

ENVIRONMENT IMPACT STATEMENT REPORT - UTILITIES
Kyeemagh Public School,
School Re-Development
ELECTRICAL AND COMMUNICATION SERVICES

JHA

CONSULTING ENGINEERS

DOCUMENT CONTROL SHEET

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Project	Kyeemagh Public School
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2. INTRODUCTION

2.1 General

The following report has been prepared for DWP Architects (Hereafter referred to as 'DWP') in response to a proposed re-development of an existing public school located on the corner Beehag Street and Jacobson Avenue, Kyeemagh NSW, 2216.

2.2 The Site

The existing school consists of a number of buildings including classrooms, library, admin office and associated school facilities and playgrounds.

2.2.1 Site Location

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

- Satellite image
- Site Survey Plan



Figure 1 – Existing School - Satellite Image

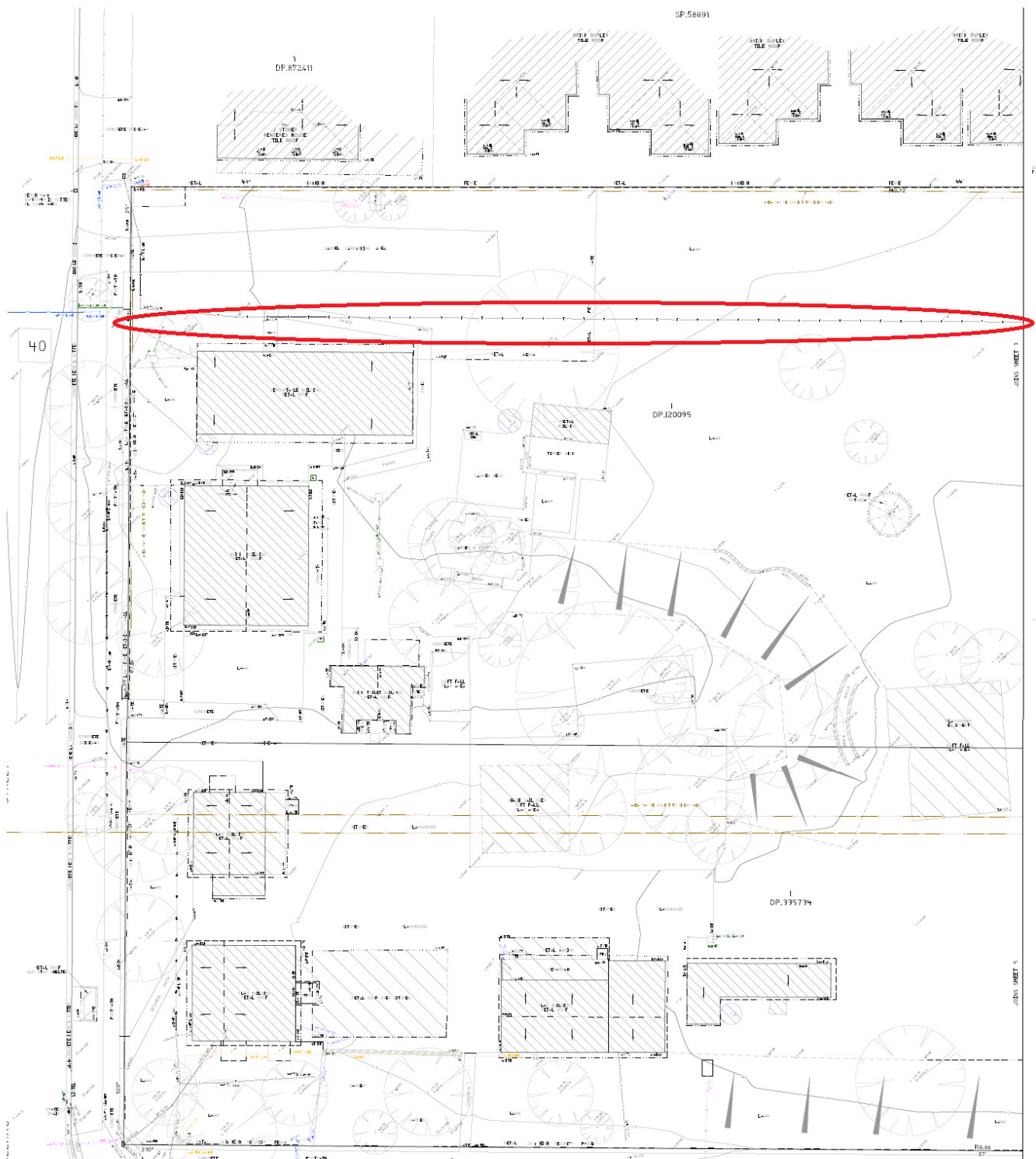


Figure 2 – Site Survey Plan of Existing Development

3. SERVICES INFRASTRUCTURE

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

Dial before you dig (DBYD) requests were submitted on the 17 November 2017 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:

Asset Owner Details			
