

The Secretary
NSW Planning & Environment

ATTENTION: Daniel Gorgioski, Senior Planner

Dear Sir or Madam

I refer to the Department's below email of 29 May 2019 regarding State Significant Development SSD 7308 St Marys Intermodal at Forrester Road, St Marys (Lots 2 & 3 DP 876781, Lot 196 DP 31912) for 'The construction and operation of an Inland Container Terminal with a 300,000 Twenty-Foot Equivalent Unit (TEU) annual throughput operating capacity and associated container handling operations from the eastern side. Container transportation via train or road'. Submissions need to be made to the Department by 27 June 2019 .

As shown in the below site plan from Endeavour Energy's G/Net master facility model (and extracts from Google Maps Street View) there are:

- Easements over the site benefitting Endeavour Energy for:
 - 132,000 volt / 132 kilovolt (kV) high voltage overhead power lines to the northern part of Lot 3 DP 876781 and crosses Lot 196 DP 31912.
 - 11,000 / 11 kV high voltage and 33,000 volt / 33 kV high voltage overhead power lines to the northern part of Lot 3 DP 876781 (overlaps onto adjoining Lot 2 DP 734445) and crosses Lot 196 DP 31912 (rail corridor) which is not held under easement but easement then continues to the west over Lot 2031 DP 815293.
 - 11 kV high voltage underground cables adjoins eastern side boundary of Lot 3 DP 876781 for padmount substation no. 27811 located on Lot 100 DP 1136503.
 - 11 kV high voltage overhead power lines to the southern end of Lot 2 DP 876781 and crosses the rail corridor.
 - 33 kV high voltage overhead power lines crosses Lot 196 DP 31912 towards the north but not held under easement – easement to the western side and easement to eastern side for high voltage customer substation no. 8146 on Lot 1 DP 586640.
- To the Lee Holm Road road verge / roadway of Lot 3 DP 876781 low voltage and 11 kV high voltage overhead power lines including pole mounted substation no. 16488.
- To the Forrester Road road verge / roadway of Lot 2 DP 876781 low voltage and 11 kV high voltage overhead power lines and low voltage underground cables.
- To the Christie Street road verge / roadway of Lot 196 DP 31912 low voltage underground cables.

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 and where there are multiple lines / cables only the higher voltage may be shown). This plan only shows the Endeavour Energy network and does not show electricity infrastructure belonging to other authorities or customers owned electrical equipment beyond the customer connection point / point of supply to the property. 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).

In regards to any electricity infrastructure on the site which is 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- please refer to the below point 'Easement Management / Network Access.

Subject to 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 Preliminary Environmental Assessment:

4. PROPOSAL DESCRIPTION

- Ancillary development includes:
 - Utility services to support the proposed development including drainage, potable water, water (for firefighting purposes), power, data, security and sewerage;
 - Electrical transformer.

The proposed development is largely similar to the previous PEA submitted in 2015, though the following changes should be noted:

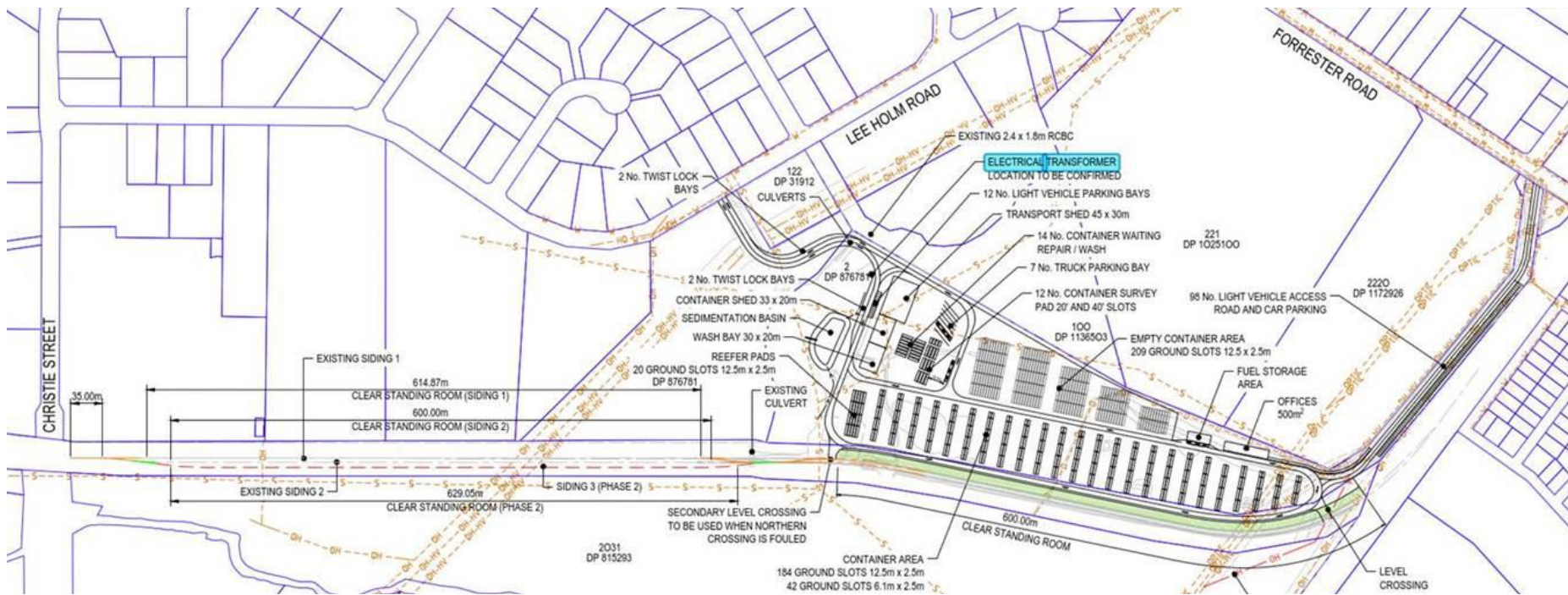
- The addition of:
 - Electrical transformer;

