22 OF THE DEVELOPMENT REGULATIONS 2008 APPLY?		NO	
HAS THE CONSTRUCTION INDUSTRY TRAINING FUND ACT 1993 LEVY BEEN PAID?		YES	
DEVELOPMENT COST (do not include any fit-out costs):		\$150,000	

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 1993.

SIGNATURE


 ADAM PFITZNER (AURECON)

Dated 28 September 2015

DEVELOPMENT REGULATIONS 2008
Form of Declaration
(Schedule 5 clause 2A)

To: District Council of Mount Remarkable

From: nbn co limited C/- Aurecon Australasia Pty Ltd

Date of Application: 28 September 2015

Location of Proposed Development:

House No: Lot 3
Lot No: 3
Street: Government Road
Town/Suburb: Port Germein

Section No (full/part): Hundred: Telowie

Volume: 5659 Folio: 395

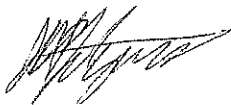
Nature of Proposed Development:

Fixed Wireless Telecommunications Facility comprising a 30 metre high monopole, antennas and associated infrastructure.

I Adam Pfitzner being a person acting on behalf of the applicant for the development described above declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of section 86 of the Electricity Act 1996. I make this declaration under clause 2A (1) of Schedule 5 of the Development Regulations 2008.

Date: 28 September 2015

Signed:



Note 1

This declaration is only relevant to those development applications seeking authorisation for a form of development that involves the construction of a building (there is a definition of 'building' contained in section 4(1) of the Development Act 1993); other than where the development is limited to –

- a) an internal alteration of a building; or
- b) an alteration to the walls of a building but not so as to alter the shape of the building.

Note 2

The requirements of section 86 of the Electricity Act 1996 do not apply in relation to:

- a) a fence that is less than 2.0 m in height; or
- b) a service line installed specifically to supply electricity to the building or structure by the operator of the transmission or distribution network from which the electricity is being supplied.

Note 3

Section 86 of the Electricity Act 1996 refers to the erection of buildings in proximity to powerlines. The regulations under this Act prescribe minimum safe clearance distances that must be complied with.

Note 4

The majority of applications will not have any powerline issues, as normal residential setbacks often cause the building to comply with the prescribed powerline clearance distances. Buildings/renovations located far away from powerlines, for example towards the back of properties, will usually also comply.

Particular care needs to be taken where high voltage powerlines exist; where the development:

- is on a major road;
- commercial/industrial in nature; or
- built to the property boundary.

Note 5

Information brochures 'Powerline Clearance Declaration Guide' and 'Building Safely Near Powerlines' have been prepared by the Technical Regulator to assist applicants and other interested persons. Copies of these brochures are available from council and the Office of the Technical Regulator. The brochures and other relevant information can also be found at www.technicalregulator.sa.gov.au

Note 6

In cases where applicants have obtained a written approval from the Technical Regulator to build the development specified above in its current form within the prescribed clearance distances, the applicant is able to sign the form.

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



30 March 2016

Tom Hateley
Assessing Planner
Access Planning (SA) Pty Ltd
C/- District Council of Mount Remarkable
PO Box 94
MELROSE SA 5483

Dear Tom

DA: 830/086/15 – Amendment to Development Application for nbn™ Fixed Wireless Facility located at Lot 3 Government Road, Port Germein, SA 5495

We are writing to Council in regard to a proposed amendment to Development Application number 830/086/15 for the establishment of an nbn™ Fixed Wireless facility at the above address.

The proposed amendment consists of the following:

- Decrease in height of the facility (now proposing a 25m high monopole, rather than a 30m monopole);
- Replacing the proposed 1077mm high panel antennas with 750mm high panel antennas (still 2-off) at a centreline elevation of 25m;
- Replacing the proposed 2-off 500mm high remote radio units (RRUs) with four (4) 381mm high remote radio units, to be mounted behind the panel antennas (2-off per antenna); and
- Relocation of 900mm diameter parabolic antenna to a centreline of 22 metres.

The proposed amendment is a result of network optimisation in order to provide the most reliable and efficient service possible to the community within and surrounding Port Germein.

Please note that the amendment does not alter the proposed land use (for a telecommunications facility) and the height of the facility will be decreased by 5 metres which will not affect the assigned Category for notification purposes. In addition, the lower height is considered to have a less visual impact than the original proposal. In this regard, we are of the opinion that the proposed amendment is of a minor nature and does not warrant further community consultation. Please find a copy of the amended plans enclosed.

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

Sincerely

A handwritten signature in black ink, appearing to read 'Adam Pfitzner', written over a horizontal line.

Adam Pfitzner
Planner

Enclosed: Amended Plans for DA: 830/086/15
Completed DA Form (for amendment)
Completed Powerline Declaration Form (for amendment)

DATE OF ISSUE

DRAWING PACKAGE VERSION

11-11-14	13-11-14	16-11-15			
1	2	3			

GENERAL

5PIR-51-08-PORR-T1	COVER SHEET	01	02	A			
5PIR-51-08-PORR-T2	REFERENCE DOCUMENTS	-	-	A			
5PIR-51-08-PORR-C1	SITE SPECIFIC NOTES AND ANTENNA TABLE	01	02	A			
5PIR-51-08-PORR-C2	OVERALL SITE PLAN	01	01	A			
5PIR-51-08-PORR-C3	SITE SETOUT PLAN	01	02	A			
5PIR-51-08-PORR-C4	SITE ELEVATION AND DETAILS	01	02	A			

STRUCTURAL

5PIR-51-08-PORR-S1	ELEVATED PLATFORM FOOTING DETAILS	-	-	A			

ELECTRICAL

5PIR-51-08-PORR-E0	ELECTRICAL SPECIFICATION	-	-	A			
5PIR-51-08-PORR-E1	ELECTRICAL SINGLE LINE DIAGRAM	-	-	A			
5PIR-51-08-PORR-E2	SITE EARTHING PLAN	-	-	A			
5PIR-51-08-PORR-E4	POWER DISTRIBUTION BOARD SCHEMATIC DETAILS	-	-	A			
5PIR-51-08-PORR-E5	ELECTRICAL SITE SUPPLY ROUTE PLAN	-	-	A			

ANTENNA DETAILS

5PIR-51-08-PORR-A1	ANTENNA CONFIGURATION AND SETOUT PLAN	-	-	A			
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LEASE / LICENSE PLAN

FX250070	LEASE PLAN	-	-	A			
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REFERENCE DOCUMENTS

JL144	INGAL EPS CERTIFICATE OF COMPLIANCE - DESIGN & MANUFACTURE	-	-	A			
GA8051 SHEETS 1-5	GENERAL ARRANGEMENT OF 25m COMMUNICATION HUB TYPE 2 POLE	-	-	B			
	STEP BOLT WITH LADSAF BASE PLATE MOUNTED						
GA7897 SHEET 1-2	GENERAL ARRANGEMENT OF FOUNDATION BOLT AND TEMPLATE	-	-	B			
	ASSEMBLY 20 OFF M36 x 1200 LONG BOLTS EQUISPACED ON 1250mm PITCH						
BR150565	OSBORN CONSULTING ENGINEERS - STRUCTURAL DESIGN CERTIFICATE	-	-	A			
BR15-0565-01A	30m COMMUNICATIONS POLE FOOTING	-	-	A			

DISTRIBUTION

ERICSSON	MALCOLM LEWIS	1	1				
AURECON	PHIL PASCHKE	1	1				
ERICSSON	ARMANDO GUZMAN			1			

SITE No: 5PIR-51-08-PORR

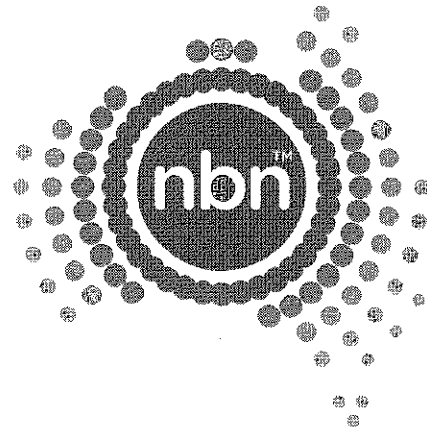
PORT GERMEIN

LOT 3 GOVERNMENT ROAD

PORT GERMEIN

SA 5495

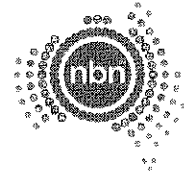
RFNSA No: 5495007



PROJECT SUMMARY

NEW NBN 25m MONOPOLE WITH CIRCULAR HEADFRAME
 NEW NBN OUTDOOR CABINETS INSTALLED ON AN ELEVATED STEEL PLATFORM WITHIN
 THE NBN COMPOUND LEASE AREA

Client:



Client:



Client:

Project:

NATIONAL BROADBAND
 NETWORK
 SITE No: 5PIR-51-08-PORR
 PORT GERMEIN
 LOT 3 GOVERNMENT ROAD
 PORT GERMEIN
 SA 5495

FOR CONSTRUCTION

A	16.11.15	FOR CONSTRUCTION (DRAFT)
02	13.11.14	AZIMUTH UPDATE & COMPOUND SIZE CHANGE
01	11.11.14	PRELIMINARY ISSUE
Rev	Date	Revision Details



Aurecon Australasia Pty Ltd ABN 54 005 139 873

DESIGNER:

CHECKED:

APPROVED:

Drawing Title:

COVER SHEET

Drawing No:

5PIR-51-08-PORR-T1

Revision

A

DATE OF ISSUE

DRAWING PACKAGE VERSION

11-11-14	13-11-14	16-11-15			
1	2	3			

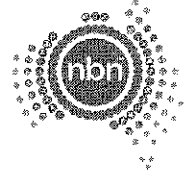
REFERENCE DOCUMENTS

NBN-STD-0001	STANDARD CONSTRUCTION NOTES			-			
NBN-STD-0002	TYPICAL GROUND LAYOUT MONOPOLE			-			
NBN-STD-0008	TYPICAL MONOPOLE HEADFRAME EXAMPLE			-			
NBN-STD-0010	TYPICAL 600-1200 PARABOLIC MOUNTING DETAIL - MONOPOLE			-			
NBN-STD-0012	STANDARD COMPOUND FENCING DETAILS			-			
NBN-STD-0013	STANDARD CABLE LADDER WATERFALL DETAILS			-			
NBN-STD-0014	STANDARD ELEVATED CABLE LADDER SUPPORT POST DETAIL			-			
NBN-STD-0015	STANDARD ELEVATED CABLE LADDER DETAILS			-			
NBN-STD-0016	STANDARD ODC BASE FRAME DETAILS			-			
NBN-STD-0018	STANDARD SITE EARTHING - MONOPOLE			-			
NBN-STD-0021-SHT 1	STANDARD EARTH BAR DETAILS			-			
NBN-STD-0021-SHT 2	SEB ALLOCATION TABLE			-			
NBN-STD-0023	TYPICAL EQUIPMENT SHELTER FOUNDATION DETAIL			-			
NBN-STD-0025-SHT 1	STANDARD EME SIGNAGE DETAILS SHEET 1			-			
NBN-STD-0025-SHT 2	STANDARD EME SIGNAGE DETAILS SHEET 2			-			
NBN-STD-0026	LOCAL NETWORK PIT / BOUNDARY PIT			-			
NBN-STD-0027	STANDARD PDB/METERING SCHEMATIC			-			
NBN-STD-0028	STANDARD ACCESS TRACK DETAILS			-			
NBN-STD-0030-SHT 2	STANDARD NBN ANTENNA EME PATTERNS - LLPX310R (4x40W)			-			
NBN-STD-0031	STANDARD MONOPOLE EARTH BAR AND GANTRY FIXING DETAILS			-			
NBN-STD-0039	STANDARD EQUIPMENT PLATFORM 1.0-2.0m ARRANGEMENT			-			
NBN-STD-0040	STANDARD EQUIPMENT PLATFORM 1.0-2.0m DETAILS			-			
NBN-STD-0043	STANDARD EQUIPMENT PLATFORM STAIR DETAILS			-			
NBN-STD-0044	STANDARD EQUIPMENT PLATFORM ODC LAYOUT & DETAILS			-			

DISTRIBUTION

ERICSSON	MALCOLM LEWIS	1	1				
AURECON	PHIL PASCHKE	1	1	1			
ERICSSON	ARMANDO GUZMAN			1			

Client:



Client:



Client:

Project:

NATIONAL BROADBAND
NETWORK
SITE No: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495

FOR CONSTRUCTION

A 16.11.15 FOR CONSTRUCTION (DRAFT)

Rev Date Revision Details



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REFERENCE
DOCUMENTS

Drawing No.

5PIR-51-08-PORR-T2

Revision

A

SITE INFORMATION:

1. SITE ADDRESS

LOT 3 GOVERNMENT ROAD, PORT GERMEIN SA 5495

2. GENERAL

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

3. SITE ACCESS

ACCESS TO SITE IS ON THE CORNER OF SECOND STREET & OWNERS DIRT TRACK AS SHOWN ON DRAWING C2

CONTACT DETAILS:

SHANE & MICHELLE MALCHOW

PH: (08) 8634 5282

MOB: 0427 345 285

4. EQUIPMENT

NEW NBN OUTDOOR CABINETS ARE TO BE INSTALLED ON A 1.5m HIGH ELEVATED STEEL PLATFORM WITHIN THE NBN COMPOUND & LEASE AREA

5. STRUCTURE

NEW NBN 25m MONOPOLE WITH CIRCULAR HEADFRAME

MONOPOLE MANUFACTURER: INGAL EPS (VALMONT)

FOOTING DESIGNED & CERTIFIED BY OSBORNE CONSULTING ENGINEERS

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

- SOFT SANDY SOIL AT SITE LOCATION
- EXISTING COASTAL VEGETATION (TO BE REMOVED FOR SITE ACCESS)
- BUILT UP SOIL TO EDGE OF DIRT ROAD/TRACK TO BE REMOVED TO ALLOW FOR ACCESS
- POSSIBLE STORM SURGE ZONE
- POSSIBLE ACID SULPHATE SOILS
- HIGH VOLTAGE OVERHEAD HIGH VOLTAGE POWER LINES

9. ELECTRICAL SUPPLY

SA POWER NETWORKS (SAPN) HAVE AGREED TO SUPPLY NBN FROM A NEW POINT OF SUPPLY. SAPN WILL EXTEND THE SINGLE PHASE HIGH VOLTAGE LINE FROM THE EXISTING POWER POLE ON THE ROAD VERGE OF WEST TCE & SECOND ST TO A NEW POWER POLE WITH POLE TOP TRANSFORMER. THE NEWLY ESTABLISHED POINT OF SUPPLY ON POWER POLE FOR NBN FACILITY WOULD BE 63A, SINGLE PHASE.

- REFER TO DRAWING E0 FOR SPECIFICATION
- E2 FOR EARTHING DETAILS AND NOTES
- C2, C3, E1, E4 & E5 FOR POWER SUPPLY DETAILS AND RETICULATION

10. TRANSMISSION LINK

REFER TO ANTENNA TABLE LOCATED ON DRAWING 5PIR-51-08-PORR-A1

11. WIND DESIGN PARAMETERS

SITE TOPOGRAPHIC DATA		
REGION	TERRAIN CATEGORY	TOPOGRAPHIC MULTIPLIER (Mf)
A1	2.0	1.00 (MAX.)

12. SITE SPECIFIC NOTES

- POSSIBLE ACID SULPHATE SOILS - REFER TO GEOTECH REPORT
- MAKE GOOD EXISTING FENCE ON COMPLETION
- 2-OFF NEW TREATED PINE STRAINER POSTS REQUIRED
- USE CAUTION - TELSTRA UNDERGROUND CABLE EXISTING IN AREA
- SUBSOIL TO BE REMOVED/REPLACED & COMPACTED TO A DEPTH OF 1.5m, AS PER GEOTECH REPORT

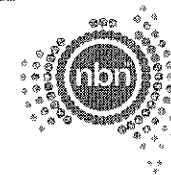
13. SITE SIGNAGE REQUIREMENT

- GENERIC SITE SIGNAGE: REFER TO SECTION 15.4 OF NBN RAN MANUAL
- EME SIGNAGE: REFER TO NBN-STD-0025

NOTE:

- CONSTRUCTION ASP TO PROVIDE COUNCIL WITH NOTICE OF CONSTRUCTION COMMENCEMENT A MINIMUM 7 DAYS PRIOR TO BEGINNING WORK
- CONSTRUCTION ASP TO NOTIFY COUNCIL OF 1 CLEAR BUSINESS DAY OF THE INTENDED COMPLETION OF FOOTING EXCAVATIONS AND STEEL REINFORCEMENT PRIOR TO POURING OF CONCRETE IN ANY FOOTING OR OTHER STRUCTURAL CONCRETE MEMBER
- CONSTRUCTION ASP TO NOTIFY COUNCIL A MINIMUM OF 1 CLEAR BUSINESS DAY OF THE COMPLETION OF BUILDING WORK

Client:



Client:



Client:

Project:

NATIONAL BROADBAND
NETWORK
SITE No: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495

FOR CONSTRUCTION

A	16.11.15	FOR CONSTRUCTION (DRAFT)
02	13.11.14	AZIMUTH UPDATE & COMPOUND SIZE CHANGE
01	11.11.14	PRELIMINARY ISSUE
Rev	Date	Revision Details



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SITE SPECIFIC
NOTES

Drawing No.

5PIR-51-08-PORR-C1

Revision

A

SITE LOCATION

SITE CO-ORDINATES

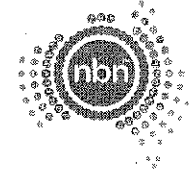
MONOPOLE LOCATION

DATUM: MGA (GDA94)	ZONE: 54
LATITUDE	-33.017114°
LONGITUDE	137.992335°
EASTING	219038
NORTHING	6342795

NOTES:

1. THE NEW SAPN HIGH VOLTAGE OVERHEAD POWER LINE EXTENSION AND NBN CONSUMER MAINS 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: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495

FOR CONSTRUCTION

A 16.11.15 FOR CONSTRUCTION (DRAFT)
01 11.11.14 PRELIMINARY ISSUE

Rev. Date Revision Details

aurecon
Aurecon Australasia Pty Ltd ABN 54 005 139 873

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Drawing Title:

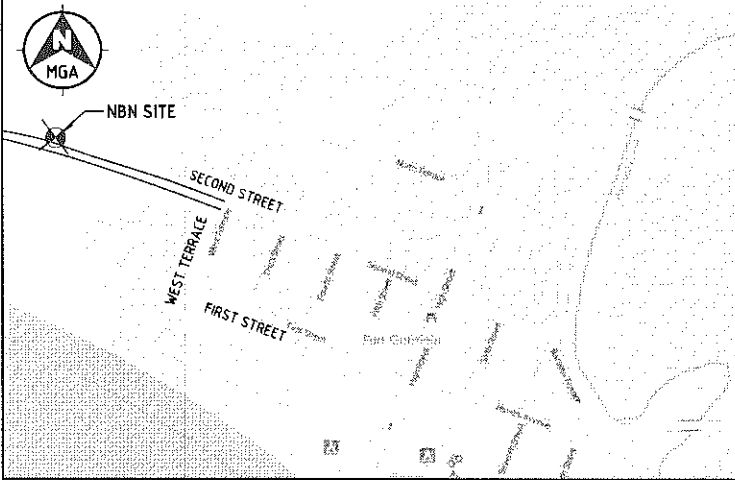
OVERALL
SITE PLAN

Drawing No.

5PIR-51-08-PORR-C2

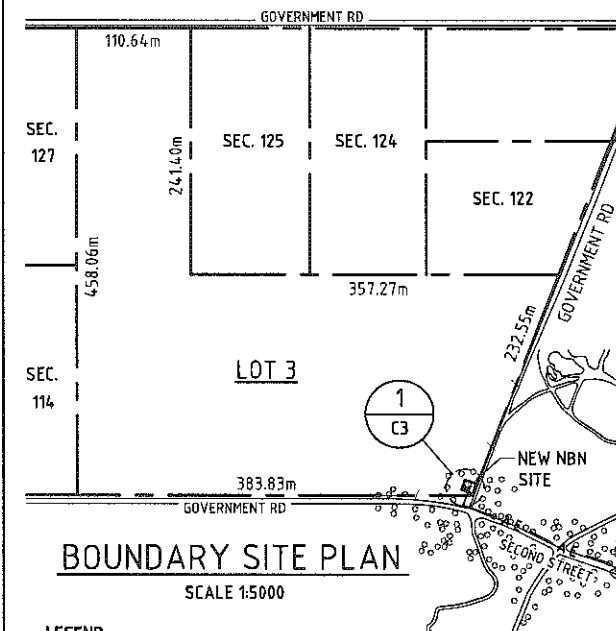
Revision

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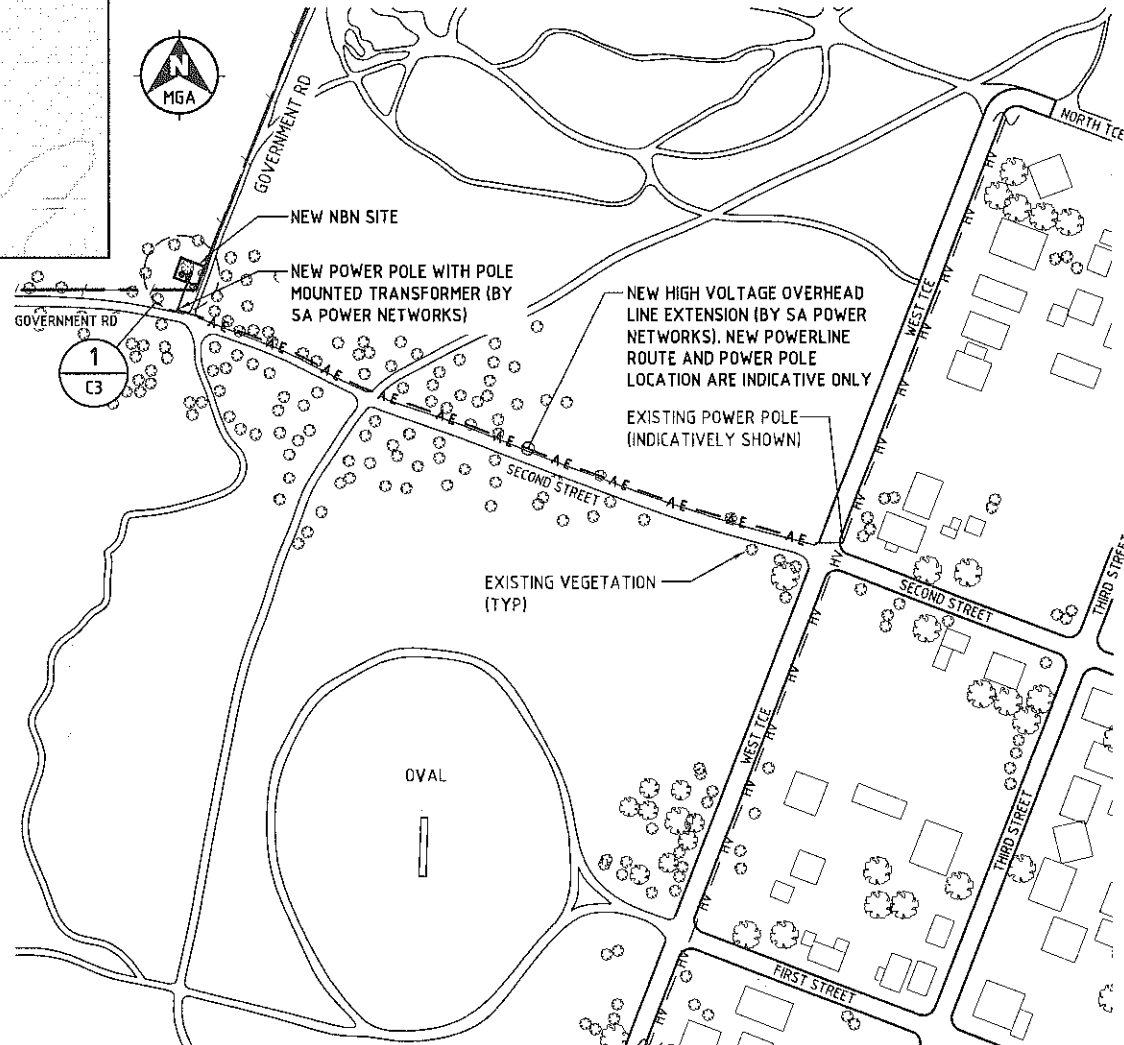


BOUNDARY SITE PLAN

SCALE 1:5000

LEGEND

- AE — AE — NEW SAPN HIGH VOLTAGE O/H POWER LINE EXTENSION
- — — — — BOUNDARY
- HV — HV — EXISTING SAPN HIGH VOLTAGE OVERHEAD POWER LINE
- / --- / --- EXISTING FENCE



OVERALL SITE PLAN

SCALE 1:2500



NBN SURVEY PEG
779 534.044
6 342 993.605
R.L. 2.834m

75mm THICK GRAVEL LAYER OVER WEEDMAT,
REFER TO DRAWING NBN-STD-0012

EXISTING TREE TO BE REMOVED

NEW NBN 25m MONOPOLE
WITH CIRCULAR HEADFRAME, REFER INGAL EPS
DRAWING GA8851 SHEETS 1-5 & GA7897 FOR
DETAILS

NEW NBN MONOPOLE FOUNDATION,
REFER TO OSBORNE ENGINEERS
DRAWING BR15-0565-01A FOR
DETAILS

NBN SURVEY PEG
779 530.622
6 342 984.209
R.L. 2.883m

NEW NBN Ø900 PARABOLIC ANTENNA
(TO BEETALOO NORTH). REFER TO INGAL EPS
DRAWING GA8851 SHEET 1 FOR MOUNTING DETAILS

NEW 300mm WIDE CABLE LADDER WITH 1-OFF CABLE LADDER
SUPPORT POST AND NEW 1-OFF NBN GPS UNIT, REFER TO
DRAWINGS NBN-STD-0013, 0014, 0015 & 0031 FOR DETAILS

NEW NBN 1.5m HIGH ELEVATED STEEL PLATFORM, REFER TO
DRAWINGS NBN-STD-0023, 0039, 0040, 0043 & 0044 FOR
DETAILS

NEW NBN UNDERGROUND CONSUMER MAINS IN HDuPVC
ELECTRICAL CONDUIT TO NEW SAPN POLE & TRANSFORMER

LEGEND

- NUC — NUC — NEW NBN UNDERGROUND CONSUMER MAINS CABLE
IN HDuPVC ELECTRICAL CONDUIT
- ec — ec — FINAL ELECTRICAL CIRCUITS IN 2x 50Ø HDuPVC
UNDERGROUND ELECTRICAL CONDUIT
- T — EXISTING UNDERGROUND TELSTRA CABLE (INDICATIVELY SHOWN)
- / — / — NBN COMPOUND FENCE
- / — / — EXISTING FENCE

NEW NBN POWER DISTRIBUTION
BOARD/METER PANEL ON H-FRAME
FIXED TO PLATFORM HANDRAIL,
REFER TO DRAWINGS NBN-STD-0039,
NBN-STD-0040 AND E4 FOR DETAILS

DETAIL
SCALE 1:100

1
C2

EXISTING UNSEALED DIRT ROAD

NEW NBN PANEL ANTENNA WITH NBN
REMOTE RADIO UNITS FIXED BEHIND (TYP).
REFER TO INGAL EPS DRAWING GA8851
SHEETS 1 & 2 FOR HEADFRAME DETAILS

12000
(NBN COMPOUND)

2800
(SETOUT)

20°00'30"

10000
(NBN COMPOUND)

6300
(SETOUT)

2800
(SETOUT)

290°00'30"

4600
(SETOUT)

200°00'30"

NBN SURVEY PEG
779 545.330
6 342 989.495
R.L. 2.992m

EXISTING DIRT MOUND (RUNNING ALONG
SIDE DIRT ROAD) TO BE REMOVED TO
ALLOW FOR SITE ACCESS - DETERMINE ON
SITE (NOT SHOWN FOR CLARITY)

EXISTING TREE TO BE REMOVED

NEW NBN OUTDOOR CABINET SSC-02 INSTALLED ON
NBN 1.5m HIGH ELEVATED STEEL PLATFORM, REFER TO
DRAWINGS NBN-STD-0039, 0040, 0043 & 0044 FOR DETAILS.
CABINET DOOR HINGES TO BE INSTALLED AS SHOWN

NEW NBN 2.4m HIGH CHAINWIRE SECURITY FENCE
WITH 3.0m WIDE ACCESS GATES, REFER TO DRAWING
STD-0012 FOR DETAILS

FINAL ELECTRICAL CIRCUITS, INSTALL AS PER
AS/NZS 3000

NBN SURVEY PEG
779 541.908
6 342 980.099
R.L. 2.900m

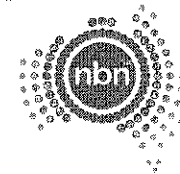
NBN OUTDOOR CABINET SSC-02
(FUTURE LOCATION)

EXISTING VEGETATION TO BE TRIMMED AS REQUIRED
(OTHER SURROUNDING VEGETATION TO BE
CLEARED/TRIMMED - TO BE DETERMINED ON SITE)

NOTES:

- REFER TO DRAWINGS E0 TO E5 FOR ELECTRICAL SPECIFICATION, EARTHING, CABLE
RETICULATION AND SINGLE LINE DIAGRAM DETAILS
- CONSTRUCTOR SHALL LOCATE AND IDENTIFY ANY EXISTING UNDERGROUND SERVICES
PRIOR TO THE COMMENCEMENT OF ANY WORK ON SITE
- NBN CONSUMER MAINS 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
- NON-STANDARD HINGE ARRANGEMENT TO SSC-02 TO BE USED.

