



# MAXWELL PROJECT

## **ATTACHMENT 11**

**Environmental Review of Ausgrid Power Line Extension**



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## **A11 ENVIRONMENTAL REVIEW OF AUSGRID POWER LINE EXTENSION**

### **A11.1 INTRODUCTION**

#### **A11.1.1 Background to the Maxwell Project**

Maxwell Ventures (Management) Pty Ltd, a wholly owned subsidiary of Malabar Coal Limited (Malabar), is seeking consent to develop an underground coal mining operation, referred to as the Maxwell Project (the Project). The Project is in the Upper Hunter Valley of New South Wales (NSW), east-southeast of Denman and south-southwest of Muswellbrook (Figure A11-1).

The Project would involve an underground mining operation that would produce high quality coals over a period of approximately 26 years.

The substantial existing Maxwell Infrastructure would be used for handling, processing and transportation of coal for the life of the Project. The Maxwell Infrastructure includes an existing coal handling and preparation plant (CHPP), train load-out facilities and other infrastructure and services (including water management infrastructure, administration buildings, workshops and services).

#### **A11.1.2 Background to the Potential Ausgrid Power Line Extension**

Dependent on the final forecast power load for the Project and following further consideration of alternatives, Ausgrid may separately construct an extension from an existing Ausgrid 66 kilovolt (kV) power line (Feeder 6023) to a proposed new switch station, metering point and substation in the north-west of the existing Maxwell Infrastructure (herein referred to as the 'Potential Ausgrid Power Line Extension') (Figure A11-2).

This would be subject to separate assessment under Part 5 of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act) and any relevant notification requirements (e.g. under clause 42 of the *State Environmental Planning Policy (Infrastructure) 2007*).

#### **A11.1.3 Purpose of this Document**

This document has been prepared by Malabar and presents the outcomes of an Environmental Review of the Potential Ausgrid Power Line Extension. Specifically, it identifies:

- the process of power line corridor selection and refinement to-date;
- the potential power line corridor and study area;
- the key environmental and land use constraints within the study area; and
- the potential environmental and approval issues associated with the potential power line.

The purpose of this document is to assist the consent authority to consider the likely impacts of the Potential Ausgrid Power Line Extension.

If the Project is granted Development Consent and the Potential Ausgrid Power Line Extension is required to support the Project, a preferred route for the power line would be selected and would be examined in a Review of Environmental Factors to meet the requirements of Part 5 of the EP&A Act.

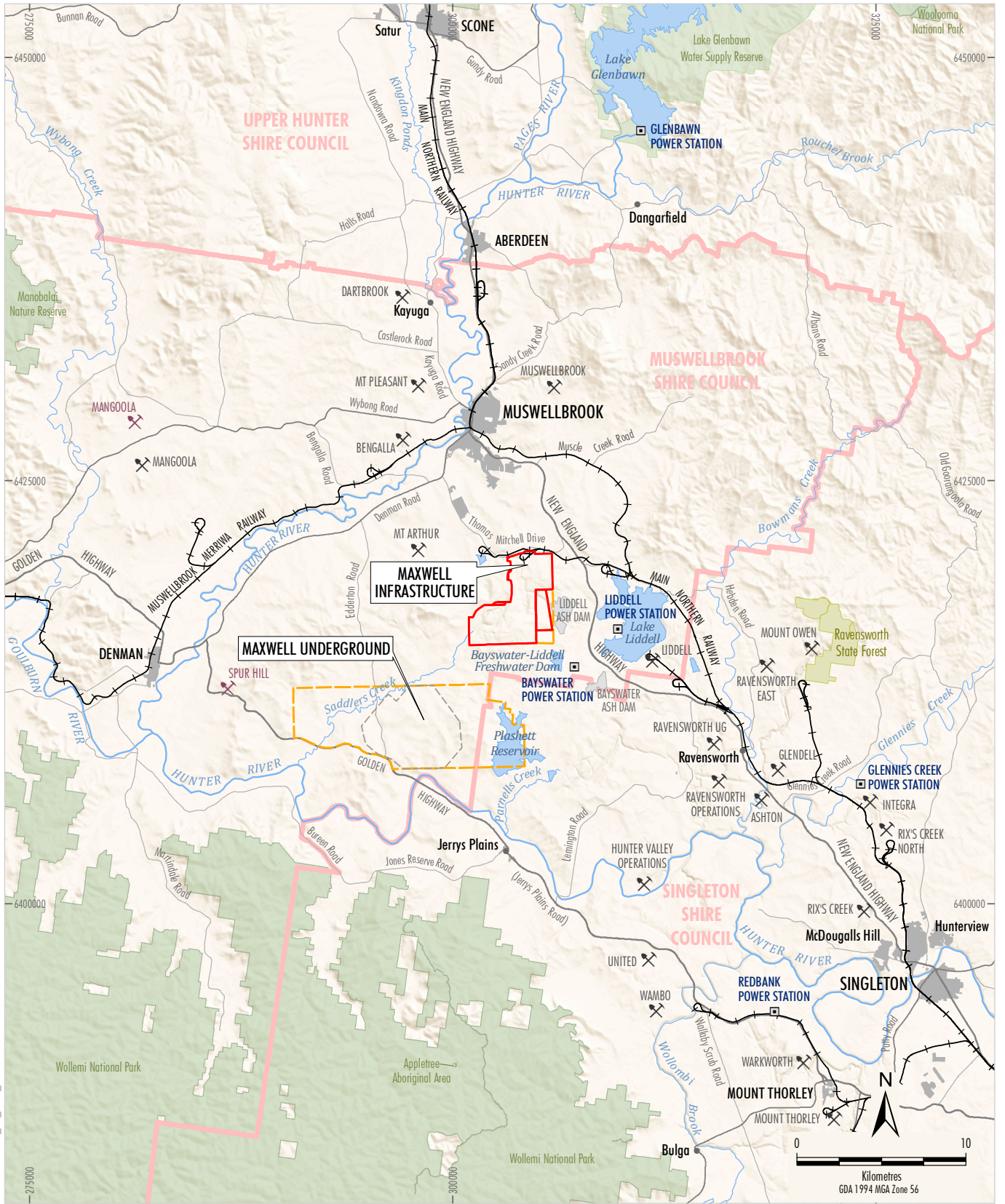
### **A11.2 DESCRIPTION OF POTENTIAL CONNECTION POINTS**

#### **A11.2.1 Consultation**

Malabar lodged a connection enquiry with Ausgrid in relation to the Project in August 2018 under the National Electricity Rules.

Consultation with Ausgrid regarding energy requirements for the Project is ongoing. This included the identification of a number of connection alternatives by Ausgrid.

Malabar is currently undertaking further studies to finalise electrical requirements for the Project and to prepare detailed Design Information for any associated contestable works.



