

Statement of Environmental Effects (SEE)

Development Application for a new Telecommunications Facility at Victoria Park, Cook St, Muswellbrook, NSW 2333– Lot 18/DP1075238

Prepared by Kordia Solutions Australia on behalf of Telstra Corporation Ltd

15th May 2018





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Quality Control

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Executive Summary

Proposed Development	Kordia Pty Ltd on behalf of Telstra seeks to establish a new mobile phone base station at Victoria Park, Cook St, Muswellbrook, NSW 2333– Lot 18/DP1075238. The proposed scope of works is inclusive of the following:	
	 Excavation of site footings and the provision of fencing; The swap-out of the existing 15m light pole structure for a 	
	new 25m monopole with a triangular headframe;	
	 The relocation of the existing lighting and associated equipment on the new 25m monopole at an elevation of 15m; 	
	 The installation of six (6) new panel antennas mounted on the aforementioned triangular headframe at an elevation of 25m; 	
	 The installation of six (6) new Tower Mounted Amplifiers (TMAs) mounted on the aforementioned triangular headframe at an elevation of 25.4m; 	
	 The installation of six (6) new Radio Remote Units (RRUs) mounted on the aforementioned triangular headframe at an elevation of 24.25m and 25.75m; 	
	 The installation of six (6) of 150mm wide conduits to run underground for approx. 20m 	
	 The installation of a 3.15m (L) x 2.38m (W) equipment shelter within the proposed lease area; 	
	 The installation of a palisade compound security fence surrounding the proposed lease area (6.5m x 4m) with 1.5m wide single access gate; 	
	• The installation of associated ancillary equipment including transceivers, amplifiers, antenna mounts, cable trays, feeders, cabling, combiners, diplexers, splitters, couplers, jumpers, filters, electrical equipment, handrails, kick plates, signage, bollards and other associated equipment; and	
	 Colour-matching the proposed telecommunication equipment to match surrounding background and facade where appropriate or as advised by council, otherwise painted in standard factory colour ('Shale Grey') 	
Coverage Objectives	It has been identified that there is a requirement to provide improved mobile phone coverage and capacity in the Muswellbrook locality. The proposed facility will help improve customer voice and data services within the area to fulfil the defined stipulations	
Property Details	Address: Victoria Park, Cook St, Muswellbrook, NSW 2333	
	Legal Description: Lot 18/DP1075238	
Property Owner	Muswellbrook Shire Council	



Relevant LGA, Zoning	Local Government Area: Muswellbrook Shire Council
Designated Land Use	Local Environmental Plan: Muswellbrook Local Environmental Plan 2009
	Zoning: RE1 - Public Recreation
	Principal Designated Use: Residential
Overlays	Mine Subsidence District
Applicant:	Telstra Corporation Ltd
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	Our Ref: Muswellbrook North



1.0 Introduction

Kordia Solutions Australia have been engaged by Telstra Corporation Ltd (Telstra) to design and construct a new telecommunications facility in the Muswellbrook area.

Mobile phone infrastructure provides an integral part of our everyday lives and helps pave the way for societal and technological progression. With the influx of future growth within the subject area, which is generating increasing consumer demands on voice and data services, it has been identified that a new base station is required to address the current poor mobile coverage and capacity.

In order to enable the provision of these services to customers, Telstra and Kordia have undertaken a comprehensive site identification and selection process based on a number of factors including environmental, planning, community, property, engineering and radiofrequency (RF) coverage objectives which have all been taken into careful consideration throughout the analysis.

As a result of this assessment, it was determined that a new telecommunications facility at the above address would be required in order to provide the necessary coverage and service objectives within the area with minimal adverse impacts on surrounding environments and the community.

Telstra ensures that all of its facilities, including the proposed facility at Muswellbrook, will operate at a level several thousand times below the already strict ARPANSA (Australian Radiation Protection and Nuclear Safety Agency) guidelines, even at maximum capacity. It should be noted that telecommunication facilities are designed to operate at the lowest possible power.

Telstra and Kordia consider the above location to be favourable for the proposed facility as it will have minimal overall environmental impact upon the Muswellbrook community whilst providing the necessary coverage.

Telstra and Kordia seeks the issue of a development consent for a new telecommunications facility at the subject site.

All mobile phone network operators are bound by the operational provisions of the federal *Telecommunications Act 1997 ("The Act")* and the *Telecommunications Code of Practice 2018*. This Development Application is bound by the core principles and operator requirements outlined within the *Telecommunications Act 1997*, however consent is required from Muswellbrook Shire Council in order to undertake the prescribed development. Consent is being sought in accordance to Clause 115(1) of the State Environmental Planning Policy (Infrastructure) 2007. Further information regarding the legislative framework pursuant to this proposal is located within Section 4 of this report.

It is deemed that the subject proposal demonstrates sufficient merit to warrant the requested development approval.





1.1 Why is a New Mobile Phone Base Station Required?

Mobile phones work by sending and receiving low power radio signals, much like a two way radio system. The signals are sent to and received from antennas that are attached to radio transmitters and receivers, commonly referred to as mobile phone base stations. The base stations are linked to the rest of the mobile and fixed phone network and pass the signal/call into those networks.

Each base station can only carry a finite number of calls. In areas of high mobile phone use, such as central business districts and high density areas, more base stations are required to handle the level of call and data traffic.

Operators of telecommunications networks must constantly respond to changes in technology or increased demand on their existing infrastructure assets due to urban growth. Recently, LTE or 4G has become the latest industry standard for mobile phone network operators within the Australian marketplace. With consumer demands reflecting an increase in demand for speed and data bandwidth, Telstra requires a new site at subject location to ensure that this level of service provision can be maintained within the defined coverage improvement objectives.

1.2 Site Selection

Carriers and mobile phone network operators have an obligation under the Industry Deployment Code (C564:2011) to utilise and upgrade existing infrastructure as opposed to developing new sites. However, in this instance this was unachievable due to numerous constraints. It should be noted that extensive searches were conducted within a defined search ring in and around the Muswellbrook locality, the defined search ring and potential candidates are outlined below in *Figure 1*. Alternative sites were explored in greater detail and a summary of the candidate analysis is detailed below in *Table 1*.

The below candidates were identified and assessed against environmental, planning, community, property, engineering and radiofrequency (RF) objectives. The outcomes of the site selection process is outlined in the table below.



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Figure 1 – Candidates that were analysed throughout the site selection process within the Locality

Candidate ID	Address	Selection Outcomes
Candidate A (-32.264599°, 150.910017°)	7 Industrial Close, Muswellbrook, NSW 2333	The subject candidate was not able to meet RF coverage objectives.
Candidate B (-32.263910°, 150.909220°)	17 Industrial Close, Muswellbrook, NSW 2333 – Lot 6/DP618467	The subject candidate was not able to meet RF coverage objectives.
Candidate C (-32.254450°, 150.886569°)	20 Kayuga Road, Muswellbrook, NSW 2333 - Lot B/DP376210	The subject candidate was not able to meet RF coverage objectives.
Candidate D (-32.253417°, 150.886072°)	36 Kayuga Road, Muswellbrook, NSW 2333 - Lot 1/DP653966	The subject candidate was not able to meet RF coverage objectives.
Candidate E (-32.26118°, 150.89869°)	Victoria Park, Cook St, Muswellbrook, NSW 2333 – Lot 18/DP1075238	Candidate E was the selected candidate as it meets all the objectives whilst entailing minimal environmental and visual impacts.
Candidate F (-32.261672°, 150.899627°)	Brecht Street, Muswellbrook, NSW 2333 – Lot 7304/DP1163152	The land owner preferred Candidate E for the location of the new facility.

 Table 1 - Candidate Analysis Summary



The site selection process also incorporates mandatory Deployment Code (C564:2011) activities which are undertaken in order to justify the proposed location of the subject site. This is inclusive of a "traffic light model" system which determines community based sensitivities, within both social and legislative based frameworks.

In order to provide the level of coverage required to service Muswellbrook, none of the existing structures or public utility structures offered a suitable co-location alternative in lieu of a new base station facility. Due diligence is conducted in relation to existing sensitive land uses, costs of upgrading, technical and coverage objectives, lease and land tenure, visual impact and engineering/design criteria.

The proposed site location, displayed below in *Figure 2*, meets Telstra's deployment objectives whilst satisfying construction feasibility, town planning considerations, environmental impacts, visual amenities and engineering factors:



Figure 2: Proposed Telecommunication Facility Site Location - Imagery

1.3 Preferred Site Candidate

The preferred site candidate at Victoria Park, Cook St, Muswellbrook, NSW 2333 was selected as the preferred site candidate for the following reasons:

- The proposed site location is appropriately situated amongst high-bearing existing light pole structures and will dissolve within the context;
- The availability of viable connections to the power and transmission networks in the area;
- Visual impact it is believed that the proposed site location will not result in the loss of amenity or the obstruction of viewing corridors to and from the proposed site;



- The proposed site entails a substantial amount of natural vegetation screening surrounding the site location;
- Town planning considerations (such as zoning, surrounding land uses, environmental significance, compliance with the planning scheme and visual impact);
- The proposed pole swap out will result in minimal adverse impacts as a result of construction. Construction will be undertaken during low traffic periods and be coordinated appropriately with council;
- Existing driveway access and carpark to site will negate any impacts to traffic flow during the construction phase;
- The location will offer a cost effective site solution whilst maximising coverage and mobile phone service provisions within the identified locality; and
- Tenure obtaining an agreement with the land owner of the subject site provides surety in determining the location of a mobile phone base station. An agreement has been determined with the subject land owner and Telstra.

