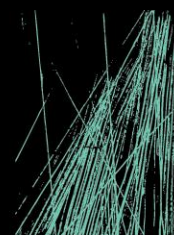


SERVICES REPORT

LEPPINGTON PUBLIC SCHOOL UPGRADE

ELECTRICAL SERVICES



JHA

JHASERVICES.COM

This report is prepared for the nominated recipient only and relates to the specific scope of work and agreement between JHA and the client (the recipient). It is not to be used or relied upon by any third party for any purpose.

DOCUMENT CONTROL SHEET

Project Number	220269
Project Name	Upgrade to Leppington Public School
Description	Utilities
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Prepared By

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1. INTRODUCTION

This Electrical Services Report has been prepared to support a Review of Environmental Factors (REF) for the Department of Education (DoE) for the upgrade of Leppington Public School (LPS) (the activity). The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP) as “development permitted without consent” on land carried out by or on behalf of a public authority under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37 of the T&I SEPP.

The proposed activity is for upgrades to the existing LPS at 144 Rickard Road, Leppington, NSW, 2179 (the site).

The purpose of this report is to outline the proposed electrical utility connection and mitigation measures for the project.

Site Description

LPS is located at 144 Rickard Road, Leppington on the eastern side of Rickard Road, north of Ingleburn Road and south of Byron Road. The site has an area of 3.013 ha and comprises 4 allotments, legally described as:

- Lot 1 DP 127446
- Lot 1 DP 439310
- Lot 38E DP 8979
- Lot 39C DP 8979

The site currently comprises an existing co-education primary (K-6) public school with:

- 14 permanent buildings;
- 11 demountable structures (including 2 male/female toilet blocks);
- interconnected paths;
- covered walkways;
- play areas; and
- at-grade parking.

The site also contains locally listed heritage buildings along its southern boundary.

The buildings are 1 storey in height and there is a sports oval in the eastern portion of the site. The existing buildings are clustered in the north-western part of the site.

The substation is subject to Endeavour Energy approval and is not required to be approved under the REF activity.



Figure 1: Aerial image of the site, outlined in red (Source: NearMap, taken 24 Sept 2024)

Proposed Activity Description

The proposed activity involves upgrades to the existing LPS, including the following:

- Demolition of existing structures and trees;
- Erection of a new 3-storey teaching space along the northern boundary that includes 20 permanent teaching spaces and 3 support teaching spaces;
- Erection of a new hall and COLA comprising of a hall, canteen and OSHC hub towards the eastern boundary of site;
- Extension of the existing library (Building E) and adjoining playground;
- Upgraded sports and play facilities;
- Relocation of the Yarning Circle;
- Erection of a substation and upgrades to site services;
- Footpaths, fencing and associated works; and
- Landscaping.

The intent of the activity is to allow for upgrades to LPS that will provide a 'CORE 35' school standard in line with the Educational Facilities Standards and Guidelines (EFSG). The activity will increase the capacity of the school from 430 to 621 students.

Figure 2 below show the scope of works for the proposed activity.



2.2 PROPOSED SERVICES

Based on the preliminary load calculations, the REF activity will require a new three phase power supply of 1167 Amps to be installed. The existing electrical supply to the site has been considered and determined to not have suitable capacity to provide the site with power for the REF activity and any future works. A new padmount substation will likely be required, along with new main switchboard.

As the existing high voltage supply is along Rickard Road, it is recommended for the padmount substation to be located at the property boundary on Rickard Road. The proposed location of the padmount substation takes account of the proposed road widening along Rickard Road. There are a number of existing trees which are proposed to be retained, the padmount substation is proposed to be located so that it does not encroach any tree protection zones. In addition, a new site main switchboard would need to be established for the site. Current proposed location of the new site main switchboard is within the new Learning Hub building. The design parameters of this equipment (in particular the details below for a new padmount substation) have been incorporated in the design documentation.

JHA have applied to Endeavour Energy and have received a supply offer for the site. The substation is subject to Endeavour Energy approval and is not required to be approved under the REF activity.

The existing main switchboard (located within Block F) is proposed to be demolished as part of the demolition plan. As such, any existing DBs would need to be re-supplied from the new main switchboard prior to demolition of the existing main switchboard.

The new buildings will require sub-main reticulation from the main switchboard.

Spare conduits for future works should be installed and terminated in a nearby pit.

