

# Report

## Infrastructure Management Plan

### NEW HIGH SCHOOL IN JERRABOMBERRA

NSW Department of Education

# Report

CONFIDENTIAL

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## 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 an application for a State Significant Development (SSDA No 24461956). The SSDA is for a new high school located at Jerrabomberra.

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

Item	Response
<p>A site plan showing all infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process).</p> <p><b>14. Utilities</b></p> <p>In consultation with relevant service providers:</p> <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 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>	<p>This IMP report details the hydraulic and electrical services infrastructure available to service the proposed development. This report also includes details regarding augmentation / amplifications required to service the proposed development</p>



## 2 PROPOSAL

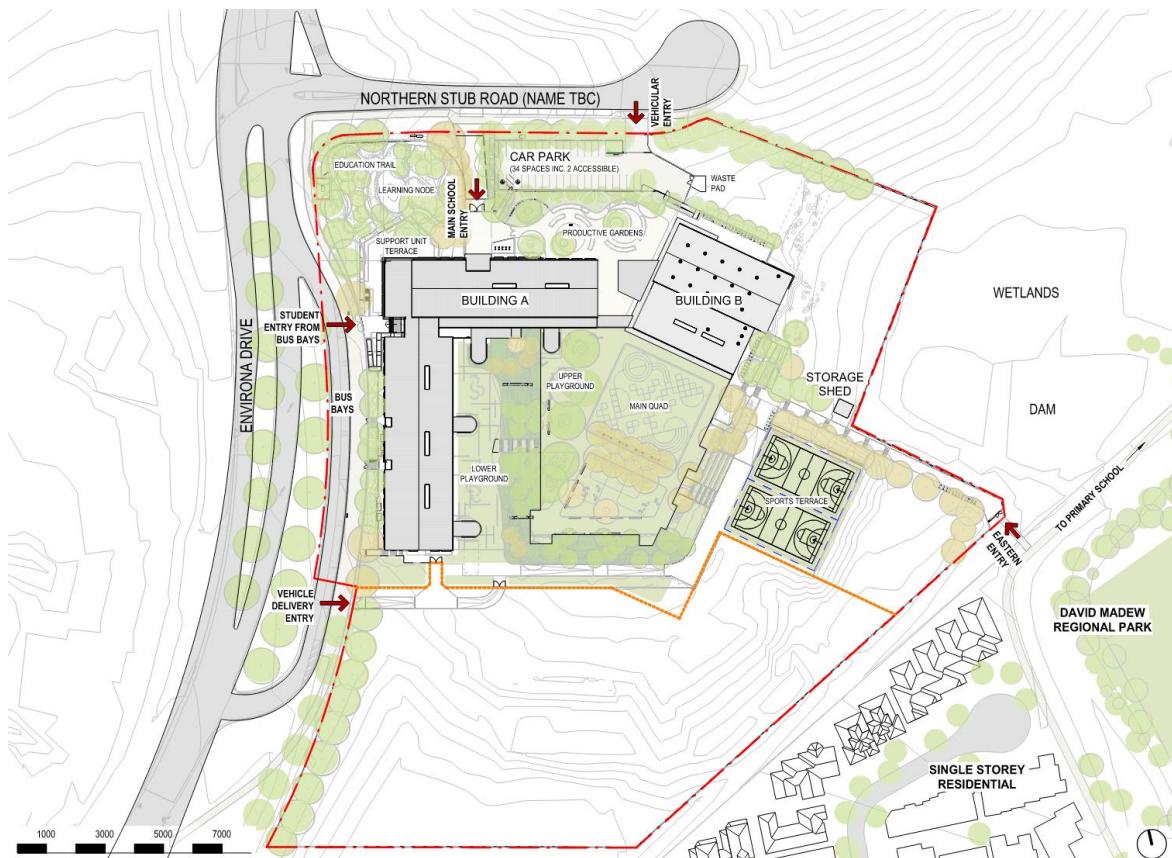
The proposed development is for the construction of a new high school in Jerrabomberra. The proposal will meet community demand and to ensure new learning facilities are co-located near existing open space infrastructure. The proposal generally includes the following works:

- Site preparation;
- Construction of a series of buildings up to three storeys including administration/staff areas, library, hall and general learning spaces;
- Construction of new walkways, central plaza and outdoor games courts;
- Construction of a new at-grade car park;
- Associated site landscaping and open space.

