

# **Building Services Infrastructure Report**

**NORTHERN RIVERS FLOOD RECOVERY –  
LISMORE SOUTH PUBLIC SCHOOL  
REBUILD**

**Client:**

SINSW

**Revision:**

F

**Date:**

06/06/2025

## REPORT INFORMATION

<b>Project</b>	Lismore South Public School - Flood Recovery Rebuild
<b>Title</b>	Building Services Infrastructure Report
<b>Client</b>	SINSW
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## REVISION SCHEDULE

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# CONTENTS

<b>1</b>	<b>Introduction .....</b>	<b>4</b>
1.1	<i>Purpose .....</i>	4
1.2	<i>Sources of Information .....</i>	4
1.3	<i>Site Description .....</i>	4
1.4	<i>Proposed Activity Description .....</i>	5
1.5	<i>Design Guidelines and Standards .....</i>	6
<b>2</b>	<b>Electrical Utility Services.....</b>	<b>8</b>
2.1	<i>Existing Supply Authority Infrastructure.....</i>	8
2.2	<i>Proposed Electrical Low Voltage Infrastructure.....</i>	9
2.3	<i>Outcomes of Consultation with Service Providers.....</i>	9
<b>3</b>	<b>Telecommunications Carrier Services.....</b>	<b>10</b>
3.1	<i>Existing Telecommunication Infrastructure.....</i>	10
3.2	<i>Proposed Telecommunication Infrastructure.....</i>	10
3.3	<i>Outcomes of Preliminary Consultation with Service Providers.....</i>	11
<b>4</b>	<b>Water and Sewer Utility Services .....</b>	<b>12</b>
4.1	<i>Potable Cold Water .....</i>	12
4.2	<i>Sewer Service .....</i>	15
4.3	<i>Gas Service .....</i>	15
4.4	<i>Outcomes of Preliminary Consultation with Service Providers.....</i>	15
<b>5</b>	<b>Mitigation Measures .....</b>	<b>16</b>
<b>6</b>	<b>Evaluation of Environmental Impacts .....</b>	<b>17</b>

# 1 Introduction

## 1.1 Purpose

This building services report has been prepared to support a Review of Environmental Factors (REF) for the rebuild of Lismore South Public School (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 activity will be carried out at Lismore South Public School (LSPS) located 69-79 Kyogle Street, South Lismore (the site).

The purpose of this report is to summarise the existing building services infrastructure including electrical utility, telecommunications, water, gas, and sewer, to the site, and identify the required upgrade works to accommodate Lismore South Public School on this site. Outcomes of preliminary consultation with service providers are summarised in this report.

## 1.2 Sources of Information

The information in report is based on the following information:

- DBYD information.
- Site visit by LCI conducted on 29 February 2024. Note this site inspection was visual only and no intrusive investigations were undertaken.
- Desktop assessment of Essential Energy database (in absence of any correspondence or negotiations).
- Surveys provided to LCI for the Showground site on 23 February 2023.

## 1.3 Site Description



Figure 1 Aerial image of site (Source: Nearmap)

The site, located at 69-79 Kyogle Street, South Lismore, consists of two separate land parcels situated on either side of Wilson Street. The proposed activity will be undertaken on the eastern parcel, where most of the school's existing structures are located. The western parcel contains sports fields and temporary learning facilities. Figure 1 outlines the school's boundary, covering approximately 2.5 hectares. Due to flood damage, the existing buildings on the eastern parcel are currently unused, and students are temporarily using facilities on the sports field and oval, located on the western side of Wilson Street, adjacent to the primary school.

## 1.4 Proposed Activity Description

The proposed activity comprises the rebuild of the LSPS on the eastern parcel of the existing site, in South Lismore, and will be delivered in a single stage. The western parcel is out of the scope of the activity. Any works required on the western parcel (such as removal of demountable classrooms) will be subject to separate approval (if required).

A detailed description of the proposal is as follows:

1. Retention of the existing play equipment, Building K and covered outdoor learning area (COLA) on the western parcel.
2. Bulk earthworks, comprising fill and excavation and other site preparation works on the eastern parcel.
3. Construction of a new building on the eastern parcel for LSPS including:
  - a. A one storey building (with undercroft areas below) fronting Kyogle Street containing a general learning space (GLS) hub, hall, library, support hub, administration, and pre-school.
  - b. Undercroft outdoor learning areas as well as amenities and storage located on ground level.
4. Landscaping and public domain works, including tree planting, a games court in the northeast corner and an outdoor playing area adjacent to the preschool.
5. A car park on the eastern side of the site, with access from Kyogle Street.
6. Waste collection area access from Kyogle Street.
7. Multiple entrance points, including:
  - a. Primary and secondary entries distributed on site frontages.
  - b. Vehicular access point to provide access to waste collection/delivery areas and car parking.
8. Ancillary public domain mitigation measures.

