


The Secretary
NSW Planning & Environment

ATTENTION: Kelly McNicol, Team Leader Industry Assessment

Dear Sir or Madam

I refer to the Department's letter of 13 November 2017 regarding State Significant Development SSD 7348 at Oakdale West Industrial Estate, Kemps Creek, Penrith (Lot 11 DP 1178389, Lot 3031 DP 1168407, Lot 6 DP 229784, Lot 2 DP 84578, Lot 3 DP 85393). Submissions need to be made to the Department by 20 December 2017.

As shown in the below site plans from G/Net in regards to Lot 11 DP 1178389 / the Stage 1 Development area there are:

- No easements over the site benefitting Endeavour Energy (easements are indicated by red hatching).
- 11,000 volt / 11 kV overhead power lines including a pole mount substation (indicated by the symbol ) which is not held under easement.
- Low voltage overhead extended service line with customer owned poles (indicated by the green circles).
- Low voltage and 11 kV overhead power lines to the Aldington Road road verge / roadway.

Please note the location, extent and type of any electricity infrastructure, boundaries etc. shown on the plan is indicative only. Generally (depending on the scale and/or features selected), low voltage (normally not exceeding 1,000 volts) is indicated by blue lines and high voltage (normally exceeding 1,000 volts but for Endeavour Energy's network not exceeding 132,000 volts / 132 kV) by red lines (these lines can appear as solid or dashed). This plan is not a 'Dial Before You Dig' plan under the provisions of Part 5E 'Protection of underground electricity power lines' of the *Electricity Supply Act 1995* (NSW).

Although the 11 kV overhead power lines that traverse the site are not held under easement, they are protected assets under the *Electricity Supply Act 1995* (NSW) Section 53 'Protection of certain electricity works'. The owner or occupier of the land cannot take any action by reason of the presence or operation of the electricity works in, on or over the land ie. they cannot remove the electricity infrastructure from the property. These protected assets are managed on the same basis as if an easement was in existence. The notional easement width required by Endeavour Energy's Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights' for low voltage and 11 kV overhead power lines is 9 metres wide ie. 4.5 to both sides of the centre line of the poles / wires.

Table 1 - Minimum easement widths

	Voltage	Asset Type	Construction	Minimum Easement (m)
Overhead Assets	400V–22kV	Bare Construction	All	9
		ABC		
		CCT		

Endeavour Energy's G/Net master facility model does not show electricity infrastructure belonging to other authorities. The electricity infrastructure traversing the eastern part of the site is for a voltage in excess of the 132,000 volts / 132kV that are not part of Endeavour Energy's distribution network but are part of the high voltage electricity transmission network owned and operated by TransGrid. Their contact details to seek comments on the development application are available on their website via the following link:

<https://www.transgrid.com.au/Pages/contact.aspx>

Subject to the foregoing and the following recommendations and comments Endeavour Energy has no objection to the Development Application.

- Network Capacity / Connection

Endeavour Energy has noted the following in the Environmental Impact Statement:

Utilities and Services

Essential services would generally be provided to the OWE via connections to utility infrastructure as described in **Table 17**. An overall servicing strategy was prepared as part of early planning for the broader Oakdale Estate therefore infrastructure and servicing requirements for the OWE have been known to utility providers for some time and reflected in forward work programs.

Table 17 – Utility Infrastructure and Requirements

Utility	Existing Services	Proposed OWE Services
Electricity	<p>There are existing 11kV reticulation within the Lenore Drive and an existing zone substation at Erskine Park (Erskine Park Zone Substation).</p> <p>Existing infrastructure has the capacity to serve the initial stage of the OWE development, however Endeavour Energy has indicated that a new zone substation will ultimately be required to service the full development.</p> <p>This substation would be supplied via the overhead 132 kVA feeder 93X located approximately 400m east of Old Wallgrove Road.</p>	<p>Stage 1 of the OWE would be services via connection to the existing 11kV reticulation within Lenore Drive or to the existing Erskine Park Zone Substation.</p> <p>Reticulation would be extended along the proposed WNSLR corridor to the OWE and then reticulated along the estate road network to service development lots.</p> <p>A new Zone substation would be constructed on the proposed services lot on the OWE to service future stages of development.</p> <p>Endeavour Energy would construct, own and operate this substation and as such it does not form part of the OWE SSDA.</p> <p>Once the new substation is completed all stages of the OWE would be connected and serviced by this infrastructure.</p>