The proposal has been designed to accommodate approximately 500 students with Stream 3 teaching spaces, however the core facilities will be future proofed to a Stream 5 to enable possible future expansion to meet projected demand.

The proposal will include site preparation works, such as clearing and levelling to accommodate the proposed buildings and play areas. The proposal will involve the construction of a series of buildings housing general learning spaces, administration and staff wings, outdoor learning areas, a library and assembly hall.

The proposal will include construction of a new driveway and hardstand with access proposed off the northern stub road east of Environa Drive. Pedestrian access is proposed off Environa Drive and the northern stub road.



**Figure 1:** Proposed site plan

Source: TKD Architects



## 2.1 Site Description

The proposed development is located within the South Jerrabomberra Innovation Precinct, also referred as the Poplars Innovation Hub, in the local government area of Queanbeyan-Palerang Regional Council.

The school site- is part of an existing lot (Lot 1 in DP 1263364), which is approximately 65.49ha in area and will be characterised by a mix of business park and open space uses and a new north-south connector road named Environa Drive.

Delivery of the Precinct is underway with Environa Drive currently under construction. Most of the lot, however, remains undeveloped.

The school site is subject to a proposed lot (Lot 2 in DP 1263364), which was approved by Council under DA332-2015 on 10 March 2021 but is not yet registered. The approved lot is irregular in shape, is largely cleared and is approximately 4.5ha in area. A small dam is located adjacent to the south eastern boundary of the site, which forms part of a broader wetland.

The site is located in excellent proximity to existing open space facilities. It adjoins David Madew Regional Park to the south east and is located 100m east of an existing recreational field associated with Jerrabomberra Public School.

A description of the site is provided in the table below.

Table 1 – New High School in Jerrabomberra Site Description

Item	Description
Site address	School address yet to be determined however, it is located within the Jerrabomberra Innovation Precinct at 300 Lanyon Drive, Jerrabomberra.
Legal description	Lot 1 in DP 1263364 (existing) Lot 2 in DP 1263364 (proposed, but not registered)
Total area	Lot 1 – 65.49ha Lot 2 – 4.5ha
Frontages	The site provides frontage to Environa Drive and the northern stub road, both currently under construction.
Existing use	The site is undeveloped and contains a series of small vegetation clusters scattered across the site.
Existing access	Existing access is via an informal unsealed driveway off Tompsitt Drive along the northern boundary of the existing lot. The site will be accessed via Environa Drive and a secondary access road (North Road), which is currently under construction.
Context	Land to the south is primarily residential in nature. Jerrabomberra Public School and David Madew Regional Park are located to the east/south-east, while land to the west is undeveloped and features Jerrabomberra Creek. The site is located within the South Jerrabomberra Innovation Precinct, which is currently under construction. The areas north and west of the site are currently undeveloped but the site is currently undergoing a transition from rural to business park uses. Development further north on the opposite side of Tompsitt Drive and along Edwin Land Parkway includes retail and commercial uses. Development immediately to the south includes existing low density residential development. Land in the south west has been identified for future low density residential, light industrial and business park uses.