Figures 2 below show the scope of works.



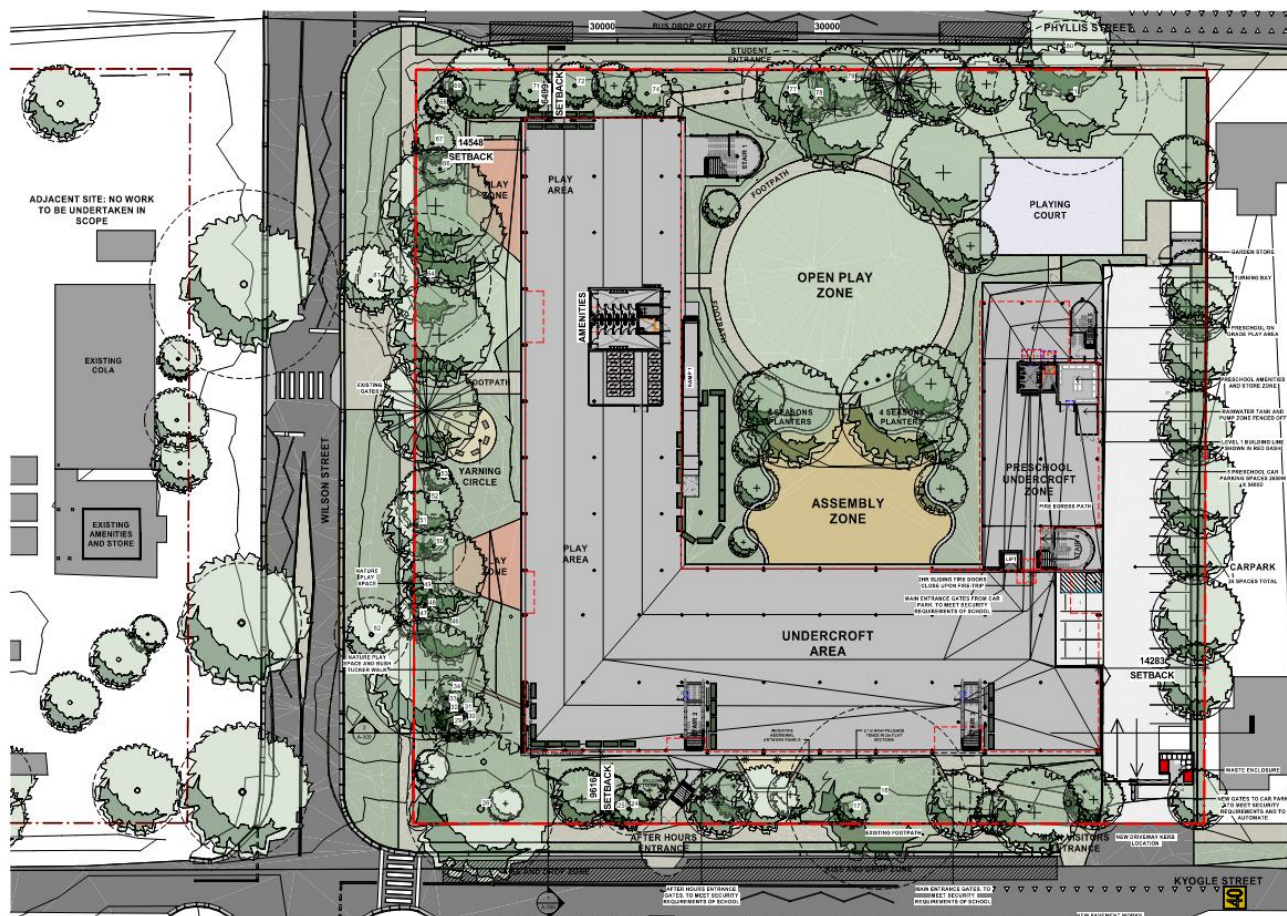


Figure 2 Proposed Site Plan- Ground Level (Source: EJE Architecture)

## 1.5 Design Guidelines and Standards

Any design and future works completed for the project build, must comply with the following technical specifications, procedures, practices, and standards:

### Electrical & Communications Services:

- NSW Service and Installation Rules
- Essential Energy Network Standards and Electricity Supply Policies and Standards
- NBN Requirements

### Water and Gas Services:

- Lismore City Council Records and Guidelines

### All Services:

- Relevant Australian Standards



## 2 Electrical Utility Services

### 2.1 Existing Supply Authority Infrastructure

The local supply authority within the area is owned and maintained by Essential Energy. The existing Essential Energy network near this location is an overhead system, and this distributes to the existing pole substations, and reticulates to customers in the area via overhead low voltage mains.