In due course the applicant for the future proposed development of the site will need to submit an application for connection of load via Endeavour Energy's Network Connections Branch to carry out the final load assessment and the method of supply will be determined. Given the size of the

proposed development, the existing local network will need to be upgraded. Depending on the outcome of the assessment, any required padmount substation/s will need to be located within the property (in a suitable and accessible location) and be protected (including any associated cabling) by an easement and associated restrictions benefiting and gifted to Endeavour Energy. Please refer to Endeavour Energy's Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights'. Further details are available by contacting Endeavour Energy's Network Connections Branch via Head Office enquiries on telephone: 133 718 or (02) 9853 6666 from 8am - 5:30pm or on Endeavour Energy's website under 'Home > Residential and business > Connecting to our network' via the following link:

<http://www.endeavourenergy.com.au/>

Advice on the electricity infrastructure required to facilitate the proposed development can be obtained by submitting a Technical Review Request to Endeavour Energy's Network Connections Branch, the form for which FPJ6007 is attached and further details (including the applicable charges) are available from Endeavour Energy's website under 'Our connection services'. The response to these enquiries is based upon a desktop review of corporate information systems, and as such does not involve the engagement of various internal stakeholders in order to develop a 'Connection Offer'. It does provide details of preliminary connection requirements which can be considered by the applicant prior to lodging a formal application for connection of load.

Alternatively the applicant should engage a Level 3 Accredited Service Provider (ASP) approved to design distribution network assets, including underground or overhead. The ASP scheme is administered by NSW Trade & Investment and details are available on their website via the following link or telephone 13 77 88:

<http://www.resourcesandenergy.nsw.gov.au/energy-supply-industry/pipelines-electricity-gas-networks/network-connections/contestable-works>

Endeavour Energy's G/Net master facility model shows there are 'Work Polygons' over Lot 3031 DP 1168407 indicating enquiries and applications for proposed contestable works projects with Endeavour Energy's Network Connections Branch for electricity supply to the development for urban industrial and commercial subdivisions (Endeavour Energy's reference UIS0536, UIS0580, UCS0474). As such, Endeavour Energy's Network Connections Branch are managing the conditions of supply with the proponent and their authorised service provider (ASP). However there are currently no 'Work Polygons' over Lot 11 DP 1178389.

In regards to the future zone substation required to service future development stages, Endeavour Energy's Strategic Property section have advised that negotiations with Goodman on the acquisition of a suitable site are continuing. Preliminary due diligence being undertaken on a preferred site with a view to meeting mutually agreed time lines for the delivery of the new zone substation ie. the substation may not be located on the 'Services Lot / Substation' shown in the Architectural Concept Plans.

- Bushfire

Endeavour Energy has noted in the site is not identified as bushfire prone land, with the Bushfire Protection Assessment including the following advice:

6.2 Strategy 2 – Water Supplies/Utilities for Firefighting Operations:

Electricity and gas supplies will be laid underground and therefore address the performance standard of Chapter 4 of *Planning for Bushfire Protection 2006*.

NSW Rural Fire Service 'Planning for Bush Fire Protection 2006' provides the following advice:

<p>Electricity Services</p> <ul style="list-style-type: none"> • location of electricity services limits the possibility of ignition of surrounding bushland or the fabric of buildings • regular inspection of lines is undertaken to ensure they are not fouled by branches. 	<ul style="list-style-type: none"> • where practicable, electrical transmission lines are underground. • where overhead electrical transmission lines are proposed: <ul style="list-style-type: none"> - lines are installed with short pole spacing (30 metres), unless crossing gullies, gorges or riparian areas; and - no part of a tree is closer to a power line than the distance set out in accordance with the specifications in 'Vegetation Safety Clearances' issued by Energy Australia (NS179, April 2002).
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The following is an extract of Endeavour Energy's Company Policy 9.1.1 Bushfire Risk Management:

9.1.1 BUSHFIRE RISK MANAGEMENT

1.0 POLICY STATEMENT

The company is committed to the application of prudent asset management strategies to reduce the risk of bushfires caused by network assets and aerial consumer mains to as low as reasonably practicable (ALARP) level. The company is also committed to mitigating the associated risk to network assets and customer supply reliability during times of bushfire whilst achieving practical safety, reliability, quality of supply, efficient investment and environmental outcomes. The company is committed to compliance with relevant acts, regulations and codes.