6. CONSULTATION

To date, no formal consultation has been undertaken, however a similar SSD proposal was previously considered by the Department of Planning and Environment in 2015 and SEARs was issued in October 2015 (Reference: SSD 15-7308).

The proposed development and the results of the environmental assessment and the design of the proposed development will be subject to key stakeholder consultation throughout the preparation of the EIS and public exhibition periods, including but not limited to:

- Service and infrastructure providers, including:
 - Endeavour Energy;



Endeavour Energy's Asset Strategy & Planning Branch whilst not having undertaken a detailed analysis of the Planning Proposal have provided the following advice:

The proposed St Marys Intermodal Freight Terminal is located approximately 2 kilometres from Endeavour Energy's Werrington Zone Substation (ZS) located at 242-246 Forrester Road St Marys (Lot 102 DP 31911). Werrington ZS has sufficient capacity for new developments and can support this development.

Two 11 kV feeders are in vicinity of this site: no.s 35773 and 35763. These feeders have some spare capacity, depending on the size of proposed load. A new 11 kV feeder from Werrington ZS to the site may be required.

132kV feeders no.s 933 and 936 from TransGrid's Regentville Bulk Supply Point to Endeavour Energy's Mount Druitt Transmission Substation cross this property. 33kV feeder no. 497 from Werrington ZS to Cambridge Park ZS also crosses this property. These feeders are not related to electricity supply to the site. If these feeders need to be relocated, this will be assessed through formal asset relocation process which could be done as part of the application for connection of load to the site. .

Please see the following sketch which indicates the location of the above mentioned high voltage feeders.



From an Asset Strategy & Planning Branch point of view, there are no objections to the proposed development.

A proper load assessment by the customer's Level 3 Accredited Services Provider (ASP) or Consultant Engineer and Endeavour Energy's Capacity Planner will be needed to determine the best method of connection and any reconfigurations and upgrades. The customer is urged to engage with an Electrical Consultant prior to finalising plans in order to assess and incorporate the appropriate electricity infrastructure into the proposed development. The customer will need to make application for the connection of load as per Endeavour Energy's normal customer connection processes.

In due course the applicant for the 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. 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 (including asset relocation) 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 an Accredited Service Provider (ASP) of an appropriate level and class of accreditation. The ASP scheme is administered by NSW Planning & Environment and details are available on their website via the following link or telephone 13 77 88:

<https://energysaver.nsw.gov.au/households/you-and-energy-providers/installing-or-altering-your-electricity-service> .

- Urban Network Design

Endeavour Energy's Company Policy 9.2.5 'Network Asset Design', includes the following requirements for electricity connections to new urban subdivision / development:

5.11 Reticulation policy

5.11.1 Distribution reticulation

In order to improve the reliability performance of and to reduce the operating expenditure on the network over the long term the company has adopted the strategy of requiring new lines to be either underground cables or where overhead is permitted, to be predominantly of covered or insulated construction. Notwithstanding this strategy, bare wire overhead construction is appropriate and permitted in some situations as detailed below.

In areas with the potential for significant overhanging foliage, CCT is used to provide increased reliability as it is less susceptible to outages from wind-blown branches and debris than bare conductors. CCT must only be used in treed² areas as the probability of a direct lightning strike is low. In open areas where the line is not shielded from a direct lightning strike, bare conductors must generally be used for 11kV and 22kV reticulation.