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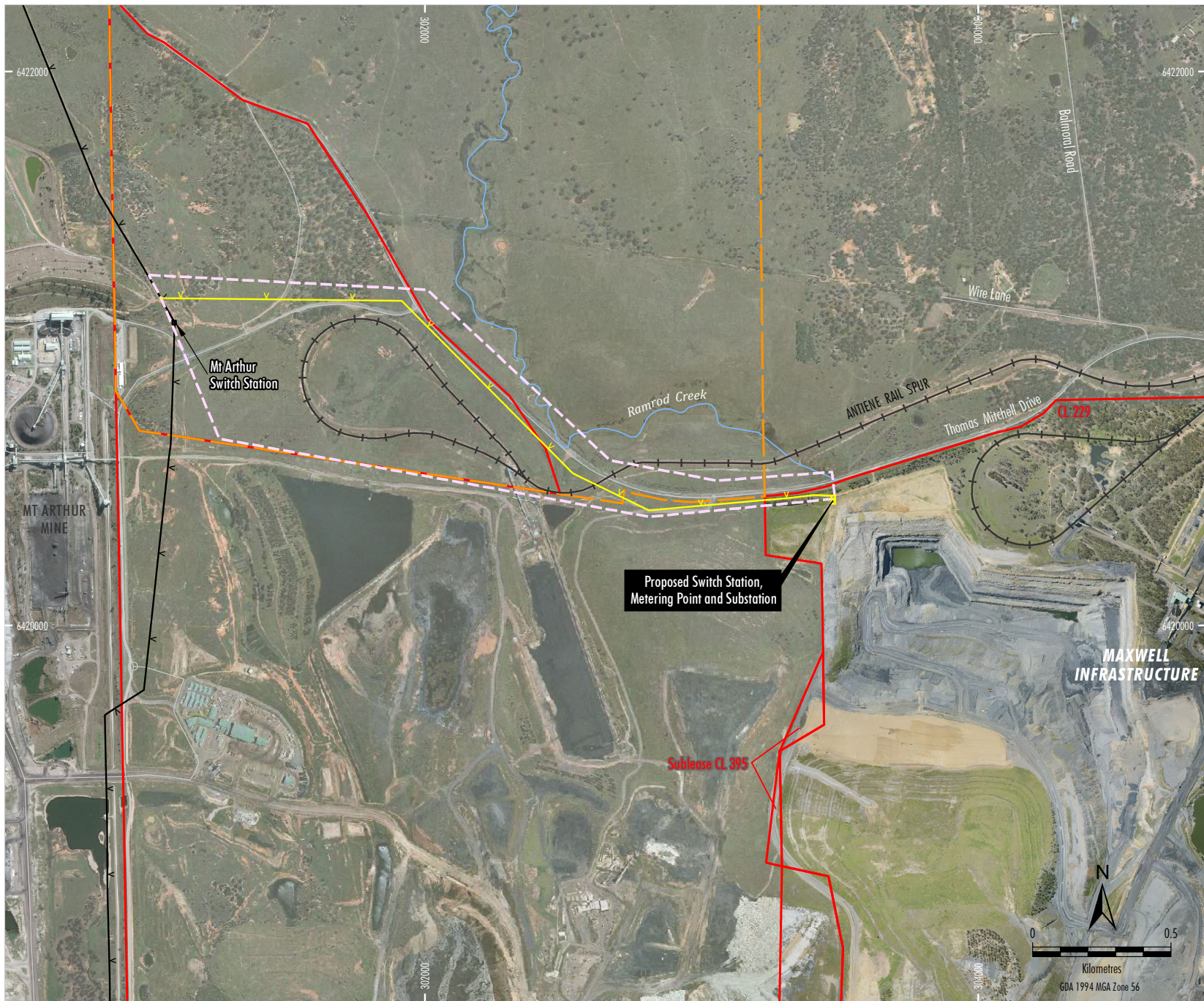


- LEGEND**
- Mining Operation
  - Proposed Mining Operation
  - Railway
  - Local Government Boundary
  - State Forest
  - National Parks and Wildlife Service Estate
  - Maxwell Project Exploration Licence Boundary
  - Maxwell Project Mining and Coal Lease Boundary
  - Indicative Extent of Underground Development

Source: © NSW Department of Planning and Environment (2019);  
 NSW Department of Finance, Services and Innovation (2019);  
 Office of Environment and Heritage NSW (2019)

**MALABAR COAL**  
**MAXWELL PROJECT**  
 Regional Location

**Figure A11-1**



- LEGEND**
- Railway
  - Exploration Licence Boundary
  - Mining and Coal Lease Boundary
  - Feeder 6023 from Mitchell Line STS
  - Potential Ausgrid 66 kV Power Line Extension
  - Study Area

Source: © NSW Department of Planning and Environment (2019);  
 NSW Department of Finance, Services & Innovation (2019)  
 Orthophoto Mosaic: 2018, 2016, 2011

MALABAR COAL  
 MAXWELL PROJECT  
 Study Area for Potential  
 Ausgrid Power Line Extension

**Figure A11-2**

**A11.2.3 Project Connection Alternatives**

Potential connection alternatives for the Project primarily include:

- Installation of a tee into the existing 66 kV Feeder 6023 from the Mitchell Line Subtransmission Substation (STS) to a new point of connection at the Maxwell Infrastructure (i.e. the Potential Ausgrid Power Line Extension) (Figure A11-3). This would be supplemented by the existing 33 kV supply from the Liddell Switching Station (SS) (Feeder LD 734).

- A new point of connection (and private feeder) from the existing 33 kV supply from the Liddell SS (Feeder LD 734), contingent on the final forecast power load for the Project not exceeding the total allowable load (Figure A11-4).

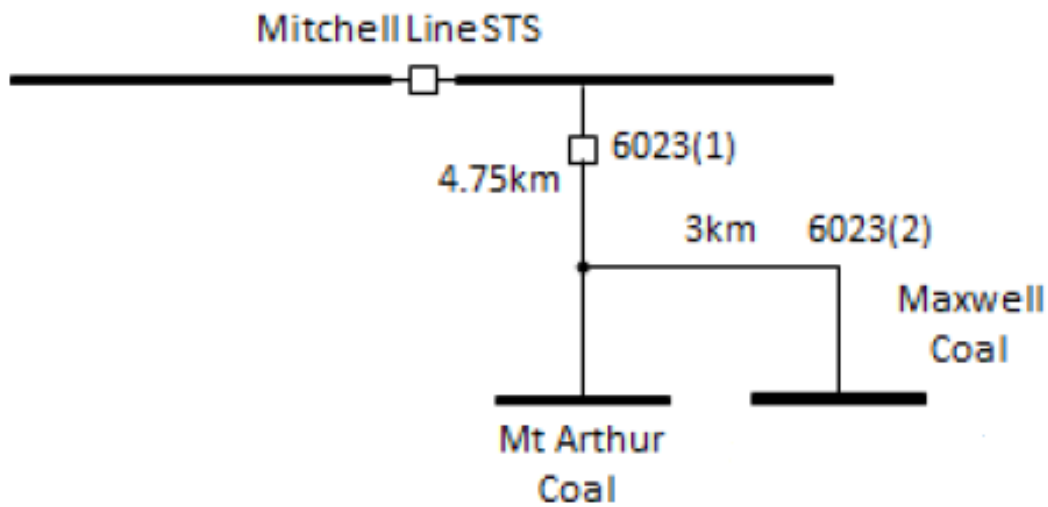


Figure A11-3 – Single Line Diagram for Connection to Feeder 6023

Source: Ausgrid.