Accordingly the network required to service the proposed development must be fit for purpose and meet the technical specifications, design, construction and commissioning standards based on Endeavour Energy's risk assessment associated with the implementation and use of the network connection / infrastructure for a bushfire prone site. In assessing bushfire risk, Endeavour Energy has traditionally focused on the likelihood of its network starting a bushfire, which is a function of the condition of the network. Risk control has focused on reducing the likelihood of fire ignition by implementing good design and maintenance practices. However safety risks associated with the loss of electricity supply are also considered.

- Easement Management / Network Access

Please find attached for the applicant's reference a copy of Endeavour Energy's 'General Restrictions for Overhead Power Lines'. The following is a summary of the usual / main terms of Endeavour Energy's electrical easements requiring that the land owner:

- o Not install or permit to be installed any services or structures within the easement site.
- o Not alter the surface level of the easement site.
- o Not do or permit to be done anything that restricts access to the easement site without the prior written permission of Endeavour Energy and in accordance with such conditions as Endeavour Energy may reasonably impose.

If the proposed works (other than those approved / certified by Endeavour Energy's Network Connections Branch as part of an enquiry / application for load) will encroach/affect Endeavour Energy's easements / protected assets, contact must first be made with the Endeavour Energy's Easements Officer, Jeffrey Smith, on direct telephone 9853 7139 or alternately email Jeffrey.Smith@endeavourenergy.com.au.

It is imperative that the access to the existing electrical infrastructure adjacent and on the site is maintained at all times. To ensure that supply electricity is available to the community, access to the electrical assets may be required at any time.

- Prudent Avoidance

The electricity network is operational 24/7/365 ie. all day, every day of the year. The electricity industry has adopted a policy of prudent avoidance by doing what can be done without undue inconvenience and at modest expense to avert the possible risk to health from exposure to emissions from electricity infrastructure such as electric and magnetic fields (EMF) and noise which generally increase the higher the voltage ie. Endeavour Energy's network ranges from low voltage (normally not exceeding 1,000 volts) to high voltage (normally exceeding 1,000 volts but not exceeding 132,000 volts / 132 kV). In practical terms this means that when designing new transmission and distribution facilities, consideration is given to locating them where exposure to the more sensitive uses is reduced and increasing separation distances. These emissions are generally not an issue but with development with higher density, reduced setbacks and increased building heights, can result in increased exposure. Where development is proposed in the vicinity of electricity infrastructure, Endeavour Energy is not responsible for any amelioration measures for such emissions that may impact on the nearby proposed development.

Please find attached a copy of ENA's 'Electric & Magnetic Fields – What We Know, January 2014' which can also be accessed via the ENA's website at <http://www.ena.asn.au/> and provides the following advice:

Localised EMFs may also be encountered in specific situations such as near substations, underground cables, specialised electrical equipment, or at elevated locations near lines. Note that the strengths of EMFs decrease rapidly with distance from the source.

Typical magnetic field measurements associated with Endeavour Energy's activities and assets given the required easement widths, safety clearances etc. and having a maximum voltage of 132,000 volt / 132 kV, will not exceed the recommended magnetic field public exposure limits.

- Vegetation Management

The planting of large trees in the vicinity of electricity infrastructure is not supported by Endeavour Energy. Suitable planting needs to be undertaken in proximity of electricity infrastructure. Only low growing shrubs not exceeding 3.0 metres in height, ground covers and smaller shrubs, with non-invasive root systems are the best plants to use. Larger trees should be planted well away from electricity infrastructure (at least the same distance from overhead power lines as their potential full grown height) and even with underground cables, be installed with a root barrier around the root ball of the plant. Landscaping that interferes with electricity infrastructure may become a potential safety risk, cause of bush fire, restrict access or result in the interruption of supply. Such landscaping may be subject to Endeavour Energy's Vegetation Management program and/or the provisions of the

Electricity Supply Act 1995 (NSW) Section 48 'Interference with electricity works by trees' by which under certain circumstances the cost of carrying out such work may be recovered.

- Dial before You Dig

Before commencing any underground activity the applicant is required to obtain advice from the **Dial before You Dig 1100** service in accordance with the requirements of the Electricity Supply Act 1995 (NSW) and associated Regulations. This should be obtained by the applicant not only to identify the location of any underground electrical and other utility infrastructure across the site, but also to identify them as a hazard and to properly assess the risk.

- Demolition

Demolition work is to be carried out in accordance with Australian Standard AS 2601—2001 'The demolition of structures'. All electric cables or apparatus which are liable to be a source of danger, other than a cable or apparatus used for the demolition works shall be disconnected ie. the existing customer service lines will need to be isolated and/or removed during demolition. Appropriate care must be taken to not otherwise interfere with any electrical infrastructure on or in the vicinity of the site eg. street light columns, power poles, overhead and underground cables etc.