2.0 Site Context

The subject site is situated within Victoria Park Sportsground which is enclosed by George Street, Hill Street, Bowman Street and Cook Street in Muswellbrook. The site is situated approximately 1km North-East of the Muswellbrook city centre. The legal description of the property is Lot 18/DP1075238. The GPS Coordinates of the proposed location are as follows: -32.26118°, 150.89869°.

The site is a replacement structure of an existing 15m light pole situated on the soccer field segment within Victoria Park and is adjoining the Cricket Oval to the west and Muswellbrook Cemetery to the east. The subject allotment is zoned as RE1 - Public Recreation pursuant to the Muswellbrook Local Environmental Plan 2009. The site is generally encircled by open space which facilities adequate separation towards nearby residential uses. The closest residential land use is approximately 80m from the site towards the north on Cook Street. There is approximately 150m separation from the site to the residential land uses on Hill Street, 200m separation to the residential land uses on George Street and 300m separation from the residential land uses on Brencht Street. The site location and context are displayed in *Figure 2* above.

3.0 Scope of Works

Mobile networks are similar to roads when traffic increases, upgrades are required to relieve congestion and mitigate network jams. Congestion is relieved by making changes to existing base stations or adding additional base stations in areas where we may already have existing coverage. The proposed schedule of works seeks to alleviate congestion and service issues within the Muswellbrook area.

- Excavation of site footings and the provision of fencing;
- The swap-out of the existing 15m light pole structure for a new 25m monopole with a triangular headframe;
- The relocation of the existing lighting and associated equipment on the new 25m monopole at an elevation of 15m;



- The installation of six (6) new panel antennas mounted on the aforementioned triangular headframe at an elevation of 25m;
- The installation of six (6) new Tower Mounted Amplifiers (TMAs) mounted on the aforementioned triangular headframe at an elevation of 25.4m;
- The installation of six (6) new Radio Remote Units (RRUs) mounted on the aforementioned triangular headframe at an elevation of 24.25m and 25.75m;
- The installation of six (6) of 150mm wide conduits to run underground for approx. 20m
- The installation of a 3.15m (L) x 2.38m (W) equipment shelter within the proposed lease area;
- The installation of a palisade compound security fence surrounding the proposed lease area (6.5m x 4m) with 1.5m wide single access gate;
- The installation of associated ancillary equipment including transceivers, amplifiers, antenna mounts, cable trays, feeders, cabling, combiners, diplexers, splitters, couplers, jumpers, filters, electrical equipment, handrails, kick plates, signage, bollards and other associated equipment; and
- Colour-matching the proposed telecommunication equipment to match surrounding background and facade where appropriate or as advised by council, otherwise painted in standard factory colour ('Shale Grey')

As previously specified, Telstra has an obligation under the Industry Code to ensure that all suitable alternatives have been explored as part of the justification behind this development application. It is believed that proposed works as outlined above will not result in any adverse visual or environmental impacts to the surrounding environs within the Muswellbrook locality.

3.1 Development Specifics

The proposal will encompass two key components, the installation of a new 25m monopole with a triangular headframe mounted on top and the recovery of the existing 15m light pole with the existing light and associated equipment to be relocated on the new 25m monopole at the 15m centreline. The total height of the proposed telecommunications facility is 26.3m above ground level. Footings for the structure will extend below ground level for which the depth will be determined during detailed design phase. An equipment shelter with dimensions of 3.15m (L) x 2.38m (W) will be installed adjacent to the existing sportsground amenities building within a 6.5m (L) x 4m (W) lease area. Six new conduits will be installed underground which will run approximately 20m from the structure location to the equipment shelter.

A diagram of the proposed telecommunications facility is displayed below in Figure 3.



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Figure 3: Proposed Telecommunications Facility

3.2 Access to the site

Access to the proposed site will be conducted through an existing access track off Cook Street as indicated below in *Figure 4* and on the proposed plans within *Appendix A* of this report. This route enables direct access off a roadway which will minimise any disruptions to traffic flow for construction vehicles during the build phase and any future required maintenance. The available access is of sufficient size for vehicle manoeuvring. Traffic management will be utilised during construction as necessary.

There is ample existing parking in the carpark off Hill road for vehicle activities during the construction phase. Given the minor amount of traffic generated by the proposal (expected to be 2 - 4 trips per year), it is not believed that any additional formal parking or manoeuvring areas are required.

It should be highlighted that traditionally, mobile phone base stations do not require extensive maintenance. Additionally, this proposal will not be a significant generator of vehicular and/or pedestrian traffic.

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Figure 4: Existing Access Track

3.3 Utilities

The final power design including the capacity of the supply will be confirmed in the detailed design phase, however, a major upgrade is not anticipated. Indicatively, it is proposed that the power connection for the new equipment shelter will be provided from a nearby existing Ausgrid power pole. A standard power application will be submitted to Ausgrid for approval.

The unmanned facility does not require access to water or sewer infrastructure. The proposal will not alter stormwater runoff from the site, given the very minimal hardstand area.

The site does not require any additional permits for the connection of a sewer/roadway.

3.4 Construction Scheduling

Given the fairly unique nature of the proposed development, the development and construction of the mobile phone base station primarily consists of the following processes:

- Pre-construction ensuring that the land is suitable for construction. This is inclusive of confirming existing structural assessments and the provisioning of cabling;
- Installation of new equipment reflective of the scope of works outlined within this Development Application; and
- Network Integration Ensuring that the mobile phone base station can connect with both end users and other sites within the Telstra network.

Throughout the construction phase of the proposed development, any construction works will not disturb existing traffic flows. If a road closure is required for the erection and installation of equipment, the appropriate approvals will be obtained from Council (where applicable).



4.0 Relevant Legislation and Planning Controls

The following Acts, Environmental Planning Instruments (EPIs) and Development Control Plans are primary legislation that is most relevant to this proposal:

- Environmental Planning and Assessment Act 1979;
- State Environmental Planning Policy (Infrastructure) 2007;
- Muswellbrook Local Environmental Plan 2009; and
- Muswellbrook Development Control Plan 2009 (DCP)

4.1 Environmental Planning and Assessment Act 1979

Section 79C of the *Environmental Planning and Assessment Act 1979 (EP&A Act 1979)* outlines specific assessment criteria which must be addressed within the submission of a development application and the likely impacts of the development on the surrounding built and natural environs. This report seeks to demonstrate compliance with relevant legislation which pertains to the subject application and matters of consideration within the planning process to minimise adverse negative impacts of the development.

4.2 State Environmental Planning Policy (Infrastructure) 2007

Given that the development is for a new mobile phone base station the primary legislation relevant to the proposal is *State Environmental Planning Policy (Infrastructure) 2007* – "ISEPP 2007". Items of compliance relating to the application and assessment of the proposal against the ISEPP have been outlined below.

Certain provisions are afforded within the ISEPP in relation to development of telecommunications infrastructure within New South Wales. *Division 21 Telecommunications and other communications facilities* and *Schedule 3A* of the ISEPP stipulate ways in which telecommunications development can be undertaken in any zone (with consent) and outlines prescriptive controls for works which can be installed as exempt or complying development.

This proposal however cannot be undertaken as exempt or complying development due to the nature and location of the proposal. As such, a development application is being sought with Muswellbrook Shire Council in accordance with clauses 113 and 115 of the *SEPP* (*Infrastructure*) as outlined below:

Clause 113 of the SEPP (Infrastructure) 2007 defines a "Telecommunications Facility" as:

- (a) any part of the infrastructure of a telecommunications network, or
- (b) any line, cable, optical fibre, fibre access node, interconnect point, equipment, apparatus, tower, mast, antenna, dish, tunnel, duct, hole, pit, pole or other structure in connection with a telecommunications network, or

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(c) any other thing used in or in connection with a telecommunications network

Clause 115(1) states that:

"Development for the purposes of telecommunications facilities, other than development in clause 114 or development that is exempt development under clause 20 or 116, may be carried out by any person with consent on any land."

Through the provisions outlined above, telecommunications facilities are permissible in any zone, including the RE1 - Public Recreation zone on the condition that consent is obtained by the relevant determining authority, in this instance being Muswellbrook Shire Council.

Furthermore, Clause 115(3) states:

visual impact:

"Before determining a development application for development to which this clause applies, the consent authority must take into consideration any guidelines concerning site selection, design, construction or operating principles for telecommunications facilities that are issued by the Director-General for the purposes of this clause and published in the Gazette."