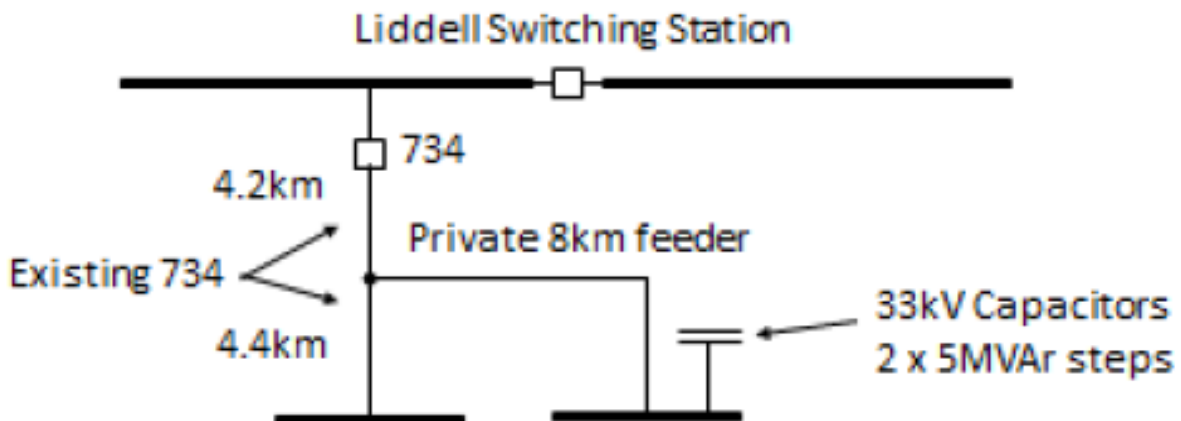


Figure A11-4 – Single Line Diagram for Connection to Existing 33 kV Supply (Feeder LD 734)

Source: Ausgrid.

### **A11.3 DESCRIPTION OF POTENTIAL AUSGRID POWER LINE EXTENSION**

#### **A11.3.1 Study Area and Baseline Power Line Corridor**

The corridor definition process included the identification of a study area (Figure A11-2) and the selection of a baseline power line corridor within this study area.

The study area is the outer envelope of practical alternatives between the connection point at the proposed 66 kV substation at the Maxwell Infrastructure and Feeder 6023.

Definition of the study area involved interpretation of topographic maps and aerial photographs.

The baseline power line corridor has been determined by taking into account the known constraints resulting from a desktop analysis resulting in a balance between environmental and landholder impacts. The baseline power line corridor is the starting point for consultation and would be refined with Ausgrid and landholder input, the aim being to minimise overall impacts for all stakeholders. It is anticipated that consultation with key stakeholders would commence in 2020.

Land ownership within the study area is shown on Figure A11-5.

Key considerations in selection of the final alignment within the study area would include:

- the location of other power lines (including private power lines connecting to the Mt Arthur Mine);
- interactions with the Mt Arthur Mine rail loop and Antiene Rail Spur including the grade separated crossing of Thomas Mitchell Drive;
- interactions with Thomas Mitchell Drive if the power line is constructed to the north of the road;
- interactions with the Thomas Mitchell Drive On-site Offset Area associated with the Mt Arthur Mine; and
- Crown land interactions.

#### **A11.3.2 Proposed Easement**

An easement (nominally 30 metres [m] wide) would be created for the Potential Ausgrid Power Line Extension.

#### **A11.3.3 Proposed Power Line Design**

Ownership of the power line would be transferred to Ausgrid on completion of construction. Hence, design and construction of the Potential Ausgrid Power Line Extension would be in accordance with relevant Ausgrid construction and design standards.

The Potential Ausgrid Power Line Extension would consist of one overhead power line. The power line would have three conductor wires which would transfer electricity at 66 kV and one overhead earth wire (OHEW) for lightning protection and communication.

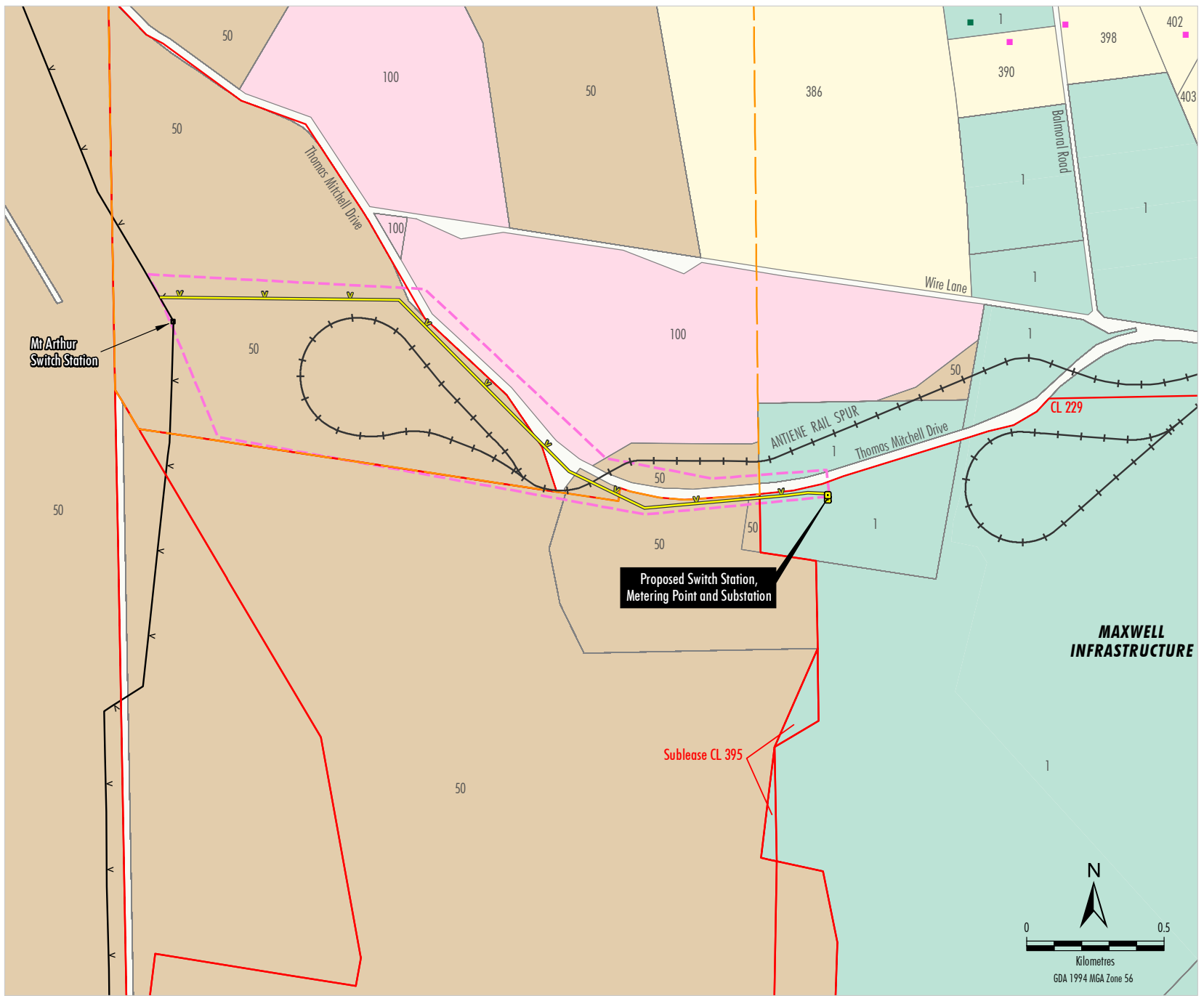
The power line would be attached to approximately 18 m high poles. Each pole would be spaced at a distance ranging from approximately 80 m to 200 m.

#### **A11.3.4 Proposed Construction Methods**

The precise construction methodology would be determined at the post-contract / construction stage. It is anticipated that the works would be undertaken by a contractor, selected after a competitive tendering process as a design and construct package, who would be responsible for the detailed design and planning of all construction processes, including the scheduling and overall timing of works.