Non-metallic Screened High Voltage Aerial Bundled Cable (NMSHVABC) must be used in areas which are heavily treed and where it is not practicable to maintain a tree clearing envelope around the conductors.

² A "treed" area is one with a substantial number of trees adjacent to the line, in each span. In these situations CCT is used to provide increased reliability as it is less susceptible to outages from wind-blown

5.11.1.1 Urban areas

Reticulation of new residential subdivisions will be underground. In areas of low bushfire consequence, new lines within existing overhead areas can be overhead, unless underground lines are cost justified or required by either environmental or local council requirements.

Where underground reticulation is required on a feeder that supplies a mixture of industrial, commercial and/or residential loads, the standard of underground construction will apply to all types of load within that development.

Where ducting is used, adequate spare ducts and easements must be provided at the outset to cover the final load requirements of the entire development plan.

Extensions to the existing overhead 11kV/22kV network must generally be underground. Bare wire will be used for conductor replacements and augmentations except in treed areas where CCT or NMSHVABC must be used.

Extensions to the existing overhead LV network and augmentations must either be underground or ABC. Conductor replacements greater than 100m in route length must utilise aerial bundled cable.

- Bushfire

NSW Rural Fire Service 'Planning for Bush Fire Protection 2006' as a general bush fire protection measures requires that electricity should be located so as not to contribute to the risk of fire or impede the fire fighting effort.

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.

- Flooding and Drainage

Distribution substation should not be subject to flood inundation ie. the padmount substation cubicles are weather proof not flood proof. Section 7 'Substation and switching stations' of Endeavour Energy's Mains Construction Instruction MCI 0006 'Underground distribution construction standards manual' provides the following details of the requirements for addressing flooding in new padmount substation locations.

7.1.6 Flooding and drainage

Substations are to be located such that the risk of flooding or stormwater damage is minimal.

As a minimum the level at the top of the transformer footing, HV and LV switchgear, shall not be lower than the 1:100 year flood level.

All drains within the substation site area or in the vicinity shall be properly maintained to avoid the possibility of water damage to Endeavour Energy's equipment.

In areas where, as determined by the Network Substation Manager, there is a high water table or a heightened risk of flooding, indoor substations will not be permitted.

All materials used in the construction below the substation (ground level) shall be capable of withstanding prolonged immersion in water without swelling or deterioration.



Figure 51 - Example substation raised above 1:100 flood level

- Streetlighting

With the significant increase in both vehicular and pedestrian traffic, given the existing streetlighting is designed for a non-urban environment, the streetlighting for the proposed development should be reviewed and if necessary upgraded to comply with the series of standards applying to the lighting of roads and public spaces set out in with Australian/New Zealand Standard AS/NZS 1158: 2010 'Lighting for roads and public spaces' as updated from time to time.

Whilst the determination of the appropriate lighting rests with the road controlling authority, Endeavour Energy as a Public Lighting Service Provider is responsible for operating and

maintaining the streetlights on behalf of local councils, Roads and Maritime Services and other utilities in accordance with the NSW Public Lighting Code, January 2006 (Code). Endeavour Energy recognises that well designed, maintained and managed Public Lighting offers a safe, secure and attractive visual environment for pedestrians and drivers during times of inadequate natural light.

For any Code implementation and administration / technical matters please contact Endeavour Energy's Substation Mains Assets Section via Head Office enquiries on telephone: 133 718 or (02) 9853 6666 from 8am - 5:30pm or email mainsenquiry@endeavourenergy.com.au .

- Earthing

The construction of any building or structure (including fencing, signage, flag poles, hoardings etc.) whether temporary or permanent that is connected to or in close proximity to Endeavour Energy's electrical network is required to comply with Australian/New Zealand Standard AS/NZS 3000:2018 'Electrical installations' as updated from time to time. This Standard sets out requirements for the design, construction and verification of electrical installations, including ensuring there is adequate connection to the earth. Inadequate connection to the earth to allow a leaking/fault current to flow into the grounding system and be properly dissipated places persons, equipment connected to the network and the electricity network itself at risk from electric shock, fire and physical injury.

- Easement Management / Network Access

The following is a summary of the usual / main terms of Endeavour Energy's electrical easements requiring that the land owner:

- Not install or permit to be installed any services or structures within the easement site.
- Not alter the surface level of the easement site.
- 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.

Endeavour Energy's preference is for no activities or encroachments to occur within its easement areas. Most activities are prohibited within the padmount substation easement area. However, if any proposed works (other than those approved / certified by Endeavour Energy's Network Connections Branch as part of an enquiry / application for load or asset relocation project) will encroach/affect Endeavour Energy's easements or 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 or Easements@endeavourenergy.com.au .

