

Canberra Data Centres

17 Roberts Road, Eastern Creek - SSD-1033

Service Infrastructure Statement

Prepared for:

CDC

Prepared by:

Rowan Barwood
Project No.41204-2
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Date:
24 October 2019

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Revision

Site Address: 17 Roberts Road, Eastern Creek (Lot 2 in DP 1159804)
Proposed Development: Data Centre
Client: Canberra Data Centres
Local Authority Blacktown Local Government Area (LGA)
Wood & Grieve Reference: 41204-2-EL-RE-001



Rowan Barwood
For and on behalf of
Wood & Grieve Engineers

REVISION	DATE	COMMENT	APPROVED BY
A	30.08.19	Issued for Review	RBAR
B	09.10.19	Revised Issue Accommodating comments	RBAR
C	24.10.19	Updated site drawings	RBAR
D	24.10.19	Updated project description	RBAR

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1. Introduction

Wood & Grieve Engineers has been commissioned by Canberra Data Centres Pty Ltd (the applicant) to prepare this report in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs), and in support of the SSD-10330 for the development of a Data Centre at 17 Roberts Road, Eastern Creek within the Western Sydney Employment Area (WSEA).

1.1 Description of site and locality

The site is located at 17 Roberts Road, Eastern Creek and comprises land known as Lot 2 in Deposited Plan 1159804. The site is identified in Figure 1.



Figure 1 : Lot 2 in Deposited Plan 1159804

Key features of the site are as follows:

The site is approximately 14.52ha and is an irregular shape. The site is bound by Roberts Road to the south and Capicure Drive to the north (refer to Figure 2).

The site is located within the suburb of Eastern Creek, which falls within the Blacktown Local Government Area. The site is located with the Eastern Creek Precinct of WSEA and is surrounded by general and light industrial land uses.

The majority of the site is cleared with scattered vegetation around the peripheral of the site.

Vehicular access to the site is from the local road network available from Roberts Road and Capicure Drive. New internal road will be established as part of the SSDA for internal connection and vehicular access.

Key development features of the site are as follows (refer to Figure 2):