The anticipated sequence of works during construction would include:

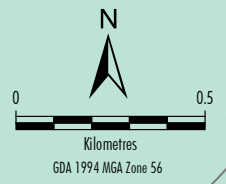
- survey work;
- installing pre-construction mitigation measures, such erosion, sediment and water quality controls, and fencing sensitive areas;
- relocating utilities, services and signage;
- clearing vegetation along the easement;
- establishing a construction compound on the site;
- establishing access tracks;
- boring;



- LEGEND**
- Railway
  - Exploration Licence Boundary
  - Mining and Coal Lease Boundary
  - Feeder 6023 from Mitchell Line STS
  - Potential Ausgrid 66 kV Power Line Extension
  - Study Area
  - Malabar-owned Receiver
  - Privately-owned Receiver
- Land Ownership**
- Malabar Coal
  - Mt Arthur Mine (BHP)
  - Crown
  - Other Privately-owned Land
- Landholder**
- 1 Malabar Coal (Maxwell Management) Pty Ltd, Malabar Coal (Drayton Management) Pty Ltd, Malabar Coal (Drayton) Pty Ltd
  - 50 Hunter Valley Energy Coal Pty Ltd, Bayswater Colliery Company Pty Ltd (BHP)
  - 100 The State of New South Wales
  - 386 K Casben
  - 390 MF & AV Doherty
  - 398 CJ & LE Duck
  - 402 RJD & DA Osborn
  - 403 RC & LT Skinner

Source: © NSW Department of Planning and Environment (2019); NSW Department of Finance, Services & Innovation (2019)

**MAXWELL INFRASTRUCTURE**



**Figure A11-5**



- erecting concrete poles;
- stringing conductors and earth wire;
- testing and commissioning;
- rehabilitating topsoil and revegetation; and
- restoring the site (including general site clean-up and removing site compounds, temporary construction facilities and temporary environmental controls).

During construction, a site compound would be used containing basic amenities, plant and material storage areas. Siting of a compound area would involve maximising protection of surrounding infrastructure and environment (including trees) whilst maintaining suitable access.

Construction works that would generate audible noise at any sensitive receiver would be undertaken between 7.00 am and 6.00 pm Monday to Friday and 8.00 am and 1.00 pm on Saturday. Audible works outside these hours may be undertaken where the following requirements are met:

- the works are emergency works, unplanned or unavoidable and the affected residents have been notified as far as reasonably practicable; or
- the works fall into one of the following categories and the affected residents are provided with a notification letter at least five days prior to the works:
  - the delivery of oversized plant or structures that cannot be undertaken during standard hours;
  - maintenance and repair of essential public infrastructure that is unable to occur during standard hours;
  - it is a requirement of a regulatory authority; and/or
  - where there is a demonstrated and justified need to operate outside the recommended standard operating hours.

#### A11.3.5 Proposed Access

During operation, access would be via the proposed easement and internal roads.

#### A11.3.6 Operation and Maintenance Requirements

Once the power line is constructed, periodic maintenance would be required consisting of regular attendance on-site by small work groups utilising light vehicles and small to medium plant.

Likely maintenance and operation activities associated with the power line would include but not limited to:

- vegetation trimming to maintain electrical safety clearances and asset protection zone;
- access track maintenance;
- unplanned fault and breakdown repairs;
- insulator and conductor repair;
- pole replacement where pole integrity is reduced; and
- staff attendance for routine inspection, operation and maintenance activities.

#### A11.4 ENVIRONMENTAL REVIEW

A desktop assessment of the study area has been conducted to review the potential environmental impacts associated with the Potential Ausgrid Power Line Extension as outlined in the sections below.

##### A11.4.1 Land Use

The study area is located within the Muswellbrook Local Government Area (LGA) on land zoned E3 – Environmental Management and RU1 – Primary Production under the *Muswellbrook Local Environmental Plan 2009* (Muswellbrook LEP).

A power line would be consistent with the objectives and land use zoning of the Muswellbrook LEP. However, it is noted that it is proposed that the power line will be authorised pursuant to the *State Environmental Planning Policy (Infrastructure) 2007*.

Land uses in the study area include Thomas Mitchell Drive, land associated with BHP's Mt Arthur Mine (including buffer land and biodiversity offset land), Crown land and land associated with the Maxwell Infrastructure.

Consultation with landholders would inform the final route and design, and would seek to mitigate potential impacts on existing land uses.

The access roads and power lines would not form a physical barrier as people, animals and machinery would continue to be able to move along and across the proposed route.

The study area is not located within a declared mine subsidence district under the *NSW Coal Mine Subsidence Compensation Act, 2017*.

#### **A11.4.2 Noise and Vibration**

The normal noise and vibration environment near the study area is primarily influenced by nearby mining activities, traffic flows on Thomas Mitchell Drive and train movements.

The closest residential receiver to the study area is located approximately 2 kilometres (km) to the north-east (Figure A11-5).

Impacts to the noise and vibration environment are likely to be associated with the construction, rather than the operation, of the Potential Ausgrid Power Line Extension.

Construction activities would be temporary and transitory, would occur during restricted hours (Section A11.3.4) and would comply with Ausgrid's management principles for construction noise and vibration.

#### **A11.4.3 Air Quality**

Direct potential impacts from the Potential Ausgrid Power Line Extension to local air quality would be limited to dust and emissions from vehicles, plant and equipment generated during the construction and (to a lesser extent) operational phases. Given the nature of the works, it is unlikely that there would be an odour impact.

Construction activities would be temporary and transitory and would incorporate appropriate erosion and sediment controls.

#### **A11.4.4 Hydrology**

The study area is within the catchment of Ramrod Creek (Figure A11-2).

Potential surface water impacts would be minimised by the placement of poles away from the watercourse and use of erosion and sediment control measures during construction of the power line.

#### **A11.4.5 Geology and Soil**

Outcropping geology in the study area includes the Greta Coal Measures (coal seams, siltstone and sandstone) and the Branxton Formation within the Maitland Group (conglomerate, sandstone and siltstone) as mapped on the Hunter Coalfield 1:100,000 Geology Map (NSW Department of Mineral Resources, 1988).

Mapping by Kovac and Lawrie (1991) characterises the study area as the Bayswater Soil Landscape (characterised by solodic soils) and the Roxburgh Soil Landscape (characterised by yellow podzolic soils). The Roxburgh Soil Landscape is associated with minor to moderate sheet erosion, with moderate sheet and gully erosion common on slopes in the Bayswater Soil Landscape.

Elevations within the study area range from approximately 190 m Australian Height Datum (AHD) to approximately 240 m AHD.

The study area is outside the extent of mapped potential acid sulfate soils (Department of Land and Water Conservation, 1998).

Erosion and sediment control measures would be implemented in accordance with *Managing Urban Stormwater Soils and Construction* (the Blue Book) (Landcom, 2004) to mitigate potential impacts on soils.

#### **A11.4.6 Contamination**

The study area is not listed on the contaminated land register maintained by the NSW Environmental Protection Authority (EPA) (EPA, 2019).

Current and previous land uses in the study area include Thomas Mitchell Drive, land associated with mining and agricultural activities and existing electrical infrastructure (including substations).

Further consideration of the potential for existing contamination within the study area should be completed as part of future assessment under Part 5 of the EP&A Act.

Mitigation measures would be implemented to minimise the potential for contamination to occur, and to manage any unexpected contamination identified during construction.

#### A11.4.7 Flora and Fauna

The majority of the study area is characterised by areas of cleared land and road/rail reserves, except for the portion of the study area within the Thomas Mitchell Drive On-site Offset Area associated with the Mt Arthur Mine.