Please find attached for the applicant's reference copies of Endeavour Energy's:

- General Restrictions for Overhead Power Lines.
- Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights' which in Section 5.14 'Encroachments on overhead line easements' deals with activities / encroachments within easements.
- Guide to Fencing, Retaining Walls and Maintenance Around Padmount Substations – for the padmount substation/s required to facilitate the proposed development.

It is imperative that the access to the existing electrical infrastructure on and in proximity of the site be maintained at all times. To ensure that supply electricity is available to the community, access to the electricity infrastructure may be required at any time. Restricted access to electricity infrastructure by maintenance workers causes delays in power restoration and may have severe consequences in the event of an emergency.

- 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 Council's permitting or encouraging development with higher density, reduced setbacks and increased building heights, new development can impact on existing electricity infrastructure. Even then noise levels can vary and people perceive sounds differently so to minimise any potential exposure to intrusive noise, the siting towards the electricity infrastructure of less susceptible uses such as garages, non-habitable or rooms not regularly occupied in the dwelling / building is recommended. This will also assist in reducing exposure to EMF.

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. Endeavour Energy believes that likewise Council should also adopt a policy of prudent avoidance by the siting of more sensitive uses away from any electricity infrastructure – including any possible future electricity infrastructure required to facilitate the proposed development.

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

Electric fields are strongest closest to their source, and their strength diminishes rapidly as we move away from the source.

The level of a magnetic field depends on the amount of the current (measured in amps), and decreases rapidly once we move away 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 with the observance of these separation distances 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, reduce light levels from streetlights 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.

- Excavation

The applicant should be advised of the following object of Section 49A 'Excavation work affecting electricity works' of the of *Electricity Supply Act 1995* (NSW) covering the carrying out or proposed carrying out of excavation work in, on or near Endeavour Energy's electrical infrastructure.

Electricity Supply Act 1995 No 94

Current version for 1 August 2018 to date (accessed 4 September 2018 at 08:54)
Part 5 > Division 2 > Section 49A



49A Excavation work affecting electricity works

- (1) This section applies if a network operator has reasonable cause to believe that the carrying out or proposed carrying out of excavation work in, on or near its electricity works:
 - (a) could destroy, damage or interfere with those works, or
 - (b) could make those works become a potential cause of bush fire or a potential risk to public safety.
- (2) In those circumstances, a network operator may serve a written notice on the person carrying out or proposing to carry out the excavation work requiring the person:
 - (a) to modify the excavation work, or
 - (b) not to carry out the excavation work, but only if the network operator is of the opinion that modifying the excavation work will not be effective in preventing the destruction or damage of, or interference with, the electricity works concerned or in preventing those works becoming a potential cause of bush fire or a potential risk to public safety.

If any excavation work affects Endeavour Energy's electricity infrastructure, prior contact must be made to Endeavour Energy's Regional Services North via Head Office enquiries on telephone: 133 718 or (02) 9853 6666 from 8am - 5:30pm or alternately email Regional.ServicesNorth@endeavourenergy.com.au .

- 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> .

If the applicant has any concerns over the proposed works in proximity of the Endeavour Energy's electricity infrastructure to the road verge / roadway, as part of a public safety initiative Endeavour Energy has set up an email account that is accessible by a range of multiple stakeholders across the company in order to provide more effective lines of communication with the general public who may be undertaking construction activities in proximity of electricity infrastructure such as builders, construction industry workers etc. The email address is Construction.Works@endeavourenergy.com.au .

- 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 may be directly relevant or significant to the Development Application. However, Endeavour Energy's preference is to alert proponents / applicants of the potential matters that may arise should development within closer proximity of the existing and/or required electricity infrastructure needed to facilitate the proposed development on or in the vicinity of the site occur.

Could you please pass on a copy of this submission and 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. Due to the high number of development application / planning proposal notifications submitted to Endeavour Energy, to ensure a response contact by email to property.development@endeavourenergy.com.au is preferred.