2.2.1.1 SUBSTATION

As a minimum, the Endeavour Energy substation site requires the following as per Endeavour Energy standards:

- Minimum 2.75m x 5.5m easement
- Substation easement to be open to sky
- No utilities, other services or any foreign structures are allowed to encroach the substation easement (no water tank within 5m of substation)
- Substation site shall be flat and levelled over the entire easement area
- Comply with 1:100 flood levels for wherever the easement is located
- In case of substations being installed deep within private property, Endeavour Energy cable runs must be provided with a minimum 1m wide easement.
- Substation is located at the front property boundary with unrestricted 24/7 vehicle access to the substation directly from a public street; OR
- If the substation is installed deep within private property, unrestricted 24/7 right of way access is needed:
 - o Minimum 4500mm wide and 3500mm height
 - o Capable of sustaining 25 tonne/metre
 - o Minimum headroom of 5500mm in the vicinity of the substation
 - o Minimum turning circle inside radius of 5m and width of 2.8m including mirrors and 10.3m long. The maximum gradient of access way in front of the substation shall be 1:15 or 3.9 degrees.

The following are substation segregation requirements as per Endeavour Energy standards:

- Easement must be located as such that the substation plinth is 3m from the neighbour boundary.
- Fire rating of any building structure within the first 1.5m from the substation cubicle needs to be 2 hour fire rated and in the following 1.5m needs to be 1 hour fire rated. Any structure within 6m needs to be constructed of non-combustible material.
- No fixed glass/windows within 3m of substation cubicle.
- No fire egress paths are allowed within 3m of substation easement.
- Substation cubicle needs to be at least 10m away from any fire hydrant booster. If a fire pump room is within 10m of substation, fire authority approval may be required.
- Zone of influence of any nearby Sydney Water asset to be adequately away from the substation culvert. If not, Client is requested to gather written approval from Sydney Water for the location of substation.

- Minimum separation from substation earthing system to communication assets and swimming pool to be as per site specific earthing design.

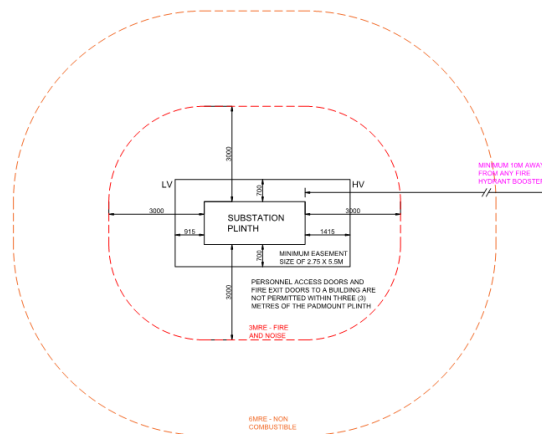


Figure 5: Endeavour Energy Padmount Substation Spatial

2.3 MITIGATION MEASURES

As described in Section 2.2, a new padmount substation is required to be established for the project as part of the electrical utility works. However, the substation is subject to Endeavour Energy approval and is not required to be approved under the REF activity. As such, mitigation measures are not applicable for the substation.

2.4 CUMULATIVE IMPACT ASSESSMENT

Being located in the South West Growth Area (SWGA), the site and surrounds are likely to experience significant growth and densification. Further, the recently gazetted draft Leppington Town Centre Rezoning review, and associated draft Indicative Layout Plan, seeks to amend the land use zone, density and height of buildings in and around the Leppington Town Centre. This growth generally, together with the establishment of a new high school to the immediate south, necessitate the need to address cumulative impacts of the proposal in context of the growing population in the area.

2.4.1 ELECTRICITY

Electrical infrastructure is owned and maintained by the supply authority Endeavour Energy. As part of the process to establish a new substation, notifications are sent out to council and nearby residents of the proposed infrastructure works, with the opportunity to provide feedback. Through this consultation process, the cumulative impact of the proposed infrastructure work can then be assessed and managed through the design process.

2.5 CONCLUSION

Based on the proposed Endeavour Energy works, we believe that the works:

- 1) is not considered to be a significant impact.

3. APPENDIX A – ENDEAVOUR ENERGY SUPPLY OFFER

Standard Connection Offer

5 February 2024

Endeavour Energy Ref: ULL3626

Customer Ref:

Prakash Neupane

JHA Consulting Engineers

20/2 Market Street

Sydney NSW 2000

**ULL3626 – LOT 39C,1,38E,1, DP 8979,127446,8979,439310, Connection of Load
Application: 144 RICKARD ROAD, LEPPINGTON**

Thank you for your application for Endeavour Energy to provide connection services in respect of the proposed development at the above location ("**Proposed Development**"). Your application for connection services in respect of the Proposed Development ("**Connection Application**") has been registered under the above reference number. Please quote this reference number on all future correspondence relating to the Connection Application.

Endeavour Energy has completed a preliminary desk top assessment of the information provided in the Connection Application and is pleased to make the Supply Offer enclosed with this letter. The enclosed Supply Offer is to provide standard connection services for the Proposed Development in accordance with the terms and conditions of Endeavour Energy's Model Standing Offer for a Standard Connection Service ("**Connection Offer**"). A copy of Endeavour Energy's Model Standing Offer for a Standard Connection Service is available on our website at <https://www.endeavourenergy.com.au/connections/connection-contracts-and-fees>.