This proposal is consistent with the guidelines concerning site selection, design and construction as is stipulated within the *NSW Telecommunications Facilities Guideline including Broadband (July 2010)*. Compliance with the requirements specified within this guideline is addressed in *Table 2* below.

Principle 1 – A Telecommunications Facility should be sited in order to minimize

Principle, as outlined:	Response:
(a) As far as practical, a telecommunications facility that is to be mounted on an existing building or structure should be integrated with the design and appearance of the building or structure.	The proposal entails a replacement of an existing light pole with a new higher structure to accommodate the telecommunications equipment.
(b) The visual impact of telecommunications facilities should be minimised, visual clutter is to be reduced	The proposed structure is positioned amongst existing high bearing light pole structures to ensure minimal visual impact on the surrounding environs.
particularly on tops of buildings, and their physical dimensions (including support mounts) should	The site is situated in an open space area and it is considered that the proposal will not impact on the overall landscape vista encompassed by the location.
height of the building to which it is to be attached, and sympathetic to adjacent buildings.	It is also believed the proposal will dissolve into the façade of the sportsground land uses, negating any potential visual impacts.
	Therefore, it is considered that the proposed facility is appropriately located in the setting considering and will

Table 2: Compliance with NSW Telecommunications Facilities Guideline



	be partially screened by existing vegetation, reducing any adverse visual impacts for surrounding land users.
(c) Where telecommunications facilities protrude from a building or structure and are predominantly backgrounded against the sky, the facility and their support mounts should be either the same as the prevailing colour of the host building or structure, or a neutral colour such as grey should be used.	The proposed tower does not protrude from an existing building or structure. The proposal is a standalone structure and will be finished in shale grey or as directed by council in an effort to be neutral in relation to surrounding development and remove focus from the tower.
(d) Ancillary facilities associated with the telecommunications facility should be screened or housed, using the same colour as the prevailing background to reduce its visibility, including the use of existing vegetation where available, or new landscaping where possible and practical.	The proposed equipment shelter is situated in amongst a collection of trees and other landscaping vegetation and adjacent to an existing amenities building, which will obscure the ancillary facilities (including fencing) from nearby viewpoints. Additionally, it will be finished with neutral colouring to flush into the background of the surrounding land uses.
(e) A telecommunications facility should be located and designed to respond appropriately to its rural landscape setting.	Not applicable. The site is not located in a rural setting.
(f) A telecommunications facility located on, or adjacent to, a State or local heritage item or within a heritage conservation area, should be sited and designed with external colours, finishes and scale sympathetic to those of the heritage item or conservation area.	Not applicable. The site is not located on or adjacent to a heritage item and/or heritage conservation area.
(g) A telecommunications facility should be located so as to minimise or avoid the obstruction of a significant view of a heritage item or place, a landmark, a streetscape, vista or a panorama, whether viewed from public or private land.	The proposal will not obstruct any significant views, vistas, heritage items, landmarks, panoramas or generate any negative impacts on the surrounding streetscape. The site is partially screened by natural vegetation which will repeal any adverse visual impacts from surrounding views. Further information in relation to visual impacts is detailed within Section 5.1 of this report.



(h) The relevant local government authority must be consulted where the pruning, lopping, or removal of any tree or other vegetation would contravene a Tree Preservation Order applying to the land or where a permit or development consent is required.	The proposal entails light trimming of an existing Jacaranda Tree to facilitate the installation of the new equipment shelter. These trimming activities will not contravene any tree preservation orders or have any ramifications to any protected vegetation.
(i) A telecommunications facility that is no longer required is to be removed and the site restored, to a condition that is similar to its condition before the facility was constructed.	The existing 15m light pole will be removed and the site will be restored to match its surrounding landscape.
(k) The siting and design of telecommunications facilities should be in accordance with any relevant Industry Design Guides.	The siting and design of the proposed telecommunications facility is entirely compliant with the New South Wales Telecommunications Facility Guideline, as released by the NSW Department of Planning and Infrastructure.

Principle 2 – Telecommunications facilities should be co-located wherever possible	
Principle, as outlined:	Response:
(a) Telecommunications lines are to be located, as far as practical, underground or within an existing underground conduit or duct.	All proposed conduit will be installed underground.
(b) Overhead lines, antennas and ancillary telecommunications facilities should, where practical, be collocated or attached to existing structures such as buildings, public utility structures, poles, towers or other radiocommunications equipment to minimise the proliferation of telecommunication facilities and unnecessary clutter.	The subject facility will situated on a swapped out light pole structure in order to reduce unnecessary clutter.
(c) Towers may be extended for the purposes of co-location.	Not applicable. The proposal does not entail an extension of an existing structure but rather the replacement.



(d) The extension of an existing tower must be considered as a practical co-location solution prior to building new towers.	Not applicable. The proposal does not entail an extension of an existing structure but rather the replacement.
(e) If a facility is proposed not to be co-located the proponent must demonstrate that co-location is not practicable.	There are no viable co-location opportunities within the surrounding locale as demonstrated within Section 1.2 of this report.
(f) If the development is for a co-location purpose, then any new telecommunications facility must be designed, installed and operated so that the resultant cumulative levels of radio frequency emissions of the collocated telecommunications facilities are within the maximum human exposure levels set out in the Radiation Protection Standard.	Not Applicable. The proposed site does not involve a co-location on an existing telecommunications facility.

Principle 3 – Health standards for exposure to radio emissions will be met	
Principle, as outlined:	Response:
(a) A telecommunications facility must be designed, installed and operated so that the maximum human exposure levels to radiofrequency	It is the legal obligation for any carrier to ensure that any telecommunications equipment is operated within the human exposure limits within the Radio Protection Standard.
emissions comply with Radiation Protection Standard.	The maximum human exposure levels have been calculated to be 1.046% of the public exposure limit. Refer to Appendix B for the complete EME Environmental Report
(b) An EME Environmental Report shall be produced by the proponent of development to which the Mobile Phone Network Code applies in terms	An EME Environmental Report has been included within <i>Appendix B</i> of this document. The EME Environmental Report is in accordance with the format prescribed by Australian Radiation Protection Nuclear Safety Agency.
of design, siting of facilities and notifications. The Report is to be in the format required by the Australian Radiation Protection Nuclear Safety Agency. It is to show the predicted levels of	Additionally, the EME Environmental Report is a publically accessible document which can be retrieved from: <u>http://www.rfnsa.com.au/2333021</u>
electromagnetic energy surrounding the development comply with the safety limits	



imposed by the Australian			
Communications and Media			
Authority and the			
Electromagnetic Radiation			
Standard, and demonstrate			
compliance with the Mobile			
Phone Networks Code.			
Principle 4 – Minimize disturbance and risk and maximize compliance			
Principle, as outlined:	Response:		
(a) The siting and height of any	The proposal is compliant with the Civil Aviation		
telecommunications facility	Regulations 1988 and the Airports (Protection of		
must comply with any relevant	Airspace) Regulations 1996.		
site and height requirements			
specified by the Civil Aviation	The proposal does not penetrate any Obstacle		
Regulations 1988 and the	Limitation Surface.		
Airports (Protection of Airspace)			
Regulations 1996 of the			
Commonwealth. It must not			
penetrate any obstacle			
limitation surface shown on any			
relevant Obstacle Limitation			
Surface Plan that has been			
prepared by the operator of an			
aerodrome or airport operating			
within 30 kilometres of the			
proposed development and			
reported to the Civil Aviation			
Safety Authority Australia.			
(b) The telecommunications	The proposed equipment at the subject site is licensed		
facility is not to cause adverse	as per ACMA regulations. As a result, there is to be no		
radio frequency interference	interference with other civil and military communications		
with any airport, port or	facilities.		
Commonwealth Defence			
navigational or communications			
equipment, including the			
Morundan Communication			
racility, Riverina.	The proposed equipment is to be installed as par the		
(C) The telecommunications	ne proposed equipment is to be installed as per the		
to be corried out in opportunities are	manulaciuler's specifications.		
to be carried out in accordance			
mun une applicable			
manufacturers for the installation			
of such equipment			
(d) The telecommunications	Not applicable. Proposal is a standalana structura		
(u) The lefecontinuations	not applicable. Froposal is a standalone structure.		
structural integrity of any building			
on which it is erected			
specified by the Civil Aviation Regulations 1988 and the Airports (Protection of Airspace) Regulations 1996 of the Commonwealth. It must not penetrate any obstacle limitation surface shown on any relevant Obstacle Limitation Surface Plan that has been prepared by the operator of an aerodrome or airport operating within 30 kilometres of the proposed development and reported to the Civil Aviation Safety Authority Australia. (b) The telecommunications facility is not to cause adverse radio frequency interference with any airport, port or Commonwealth Defence navigational or communications equipment, including the Morundah Communication Facility, Riverina. (c) The telecommunications facility and ancillary facilities are to be carried out in accordance with the applicable specifications (if any) of the manufacturers for the installation of such equipment. (d) The telecommunications facility is not to affect the structural integrity of any building on which it is erected.	The proposal does not penetrate any Obstacle Limitation Surface. The proposed equipment at the subject site is licensed as per ACMA regulations. As a result, there is to be no interference with other civil and military communications facilities. The proposed equipment is to be installed as per the manufacturer's specifications. Not applicable. Proposal is a standalone structure.		