There is an existing pole substation on the eastern side of Wilson Rd which must be upgraded to provide increased capacity to the new building works. This will require the existing pole to be replaced with a stronger one capable of supporting the new 500kVA transformer. Essential Energy has confirmed there is sufficient capacity on the HV network to accommodate this increase in load.

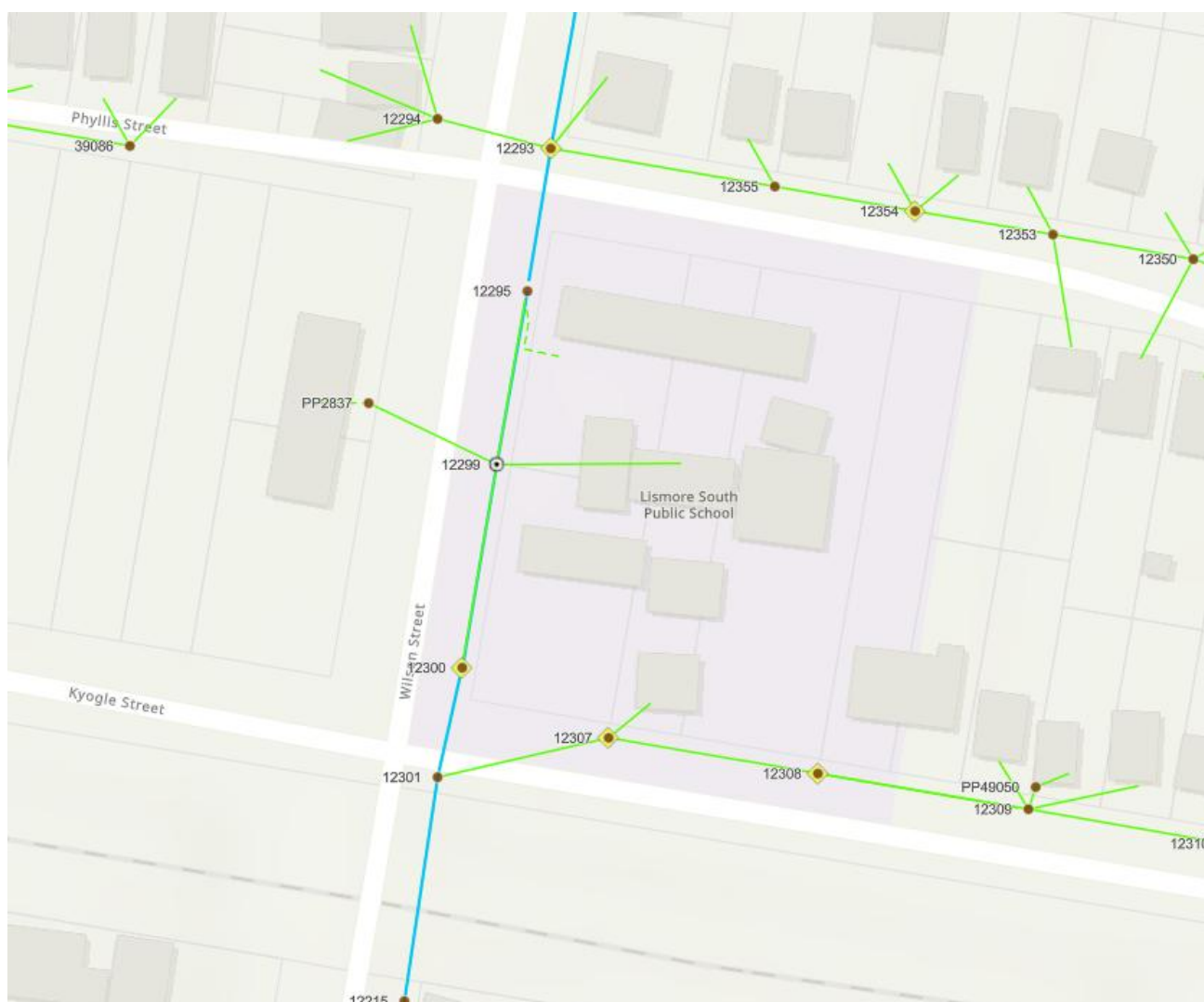


Figure 3 Essential Energy Network (Source WebGIS Extract)





Figure 4 Overhead 11kV network and pole substation, in Wilson Rd

## 2.2 Proposed Electrical Low Voltage Infrastructure

A new Main Switch Board (MSB) will be appropriately sized and designed, subject to further design development. The location of a new MSB would be proposed to be located within a dedicated electrical Main Switch Room (MSR) design above the 2022 flood level. The MSB in the Switch Room will supply electrical distribution boards (EDB) located throughout the school, for general power and lighting final sub-circuits all base building services and plants (inclusive of any mechanical services switchboards and dedicated hydraulic and fire services equipment).