The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days. Additional time should be allowed for information issued by post. It is your responsibility to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Dial Before You Dig service, so it is your responsibility to identify and contact any asset owners not listed here directly.			
** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.			
# Asset owners highlighted with a hash require that you call them to discuss your enquiry or to obtain plans.			
Seq. No.	Authority Name	Phone	Status
66322811	APT Management Services (APA Group)	1800103452	NOTIFIED
66322798	Ausgrid	0249510899	NOTIFIED
66322807	Jemena Gas South	1300880906	NOTIFIED
66322791	Nextgen, NCC - NSW	1800032532	NOTIFIED
66322804	Optus and/or Uecomm, Nsw	1800505777	NOTIFIED
66322793	PIPE Networks, Nsw	1800201100	NOTIFIED
66322813	Sydney Water	132092	NOTIFIED
66322801	Telstra NSW, Central	1800653935	NOTIFIED

Figure 3 – Dial before you dig utilities notification status.

4. ELECTRICAL SERVICES

4.1 Existing connection

Kyeemagh, area code 2216, falls under Ausgrid power supply authority. The school is supplied via a 200 A aerial supply from existing Ausgrid street network from Beehag Street corner Jacobson Avenue. The school main switchboard is located near Block A (see Figure 3). This board and current supply will be replaced as part of the school re-development. Refer to Proposed power reticulation proposal.



Figure 3 – Existing School Main Switchboard

Ausgrid's DBYD plan shows no Ausgrid's assets within the property boundary.