- Public Safety

Workers involved in work near electricity infrastructure run the risk of receiving an electric shock and causing substantial damage to plant and equipment. I have attached Endeavour Energy's public safety training resources, which were developed to help general public / workers to understand why you may be at risk and what you can do to work safely. The public safety training resources are also available via Endeavour Energy's website via the following link:

<http://www.endeavourenergy.com.au/wps/wcm/connect/ee/nsw/nsw+homepage/communitynav/safety/safety+brochures>

- Emergency Contact

In case of an emergency relating to Endeavour Energy's electrical network, the applicant should note the Emergencies Telephone is 131 003 which can be contacted 24 hours/7 days.

I appreciate that not all the foregoing issues are immediately relevant or significant to the Stage 1 Development. However, Endeavour Energy's preference is to alert proponents / applicants of the potential matters that may arise as further development of the site within closer proximity of the electricity infrastructure (existing and/or required) on or in the vicinity of the site occur.

Could you please pass on the attached resources to the applicant? Should you wish to discuss this matter, or have any questions, please do not hesitate to contact me or the contacts identified above in relation to the various matters. As I am working on different projects across the company's franchise area, to ensure a response contact by email is preferred.

Yours faithfully

Cornelis Duba

Development Application Review

Network Environment & Assessment

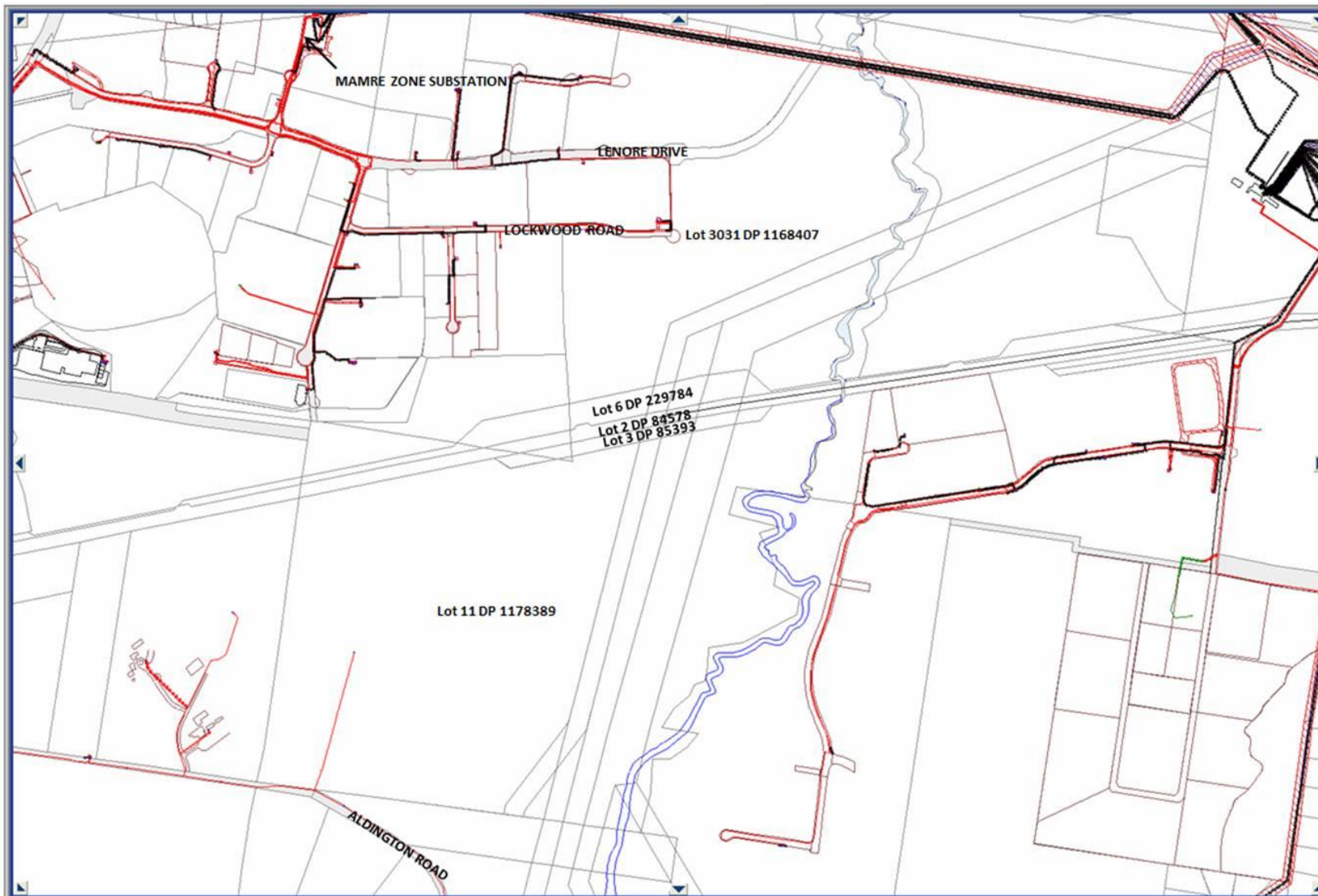
T: 9853 7896

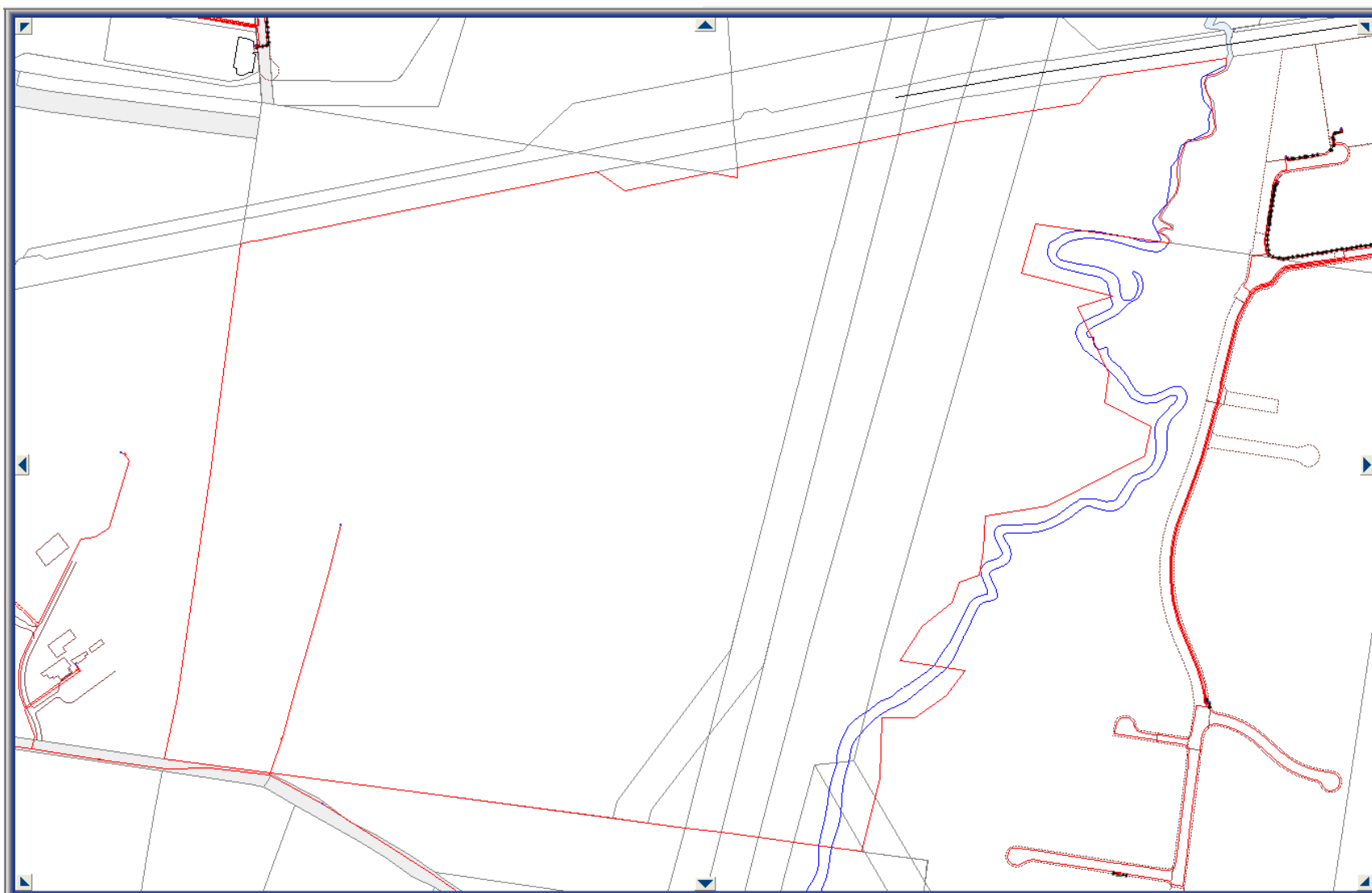
E: cornelis.duba@endeavourenergy.com.au

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G3E_FID	Feature Name	Component Name	G3E_CID	G3E_ID	LOT	SECTION	DP
78137388	Crown Parcel	Crown Parcel Find	1	2044200	11		1178389