**Figure 2:** Site aerial depicting the land subject to the proposed High School.

Source: TKD Architects



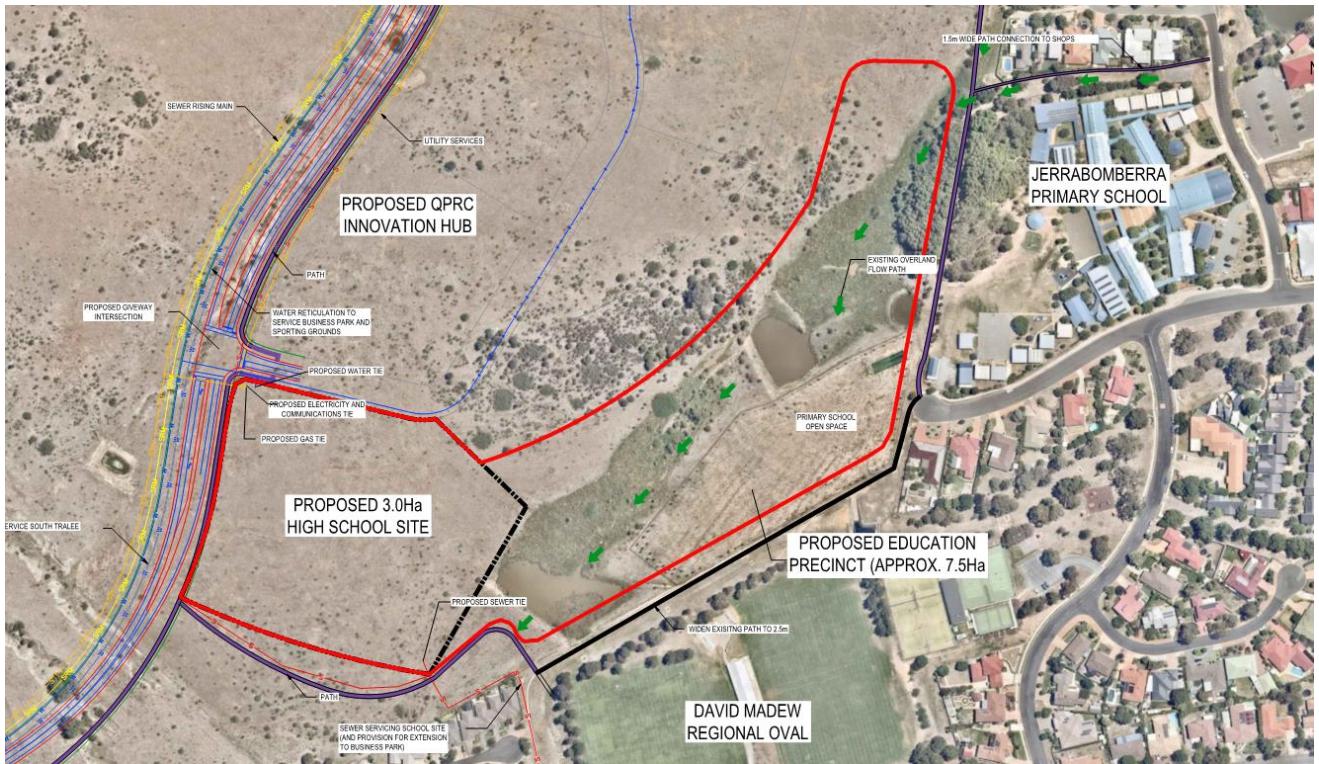
### 3 INFRASTRUCTURE DEMANDS

The maximum demand for the site is as follows:

SI No.	Service	Unit	Maximum Demand	Remarks
1.	Electricity	KVA	945	Based on AS3000
2.	Potable Water	l/s	2.6	Peak
3.	Sewer Drainage		400FU ADWF = 0.19 l/s PDWF = 1.52 l/s	
4.	Fire Hydrant	l/s	20	AS2419.1-2005
5.	Fire Sprinklers		No sprinklers required	
6.	Fire Drenchers		No drenchers required	
7.	Natural Gas	MJ/h	1200	Canteen kitchen, Domestic Hot Water Plant, mechanical hall heating

## 4 INFRASTRUCTURE OVERVIEW

The proposed new school is being constructed on greenfield land which is currently being developed by Poplars Developments.



**Figure 3:** Extract of Calibre Services provisions as part of Poplars Developments Works.  
Source: Calibre South Jerrabomberra School Site Site Servicing 15/04/19

The services outlined in Figure 3 and Appendix B that will supply the site are not yet constructed, however there have been various meetings and correspondence with the site developer to arrange the services connections that are required to service the school.

Refer to Appendix A for the overall site plan showing the connection points for all services.



## 4.1 Potable Water Services

The following information has been provided and sourced to inform this report and our assessment of the Potable Water Service.

- Dial Before You Dig
- Calibre South Jerrabomberra School Site Site Servicing 18-002726-SK092 dated 15/04/19 (Appendix B)
- Correspondence with Wodens Civil
- Pressure & Flow Enquiry (Appendix E)

Queanbeyan-Palerang Regional Council (QPRC) are the local water authority.

### 4.1.1 Existing Potable Water Services

The site has frontage to the following private water main:

- DN-150 authority water main in Northern Entry Road

These works are currently under construction, as-built documentation will need to be provided once complete to inform the design.