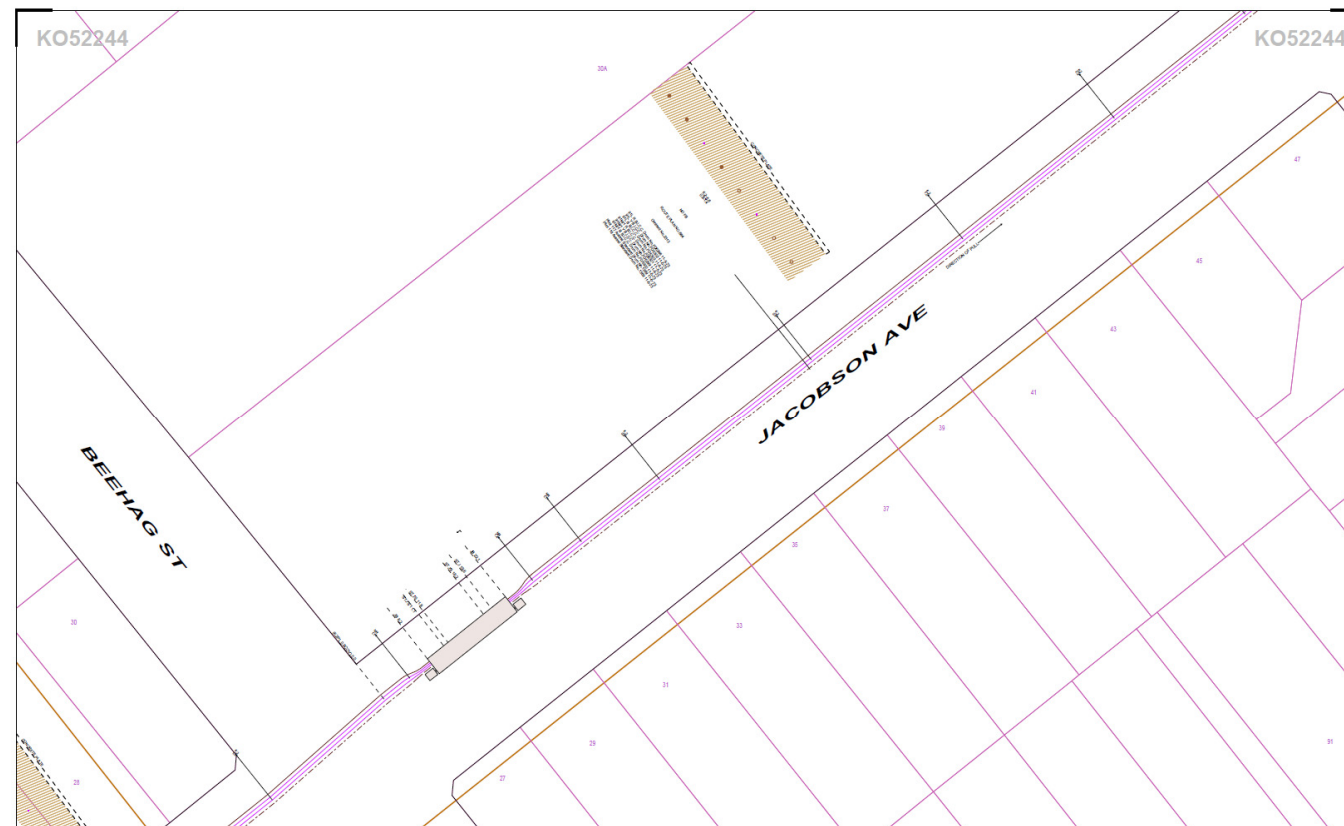


Figure 4 – Part Ausgrid's DBYD Plan

4.2 Maximum demand

Based on our preliminary maximum demand calculation the proposed new school will have a demand of 357 KVA or 550A per phase.

The demand will need to be further refined subject to final school building layouts.

Based on the above preliminary demand we envisage that a dedicated pad mount substation with a minimum 500 KVA transformer will be required for the new school.

4.3 Proposed site power upgrade strategy

JHA has conducted an internal investigation of Ausgrid's local GIS plan to further assess the site capacity to connect to street infrastructure. (See Figure 5).

According to the GIS plan there is no Ausgrid HV distribution network on the Jacobson Ave street frontage. The closest possible HV connection to the network is on Tancreed Street which is more than 200 metre away from the site. As per diagram on Fig 6 we have highlighted three possible locations for a new padmount substation including associated site main switchboard.

We would recommend options 1 or 2 which will allow for the most cost effective power supply solution. Typical Ausgrid substation easement is 5300mm x 3300mm.

Note: Final supply arrangement details will be subject to Ausgrid confirmation. A level 3 specialist design will be required to commence the design for power supply upgrade to the site.