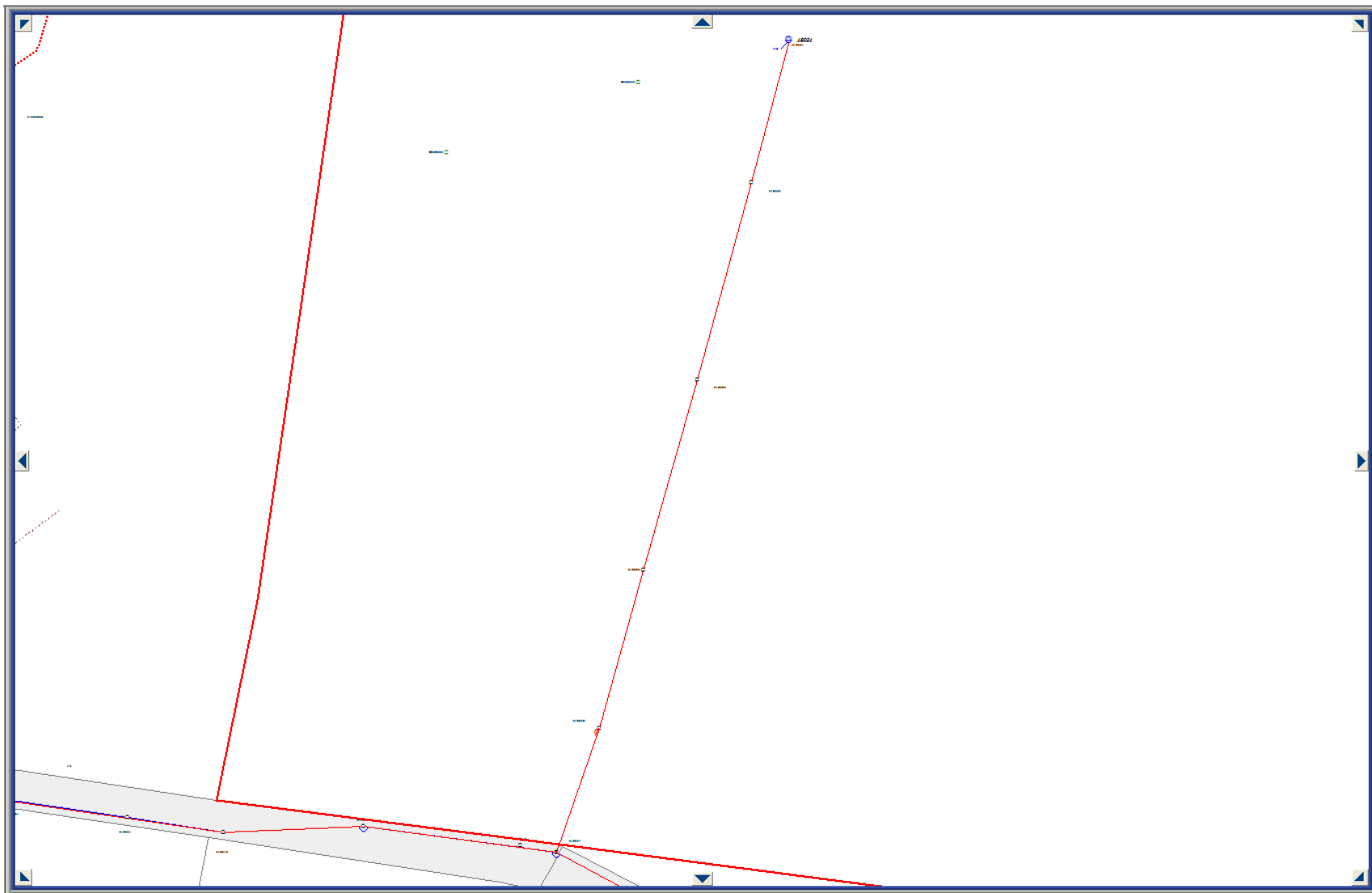


Figure 1 – Oakdale Estate



Source: e8urban