(e) The telecommunications facility is to be erected wholly within the boundaries of a property where the landowner has agreed to the facility being located on the land.	The site is to be located within the boundaries of Victoria Park and will not encroach on surrounding property boundaries.
(f) The carrying out of construction of the telecommunications facilities	The construction of the proposal will adhere to and comply with the regulations set out within the Blue
must be in accordance with all relevant regulations of the Blue Book – 'Managing Urban	Construction' (Landcom 2004).
Stormwater: Soils and Construction' (Landcom 2004), or its replacement.	
(g) Obstruction or risks to pedestrians or vehicles caused by the location of the facility, construction activity or materials used in construction are to be mitigated.	The site is not generally accessible by pedestrians or vehicles, and will be fenced during construction.
(h) Where practical, work is to be carried out during times that cause minimum disruption to adjoining properties and public access. Hours of work are to be restricted to between 7.00am and 5.00pm, Mondays to Saturdays, with no work on Sundays and public holidays.	Construction works will be conducted between 7.00am and 5.00pm, Mondays to Saturdays or as per the recommended hours stipulated by Council. Consultation with council will be undertaken throughout the construction process.
(i) Traffic control measures are to be taken during construction in accordance with Australian Standard S1742.3-2002 Manual of uniform traffic control devices – Traffic control devices on roads.	Any required traffic control will be conducted in accordance with the relevant Australian Standard S S1742.3-2002 Manual of uniform traffic control devices – Traffic control devices on roads
(j) Open trenching should be guarded in accordance with Australian Standard Section 93.080 – Road Engineering AS1165 – 1982 – Traffic hazard warning lamps.	Open trenching for the installation of underground power and fibre will be executed in compliance with the Australian Standard Section 93.080 – Road Engineering AS1165 – 1982 – Traffic hazard warning lamps
(k) Disturbance to flora and fauna should be minimised and the land is to be restored to a condition that is similar to its condition before the work was carried out.	Not applicable. The proposal will not impact any significant flora or fauna.
(I) The likelihood of impacting on threatened species and	An EPBC Act Protected Matters Report was obtained for the subject site and the proposal will not impact on



communities should be identified in consultation with relevant state or local government authorities and disturbance to identified species and communities avoided wherever possible.	any of the threatened species identified within the report. A copy of this report is attached in <i>Appendix D</i> .
(<i>m</i>) The likelihood of harming an Aboriginal Place and / or Aboriginal object should be identified. Approvals from the Department of Environment, Climate Change and Water (DECCW) must be obtained where impact is likely, or Aboriginal objects are found.	Not Applicable. No items or areas of Aboriginal significance were identified on the proposed allotment. Refer to Appendix E for Aboriginal Heritage Information (AHIMS) report
(n) Street furniture, paving or other existing facilities removed or damaged during construction should be reinstated (at the telecommunications carrier's expense) to at least the same condition as that which existed prior to the telecommunications facility being installed.	Not applicable. The proposal will not impede on any street furniture, paving or other existing facilities.

4.3 Muswellbrook Local Environmental Plan 2009

The Local Environmental Plan (LEP) applicable to the subject site is the *Muswellbrook Local Environmental Plan 2009*. The subject LEP does not contain specific controls for Telecommunications facilities, however will be assessed in accordance to the aims and objectives of the LEP.

4.3.1 Definition

In accordance with the LEP, a telecommunications facility is defined as the following:

Telecommunications facility means:

- (a) any part of the infrastructure of a telecommunications network, or
- (b) any line, cable, optical fibre, fibre access node, interconnect point equipment, apparatus, tower, mast, antenna, dish, tunnel, duct, hole, pit, pole or other structure in connection with a telecommunications network, or
- (c) any other thing used in or in connection with a telecommunications network.



4.3.2 Zoning

The subject lot is zoned as RE1 - Public Recreation in accordance with the Muswellbrook Local Environmental Plan 2009. A telecommunications facility is a prohibited item within the subject zoning, however consent is being pursued pursuant to clauses 113 and 115 of the *SEPP (Infrastructure)* which permits the installation of a telecommunications facility on any land.



4.3.3 Aims and Objectives

This Development Application will take into account the type of development in respect to the aims and objectives of the *Muswellbrook Local Environmental Plan 2009*. It is believed that the proposal is wholly compliant with the aims of the LEP, based on the community benefit through a betterment of an existing infrastructure provision and improved quality of life. An assessment against the relevant overall aims and objectives of the LEP has been listed within *Table 3* below.

Aim/Objective:	Compliance:
 (a) to encourage the proper management of the natural and human-made resources of Muswellbrook by protecting, enhancing or conserving: 	The proposal will not impede on any agricultural land, natural resources, areas of environmental significance, area of high scenic value and place or building of archaeological or heritage significance.
(i) productive agricultural land, and	enhancing and conserving the natural and human-made resources of Muswellbrook.
(ii) timber, minerals, soils, water and other natural resources, and	
(iii) areas of significance for nature conservation, and	

Table 3: Aims and Objectives of the Muswellbrook Local Environmental Plan 2009 Muswellbrook Local Environmental Plan 2009



(iv) areas of high scenic or recreational value, and	
 (v) places and buildings of archaeological or heritage significance, 	
(b) to manage the urban areas of Muswellbrook by strengthening retail hierarchies and employment opportunities, promoting appropriate tourism development, guiding affordable urban form and providing for the protection of heritage items and precincts	The proposal will contribute to the enhancement of the local economy, employment opportunities and educational needs through the integration of advanced telecommunication infrastructure. The proposal will advance network coverage within the area, and contribute to social and economic progression within Muswellbrook Shire LGA. The proposal will not impact any heritage items or precincts.
(c) to promote ecologically sustainable urban and rural development	The proposal does not entail ecological development
(d) to manage development in flood-prone areas by ensuring any obstruction, re-direction or pollution of flood waters will not have adverse consequences for the environment or increase the risk of endangering life or property	Not applicable. The subject site is not situated within or nearby an identified flood prone area.
(e) to enhance the urban amenity and habitat for flora and fauna	The proposal will enhance urban amenities by providing vital telecommunications infrastructure.
	The proposal will not impact any natural habitats. All natural flora and fauna will be protected during construction.
 (f) to protect and conserve: (i) soil stability by controlling development in accordance with land capability, and (ii) remnant native vegetation. 	The proposal will not impact soil stability, native vegetation or water resources.
and	
(III) water resources, water quality and wetland areas, natural flow patterns and their catchments and buffer areas,	



(g) to provide a secure future for agriculture by expanding Muswellbrook's economic base and minimising the loss or fragmentation of productive agricultural land	The proposal will assist in accelerating Muswellbrook's economy through technological connectivity and advancements. The proposal will not reduce or impact productive agricultural land.		
(h) to allow flexibility in the planning framework so as to encourage orderly, economic and equitable development while safeguarding the community's interests and residential amenity, and to achieve the objectives of each zone mentioned in Part 2 of this Plan.	The proposal will help facilitate economic advancement whilst safeguarding residential amenity and the community's interests.		

4.3.4 Overlays

The subject lot is situated within a Mining Subsidence District. The development guideline that applies to the lot is the Subsidence Advisory NSW Guideline 2



An application will be sought from the Subsidence Advisory NSW prior to commencing any works on site.





4.4 Muswellbrook Development Control Plan 2009

The Muswellbrook Development Control Plan 2009 (DCP) aims to complement the Muswellbrook LEP by providing additional planning provisions within the Muswellbrook LGA. The DCP has been taken into consideration throughout the planning process of the proposed telecommunications facility.

Traditionally, Development Control Plans are for residential, commercial and industrial development. As this application is for a telecommunications facility, there is no applicable section of the DCP which directly reflects this type of development. However, some general provisions of the DCP are applicable to the proposal and are assessed below in Table 4.

Muswellbrook Development Control Plan 2009				
Control:	Compliance:			
Section 20 - Erosion and Sediment Control				
 (i) Areas of disturbance less than 250 m² which are environmentally sensitive (ie within 100m of a water course), on steep sites (gradient greater than 20 deg) require the completion of an Erosion and Sediment Control Plan 	The proposal is not within or nearby an environmentally sensitive area, therefore the proposal does not require an Erosion and Sediment Control Plan.			
(ii) Areas of disturbance 250 m ² to 1000m ² must submit an Erosion and Sediment Control Plan and a schedule of works with a development application;	This proposal only entails a minimal footprint area of approx. 60m ² , therefore an Erosion and Sediment Control Plan or schedule of works is not required to be submitted.			
(iii) Areas of disturbance 1000 m ² to 2500 m ² must submit an Erosion and Sediment Control Plan and Landscape Plan with a schedule of works with development application;	This proposal only entails a minimal footprint area of approx. 60m ² , therefore an Erosion and Sediment Control Plan or Landscape Plan or schedule of works is not required to be submitted.			
iv) Areas of disturbance greater than 2500 m ² must submit Erosion and Sediment Control Plan, a Soil and Water Management Plan and a Landscape Plan with a schedule of works;	This proposal only entails a minimal footprint area of approx. 60m ² , therefore an Erosion and Sediment Control Plan or Landscape Plan or Water Management Plan or schedule of works is not required to be submitted.			