A review of ecological database records was undertaken, with threatened flora and fauna records compiled from the following sources:

- *Birdlife Australia Atlas Database* (Birdlife Australia, 2018);
- *BioNet Atlas* (NSW Office of Environment and Heritage [OEH], 2019a);
- *Protected Matters Search Tool* (Commonwealth Department of the Environment and Energy [DEE], 2018);
- *Atlas of Living Australia Atlas* (Atlas of Living Australia, 2018); and
- previous surveys within the study area in relation to the Project.

Available records are shown on Figures A11-6 to A11-9.

One threatened flora species has been recorded in the study area (*Diuris tricolor* [Pine Donkey Orchid]), which is also listed as an endangered population (*Diuris tricolor* Fitzg., the Pine Donkey Orchid, in the Muswellbrook Local Government Area) (Figure A11-9).

Based on the information currently available, it is expected that the Potential Ausgrid Power Line Extension would not significantly affect threatened species or ecological communities, or their habitats with the implementation of appropriate avoidance and mitigation measures.

A more detailed assessment of the Potential Ausgrid Power Line Extension under Part 5 of the EP&A Act would comply with the relevant requirements of the NSW *Biodiversity Conservation Act, 2016* and the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999*.

Vegetation clearance during construction and easement maintenance would occur in accordance with Ausgrid requirements.

#### A11.4.8 Bushfire

Land within the study area has been mapped as bush fire prone land (NSW Rural Fire Service, 2019).

Ausgrid's guidelines restrict hot works during total fire bans and require risk assessments and precautions to be put in place to minimise the risk of causing a bush fire. These precautions would apply to construction and maintenance for the life of the Potential Ausgrid Power Line Extension.

The Potential Ausgrid Power Line Extension would be designed to comply with Ausgrid's guidelines in relation to vegetation safety clearances.

#### A11.4.9 Aboriginal Cultural Heritage

The study area is located in an area administered by Wanaruah Local Aboriginal Land Council (LALC).

A desktop assessment of OEH's Aboriginal Heritage Information Management System (AHIMS) was conducted (OEH, 2019b) and extant sites within the study area are shown on Figure A11-10.

Based on the information currently available, it is expected that the Potential Ausgrid Power Line Extension would not significantly impact Aboriginal cultural heritage with the completion of due diligence and implementation of appropriate avoidance and mitigation measures.

The Potential Ausgrid Power Line Extension would comply with the requirements of the NSW *National Parks and Wildlife Act, 1974*.

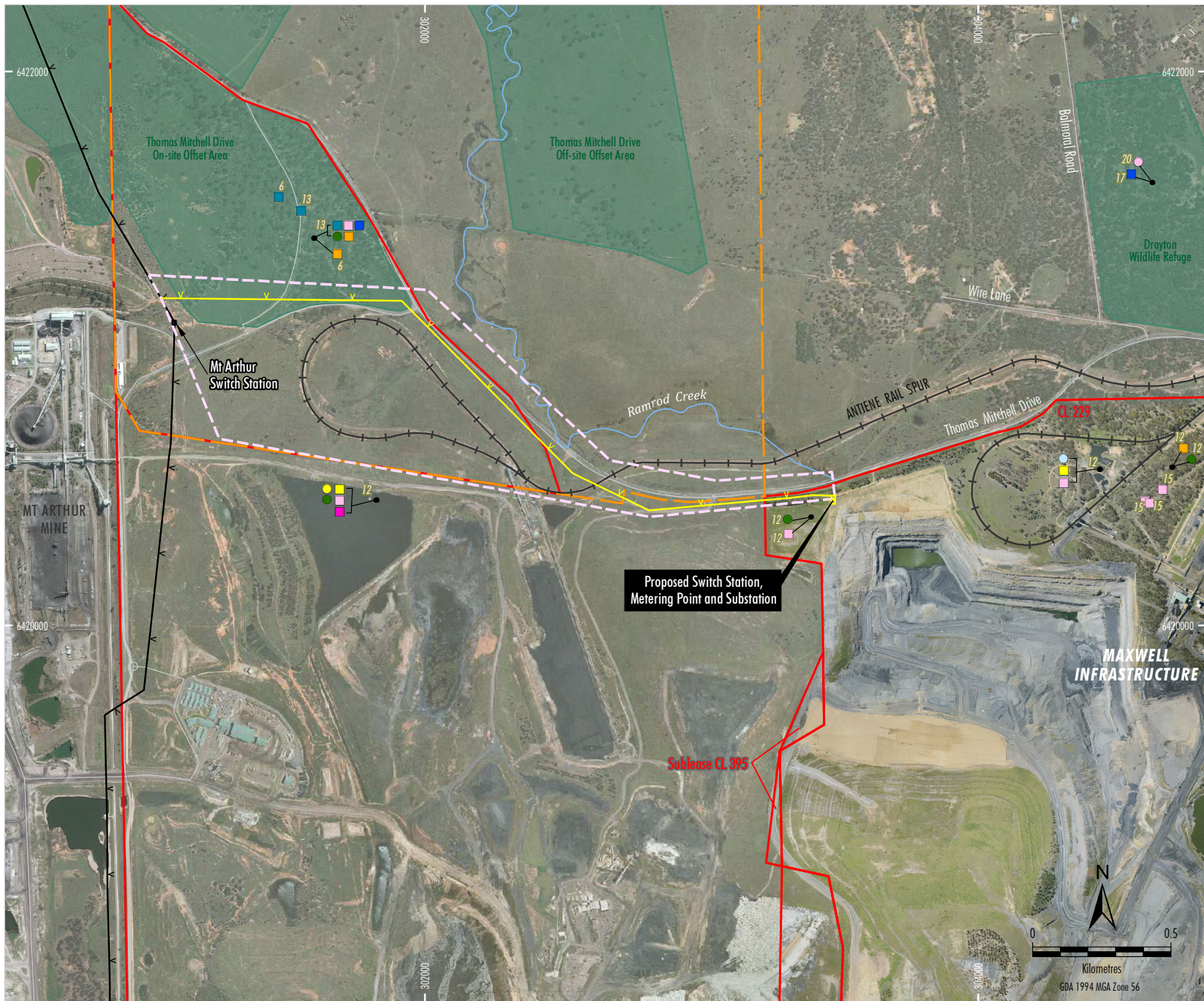
#### A11.4.10 Historic Heritage

A desktop assessment was conducted using the Australian Heritage Database (DEE, 2019), NSW State Heritage Inventory (OEH, 2019c) and the Muswellbrook LEP. This assessment concluded there are no Commonwealth, State or Local Heritage listed items in the study area.

As the study area is located away from existing buildings, it is not expected that non-Aboriginal heritage would be found or impacted during construction.

#### A11.4.11 Visual and Landscape Character

The Potential Ausgrid Power Line Extension would be located in an area with existing electrical infrastructure and nearby mining and industrial land uses.