Client:



Client:



Client:

Project:

NATIONAL BROADBAND
NETWORK
SITE No: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495

FOR CONSTRUCTION

A 16.11.15 FOR CONSTRUCTION (DRAFT)
02 13.11.14 AZIMUTH UPDATE & COMPOUND SIZE CHANGE
01 11.11.14 PRELIMINARY ISSUE

Rev Date Revision Details



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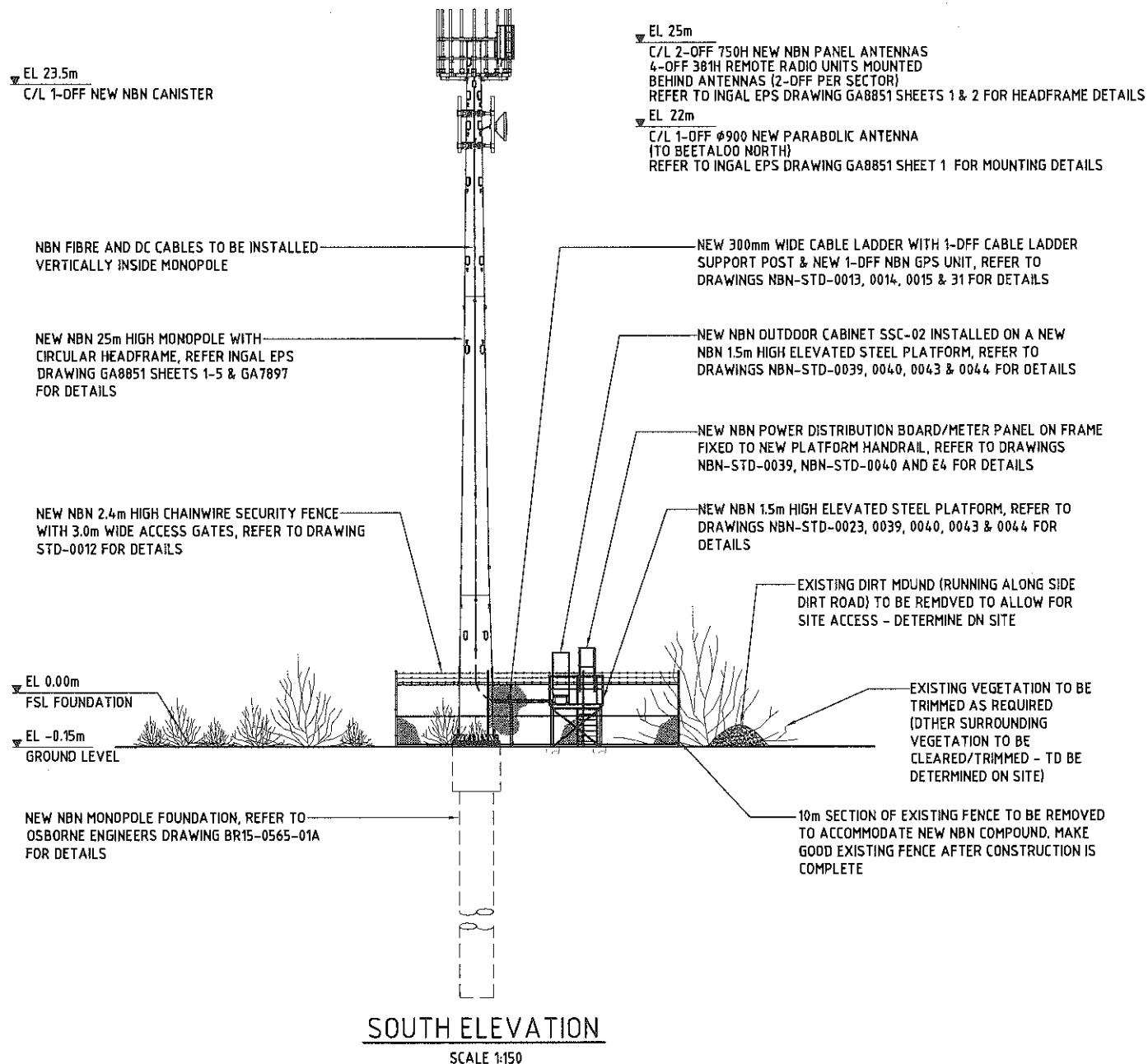
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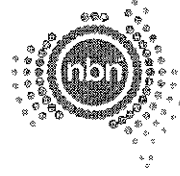


Drawing Title:

SITE SETOUT
PLAN

Drawing No.
5PIR-51-08-PORR-C3

Revision
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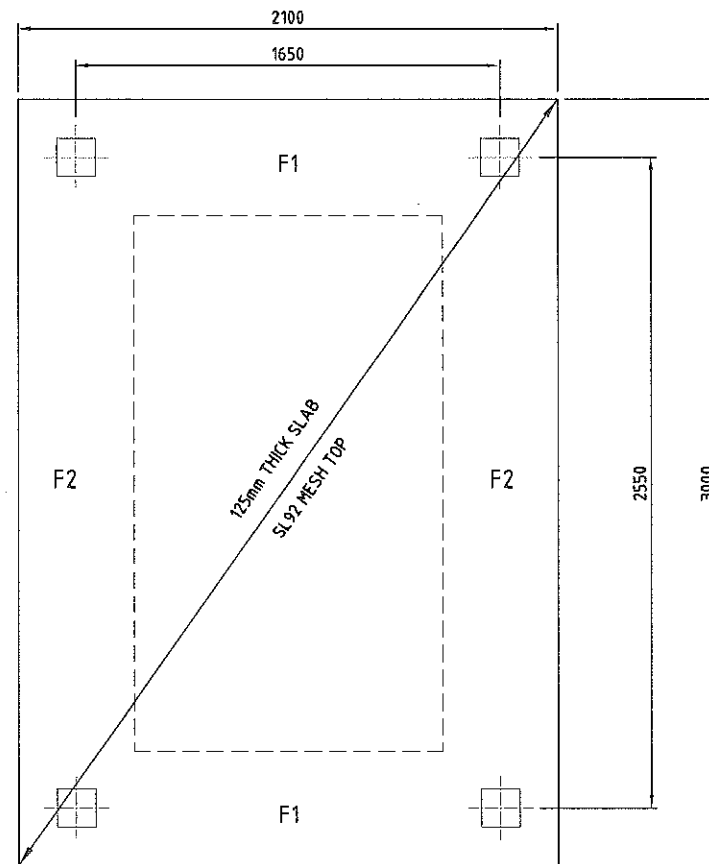
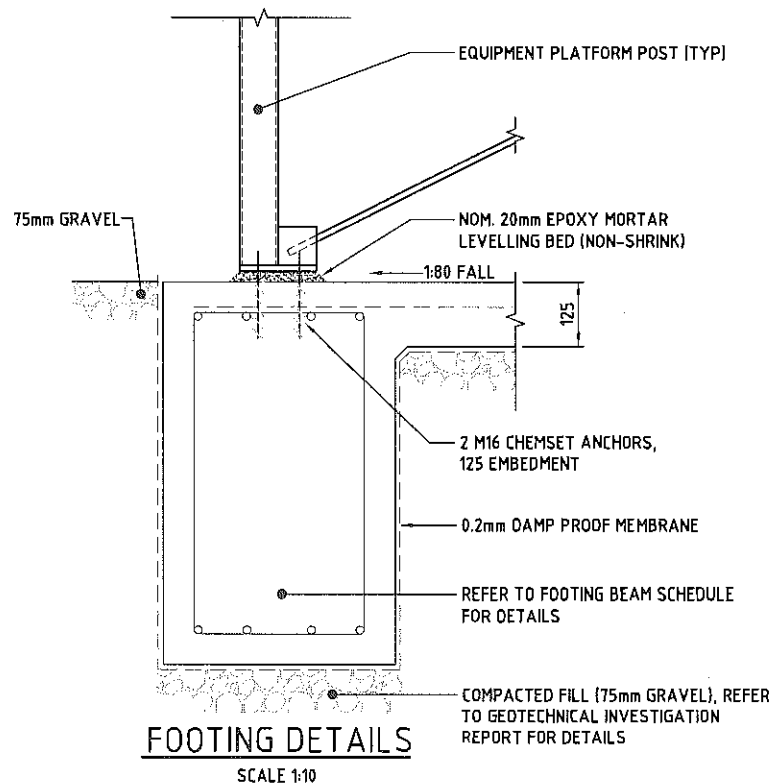
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NATIONAL BROADBAND NETWORK SITE No: 5PIR-51-08-PORR PORT GERMEIN LOT 3 GOVERNMENT ROAD PORT GERMEIN SA 5495													
FOR CONSTRUCTION													
<table border="1"> <tr> <td>A</td> <td>16.11.15</td> <td>FOR CONSTRUCTION (DRAFT)</td> </tr> <tr> <td>02</td> <td>15.11.16</td> <td>AZIMUTH UPDATE & COMPOUND SIZE CHANGE</td> </tr> <tr> <td>01</td> <td>11.11.16</td> <td>PRELIMINARY ISSUE</td> </tr> <tr> <td>Rev</td> <td>Date</td> <td>Revision Details</td> </tr> </table>		A	16.11.15	FOR CONSTRUCTION (DRAFT)	02	15.11.16	AZIMUTH UPDATE & COMPOUND SIZE CHANGE	01	11.11.16	PRELIMINARY ISSUE	Rev	Date	Revision Details
A	16.11.15	FOR CONSTRUCTION (DRAFT)											
02	15.11.16	AZIMUTH UPDATE & COMPOUND SIZE CHANGE											
01	11.11.16	PRELIMINARY ISSUE											
Rev	Date	Revision Details											
 Aurecon Australasia Pty Ltd ABN 54 606 130 873													
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APPROVED:													
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SITE ELEVATION AND DETAILS													
Drawing No:	Revision												
5PIR-51-08-PORR-C4	A												

C1. ALL WORKMANSHIP AND MATERIALS IN ACCORDANCE WITH AS 3600.
C2. MINIMUM COVER (mm) TO ALL REINFORCEMENT UNLESS OTHERWISE SHOWN AS FOLLOWS :

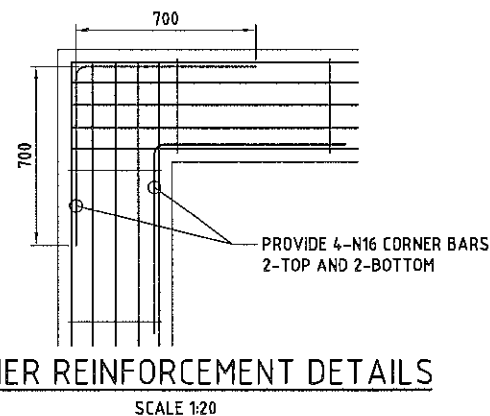
ELEMENT	f ' c MPa	SURFACE IN CONTACT WITH GROUND	SURFACES IN INTERIOR ENVIRONMENT	ABOVE GROUND EXTERIOR ENVIRONMENT	MEMBERS IN WATER
PLINTH	32	75	-	50	-

- C3. WELDING OF REINFORCEMENT IS NOT PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.
C4. ALL REINFORCEMENT SECURELY SUPPORTED IN ITS CORRECT POSITION DURING CONCRETING BY APPROVED BAR CHAIRS, SPACERS OR SUPPORT BARS. THE CHAIR MATERIAL TO SUIT THE EXPOSURE CONDITIONS..
C5. CONCRETE STRENGTH $f_{cu}=32 \text{ MPa}$ AT 28 DAYS UNLESS NOTED OTHERWISE.
C6. ALL COED BARS HAVE AN INTERNAL DIAMETER OF 5 db UNLESS NOTED OTHERWISE.
C7. CONCRETE CONTINUOUSLY CURED FOR AT LEAST SEVEN DAYS IMMEDIATELY AFTER POURING BY AT LEAST ONE OF THE FOLLOWING METHODS: COVERING WITH HESSIAN OR SIMILAR FABRIC KEPT CONTINUOUSLY MOIST, COVERING WITH IMPERMEABLE PLASTIC SHEETING LAPPED AT ALL JOINTS AND SECURELY HELD DOWN, SPRAYING WITH LIQUID MEMBRANE-FORMING COMPOUND TO PREVENT LOSS OF MOISTURE FROM EXPOSED TOP AND SIDE SURFACES.
C8. REFER TO GEOTECHNICAL INVESTIGATION REPORT 4863002 BY A.S. JAMES-BEAR PTY.LTD. DATED 5th May 2015 FOR COMPACTED FILL DETAILS

FOOTING BEAM SCHEDULE		
MARK	WIDTH & DEPTH	REINFORCEMENT
F1	450x750	4 N16 T, 4 N16 B, W8 LIGS @ 200 CTS
F2	450x750	4 N16 T, 4 N16 B, W8 LIGS @ 200 CTS



FOOTING PLAN
SCALE 1:20



Project:

NATIONAL BROADBAND
NETWORK
SITE No: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495

FOR CONSTRUCTION

A	16.11.15	FOR CONSTRUCTION (DRAFT)
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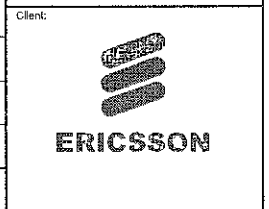
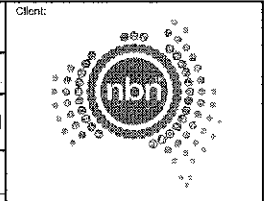
ELEVATED PLATFORM FOOTING DETAILS

Drawing No.
5PIR-51-08-PORR-S1

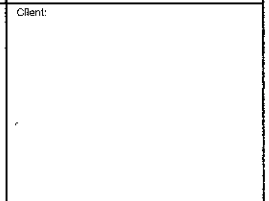
Revislon
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NBN ANTENNA CONFIGURATION - 3400 MHz

SECTOR	SYMBOL	PANEL ANTENNA DETAIL							MAIN FEEDER DETAIL				RRU DETAIL				RF TAIL		RET CABLE	
		TYPE	DIMENSION HxWxD	C/L HEIGHT	AZIMUTH (TN)	P1 & P2 E-TILT	P3 & P4 E-TILT	MECH TILT	TYPE	OVERALL LENGTH	CANISTER HEIGHT	CANISTER TO RRU LENGTH	TYPE	QTY	LOCATION	HEIGHT	TYPE	LENGTH	TYPE	LENGTH
1	①	ARGUS-SSPX310R	750x300x115	25m	95°	6°	6°	0°	1-OFF H&S HYBRID MKII 6/6 27.5mm	4.0m	23.5m	2m	2-OFF RADIO 22W-B42	2-OFF	BEHIND ANTENNA	25m	H&S 1/2" BIRD PROOFED LISCA CABLE	1.5m	1/TSR 484 21/2000	1.5m
2	②	ARGUS-SSPX310R	750x300x115	25m	155°	6°	6°	0°				2m	2-OFF RADIO 22W-B42	2-OFF	BEHIND ANTENNA	25m		1.5m	1/TSR 484 21/2000	1.5m
3																				
4																				
5																				
6																				



ANTENNA	SYMBOL	ANTENNA DETAIL						MAIN FEEDER DETAIL	
		TYPE	DIMENSION HxWxD	C/L HEIGHT	AZIMUTH (TN)	DESTINATION	QUANTITY RAU	TYPE	OVERALL LENGTH
A	Ⓐ	PARABOLIC	Ø900	22m	119°	BEETALOO NORTH	1-OFF	LDF1-50	35m
B									
C									
D									
GPS		KRE 101 2082/1	Ø69x96	2.5m	N/A			LDF1-50	10m



Project:

NATIONAL BROADBAND
NETWORK
SITE No: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
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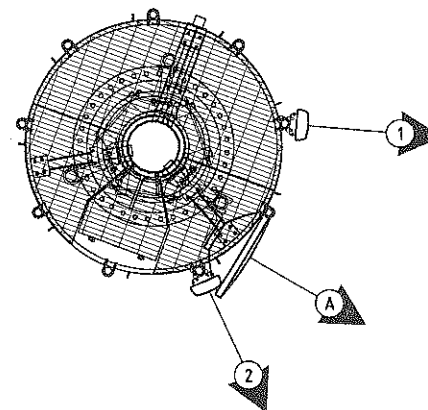
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ANTENNA
CONFIGURATION
AND SETOUT PLAN

Drawing No:
5PIR-51-08-PORR-A1

Revision
A



ANTENNA SETOUT PLAN

SCALE 1:50

ELECTRICAL INSTALLATION

THE INSTALLATION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE AS/NZS 3000 WIRING RULES, AS/CA 5009 INSTALLATION REQUIREMENTS FOR CUSTOMER CABLING, AS/NZS 3010 FOR ALTERNATE GENERATOR SUPPLY, AS/NZS 1768 FOR LIGHTNING PROTECTION, AS/NZS 3015 FOR EXTRA-LOW VOLTAGE O.C POWER SUPPLIES & SERVICE EARTHING WITHIN PUBLIC TELECOMMUNICATIONS NETWORKS, NBN STANDARD CONSTRUCTION NOTES NBN-STD-0001, NBN RAN INSTALLATION (DESIGN/CONSTRUCTION SPECIFICATION) AND ALL OTHER REGIONAL AND LOCAL REQUIREMENTS OF THE POWER SUPPLY AUTHORITY. CONSTRUCTOR SHALL VISIT SITE PRIOR TO CONSTRUCTION TO BECOME FAMILIAR WITH THE SCOPE OF WORK, EXACT LOCATION AND HEIGHTS OF THE ELECTRICAL INSTALLATION SHALL BE DETERMINED ON SITE TO SUIT THE CLIENT AND THE SERVICE. THIS ELECTRICAL SPECIFICATION IS TO BE READ IN CONJUNCTION WITH DRAWINGS C2, C3, E1, E2, E4 AND E5.

1. STANDARD OF WORK

ALL INSTALLATION WORK SHALL BE CARRIED OUT BY A LICENSED ELECTRICIAN. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIALS AND PERFORM ALL RECTIFICATION WORKS REQUIRED AT THE PROPERTY TO COMPLY WITH ALL RELEVANT STANDARDS AND LOCAL POWER SUPPLY AUTHORITY SPECIFICATIONS TO ALLOW THE ELECTRICITY TO BE CONNECTED AT THE SITE. LIAISE AND COORDINATE WITH POWER SUPPLY AUTHORITY BEFORE COMMENCEMENT OF ANY WORK.

2. MAINS SUPPLY

A FORM-B APPLICATION FOR SUPPLY HAS BEEN SUBMITTED TO SA POWER NETWORKS AND THEY HAVE AGREED TO SUPPLY NBN FROM A NEW POINT OF SUPPLY. SAPN WILL EXTEND THE HIGH VOLTAGE SINGLE PHASE LINE TO A NEW HIGH VOLTAGE POWER POLE WITH POLE TOP TRANSFORMER. SAPN TO ESTABLISH NEW POINT OF SUPPLY FOR NBN FACILITY, WHICH IS AGREED AS 63A, SINGLE PHASE. REFER TO C2 & E5 DRAWINGS FOR LOCATION OF SUPPLY POINT AND E1 & E4 FOR DETAILS. CONTRACTOR TO LIAISE & COORDINATE WITH SA POWER NETWORKS PRIOR TO THE COMMENCEMENT OF ANY WORK TO CONFIRM POINT OF SUPPLY, DETAILS OF CONNECTION AND METERING LOCATION. SA POWER NETWORKS REFERENCE NO: CS 500 001 167
CONTACT PERSON: MARK MENADUE PH: (08) 8842 6950 Mob: 0427 012 630

EMAIL: mark.menadue@sapowernetworks.com.au

3. APPLICATION FOR ELECTRICAL SUPPLY

A COMPLETED FORM-A (NEW SUPPLY) MUST BE SUBMITTED TO SA POWER NETWORKS PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR TO LIAISE AND COORDINATE WITH SA POWER NETWORKS TO COORDINATE PROJECT COMPLETION TIMELINES. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NOTICES TO SA POWER NETWORKS AND OTHER PARTIES ONSITE, MAKE RELEVANT APPLICATIONS, PAY FEES AND OBTAIN PERMITS FOR THE COMPLETION OF THE PROPOSED INSTALLATION.

4. NBN CONSUMER'S MAINS

SUPPLY AND INSTALL SITE CONSUMER'S MAIN FROM THE NEW SAPN POWER POLE TO THE NBN METER PANEL/PDB IN UNDERGROUND HDUPVC ELECTRICAL CONDUIT. REFER TO DRAWINGS E1 & E4 FOR DETAILS AND C3 & E5 FOR LOCATION. ELECTRICAL CONTRACTOR SHALL INCLUDE ALL REQUIRED MECHANICAL PROTECTION OF CONSUMER'S MAIN WHILE ON POWER POLE AS PER SAPN'S SERVICE AND INSTALLATION RULES.

5. FINAL SUB-CIRCUITS

ELECTRICAL CONTRACTOR TO INSTALL FINAL SUB-CIRCUITS IN ACCORDANCE TO AS/NZS 3000 AND IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION. A 2.0% VOLTAGE DROP IS ALLOWED FOR FINAL SUB-CIRCUIT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SIZE THE CABLE TO MEET ABOVE MENTIONED REQUIREMENT.

6. NBN METERING

INSTALL A SA POWER NETWORK'S PATTERN APPROVED SINGLE PHASE KILLOWATT HOUR METER FOR NBN IN NEW SITE METER PANEL. PROVIDE NBN AND SAPN WITH PAOLOCK IN DAISY CHAIN ARRANGEMENT AS REQUIRED FOR ACCESS TO SITE. THE METER PANEL LOCK SHALL BE COMPATIBLE WITH SA POWER NETWORKS MASTER KEY SYSTEM.

7. EMERGENCY GENERATOR INLET SOCKET

A STANDARD THREE-PHASE EMERGENCY INLET SOCKET SHALL BE INSTALLED ON THE NBN POWER DISTRIBUTION BOARD ON H-FRAME. THE CONTRACTOR SHALL BE AWARE OF AND ADHERE TO THE SUPPLY AUTHORITY REQUIREMENTS FOR PORTABLE GENERATORS CONNECTED TO PERMANENT INSTALLATIONS.

8. LABELLING

FIX STANDARD LABELS TO ALL FUSE, METER AND SWITCH POSITIONS. LABELS SHALL BE BLACK LETTERING ON WHITE BACKGROUND "TRAFFOLYTE". LETTERING SHALL BE MINIMUM 8mm HIGH. PROVIDE A LAMINATED SKETCH IN THE NBN METER PANEL/POWER DISTRIBUTION BOARD TO INDICATE SIZE AND DIRECTION OF THE SERVICE.