 Table 4: Muswellbrook Development Control Plan 2009 Compliance Table



 (v) All subdivisions which are proposed as staged developments must provide a staged Erosion and Sediment Control Strategy with an associated schedule of works; (vi) Completion of the Erosion 	Not applicable. The proposal does not entail a subdivision which is a staged development.
and Sediment Control Plan must be undertaken by a suitably qualified person in accordance with this section of the DCP and contain all elements detailed by 22.2;	DCP, an Erosion and Sediment Control Plan is not required.
(vii) A regular maintenance program for all erosion and sediment controls must be submitted with any plan or strategy;	Not applicable. In accordance with the Muswellbrook DCP, an Erosion and Sediment Control Plan or Strategy is not required.
(viii) Existing vegetation must not be cleared in areas not relevant to direct impact from the development	Not Applicable. The proposal will not entail any clearing of existing vegetation.
(ix) Vegetation must not be cleared prior to development approval being granted or before erosion and sediment controls are fully installed;	Not Applicable. The proposal will not entail any clearing of existing vegetation.
(x) All proposed controls must be consistent with this section of the DCP and the Managing Urban Stormwater: Soils and Construction manual prepared by Landcom.	The proposal will wholly comply with the Muswellbrook DCP and with Managing Urban Stormwater – Soils and Construction, Landcom ('The Blue Book')
24.3.1 Demolition of Buildings o	r Structures
A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompany the demolition application	A Site Waste Minimisation and Management Plan (SWMMP) for this proposal is provided within Appendix C of this report.
Identify all waste likely to result from the demolition, and opportunities for reuse of materials.	The decommissioning of the existing light pole structure and its footings cannot be reused. The waste will be recycled at an authorised waste transfer facility. A record will be retained of all waste disposal to demonstrate compliance.

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	The lighting equipment on the existing structure will be reused and relocated on the new 25m structure.		
Facilitate reuse/recycling by using the process of 'deconstruction', where various materials are carefully dismantled and sorted.	Deconstruction will be implemented not demolishing to help facilitate the recycling of the existing light pole structure and its materials.		
Reuse or recycle salvaged materials onsite where possible.	Where possible, any material from the existing light pole structure will be reused on the new 25m structure. All material from the decommissioning of the existing structure will be recycled an authorised waste transfer facility. A record will be retained of all waste disposal to demonstrate compliance.		
Allocate an area for the storage of materials for use, recycling and disposal (giving consideration to slope, drainage, location of waterways, stormwater outlets, vegetation, and access and handling requirements)	Areas onsite will be allocated for the storage of materials for use, recycling and disposal with considerations to the existing land constraints.		
Provide separate collection bins or areas for the storage of residual waste.	Not Applicable. The ongoing lifecycle and operation of the subject telecommunications facility will not generate any waste.		
Clearly 'signpost' the purpose and content of the bins and storage areas	Signage will be erected to clearly identify and label the various storage areas.		
Implement measures to prevent damage by the elements, odour and health risks, and windborne litter.	All storage areas will be barricaded and contained to mitigate any contamination, overflow or windborne litter.		
24.3.2. Construction of Buildings or Structures			
A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompany the development application	 A Site Waste Minimisation and Management Plan (SWMMP) for this proposal is provided within Appendix C of this report. The proposal entails minimal waste creation during the construction phase, which is predominately derived from excavation activities. 		



	The ongoing lifecycle and operation of the subject telecommunications facility is not a generator of waste.
The SWMMP shall identify all waste likely to result from the construction process, and the opportunities for the reuse and recycling of these materials	It is anticipated approximately 11m ³ of excess sediment will be generated from the excavation activities. This sediment will be reused to restore the landscape of the decommissioned light pole structure and any remaining sediment will be recycled at an authorised waste transfer facility. A record will be retained of all waste disposal to demonstrate compliance.
Incorporate the use of prefabricated components and recycled materials.	The new 25m structure and equipment shelter are prefabricated components and are installed on site.
Allocate an area for the storage of materials for use, recycling and disposal (considering slope, drainage, location of waterways, stormwater outlets and vegetation). Provide separate collection bins or areas for the storage of residual waste and clearly 'signpost' the purpose and content of the bins and storage areas.	Areas onsite will be allocated for the storage of materials for use, recycling and disposal with considerations to the existing land constraints. Signage will be erected to clearly identify and label the various stockpiles.
Implement measures to prevent damage by the elements, odour and health risks, and windborne litter.	The storage areas will be barricaded and contained to mitigate any contamination, overflow or windborne litter.
Ensure that all waste is transported to a place that can lawfully be used as a waste facility. Retain all records demonstrating lawful disposal of waste and keep them readily accessible for inspection by regulatory authorities such as council, Environment Protection Authority or WorkCover NSW.	All excess sediment and waste will be recycled or lawfully disposed of an authorised waste transfer facility. A record will be retained of all waste disposal to demonstrate compliance.



5.0 Development Impacts

Section 79C of the EP&A Act mandates the likely impacts of the development, inclusive of environmental impacts on both the natural and built environments, and social and economic impacts in the locality.

This section takes into considerations matters of relevance to the proposed development which is inclusive of issues relating to the environmental impacts of the proposal on the built and natural form, as well as the social and economic impacts the telecommunications facility will have on the locality.

As the proposed site is situated within a vacant portion of a land holding, it is believed that the proposed mobile phone base station will not result in environmental impacts towards the built and/or natural environments. The "footprint" of the proposal comprises of 50m² and will not require significant vegetation clearance. The following environmental, social and economic considerations have been made in reference to the proposal:

5.1 Visual Impact Assessment

With over 16,000 base stations in operation around Australia, panel antennas, dishes and other relevant equipment have become part of the urban landscape. Telecommunications facilities aren't only operated by mobile phone networks but also entail critical infrastructure assets employed by the emergency services, rail and other public utility authorities to ensure the active and safe operation of their respective duties.

Freestanding mobile phone base stations are a common feature within urban and rural landscapes. The justification behind the use of a freestanding structure is to provide line of site coverage within flat and undulating topography. Specific design elements have been included within the planning of the proposed facility, inclusive of:

- Limiting the height of the proposal to 26.30m. This will ensure that the best level of coverage can be provided to the locality, without constructing to a height which would offer no additional benefit to the service area.
- Ground based equipment is to be located directly adjacent to the existing amenities building. This is to minimise the bulk and scale of the proposal in context to the surrounding environment.
- The placement of the proposed structure adjoining to other lighting structures to reduce the proliferation of tall structures.
- The siting and location of the proposal has been taken in to consideration during the site selection process in order to ensure that the site does not result in any undue visual intrusion towards surrounding viewing corridors.
- Colour matching the proposed structure to the prevailing background of the existing locality

The base of the subject facility is considered to be partially shrouded by native vegetation. The subject site location was selected due to its existing surrounding natural vegetation which will limit visual exposure to the surrounding land uses. Due to the proposed facility's height it will be marginally visible in the surrounding areas. However, the considerable existing native vegetation will provide visual screening for the site. Additionally, the proposed mobile base station will be "shale grey" or as desired by council, in an effort to neutralise the facility and dissolve within the surrounding setting.



Surrounding development, land uses and their potential visual impacts is generally summarised below:



Figure 5: Views to the west from opposite side of the field

As can be seen above in **Figure 5**, the proposal is appropriately situated amongst other surrounding high bearing structures and does not adversely impact any distant vistas.



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Figure 6: Views from Cook Street towards the subject proposal

The photomontage in **Figure 6** above provides further affirmation that the proposal is appropriately positioned amongst other high bearing light pole structures and will dissolve in this context.

Figure 6 ratifies that the proposal will not adversely impact any views or vistas from residential properties on Cook Street.







Figure 7: Views from Bligh Lane towards the east – approx. 350m from the subject proposal

As can be depicted above in **Figure 7**, it is not anticipated that the proposal will distort any viewing corridors from the residential properties situated on the west side of the proposal. The above illustration demonstrates that there is sufficient natural vegetation in the surrounding area to provide screening of the proposal.



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Figure 8: Views from Doyle Lane towards the North – approx. 250m from the subject proposal

As can be depicted above in **Figure 8**, it is not anticipated that the proposal will distort any viewing corridors from the residential properties situated on the south side of the proposal.