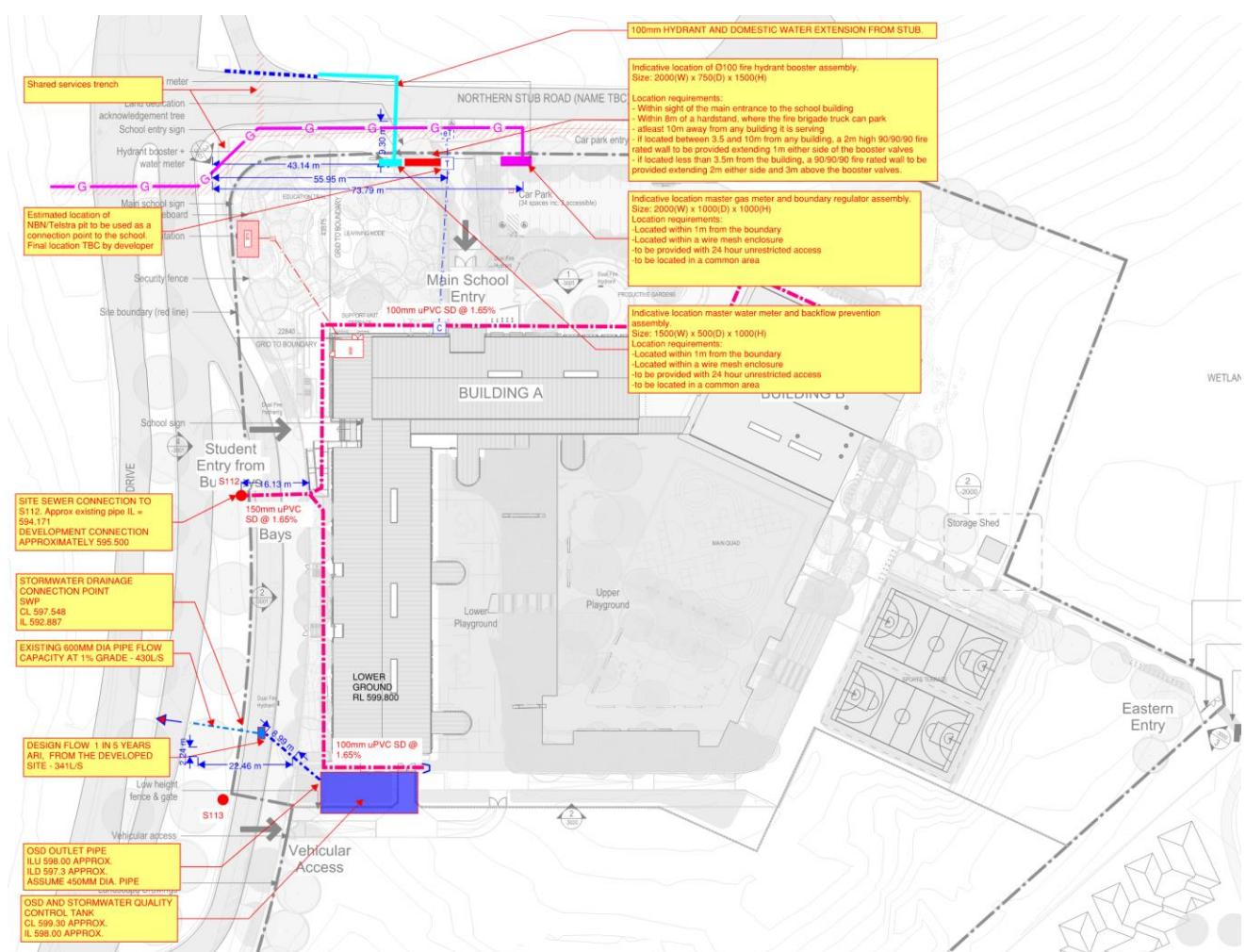


Figure 4: Water & Sewer Infrastructure



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#### 4.1.2 Proposed Potable Water Supply

A new potable water connection shall be made to the newly extended authority water traversing the under construction Road 3 which will provide water for domestic and fire use. Final confirmation of the connection location shall be made during detailed design based on the survey output.

The potable cold water supply shall be provided with a backflow prevention devices and private water meter assembly.