Subject to further detailed design development, services will be reticulated via a combination of cable trays, conduits and pits within the school ground and from the MSR.

## 2.3 Outcomes of Consultation with Service Providers

Essential Energy provided design certification of HV design on 6 March 2025 and that the design will proceed into construction phase with the electrical construction works to be undertaken by the appointed Level 1 ASP.



## 3 Telecommunications Carrier Services

### 3.1 Existing Telecommunication Infrastructure

The site is serviced via an existing Telstra underground network which run down Phyllis Street north of the proposed site. There is access to the Telstra network via an existing Telstra pit adjacent to the site.

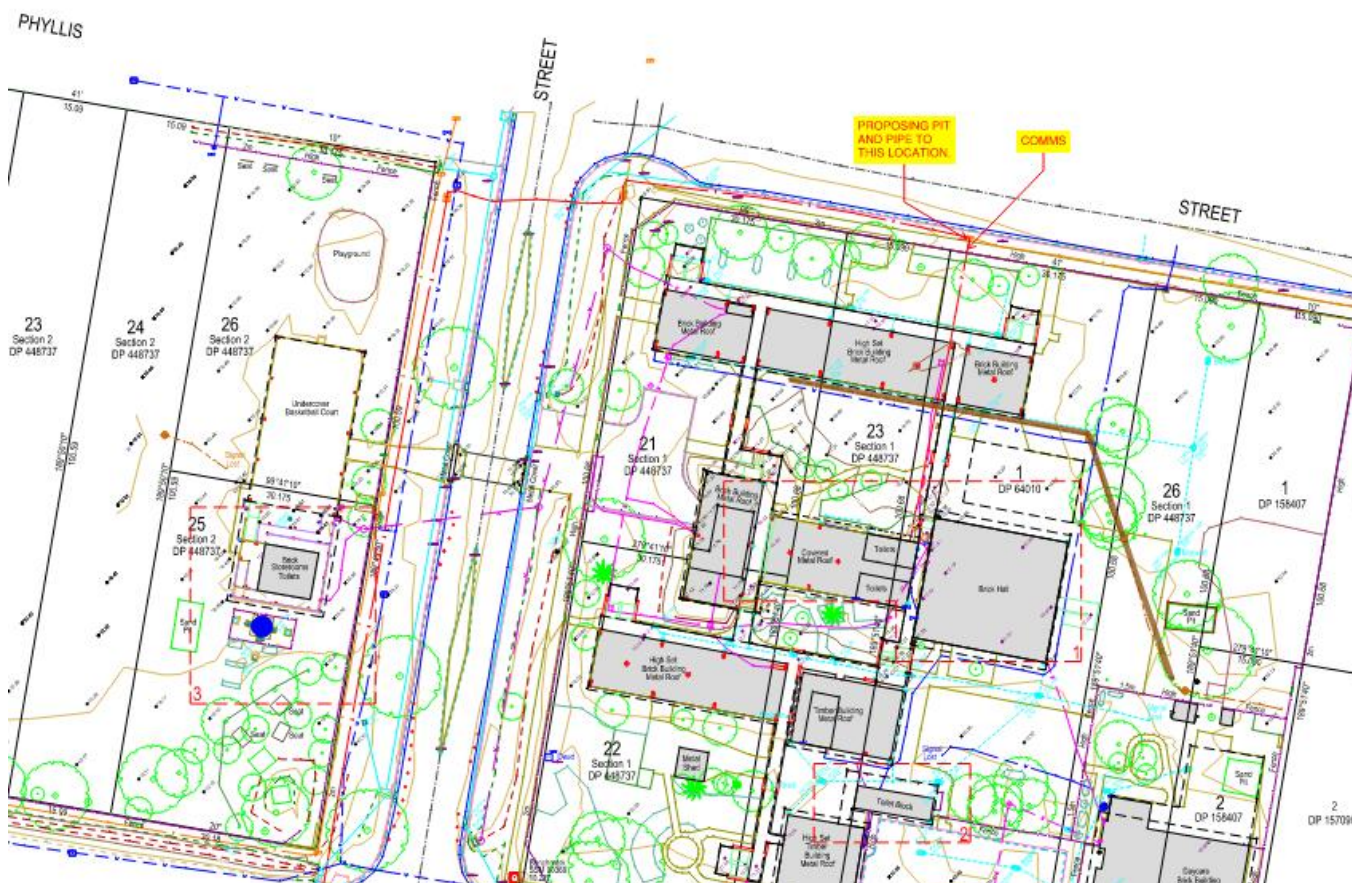


Figure 5 Site Survey

### 3.2 Proposed Telecommunication Infrastructure

The school shall utilise existing communication providers infrastructure. Subject to further detailed design development Pit and pipe shall be designed to the providers standards to facilitate connection of the school to the service providers in the public domain. These communication leadin cables shall terminate into the Main Comms Room of the school and will be developed as part of the detailed design progress.

### 3.3 Outcomes of Preliminary Consultation with Service Providers

No telecommunications service provider authority applications have been submitted **at this stage**. These applications for the telecommunications network connections to the school shall be submitted during the detailed design process. The application shall be based on the schools chosen telecommunications service provider and include all application forms, reports and detailed design service drawings to the approval of the services provider consultation has taken place with the service providers to date

## 4 Water and Sewer Utility Services

### 4.1 Potable Cold Water

The site Lismore South Public School is serviced for potable water from an existing 100mm water main located in Phyllis Street owned and operated by Lismore City Council. This main is connection will be decommissioned and a new main Ø65mm connection to a Ø 100mm water main which located in Kyogle Street will be utilised as the proposed connection as shown below.

A pressure and flow statement has been obtained from Lismore City Council which indicates Hydrant 1 and Hydrant 2 were operated simultaneously during the test, with each hydrant drawing a maximum of 24L/s. This means that the system delivered a maximum of 48 L/s across the two hydrants during the test.

Hydrant 1		Hydrant 2		Hydrant 3
Flow Rate (L/s)	Pressure (kPa)	Flow Rate (L/s)	Pressure (kPa)	Pressure (kPa)
0	600	0	600	600
3	575	3	575	575
6	525	6	525	550
9	500	9	500	540
12	425	12	425	510
15	350	15	350	490
18	300	18	300	460
21	250	21	250	450
24	200	24	200	425

Figure 6 Lismore Council Water main flow and pressure test – 79-61 Kyogle St, South Lismore