- LEGEND**
- Railway
  - Exploration Licence Boundary
  - Mining and Coal Lease Boundary
  - Feeder 6023 from Mitchell Line STS
  - Potential Ausgrid 66 kV Power Line Extension
  - Study Area
  - Existing Conservation/Offset Area
- Threatened Species**
- Black Falcon
  - Little Eagle
  - Bush Stone-curlew
  - Little Lorikeet
  - Brown Treecreeper (eastern subspecies)
  - Speckled Warbler
  - Grey-crowned Babbler (eastern subspecies)
  - Varied Sittella
  - Dusky Woodswallow
  - Diamond Firetail

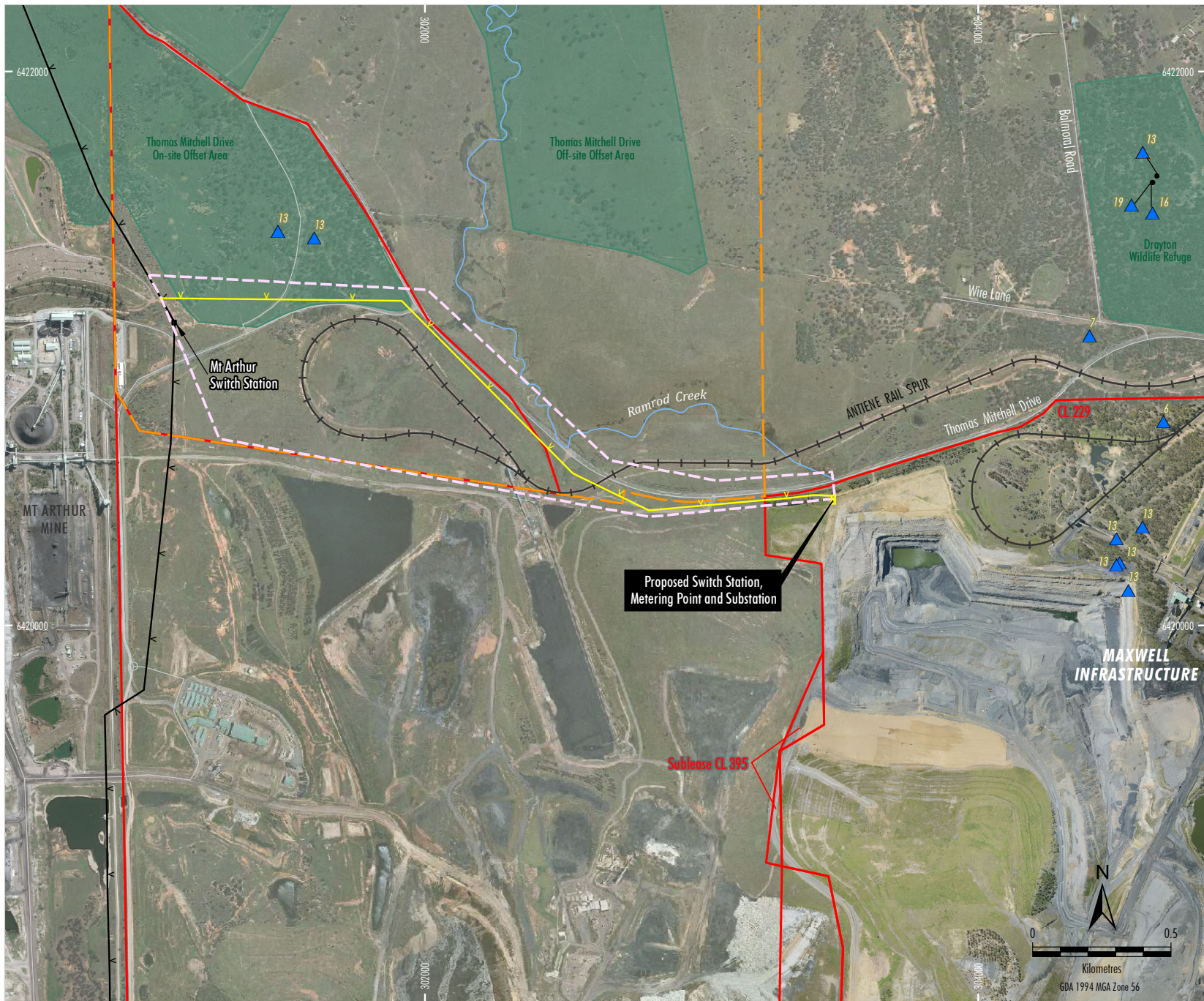
**Reference:**

- 6. Cumberland Ecology (2009a)
- 12. Birdlife Australia (2017)
- 13. OEH (2019)
- 15. Future Ecology (2019)
- 17. Eco Logical Australia (2015)
- 20. Eco Logical Australia (2016b)

*Note: There are no references 1 - 5, 7 - 11, 14, 16, 18 and 19 on this figure.*

*Source: © NSW Department of Planning and Environment (2019); NSW Department of Finance, Services & Innovation (2019) Orthophoto Mosaic: 2018, 2016, 2011*

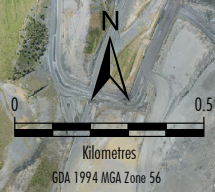
**Figure A11-6**



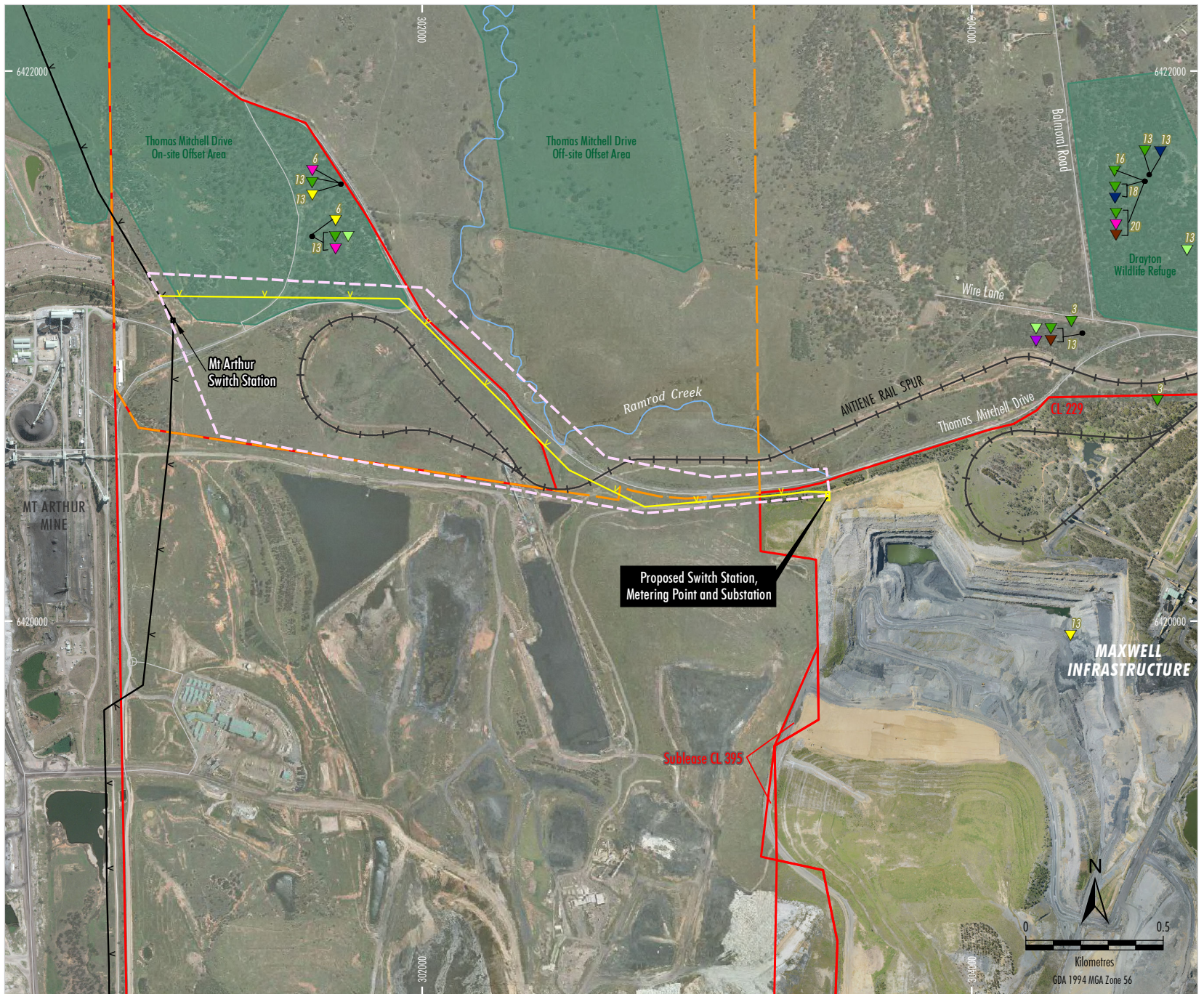
- LEGEND**
- Railway
  - Exploration Licence Boundary
  - Mining and Coal Lease Boundary
  - Feeder 6023 from Mitchell Line STS
  - Potential Ausgrid 66 kV Power Line Extension
  - Study Area
  - Existing Conservation/Offset Area
  - Threatened Species**
  - Squirrel Glider