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## 4.2 Sewer Drainage Services

### 4.2.1 Existing Sewer Drainage

The site has access to the following authority sewer mains:

- 225 dia PVC authority sewer main in Northern Entry Road to the west of the site (see Figure 4).

These works are currently under construction, as-built documentation will need to be provided once complete to inform the design.

### 4.2.2 Proposed Sewer Drainage

The sewer drainage from the proposed buildings are proposed to be connected to the currently under construction authority sewer main. Demands, depths and locations have been provided to the site developer, however once constructed, a Section 68 application must be lodged with QPRC to confirm the connection into the QPRC main.

Gravity flow sewer drainage system will collect waste and effluent from all fixtures, fittings and appliances from the proposed building and connected into the authority sewer main at sewer manhole S112. The sewer connection shall be comprised of a boundary trap, overflow relief gully and IPMF

#### 4.2.2.1 Proposed Trade Waste Drainage

A separate sanitary plumbing and drainage system will be provided to connect all fittings and fixtures in canteen into the Trade Waste system.

All wastewater from the food technology and canteen (subject to equipment types) will be conveyed to a 2000L grease arrestor and the treated effluent will discharge into the new gravity sewer line.

A trade waste application will need to be lodged by the school with QPRC in accordance with the QPRC Trade Waste Policy. Refer to policy here: <https://www.qprc.nsw.gov.au/files/assets/public/resources-and-documents/policies/policies-qprc/qprc-liquid-trade-waste-policy.pdf>



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## 4.3 Natural Gas Services

### 4.3.1 Existing Gas Supply

The site will have access to the following authority gas main:

- Gas main running in Northern Road to the west of the site.

These works are currently under construction, as-built documentation will need to be provided once complete to inform the design.

### 4.3.2 Proposed Gas Supply

Gas will be extended up Road 3 to the north of the site and into the school.

The regulator and meter will be provided at the boundary of the site as noted in Figure 4 and Appendix A.



## 4.4 Electrical High Voltage Services

### 4.4.1 Existing High Voltage Supply

There is currently no supply to the site.

### 4.4.2 Proposed High Voltage Supply

As per information provided by the developer (Poplars Developments), there will be future developments adjacent to the site that will be built in parallel, including a new road with associated electrical infrastructure reticulation at the west of the site.

After considering the above and the dimensions of the site, it is proposed that the electrical supply to the campus will be from a new Essential Energy Kiosk Substation which is proposed to be located in the North-West corner of the development as shown in Figure 5 of this report.

Substation location is to be adjacent to the roadway outside the school fence line since is a utility requirement to have direct and unimpeded access to the substations 24/7.

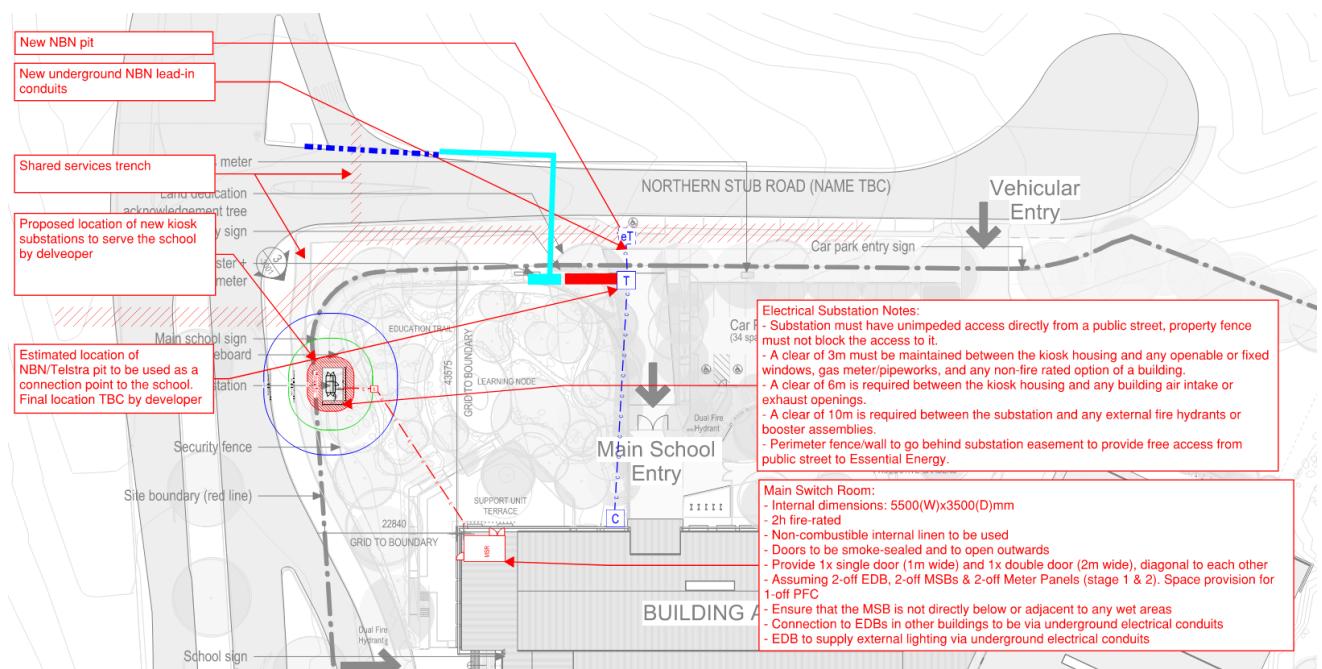
One 1x1500 kVA Essential Energy Kiosk Substation will be provided by the developer as indicated in Figure 5.