9. UNDERGROUND SERVICES

ELECTRICAL SERVICE ROUTES SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. THE CONTRACTOR IS TO DETERMINE A PRACTICAL / ECONOMICAL ROUTE BEFORE THE COMMENCEMENT OF WORK. ELECTRICAL CONTRACTOR SHALL IDENTIFY AND CONFIRM EXACT LOCATION OF ALL RELEVANT EXISTING UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORK, SEARCHES SHOULD BE CONDUCTED BY "DIAL BEFORE YOU DIG" AND ACCREDITED UNDERGROUND SERVICE LOCATORS. ALL WIRING SYSTEM SHALL BE INSTALLED AND ENCLOSED BY APPROVED METHODS WHICH WILL READILY PERMIT CABLES TO BE DRAWN IN OR REPLACED AFTER COMPLETION OF CONSTRUCTION. UNDERGROUND POWER CABLES WILL NOT BE LAID WITHIN NOR CROSS OVER A DESIGNATED ACCESS ROUTE, UNLESS UNAVOIDABLE. WHERE UNDERGROUND POWER IS LAID WITHIN AN ACCESS ROUTE, THE TRENCH MUST BE COMPACTED AS PER RAN MANUAL SPECIFICATIONS TO AVOID WASH OUT AND RUTTING. ELECTRICAL CABLE PIT/PITS SHALL BE PROVIDED/ INSTALLED AS PER 'NBN RAN INSTALLATION' DESIGN/CONSTRUCTION SPECIFICATION, SECTION 11.1.6 'UNDERGROUND CONDUIT AND PITS'. ELECTRICAL CABLE DRAIN PITS SHALL BE PROVIDED FOR UNDERGROUND INSTALLATIONS AS SHOWN ON THE SITE DRAWING AND AS PER SA POWER NETWORKS REQUIREMENT. CABLE MARKER AT EACH CHANGE OF DIRECTION WHERE PITS ARE NOT SPECIFIED.

10. EARTHING

PROVIDE EARTHING GENERALLY IN ACCORDANCE WITH DRAWING NUMBER E2. NBN OUTDOOR UNITS SHALL ALSO BE EARTHED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. REFER TO NBN STANDARD DRAWING NBN-STD-0021 SHT-1 & SHT-2 FOR STANDARD DETAILS. ELECTRICIAN TO ENSURE CONNECTIONS & METHODS COMPLY WITH AS/NZ/1768 FOR LIGHTNING PROTECTION. ELECTRICAL CONTRACTOR TO ENSURE THAT EARTHING RESISTANCE TO BE LESS THAN 5 Ohms PRIOR TO LEAVING SITE. MEASUREMENT AND RECORD OF EARTHING SYSTEM RESISTANCE SHALL BE AS PER NBN RAN CONSTRUCTION (DESIGN/CONSTRUCTION SPECIFICATION) SECTION 12.15 AND REFER TO NBN RAN INSTALLATION (DESIGN/CONSTRUCTION SPECIFICATION) SECTION-12, 'SITE EARTHING' FOR GENERAL RULE, REQUIREMENT AND GUIDANCE. IF EARTH RESISTANCE OF 5 OHMS OR LESS CANNOT BE ACHIEVED, REPORT THE FINDINGS TO THE PROJECT ENGINEER FOR FURTHER ASSESSMENT AND DIRECTION.

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Drawing Title:

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SPECIFICATION

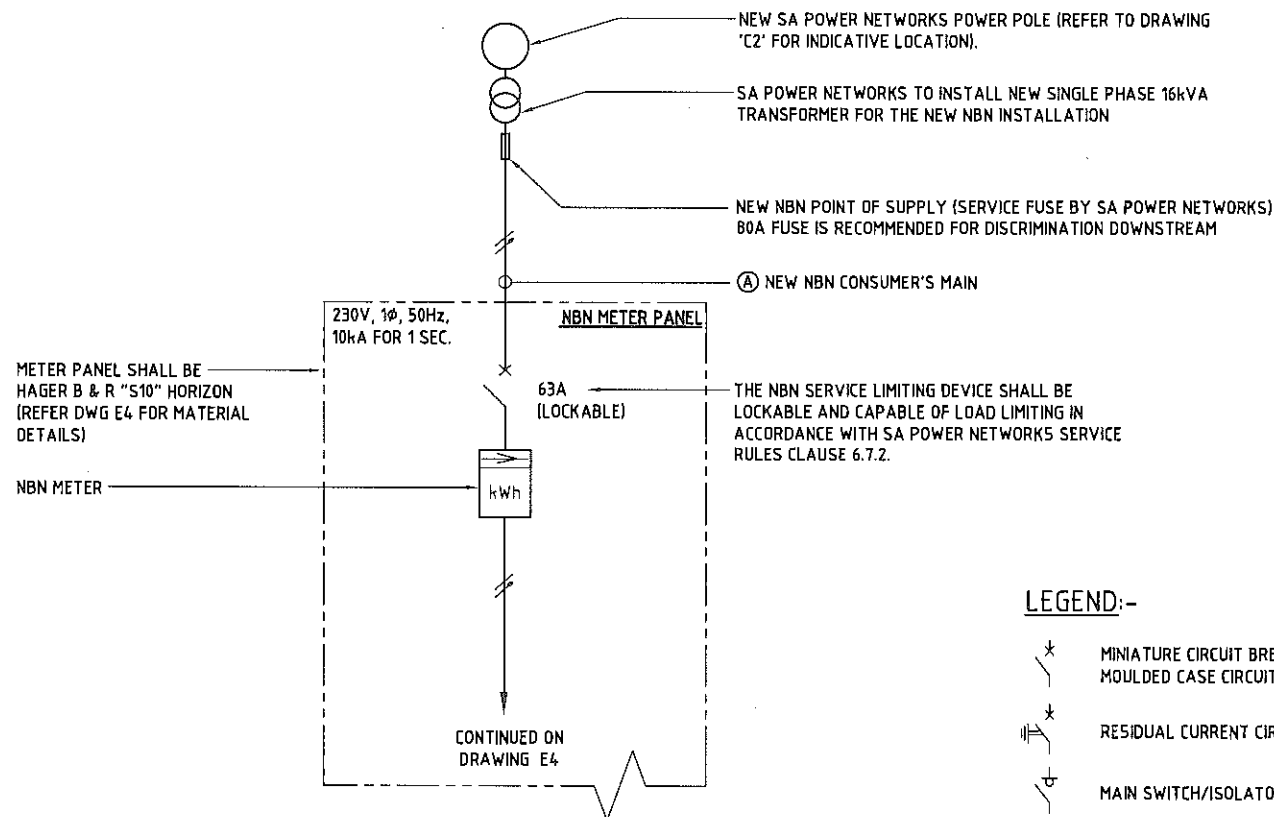
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CABLE SCHEDULE							
CABLE	LENGTH (APPROX)	CABLE TYPE	CORES	ACTIVE (SIZE)	NEUTRAL (SIZE)	EARTH (SIZE)	INSTALLATION METHOD
A	20m	Cu XLPE/PVC	2 x 1C	16mm ²	16mm ²	-	UNDERGROUND Ø50mm HDuPVC ELECTRICAL CONDUIT C/W DRAW WIRE



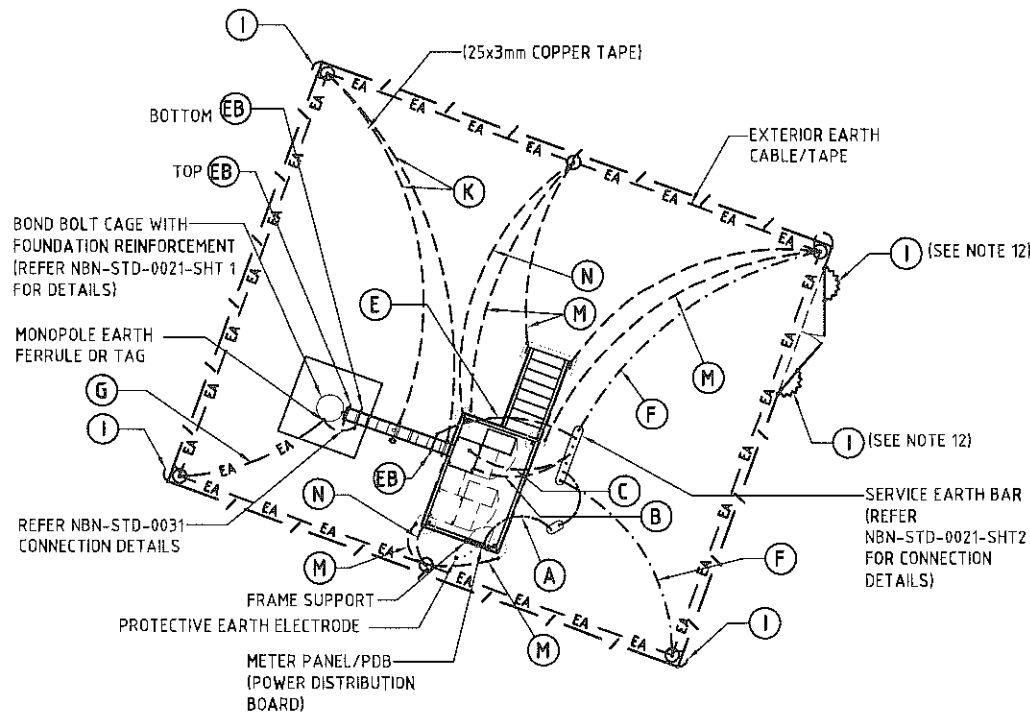
LEGEND:-

	MINIATURE CIRCUIT BREAKER (MCB) OR MOULDED CASE CIRCUIT BREAKER (MCCB)
	RESIDUAL CURRENT CIRCUIT BREAKER (RCCB)
	MAIN SWITCH/ISOLATOR
	THREE PHASE CIRCUIT
	SINGLE PHASE CIRCUIT
	NEUTRAL
	EARTH
	SUPPLY AUTHORITY TRANSFORMER
	SUPPLY AUTHORITY POLE
	SUPPLY AUTHORITY DIRECT CONNECTED SINGLE PHASE KILOWATT-HOUR METER

NOTES:

- LIAISE AND CO-ORDINATE WITH THE POWER UTILITY FOR NEW CONNECTION FOR NBN AND FOR ALL NEW WORK.
- LIAISE AND COORDINATE WITH LANDLORD ON-SITE FOR ALL WORKS.
- ELECTRICIAN TO ENSURE EARTHING COMPLY WITH AS/NZS 3000 SECTION 5 AND TO ENSURE ALL EQUIPMENT AND ASSOCIATED WIRING COMPLY WITH AS/NZS 3010 FOR ALTERNATE GENERATOR SUPPLY.
- INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE SA POWER NETWORKS SERVICE AND INSTALLATION RULES.
- REFER TO THE SPECIFICATION ON DRAWING E0 'UNDERGROUND SERVICES' FOR GUIDANCE ON CABLE RETICULATION/INSTALLATION.
- ALL EXISTING SURFACES, KERBS, GUTTERS, INVERTS, VEHICLE CROSSINGS, AND PAVEMENTS DISTURBED DURING INSTALLATION SHALL BE REINSTATED AND MADE GOOD BY THE CONTRACTOR TO THE EXISTING LEVELS AND DIMENSIONS.
- MINIMUM DEPTH OF LAYING AND PROTECTIONS OF UNDERGROUND WIRING SHALL BE INSTALLED IN ACCORDANCE WITH AS/NZS 3000 CLAUSE 3.11 AND MINIMUM SEPARATION TO OTHER SERVICES SHALL BE IN ACCORDANCE WITH TABLE 3.7 OF AS/NZS 3000

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SINGLE LINE		
DIAGRAM		
Drawing No.	Revision	
5PIR-51-08-PORR-E1	A	



SITE EARTHING PLAN

SCALE : NTS

LEGEND:

- PROTECTIVE EARTH ELECTRODE
- ⊙ EARTHING ELECTRODE IN INSPECTION SLEEVE (TRAFFICABLE INSPECTION SLEEVE WHERE REQUIRED)
- 16mm² STRANDED COPPER GREEN / YELLOW PVC CABLE
- 35mm² STRANDED COPPER GREEN / YELLOW PVC CABLE
- EA 70mm² BARE COPPER CABLE / 25x3 mm COPPER TAPE
- 70mm² STRANDED COPPER GREEN / YELLOW PVC CABLE
- ~~~~~ FLEXIBLE BRAIDED STRAP FOR FENCE BONDING
- ⊙ EARTH BAR (RRU, FEEDER AND RAU EARTHING)
- ⊙ LINK BAR LOCATION BELOW PDB IN CABLE LADDER ON H-FRAME
- / — NEW NBN COMPOUND FENCE

EARTHING INSTALLATION

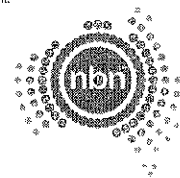
ALL ITEMS SHALL BE EARTHED GENERALLY AS SHOWN ON THIS DRAWING. FOR CONNECTION REFERENCE NUMBER, CABLE SIZE, REFER BELOW AND SITE DESIGN DRAWINGS. FOR SPECIFICATIONS AND CONNECTION DETAILS REFER TO "NBN RAN INSTALLATION" DESIGN/CONSTRUCTION SPECIFICATION, SECTION 12 "SITE EARTHING".

TYPE	DIAMETER	QUANTITY	DEPTH	THEORETICAL EARTH RESISTANCE
COPPER BONDED HARDENED STEEL ROD	13mm	6	3m	0.16Ω

ITEM	DESCRIPTION
(A)	SEB TO POWER SYSTEM EARTH BAR VIA LINK BAR
(B)	BASE FRAME TO SEB
(C)	EQUIPMENT EARTH TO SEB
(E)	EARTH BAR TO SEB
(F)	SEB TO ELECTRODE (2-OFF)
(G)	MONOPOLE TO ELECTRODE
(H)	ANTENNA FRAME TO EQUIPOTENTIAL
(I)	FENCING AND GATES
(K)	GANTRY SUPPORT TO ELECTRODE (SEE NOTE 15)
(M)	CONCRETE PIER REO TO ELECTRODE
(N)	PLATFORM SUPPORT STEEL WORK TO ELECTRODE

NOTES:

- ALL EARTHING TO COMPLY WITH AS/NZS 1768 & AS/NZS 3000 SECTION 5.3.2.
- ALL EARTHING ELECTRODES SHALL BE DRIVEN TO DEPTH AS SHOWN IN TABLE. ADDITIONAL EARTH ELECTRODE SHALL BE INSTALLED TO MINIMISE LENGTH OF EARTH CABLE TO ELECTRODE FROM PLATFORM IF REQUIRED.
- IF EARTHING ELECTRODES ARE INSTALLED BY DRILLING, INSTALL ELECTRODES IN 75mm MINIMUM DIAMETER HOLES AND BACKFILL WITH APPROPRIATE EARTHING ENHANCING COMPOUND SUCH AS SAND-CEMENT MIX, BENTONITE GYPSUM MIX OR GRAPHITE MIX (GEM).
- PROVIDE MINIMUM OF 3-OFF EARTH BARS: ON HEADFRAME OR TURRET, ON MONOPOLE BELOW CABLE ENTRY PORT AND AT THE ODC.
- SERVICE EARTH BAR SHALL BE FACE FIXED TO ODC BASE FRAME VIA INSULATORS.
- WHERE LANDSCAPING IS REQUIRED, THE CONTRACTOR SHALL ENSURE THAT EXCAVATION FOR LANDSCAPING IS COMPLETE BEFORE INSTALLATION OF THE EARTH TAPE AND LEADS TO AVOID DAMAGE TO THE EARTHING SYSTEM.
- PROTECTIVE EARTH ELECTRODE TO BE CONFIRMED WITH THE RELEVANT LOCAL POWER AUTHORITY.
- INSTALL NEW EARTH BAR CONNECTED TO MONOPOLE STUD IF INSUFFICIENT HOLES.
- PROVIDE LINK BAR "TRAFFOLYTE" LABEL WHITE BACKGROUND AND MINIMUM 8mm HIGH BLACK LETTERING "BONDING TERMINAL / LINK BAR BEHIND"
- PROVIDE BOTTOM EARTH BAR ON MONOPOLE BELOW CABLE TRAY AS PER NBN-STD-0031.
- MAKE 1-HOLE LUG CONNECTION TO FENCE/SUPPORT POSTS (WITH TAPPED HOLE) FOR EARTHING BONDS.
- 2mm MINIMUM THICKNESS ON 35mm² EQUIVALENT FLEXIBLE BRAIDED STRAP FOR FENCE AND GATE BONDING.
- EARTH CABLES FROM SERVICE EARTH BAR TO ELECTRODE AND EARTH CABLES FROM PLATFORM TO ELECTRODES SHALL BE INSTALLED TO THE NEAREST EARTH ELECTRODE WITH MINIMUM BENDS/TURNING RADIUS. CABLES SHALL BE INSTALLED IN UV STABILISED CORRUGATED CONDUIT WHERE EXPOSED.
- ALL CABLE LADDER POSTS SHALL BE EARTHED VIA EARTH LEAD TO THE NEAREST ELECTRODE.
- READ THIS DRAWING IN CONJUNCTION WITH NBN STANDARD DRAWINGS NBN-STD-0039, NBN-STD 0040 AND NBN-STD 0044.



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SITE EARTHING PLAN

Drawing No:
5PIR-51-08-PORR-E2

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SITE MEN LINK SIZE AS PER AS/NZS 3000 FOR MAIN SUPPLY & GENERATOR MEN CONNECTION

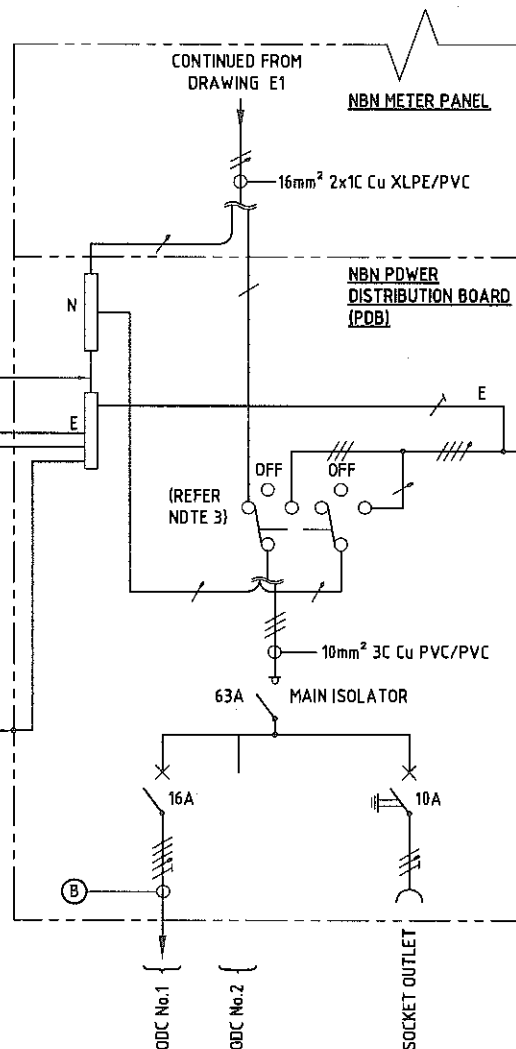
1 x 1C 6mm² Cu PVC/PVC G/Y EARTH CABLE IN CONDUIT (SIZE AS PER AS/NZS3000)

PROTECTIVE EARTH STAKE AS PER AS/NZS 3000

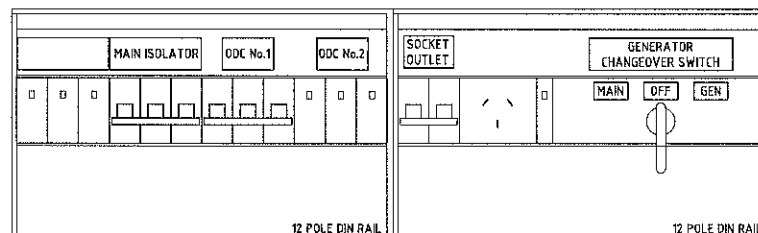
EARTH LINK BAR

TD SEB

ENCLOSURE CHASSIS



CABLE SCHEDULE							
CABLE	LENGTH (APPROX)	CABLE TYPE	CORES	ACTIVE (SIZE)	NEUTRAL (SIZE)	EARTH (SIZE)	INSTALLATION METHOD
B	5m	Cu XLPE/PVC	1 x 4C + E	10mm ²	10mm ²	4mm ²	UNDERGROUND Ø50mm HDuPVC ELECTRICAL CONDUIT C/W DRAW WIRE



PDB LAYOUT

NOTE:
SINGLE PHASE MAIN SUPPLY

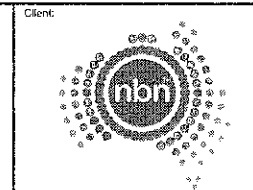
NBN POWER SUPPLY MATERIAL LIST			
ITEM	NO OFF	DESCRIPTION	DETAILS
1	1	ENCLOSURES NBN METER PANEL/POWER DISTRIBUTION BOARD	HAGER B & R "HORIZON" SA S10
2	1	SUPPLY AUTHORITY KILOWATT METER	BY SUPPLY AUTHORITY
3	1	NEUTRAL LINK	PART OF ENCLOSURE
4	1	EARTH LINK	PART OF ENCLOSURE
5	1	MAIN SWITCH (CURRENT LIMITER)	63A, NHP (SAPN APPROVED)
6	1	CHANGEOVER SWITCH	NHP, SCOM634PD
7	1	MAIN ISOLATOR	63A, NHP DINTMS633
8	1	CIRCUIT BREAKER	16A, NHP DTCB10316C
9	1	COMBINED MCB / RCD	10A, RCB, NHP DSRCB1030
10	1	SOCKET OUTLET DIN RAIL	10A, CLIPSAL 4PS010
11	1	EMERGENCY GENERATOR INLET SOCKET	50A, CLIPSAL 56A1550
12	1	EARTH LINK BAR	BLUE POINT BP165/7 OR CLIPSAL L7

NOTES:

- MEN LINK IN "NBN POWER DISTRIBUTION BOARD".
- PROVIDE "TRAFFDYTE" LABELLING WITH WHITE BACKGROUND AND MINIMUM 8mm HIGH BLACK LETTERING, RED FOR WARNING SIGN.
- WHERE SINGLE PHASE INCOMING MAINS IS USED, BRIDGE POLES 1, 2 AND 3 AT THE LINE SIDE OF THE GENERATOR MANUAL CHANGEOVER SWITCH FOR THE CONNECTION OF INCOMING MAINS AS PER NBN RAN INSTALLATION DOCUMENT SECTION 10.1.2.
- METERING EQUIPMENT SHALL BE INSTALLED AS PER THE LOCAL SUPPLY AUTHORITY REQUIREMENTS.
- THE MEN ARRANGEMENT IS BASED AS/NZS 3010 FIGURE 2.3. FOR PDB WITHOUT MEN, REFER TO AS/NZS 3010 FIGURE 2.8 FOR CONNECTION DETAILS.
- DUAL SUPPLY WARNING LABEL TO BE PLACED ON PDB. REFER TO DRAWING NBN-STD-0025 SHEET 2 FOR DETAILS.

THE POWER DISTRIBUTION BOARD/METERING MUST COMPLY WITH THE CODES, STANDARDS, RULES, AND REGULATIONS OF ALL STATUTORY AUTHORITIES IN PARTICULAR: AS/NZS 3000, AS/NZS 3015, AS/NZS 3017 AND SUPPLY AUTHORITY REGULATIONS. THE DETAILS PROVIDED ARE INDICATIVE ONLY AND SHALL BE CONFIRMED BY THE ELECTRICAL CONTRACTOR TO MEET THESE RELEVANT REQUIREMENTS.

ELECTRICAL CONTRACTOR SHALL ENSURE ALL EQUIPMENT AND ASSOCIATED WIRING COMPLY WITH AS/NZS 3010 AND LOCAL POWER SUPPLY AUTHORITY REGULATION FOR ALTERNATE GENERATOR SUPPLY. CORRECT SWITCHING OF AUXILIARY SUPPLY NEUTRAL NEED TO BE CONFIGURED IN ACCORDANCE WITH AS/NZS 3010.



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POWER DISTRIBUTION BOARD SCHEMATIC DETAILS

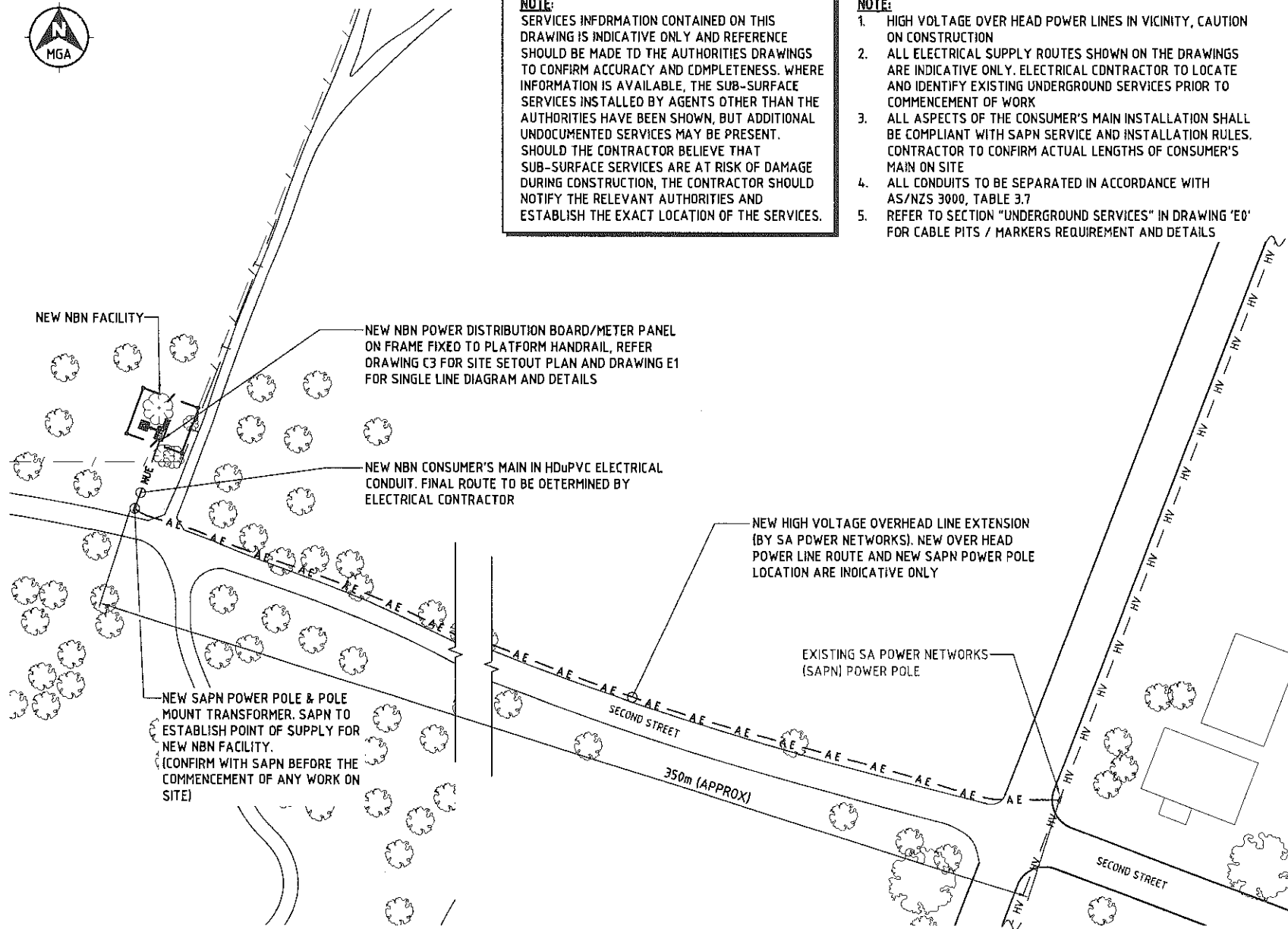
Drawing No:
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NOTE:
SERVICES INFORMATION CONTAINED ON THIS DRAWING IS INDICATIVE ONLY AND REFERENCE SHOULD BE MADE TO THE AUTHORITIES DRAWINGS TO CONFIRM ACCURACY AND COMPLETENESS. WHERE INFORMATION IS AVAILABLE, THE SUB-SURFACE SERVICES INSTALLED BY AGENTS OTHER THAN THE AUTHORITIES HAVE BEEN SHOWN, BUT ADDITIONAL UNDOCUMENTED SERVICES MAY BE PRESENT. SHOULD THE CONTRACTOR BELIEVE THAT SUB-SURFACE SERVICES ARE AT RISK OF DAMAGE DURING CONSTRUCTION, THE CONTRACTOR SHOULD NOTIFY THE RELEVANT AUTHORITIES AND ESTABLISH THE EXACT LOCATION OF THE SERVICES.

- NOTE:**
1. HIGH VOLTAGE OVER HEAD POWER LINES IN VICINITY, CAUTION ON CONSTRUCTION
 2. ALL ELECTRICAL SUPPLY ROUTES SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. ELECTRICAL CONTRACTOR TO LOCATE AND IDENTIFY EXISTING UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORK
 3. ALL ASPECTS OF THE CONSUMER'S MAIN INSTALLATION SHALL BE COMPLIANT WITH SAPN SERVICE AND INSTALLATION RULES. CONTRACTOR TO CONFIRM ACTUAL LENGTHS OF CONSUMER'S MAIN ON SITE
 4. ALL CONDUITS TO BE SEPARATED IN ACCORDANCE WITH AS/NZS 3000, TABLE 3.7
 5. REFER TO SECTION "UNDERGROUND SERVICES" IN DRAWING 'E0' FOR CABLE PITS / MARKERS REQUIREMENT AND DETAILS

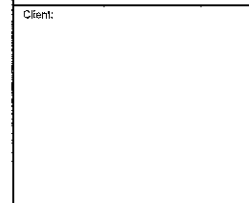
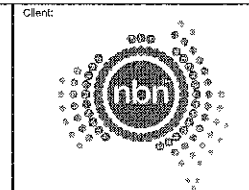


- LEGEND**
- AE — AE — NEW SAPN HIGH VOLTAGE OVER HEAD POWER LINE EXTENSION
 - NUE — NUE — NEW NBN UNDERGROUND CONSUMER'S MAIN CABLE IN HDuPVC ELECTRICAL CONDUIT
 - HV — HV — EXISTING SAPN HIGH VOLTAGE OVERHEAD POWER LINE

ELECTRICAL SITE PLAN

SCALE 1:800

NOTE:
1. REFER TO DRAWING 'E1' FOR CABLE SIZE, TYPE AND CONDUIT SIZE



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ELECTRICAL SITE
SUPPLY ROUTE
PLAN

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Agenda Item:	
Meeting:	
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Planning Report

Proposed Fixed Wireless Facility

Lot 3 Government Road

Port Germein SA 5495

NBN-5PTZ-5PIR-5108 – Port Germein



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Executive Summary

Proposal	<p>nbn propose to install a new fixed wireless facility at Port Germein comprised of the following:</p> <ul style="list-style-type: none"> ▪ 30m monopole; ▪ Two (2) 1077mm high panel antennas at a centreline height of 30m; ▪ Two (2) 500mm high remote radio units (RRUs), mounted behind the panel antennas; ▪ One (1) 900mm diameter parabolic (dish) antenna at a centreline height of 27m; ▪ Two (2) outdoor units (ODU) at ground level (outdoor cabinets) (each measuring 1464mm x 667mm x 944mm); ▪ 2.4m high chainlink security compound fencing; and ▪ Ancillary equipment associated with operation of the facility, including cable trays, cabling, safe access methods, bird proofing, earthing, electrical works and air-conditioning equipment.
Purposes	The proposed facility is necessary to provide nbn TM fixed wireless coverage to Port Germein.
Property Details	<p><i>Lot & Plan No:</i> Lot 3 Deposited Plan 15856</p> <p><i>Street Address:</i> Lot 3 Government Road, Port Germein, SA 5495</p> <p><i>Property Owner:</i> Shane Malchow and Michelle Malchow</p>
Town Planning Scheme	<p><i>Council:</i> District Council of Mount Remarkable</p> <p><i>Zones:</i> Primary Production Zone</p> <p><i>Policy Area:</i> N/A</p> <p><i>Maps:</i> MtR/17</p>
Application	Use and development of the land for the purposes of construction & operation of a Telecommunications Facility (Fixed Wireless facility).
Applicant	<p>nbn (nbn co ltd)</p> <p>c/- Aurecon Australasia Pty Ltd</p> <p>Level 10, 55 Grenfell Street</p> <p>Adelaide SA 5000</p> <p>Contact: Adam Pfitzner</p> <p>(08) 8237 9989</p> <p>adam.pfitzner@aurecongroup.com</p> <p>Our Ref: NBN-5PTZ-5PIR-5108 – Port Germein</p>

1. INTRODUCTION

nbn 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 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**[™] requires a fixed wireless transmission site to provide fixed wireless internet coverage to Port Germein.

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, namely:

- Town planning considerations (such as zoning, surrounding land uses, environmental significance and visual impact);
- The ability of the site to provide acceptable coverage levels to the area;
- Construction feasibility; and
- The ability for **nbn** to secure a lease agreement with the landowner.

This application seeks planning consent for:

- a 30m high monopole;
- radio transmission equipment; and
- ancillary equipment.

Located at Lot 3 Deposited Plan 15856 described as Lot 3 Government Road, Port Germein, SA 5495.

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
- 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** and the National Broadband Network

nbn 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**TM network is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

nbn 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**TM'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.

nbnTM'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?

nbnTM'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.

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

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. 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**[™] 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 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.

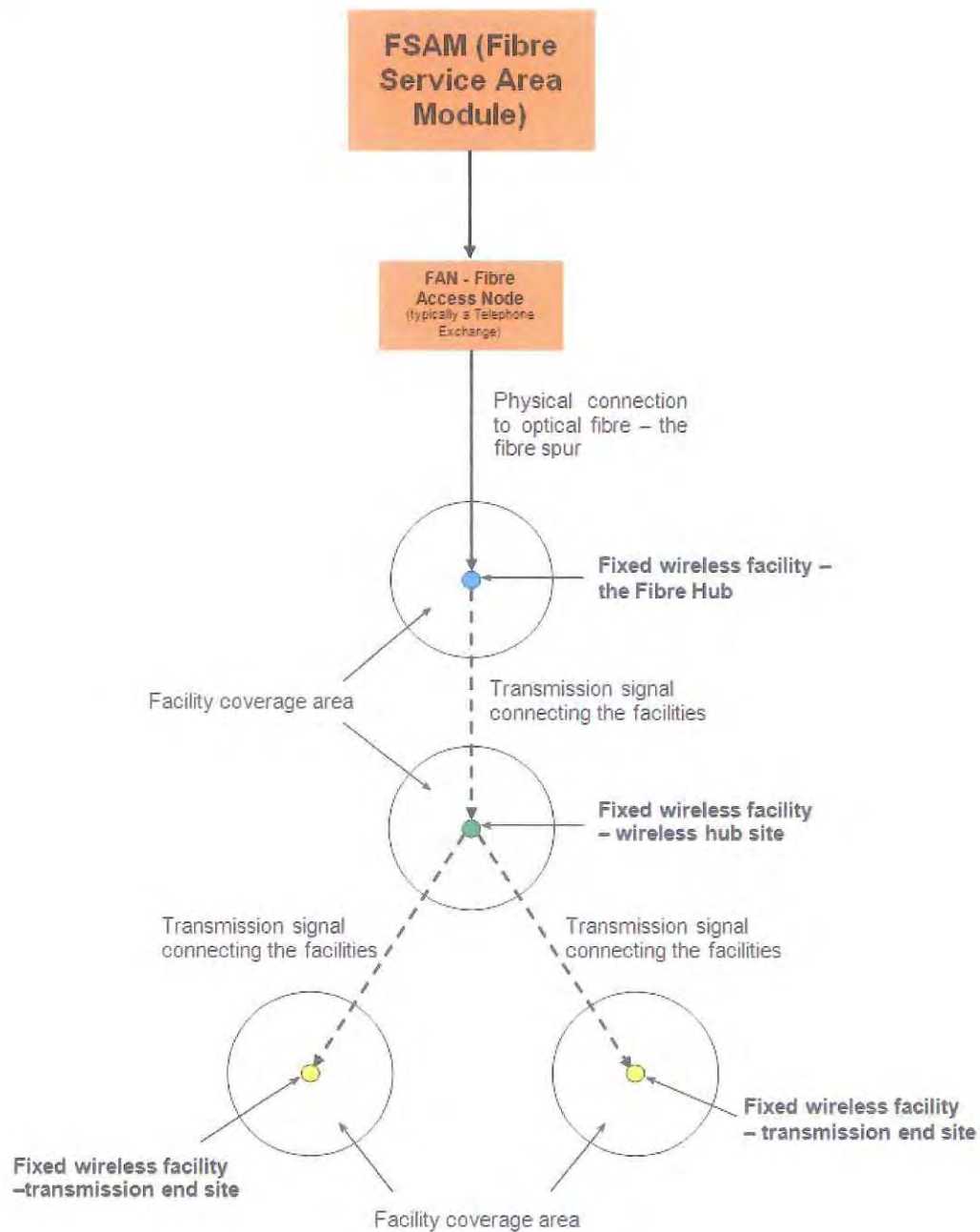


Figure 1: The fixed wireless network

3. SITE SELECTION

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

3.1 Identification of areas requiring Fixed Wireless coverage

nbnTM's Fixed Wireless locations are determined by a number of factors including the availability of both the **nbn**TM Fibre transit network and the availability of Point of Interconnect (POI) facilities to allow for the installation of **nbn**TM fibre equipment. **nbn** 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 has identified a requirement to provide a Fixed Wireless facility at Port Germein. The facility is designed to provide Fixed Wireless internet services to over 220 premises in Port Germein.

3.2 Site Selection Parameters

nbn generally identifies an area where the requirement for a Fixed Wireless facility would be highest, a 'search area.' A preliminary investigation of the area is then 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 Candidate Sites

3.3.1 Opportunities to Co-locate

During the preliminary site selection process, analysis of existing facilities was undertaken to determine if any co-location options were available in order to attach **nbn** equipment. A search of the Radio Frequency National Site Archive (RFNSA) identified one (1) existing co-location opportunity in Port Germein (Figure 2).

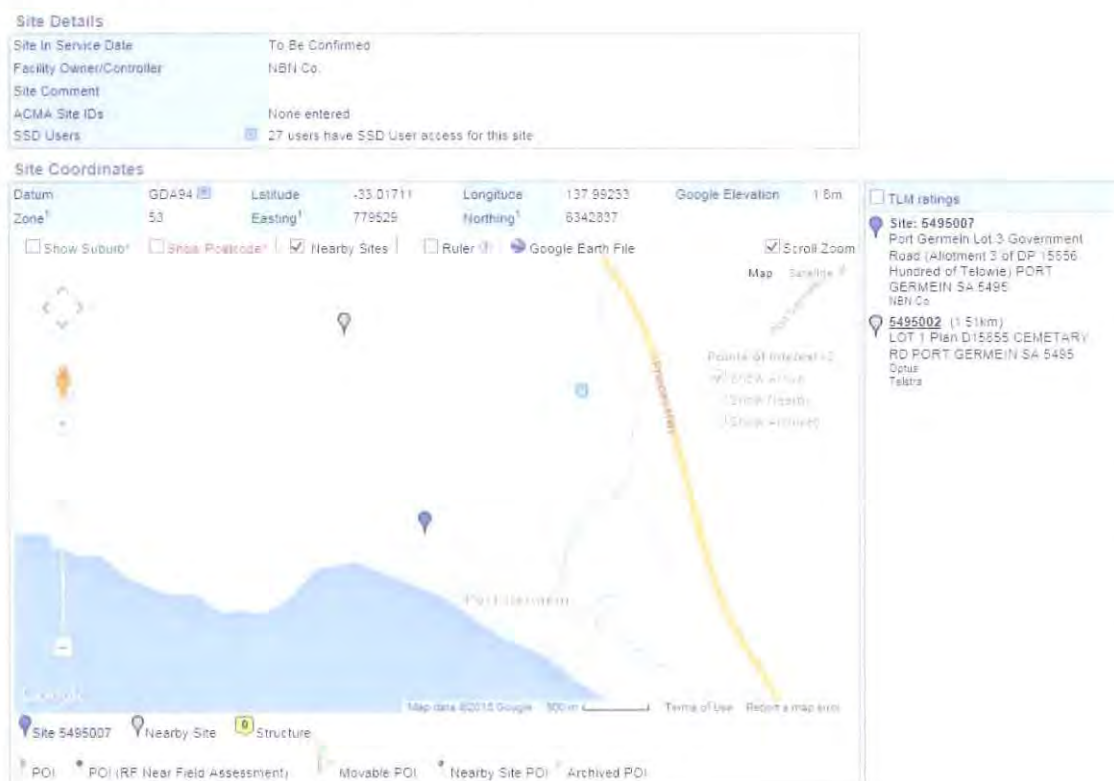


Figure 2: Opportunities to Co-locate

The existing 61m steel Lattice Tower, located at Lot 1 Keeley Road, Port Germein, is owned by Telstra and contains both Telstra and Optus equipment. Co-location on this facility is not technically feasible. The location of the Telstra facility would result in a poor fixed wireless service caused by the significant separation from **nbn**'s target coverage area. In addition, the location of the existing Telstra facility does not provide for adequate sector balancing of **nbn**'s antennas for reliable coverage to the Port Germein Township.

3.3.2 Existing Structures

Where possible, **nbn** have looked for opportunities to utilise other forms of existing infrastructure to 'co-site'.

Using desktop analysis and site inspection, no opportunities for 'co-siting' were identified.

3.3.3 Greenfield Candidates

Following the identification of the search area, several candidate sites were examined. Each candidate was assessed based on the ability to meet the coverage objectives and site considerations detailed above. A total of three candidates were selected for in-depth investigation including an on-site inspection, as per **Figure 3** below.

nbn endeavours to avoid locating search areas in close proximity to residential localities and potentially sensitive land uses, where practicable. The Port Germein area is comprised of an urban hub identified as the Township which contains a mix of residential and commercial land uses. The town is bordered by a belt of Crown land that contains recreational activities and Council facilities. The wider outskirts of the town are predominately used for agricultural activities with associated residential dwellings.



Figure 3: NBN Candidate Sites (Source: Bing Maps 2015)

A summary of the two alternative candidates that were proposed is set out below, including a description of the opportunities and constraints that each site afforded.

Candidate	Address and Lot Number	Facility Type	Description
A	9 Cottage Road, Port Germein, SA 5495 CR Vol. 5755 / Fol. 804	30m monopole and associated equipment	<p>The site is located to the north of the Port Germein town and is situated on Crown owned land. The favourable attributes of this location include the separation from residential land uses as well as the utilising existing vegetation to provide some screening to the base of the facility.</p> <p>Candidate A was discounted on the basis that tenure negotiation is extremely difficult on Crown land, whereby only a limited term lease is attainable which is not suitable for nbn.</p> <p>In addition, development in this location would result in greater visual impact from the town and on approach into the town (located near the main entry and exit of town).</p>
B	Section 488 Baroota Terrace, port Germein, SA 5495 CR Vol. 5755 / Fol. 801	30m monopole and associated equipment	<p>The site is located approximately 950m east-southeast from the centre of the town. The site is located on a Council Depot which is also situated on Crown land.</p> <p>While the site offered reasonable separation from residential dwellings and the main focal points from the town (i.e. entry point and ocean views), the site was ultimately discounted on the basis of limited tenure availability.</p>

3.4 Preferred Site Selection

Following an evaluation of the alternative options and the issues identified, a new monopole facility and associated infrastructure at Port Germein is deemed to be the most acceptable solution.

The reasons for selecting Candidate C are summarised as follows:

- The site offers sufficient setback from adjoining property dwellings;

- The location is a suitable distance from the main town and sensitive uses which mitigates any potential visual impact of the proposal;
- The site is within the Primary Production Zone which is an appropriate non-residential zone for the establishment of a telecommunications facility; and
- The proposed facility is located in a suitable location from a technical perspective.

4. SUBJECT SITE & SURROUNDS

The telecommunications facility is proposed to be located at Lot 3 Government Road, Port Germein, SA 5495. The land is formally described as Allotment 3 Hundred of Telowie, in the area named Port Germein, in Certificate of Title Volume 5659 Folio 395. Refer to **Appendix A** for a copy of the Certificate of Title.

Figures 4 and **5** identify the subject property within the context of the local area as well as the proposed location of the facility on the property.

Access to the property is granted via a new point of access/egress off Government Road.



Figure 4: Aerial map of the site within the context of the wider area (Source: SAILIS)

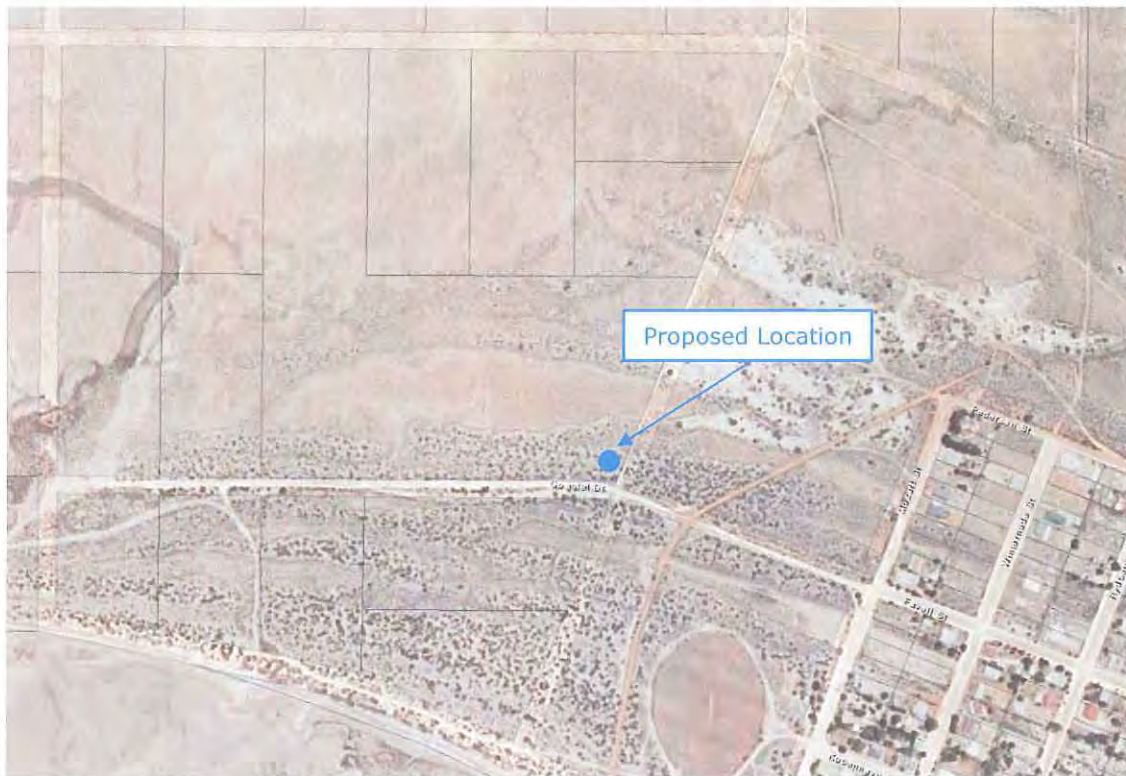


Figure 5: Aerial map of the site within the context of the local area (Source: SAILIS)

The subject land is vacant of development but supports scattered native vegetation throughout. The property is classified as 'rural' with minor low intensity agricultural uses. The land is subject to inundation and located within an area classified as a Wetland of National Importance (Upper Spencer Gulf).

The typical land uses on adjoining properties and surrounding areas are a mix of agricultural and recreational activities. Separation between the proposed development location on the subject property and the closest residential dwelling on an adjoining property is approximately 320m.

No community sensitive sites have been identified within a 500m radius of the proposed development location on the subject property. However, a Primary School has been identified approximately 615m east of the proposed facility, within the town of Port Germein.

5. THE PROPOSAL

5.1 Facility and Equipment Details

5.1.1 Equipment to be installed

Approval is sought for the use and development of a telecommunications facility, comprising a 30 metre monopole, and ancillary components including two outdoor units (ODU) enclosed within a secure compound which measures approximately 120m².

The specific components of the proposed installation are described below:

- The installation of a 30m monopole, with a circular headframe at 30m on the monopole;
- The installation of one (1) 900mm parabolic (dish) antenna for transmission purposes, at an elevation of 27m on the monopole.
- The installation of two (2) panel antennas (dimensions 1077mm high x 300mm wide x 115mm deep), attached to the headframe at an elevation of 30m to the centreline.
- The installation of a 2.4m high chain-link security compound fence (compound area 12m x 10m), with 3m wide access gate;
- The installation of two (2) outdoor equipment units (dimensions: 1464mm high x 667mm wide x 944mm deep) at ground level, adjacent to the proposed monopole. The outdoor units will be installed on a 1.5m high elevated steel platform;
- The installation of associated feeder cables that will run aboveground from the equipment cabinets, and then internally within the monopole to the antennas.

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

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 surroundings when compared to painted finishes. Associated equipment for the proposed facility is to be of a light grey colour to mitigate potential visual impact.

The proposal will also require the removal of existing native vegetation. A clearing of approximately 120m² will be required to accommodate the compound area. A separate assessment and application will be lodged to the Native Vegetation Council (NVC) for the required clearing.