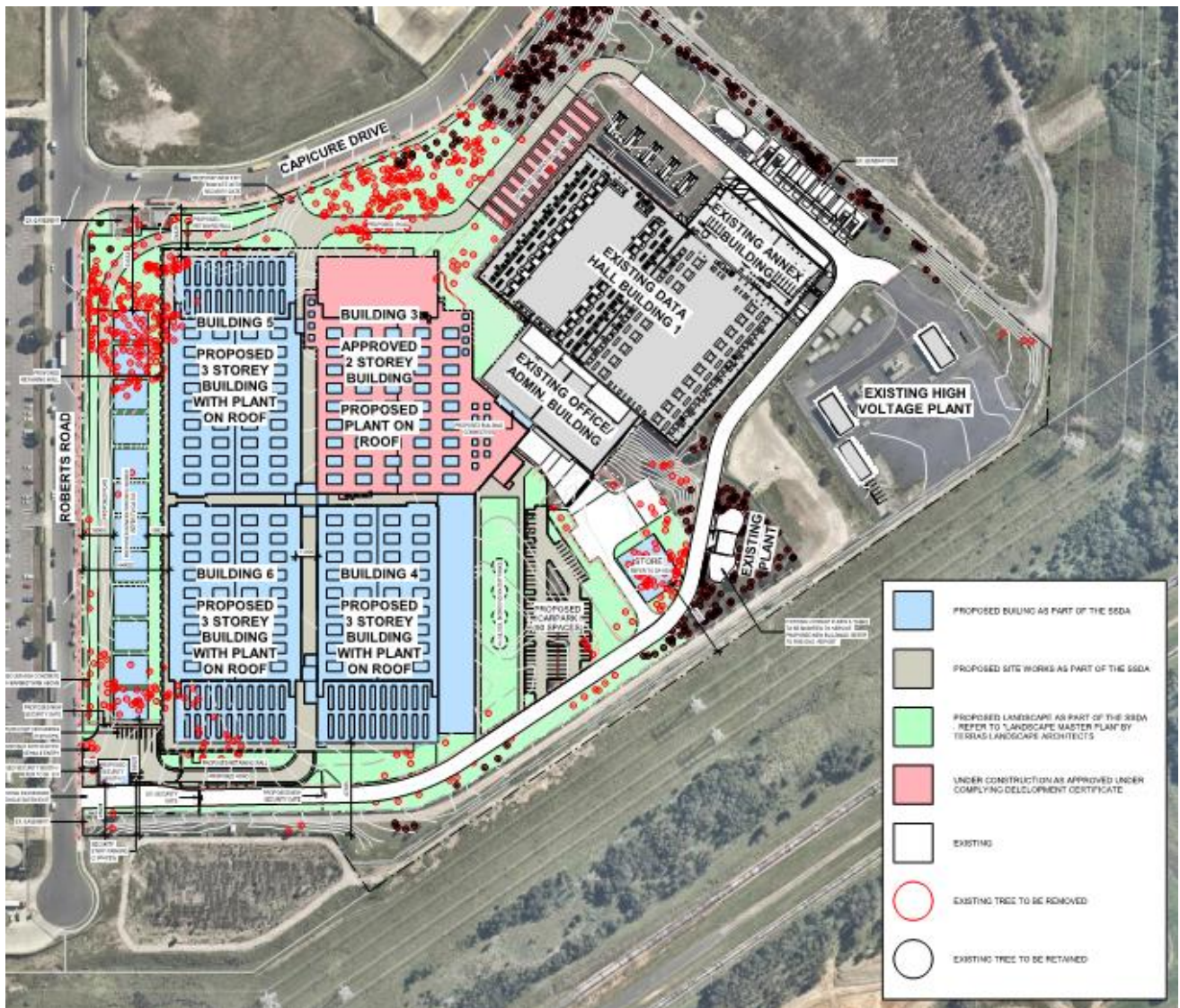


Figure 2 : Site Plan

- An existing Data Centre with associated office building and plant is located to the east of the site. This Data Centre is to be retained and does not form part of this SSDA.
- Building 3 is currently under construction under a series of Complying Development Certificates. These comprise of Early Works, Base Build, Fit Out and installation of 12 generators. These works do not form part of the SSDA scope. Additional rooftop plant and equipment for Building 3 forms part of the proposed SSDA scope.

Key features of the locality are:

North: The adjoining land to the north comprises large-scale warehouses, freight and logistics and light industrial activities with ancillary offices, all forms part of the Eastern Creek Business Park.

East: To the east is a parcel of vacant land and landscaped buffer between the light industry use land on the western side of M7 Highway. Western Sydney Park Land and SUEx Eastern Creek Resource Recovery Park is further to the east of the site, located on the eastern side of M7 Highway.

South: Land immediately to the south is part of the TransGrid Eastern Creek site, which contains multiple high voltage transmission lines. Austral Bricks is located further south.

West: The land to the west of Roberts Road is Australian Personnel Solutions National Service Centre. Further to the west is Old Wallgrove Road and TransGrid Eastern Creek site, containing high voltage transmission lines and substations.

The nearest residential receivers are located in Horsley Park located around 1 km to the south of the site. Other nearby residential areas include Minchinbury to the north of the site beyond the M4 approx. 4km from the site); and Erskine Park to the west (approx. 2.8km from the site).

2. Project description

The SSDA proposes the construction of a new Data Centre and ancillary office space to expand the operation of the existing Data Centre to the east of the site. The proposed Data Centre including three large warehouse buildings and ancillary office space, which will deliver economic benefits and employment generation for Western Sydney and the Greater Sydney Region.

Specifically, the SSDA seeks consent for:

Site preparation works comprising:

- Site preparation and mobilisation including clearing of land and importation of fill material;
- Bulk and detail earthworks and support structures;
- Estate stormwater management including construction of detention basins;
- Construction of site access and estate internal roads;
- Service and infrastructure augmentation;
- Perimeter fencing;
- Retaining wall;
- Removal of trees and
- Environmental protection and management measures.

Staged construction of buildings for a Data Centre with 24 hour/day, seven day/week operation:

- Construction of three 3 storey warehouse facilities (E4, E5, E6) including ancillary office spaces;
- Additional rooftop plant and equipment for Building E3 in associated with Data Centre use;
- Fit out of buildings;
- Construction of a store room;
- Security booth;
- Generator within generator enclosures;
- Landscaping works; and
- Construction of hardstand, loading area and a new car park.

The proposal does not involve the installation of any form of signage to the façade of the building.