Yours faithfully

Cornelis Duba

Development Application Specialist

Network Environment & Assessment

T: 9853 7896

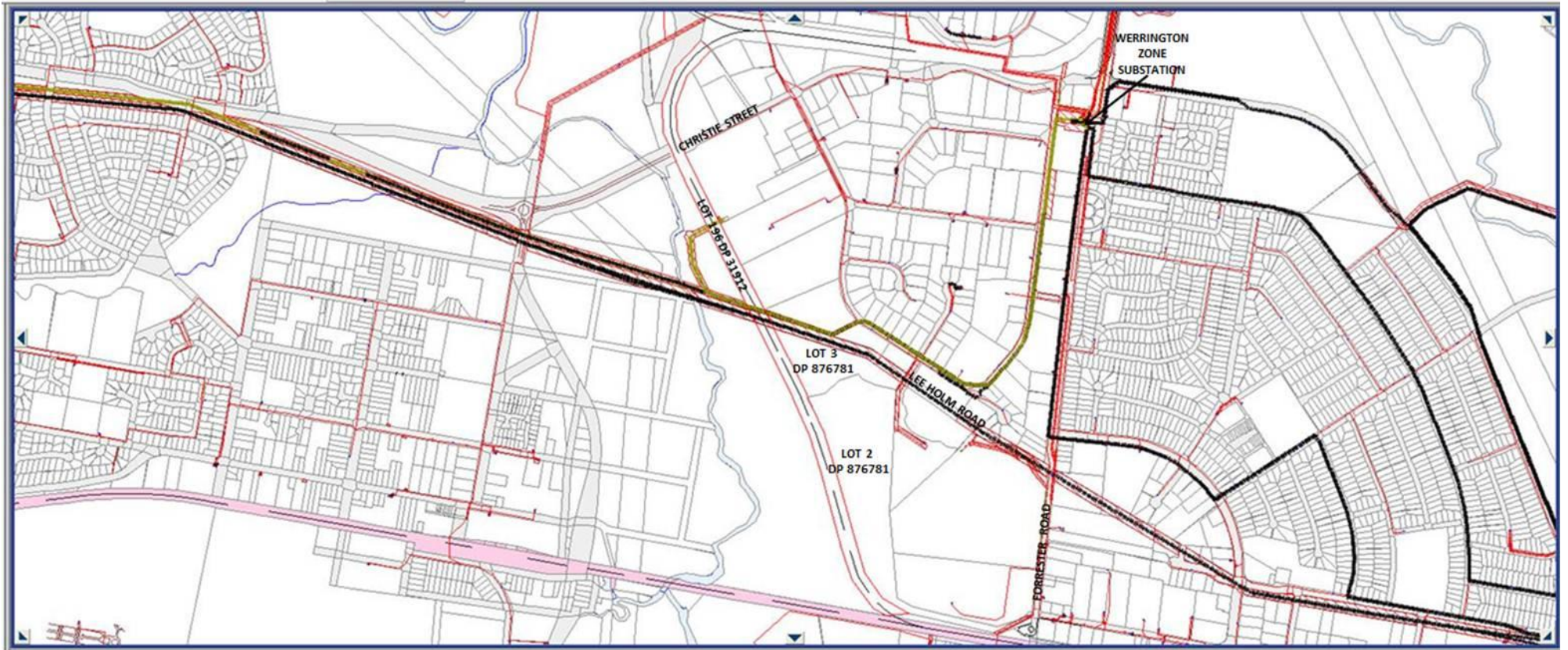
E: cornelis.duba@endeavourenergy.com.au

51 Huntingwood Drive, Huntingwood NSW 2148

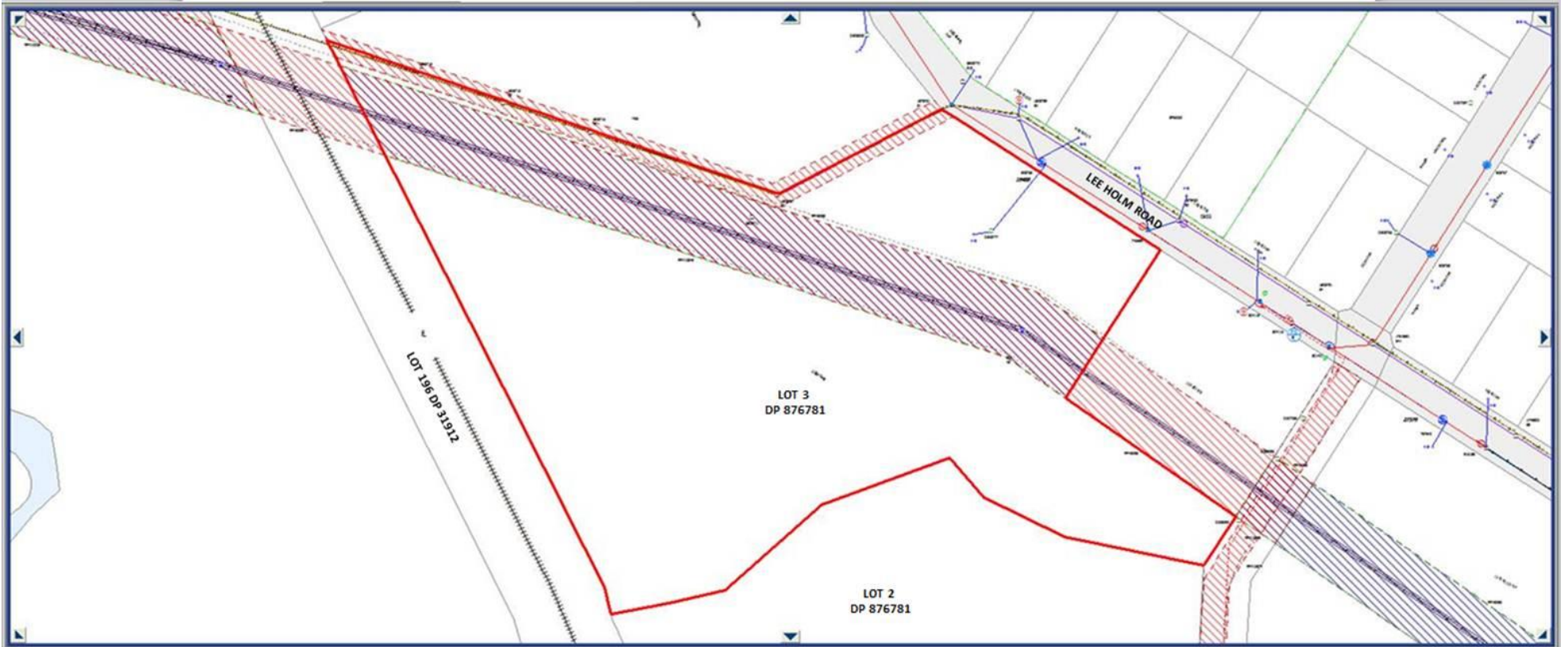
www.endeavourenergy.com.au







G3E_FID	Feature Name	Component Name	G3E_CID	G3E_ID	LOT	SECTION	DP
81603019	Crown Parcel	Crown Parcel Find	1	2315107	196		31912



G3E_FID	Feature Name	Component Name	G3E_CID	G3E_ID	LOT	SECTION	DP
65912734	Crown Parcel	Crown Parcel Find	1	1832743	3		876781