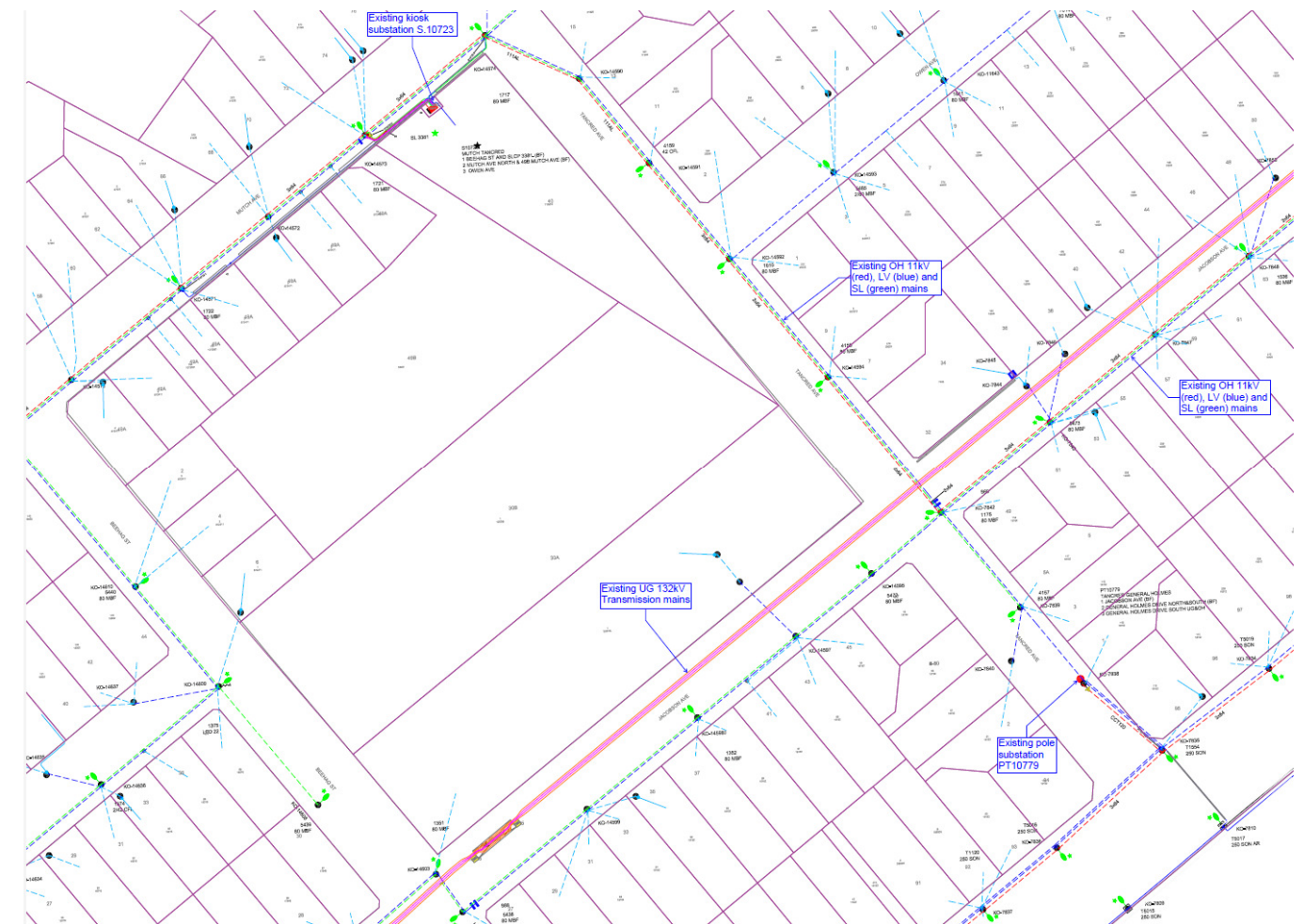


Figure 5 – Part Ausgrid's GIS Plan

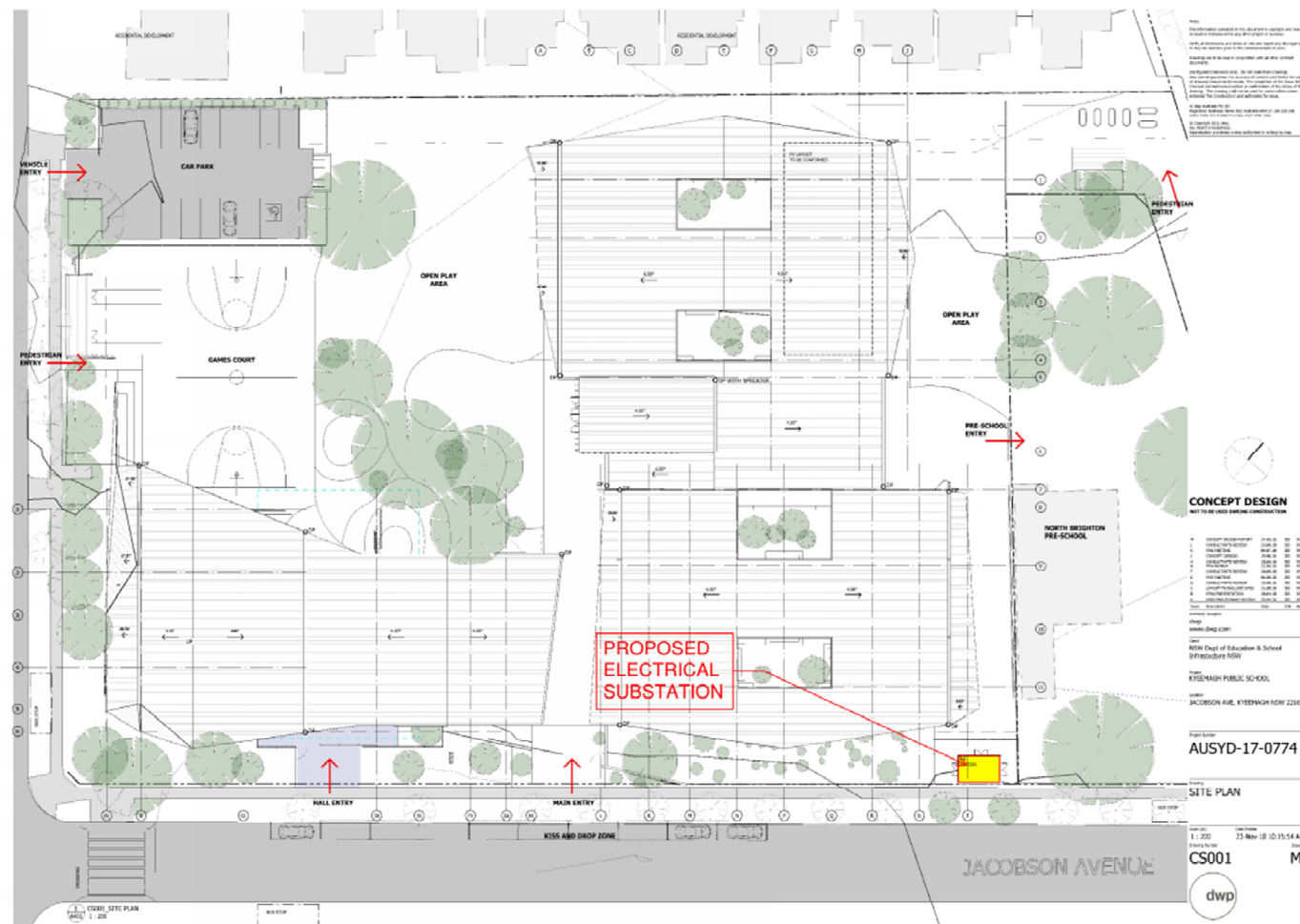


Figure 6 – Proposed Ausgrid new substation and main switchboard

5. TELECOMMUNICATION SERVICES

5.1 Existing infrastructure

The utility review process revealed that existing Telephone as well as Telstra fibre net infrastructure cables to the school.

The copper cables originate from a Telstra pit on the corner Beehag St and Jacobson Ave (See Figure 7) while the fibre connection originates from a Telstra fibre pit location on Beehag street.

Both services will be affected by the proposed new school.

There is also an existing Telstra conduit originating from a “D” pit on Jacobson Ave as shown on the Telstra’s plan. All of these conduits would be affected by the redevelopment of the school and thus Telstra will need to be notified.

Additionally, based on the site survey plan in Figure 2, there appears to be an existing Telstra services (labelled with “T”) running along school property at north of the site boundary. The current DBYD plan of any telecommunication authorities namely Telstra, Optus, and NextGen, does not show this service route. Accordingly, it is suspected that this “T” service may represent an existing redundant telecommunication conduits. Further investigation is required to ascertain the exact extent of this service.