3. Electrical Services

3.1 High Voltage Network (Existing)

3.1.1 Existing Supply Authority Network

The Supply Authority for the area is Endeavour Energy. At present the site is supplied via two 11kV feeders from the Eastern Creek Zone Substation (# 9707). These feeders are :

- Hewlett Packard No 1 (CB54699)
- Hewlett Packard No 2 (CB54667)

The HVC metering points are located near the corner of Capicure Drive and Roberts Road, Eastern Creek.



Figure 3 : HVC Metering Point

To meet the demand for Building E3 (currently being constructed), a third 11kV feeder will be supplied from the Eastern Creek Zone Substation (# 9707). The HVC metering point for this feeder will be established adjacent the existing 2 HVC metering points.

3.1.2 Existing Private HV Network

Canberra Data Centres owns and operates the private High Voltage network after the HVC metering kiosks.

The two incoming 11kV cables are connected to UT1 and UT2 HV switchrooms which currently supply the existing site.

3.1.3 Existing on site Generators

There are a mixture of LV (400V) and HV (11kV) prime rated generators located on the site to provide non-mains power. These are located in the areas depicted below



Figure 4 : HV and LV Generators (Locations shown in red)

3.2 Calculated additional demand

The calculated additional demand for the three new buildings (Building 4, Building 5 & Building 6) depicted in Figure 4 is approximately 100MVA.

3.3 Required Supply Authority Network Augmentation

To meet the demand for the project, it will be necessary to augment the existing supply arrangement. This would entail supplying the site at 132kV. The existing 11kV supplies would be decommissioned once the 132kV supplies are operational.

An application for load of 157.2MVA has been lodged with Endeavour Energy [Endeavour Energy Ref : UCL10121-2019/01022/001].

The site is located 500m East of proposed TransGrid's Sydney West Bulk Supply Point (BSP) location or 1.2km via Old Wallgrove Rd/Roberts Road. As previously advised by Endeavour Energy (Technical Review Request – ENL3322), supply up to 157.2MVA may be provided from Sydney West BSP with a connection voltage of 132kV. At this stage, it is envisaged that suitable connection assets will need to be established by the customer, which would include two Endeavour Energy's underground transmission feeders (132kV) from Sydney West BSP to the development property (see Figure 5).



Figure 5 : Proposed 132kV underground cable route (shown in red)

3.4 Private HV Network Upgrade requirements

It will be necessary to establish new 132kV switching yard and associated Utility switchrooms. The switching yard to consist of 5 off 132/11kV 35/45MVA transformers, 5 off 11kV switching rooms and associated auxiliary equipment such as CT's and VT's, circuit breakers. The proposed 132kV switching yard is depicted in Figure 5