This **nbn**[™] Fixed Wireless facility is an end site within the network, providing **nbn**[™] network services to Port Germein.

Figure 6 represents an example of a monopole and circular headframe while **Figure 7** represents an example of a parabolic dish.

Figure 8 identifies the specific site on the subject property where the proposed development is to be located.



Figure 6: Example of a monopole



Figure 7: Example of a parabolic dish antenna



Figure 8: Proposed monopole location on subject land (facing west towards Port Germein Township)

5.1.2 Access and Parking Details

The **nbn** Fixed Wireless Facility will be accessed via a new access gate off the existing unsealed dirt track (Government Road).

The site access is considered to be appropriate given the **nbn** Fixed Wireless facility will not be a significant generator of traffic.

During the construction phase, 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 will be of a short-term duration and are not anticipated to adversely impact on the surrounding road network. In the unlikely event that road closure will be required, **nbn** will apply to the relevant authorities for permission.

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 monopole;

- 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 will function on a continuously unstaffed basis and will typically only require maintenance works once a year.

5.1.3 Utility Service Details

The facility will be powered through a proposed extension of SAPN High Voltage overhead power line from Second Street/Coastal Drive to a proposed SAPN power pole and transformer adjacent to the proposed site location. Power will be supplied to the site via a new underground power route (as shown on Drawing No. 5PIR-51-08-PORR-C2 and 5PIR-51-08-PORR-C3). In the unlikely event that power is not available to the site, a temporary power supply would be required in the form of a generator. Upgrades to the existing power facilities will be at the applicant's expense.

5.1.4 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 accord with 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 shelter, once installed. Noise emanating from the air conditioning equipment is expected to be at a comparable level to a domestic air conditioning installation, and should generally accord with the background noise levels prescribed by relevant guidelines.

6. CURRENT PLANNING CONTROLS

6.1 Commonwealth Legislation – The Telecommunications Act

This legislation establishes the criteria for 'low impact' telecommunication facilities. If a proposed facility satisfies the requirements of a 'low impact' facility, the development is exempt from the planning approval process.

Further clarification of the term 'low impact' is provided in the *Telecommunications Act 1997* and the *Telecommunications (Low Impact Facilities) Determination 1997*, which was gazetted subsequent to the Act. The *Telecommunications (Low Impact Facilities) Determination 1997* establishes certain facilities, which cannot be considered 'low impact' facilities.

The proposed facility is not low impact under the definitions contained in the Commonwealth legislation. Planning consent is therefore required for the proposed facility.

6.2 State Policy and Legislation

The proposed facility is subject to the Development Act 1993, Development Regulations 2008 and relevant Council Development Plan.

An assessment against the above legislation is provided in Section 7 of this Planning Report.

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 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 Primary Production Zone in accordance with the provisions of the Mount Remarkable Council Development Plan (Consolidated 5 September 2013).

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

7.2 Public Notification

In accordance with Schedule 9, Part 2, Clause 26 (1) of the Development Regulations 2008, we are of the opinion that the proposed telecommunications facility should be assigned Category 2 for Public Notification purposes, as the facility does not exceed 40 metres in height within a Primary Production Zone.

7.3 Development Plan Provisions

The following Objectives and Principles of Development Control (PDC) of the Mount Remarkable Council Development Plan (Consolidated 5 September 2013) are considered to be relevant in the assessment of the proposed development.

Council Wide		
Design and Appearance	Objectives	1
	Principles of Development Control	6, 19
Hazards	Objectives	1, 2, 4, 5, 7
	Principles of Development Control	2, 3, 4, 5, 6, 7, 8, 9, 12, 17, 18, 20, 21
Infrastructure	Objectives	1, 2, 4, 5
	Principles of Development Control	11
Interface between land uses	Objectives	1, 2
	Principles of Development Control	1, 2, 3, 5, 6, 7
Telecommunications Facilities	Objectives	1, 2
	Principles of Development Control	1, 2, 3, 4
Transportation and Access	Objectives	2
	Principles of Development Control	8, 13, 22, 23

Zone Specific		
Primary Production Zone	Objectives	1, 2, 3, 5
	Principles of Development Control	1, 6

7.4 Development Plan Assessment

7.4.1 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 **nbn**TM network and to minimise visual impact where possible.

The proposed compound area is on a large parcel of land within the Primary Production Zone which contains a vast amount of coastal vegetation and likely to be used for some agricultural activities (grazing). The proposed compound has been sited on the eastern property boundary, adjacent Government Road (unsealed dirt track) in order to minimise any potential interference with the current land use operations.

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 surroundings when compared 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 proposed facility is to be setback appropriate distances from residential land uses. The facility is proposed to be located approximately 320 metres east of the nearest residential dwelling. This separation distance coupled with the existing low-lying coastal vegetation provides reasonable screening from areas of high visitation (i.e. dwellings, shops, school, etc.) within the Port Germein Township.

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 Port Germein and connect to the **nbn**TM network.

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

Form of Development

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.

19. Except where specified in a particular zone, policy area, or precinct, buildings and structures should be set back from road boundaries having regard to the requirements set out in Table MtR/2 – Building Setbacks from Road Boundaries.

7.4.2 Hazards

The development is proposed to be situated within a 'general bushfire risk' as identified on Bushfire Protection Area (BPA) Map MtR/16 – Bushfire Risk within the Mount Remarkable Council Development Plan (Consolidated 5 September 2013).

The proposed facility is not a habitable building and does not store hazardous materials. It is therefore considered that the proposed development is consistent with the *Minister's Code: Undertaking development in Bushfire Protection Areas* as well as the quoted provisions below.

The subject land is located within an area identified on Overlay Map MtR/17 (Development Constraints) as subject to acid-sulfate soils and within an area identified on Overlay Map MtR/17 (Natural Resources) as a Wetland of National Importance. The location is also considered to be at risk of inundation.

The proposed development requires some earthworks for construction but are considered to be minor and of minimal risk to the disturbance of acid-sulfate soils. In addition, no cut and fill is proposed as part of the development.

With regard to the risk of flooding, the proposed equipment cabinet is to be constructed on an elevated platform to ensure it is unaffected by rising floodwaters. In addition, the proposed development is unlikely to impede or increase floodwaters due to its size, minimal building footprint and open chain-link fencing.

OBJECTIVES

- 1. Maintenance of the natural environment and systems by limiting development in areas susceptible to natural hazard risk.*
- 2. Development located away from areas that are vulnerable to, and cannot be adequately and effectively protected from the risk of natural hazards.*
- 3. Critical community facilities such as hospitals, emergency control centres, major service infrastructure facilities, and emergency service facilities located where they are not exposed to natural hazard risks.*
- 4. Development located and designed to minimise the risks to safety and property from flooding.*
- 5. Development located to minimise the threat and impact of bushfires on life and property.*
- 6. Expansion of existing non-rural uses directed away from areas of high bushfire risk.*
- 7. The environmental values and ecological health of receiving waterways and marine environments protected from the release of acid water resulting from the disturbance of acid sulphate soils.*

PRINCIPLES OF DEVELOPMENT CONTROL

2 Development located on land subject to hazards as shown on the Overlay Maps - Development Constraints should not occur unless it is sited, designed and undertaken with appropriate precautions being taken against the relevant hazards.

3 There should not be any significant interference with natural processes in order to reduce the exposure of development to the risk of natural hazards.

4. Development should not occur on land where the risk of flooding is likely to be harmful to safety or damage property.

5 Development should not be undertaken in areas liable to inundation by tidal, drainage or flood waters unless the development can achieve all of the following:

(a) it is developed with a public stormwater system capable of catering for a 1-in-100 year average return interval flood event

(b) buildings are designed and constructed to prevent the entry of floodwaters in a 1-in-100 year average return interval flood event.

6 Development, including earthworks associated with development, should not do any of the following:

(a) impede the flow of floodwaters through the land or other surrounding land

(b) increase the potential hazard risk to public safety of persons during a flood event

(c) aggravate the potential for erosion or siltation or lead to the destruction of vegetation during a flood

(d) cause any adverse effect on the floodway function

(e) increase the risk of flooding of other land

(f) obstruct a watercourse.

7 The following bushfire protection principles of development control apply to development of land identified as General, Medium and High bushfire risk areas as shown on the Bushfire Protection Area BPA Maps - Bushfire Risk.

8 Development in a Bushfire Protection Area should be in accordance with those provisions of the Minister's Code: Undertaking development in Bushfire Protection Areas that are designated as mandatory for Development Plan Consent purposes.

9 Buildings and structures should be located away from areas that pose an unacceptable bushfire risk as a result of one or more of the following:

(a) vegetation cover comprising trees and/or shrubs

(b) poor access

(c) rugged terrain

(d) inability to provide an adequate building protection zone

(e) inability to provide an adequate supply of water for fire fighting purposes.

17 Development should not increase the potential for, or result in an increase in, soil and water salinity.

18 Preservation, maintenance and restoration of locally indigenous plant species should be encouraged in areas affected by dry land salinity.

20 Development and activities, including excavation and filling of land, that may lead to the disturbance of potential or actual acid sulfate soils should be avoided unless such disturbances are managed in a way that effectively avoids the potential for harm or damage to any of the following:

- (a) the marine and estuarine environment*
- (b) natural water bodies and wetlands*
- (c) agricultural or aquaculture activities*
- (d) buildings, structures and infrastructure*
- (e) public health.*

7.4.3 Interface between land uses

The proposed Fixed Wireless facility is located towards the northern boundary of the subject land. The facility is located approximately 320 metres from the nearest dwelling located to the east of the proposed location separated by open space and vegetation.

The proposed development is unlikely to cause adverse impacts to the existing land uses in the surrounding locality. 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 the outdoor equipment cabinets. 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 sited and designed to minimise negative impact on existing and potential future land uses considered appropriate in the locality.

3. Development adjacent to a Township Zone should be designed to minimise overlooking and overshadowing of nearby residential properties.

5. Sensitive uses likely to conflict with the continuation of lawfully existing developments and land uses considered appropriate for the zone should not be developed or should be designed to minimise negative impacts.

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

7. Development should be consistent with the relevant provisions in the current Environment Protection (Noise) Policy.

7.4.4 Telecommunications Facilities and Infrastructure

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

The **nbn**[™] network 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 **nbn**[™] network, and will provide fixed wireless services to the community and will have significant benefits for the residents and businesses throughout the region.

Access to the **nbn**[™] network will provide a wide range of services to meet the need of the community and local businesses in Port Germein and the wider region, 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. The existing Telstra facility located on Cemetery Road was considered for the co-location of **nbn** equipment but it is not considered technically feasible. The existing tower is located approximately 1.5km from the Port Germein Township and currently contains both Telstra and Optus equipment. Due to the distance from **nbn**'s target objective, the facility was not

considered to provide adequate coverage or sector balancing required to achieve reliable, consistent internet services to Port Germein.

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 recreation oval within a (non-residential) Primary Production Zone as advised in Principle of Development Control 1 (Telecommunications Facilities).

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 30 metre height of the monopole structure allows 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 located 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) 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.*

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.

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

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

7.4.5 Transportation and Access

The proposed development will utilise a new access point to avoid interfering with the existing activities on the subject land. This access arrangement is considered safe and convenient for the proposed development and will not interfere with the free flow of traffic along the road which is a low traffic environment.

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.*
- 22. Development should have direct access from an all weather public road.*
- 23. 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 Primary Production Zone

The Primary Production Zone envisages a diversity of physical features and agricultural, pastoral and rural activities on a wide range of allotment sites and landscape types.

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 Port Germein, supporting businesses and enterprises in the area and serving as a key part of the **nbn**TM network for the wider District Council of Mount Remarkable region. In addition, Council Wide objectives advise Telecommunications Facilities should be primarily within commercial, industrial or rural zones.

The proposed facility is considered to be broadly consistent with key objectives of Primary Production Zone as:

- The subject site is located in an area selected in consultation with the landowner to ensure the existing land use activities are not adversely affected;
- The subject land is surrounded by open space and established vegetation which assist in screening the base of the facility; and
- The location is set back from residential properties and other sensitive land uses.

The proposed telecommunications facility is not considered to impair the amenity of the locality, nor is it considered to be in conflict with the envisaged forms of development for the Primary Production Zone on the subject land or within the locality. In summary we are of the opinion that the proposed development is considered to be consistent with provisions as outlined below:

Primary Production Zone

OBJECTIVES

- 1. Economically productive, efficient and environmentally sustainable primary production.***
- 2. Allotments of a size and configuration that promote the efficient use of land for primary production.***
- 3. Protection of primary production from encroachment by incompatible land uses and protection of scenic qualities of rural landscapes.***
- 5. 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:*

- *bulk handling and storage facility*
- *commercial forestry*
- *farming*
- *horticulture*
- *intensive animal keeping*
- *tourist accommodation (including through the diversification of existing farming activities and conversion of farm buildings).*
- *wind farm and ancillary development*
- *wind monitoring and ancillary development.*

2. *Development listed as non-complying is generally inappropriate.*

6. *Buildings should primarily be limited to farm buildings, a detached dwelling associated with primary production on the allotment and residential outbuildings that are:*

- (a) grouped together on the allotment and set back from allotment boundaries to minimise the visual impact of buildings on the landscape as viewed from public roads*
- (b) screened from public roads and adjacent land by existing vegetation or landscaped buffers.*

9. *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 vicinity of the proposed site. The nearest item of heritage significance is located approximately 850 metres from the proposed site and is specific to the Port Germein Jetty, including jetty and two railway sheds. Due to the significant spatial separation, the proposed development is not considered to affect the character of the heritage place.

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 exclusive use of the OFDMA9800 frequency band. As **nbn** is the exclusive licensee of this sub-band, emissions from **nbn** 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**[™] frequency allocations. **nbn** intends to promptly investigate any interference issues that are reported.

The facility is also designed to be grounded to the relevant Australian Standards – that is, the facility will be ‘earthed’.

8.3 Erosion, Sedimentation Control and Waste Management

All erosion and sediment control mitigation measures will be detailed in construction plans and will comply with the Building Code of Australia and local Council standards. In addition, contractors 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, the site will be restored and reinstated to an appropriate standard. No waste which requires collection or disposal will be generated by the operation of the facility.

8.4 Traffic Generation

After the construction period, the only traffic generated by the base station will be that associated with maintenance vehicles. In this respect, it is estimated that maintenance of the facility will generate only one visit per year and it will

remain unattended at all other times. The traffic generation will therefore be minimal and not sufficient to create any adverse impacts in this regard or by creating a demand for parking facilities.

8.5 Utility Services

All services required for the ongoing operation of the base station are capable of being provided to the facility without impacting on the supply or reliability of these services to any existing consumers in the locality. No stormwater, sewerage or waste management facilities are required.

8.6 Noise