The consumer mains cabling reticulation will be via underground electrical conduits and pits to the school's main switchboard (MSB), which will be located inside the main switchboard room (MSR). It is proposed that the MSR will be located in an adjacent building closer to the substation's location.

A preliminary maximum demand has been undertaken based on the architectural drawings. 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.

DESCRIPTION	kVA
Demand	822
Spare Capacity (15%)	124
<b>TOTAL</b>	<b>946</b>

**Table 1: Preliminary Maximum Demand**



**Figure 5: Electrical Infrastructure Site Plan**

## 4.5 Photovoltaic Solar Power (PV system)

A 90kW photovoltaic (PV) solar power grid-connect rooftop system shall be provided to offset power consumption costs at the school.

The PV system will require approval from Essential Energy, an application to connect the PV system will be required detailing the installed system.



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## 4.6 Communication Services

As per information provided by Poplars Developments, there will be future developments adjacent to the site that will be built in parallel, including a new Northern Road with associated telecommunications infrastructure reticulation at the west of the site.

As detailed in Figure 5, it is proposed to use this future NBN/Telstra as a connection point to the NBN network as part of the new NBN rollout for this area. New NBN/Telstra pits and lead-in conduits will be terminated in a new main communications room to be located on the Ground level within Building A.

The strategies described above are to be reviewed and approved by NBN Co. by submitting a new development NBN application form. The application form has been lodged and NBN Co. have acknowledged its receipt.



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#### 4.7 Stormwater

Refer to separate report by civil engineers M&G Consulting Engineers.



## 5 INFRASTRUCTURE DELIVERY AND STAGING

As there are no existing buildings on the site, there are no particular staging requirements for the infrastructure works.

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

Service	Authority	Process	Funding Responsibility
Power	Essential Energy	<ul style="list-style-type: none"><li>– Engage Level 3 Designer</li><li>– Submit application for connection</li><li>– Receive Design Brief</li><li>– ASP Design and 40 day notice</li><li>– Submit Design</li><li>– Authority review</li><li>– Resubmit design</li><li>– Authority approval</li><li>– Construction</li></ul>	Project / Builder
Communications	NBN	<ul style="list-style-type: none"><li>– Submit application</li><li>– 15 days for offer</li><li>– Client accepts offer</li><li>– NBN Design, appointed builder engages accredited installer.</li></ul>	Project / Builder
Communications	Telstra	<ul style="list-style-type: none"><li>– Submit application</li><li>– 15 days for offer</li><li>– Client accepts offer</li><li>– Telstra Design and Construct</li></ul>	NSW Department of Education
Water & Sewer	QPRC	<ul style="list-style-type: none"><li>– Engage Sydney Water accredited Water Services Coordinator (WSC) and lodge section 73 application</li><li>– Water connection application via tap in</li><li>– Authority review and approval</li><li>– Sydney Water meter procurement by contractor and inline pumping application via tap in</li><li>– Builder to manage construction</li></ul>	Project / Builder
Natural Gas	Evoenergy	<ul style="list-style-type: none"><li>– Submit application</li><li>– Receive offer</li><li>– Builder to manage install and completion with authority</li></ul>	Project / Builder although no development contribution expected