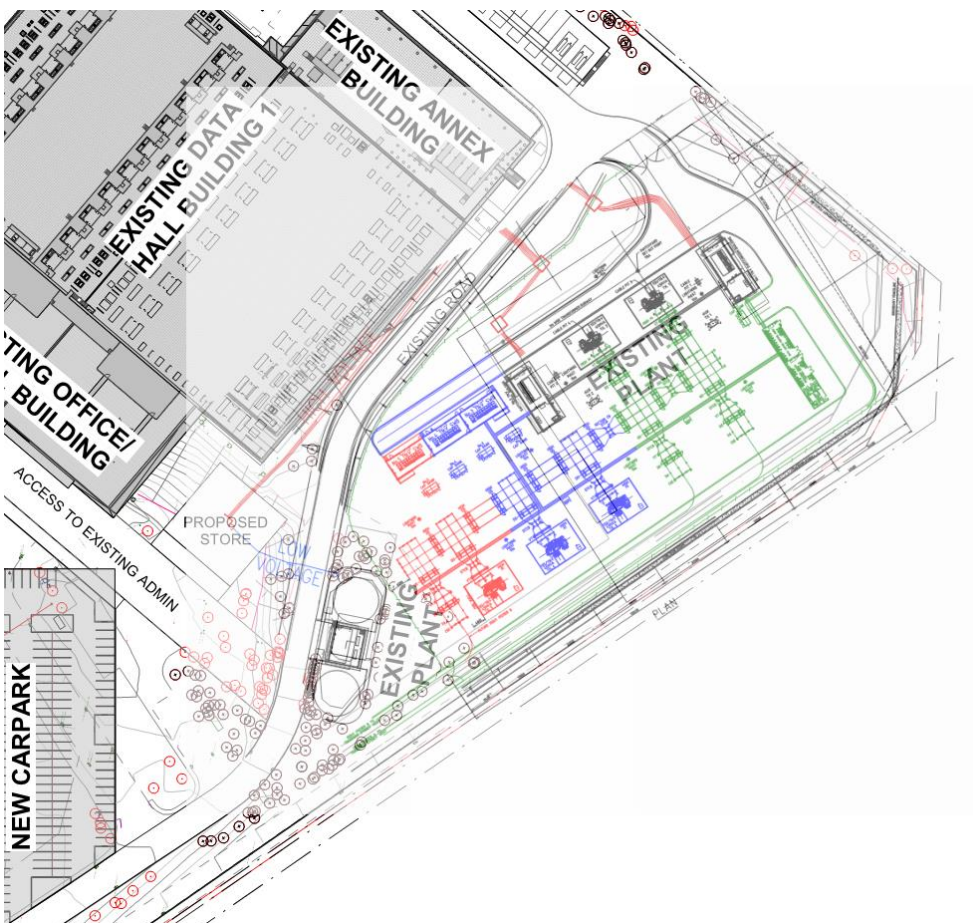


Figure 5 : 132kV Switching Yard

HV reticulation to the three new buildings will be by means of underground cable (11kV)

3.5 HV Delivery and Staging

All works will be contestable and funded by the Developer. The Supply Authority section of the design will be undertaken by an Accredited Service Provider (ASP) Level 3 designer with certification by the Supply Authority, Endeavour Energy). It is not envisaged that the Supply Authority works will be staged. The planning process for these works is currently underway and it is envisaged that these works will be completed (or well underway) by the time construction commences on Building 4,5 and 6.

3.6 HV Generators to service the project

It will be necessary to establish an additional 36 off HV generators to support the three new Buildings (generators provided for supplying back-up/secondary power source). The HV generators will housed in buildings (3 generators per building). The generators will be 3,500kVA data centre rated generators. Location of the HV generators depicted in Figure 6.