**Reference:**  
 6. Cumberland Ecology (2009a)  
 7. Cumberland Ecology (2010)  
 13. OEH (2019)  
 16. Eco Logical Australia (2014)  
 19. Eco Logical Australia (2016b)  
*Note: There are no references 1 - 5, 8 - 12, 14, 15, 17 and 18 on this figure.*

*Source: © NSW Department of Planning and Environment (2019); NSW Department of Finance, Services & Innovation (2019) Orthophoto Mosaic: 2018, 2016, 2011*



**Figure A11-7**



- LEGEND**
- Railway
  - Exploration Licence Boundary
  - Mining and Coal Lease Boundary
  - Feeder 6023 from Mitchell Line STS
  - Potential Ausgrid 66 kV Power Line Extension
  - Study Area
  - Existing Conservation/Offset Area
- Threatened Species**
- Yellow-bellied Shearwater
  - Eastern Freetail-bat
  - Eastern Bentwing-bat
  - Little Bentwing-bat
  - Southern Myotis
  - Greater Broad-nosed Bat
  - Eastern Cave Bat

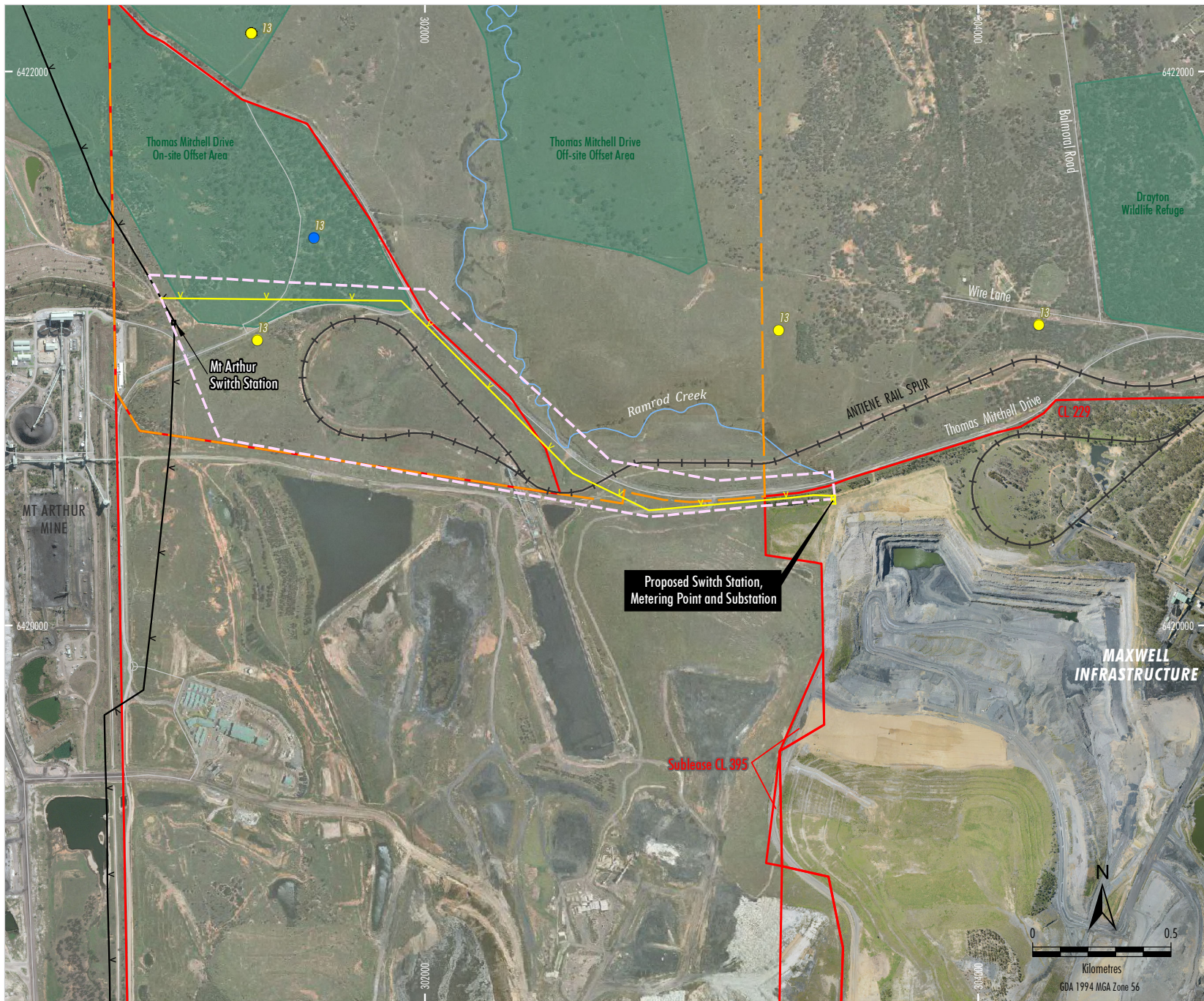
**Reference:**

- 3. Umwelt (2006b)
- 6. Cumberland Ecology (2009a)
- 13. OEH (2019)
- 16. Eco Logical Australia (2014)
- 18. Eco Logical Australia (2016a)
- 20. Eco Logical Australia (2017)

*Note: There are no references 1, 2, 4, 5, 7-12, 14, 15, 17 and 19 on this figure.*

Source: © NSW Department of Planning and Environment (2019);  
NSW Department of Finance, Services & Innovation (2019)  
Orthophoto Mosaic: 2018, 2016, 2011

