INFRACSTRUCTURE REPORT

Gledswood Hills Public School, The Hermitage Way, Gledswood Hills

ELECTRICAL SERVICES

JHA

CONSULTING ENGINEERS

DOCUMENT CONTROL SHEET

Title	Infrastructure Assessment Report
Project	Gledswood Hills Public School
Description	Electrical Services Report
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2. INTRODUCTION

2.1 General

The following report has been prepared for Perumal Pedavoli Architects (Hereafter referred to as 'PPA') in response to a proposed development of a greenfield lot at Gledswood Hills NSW, 2557.

The development (see Figure 1) predominantly consists of future school grounds and associated education facilities for Gledswood Hills Public School.

2.2 The Site

The development site, neighbouring the Village Centre is located in the Macarthur Region of Sydney in the state of New South Wales, Australia in Camden Council about 60km south west of Sydney's CBD. Gledswood Hills is largely a greenfield district with strong upcoming developments occurring.

2.2.1 Site Location

The following figures (1-2) show aerial detailing of the proposed site location, including;

- Satellite imagery
- Site Survey Plan

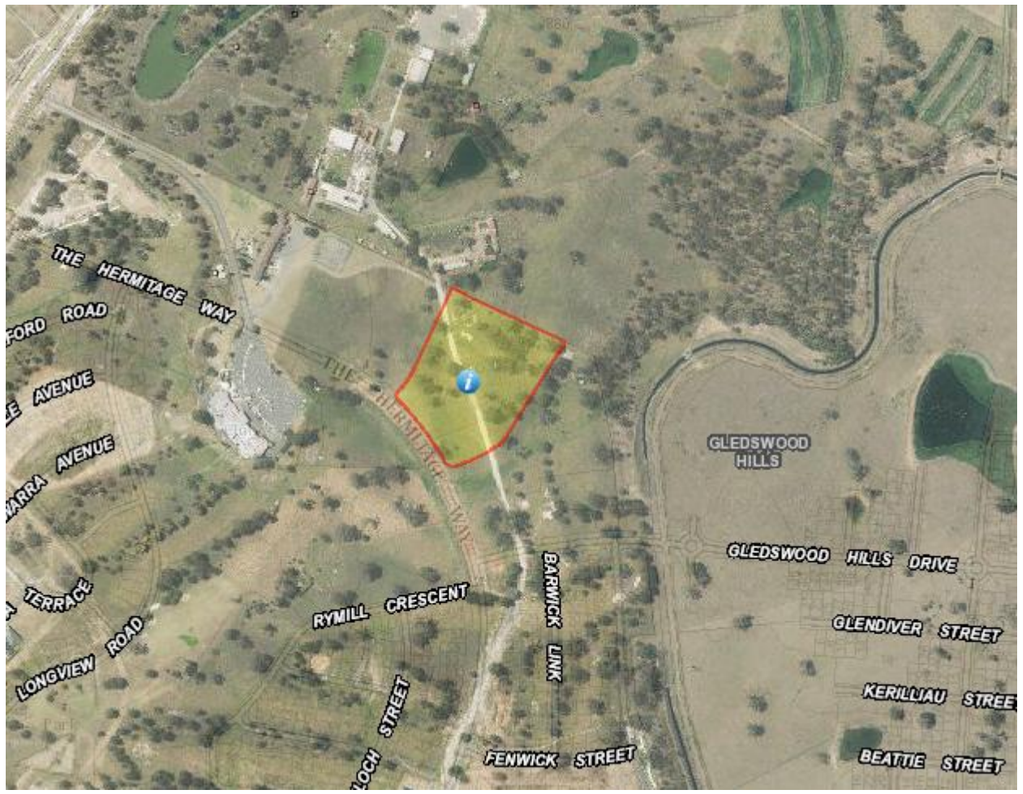

Figure 1 – Proposed Greenfield site - satellite imagery

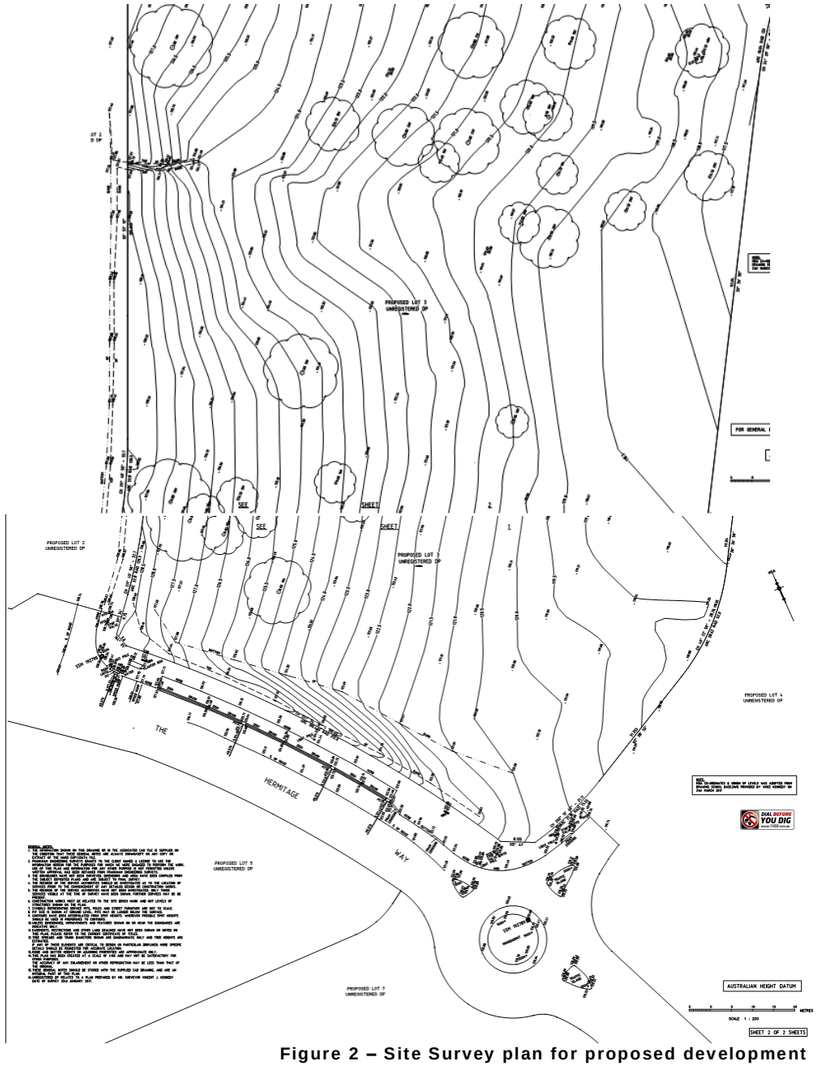

Figure 2 – Site Survey plan for proposed development

3. UTILITY ENGINEERING SERVICES

3.1 Utilies Services Review / Analysis

A utility review has been carried out in consultation with the relevant local authorities to identify the existing utilities at the site.

Dial before you dig (DBYD) requests were submitted on the 16 June 2016 to investigate the presence of existing utilities such as power and telecommunications. The following utilities with interests / assets in the vicinity of the site were notified in this process:

Type	Sequence No	Authority	Phone	Status
Electricity	62025395	Endeavour Energy	0298534161	Notification Sent
Gas & Petroleum	62025397	Jemena Gas West	1300880906	Notification Sent
Water	62025398	Sydney Water	132092	Notification Sent
Communications	62025396	Telstra NSW, Central	1800653935	Notification Sent

Figure 3 – Dial before you dig utilities notification status.

The utility review process revealed that no major assets exist on site and therefore services in the area will unlikely be interrupted during development.

3.2 HV INFRASTRUCTURE provided by developer

The electricity network is within Endeavour Energy's (EE) jurisdiction.

We understand that a new substation will be supplied and installed by developer. As per the ASP3 concept design provided by developer, the proposed 1000kVA Padmount Substation will be located along site property boundary in the vicinity of Carpark (see the indicative location shown in below ASP drawing). The final easement location will be subject to certified ASP3 drawing and EE's approval