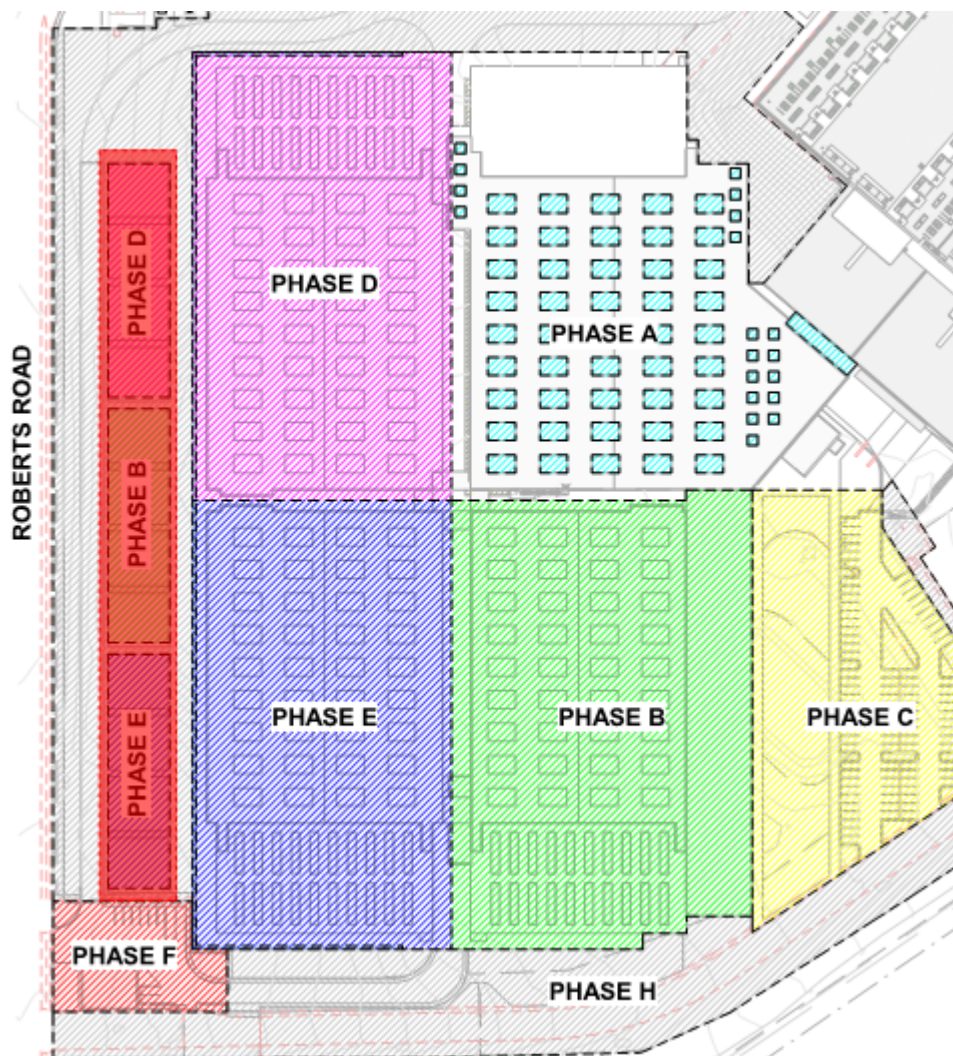


Figure 6 : HV Generator locations (shown in red)

4. Gas Services

4.1 Jemena Gas Service

No new gas supplies or augmentation required for the development. There are no relocations of the existing gas main required for the development. Accordingly it has not been necessary to liaise with Jemena.

5. Mechanical Plant on Roof

Requirements of mechanical plant located on the rooves of Buildings 3,4,5 & 6 are as depicted in Figure 6. The roof plant predominantly consists of chillers.



Figure 6 : Proposed Mechanical Plant on roof of Buildings 3,4,5 & 6

6. APPENDIX : SUPPLY AUTHORITY CORRESPONDENCE

28 June 2019

Endeavour Energy Ref: UCL10121– 2019/01022/001

APD Engineering
Level 7, 16-18 Wentworth Street
PARRAMATTA NSW 2150

Attention: Bob Burrett

CONNECTION OFFER – STANDARD CONNECTION SERVICE

UCL10121– LOT 2, DP 1159804, Connection of Load Application: Capicure Dr & Roberts Rd, EASTERN CREEK

Endeavour Energy has received your application for connection of load for a proposed Data Centre with maximum demand of 157.2MVA at the above location. Your application has been registered under the above reference number. Please quote this reference number on all future correspondence.

The site is located 500m East of proposed TransGrid's Sydney West Bulk Supply Point (BSP) location or 1.2km via Old Wallgrove Rd/Roberts Road. As previously advised in the Technical Review Request – ENL3322, supply up to 157.2MVA may be provided from Sydney West BSP with a connection voltage of 132kV. At this stage, it is envisaged that suitable connection assets will need to be established by the customer, which may include two Endeavour Energy's underground transmission feeders from Sydney West BSP to the development property.

In order to further develop the connection arrangements and requirements for the proposed Data Centre. The following additional information and confirmation shall be provided by the proponent:

- Clarification on load details of transformers and utilisation
- Initial load required for development construction, due to possible timing to establish ultimate connection assets,
- If supply redundancy is required by the customer,
- Proposed customer's demarcation between Endeavour Energy network and customer network shown on single line diagram
- Customer proposed backup generation units, including changeover arrangements,

An application fee of \$40,350.25 including GST has been determined. A payment advice form is attached and must be provided or referenced with the payment. Please note that no further network analysis works to develop the connection requirements will be undertaken until the application fee is paid and above additional information are provided.

Work within Endeavour Energy's transmission substation or zone substation to provide suitable connection point is generally funded and constructed by Endeavour Energy, and the customer is generally responsible for the establishment of connection assets under the contestable works process. The final funding determination of the project will be confirmed in the Design Brief once the scope of the works is determined. Separate Project Definition(s)

would need to be established for mains, substation and switching station works if required. The cost and time to produce each Project Definition is in the order of \$9,000 for transmission mains and up to \$47,000 for transmission substation/switching station and may take 12 weeks to be produced.

Where Endeavour Energy's overhead or underground transmission mains are required to be established on private properties, suitable easement in favour of Endeavour Energy must be created. Where transmission switching station is required to be established on private properties, Endeavour Energy's required form of property tenure is freehold land, including access ways linking sites to public roads.

