



**Norman  
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Young**  
A TETRA TECH COMPANY

# Infrastructure Management Plan

Schools Infrastructure NSW  
New Primary School at Gregory Hills  
Electrical & Communications Services

CONFIDENTIAL

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## 1. EXECUTIVE SUMMARY

NDY have been engaged by School Infrastructure NSW to complete the Infrastructure Management Plan associated with the proposed new Primary School at Gregory Hills. This report has been prepared for submission as part of the planning application and aims to address electrical and communications services to the new primary school at Gregory Hills.

This report outlines the outcomes of the initial assessment of the surrounding infrastructure and authority consultation where required, to determine the capacity of existing services available for the proposed development and any required upgrades. This document is intended to provide sufficient information to demonstrate servicing can be provided to support the proposed development. In general, it should be noted that some formal applications to relevant authorities where required for site servicing/supply may only be made after Development Consent has been granted.



## 2. PROJECT INFORMATION

### 2.1 Introduction

This Infrastructure Management Plan accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act), in support of a State Significant Development Application (SSDA) for the construction and operation of a new primary school at Gregory Hills (SSD-41306367).

This report addresses the Secretary's Environmental Assessment Requirements (SEARs) issued for the project, notably:

SEARs Requirement	NDY Response
<p>21. Infrastructure Requirements and Utilities</p> <ul style="list-style-type: none"><li>• In consultation with relevant service providers:<ul style="list-style-type: none"><li>○ assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site.</li><li>○ identify any infrastructure upgrades required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained.</li><li>○ provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development.</li></ul></li></ul>	<p>Details provided of the anticipate electrical demand for the development is provided in <b>Section 3.0</b> of this report.</p> <p>Infrastructure upgrades are provided in <b>Section 4.0</b> of this report.</p> <p>Details of proposed staging and funding is provided in <b>Section 5.0</b> of this report.</p>

### 2.2 Proposal

The proposal is for a new primary school at Gregory Hills that generally comprises the following:

- 44 General Learning Spaces.
- Support Learning Spaces.
- Administration, staff hub, amenity and building service areas.
- Library, communal hall and canteen.
- Outside School Hours Care (OSHC) services.
- Sport courts, outdoor play space, a Covered Outdoor Learning Area (COLA) and site landscaping.
- Dedicated bicycle and scooter parking.
- Three (3) kiss and drop spaces for Supported Learning Students (SLS) located on Wallarah Circuit.
- On-site car parking.
- Signage
- Footpath widening on Wallarah Circuit.



**Figure 1 - Site plan (source Bennett and Trimble)**

## 2.3 Site Description and Location

The site is located in Dharawal Country at 28 Wallarah Circuit, Gregory Hills NSW 2557, and is legally described as Lot 3257 DP1243285.

The site is located within the Camden Local Government Area and is within the Turner Road Precinct of the South-West Growth Centre.

The site has an area of approximately 2.926ha (by Deposited Plan). This will be reduced to 2.907ha under approved DA2022/742/1 once Long Reef Circuit has been widened.

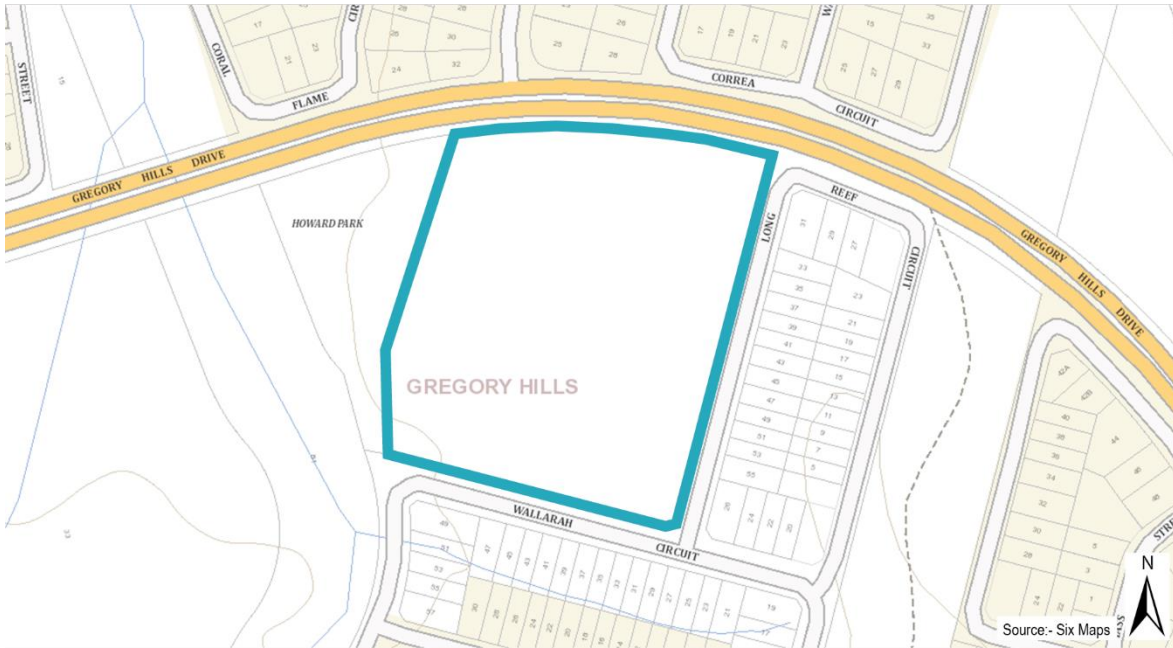
Topography is minimal with a fall from the south-east corner (RL116.5) to the north- west corner (RL113).