The above illustration further demonstrates that the lower topography of the southern residential enclave supplemented by existing natural vegetation assists to negate any potential visual impacts.



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Figure 9: Distant views from Cook Street towards the East – approx. 500m from the subject proposal

As can be depicted above in **Figure 9**, the subject proposal will dissolve in the background amongst the adjoining light pole structures within the oval and playing fields. The proposals neutral colours assists in softening the views towards the facility. Additionally, the existing natural vegetation will facilitate screening for the lower portion of the facility.

As demonstrated above, the subject proposal will not adversely impact any distant views or vistas from the western side of Muswellbrook.







Figure 10: Distant views from Bowman Street towards the North-West – approx. 600m from the subject proposal

As can be depicted above in **Figure 10**, the subject proposal will be neutralised within the surrounding context. The above further demonstrates that the subject proposal will not adversely impact any distant views or vistas from the western side of Muswellbrook.

5.2 Heritage

No known items of Aboriginal or European heritage significance were identified within close proximity of the site. Refer to **Appendix E** for the AHIMS heritage report.

5.3 Ecology

The proposal does not involve the removal of any significant vegetation, flora, and fauna or constitute any threats to natural species within the locality. Comprehensive preliminary assessment of the nearby natural environment was undertaken within the planning, design and procurement stages of the telecommunications proposal to ensure that there are no disturbances to the natural surrounds and that a marginal amount of ground clearance would be required.



In summary, minimal ground clearance will be required to accommodate for the installation of the proposed facility. Considering that the proposed compound encompasses a footprint of only 6.5m x 4m, it is believed that any clearance works required to establish the proposal will not result in any adverse environmental impacts to the surrounding locality.

During the construction phase, the subject site area will be rigorously concealed by imposing barriers and fencing to repeal any impacts to the surrounding natural environment. This proposal will employ effective measures to mitigate any impacts to surrounding flora, fauna and natural environment inhabitants. Additionally, once constructed the operation of the telecommunications facility will not result in any negative impacts on the natural environment or the ecology of the locality.

5.4 Noise and Vibration

There will be no noise or vibration impacts associated with the operation of the telecommunications tower. The equipment shelter will emit only minimal noise from the air conditioning units, which will enable the equipment to stay within normal operating temperatures. It is believed that the operation of the air conditioning units will not result in any adverse noise impacts to the nearest sensitive noise receptors given the isolated location of the proposed equipment shelter in the context of the area.

During construction, there will be some minor excavation works which may introduce noise and vibration for a temporary period. Due to the isolated context of the development, it is anticipated that the construction and operation of the facility will not generate any adverse noise impacts on surrounding land uses. Additionally, the vast separation distance from the development site and residential land uses, will negate any potential noise impacts generated during construction.

5.5 Traffic

Mobile phone base stations are not significant generators of pedestrian or vehicular traffic. The site encompasses sufficient parking within the existing access road and its surrounds for construction vehicles and workers. During construction, a crane will be required to be temporarily mounted on the access road. It is not anticipated that there will be any adverse disruptions to Cook Street, Hill Street and George Street carriageways during the construction phase or the ongoing operation of the facility. Throughout the lifecycle of the telecommunications facility, it is only required to be visited on a quarterly basis throughout the year for maintenance purposes.

Therefore, this proposal does not constitute any impacts to existing traffic flows within the locality. If a road closure is required for the erection and installation of equipment, the appropriate approvals will be obtained from both Council and the RMS (where applicable).

5.6 Flooding

The subject site was not identified as being flood prone land.

5.7 Bushfire

The subject site was not identified as being bushfire prone land.





5.8 Waste Management

A Site Waste Minimisation and Management Plan (SWMMP) is attached in **Appendix C**. Waste will only be generated during the construction phase of the project. It is estimated that during construction, waste would be generated from excavation activities of approximately 11m³ for the supporting foundations of the new structure. Where possible, the extracted sediment will be reused to restore the landscape of the decommissioned light pole structure and compacted surrounding the site. All waste generated during construction will be either be recycled or lawfully disposed of at an authorised waste transfer facility. A record will be retained of all waste disposal to demonstrate compliance. The ongoing lifecycle operation of the subject telecommunications facility will not be a generator of waste.

Areas onsite will be allocated for the storage of materials for use, recycling and disposal with considerations to the existing land constraints. Signage will be erected to clearly identify and label the various stockpiles. The storage areas will be barricaded and contained to mitigate any contamination, overflow or windborne litter.

5.9 Erosion and Sediment Control

Erosion and sediment controls will be implemented prior to the commencement of any construction works and will be maintained throughout the construction phase to manage potential run off, water and air quality during construction.

The development will not induce any soil erosion or siltation. The proposal will immediately reinstate all sediment that is temporarily extracted to install the required structural footings. No external soil or sediment will be introduced to the existing vegetation.

Measures that are to be implemented include:

- All construction plant, equipment and vehicles are to be properly maintained and operated so as to alleviate excessive exhaust emissions;
- Waste loads leaving the site are to be covered at all times;
- Ensuring stock piles do not exceed 2.5m in height and wetting down any exposed areas and stockpiles as required;
- All dust generating construction activities are to cease during high wind conditions, unless operations can be controlled by localised watering or other control means; and
- Scaffolding will include mesh and shade cloth to reduce wind velocity and also to trap any wind borne objects

To ensure water quality is maintained, minor elements of storm water attenuation works will be provided including sandbags and hay bales to ensure excess sediment does not run off site. There are no hard standing surfaces and/or drainage points within the immediate proximity of the construction site.

5.10 Social and economic impacts of the proposal

Since 2007, the amount of mobile phone subscriptions has exceeded the overall population of Australia. The wider community has seen a general reliance on mobile phone networks for other uses than that of traditional voice calls.

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Australia has one of the highest penetrations of "smartphone" usage in the world. A sample study by the Digital Industry Association of Australia has estimated the usage of smartphones at rate of 76% of all mobile phone users. This has seen an ongoing impact and influence as how we conduct business "on the move" – inclusive of checking emails, social networking, e-commerce and browsing the internet. Consumers have an increasing expectation that a reliable, fast and cost effective mobile phone network can support these activities.

Furthermore, there is a general expectation in the wider community for a dependable and reliable mobile phone network. Telstra have sought to ensure major improvements to their network through 24hr monitoring of network performance. Further to this, mobile phone networks form a vital "first response" tool to emergency situations – hence the importance of carriers to ensure that their infrastructure can be maintained to the highest standards.

5.11 Health and Safety

Telstra understands that some people have genuine concerns about the levels of electromagnetic fields (EMF) that the proposed facility will emit and is committed to addressing those concerns responsibly. EMF is sometimes known as electromagnetic radiation (EMR) or electromagnetic energy (EME). Often, there is a misconception regarding the perceived health risks surrounding mobile phone base stations and Electromagnetic Energy (EME).

Electromagnetic fields are present everywhere in our environment – the earth, sun and ionosphere are all natural sources of EMF. Telstra and Kordia rely on the expert advice of international and national health authorities including the World Health Organization (WHO) and the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) for overall assessments of health and safety impacts. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has issued guidelines on levels of allowable public exposure to Radio Frequency (RF) fields, including guidelines on RF from mobile phones and base stations, which Telstra adheres to. These guidelines have a large safety margin built into them.

EME is non-ionising radiation, meaning that it has insufficient energy to break chemical bonds or remove electrons (ionisation). In contrast, ionising radiation (such as X-rays) can remove electrons from atoms and molecules thus leading to damage in biological tissue (Source: ARPANSA).

In addition, further information is available at: www.telstra.com.au/eme and EMF Explained Series <u>www.emfexplained.info</u>.

It is Telstra's obligation to comply with the mandated standard (RPS3) for EMF set by ARPANSA, which is based on the safety guidelines recommended by the WHO. The safety standard works by limiting the network signal to a level which will protect all people, in all environments, 24 hours a day.

To demonstrate compliance with the safety standard, an Environmental EME Report is available in **Appendix B** or via the RFNSA website www.rfnsa.com.au (search site number 2333021).

The EME Report predicts the maximum signal strength from the proposed facility at 1.5m above ground level is well within the allowable limit. This is typical of Telstra's responsible approach to network performance and environmental compliance.

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Furthermore, the ARPANSA Fact sheet "Mobile Base Stations and Health" March 2015 states "Health authorities around the world, including ARPANSA and the WHO have examined the scientific evidence regarding possible health effects from base stations. Current research indicates that there are no established health effects from the low exposure to the RF EME exposure from mobile phone base station antennas."

Telstra undertakes further measures when designing the facility, to minimise the EME exposure to the general public, by installing the facility in accordance with the Australian Mobile Telecommunications Association (AMTA) Radio frequency (RF) Safety Compliance Program – Base Station Design Guidelines Engineering for Access Control to minimise EME.

Other preventative measures also include:

- Power Control network feature that automatically adjusts the power of the network transmission based on consumer demand.
- Varying the facility's transmit power to the minimal required level in order to save electricity and lower RF emissions from the facility.