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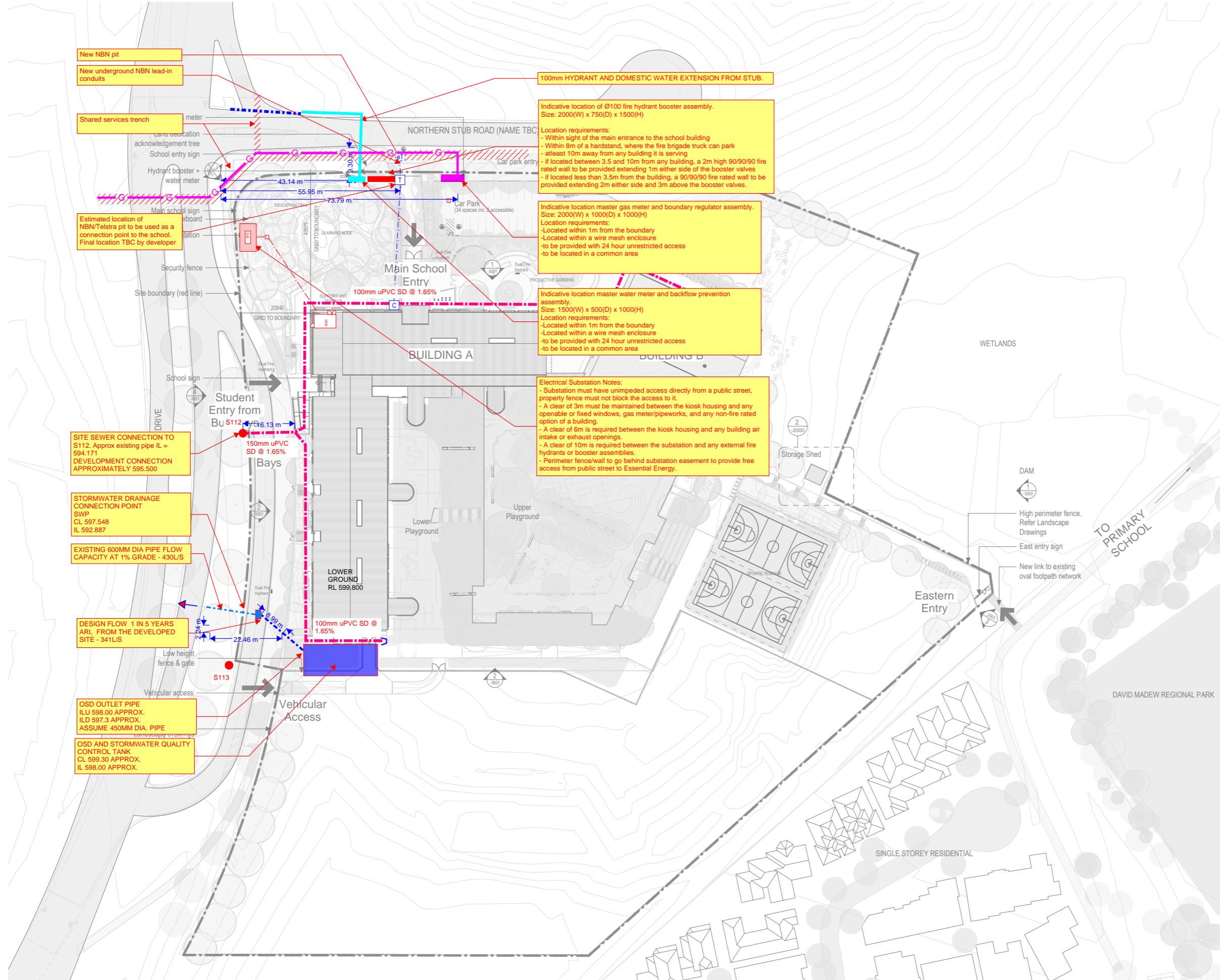
## 6 CONCLUSION

The project can be adequately serviced by power, telecommunications, water, sewer gas and stormwater services.