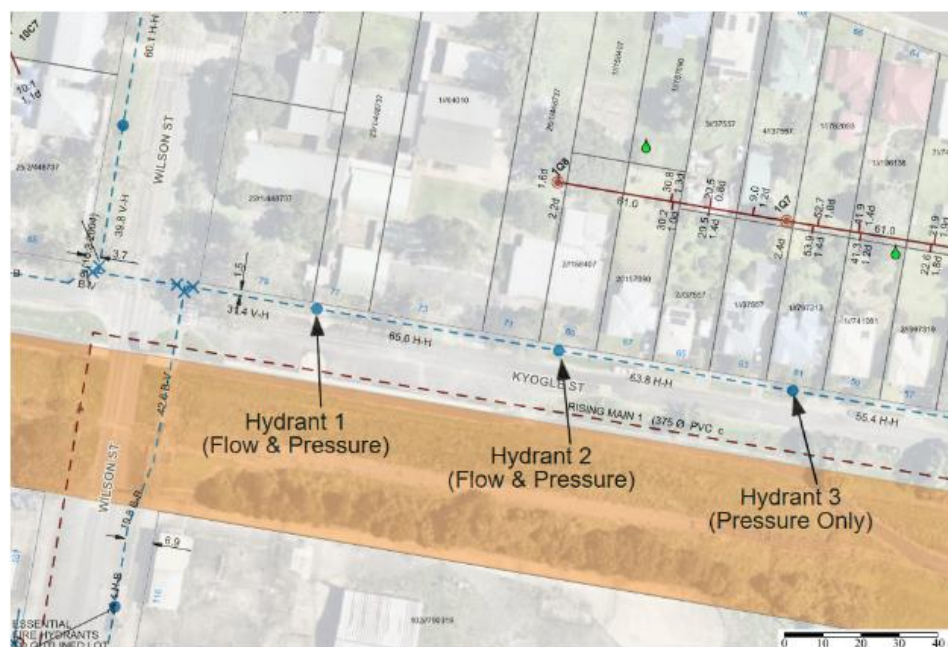


Figure 7 Lismore City Council Test Hydrant Map Locations

### Existing Connection:

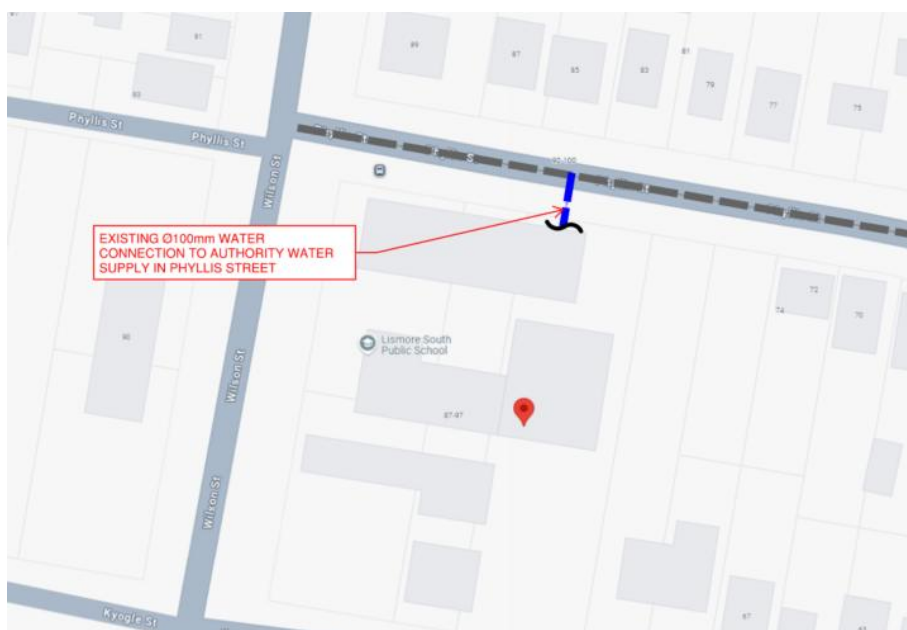


Figure 8 Existing connection for LSPS

### Proposed Connection:

The proposed activity is consistent with previous site demand. The existing Phyllis Street main has the capacity to service the development for potable water but due to the 2022 flood event new Ø65mm connection on Kyogle Street has been proposed for domestic water required for the site. This is further detailed within the figure below:

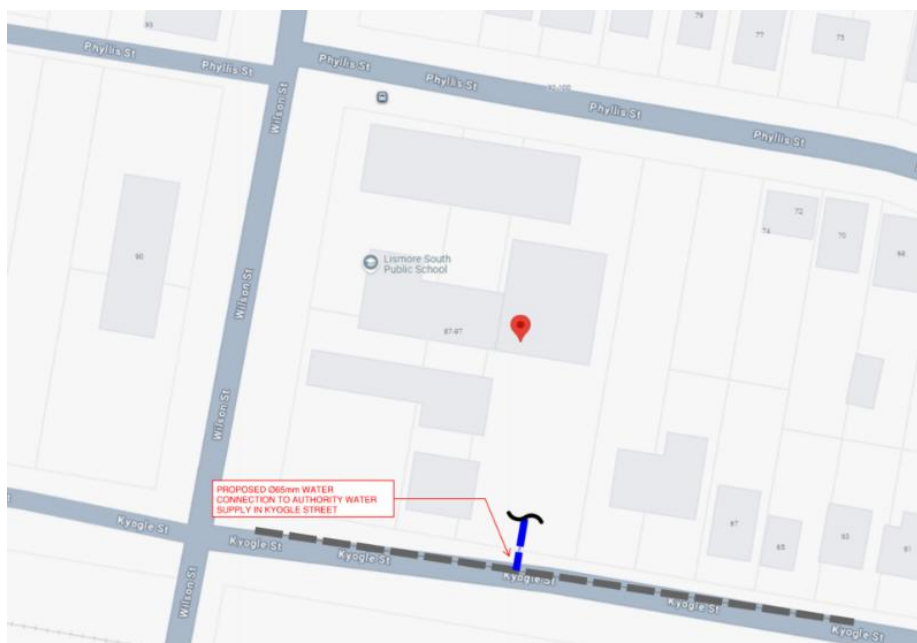


Figure 9 Proposed potable water connection for LSPS

The building will have a fire hydrant service also supplied from the water infrastructure main. The fire hydrant service has a flow rate of 20L/s. An extension from new 100mm branch main from the Kyogle Street water main to site the current Phyllis Street main does not have capacity to supply the fire hydrant system due to the 2022 Flood event. Therefore, option has been developed for water supply to be further developed in detailed design. **Refer to fire documentation for further hydrant requirements.**