The site has three (3) street frontages:

- Wallarah Circuit (southern boundary)
- Gregory Hills Drive (northern boundary)
- Long Reef Circuit (eastern Boundary)

The site is primarily vacant land, with the exception of an existing group of trees in the southwest corner of the site that pre-date the subdivision and development of the precinct. There is also an existing electrical substation located on the south-eastern boundary.

There are easements of varying widths located to the northern boundary identified for drainage.



**Figure 2 – Locality Map (Six Maps)**



**Figure 3 – Site Aerial Map, (Source Bennett and Trimble)**

## 2.4 Surrounding Development

To the north, east and south of the site is emerging and recently completed residential development.

To the east of the residential area fronting Long Reef Circuit are high voltage power lines within an easement which include pedestrian paths and cycleways.

To the west of the site, beyond Sykes Creek and Howard Park, is the Gregory Hills town centre. A pedestrian bridge links Wallarah Circuit with the town centre across Sykes Creek.



**Figure 4 – Surrounding Development (Nearmaps)**



### 3. INFRASTRUCTURE DEMANDS

A preliminary maximum demand has been undertaken based on the drawings provided by the Architect, a nominated power allowance for each area type and a 20% spare capacity has been nominated. Refer to Table 1 below for the maximum demand.

- ✎ NDY note that the preliminary maximum demand has been calculated in order to obtain further information from Endeavour Energy and that a detailed maximum demand will need to be undertaken during the design phase of the project once all areas have been allocated properly within each building.
- ✎ Values shown below are considering that all the classrooms are to be mechanically air-conditioned.
- ✎ Carpark area shown has been calculated based on drawings provided.
- ✎ VA/ m<sup>2</sup> values shown below are based on allowances noted on AS/NZS 3000.
- ✎ Allowance for two (02) lift has been provided as per shown on Architect's drawings.

The maximum demand for the school site is summarised as follows:

Space	Area m2	Quantity	Rate (VA/m2)	Total (VA/m2)	Total A/Phase
Hall Canteen OSHC	688.5	1	100	68,850.00	99.38
Library	540	1	80	43,200.00	62.35
Admin Staff	540	1	100	54,000.00	77.94
Support Learning Hub	540	1	80	43,200.00	62.35
4TS Hub	405	11	80	356,400.00	514.42
Hub Amenities	135	5	50	33,750.00	48.71
External Carpark	2993	1	2	5,986.00	8.64
Walkway/ Covered area	2698	1	2	5,396.00	7.79
Spare Capacity			20%	122,156.40	176.32
<b>Total</b>				<b>732,938.40</b>	<b>1,057.91</b>

## 4. INFRASTRUCTURE OVERVIEW

### 4.1 Electrical Services

#### Description

The site has existing utility substations located in both the south-eastern and north-western corners which are connected to the existing underground Endeavour Energy HV network.

Consultation with Endeavour Energy has advised that neither substation has sufficient capacity to provide the school with the required electrical power and hence an upgrade is required. It is proposed that the existing 315kVA substation located at the south-eastern property boundary is to be upgraded to a 1000kVA substation.

New consumer mains cabling will reticulate via underground electrical conduits and pits to the proposed new Main Switchboard. If as the design of the school finalises, the Main Switchboard cannot be located within 50m of the proposed new kiosk, an external free-standing cubicle will be provided to accommodate the Services Protection Device (SPD) in accordance with the requirements of the NSW Services and Installation Rules.



Figure E1: Electrical Infrastructure Site Plan

#### Authorities

A Level 3 Accredited Services Provided has been appointed to the project under the supervision of NDY and are conducting all design and negotiations with Endeavour Energy. The utility has formally approved the proposed method of supply as outlined within this document and it is anticipated that the electrical upgrade design will be submitted and approved in the coming weeks.

## 4.2 Communication Services

Based on existing inground services drawings obtained via the DBYD portal, there are existing Opticom pits and pipework underground along Gregory Hills Drive, Long Reef Cct & Wallarah Cct. It is proposed, and has been confirmed with SINSW ICT, that the school will be liaising with Telstra and Opticom for the provision of a new Commercial Telstra Fibre optic service and this will likely be reticulated to the school via the existing pit and pipe network.



Figure E2: Communications Infrastructure Site Plan



## 5. INFRASTRUCTURE DELIVERY AND STAGING

As the site is vacant at present the staging requirements are minor. The provision of a temporary school on site does mean that the provision of electrical infrastructure upgrades are a priority, and hence the detailed design and utility application is already underway.

The below table outlines the approval pathways, timelines and funding responsibilities of the different authority approvals required for the Project.

Service	Authority	Process	Funding Responsibility
Power	Endeavour Energy	<ul style="list-style-type: none"><li>– Submit connection application – Complete (reference ULL3475)</li><li>– Receive Design information package from Utility – Pending.</li><li>– Complete ASPL3 design documentation and submit for approval – Pending.</li><li>– Construction – Pending.</li></ul>	Project / Builder
Communications	Telstra/Opticomm	<ul style="list-style-type: none"><li>– Submit application – Completed by SINSW.</li><li>– Client accepts offer – Pending.</li><li>– Appointed builder engages accredited installer - Pending.</li></ul>	Project / Builder



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## 6. CONCLUSION

Engineering assessments of the proposed school and the power and communications infrastructure required to services the school have been completed in consultation with Schools Infrastructure New South Wales and the wider project design team. Detailed consultation has been undertaken with the associated utilities and at this stage the investigation show that the project can be adequately serviced by both the existing power and communications infrastructure in the area without significant modifications.

It is not anticipated that any significant authority infrastructure upgrades will be required to service this development other than the provision of a new substation and these works are already underway.



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