Noise and vibration emissions associated with the proposed facility will be limited to the initial construction phase. There will be some low level noise from the ongoing operation of air conditioning equipment associated with the equipment shelter, once installed. Noise emanating from the air conditioning equipment is at a comparable level to a domestic air conditioning installation, and will generally accord with the background noise levels prescribed by Australian Standard AS1055.

8.7 Flora, Fauna and Endangered Species

The proposed site is located within a Wetland of National Importance (Upper Spencer Gulf) in accordance with Overlay Map MtR/17 of the Mount Remarkable Council Development Plan (Consolidated 5 September 2013).

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

It was identified that there are twenty-eight (28) '*Listed Threatened Species*', one (1) '*Listed Threatened Ecological Community*' and thirty-five (35) '*Listed Migratory Species*' that may occur within a 0.5km radius of the site.

Given that the footprint of the site is relatively small (12m x 10m); the proposed installation is considered to be low impact to flora and fauna. Precautions will be taken in order to minimise the removal or damage of any native species that may be present in the area of the proposed site.

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

Where native vegetation is proposed to be removed, a separate study will be undertaken and an application will be lodged with the Native Vegetation Council (NVC) for such removal.

8.8 Social and Economic Impacts

Access to fast internet is an essential service in modern 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 should provide significantly enhanced fixed wireless internet coverage to Port Germein. This is expected to be of particular benefit for residential dwellings in the locality.

The **nbn™** network 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.

8.9 Public Safety

8.9.1 Radiofrequency Emissions

In relation to public safety and specifically Electromagnetic Emissions (EME) and public health, **nbn™** network operates 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™** network installations are designed and certified by qualified professionals in accordance with all relevant Australian Standards. This helps to ensure that the **nbn™** 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 0.3% of the maximum exposure limit. This is

approximately 333 times below the maximum allowable exposure limit (where 100% of the limit is still considered to be safe).

Moreover, all **nbn**[™] network 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.

8.9.2 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.

8.10 The Public Interest and the Benefits of Telecommunications

The proposed **nbn** facility is expected to have significant benefit for residents in Port Germein. **nbn** believes that the public interest would be served by approval of the proposal, given benefits for enhanced internet coverage in the area. The facility is expected to have benefits for local residents and businesses within the district.

8.10.1 Other Benefits of Reliable Broadband Services

There are numerous other benefits of telecommunications connectivity, as follows:²

- There are many potential educational benefits justifying the implementation of the **nbn**[™] network. 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.

² End user experience including the speeds actually achieved over the **nbn**[™] network depends on some factors outside **nbn**[™]'s control like the end user's equipment quality, software, broadband plans and how the end user's service providers designs its network.

The public benefits of access to fast internet 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.

9. CONCLUSION

The proposed **nbn™** Fixed Wireless facility, comprising a 30m monopole, with attached antennas, outdoor cabinets and associated ancillary equipment has been sited in the most appropriate location given the context of the local area and service objective – providing broadband services to Port Germein.

The facility has been strategically sited and designed to minimise visibility within the surrounding environment as much as practicable. The visual impact of the development on the surrounding area has been assessed and given the siting and design, the proposal is considered unlikely to cause any significant harm to the visual amenity or scenic value of the area. Although the monopole would be visible at varying degrees depending on the line of sight of the viewer, negative impacts on visual amenity are not deemed to be significant.

Accordingly, it is considered that the visual impact of the proposal is acceptable having had full regard to the context of the locality, the nature of the design employed, and the coverage benefits deriving from the installation.

The proposal is also consistent with the stated objectives and principles of development control within the Mount Remarkable Council Development Plan (Consolidated 5 September 2013). It is considered that the proposal will provide an important community benefit to Port Germein and the wider District Council of Mount Remarkable region providing service to local residents and businesses.

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

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 5659 FOLIO 395 *

COST : \$26.50 (GST exempt)	PARENT TITLE : CT 4251/316
REGION : EMAIL	AUTHORITY : CONVERTED TITLE
AGENT : PHPL BOX NO : 000	DATE OF ISSUE : 03/06/1999
SEARCHED ON : 04/08/2014 AT : 14:18:14	EDITION : 3
CLIENT REF N-PT GERMEIN	

REGISTERED PROPRIETORS IN FEE SIMPLE

SHANE GERHARD MALCHOW AND MICHELLE LOUISE MALCHOW BOTH OF PO BOX 34 PORT
GERMEIN SA 5495 AS JOINT TENANTS

DESCRIPTION OF LAND

ALLOTMENT 3 DEPOSITED PLAN 15856
IN THE AREA NAMED PORT GERMEIN
HUNDRED OF TELOWIE

EASEMENTS

NIL

SCHEDULE OF ENDORSEMENTS

12097132 MORTGAGE TO WESTPAC BANKING CORPORATION

NOTATIONS

DOCUMENTS AFFECTING THIS TITLE
NIL

REGISTRAR-GENERAL'S NOTES

NIL

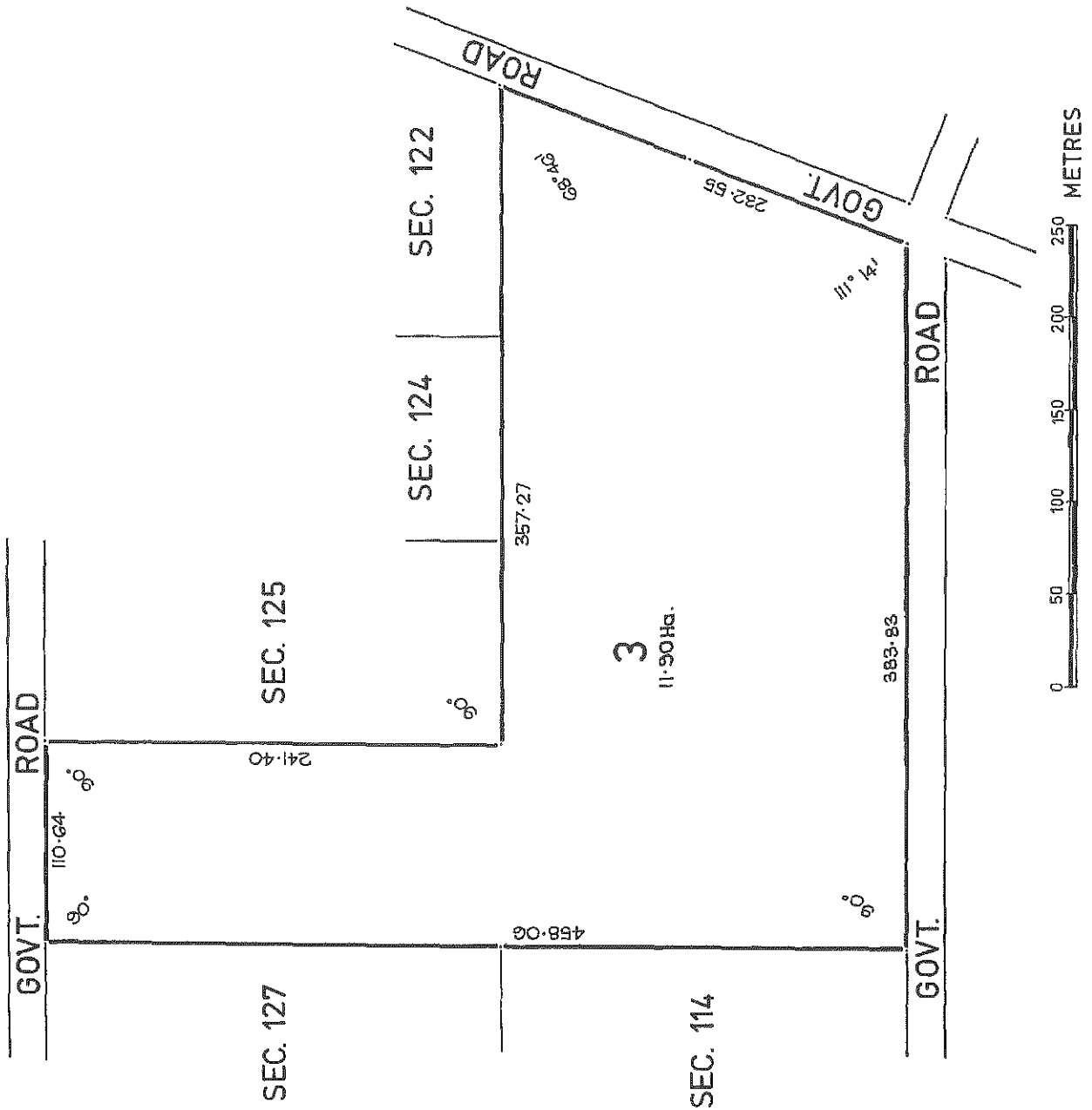
END OF TEXT.



LANDS TITLES OFFICE ADELAIDE SOUTH AUSTRALIA

DIAGRAM FOR CERTIFICATE OF TITLE VOLUME 5659 FOLIO 395

SEARCH DATE : 04/08/2014 TIME: 14:18:14



Appendix B

Proposed Plans

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: 15/09/15 12:14:25

[Summary](#)

[Details](#)

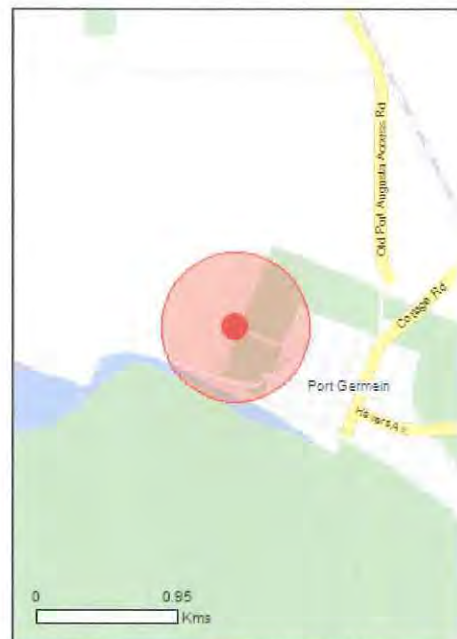
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are
©Commonwealth of Australia
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[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:	28
Listed Migratory Species:	35

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>

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:	59
Whales and Other Cetaceans:	8
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:	1
Regional Forest Agreements:	None
Invasive Species:	22
Nationally Important Wetlands:	1
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
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area

Listed Threatened Species

[[Resource Information](#)]

Name	Status	Type of Presence
Birds		
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Diomedea epomophora epomophora		
Southern Royal Albatross [25996]	Vulnerable	Species or species habitat likely to occur within area
Diomedea epomophora sanfordi		
Northern Royal Albatross [82331]	Endangered	Species or species habitat likely to occur within area
Diomedea exulans antipodensis		
Antipodean Albatross [82269]	Vulnerable	Species or species habitat likely to occur within area
Diomedea exulans exulans		
Tristan Albatross [82337]	Endangered	Species or species habitat may occur within area
Diomedea exulans (sensu lato)		
Wandering Albatross [1073]	Vulnerable	Species or species habitat likely to occur within area
Macronectes giganteus		
Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli		
Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Neophema chrysogaster		
Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area
Pachyptila turtur subantarctica		
Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
Pedionomus torquatus		
Plains-wanderer [906]	Critically Endangered	Species or species habitat may occur within

Name	Status	Type of Presence area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Extinct within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Breeding likely to occur within area
Thalassarche cauta cauta Shy Albatross, Tasmanian Shy Albatross [82345]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta steadi White-capped Albatross [82344]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris impavida Campbell Albatross [82449]	Vulnerable	Species or species habitat may occur within area
Mammals		
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat likely to occur within area
Neophoca cinerea Australian Sea-lion [22]	Vulnerable	Species or species habitat may occur within area
Plants		
Acanthocladium dockeri Spiny Everlasting, Spiny Daisy [17632]	Critically Endangered	Species or species habitat may occur within area
Caladenia tensa Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat likely to occur within area
Prasophyllum pallidum Pale Leek-orchid [20351]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Sharks		
Carcharodon carcharias Great White Shark [64470]	Vulnerable	Species or species habitat known to 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		

Name	Threatened	Type of Presence
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable*	Species or species habitat likely to occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered*	Species or species habitat may occur within area
Diomedea epomophora (sensu stricto) Southern Royal Albatross [1072]	Vulnerable*	Species or species habitat likely to occur within area
Diomedea exulans (sensu lato) Wandering Albatross [1073]	Vulnerable	Species or species habitat likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered*	Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Thalassarche cauta (sensu stricto) Shy Albatross, Tasmanian Shy Albatross [64697]	Vulnerable*	Species or species habitat likely to occur within area
Thalassarche impavida Campbell Albatross [64459]	Vulnerable*	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Species or species habitat likely to occur within area
Migratory Marine Species		
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Carcharodon carcharias Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur

Name	Threatened	Type of Presence within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	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		
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
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris alba Sanderling [875]		Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]		Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		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
Arenaria interpres		
Ruddy Turnstone [872]		Species or species habitat likely to occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris alba		
Sanderling [875]		Species or species habitat likely to occur within area
Calidris canutus		
Red Knot, Knot [855]		Species or species habitat likely to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris ruficollis		
Red-necked Stint [860]		Species or species habitat likely to occur within area
Diomedea antipodensis		
Antipodean Albatross [64458]	Vulnerable*	Species or species habitat likely to occur within area
Diomedea dabbenena		
Tristan Albatross [66471]	Endangered*	Species or species habitat may occur within area
Diomedea epomophora (sensu stricto)		
Southern Royal Albatross [1072]	Vulnerable*	Species or species habitat likely to occur within area
Diomedea exulans (sensu lato)		
Wandering Albatross [1073]	Vulnerable	Species or species habitat likely to occur within area
Diomedea sanfordi		
Northern Royal Albatross [64456]	Endangered*	Species or species habitat likely to 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 likely to occur

Name	Threatened	Type of Presence within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Thalassarche cauta (sensu stricto) Shy Albatross, Tasmanian Shy Albatross [64697]	Vulnerable*	Species or species habitat likely to occur within area
Thalassarche impavida Campbell Albatross [64459]	Vulnerable*	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Species or species habitat likely to occur within area
Fish		
Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area
Hypsognathus rostratus Knifesnout Pipefish, Knife-snouted Pipefish [66245]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
Kaupus costatus Deepbody Pipefish, Deep-bodied Pipefish [66246]		Species or species habitat may occur within area
Leptoichthys fistularius Brushtail Pipefish [66248]		Species or species habitat may occur within area
Lissocampus caudalis Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area
Phycodurus eques Leafy Seadragon [66267]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Pugnaso curtirostris Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
Solegnathus robustus Robust Pipehorse, Robust Spiny Pipehorse [66274]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Stigmatopora olivacea a pipefish [74966]		Species or species habitat may occur within area
Stipecampus cristatus Ringback Pipefish, Ring-backed Pipefish [66278]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Vanacampus poecilolaemus Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Vanacampus vercoi Verco's Pipefish [66286]		Species or species habitat may occur within area
Mammals		
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
Arctocephalus pusillus Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area
Neophoca cinerea Australian Sea-lion [22]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat likely to occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves

[[Resource Information](#)]

Name

State

Unnamed (No.HA105)

SA

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		
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur

Name	Status	Type of Presence
Vulpes vulpes Red Fox, Fox [18]		within area Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Cylindropuntia spp. Prickly Pears [85131]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Nationally Important Wetlands		[Resource Information]
Name		State
Upper Spencer Gulf		SA

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

-33.01711 137.99234

Acknowledgements

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

- [Office of Environment and Heritage, New South Wales](#)
- [Department of Environment and Primary Industries, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment, Water and Natural Resources, South Australia](#)
- [Parks and Wildlife Commission NT, Northern Territory Government](#)
- [Department of Environmental and Heritage Protection, Queensland](#)
- [Department of Parks and Wildlife, Western Australia](#)
- [Environment and Planning Directorate, ACT](#)
- [Birdlife Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [South Australian Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [Forestry Corporation, 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.

Appendix D

ARPANSA Environmental EME Report

Environmental EME Report

Port Germein Lot 3 Government Road (Allotment 3 of DP 15856 Hundred of Telowie), PORT GERMEIN SA 5495

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

Date 28/10/2014

RFNSA Site No. 5495007

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 Port Germein Lot 3 Government Road (Allotment 3 of DP 15856 Hundred of Telowie) PORT GERMEIN SA 5495. 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 0.3% 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 3.39 V/m; equivalent to 30.45 mW/m² or 0.3% 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 Port Germein Lot 3 Government Road (Allotment 3 of DP 15856 Hundred of Telowie) 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				1.28	4.35	0.043%
50m to 100m				1.51	6.037	0.06%
100m to 200m				3.39	30.45	0.3%
200m to 300m				3.0	23.84	0.24%
300m to 400m				2.04	11.037	0.11%
400m to 500m				1.54	6.29	0.063%
Maximum EME level				3.39	30.45	0.3
				155.73 m from the antennas at Port Germein Lot 3 Government Road (Allotment 3 of DP 15856 Hundred of Telowie)		

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
No locations identified				

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>.

DATE OF ISSUE

DRAWING PACKAGE VERSION

GENERAL

5PIR-51-08-PORR-T1	COVER SHEET	01	02						
5PIR-51-08-PORR-C1	SITE SPECIFIC NOTES AND ANTENNA TABLE	01	02						
5PIR-51-08-PORR-C2	OVERALL SITE PLAN	01	01						
5PIR-51-08-PORR-C3	SITE SETOUT PLAN	01	02						
5PIR-51-08-PORR-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: 5PIR-51-08-PORR
PORT GERMEIN

LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495



PROJECT SUMMARY

PROPOSED NBN 30m MONOPOLE WITH CIRCULAR HEADFRAME
PROPOSED NBN OUTDOOR CABINETS INSTALLED ON A 1.5m HIGH ELEVATED STEEL
PLATFORM WITHIN NBN COMPOUND

Client:



Client:



Client:

Project:

NATIONAL BROADBAND
NETWORK
SITE No: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495

PRELIMINARY

02	13.11.14	AZIMUTH UPDATE & COMPOUND SIZE CHANGE
01	11.11.14	PRELIMINARY ISSUE
Rev	Date	Revision Details



DESIGNER:




CHECKED:

APPROVED:

Drawing Title:

COVER SHEET

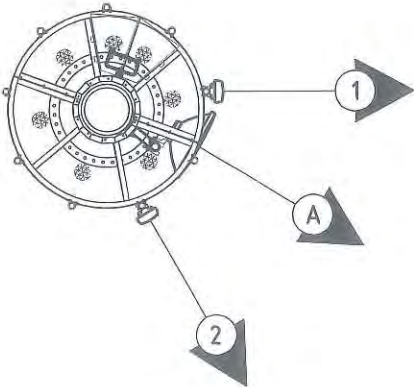
Drawing No.	Revision
5PIR-51-08-PORR-T1	02

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		ARGUS-LLPX310R	1077x300x115	30.0m	90°	6°	0°	N/A	N/A	H&S HYBRID 19.6mm CABLE	40m	29.0m	2m	RRUS61	BEHIND ANTENNA	H&S 1/2" BIRD PROOFED LISCA CABLE	2m	1/TSR 484 21/2000	1.5m
2		ARGUS-LLPX310R	1077x300x115	30.0m	150°	6°	0°	N/A	N/A				2m	RRUS61	BEHIND ANTENNA		5m	1/TSR 484 21/2000	1.5m
3																			
4																			
5																			
6																			
A		PARABOLIC	ø900	27.0m	119°	N/A	N/A	BEETALOO NORTH	1-OFF	LDF 1-50 CABLE	40m	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-

SITE INFORMATION:

1. SITE ADDRESS
LOT 3 GOVERNMENT ROAD, PORT GERMEIN SA 5495
2. GENERAL
THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT NBN CONSTRUCTION STANDARDS, CURRENT AUSTRALIAN STANDARDS AND SPECIFICATIONS
3. SITE ACCESS
ACCESS TO SITE IS ON THE CORNER OF SECOND STREET & OWNERS DIRT TRACK
4. EQUIPMENT
PROPOSED NBN OUTDOOR CABINETS ARE TO BE INSTALLED ON A 1.5m HIGH ELEVATED STEEL PLATFORM WITHIN THE NBN COMPOUND & LEASE AREA
5. STRUCTURE
PROPOSED NBN 30m 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
- SOFT SANDY SOIL TO SITE LOCATION
- EXISTING COASTAL VEGETATION (TO BE REMOVED FOR SITE ACCESS)
- BUILT UP SOIL TO EDGE OF DIRT ROAD/TRACK TO BE REMOVED TO ALLOW FOR ACCESS
- POSSIBLE STORM SURGE ZONE
9. ELECTRICAL SUPPLY
NO POWER CURRENTLY AT THE SITE & WILL NEED TO BE RUN FROM A NEW POINT OF SUPPLY
FINAL DESIGN SUBJECT TO THE APPROVAL OF 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



ANTENNA SETOUT PLAN
SCALE 1:100

Client:

Client:

Client:

Project:
NATIONAL BROADBAND NETWORK
SITE No: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495

PRELIMINARY

02	13.11.14	AZIMUTH UPDATE & COMPOUND SIZE CHANGE
01	11.11.14	PRELIMINARY ISSUE
Rev	Date	Revision Details

Aurecon Australia Pty Ltd ABN 54 005 139 873

DESIGNER:

CHECKED:

APPROVED:

Drawing Title:
SITE SPECIFIC NOTES
AND ANTENNA TABLE

Drawing No. 5PIR-51-08-PORR-C1	Revision 02
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SITE LOCATION



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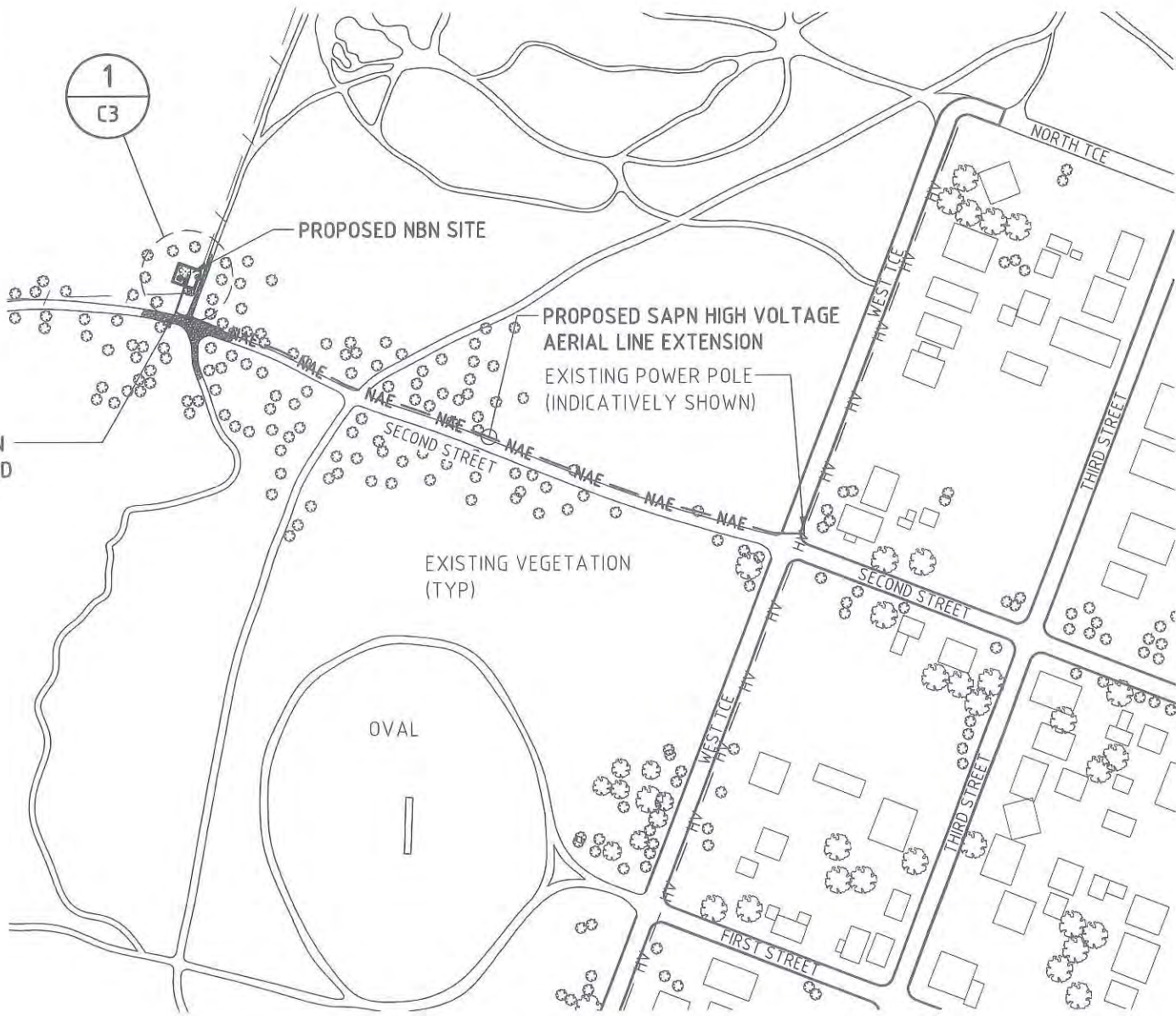
SITE CO-ORDINATES	
MONOPOLE LOCATION	
DATUM: MGA (GDA94)	ZONE: 54
LATITUDE	-33.017114°
LONGITUDE	137.992335°
EASTING	219038
NORTHING	6342795

LEGEND

- NAE — NAE — NEW SAPN HIGH VOLTAGE AERIAL LINE EXTENSION
- HV — HV — EXISTING SAPN HIGH VOLTAGE OVERHEAD POWER LINE
- / — / — EXISTING FENCE



PROPOSED SAPN
POWER POLE AND
TRANSFORMER



OVERALL SITE PLAN

SCALE 1:5000

NOTES:

1. THE PROPOSED SAPN HIGH VOLTAGE OVERHEAD POWER LINE EXTENTION AND NBN CONSUMER MAINS 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.



Project:
NATIONAL BROADBAND
NETWORK
SITE No: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495

PRELIMINARY

01 11.11.14 PRELIMINARY ISSUE
Rev Date Revision Details



DESIGNER:

CHECKED:

APPROVED:

Drawing Title:

OVERALL
SITE PLAN

Drawing No. 5PIR-51-08-PORR-C2 Revision 01



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