**Figure A11-8**



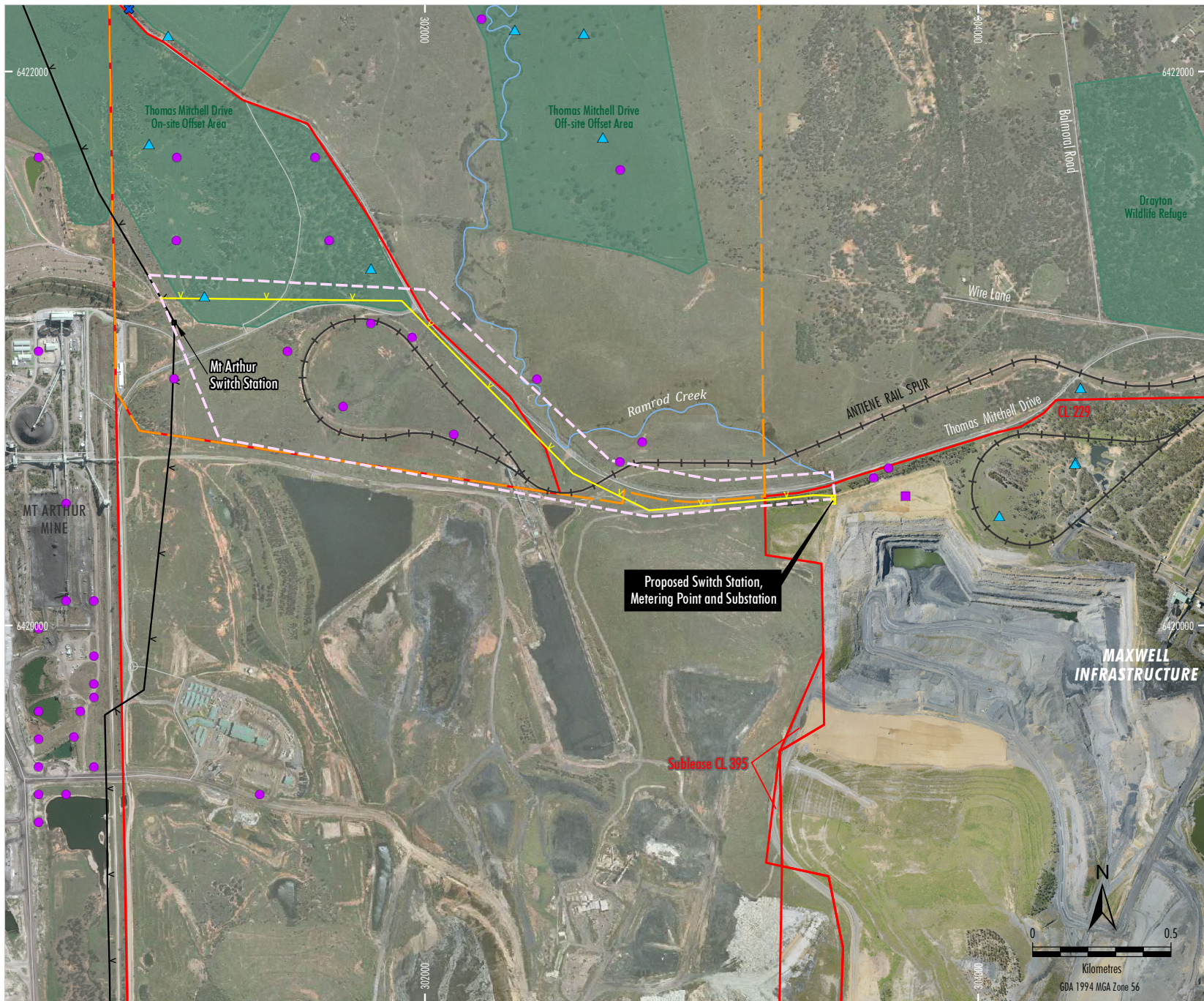
- LEGEND**
- Railway
  - Exploration Licence Boundary
  - Mining and Coal Lease Boundary
  - Feeder 6023 from Mitchell Line STS
  - Potential Ausgrid 66 kV Power Line Extension
  - Study Area
  - Existing Conservation/Offset Area
- Threatened Species**
- Diuris tricolor*
  - Eucalyptus nicholii*
- Endangered Populations**
- Diuris tricolor* Fitzg., the Pine Donkey Orchid, in the Muswellbrook Local Government Area

Reference:  
 13. OEH (2019)  
 Note: There are no references 1 - 12 on this figure.

Source: © NSW Department of Planning and Environment (2019);  
 NSW Department of Finance, Services & Innovation (2019)  
 Orthophoto Mosaic: 2018, 2016, 2011

MALABAR COAL  
 MAXWELL PROJECT  
 Threatened Flora Species/  
 Endangered Populations  
 in the Study Area

**Figure A11-9**



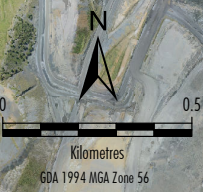
- LEGEND**
- Railway
  - Exploration Licence Boundary
  - Mining and Coal Lease Boundary
  - Feeder 6023 from Mitchell Line STS
  - Potential Ausgrid 66 kV Power Line Extension
  - Study Area
  - Existing Conservation/Offset Area
  - Aboriginal Heritage Sites**
  - Isolated Artefact
  - Artefact Scatter
  - Artefact Scatter, PAD
  - Scarred Tree

Source: © NSW Department of Planning and Environment (2019);  
 NSW Department of Finance, Services & Innovation (2019);  
 Office of Environment and Heritage NSW (2019)  
 Orthophoto Mosaic: 2018, 2016, 2011

Proposed Switch Station,  
 Metering Point and Substation

**MAXWELL  
 INFRASTRUCTURE**

Sublease CL 395





Visual modifications as a result of the proposal would include:

- vegetation clearing, minimised through the use of existing cleared land;
- vertical poles;
- horizontal cables between poles;
- access tracks; and
- earth moving equipment and elevated work platforms during short term construction activities.

Power lines are a common visual component in the broader local landscape, with existing power lines visible from Thomas Mitchell Drive.

The vertical poles would provide the most significant contrast with the existing setting. The greatest visual effect from power poles and wires is when viewed against the skyline, where their outline becomes clearly delineated. As the topography is generally flat, the power line would primarily be viewed against a landscape background and, therefore, would have only a low-level contrast.

#### **A11.4.12 Traffic and Access**

The Potential Ausgrid Power Line Extension would be located near Thomas Mitchell Drive.

Thomas Mitchell Drive is a local road that provides a link between Denman Road and the New England Highway to the south of the Muswellbrook township. This road provides a bypass of Muswellbrook for some traffic and access to the Muswellbrook Industrial Area, Mt Arthur Mine and Maxwell Infrastructure.

If the power line crosses Thomas Mitchell Drive, it will be designed in accordance with Ausgrid design standards, including minimum clearances of public roads.

A traffic control plan would be prepared for construction activities in accordance with Australian Standard 1742.3 *Manual of uniform traffic control devices – Traffic control for works on roads*.

During operation, the power line would only be visited by vehicles on an intermittent basis for general maintenance purposes.

#### **A11.4.13 Social and Economic**

Construction projects such as the Potential Ausgrid Power Line Extension create opportunities for suppliers, contractors and consultants which creates flow on benefits for local communities.

Short-term impacts on the community during the construction phase of the proposal may include increased traffic intensity and noise.

Due to the small scale of the works, it is considered that the socio-economic impacts of the proposal would be localised.

#### **A11.4.14 Electric and Magnetic Field Considerations**

Electric and magnetic fields (EMF) are part of the natural environment and are present in the atmosphere, with static magnetic fields created by the Earth's core. EMF is also produced wherever electricity or electrical equipment is in use. Power lines, electrical wiring, household appliances and electrical equipment all produce EMF.

Detailed consideration of EMF impacts would occur as part of an assessment under Part 5 of the EP&A Act, although it is noted that the closest residential receiver is approximately 2 km from the study area. On this basis, the EMF impacts of the Potential Ausgrid Power Line Extension are not expected to be significant.

It is anticipated that Ausgrid would implement no cost and very low-cost measures to reduce magnetic field exposure, including where relevant:

- using a compact phase configuration (e.g. ABC, delta construction); and
- balancing loads across phases.

### **A11.5 CONCLUSION**

The study area and baseline power line corridor described represent the current preferred option on the basis of known constraints.

The need for and final alignment of the Potential Ausgrid Power Line Extension would require further consultation with relevant stakeholders, analysis of design constraints, impact assessment and review of opportunities to reduce potential impacts.

However, based on the above environmental review, it is considered that the likely impacts of the Potential Ausgrid Power Line Extension would not be significant and are acceptable.

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