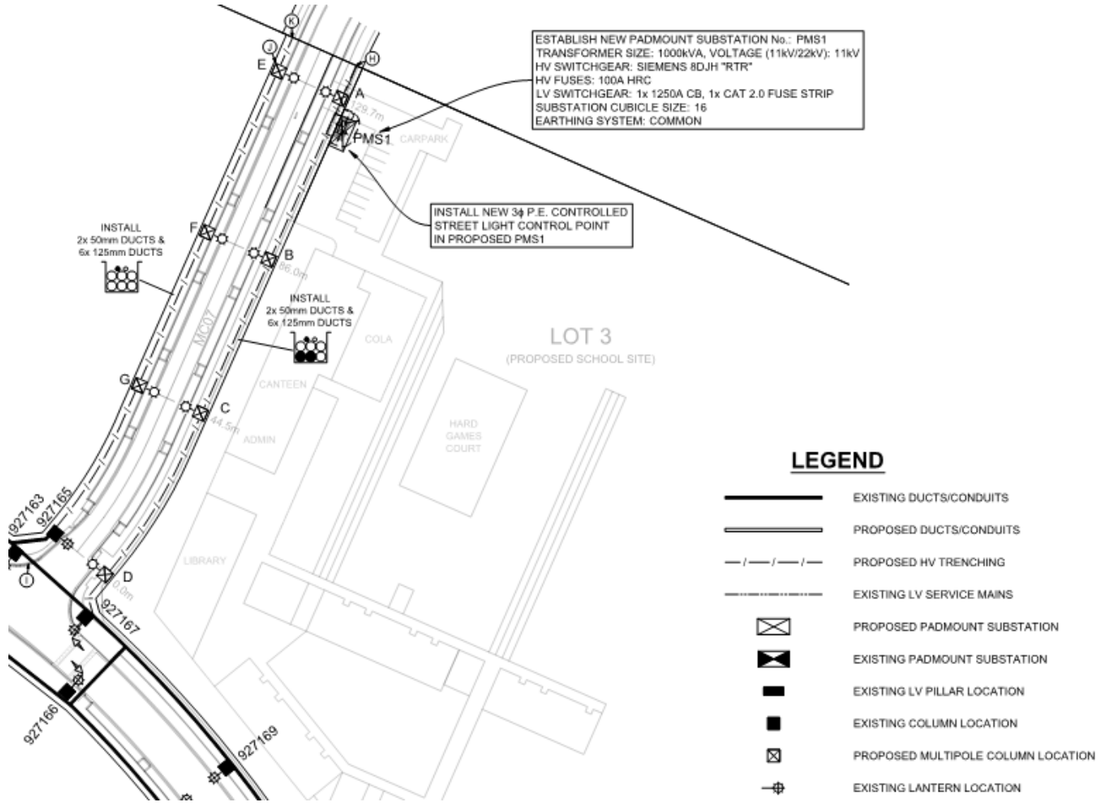

Figure 4 – Indicative location of proposed Substation Easement Location by developer

4. ELECTRICAL SERVICES

4.1 Electrical Maximum Demand

JHA has carried out a preliminary maximum demand calculation and we estimate a single standard 800A feed from the proposed Padmount Substation, will suffice to service the GHPS with allowance for future A/C. See maximum demand results below.

Without A/C :

We conservatively estimate a 370A/phase (266kVA), based on factoring in **no** AC to classrooms.

With A/C:

We conservatively estimate a 792A/phase (570kVA), based on **factoring in** AC to classrooms.

JHA will require a copy of the initial application submitted to EE by developer and the final certified ASP3 drawing from EE for coordination of LV services within the development site.

5. TELECOMMUNICATIONS SERVICES

5.1 Existing Services

JHA has contacted NBN Co and Telstra respectively to carry out a desktop investigation of the existing Telecommunication network near the site.

The rollout of the NBN network is planned in this area and the scheduled availability is about July 2020.

Telstra has also been contacted and figure 5 indicated that the area is currently serviced by other infrastructure providers (Opticomm).

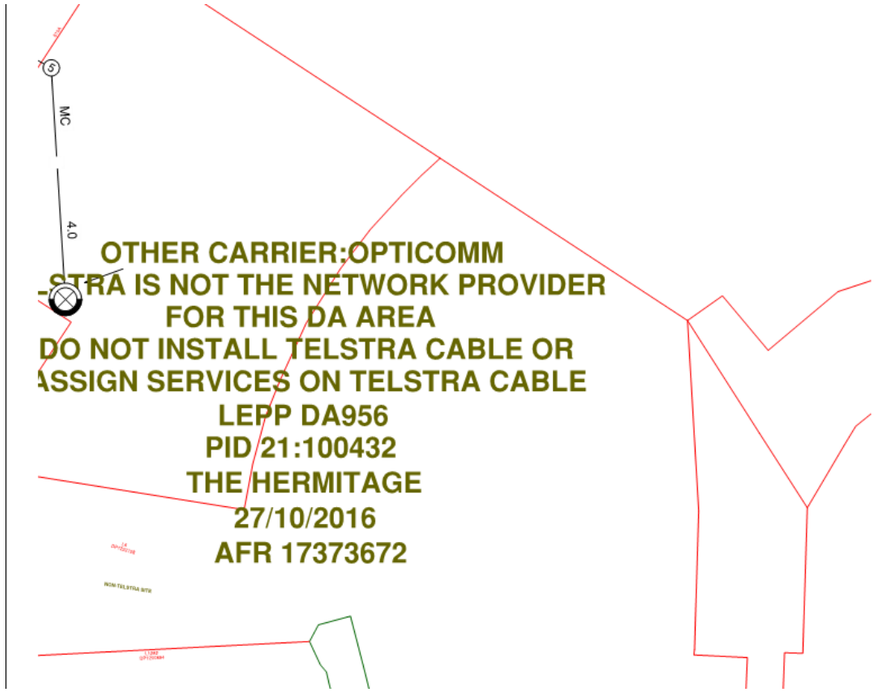

Figure 5 – Communications Network Proximity - Telstra.

This preliminary investigation shows (based on the circumstances shown) that fibre is available in the vicinity of the development site but provided by OptiComm.

JHA has contacted OptiComm and there appears to be communications infrastructure to the south of the site along Gledswood Hills Drive. It is likely that further infrastructure works will be built along the Hermitage Way for the fibre connection to the development site.

A formal application will need to be submitted to OptiComm by school ICT department and a new fibre account will need to be established. In receiving the application, OptiComm will confirm whether or not they can provide fibre to the development and advice all available Telecommunication pits along the site for the connection.

6. SUMMARY

- JHA will require a copy of the initial application submitted to EE by developer and also a copy of the certified ASP3 drawing by EE for coordination of LV services within the development site.

- Telecommunication Fibre network is available in Gledswood Hills area provided by OptiComm. However an application for site fibre connection will need to submitted to OptiComm by the school ICT department. In receiving the application, OptiComm will assess the existing network and advise all available Telecommunication pits along the site for the connection.