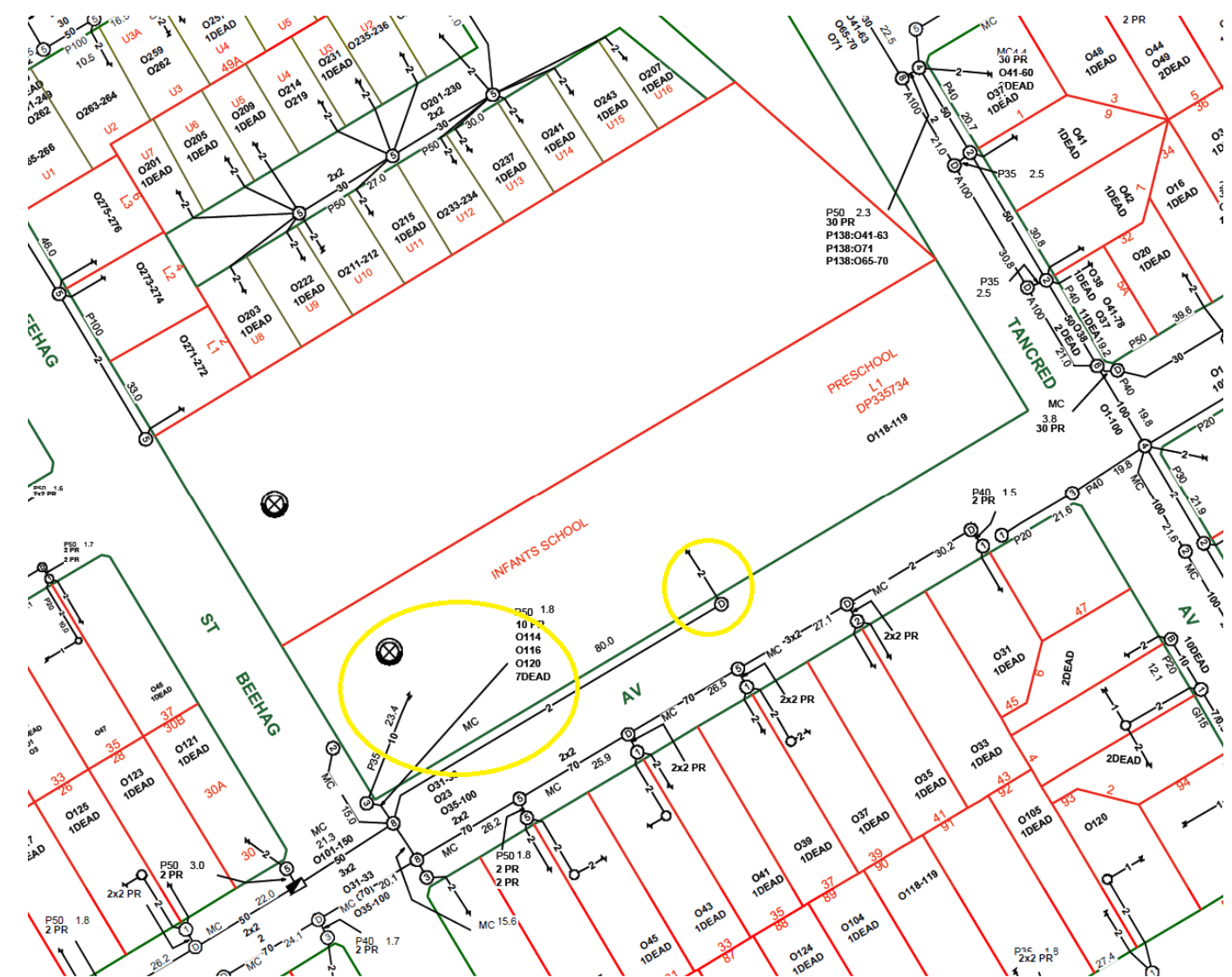


Figure 7 – Part Telstra DBYD Plan with Telstra’s Conduits Circled.

The existing school main telephone distribution frame (MDF) of the school is located in Building A. This MDF will be decommissioned as part of the work.

5.2 Proposed telecommunication services infrastructure

School Infrastructure ICT department will need to review the connection requirements for this school and provide details of the connection. The ICT department will also lodge the connection application with the relevant authorities including NBN for all required telecommunication services. Fibre and Copper services are available around the corner street between Beehag St and Jacobson Ave as mentioned above. The main campus distributor will be located within the Library building which will suit the existing street connections as mentioned above.