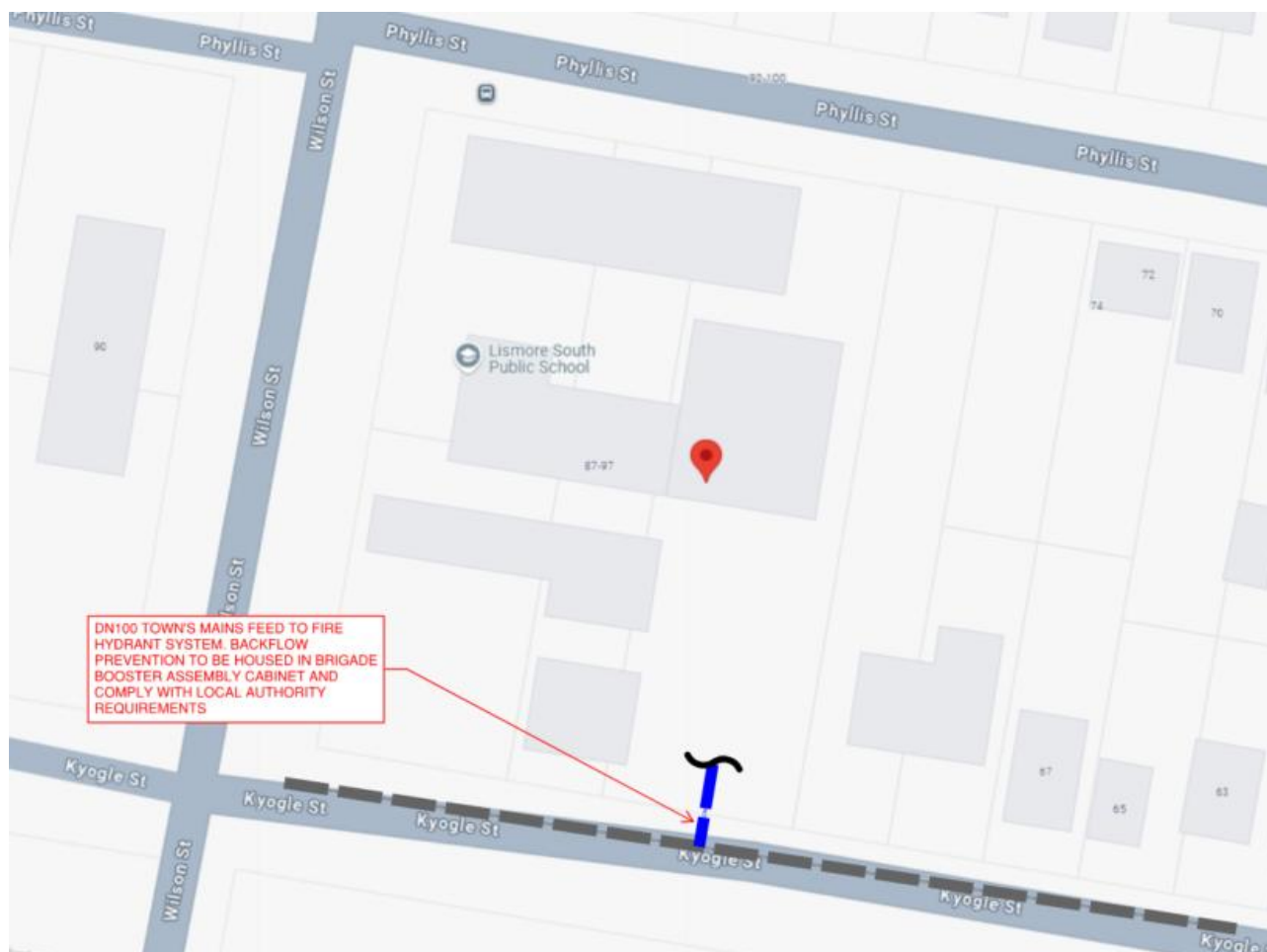


Figure 10 Proposed Fire Hydrant system connection



## 4.2 Sewer Service

The site is serviced for sewer by an existing Gravity Sewer Main on the eastern side of the site approximately 45m above Kyogle Street inside the property boundary, the sewer main is owned and operated by Lismore City Council. The existing sewer main is understood to have been blocked and damaged during 2022 flood event which also damaged the school. A portion of the main is to be abandoned. A new connection to an existing manhole will be made within the site boundary. See below snapshot for indicative location.