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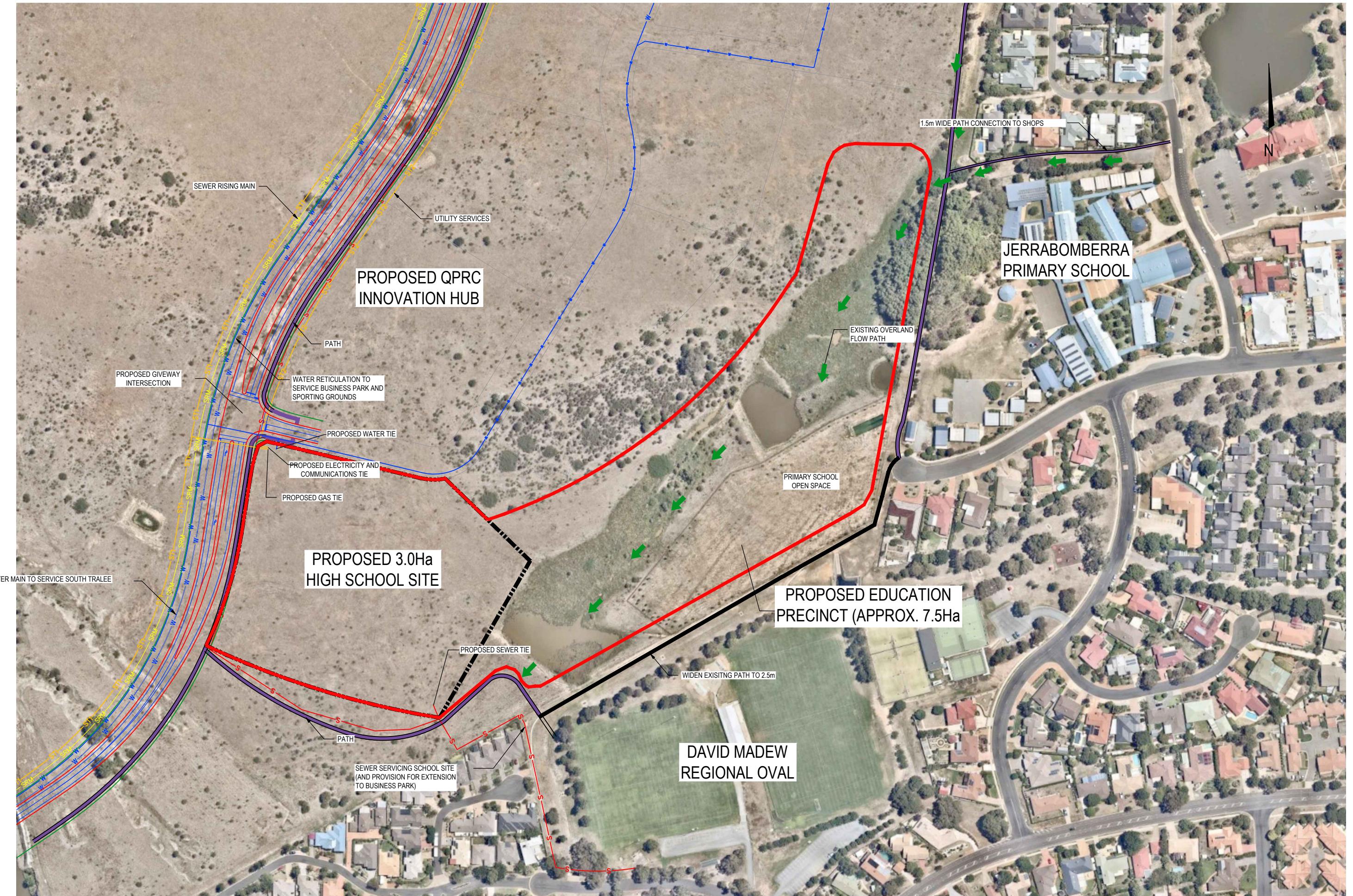
## APPENDIX A SITE INFRASTRUCTURE CONNECTIONS





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## APPENDIX B POPLARS DEVELOPMENTS SITE SERVICING





## NORMAN DISNEY & YOUNG CONSULTING ENGINEERS

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