Supply Offer

The enclosed Supply Offer forms part of this Connection Offer and it will assist your Level 3 Accredited Service Provider (ASP) to develop the most efficient design solution to meet your needs. Some general requirements that will need to be addressed by your nominated Level 3 ASP includes, but is not limited to:

- Field visit to verify physical site details
- Details of new and existing assets, including quantities
- Substation location, HV switchgear and earthing details
- Construction methods and isolation point requirements.
- Asset Valuation
- Environmental Assessment (Summary Environmental Report)

A sketch of the proposed design utilising our Geographic Information System (GIS) as a base must be returned with the above information.

This Supply Offer is part of the Connection Offer for a Standard Connection Service and is valid for three (3) months from the date of issue.

Where this Connection Offer has lapsed, you or your Level 3 ASP must contact Endeavour Energy with the request to extend the Connection Offer. Endeavour Energy will assess your request and will inform you of the outcome. It must be recognised that the network is being constantly extended/augmented as new customers get connected. This means that for your Connection Offer to be extended, your Supply Offer may require alteration. If this is the case, additional fees to cover administrative costs may apply.

Payment of design related ancillary network services.

Ancillary Network Services (ANS) are the main connection services we provide to customers for which ANS fees are payable. ANS include our interactions with ASPs to ensure that the contestable network services they provide, meet the design and technical requirements to be connected to and form part of our network.

The design related ANS fees payable for this project will be sent to you with a Design Brief. Payment of Design related ANS fees must be made before we can accept your L3 ASP design submission and commence design checking.

Please note that further ANS fees will also apply for the construction and connection phase of the project. 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. We may also amend or charge you further ANS fees if your application details or project scope changes.

Accepting this Connection Offer

To accept this Connection Offer, please:

- a) appoint a Level 3 Accredited Service Provider (ASP);
- b) confirm your appointed Level 3 ASP contact details in the attached Notice of Advice form; and
- c) complete and sign the Notice of Advice form yourself and return it to Endeavour Energy.

A list of the Accredited Service Providers is available at the Energy NSW website:

<https://energysaver.nsw.gov.au/households/you-and-energy-providers/installing-or-altering-your-electricity-service> or can be obtained via phone on 13 77 88.

If you accept this Connection Offer, a connection contract will be formed between Endeavour Energy and the retail customer or real estate developer who requires the connection services for the Proposed Development ("**Developer**") on and from the date that Endeavour Energy receives the completed Notice of Advice form. The connection contract will be on the terms and conditions of the Supply Offer and Model Standing Offer for a Standard Connection Service.

If you accept this Connection Offer and you are not the Developer, you will be accepting this Connection Offer as the Developer's authorised agent.

Next steps

Your next step after accepting this Connection Offer is to engage your Level 3 ASP to prepare and provide an electrical design to Endeavour Energy in the form of a Proposed Method of Supply. Under the Model Standing Offer for a Standard Connection Service, this activity is "Customer Funded Contestable Work", and you will need to pay for it.

Please note under the National Electricity Rules (NER) the Connection Customer may choose to enter into a negotiated connection contract. A negotiation framework describing this process is available on our website at <https://www.endeavourenergy.com.au/your-energy/our-services/your-right-to-negotiate>.

Should you have any enquiries regarding your application please contact the undersigned, who has been appointed as Endeavour Energy's representative for the purposes of this Connection Offer.

Yours faithfully,

Parisa Sadeghi

Parisa Sadeghi

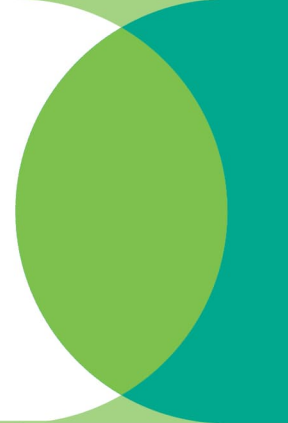
Customer Network Engineer

Ph: 02 9853 5628

Email: CWTech@endeavourenergy.com.au

Enclosed:

1. Supply Offer
2. Initial Funding Arrangements
3. Notice of Advice – to be completed and returned when you have engaged your L3 ASP



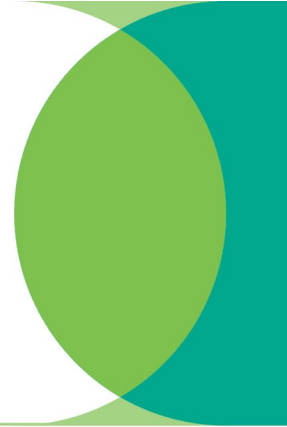
Supply Offer

(Based on desktop assessment)