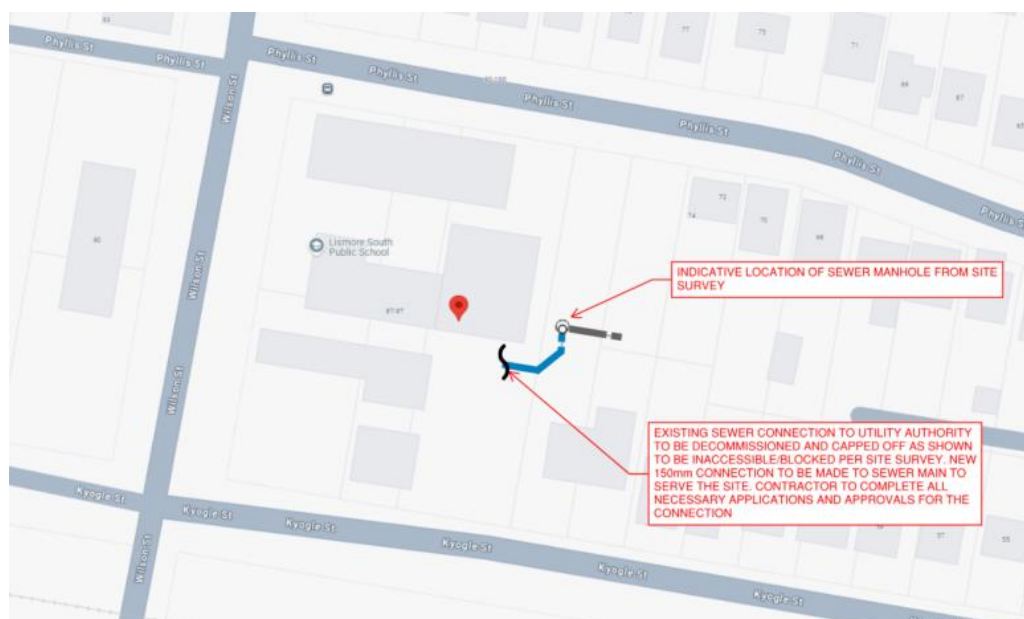


Figure 11 Lismore City Council Sewer Connection

The proposed activity allows for the same population and fixture loading as the existing. No upgrade to the sewer infrastructure is required outside of the new connection and decommissioning of the abandoned section. Decommissioning of the abandoned section of sewer main will include physical separation and removal of a section. This will prevent future blockages of the remaining sewer main and new connection.

## 4.3 Gas Service

The development has no plan to use any gas on site.

## 4.4 Outcomes of Preliminary Consultation with Service Providers

The plumbing contractor will be responsible for coordinating the necessary actions following the outcomes of the preliminary consultation with service providers in relation to the new utility connections. This includes managing the application and approval process with Lismore City Council for both the new sewer and water connections.

Specifically, a new sewer connection is required to the Lismore City Council utility sewer main, located 45m above Kyogle Street within the property boundary. Additionally, a new water connection must be established to the Lismore City Council utility water main on Kyogle Street, which will require a Ø65mm connection. This water connection must include an accessible water meter and backflow prevention device, to be situated near the property boundary. The

plumbing contractor will be responsible for handling all the necessary paperwork, permits, and associated costs involved in obtaining the required approvals from Lismore City Council.

## 5 Mitigation Measures

The services mitigation measures are summarised in the table below.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
<b>Progression of Level 3 works</b>	During design phase	<p>The mitigation measures will be documented in the Essential Energy Review of Environmental factors worksheet used for proposed activities / developments, under Part 5 of the EP&amp;A Act 1979 and to be carried out in accordance with the essential energy's CECM1000.70 Environmental Impact Assessment NSW.</p> <p>This will be completed as part of the Level 3 detailed design process. The mitigation measures will be documented in Table 4 - Environmental Impact Assessment of Essential Energy's REF where each of the possible environmental/social impacts are assessed with the likelihood, extents and sensitivity of it occurring</p>	To minimize/eliminate the possibility of accidents and risk of environmental/social impacts during and after construction.
<b>Connection application to Lismore Council hydraulic infrastructure</b>	Prior to commencement of any construction work	<p>The plumbing contractor will coordinate the necessary actions for new utility connections.</p> <p>The contractor will manage the application and approval process with Lismore City Council for both sewer and water connections.</p> <ul style="list-style-type: none"> <li>Sewer Connection: Utilize existing Sewer Pit onsite. <b>Indicative location as referenced within section 4.2 – Sewer Service.</b></li> <li>Water Connection: A new Ø65mm connection to the Lismore City Council water main on Kyogle Street must be established.</li> </ul> <p>Once raised by the Plumbing contractor through coordination with SINSW the necessary paperwork, permits, and associated costs for obtaining the required approvals from Lismore City Council will be handled.</p>	The obtain the necessary approvals from Lismore City Council for sewer and water connections prior to construction.

## 6 Evaluation of Environmental Impacts

LCI confirm that the required infrastructure modifications proposed to service the site will not have a significant effect on the environment and are not considered to be of significant impact. The proposed modifications are detailed in the sections below.