Since there is a need for a transmission network extension, a pre-qualified accredited service provider designer (ASP L3) must be engaged to progress the contestable design works. A list of pre-qualified ASPs is available at Endeavour Energy's website:

http://www.endeavourenergy.com.au/wps/portal/ee!/ut/p/a1/vZHBbslwDIZfJRw4Vklpm7bHamKrdpkmhEZzQWnqllyQICbAtKdfgB12gWmX-WDJ9m_Ln40ZXmFm-FH13CtruD7HjK7rWVnVD2lcvpT1nFTzx6clLdJ48UqCoAkCcsMq8lv_G2aYDbyHDpzqzSUSqsNNK0maZzCLEspllCaQRYWgcdTIBZVtwmMJ9KwWxg9-gxuA9QlapzxMycbuvj26JsYwvAPjFdelmw61B6cMODclBvzJlkskrDEgztQhKQ9al62cR1b-qCAH41EJcNet73M34TD5bfIEL_7I-oxZr217eUqj3vd7VgV6azx8eLz6V_xht9y2n3loSJLpfjL5AtLkYLE!/dl5/d5/L2dBISEvZ0FBIS9nQSEh/

A notice of advice form is attached which allows the ASP/3 to be nominated. There are additional fees for the contestable design and construction processes and the ASP L3 should be able to provide advice regarding the design and possibly the construction fees, and in any case additional Endeavour Energy's fee estimate for Ancillary Network Services will be included into the connection requirements letter.

This connection offer is made in accordance with the Terms and Conditions of the Model Standing Offer for a Standard Connection Service available on Endeavour Energy's website.

Should you have any enquiries regarding your application please contact the undersigned.

Yours faithfully,

MGrimwood

Regards,

Matt Grimwood

Contestable Works Project Manager

Network Connections

T : 98537916

E : matthew.grimwood@endeavourenergy.com.au



28 June 2019

Endeavour Energy Ref: UCL10121– 2019/01022/001

Endeavour Energy
PO Box 811
Seven Hills NSW 1730
cwadmin@endeavourenergy.com.au

Attention: Contestable Works Administrator

NOTICE OF ADVICE

**APPOINTMENT OF ACCREDITED DESIGNER FOR THE PROPOSED DEVELOPMENT AT:
LOT 2, DP 1159804, CAPICURE DR & ROBERTS RD, EASTERN CREEK**

*** Please complete and return when a Level 3 Service Provider has been nominated***

Please accept this letter as notification that I intend to proceed with the development described above. I own or am developing the land and works on the land, (and/or where relevant on public land). I intend to supply this development to Endeavour Energy requirements.

By signing this Notice of Advice I am accepting the Terms and Conditions of Endeavour Energy's Model Standing Offer for a Standard Connection Service.

- Electricity Supply to Developments.

The Level 3 Service Provider appointed is:.....

The Fees will be Paid to Endeavour Energy by:

.....
Signature of Level 3 ASP

.....
Name of Level 3 ASP

.....
Signature of Applicant/ Applicant's Representative

.....
Name of Applicant/ Applicant's Representative

.....
Date

.....
Company Name

The signatory warrants that they are authorised to execute this Application.

ANCILLARY FEE ESTIMATE

*(for assessment of the Proposed Method of
Supply and approval of the Design)*



CAP No. : UCL10121 File No: 2019/01022/001

Proposed Location: Lot 2, DP 1159804, Capicure Dr & Roberts Rd
EASTERN CREEK

Detailed below is the **estimate** of the proportion of applicable Ancillary Network Services Fees (GST Inclusive) related to design assessment for your information only. The final fees for this phase of the project will be sent to you with a Design Brief. Ancillary Network Services Fees will also apply for the construction and connection phase of the project (e.g., site establishment fee). These fees will be conveyed to you after the receipt of a signed Letter of Intent indicating that you will proceed with the construction phase of the project.

Administration Fee	28-06-2019	\$329.50
Standard Connection Offer Fee	28-06-2019	\$282.49
Complex Planning Study Fee	28-06-2019	\$37986.71
Customer Interface Co-ordination Fee	28-06-2019	\$1751.55
Estimate Total (inc GST)		\$40350.25

Where Endeavour Energy assets may need to be placed on private property, property easements will be required. Urgent action should be taken to create easements so that timely acquisition and registration with the Land and Property Information (NSW) can be completed.

Endeavour Energy will accept a property tenure bond while the property owner is in the process of creating the easement. The property tenure bond will be returned after the easement has been registered.

Please do not make any fee payment at this time.

Once the design fee amount has been finalised Endeavour Energy will send a request for the fees and property tenure bond payment (if required) to your nominated Level 3 Accredited Service Provider.