5.3 NBN Services

JHA has carried out a preliminary 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 end 2018.

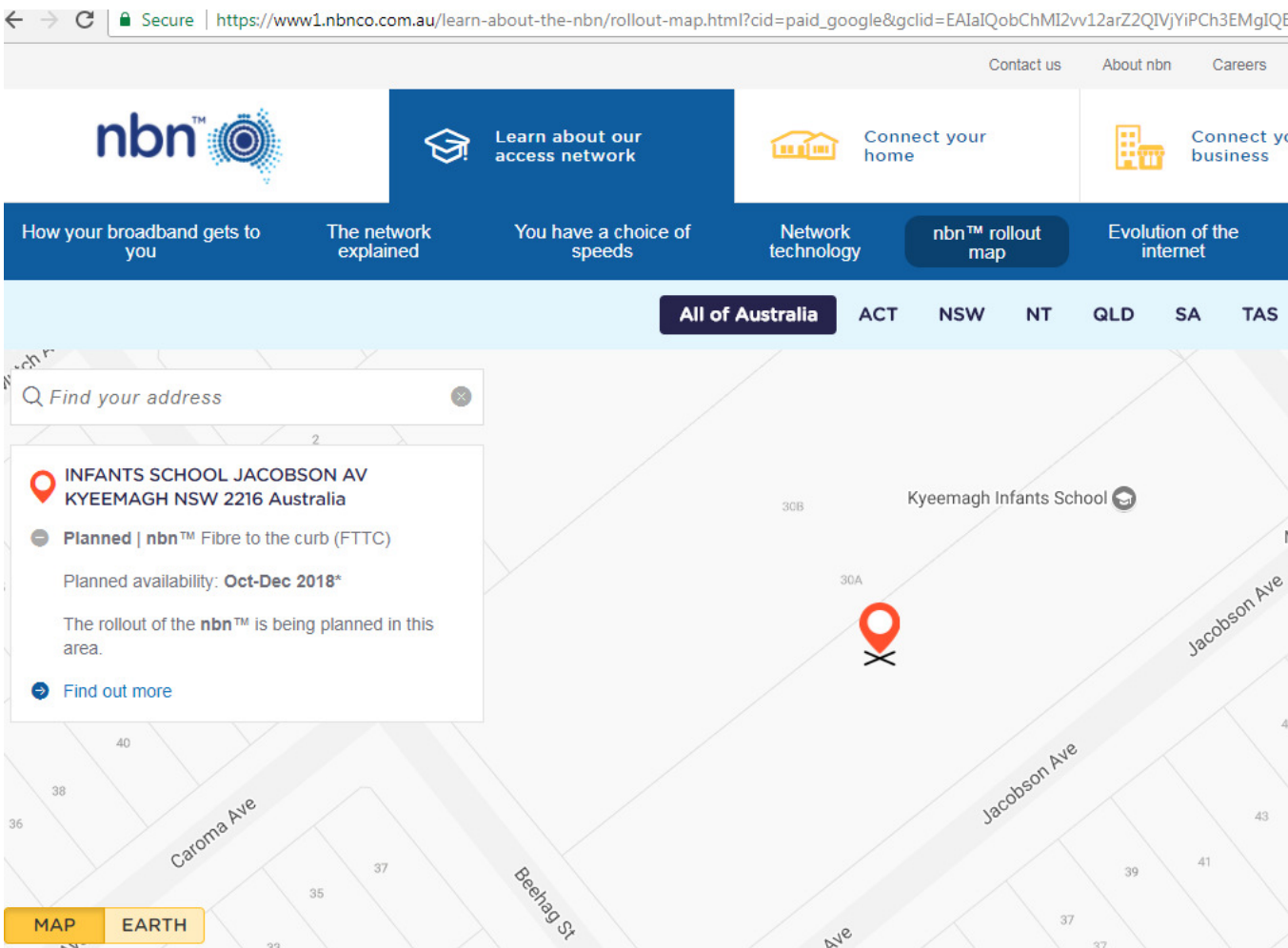


Figure 8 – Snapshot from NBN Rollout Map Showing NBN Service Available at End 2018