5 February 2024

Endeavour Energy Reference: ULL3626

Development Details & Applicant's Assessed Load:	<p>Application for the provision of electricity network for a new public school located at 144 Rickard Road, Leppington.</p> <p>Applicant's assessed load for the development is 1167A/phase.</p>
Endeavour Energy Assessed Load:	As per customer's total applied load of 1167A/phase
Development & Site Plans received/not received:	Received
HV/LV Connection Point & Connection Asset Requirements:	<p>Site is currently supplied from existing overhead LV feeder of pole substation 10917 across Rickard Rd. Existing LV network does not have sufficient capacity to supply the customer's total applied load. A new substation is to be installed on site.</p> <p>Level 3 ASP designer to investigate and provide the proposed method of supply to supply this application.</p> <p>HV Linkage Point is 11kV Feeder NL1332 – North Leppington.</p>
Transmission Assets:	No Endeavour Energy transmission asset has been identified near the site.
Connection Options:	<p>Customer is to engage a Level 3 Accredited Service Provider to investigate and submit a proposed Method of Supply (MOS) to Endeavour Energy for further assessment.</p> <p>The scope of works is to be undertaken in accordance with Endeavour Energy Connection Policy and must comply with all the relevant policies, regulations and network standards.</p> <p>All service works are to comply with the requirements of the NSW service and Installations Rules.</p>



Initial Funding Arrangements

5 February 2024

Endeavour Energy Reference: ULL3626

Endeavour Energy Supplied Materials:	Nil
Endeavour Energy Funded and Constructed:	Nil
Endeavour Energy Funded and Level1 ASP Constructed – Reimbursement Paid by Endeavour Energy	Nil
Reimbursement to be paid to Endeavour Energy by Customer:	Nil
Customer Funded Monopoly Services:	Network switching, commissioning, contractor inspection, ancillary fees, etc.
Customer Funded Contestable Works:	All other works required

Notice of Advice

[Insert date here]

Endeavour Energy Ref: ULL3626

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

Attention: Customer Connections Administrator

APPOINTMENT OF ACCREDITED DESIGNER FOR THE PROPOSED DEVELOPMENT AT: LOT 39C, 1, 38E, 1, DP 8979, 127446, 8979, 439310, 144 RICKARD ROAD, LEPPINGTON ("PROPOSED DEVELOPMENT")

Please complete and return this letter when a Level 3 ASP has been appointed

I refer to Endeavour Energy's offer to provide standard connection services in respect of the Proposed Development ("**Connection Offer**").

This letter confirms that:

- a) the retail customer or real estate developer for the Proposed Development ("**Developer**") owns, or is developing, the land on which the Proposed Development is to be located;
- b) the Developer intends to supply the Proposed Development in accordance with Endeavour Energy's requirements;
- c) the Developer has appointed the Level 3 Accredited Service Provider ("**Level 3 ASP**") described below for the purposes of the Proposed Development; and
- d) the Developer agrees to acquire standard connection services from Endeavour Energy in respect of the Proposed Development on the terms and conditions set out in the Connection Offer.

Confirmation of Key Contacts:

(1) Applicant	
Company/Name:	JHA Consulting Engineers Prakash Neupane
Address:	20/2 Market Street Sydney NSW 2000
Email:	prakash.neupane@jhaengineers.com.au
Phone:	0466745726

(2) Developer

Company/Name:	SINSW David Spare
Address:	8/259 George Street Sydney NSW 2000
Email:	david.spare@det.nsw.edu.au
Phone:	0466745726

(3) L3 ASP (if you did not nominate a Level 3 ASP in your initial application, please do so below)

Company/Name:	JHA Consulting Engineers Kosma Tzannes
Address:	2 Market Street Sydney NSW 2000
Email:	kosma.tzannes@jhaengineers.com.au
Phone:	0294371000

Please ensure all fields above are completed.

The Fees will be Paid to Endeavour Energy by*:

(*Please check only one responsible party in relevant check box below)

☐ Applicant☐ Developer☐ Level 3 ASP

Notice of Advice Execution and Acceptance of Connection Offer:

By signing this Notice of Advice, I accept the Connection Offer made by Endeavour Energy in respect of the Proposed Development, including the terms and conditions of Endeavour Energy's Model Standing Offer for a Standard Connection Service.

Where I am accepting the Connection Offer on behalf of the Developer, I declare that:

- a) I have the authority to execute this Notice of Advice and accept the Connection Offer on their behalf; and
- b) I am not aware of any fact or circumstance that might affect my authority to execute this Notice of Advice and accept the Connection Offer on their behalf.

Developer/ Developer's Authorised Agent:

Signature of Developer/Developer's Authorised Agent

Name of Developer/Developer's Authorised Agent

Date

Company Name