Further information about EMF can be obtained from:

- Commonwealth Department of Health (ARPANSA): www.arpansa.gov.au
- Australian Communications and Media Authority (ACMA): <u>www.acma.gov.au</u>
- World Health Organisation (WHO): www.who.int/en/

6.0 Conclusion

It is proposed to construct a new telecommunications facility at Victoria Park, Cook St, Muswellbrook, NSW 2333 - Lot 18/DP1075238). The facility seeks to provide new coverage to the Muswellbrook area providing much needed voice and data services to the area and will form a vital component of the Muswellbrook's urban infrastructure.

This report has undertaken an assessment of the relevant planning and technical matters, as required by Commonwealth, State and local legislation, environmental, operational, radiofrequency and public safety requirements.

As a result of this process, we consider that the proposed facility is suitable for its location, given the following reasons:

- The proposal has wholly compliant with the State Environmental Planning Policy (Infrastructure) 2007
- The proposal has demonstrated compliance with the NSW Telecommunications Facilities Guideline including Broadband (July 2010).
- The proposal is generally compliant with the relevant planning considerations and the aims of objectives of the Muswellbrook Local Environmental Plan 2009;
- The site has been assessed as a viable option for the effective delivery of Telstra coverage and radiofrequency objectives for the search area, in accordance with the 'Precautionary Principle', and will greatly improve access to mobile telecommunications for residents and businesses in the local area;



- The proposal will not result in any undue visual impacts
- The proposal is fittingly located within the urban context
- The facility will operate within the regulatory framework of Commonwealth, State and Local Governments;
- The facility will operate within all current and relevant Australian Standards;
- The facility is not anticipated to have an adverse impact on local environmental values for the subject site and surrounding area;
- No vegetation will need to be removed;
- The proposal will not prejudice the existing and future uses of the site;
- The installation will address a number of issues relating to mobile coverage, network capacity and the quality of mobile telephone calls; and
- The proposal will have a number of significant economic and social benefits to the area;

Based upon the above, we respectfully request Muswellbrook Shire Council approve the application and issue a development permit for a telecommunications facility at the site, subject to reasonable and relevant conditions, and in accordance with the plans attached in **Appendix A**.

Should Council have any further queries regarding the subject application, please do not hesitate to contact Mo Dawood on (07) 3907 1416 or at mo.dawood@kordia.com.au.



Appendix A – Plans of the proposal





The copyright and ownership of the drawings is to be assigned to Telstra



The copyright and ownership of the drawings is to be assigned to Telstra

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PROPOSED TELSTRA RRUs (6 OFF - 2 PER SECTOR)

PROPOSED TELSTRA PANEL ANTENNAS (6 OFF, A1 - A6)

PROPOSED TELSTRA TMAs (6 OFF - 2 PER SECTOR)

PROPOSED TELSTRA TRIANGULAR HEADFRAME MOUNTED ON TOP OF PROPOSED MONOPOLE



DATE	liss				
12.04.18	1	eistra			
		MOBILE NETWORK SITE 281582			
		MUSWELLBROOK VICTORIA PARK			
		ANTENNA LAYOUT			F
		62 COOK ST, MUSWELLBROOK, NSW 2333			
		DWG N0. N110525	SHT NO.	S1-1	
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CAD FILE: N110525S1.DWG



The copyright and ownership of the drawings is to be assigned to Telstra

CAD FILE: N110525S1.DWG



Appendix B – Environmental EME Report



Environmental EME Report

Location V

Victoria Park Cook Street, MUSWELLBROOK NSW 2333

Date 13/08/2018

RFNSA No. 2333021

How does this report work?

This report provides a summary of levels of radiofrequency (RF) electromagnetic energy (EME) around the wireless base station at Victoria Park Cook Street, MUSWELLBROOK NSW 2333. These levels have been calculated by Telstra using methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). A document describing how to interpret this report is available at ARPANSA's website: *A Guide to the Environmental Report*.

A snapshot of calculated EME levels at this site

There are currently no existing radio systems for this site.	The maximum EME level calculated for the proposed changes at this site is	
	1	.046%
	out of 100% of the pu	Iblic exposure limit, 146.11m from the location.
	EME levels with the proposed changes	
	Distance from the site	Percentage of the public exposure limit
	0-50 m	0.65%
	50-100 m	0.47%
	100-200 m	1.046%
	200-300 m	0.76%
	300-400 m	0.35%
	400-500 m	0.2%

For additional information please refer to the EME ARPANSA Report annexure for this site which can be found at <u>http://www.rfnsa.com.au/2333021</u>.

Radio systems at the site

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

	Existing		Proposed	
Carrier	Systems	Configuration	Systems	Configuration
Telstra			4G, 4GX	LTE700 (proposed), LTE1800 (proposed)

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

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

	Existing configuration		Proposed configuration			
Distance from the site	Electric field (V/m)	Power density (mW/m²)	Percentage of the public exposure limit	Electric field (V/m)	Power density (mW/m²)	Percentage of the public exposure limit
0-50m				4.61	56.28	0.65%
50-100m				2.83	21.2	0.47%
100-200m				4.8	61.096	1.046%
200-300m				4.18	46.36	0.76%
300-400m				2.83	21.18	0.35%
400-500m				2.12	11.95	0.2%

Calculated EME levels at other areas of interest

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

Maximum cumulative EME level for the proposed configuration

Location	Height range	Electric field (V/m)	Power density (mW/m²)	Percentage of the public exposure limit
Residential Property	0-3 m	1.8	8.62	0.21%
Muswellbrook Public School	0-6 m	0.99	2.61	0.049%
Goodstart Early Learning Muswellbrook	0-4 m	0.98	2.56	0.047%



Appendix C – Site Waste Minimisation and Management Plan (SWMMP)



Site Waste Minimisation and Management Plan (SWMMP)

Applicant and Projec	t Details
Applicant Details	
Application No.	
Name	Kordia Solutions – Mo Dawood
Address	Unit 1D/400 Nudgee Road, Hendra QLD 4011
Phone number(s)	(07) 3907 1416
Email	Mo.Dawood@kordia.com.au
Project Details	
Address of development	Victoria Park, Cook St, Muswellbrook, NSW 2333–Lot 18/DP1075238
Existing buildings and other structures currently on the site	Existing 15m light pole structure.
Description of proposed development	 The installation of a new telecommunications facility consisting of: The swap-out of the existing 15m light pole structure for a new 25m monopole with a triangular headframe; The installation of six (6) new panel antennas mounted on the aforementioned triangular headframe at an elevation of 25m The installation of a 3.15m (L) x 2.38m (W) equipment shelter within the proposed 6.5m x 4m lease area; The installation of associated ancillary equipment including transceivers, amplifiers, antenna mounts, cable trays, feeders, cabling, combiners, diplexers, splitters, couplers, jumpers, filters, electrical equipment, handrails, kick plates, signage, bollards and other associated equipment;
Declaration: I acknowledge that this details on this form are All records demonstratii inspection by regulatory WorkCover NSW.	development achieves the waste objectives set out in the DCP. The the provisions and intentions for inimizing waste relating to this project. ng lawful disposal of waste will be retained and kept readily accessible for authorities such as council, Environment Protection Authority or
Name	Mo Dawood
Signature	
Date	22 nd May 2018

DEMOLITION STAGE

		Destination				
Materials	on site	REUSE AND	RECYCLING	DISPOSAL		
Type of Material	Estimated Volume (M ³ or Kg)	ONSITE * specify proposed onsite reuse or recycling methods	OFFSITE * specify proposed offsite reuse or recycling methods	FACILITY * specify contractor and landfill/ disposal site		
Bricks	0	N/A	N/A	N/A		
Concrete	0.5m ³	0	0	0.5m ³ Kordia will lawfully dispose of all excess concrete from structure footings at an authorised waste transfer facility. A record will be retained of all waste disposal to demonstrate compliance.		
Excavation	3m ³	$3m^3$	0	0		
material		The extracted sediment will be reused to restore the ground of the decommissioned light pole structure and compaction surrounding the site				
Fencing	0	N/A	N/A	N/A		
Fixtures & Fittings	0	N/A	N/A	N/A		
Floor coverings	0	N/A	N/A	N/A		
Furniture	0	N/A	N/A	N/A		
Glass	0	N/A	N/A	N/A		
Green waste	0	N/A	N/A	N/A		
Metals	0	N/A	N/A	N/A		
Paving/tiles	0	N/A	N/A	N/A		
Plasterboard	0	N/A	N/A	N/A		
Roadbase/ aggregate	0	N/A	N/A	N/A		
Roof Tiles	0	N/A	N/A	N/A		
Timber	0	N/A	N⁄A	N/A		
Hazardous/ special waste	0	N/A	N/A	N/A		
Other – please specify	0	N/A	N/A	N/A		
Other – please specify	0	N/A	N/A	N/A		