PROPOSED NBN MONOPOLE FOUNDATION (INDICATIVELY SHOWN)

PROPOSED NBN 30m MONOPOLE WITH CIRCULAR HEADFRAME

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

PROPOSED NBN UNDERGROUND CONSUMER MAINS IN HDuPVC ELECTRICAL CONDUIT TO PROPOSED SAPN POLE & TRANSFORMER

EXISTING TREE TO BE REMOVED

PROPOSED NBN $\phi 900$ PARABOLIC ANTENNA (TO BEETALOO NORTH)

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

EXISTING TREE TO BE REMOVED

EXISTING DIRT MOUND (RUNNING ALONG SIDE DIRT ROAD) TO BE REMOVED TO ALLOW FOR SITE ACCESS - DETERMINE ON SITE (NOT SHOWN FOR CLARITY)

PROPOSED NBN OUTDOOR CABINET SSC-02 INSTALLED ON A 1.5m HIGH ELEVATED STEEL PLATFORM

NBN OUTDOOR CABINET SSC-02 (FUTURE LOCATION)

PROPOSED NBN POWER DISTRIBUTION BOARD/METER PANEL INSTALLED ON HANDRAIL OF ELEVATED STEEL PLATFORM

10m SECTION OF EXISTING FENCE TO BE REMOVED TO ACCOMMODATE NEW NBN COMPOUND. MAKE GOOD EXISTING FENCE AFTER CONSTRUCTION IS COMPLETE

EXISTING UNSEALED DIRT ROAD

PROPOSED 1.5M HIGH ELEVATED STEEL PLATFORM

DETAIL
SCALE 1:100

1
C2

LEGEND

- NUE — NUE — PROPOSED NBN UNDERGROUND CONSUMER MAINS CABLE IN HDuPVC ELECTRICAL CONDUIT
- ec — ec — PROPOSED FINAL ELECTRICAL CIRCUITS IN 2x 50 ϕ HDPVC UNDERGROUND ELECTRICAL CONDUIT
- / — / — NBN COMPOUND FENCE
- / — / — EXISTING FENCE

NOTES:

1. THE PROPOSED SAPN HIGH VOLTAGE OVERHEAD POWER LINE EXTENSION AND NBN CONSUMER MAINS 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: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495

PRELIMINARY

Rev	Date	Revision Details
02	13.11.14	AZIMUTH UPDATE & COMPOUND SIZE CHANGE
01	11.11.14	PRELIMINARY ISSUE



DESIGNER:

CHECKED:

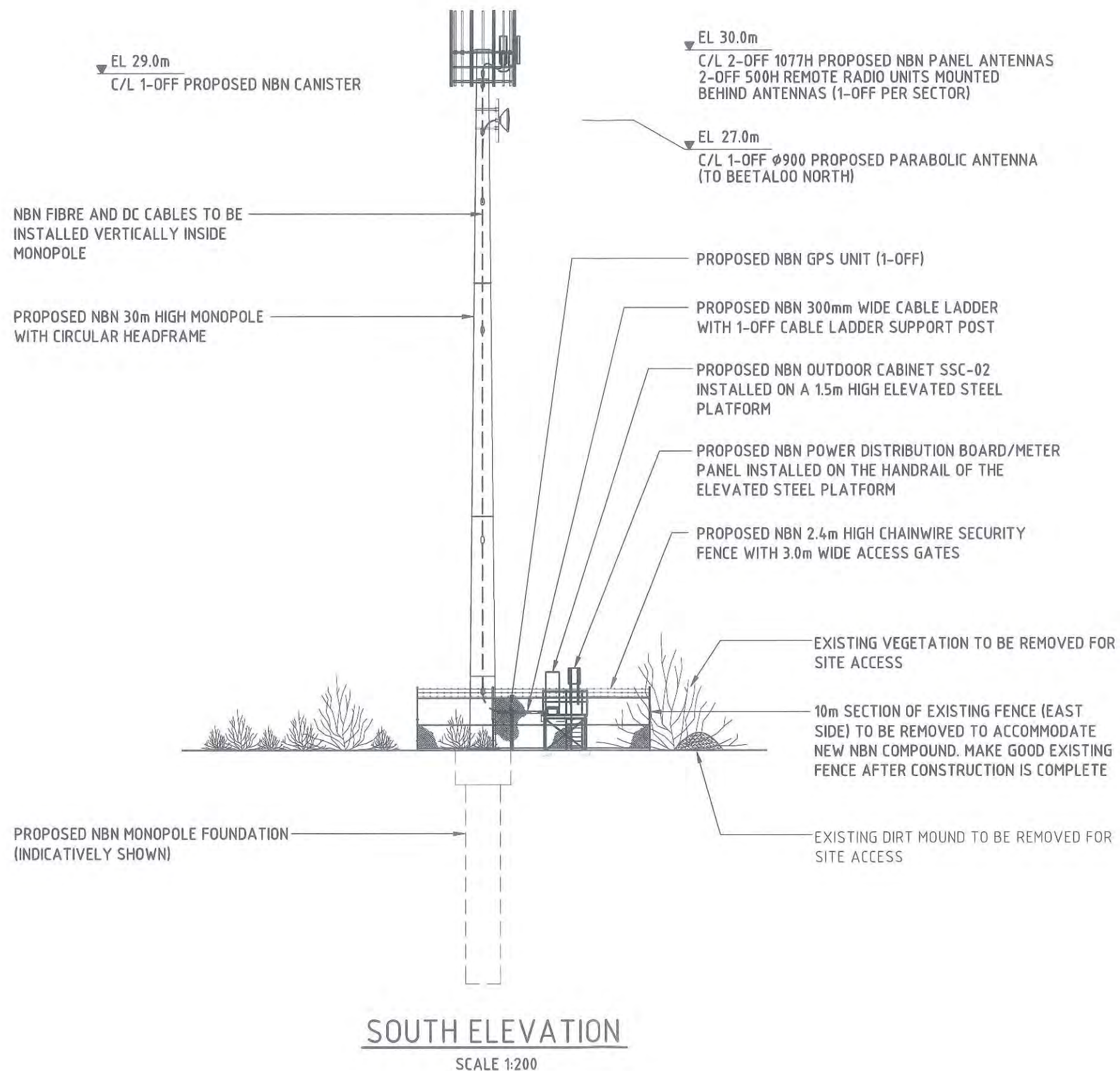
APPROVED:

Drawing Title:

SITE SETOUT
PLAN

Drawing No.
5PIR-51-08-PORR-C3

Revision
02



Client:



Client:



Client:

Project:

**NATIONAL BROADBAND
NETWORK**
SITE No: 5PIR-51-08-PORR
PORT GERMEIN
LOT 3 GOVERNMENT ROAD
PORT GERMEIN
SA 5495

PRELIMINARY

02	13.11.14	AZIMUTH UPDATE & COMPOUND SIZE CHANGE
01	11.11.14	PRELIMINARY ISSUE
Rev	Date	Revision Details



DESIGNER:

CHECKED:

APPROVED:

Drawing Title:

**SITE ELEVATION
AND DETAILS**

Drawing No.	Revision
5PIR-51-08-PORR-C4	02

DA 830/086/15

Proposed Development:

Telecommunication facility comprising a 25m high monopole with a circular headframe, antennas, associated infrastructure and fencing

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

235 Henley Beach Road
Torrensview SA 5031

Location:

Lot 3 in Deposited Plan 15856 Hundred of Telowie

Telephone 08 8130 7222

Certificate of Title:

Volume 5659 Folio 395

Facsimile 08 8130 7299

admin@accessplanning.com.au

Applicant:

NBN Co Ltd
C/- Aurecon

www.accessplanning.com.au

Owner:

Shane and Michelle Malchow

Zone:

Primary Production zone

Public Notification:

Cat 2 (merit) (no representations received)

Lodgement Date:

2 October 2015

Relevant Development Plan: Consolidated 5 September 2013

Assessment

Within the Primary Production Zone a telecommunications facility is neither a complying nor non-complying form of development, as such, the application is required to be assessed on its merits.

Whilst a telecommunication facility is not specifically envisaged in the zone or policy area, Telecommunication Facilities Principle 1 contemplates telecommunication facilities within rural zones. The Primary Production Zone is certainly considered to be a rural zone.

The intent of the Primary Production zone is to retain the land for primary production purposes and to protect primary production activities from encroachment of incompatible uses.

The subject land comprises an area of approximately 11.9 hectares and contains marginal farming land. Given the characteristics of the land the ability to undertake primary production activities are certainly limited on the property, notwithstanding its current zoning.

The proposed facility is to be located within the south east corner of the property and will only occupy an area of 120m².

As illustrated in Natural Resources Map MtR/17 the subject land is located within an area identified as a Wetland of National Significance. I note that this wetland covers an extensive area which extends along the entire western coastal boundary of the Council area and includes the township of Port Germein.

Whilst identified as such, I note that there is no policy within the Development Plan which relates to development within the wetland area and that there are no referral requirements for development within this area pursuant to schedule 8 of the Development Regulations.

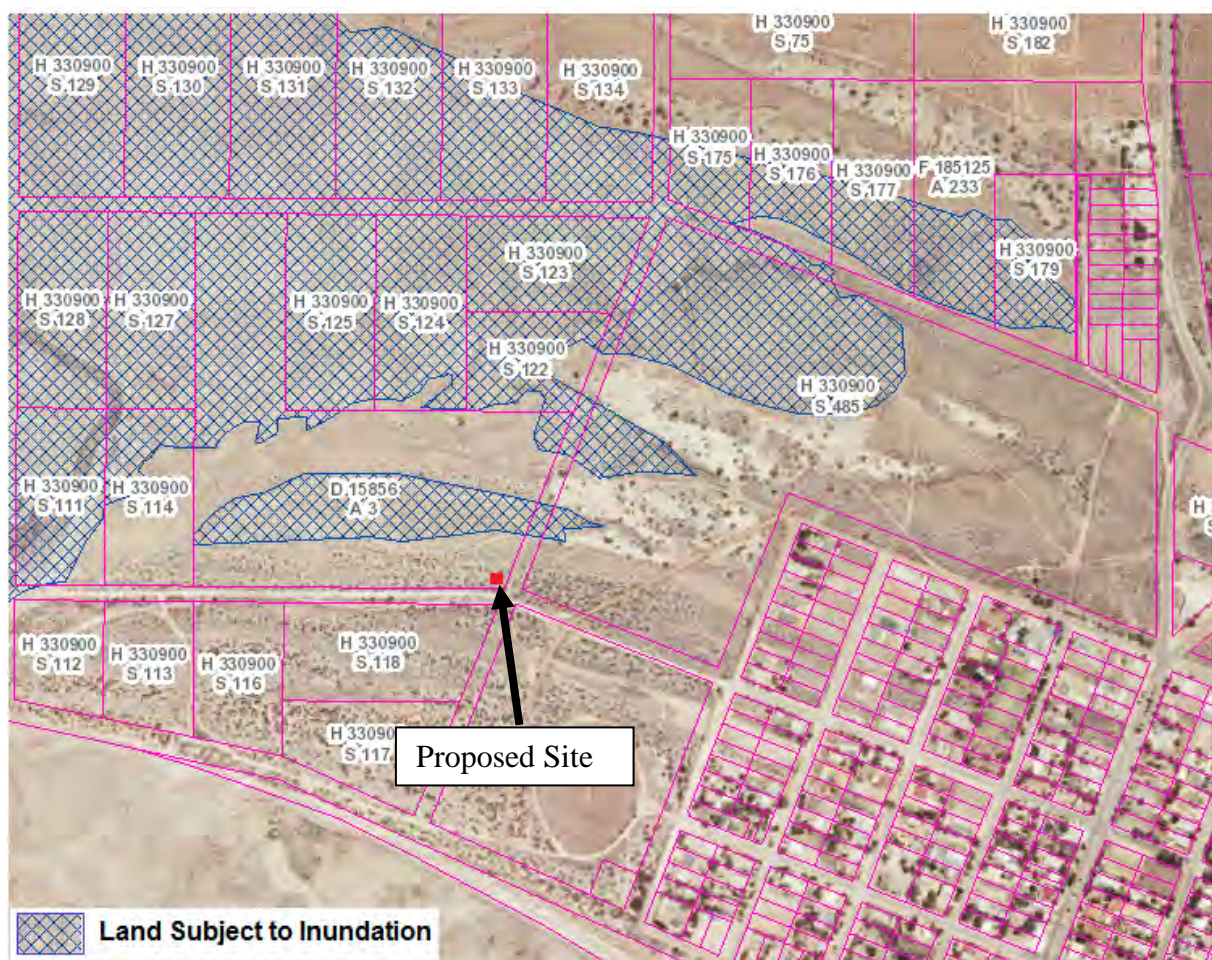
Notwithstanding the above, given the land is within a Wetland of National Significance it was requested that the applicant confirm whether the application requires a referral to Commonwealth Department of the Environment (DoE) under EPBC Act.

I note that the requirements of the EPBC Act are separate to those of the Development Act and it is the responsibility of the applicant to undertake the necessary investigations and applications required under this EPBC Act. However, the applicant undertook a 'self-assessment' of the EPBC Act referral process/requirements and this report concluded that the proposed facility would not require referral to DoE.

Development Constraints Map MtR/17 identifies that the land is located within an area potentially affected by Acid Sulphate Soils. To minimise potential impacts the applicant has advised that the treatment of potential acid sulfate soils during the construction phase will be undertaken in accordance with the relevant EPA guidelines. The applicant also provided details on the proposed testing and treatment methods to be used and given the size of the subject land it is expected any testing and treatment activities could occur on site and thus avoid the need to transport or dispose of any soil off site.

If managed as proposed, the development is considered to comply with Hazards Principles 20 and 21 which seek development to minimise risks associated with Acid Sulfate Soils.

I note that the equipment shelter is to be raised 1.5 metres above ground level in order to minimise flooding risk associated with its coastal location, whilst supported, I note that the subject land is located in an area which is not specifically identified as an area subject to inundation as indicated by the figure below.



Source: Nature Maps

With respect to land use, the proposal is a use that can coexist with farming activities existing and envisaged on the adjoining properties to the north and west and on this basis the proposal largely complies with zone Objectives 1 and 3.

In addition, the proposal only occupies a small portion of the subject land, and thus the facility will unlikely impede the continuation of the existing uses on the property and/or adversely restrict the establishment of desired uses on the land in the future.

Further, the telecommunications facility will unlikely create land use conflicts with uses within the adjoining Recreation zone to the east.

The key issue with the application is assessing the visual impacts, considering the proximity of the facility to the Township zone boundary and the intent of the zone to maintain the rural character of the area.

The visual impact of telecommunications facilities are principally dealt with in the General Telecommunications Facilities.

Mobile phone and broadband services now represent an increasingly important part of everyday life, both personally and for business purposes. It has become an essential part of today's society in much the same way that other utilities are required to service development and the activities/services which they offer. As a consequence, the demand for facilities, such as that now proposed, is also growing rapidly to a point where it can reasonably be expected that telecommunications services will be available to meet consumer needs, which is reflected in Telecommunication Facilities Objective 1 and Principle 1(a).

The applicant advised that co-locating was not an option within the locality as desired by Telecommunication Facilities Principle 1(e) and thus a new facility is required to be constructed.

With respect to the above, the applicant provided information confirming that co-locating on the existing Telstra tower located at 1 Keely Road (approximately 1.5km north west of the township) was not possible due coverage restrictions as a consequence of the separation distance of the tower from the targeted coverage area.

It is acknowledged that the proposed facility, by virtue of its height, will have some visual amenity impact on the character of the locality. Telecommunications facilities, by their very nature are required to be located relatively central to the area they service and of a height necessary to function viably and efficiently. Therefore, some visual intrusion is, in most circumstances, unavoidable.

The proposed siting of the facility will assist to reduce the degree of impact, as the facility is to be sited adjacent the Recreation Zone and setback approximately 300 metres to the west of the Township zone boundary and 360 metres from the coast and thus will not impeded views of the coast from the township.

The facility will also be well separated from the main road approaches to and from the town.

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.

To further reduce the visual impact of the facility it is recommended that any antennas mounted on the tower be painted or otherwise finished in a dull flat grey or similar muted colour. Generally light grey is considered to be a suitable, neutral colour, against most backgrounds to which the tower will be viewed. A condition of consent has been included to address this issue.

Given the design of the facility and setback from adjoining dwellings within the township and coast, the proposed location is considered appropriate and will not fatally disrupt the visual value of the surrounding landscape as desired by the zone .

With regard to the above, when balancing the visual impacts against the needs of the community for telecommunications facilities, I consider that the facility has been designed and sited to sufficiently minimise its visual impacts in accordance with the relevant provisions of the Development Plan and therefore the application warrants consent.

Recommendation

That Development Application 830/086/15 is not seriously at variance with the provisions of the District Council of Mount Remarkable Development Plan.

That Development Application 830/086/15 seeking to construct a telecommunication facility comprising a 25 metre monopole with a circular headframe, antennas, associated infrastructure and fencing at Lot 3 in Deposited Plan 15856 Hundred of Telowie be **granted** Development Plan Consent, 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.

Tom Hateley MP
Date: 31 March 2016

6.2 THE DISTRICT COUNCIL OF PETERBOROUGH

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


Action	For DECISION
Proponent	Council Officer
Officer	DCP CEO
Development Application	504/015/15
Associated Reports & Documents	Development Application, inc proposed plans Planning Consultant Report Nil Representations

Officer's Recommendations:

That 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 is not seriously at variance with the provisions of the District Council of Peterborough's Development Plan, Consolidated 10th October 2013.

That Council **Grant** Development Plan 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, 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.

	<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 11 Apr 2016 9.14.1 Page 9 of 13</p>
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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.

Introduction:

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

Previous Panel Consideration:

Nil

Officer's Report:

Refer to attached Report by David Hutchison, Access Planning (dated 6th January 2016).

Statutory Requirement:

The District Council of Peterborough Development Plan – consolidated 10th October 2013
 Development Act 1993
 Development Regulations 2008

Policy/Strategic Implications:

The District Council of Peterborough Strategic Management Plan 2011-2015:

Strategy Statement:

Our Vision: A thriving community *again*, with a quality lifestyle and sustainable economic base.

Strategy Objective:

Protecting and enhancing the natural and built environment is a key responsibility for local government.

- Protect the natural environment in partnerships with government, industry, and the community
- Maintain and develop the heritage, character and local identity of the towns in the area

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

BGW OUTBACK QUARTERHORSE Development application.

113 Victoria Street and 8-10 Torr Street.

We are seeking a change in the use of the land to allow the keeping of a maximum of 9 horses. The area is 1.6 Hectares (4 acres) in the township of Peterborough and is currently zoned Rural Living.

Currently existing are; 5 paddocks ranging in size from 720m² to 4400m²

5 day yards with shelters, 40m² to 145m²

2 fully covered stable of 30m²

4 day yards without shelter. 50m² to 250m².

The use of the property at present is; 1) Breeding of mares to our stallions by both paddock and hand serving

- 2) Pregnant mares kept on site prior to, during and after foaling until mare and foal are assessed to be suitable for relocation to another property
- 3) Keeping of young stock after weaning whilst being handled and prepared for sale.
- 4) Keeping of our stallions.

Council have stipulated that no more than 9 horses may be kept on the property at any time and to construct more sheltering to accommodate these nine horses.

We are proposing to erect an additional 3 shelters in existing paddocks to allow all horses to have shelter. Some existing yard areas will be available to house stock during day/suitable weather and returned to stables as required. Saltbush has been planted around some fencelines as a hedge and this will be continued to be rolled out on property boundaries as well as around the paddocks. This will be to create both a visual barrier and also as a wind break to help prevent dust from blowing off our property.

Following are the potential environmental impacts that we have identified and the means by which we believe that they can be minimised or eliminated.

Pollution prevention:

Chemicals used are: Commonly available horse wormers for the control of equine parasites.

Fly bait (Bayer Quick Bayt or similar), a readily available non scheduled poison for the control of flies. Fly bait stations are located around areas where the horses are kept.

Rodent baits, wax blocks commonly available and used in our fodder storage areas for the control of rats and mice. Bait traps are used so livestock, children and pets are unable to access them.

These products are stored in a locked under cover cupboard. not accessible to children.

Guttering & stormwater piping attached to shedding and stables to collect rainfall for reuse and to reduce water runoff.

Paddocks to be ploughed and contouring and swales to be constructed in paddocks to minimise water runoff.

All manure to be collected on a daily basis, stored on a sealed concrete pad and covered, to be removed from the property at least weekly.

Water demand and use:

Peterborough's rainfall figures obtained from Bureau Of Meteorology

average 326.7mm/year

median 313.8mm/year

	January	February	March	April	May	June	July	August	September	October	November	December
ave.	22	19.6	16.1	21.8	31	33.8	33.6	36.3	32.4	28.7	25.9	22.9
median	14.5	9.8	8.7	16.8	28	31.1	30.6	35.8	27.6	22.6	18	16.6

Water usage has been calculated on a figure of 20l/horse/day which works out to if there were always 9 adult horses on the property throughout the year a total of 65kL.

Water collection from sheds and stables has been calculated with a catchment area of 250m² and a

median rainfall of 314mm/year means 78kL which would be available for drinking supply. This would be stored and reticulated to individual watering points in the enclosures. Stock water would also be supplied by SA Water through our mains.

Wastewater Disposal and water quality:

There is minimal washdown of horses on a concrete washdown area which is sloped to runoff to a garden area. Usage would be less than 1kL per year.

Soil Management:

The majority of ground cover on site is annual grasses and weeds which die back and dry off in late spring and are required to be kept below 100mm in height prior to the commencement of the Fire season in November. The use of the paddocks will be regulated to ensure that there remains groundcover throughout the year.

Horses will be hand fed in individual feed bins, feed is generally oaten hay with some feeding of oats as well as commercially available supplementary feeds to mares and foals.

The property has a gentle and regular slope from North to South of approximately 3m over the 200m depth of the block, it also slopes from East to West by around the same margin.

The small yards all have a level base so runoff is minimal, some of the paddock areas will be ploughed prior to Autumn/Winter rains to reduce runoff and promote new groundcover growth. As mentioned previously, Saltbushes have been and will continue to be planted around the boundaries and paddocks to act as windbreaks and allow runoff to be halted and soak in to the ground. Main traffic area through from Victoria street into our area adjacent to the feed shed and float parking area through to the stables and Torr st to have dolomite or crusher dust laid down.

Vegetation:

There is nil native vegetation on site.

There is some Horehound on the property which will continue to be eradicated.

Air Quality:

The predominant sources of odour, dust and other airborne particles will be from the yard and stable area and as discussed previously will be minimised by the daily cleaning of faeces and storage in a covered site for a maximum period of 1 week before removal from the property. Also the continued construction of windbreaks will be occurring.

The closest houses to the horse sites are: our own approx. 15m

West 50m(3)

South 30m(3)

East 50m(1)

North 100m(1)

The closest school is approx. 500m East of our property and there is no tourist accommodation or Hospital within 1km of our property.

As discussed previously under other headings we feel that the managements techniques we are employing will minimise the impact of having up to 9 horses on this property. This will also be a continuous improvement process and will act on anything to ensure that these impacts are minimised or eliminated.

To date we have not been notified by any neighbours of any detrimental effects that the keeping of horses on this property has had on them or their families.

Summary: 1) fly bait and rodent bait used for control of vermin

2) saltbush plantings around boundaries and paddocks/yards to act as windbreak and barrier.

3) manure to be collected daily and removed from property weekly.

4) paddocks to be plowed and contoured to reduce water runoff and promote vegetation growth.

5) paddock use to be rotated to reduce loss of ground cover.

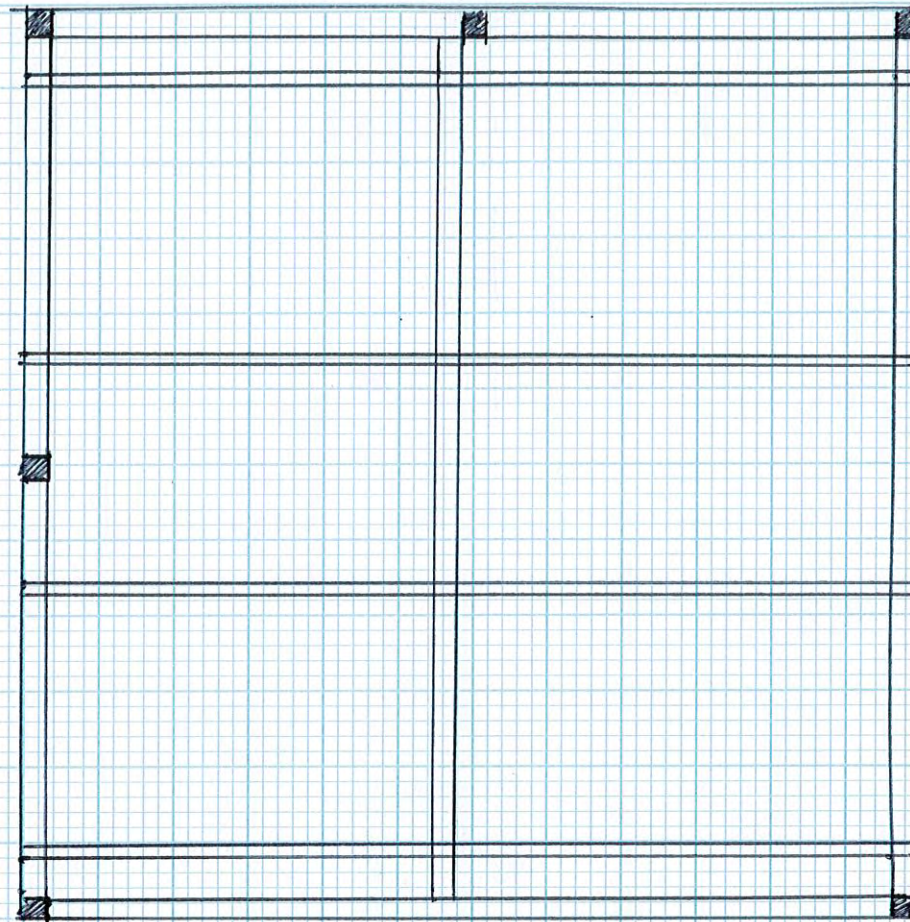
6) driveway areas to have dolomite or crusher dust laid to prevent creating boggy areas when wet.

AS AN AMENDMENT TO OUR DEVELOPMENT APPLICATION
OUR MEANS OF MANURE STORAGE IS TO COLLECT FROM
YARDS & DEPOSIT IN 240L "WHEELIE BINS". WE WILL
HAVE FOUR OF THESE AND THEY WILL BE REMOVED
& EMPTIED EVERY 2-3 DAYS. THIS WILL BE A MORE
CONVENIENT FLY & VERMIN PROOF MEANS OF STORAGE
THAN DESIGNING & CONSTRUCTING A CONCRETE/BRICK
STRUCTURE.

THE WASHDOWN BAY WILL BE LOCATED AS PER
INDICATED, UTILISING AN EXISTING RAIL FROM DISMANTLE
YARD AND WITH A CONCRETE SLAB MEASURING APPROX
3m x 3m.

G. WOODS.

SCALE 1:25.

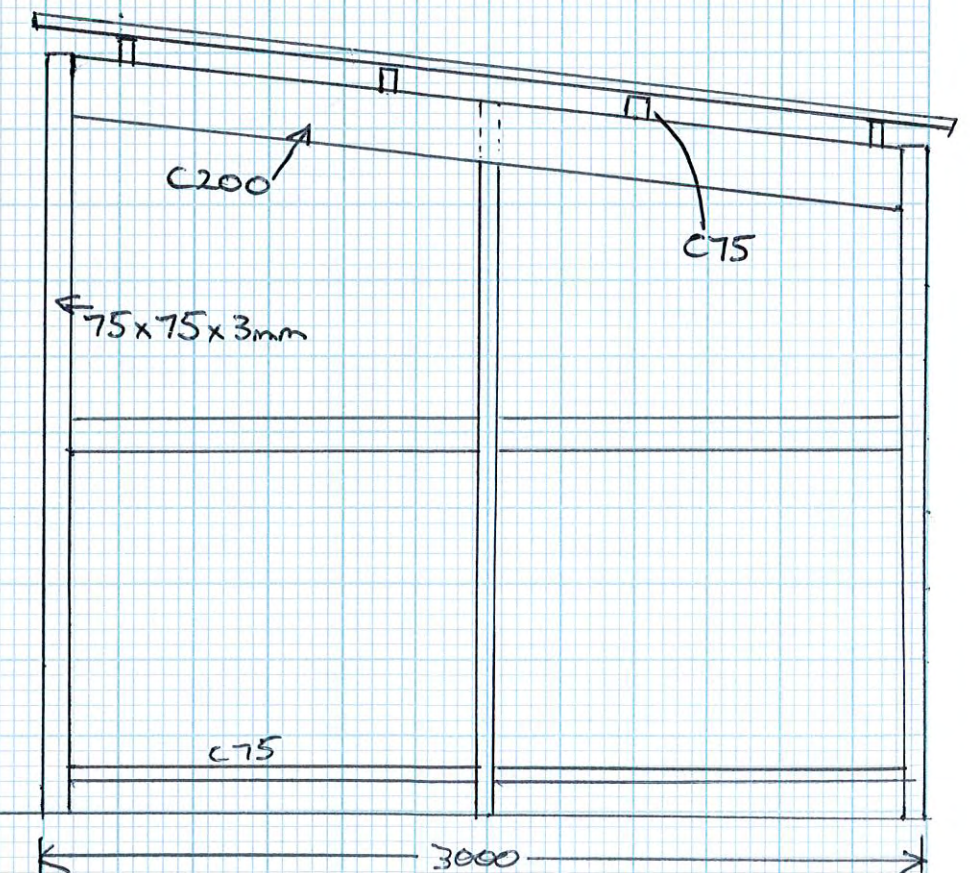
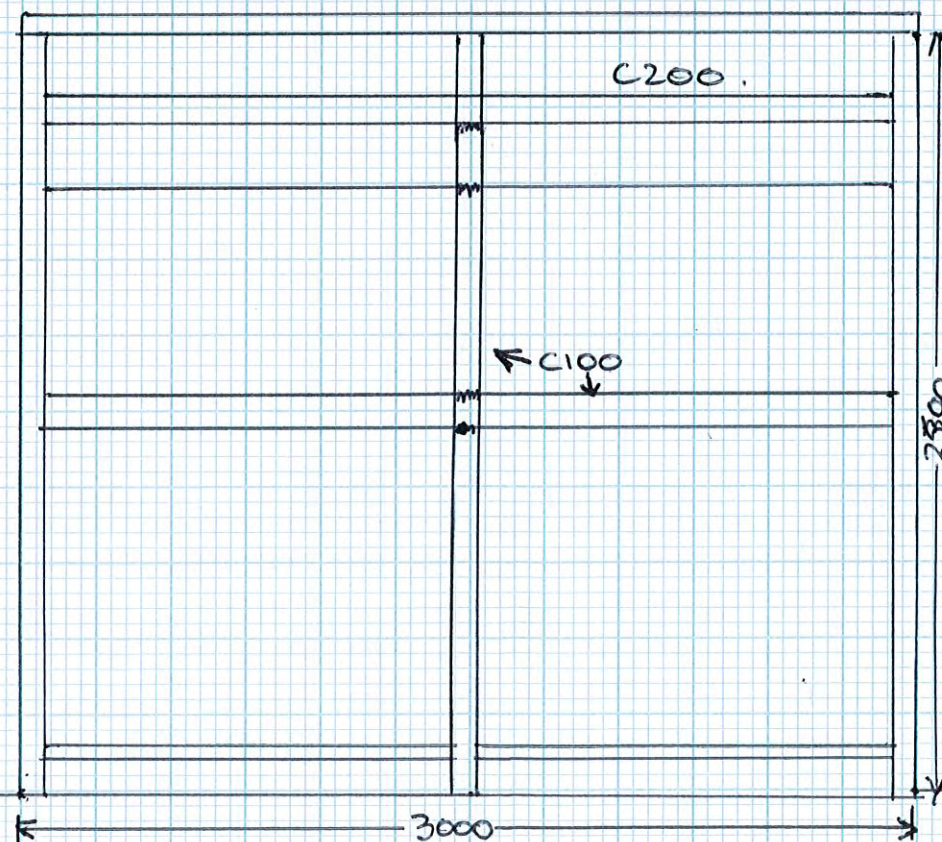
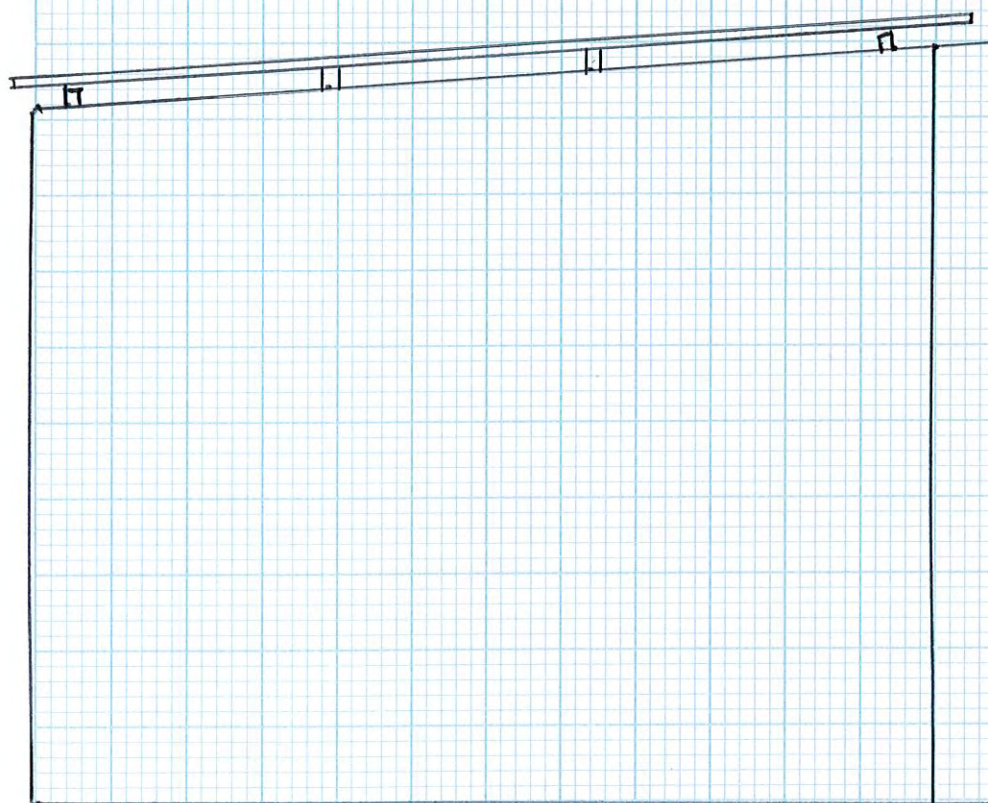


FOOTINGS 600mm DEEP, 200mm DIAMETRE
HOLE, CONCRETE FILL.

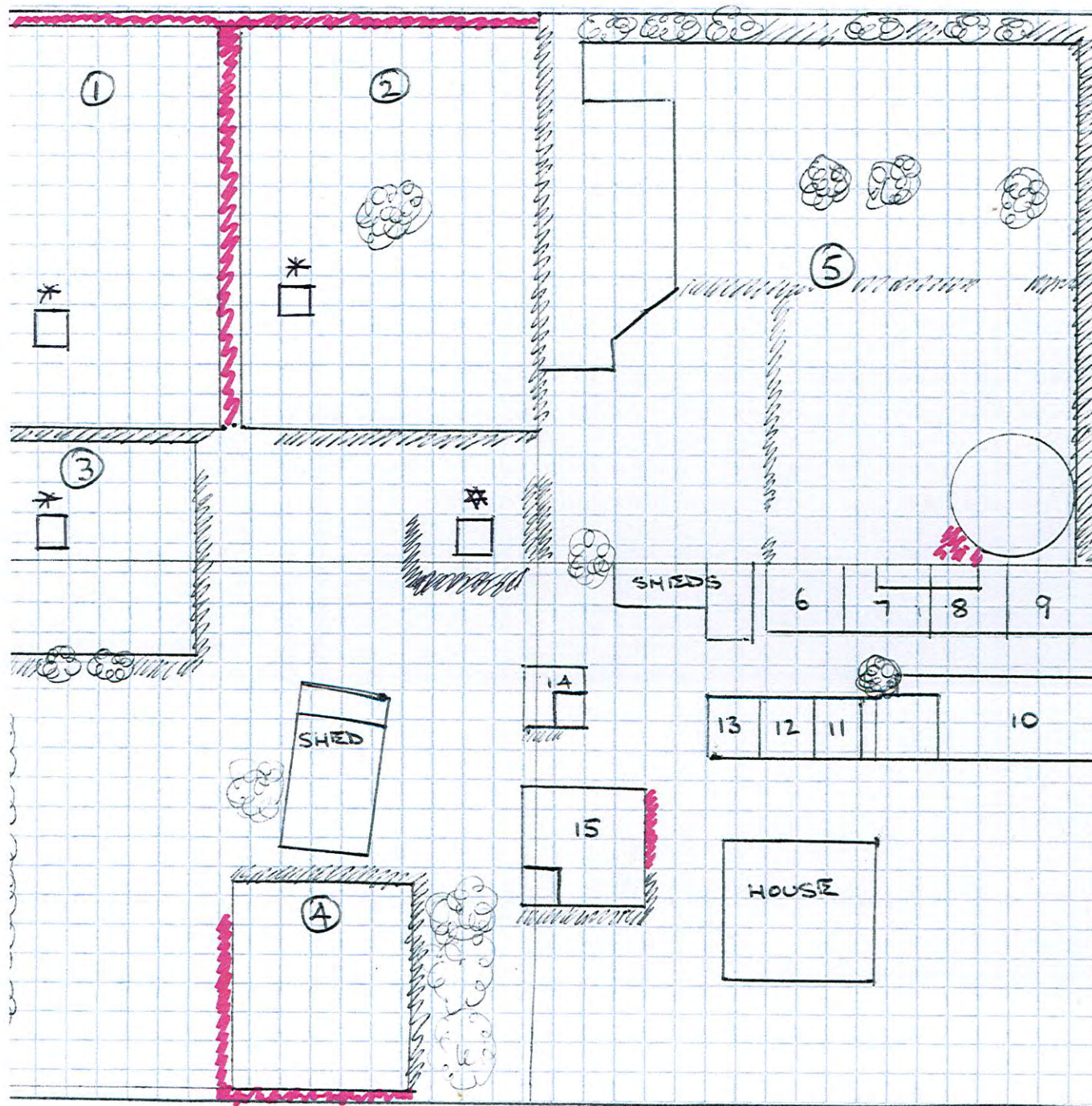
90° BRACKETS USED TO SECURE C SECTION
TO UPRIGHTS & TO C SECTION WITH
12mm METRIC BOLTS ~~TO~~ USED.

SHELTERS TO BE ERECTED WITH
OPEN FACES TO EAST AND NORTH.

CORRUGATED ZINC ALUM ROOF, REAR & LHS WALL.



N↑



- ① Paddock 1980m²
- ② Paddock 1860m²
- ③ Paddock 972m²
- ④ Paddock 720m²
- ⑤ Paddock 4400m²
- ⑥ YARD 65m²
- ⑦⑧ YARD WITH SHELTER 73m² EACH.