66 Lee Holm Rd

St Marys, New South Wales

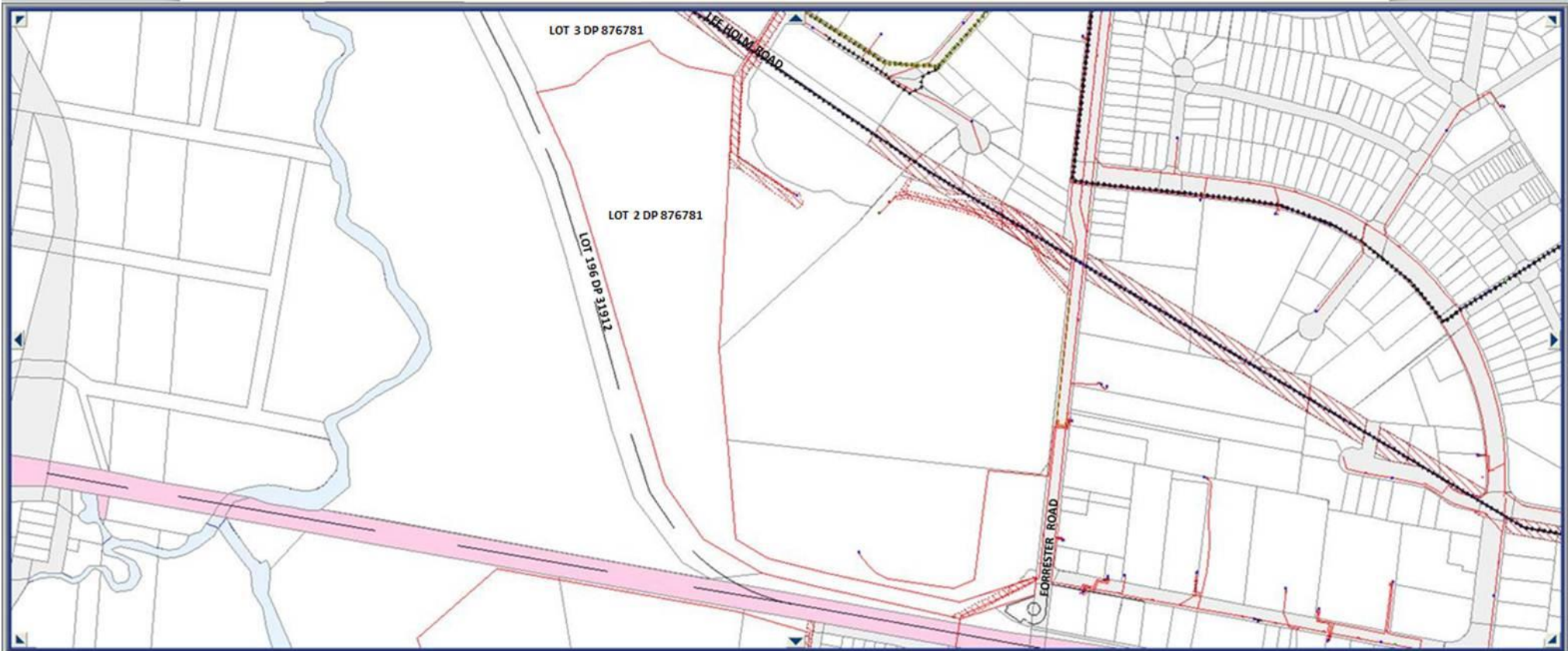


Street View - Mar 2014

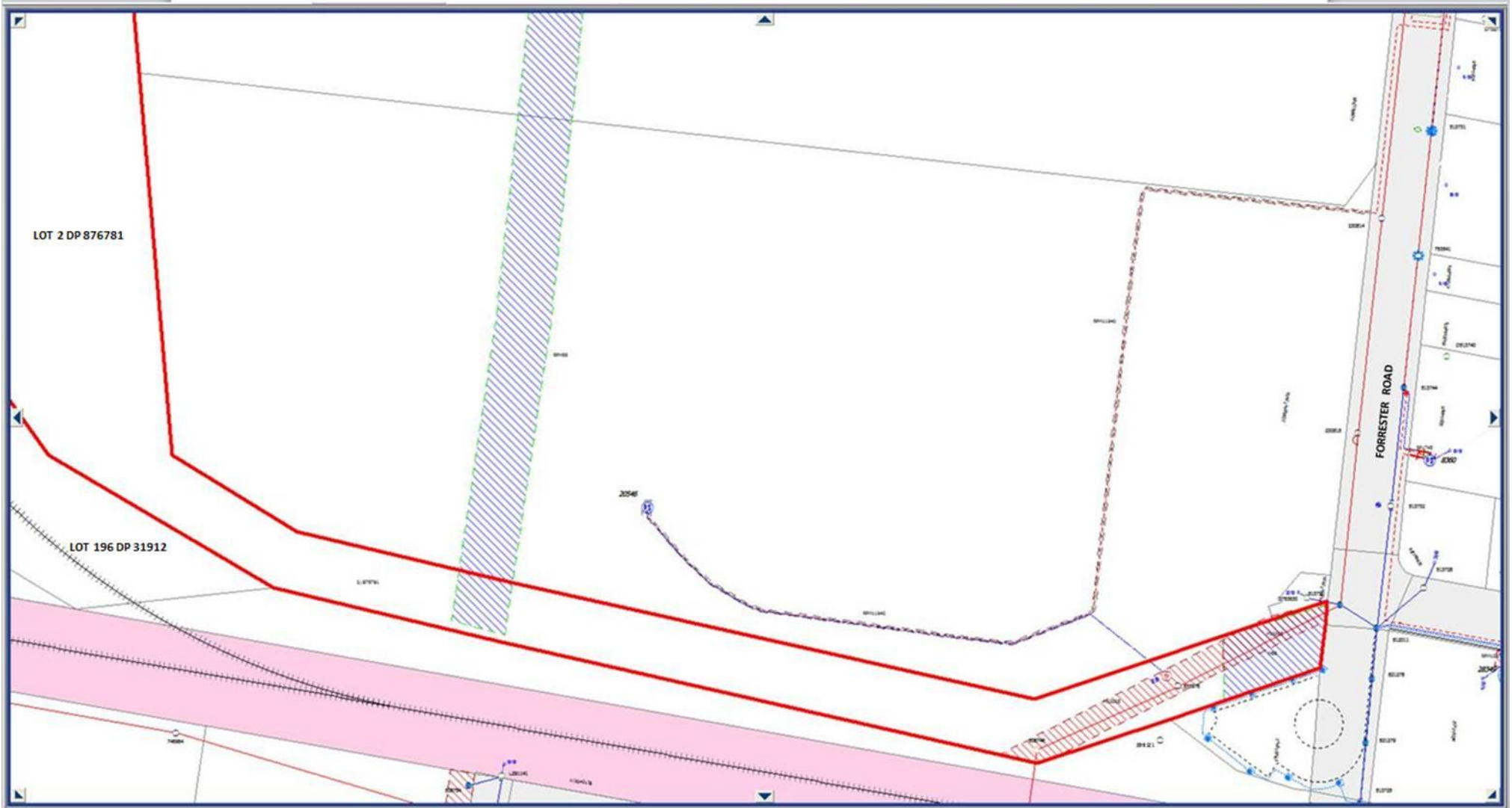
MAGNETIC SECONDS

Google

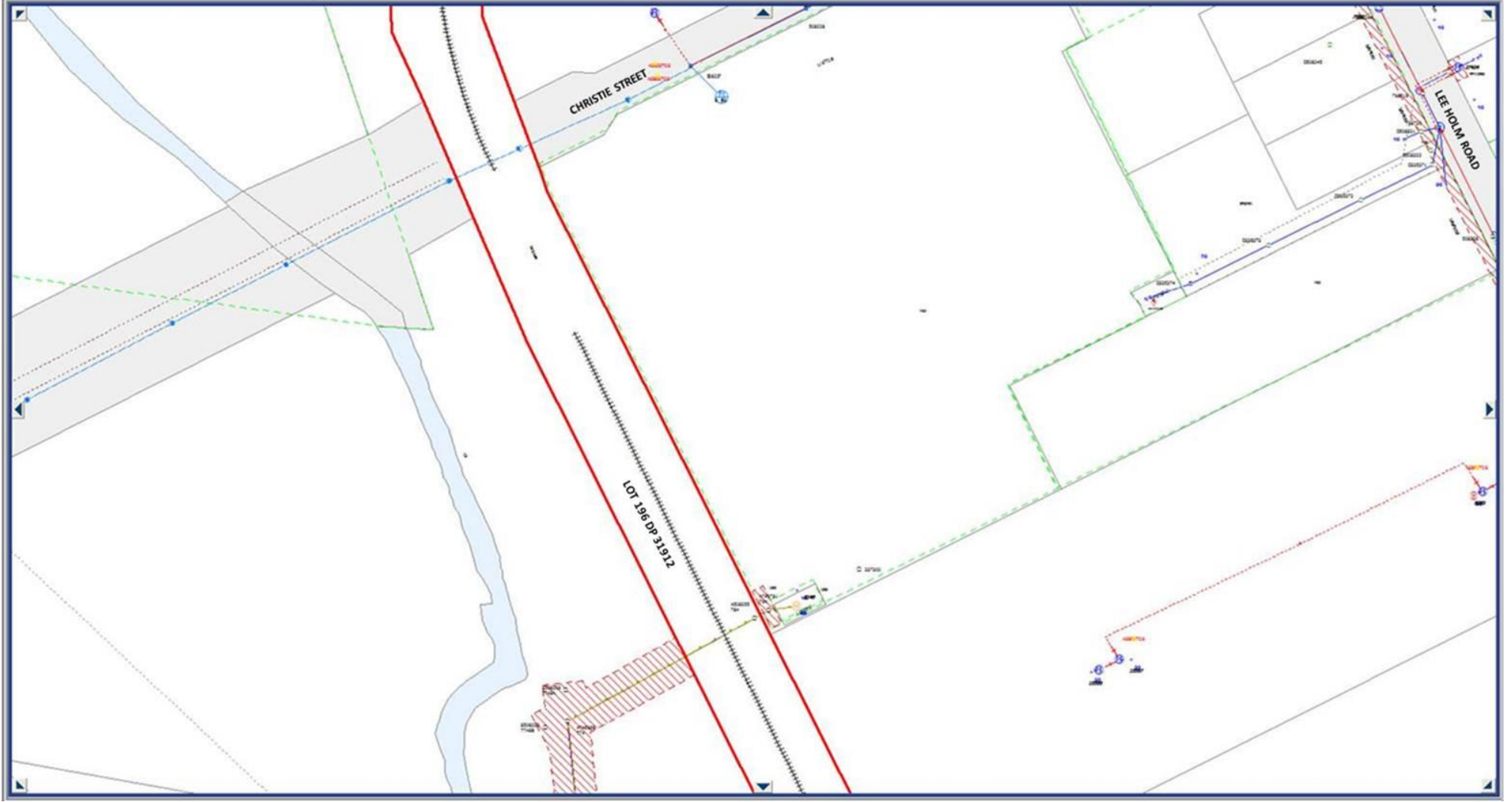
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G3E_FID	Feature Name	Component Name	G3E_CID	G3E_ID	LOT	SECTION	DP
66004990	Crown Parcel	Crown Parcel Find	1	1740437	2		876781







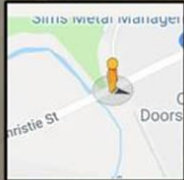


Christie St

St Marys, New South Wales

Google

Street View - Aug 2017



Google

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