CONSTRUCTION STAGE

		Destination			
Materials	on site	REUSE AND	DISPOSAL		
Type of	Estimated	ONSITE	OFFSITE	FACILITY	
Material	(M ³ or Ka)	* specify proposed onsite reuse or recycling methods	* specify proposed offsite reuse or recycling methods	* specify contractor and landfill/ disposal site	
Bricks	0	NA	N/A	NA	
Concrete	0	N/A	N/A	N/A	
Roof Tiles	0	N/A	N/A	N/A	
Timber	0	N/A	N/A	N/A	
Plasterboard	0	N/A	N/A	N/A	
Metals	0	N/A	N/A	N/A	
Glass	0	N/A	N/A	N/A	
Excavation Material	11m ³	7m ³ The extracted sediment will be reused to restore the ground after breaking and compaction surrounding the site	N/A	4m ³ Kordia will lawfully dispose of all excess concrete from structure footings at an authorised waste transfer facility. A record will be retained of all waste disposal to demonstrate compliance	
Green waste	0	N/A	N⁄A	N/A	
Fencing	0	N/A	N⁄A	N/A	
Paving/tiles	0	N/A	N⁄A	N/A	
Roadbase/ aggregate	0	N/A	N/A	N/A	
Packaging	0	N/A	N/A	N/A	
Containers	0	N/A	N/A	N/A	
Paper/ cardboards	0	N/A	N/A	N/A	
Hazardous/ special waste	0	N/A	N/A	N/A	
Other – please specify	0	N/A	N⁄A	N/A	
Other – please specify	0	N/A	N/A	N/A	

ONGOING OPERATION (Residential, Multi Unit, Commercial, Mixed Use & Industrial)

TYPES OF WASTE LIKELY TO BE GENERATED	ESTIMATED VOLUME PER WEEK (Max)	PROPOSED ONSITE STORAGE AND/ OR PROCESSING	DESTINATION - RECYCLING OR DISPOSAL SITE
<i>Example:</i> Glass, paper, organic, food w aste	<i>Example:</i> Weight, m ³ , litres	<i>Example:</i> Waste storage and recycling area, onsite composting, compaction	<i>Example:</i> Recycling, landfill
The ongoing li	fecycle operation of th	Not Applicable	not be a generator of waste.

MUSWELLBROOK NORTH



Appendix D – EPBC Act Protected Matters Report



Australian Government

Department of the Environment and Energy

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 <u>Environment Assessments</u> and the EPBC Act including significance guidelines, forms and application process details.

Report created: 22/05/18 09:25:45

Summary Details Matters of NES Other Matters Protected by the EPBC Act Extra Information Caveat Acknowledgements



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

Coordinates Buffer: 1.0Km



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 <u>Administrative Guidelines on Significance</u>.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	21
Listed Migratory Species:	13

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 <u>permit</u> 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:	3
Commonwealth Heritage Places:	None
Listed Marine Species:	19
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	1
Invasive Species:	30
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[Resource Information]
Name	Proximity
Hunter estuary wetlands	50 - 100km upstream

[Resource Information]

Listed Threatened Ecological Communities

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
Central Hunter Valley eucalypt forest and woodland	Critically Endangered	Community likely to occur within area
<u>Hunter Valley Weeping Myall (Acacia pendula)</u> Woodland	Critically Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy	Critically Endangered	Community may occur
Woodland and Derived Native Grassland		within area
Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Anthochaera phrygia		
Regent Honeyeater [82338]	Critically Endangered	Species or species habitat likely to occur within area
Botaurus poiciloptilus		
Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus		
Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta		
Painted Honeyeater [470]	Vulnerable	Species or species habitat
		likely to occur within area
Lathamus discolor		
Swift Parrot [744]	Critically Endangered	Species or species habitat likelv to occur within area
Numenius madagascariensis	Critically Endengered	Chapies or chapies habitat
Eastern Cunew, Far Eastern Cunew [647]	Childany Endangered	may occur within area
Destrutule sustralia		•
<u>Rostratula australis</u> Australian Painted Snine [77037]	Endangered	Species or species habitat
	Endangered	may occur within area
Frogs		
Litoria booroolongensis		
Booroolong Frog [1844]	Endangered	Species or species habitat may occur within

Name	Status	Type of Presence
		area
Mammals		
Chalinolobus dwyeri		
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland populat	ion)	
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area
Nyctophilus corbeni		
Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area
Petauroides volans		
Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
Petrogale penicillata		
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Old	NSW and the ACT)	
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
<u>Pteropus poliocephalus</u>		
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Cynanchum elegans		
White-flowered Wax Plant [12533]	Endangered	Species or species habitat may occur within area
Euphrasia arguta		
[4325]	Critically Endangered	Species or species habitat may occur within area
Prasophyllum sp. Wybong (C Phelps ORG 5269)		
a leek-orchid [81964]	Critically Endangered	Species or species habitat may occur within area
Thesium australe		
Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat

Reptiles		
<u>Delma impar</u>		
Striped Legless Lizard [1649]	Vulnerable	Species or species habitat known to occur within area
Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific nam	ne on the EPBC Act - Threa	tened Species list.
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat
		likely to occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus		
White-throated Needletail [682]		Species or species habitat
		likely to occur within area
Monarcha melanopsis		
Black-faced Monarch [609]		Species or species habitat
		known to occur within area
Motacilla flava		
Yellow Wagtail [644]		Species or species

Name	Threatened	Type of Presence
		habitat may occur within area
<u>Myiagra cyanoleuca</u>		
Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons		
Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus		
Osprey [952]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land

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

[Resource Information]

Name

Commonwealth Land - Australian Telecommunications Commission Commonwealth Land - Commonwealth Bank of Australia Commonwealth Land - Defence Housing Authority

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		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
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

Name	Threatened	Type of Presence
Ardea ibis		
Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster		
White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus		
White-throated Needletail [682]		Species or species habitat likely to occur within area
Lathamus discolor		
Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Merops ornatus		
Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis		
Black-faced Monarch [609]		Species or species habitat known to occur within area
Motacilla flava		
Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca		

Satin Flycatcher [612]

Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]

Pandion haliaetus Osprey [952]

Rhipidura rufifrons Rufous Fantail [592]

Rostratula benghalensis (sensu lato) Painted Snipe [889] Species or species habitat known to occur within area

Critically Endangered Species

Species or species habitat may occur within area

Species or species habitat may occur within area

Species or species habitat likely to occur within area

Endangered*

Species or species habitat may occur within area

Extra Information

Regional Forest Agreements	[Resource Information]
Note that all areas with completed RFAs have been included.	
Name	State

North East NSW RFA

[Resource Information]

New South Wales

Invasive Species

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 Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis		
Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis		
Skylark [656]		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 Displicited Europian Displicited [500]		

Common Blackbird, Eurasian Blackbird [596]

Frogs Rhinella marina Cane Toad [83218]

Mammals Bos taurus Domestic Cattle [16]

Canis lupus familiaris Domestic Dog [82654]

Felis catus Cat, House Cat, Domestic Cat [19]

Feral deer Feral deer species in Australia [85733] likely to occur within area

Species or species habitat likely to occur within area

Species or species habitat likely to occur within area

Species or species habitat likely to occur within area

Species or species habitat likely to occur within area

Species or species habitat likely to occur within area

Name	Status	Type of Presence
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 norvegicus		
Brown Rat, Norway Rat [83]		Species or species habitat
		likely to occur within area
Rattus rattus		
Black Rat, Ship Rat [84]		Species or species habitat
		likely to occur within area
Sus scrofa		
Pig [6]		Species or species habitat
		likely to occur within area
Vulpes vulpes		
Red Fox, Fox [18]		Species or species habitat
		likely to occur within area
Plants		
Chrysanthemoides monilifera		
Bitou Bush, Boneseed [18983]		Species or species habitat
		may occur within area
Genista sp. X Genista monspessulana		
Broom [67538]		Species or species habitat
		may 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

Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]

Rubus fruticosus aggregate Blackberry, European Blackberry [68406]

Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]

Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]

Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]

Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018] Species or species habitat may occur within area

likely to occur within area

Species or species habitat likely to occur within area

Species or species habitat likely to occur within area

Species or species habitat likely to occur within area

Species or species habitat likely to occur within area

Species or species habitat likely to occur within area

Caveat

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

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

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

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

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

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-32.26118 150.89869

Acknowledgements

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

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

-Australian Institute of Marine Science

-Reef Life Survey Australia

-American Museum of Natural History

-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania

-Tasmanian Museum and Art Gallery, Hobart, Tasmania

-Other groups and individuals

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

Please feel free to provide feedback via the Contact Us page.

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Appendix E – AHIMS Heritage Report





AHIMS Web Services (AWS) Search Result

Date: 22 May 2018

Moemin Dawood

Unit 3, 370 Nudgee Road Hendra Queensland 4011

Attention: Moemin Dawood

Email: mo.dawood@kordia.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 18, DP:DP1075238 with a Buffer of 50 meters, conducted by Moemin Dawood on 22 May 2018.

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



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

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

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

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

Important information about your AHIMS search

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