- ⑨ YARD 78m²
- ⑩ YARD WITH SHELTER 145m²
- ⑪⑫ STABLES 30m² EACH
- ⑬ POTENTIAL STABLE 30m²
- ⑭ YARD WITH SHELTER 40m²
- ⑮ YARD WITH SHELTER 140m²

- EXISTING SALT BUSH
- PLANNED SALT BUSH PLANTING
- * PROPOSED ADDITIONAL SHELTERS.
- ☆ PROPOSED WASHBAY.

G. WOODS.

6th January 2016

Ref: 6473cncldrept

The Chief Executive Officer
District Council of Peterborough
PO Box 121
PETERBOROUGH, SA 5422

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: Lawrence Heath

Dear Lawrence,

Re: HORSE KEEPING - SECTIONS 392 AND 395 TORR STREET, PETERBOROUGH

The following is an assessment of the above development against the relevant provisions of the Council Development Plan. In preparing this report I have inspected the subject land and locality and am familiar with the development in the locality.

1.0 DEVELOPMENT DETAILS

Proposed Development:	Horse Keeping to keep a maximum of 9 horses
Development Application Number:	504/015/15
Applicant:	Graeme Woods 113 Victoria Street Peterborough SA 5422
Owner:	Bridget-Anne Skeer 113 Victoria Street Peterborough SA 5422
Property Address:	113 Victoria Street Peterborough SA 5422
Certificate of Title(s):	Volume 6543 Folio 53 Volume 5817 Folio 699
Land Use:	Dwelling and outbuildings
Zone:	Rural Living Zone
Public Notification:	Category 3
Lodgement Date:	11 August 2015
Authorised Development Plan:	10 October 2013

2.0 BACKGROUND

By correspondence from Council dated 19th October 1999 the owner of the property at sections 932 and 935 Torr Street Peterborough, Ms Bridget Anne Woods, nee Skeer (as nominated on the Certificates of Title for the land) was granted approval from Council to use the property for the keeping up to 30 goats, 1 cow, 1 calf, 4 sheep, 9 horses and 20 fowls.

The numbers and types of animals permitted to be kept on the land were conditional on a number of factors, namely:

- 1 All animal and poultry yards/pens are to be maintained in a cleaned and hygienic condition at all times with manure being removed from the site on a regular basis;
- 2 That all yards/pens and fencing be maintained in a sound and tidy condition capable of retaining the animals to prevent them straying or causing a nuisance or harm to any other persons or property; and
- 3 That a general tidy up be undertaken immediately of your property and maintained to present a neat and tidy site at all times.

Quite apart from not meeting the conditions above, inspections of the property by Council staff and I have noticed continually well in excess of 9 horses on the land, and other non-domestic animals including a camel calf and bull have been observed on the land.

More recent inspections of the property have revealed that there were some 26 horses on the land.

On the 29th July 2014 the Council issued Section 84 proceedings in relation to the illegal use of the land and at the same time sought legal advice as to the validity of the Council correspondence as a formal planning approval for use as set out in the letter of 19th October 1999.

The landowner failed to comply with the terms of the Section 84 Notice and on prompting of correspondence from Councils solicitors referring to potential enforcement action, have now lodged the application now being considered.

Advice from Councils Lawyers was also to the effect that the Council letter of the 19th October 1999 did **not** constitute a valid approval for the land use as nominated in the letter.

3.0 THE PROPOSED DEVELOPMENT

The proposed development is for Horse Keeping.

Horse keeping is a consent land use in the Rural Living zone.

Horse keeping is defined in the Development Regulations as;

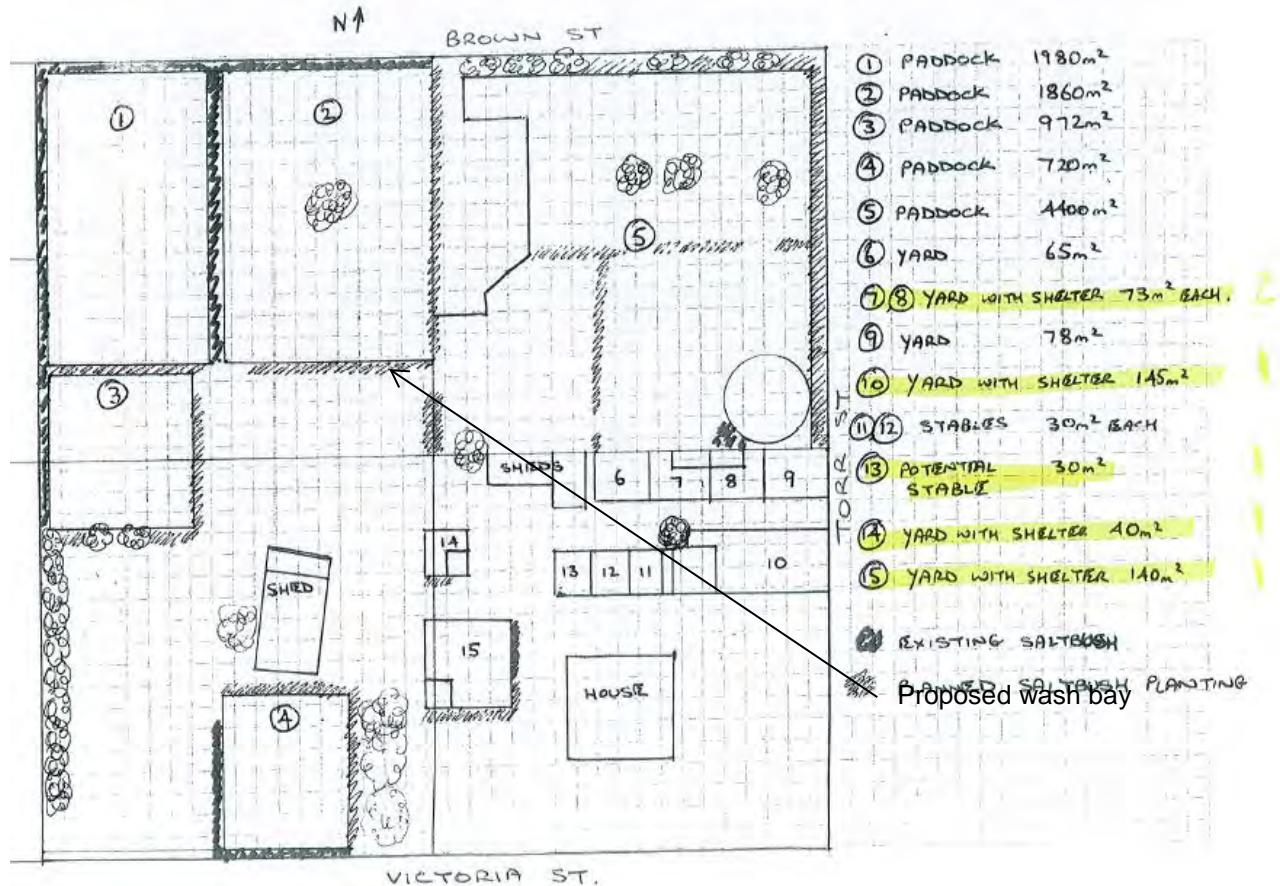
horse keeping; means the keeping or husbandry of horses where more than 1 horse is kept per 3 hectares of land used for such purposes or where hand feeding of a horse is involved

The application involves the keeping of up to 9 horses on the land, this includes;

- Breeding of mares to stallions by both paddock and hand serving;
- Pregnant mares being kept on site prior to, during and after foaling until the mare and foal are assessed to be suitable for relocation to another property;
- Keeping of young stock after weaning whilst being handled and prepared for sale;
- Keeping of stallions.

At present there are 5 existing paddocks ranging in size from 720m² to 4400m². There are 5 day yards with shelters ranging in area from 40m² to 145m², 2 fully covered stable of 30m² each and 4 day yards without shelters ranging in size from 50m² to 250m².

These features are depicted on the site plan lodged with the application, a copy of which is reproduced below.



Proposal Plans

An additional 3 shelters are proposed in the existing paddocks to allow all horses to have shelter (refer plan below).

Some existing yard areas will be used to house stock during day/suitable weather which will be returned to stables as required.

Saltbush has been planted around some fence lines as a hedge and this will be continued to property boundaries as well as around the paddocks as a visual barrier and wind break.

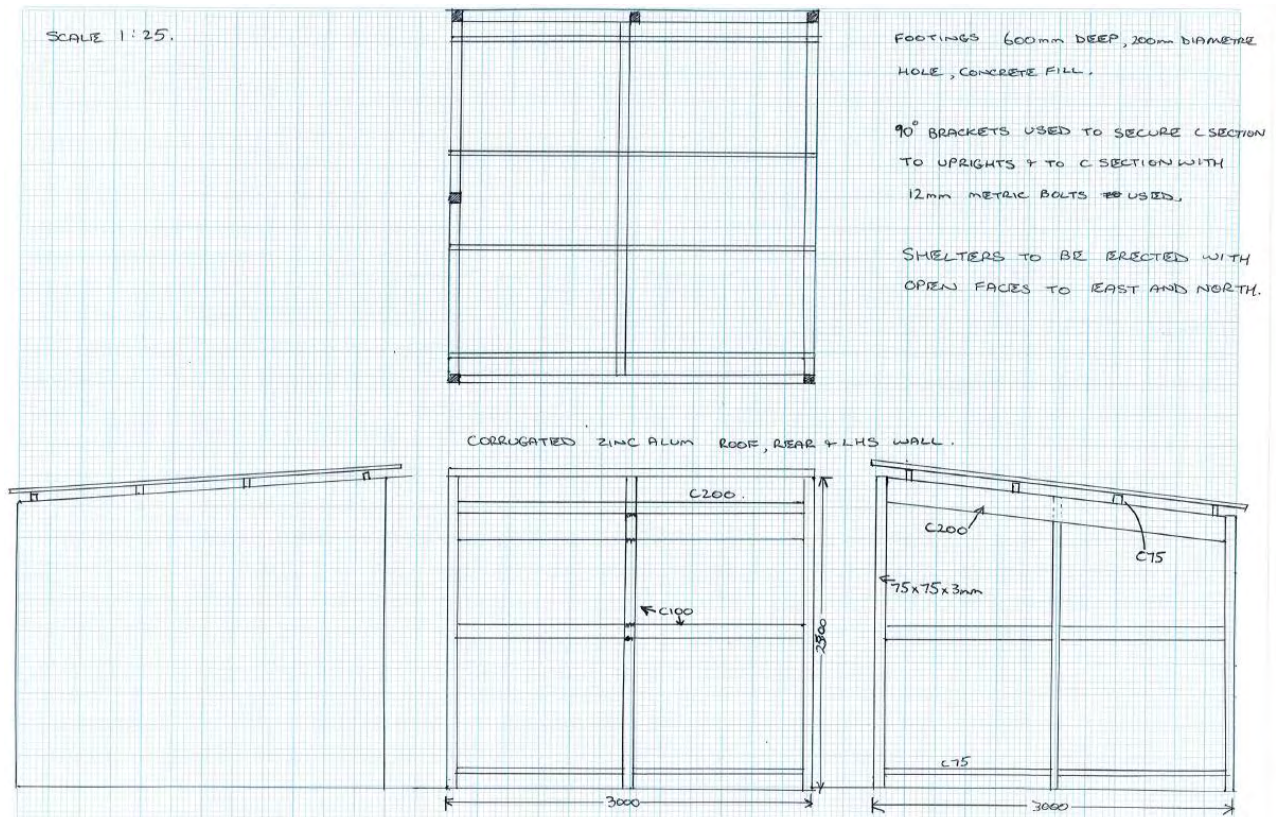
Paddocks will be contour ploughed and swales constructed to minimise water runoff.

All manure to be collected on a daily basis, stored in lidded 240litre rubbish bins (4 of) which will be removed every 2 to 3 days as required.

A 3m x 3m concrete slab will be established as a wash bay with runoff being directed to the surrounding land.

The majority of ground cover on site is annual grasses and weeds which die back and dry off in late spring. The use of the paddocks will be regulated by rotating stock to ensure that there remains ground cover throughout the year.

Horses will be hand fed in individual feed bins; feed is generally oaten hay with some feeding of oats as well as commercially available supplementary feeds to mares and foals.



Proposed additional Horse shelters

Fly bait and rodent bait will be used for control of vermin.

Driveway areas will be surfaced with dolomite or crusher dust to prevent creating boggy areas when wet.

4.0 THE SUBJECT LAND AND LOCALITY

The property is located in the Rural Living zone in the Councils Development Plan. It is bordered to the south and east by land in the Residential zone.

It has an area of about 1.9ha contained in two allotments.

Land in the Residential zone is developed at very low density and comprises either vacant land or detached dwellings on large allotments.

The land in the Rural Living zone is similarly disposed.

An aerial photograph of a residential neighborhood. A red rectangle is drawn over a central plot of land, which appears to be a vacant lot or a property with sparse vegetation. The surrounding area contains several houses with light-colored roofs, some with swimming pools, and various trees. The streets are visible as light-colored lines separating the property lots.

The land has a gentle fall from north to south. It accommodates a detached dwelling located in the south eastern corner of the property along with a number of outbuildings, including stables together with fenced paddocks and holding yards.



View of the subject land from Torr Street/Brown Street intersection

5.0 DEVELOPMENT PLAN ASSESSMENT

The property is located in the Rural Living zone, Home Industry Policy Area as depicted on map Pet/2 in the Councils Development Plan.

Horse keeping is a consent use in the zone

Relevant Development Plan provisions include:

Rural Living zone

Objectives

- 1 A zone consisting of large allotments, detached dwellings and rural activities that do not adversely impact the amenity of the locality.**
- 2 Development that contributes to the desired character of the zone.**

Desired character

Due to the character, the current use and size of the allotments, its marginal agricultural value and the keeping of horses and other animals in the area, the land in the zone lends itself to be used for semi-rural type of development, and to serve as a buffer between the town and the broadacre farming land. To help achieve a desirable level of amenity, it is expected that a stocking rate for horse keeping of not more than 2 horses per hectare would be maintained on an allotment.

A detached dwelling, farm building and stables are among the range of envisaged land uses in the zone

- 4 The keeping of animals should be ancillary to and in association with the residential use of the land.**
- 5 The keeping of horses should only be undertaken if the horses are accommodated within a stable or shelter with supplementary feeding to maintain pasture cover.**

Home Industry Policy Area

- 1 A policy area accommodating small-scale service and light industries where people live and work on the same site.**
- 2 Development that contributes to the desired character of the policy area.**

Desired character

The Policy Area lies within the Rural Living Zone and is situated largely across the northern part of the Peterborough township, with land holdings and a mix of land uses within a rural environs setting.

The role of the town, as a regional service centre, supports opportunities for encouraging further rural and limited small-scale industrial development in the area provided the development is appropriate in terms of use, intensity of activity, and environmental impact on adjacent development.

General section Animal Keeping

Objectives

- 1 Animals not kept at a density beyond the carrying capacity of the land or water.**
- 2 Animal keeping development sited and designed to avoid adverse effects on surrounding development.**

Principles

- 1 Animal keeping and associated activities should not create adverse impacts on the environment or the amenity of the locality.**
- 2 Storage facilities for manure, used litter and other wastes should be designed and sited:**
 - (a) to be vermin proof**
 - (b) with an impervious base**
 - (c) to ensure that all clean rainfall runoff is excluded from the storage area**
 - (d) outside the 1 in 100 year average return interval flood event area.**

Horse Keeping

- 3 Stables, horse shelters or associated yards should be sited:**
 - (a) at least 50 metres from a watercourse**
 - (b) on land with a slope no greater than 1 in 10 metres.**
- 4 A concrete drainage apron should be provided along the front of stables directing water from wash-down areas onto a suitably vegetated area that can absorb all the water, or into a constructed drainage pit.**
- 5 Stables, horse shelters or associated yards should be sited at least 30 metres from any dwelling on the site and from the nearest allotment boundary to avoid adverse impacts from dust, erosion and odour.**
- 6 All areas accessible to horses should be separated from septic tank drainage areas.**

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

- 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.

Landscaping, Fences and Walls

Objective

- 1 The amenity of land and development enhanced with appropriate planting and other landscaping works, using locally indigenous plant species where possible.

Natural Resources

Objective

- 2 Protection of the quality and quantity of South Australia's surface waters, including inland and underground waters.

Principles

- 20 Development should have adequate provision to control any stormwater over-flow run-off from the site and should be sited and designed to improve the quality of stormwater and minimise pollutant transfer to receiving waters.

Orderly and Sustainable Development

Objectives

- 1 Orderly and economical development that creates a safe, convenient and pleasant environment in which to live.
- 3 Development that does not jeopardise the continuance of adjoining authorised land uses.
- 4 Development that does not prejudice the achievement of the provisions of the Development Plan.

Principles

- 1 Development should not prejudice the development of a zone for its intended purpose.

Waste

Objectives

- 1 Development that, in order of priority, avoids the production of waste, minimises the production of waste, reuses waste, recycles waste for reuse, treats waste and disposes of waste in an environmentally sound manner.
- 2 Development that includes the treatment and management of solid and liquid waste to prevent undesired impacts on the environment including, soil, plant and animal biodiversity, human health and the amenity of the locality.

Principles

- 1 Development should be sited and designed to prevent or minimise the generation of waste (including wastewater) by applying the following waste management hierarchy in the order of priority as shown below:
 - (a) avoiding the production of waste
 - (b) minimising waste production
 - (c) reusing waste
 - (d) recycling waste
 - (e) recovering part of the waste for re-use
 - (f) treating waste to reduce the potentially degrading impacts
 - (g) disposing of waste in an environmentally sound manner.

2 The storage, treatment and disposal of waste materials from any development should be achieved without risk to health or impairment of the environment.

The Desired Character statement for the zone seeks that horses not be kept at a density of more than 2 horse per hectare, which would limit the stocking density of the subject land to not more than 2 horses.

The extent of horse keeping on the land up until now has given rise to number of problems, in particular pasture degradation and lack of management of manure which has been allowed to build up on the land to a point where, in places it has blown to or purposely been disposed of on to the road reserve.

Some of these impacts are illustrated in the following photographs.



Photo showing denuded pasture cover typical of yards containing horses

Stocking rates of 2 horses per hectare are a little unrealistic given the specific circumstances of the subject land, which as described above is developed at a very low density with little likelihood that the further or higher density will occur in the Residential zoned land to the south and east of the property.

The very low density of development and extent of vacant land is locality in my view supports stocking at higher densities than provided for in the desired character statement, but that is conditional on proper management of the land being effected so as to minimise if to completely address issues arising from past poor management practices.



Build up of manure in holding yards



Manure and straw on the Council road reserve adjacent the property boundary

The principal issues associated with the land use/proposed development have been the past overstocking of the land and lack of proper site management.

Reducing the number of horses on site to not more than 9 will address the former issue and management practices including the regular (daily) collection of manure, its storage in fly proof containers and removal every 2 -3 days, together with appropriate pasture management should address the issues referred to above.

The Development Plan contains specific policies relation to Horse Keeping. These are reproduced above but in essence seek that;

1. Horse keeping not occur within 50m of a watercourse – complies
2. Not occur on land with a slope of more than 1:10 – complies
3. Provide a concrete apron for washing horses – complies
4. Wash down area to be drained to a drainage pit or garden area – complies
5. Shelters, yards, stables etc be more than 30m from a dwelling on the land or nearest allotment boundary – does not comply
6. Areas accessible to horses be located away from septic tank drainage areas - complies

The fact that the development fails to meet the separation distance in point 5 above is not fatal to the development. The house on the land is occupied by the operator and as such impacts arising from the horse keeping activities do not give rise to any loss of amenity for them that might otherwise affect an occupant not involved in the land use.

Similarly, the site is very large with the larger paddocks located on the western side of the site which provide some separation between the horse keeping activity and adjoining land, whilst the large size of adjoining allotments is such that the nearest house is over 40m from the common property boundary with the subject land.

To the south and west the 20m wide road reserve provides some spatial separation between the proposed land use and adjoining dwellings.

Landscaping using saltbush is proposed adjacent to most of the common boundaries and internally to provide a screen to the paddocks and stables. When mature the saltbush will assist in not only screening the development but moderating wind conditions across the land which, together with improved management practices should mitigate any impacts from dust.

I note that at the moment some of the landscaping is on the Council road reserve, particularly along Torr Street adjacent to yards 9 and 10 on the proposal plans (see photograph below). It may be preferable that solid fencing be used along the road frontage of these two yards to screen them from view from the street, noting that galvanised iron fencing has been used along the northern boundary of yard 9 already.

I would also question the singular use of saltbush as a screen. I consider that the use of some higher, faster growing vegetation comprising trees would have the added benefit of providing shade for the horses. I have dealt with this aspect of the development by conditions.

Proper management of manure, water runoff and pasture is vital to the development not having an adverse impact on the amenity of the locality.

Rather than piling manure up in paddocks as has been the case in the past, the applicant now intends to collect manure daily and to store it in enclosed bins. It will be removed from the land regularly. Water runoff from the wash down area will soak in to the surrounding soil whilst pasture management and contour ploughing will minimise the potential for stormwater to run off the subject land, not that I saw any evidence of this occurring on site or on the road reserve surrounding the land. In addition, proper surfacing of internal road ways will assist in managing stormwater runoff.



Torr Street view showing yards 9 and 10 with saltbush planted on the road reserve.

Ongoing management of the land will be important and as such approval is subject to stringent conditions is recommended.

6.0 RECOMMENDATION

Following consideration and having regard to all relevant matters, it is recommended:

That Development Application 504/015/15 is not seriously at variance with the District Council of Peterborough Development Plan, Consolidated 10 October 2013.


That Development Plan Consent for 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, be approved, 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.

Yours sincerely



David Hutchison
Authorised Officer

6.3 DISTRICT COUNCIL OF ORROROO CARRIETON

6.3.1 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	Letter of Response from Aurecon, following FRDAP meeting 23rd November 2015 Planning Consultant Report Previous Planning Consultant Report

Officer's Advice:

That 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.

And

That 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.

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

Officer's Reports:

Refer to attached Report by David Hutchison, Access Planning (dated 29th March 2016).

And

Previous Report from the FRDAP meeting 23rd November 2016 by David Hutchison, Access Planning (dated 3rd November 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

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

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)

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.

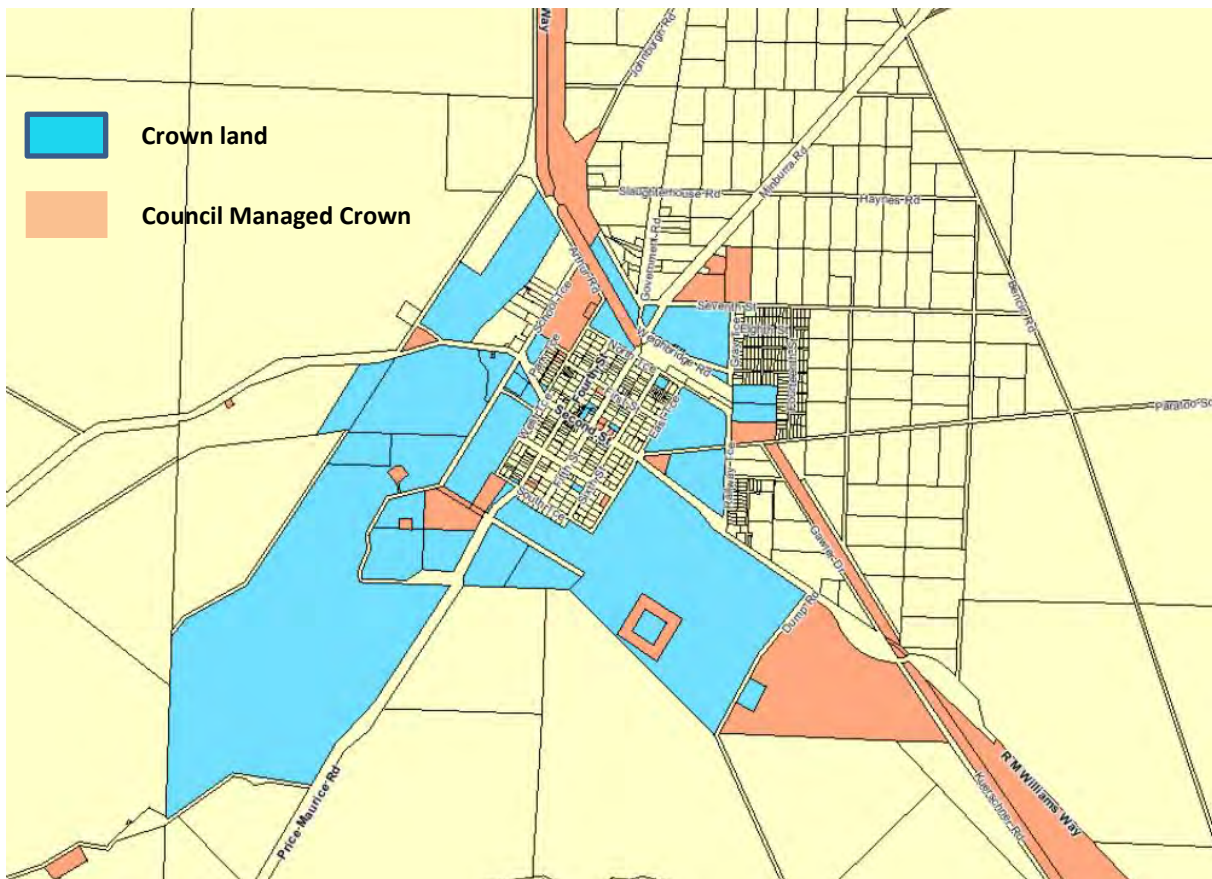


Figure 4: Crown Land around Orroroo

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.

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.

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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.

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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.

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6.4 THE FLINDERS RANGES COUNCIL

NIL

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

7. OTHER BUSINESS:

7.1 THE FLINDERS RANGES COUNCIL

7.2 DISTRICT COUNCIL OF MOUNT REMARKABLE

7.3 DISTRICT COUNCIL OF ORROROO CARRIETON

7.4 DISTRICT COUNCIL OF PETERBOROUGH

8. NEXT MEETING:

9. CLOSURE: