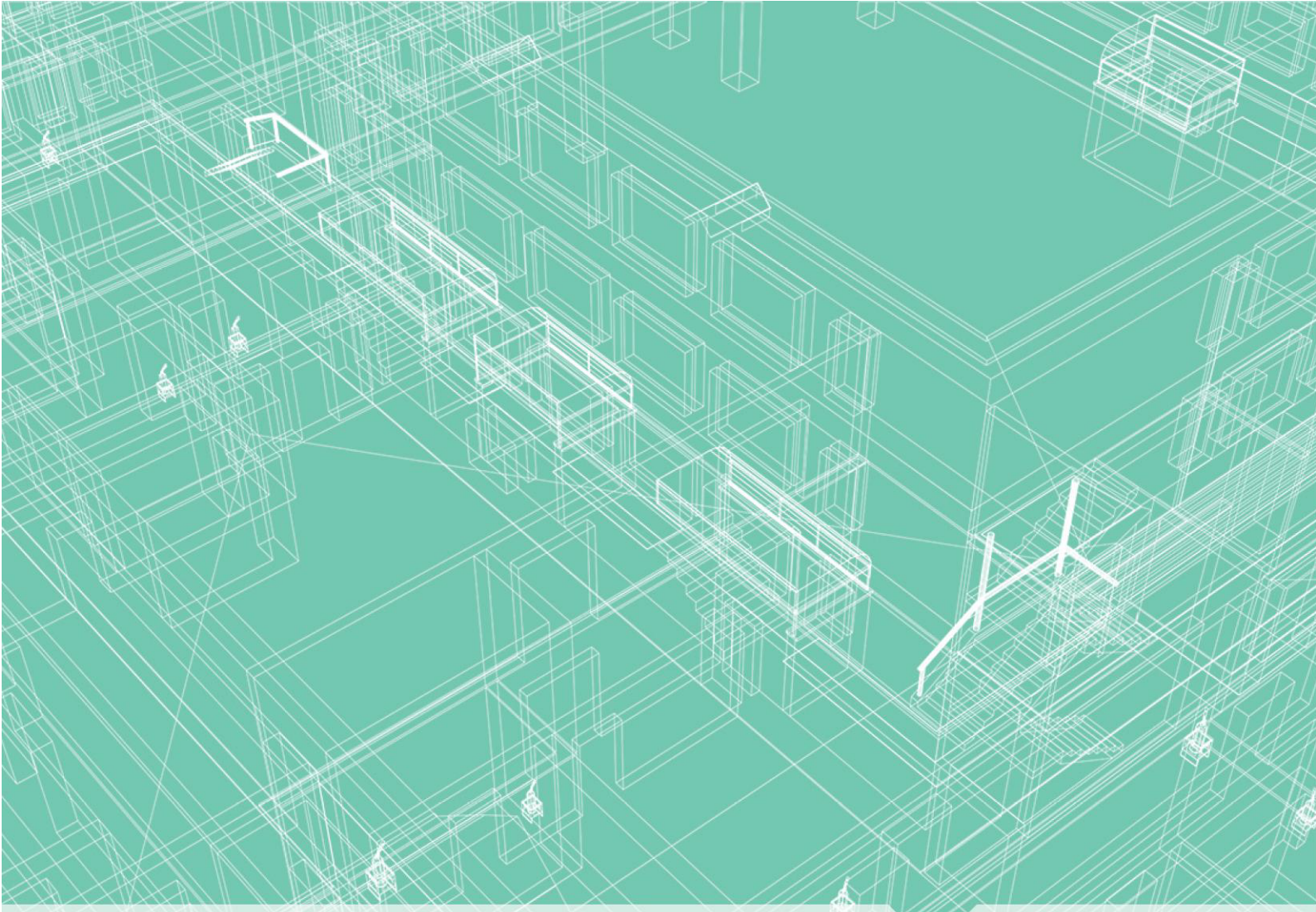

HYDRAULICS SERVICES INFRASTRUCTURE DELIVERY, MANAGEMENT AND STAGING PLAN FOR REVIEW OF ENVIRONMENTAL FACTORS (REF) SUBMISSION

MAITLAND MENTAL HEALTH REHABILITATION PROJECT

HYDRAULIC SERVICES

JHA

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DOCUMENT CONTROL SHEET

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	DATE	25/11/24							

CONTENTS

1 INTRODUCTION

This Hydraulic Services Infrastructure Delivery, Management and Staging Plan has been prepared by JHA Consulting Engineers on behalf of Health Infrastructure (HI) to assess the potential environmental impacts that could arise from infrastructure works at 51 Metford Rd, Metford NSW 2323 (the site). The project is seeking approval for a Development Without Consent (REF) application under Part 5 of the EP&A Act.

This report has been prepared to provide a summary of infrastructure available to the site and determine the points of connection and suitability for the proposed works. This report accompanies a Review of Environmental Factors (REF) for the construction and operation of a new mental health services building within the Maitland Hospital campus, including:

- Site establishment
- Site preparation including earthworks;
- Construction of internal roads and addition of at-grade car parks;
- Construction of 2 storey mental health facility;
- 20 Medium Secure Forensic beds; 24 Low Secure Forensic beds; 20 High Support General beds (including high risk civil consumers) (64 beds total);
- Inground building services works and utility adjustments, including service diversions;
- Building foundation works;
- Tree removal;
- Associated landscaping;
- Bioretention basin.

Refer to the Review of Environmental Factors prepared by Ethos Urban for a full description of works.

1.1 SITE DESCRIPTION

The site is located at the Maitland Hospital Campus on Metford Road, Maitland, approximately 6.4km from the CBD of Maitland. The project site is located within the development parcel, legally described as Lot 73 DP 1256781, as identified in Figure 1 below. The site is located to the east of the recently constructed Maitland Hospital.

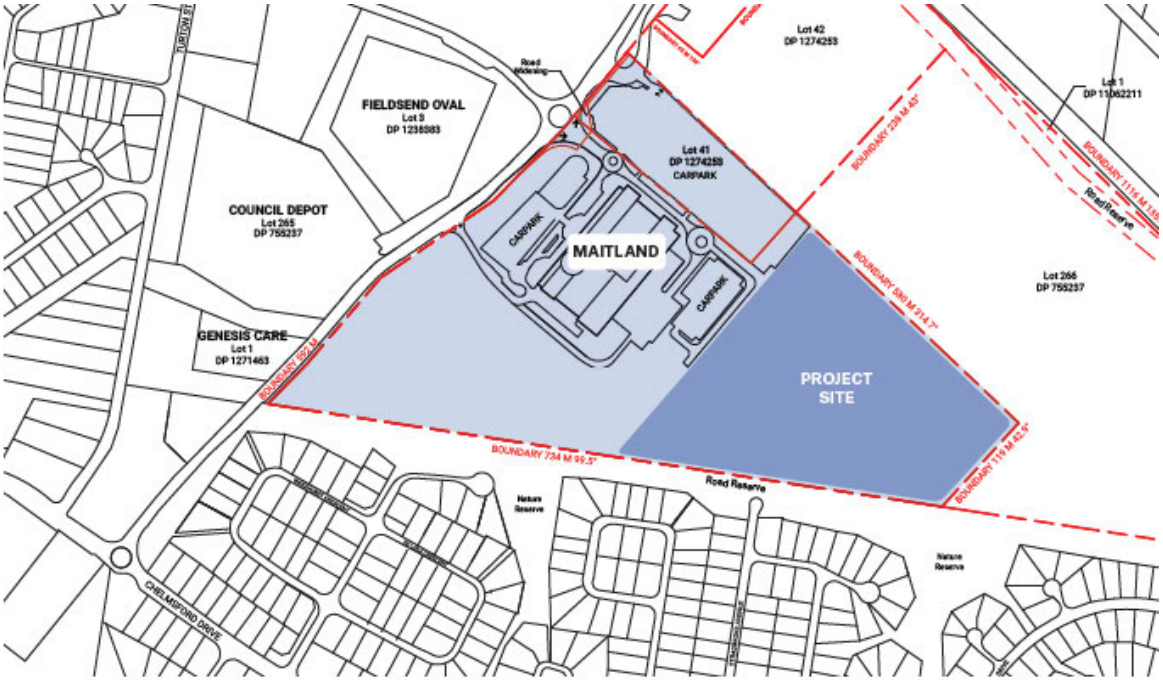


Figure 1 Project locational diagram
Source: Bates Smart

1.2 STATEMENT OF SIGNIFICANCE

Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- **The extent and nature of potential impacts are low and will not have significant adverse effects on the locality, community and the environment;**
- **Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality, community.**

1.3 HYDRAULIC SERVICES OVERVIEW

JHA have reviewed the existing hydraulics infrastructure for sewer, water and gas services at/around the site to assess the infrastructure availability and service options that can serve the proposed works.

The following sources of information were assessed at the time of writing this report and have been used to provide a summary of the existing hydraulic services infrastructure available and its suitability and intended service of the site.

The infrastructure and connection points and their suitability have been based on the following:

- Information obtained via Dial Before You Dig plans
- Hunter Water mains diagram
- Hunter Water Sewer diagrams
- Preliminary discussions/ review of Authorities / utilities requirements
- Architectural information
- Hunter Water Statement of Available Pressure and Flows

The content of this document should be read in conjunction with the documents produced by the architect and other consultants for all other disciplines.

1.4 CODES AND AUTHORITIES' REQUIREMENTS

The design for the proposed works' services will be carried out in accordance with the requirements indicated within the latest editions of all current and appropriate Australian Standard documents, Codes of Practice and Building Regulations approved documents. Wherever a Standard or Code of Practice is referred to, it will imply the latest issue and/or revision applicable at the time of preparing this report. The design will comply with the latest publication of all relevant codes, standards and regulations, including but not limited to:

Australian Standards

Plumbing and drainage Part 1: Water Services	AS/NZS 3500.1 - 2021
Plumbing and drainage Part 2: Sanitary Plumbing and Drainage	AS/NZS 3500.2 – 2021
Plumbing and drainage Part 3: Stormwater drainage	AS/NZS 3500.3 - 2021
Plumbing and drainage Part 4: Heated water services	AS/NZS 3500.3 - 2021

Authorities

National Construction Code (NCC) 2022

FRNSW

Maitland City Council

Hunter Water Corporation

Jemena Gas Authority

Client Standards

1.5 REF/SEARS DELIVERABLE REQUIREMENT

Below is a summary of the REF/SEARs deliverable requirements and reference to the relevant section of this report.

Item	REF Requirement	Relevant Section of Report
22	**Infrastructure Requirements and Utilities** In consultation with relevant service providers: ▪ assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site. ▪ identify any infrastructure 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. ▪ 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.	Section 2, 3

2 EXISTING HYDRAULIC INFRASTRUCTURE

2.1 WATER SERVICES

The development site has existing Hunter Water, water mains in the nearby streets as follows:

- DN250 PVC-O watermain on the north western side of Metford Road.
- DN250 PVC-O watermain on the north eastern side of Fieldsend Street.

The water main in Metford Road interconnects with the watermain in Fieldsend Street.

Refer to Figure 2 for locations of Hunter Water watermains.

A Flow and Pressure enquiry was submitted to Hunter Water to obtain mains capacity details of the existing 250mm main in Metford Road. Results indicate good flow and pressure is available from the main (Refer to Figure 3 for details).

A Building Plan Assessment will need to be submitted to Hunter Water during the Design Development phase to confirm the proposed building does not damage / limit access to Hunter Water's assets.

2.2 SEWER DRAINAGE

The Hunter Water sewer mains in the vicinity of the site are located as follows:

- DN225 VC sewermain crossing the hospital site to the southwest of the new hospital building.
- DN300 Conc sewermain across Metford Road to the northwest of the new hospital building.
- DN525 VC (Conc Enc) sewer main crossing Fieldsend Street approximately 250m west of the site.

Refer to Figure 2 for location of Hunter Water sewer main.

A Building Plan Assessment will need to be submitted to Hunter Water during the Design Development phase to confirm the proposed building does not damage / limit access to Hunter Water's assets.

2.3 GAS SERVICE

The development site has existing Jemena gas mains in the nearby streets as follows:

- DN160 PE (210kPa) gas main on the east side of Metford Road. The main crosses to the west side of Metford Road along the frontage of the existing New Maitland Hospital building.
- DN63 PE (210kPa) gas main along the southern side of Fieldsend Street.

Refer to Figure 4 for location of Jemena gas mains.

There are no high pressure gas mains adjacent to / near the site (not within 100m of the site).

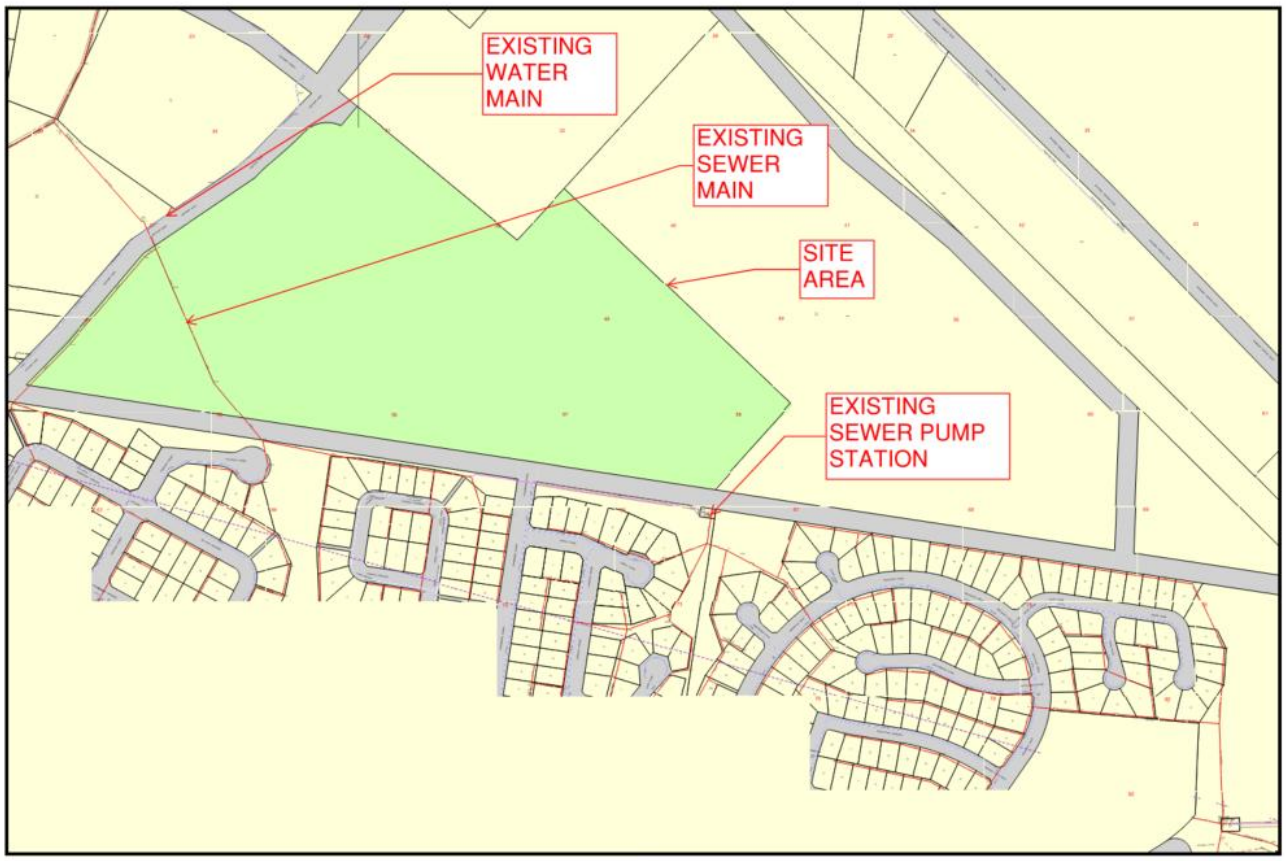


Figure 2 – Existing Hunter Water Watermains and Sewer mains

Hunter Water Corporation
ABN 46 228 513 446

PO Box 5171
HRMC NSW 2310
36 Honeysuckle Drive
NEWCASTLE NSW 2300
1300 657 657 (T)
enquiries@hunterwater.com.au
hunterwater.com.au

24 October 2022

HEALTH ADMINISTRATION CORPORATION
C/- Jha Consulting Engineers
L 23 101 MILLER ST
NORTH SYDNEY NSW 2060

Statement of Available Pressure and Flow

Property address:	51 METFORD RD, METFORD NSW 2323
Lot & Plan number:	Lot 73 DP 1256781
Hydrant No.	10683131
Approximate Ground Level:	16.95 m AHD
Water Main Size and Location:	DN250 mm PVC-O PN16 located in METFORD RD, METFORD NSW 2323
Hunter Water reference:	2022-1699

Thank you for your application for a Statement of Available Pressure and Flow. We have assessed the pressure expected to be available at the nearest hydrant under the demand conditions identified in the table below.

The pressure and flow information provide in the table is to be read in conjunction with notes on the following page.

Expected Pressure at Hydrant	Additional Fire Flow (L/s)	Pressure (kPa)
Maximum pressure (Average Day Demand)	0	775
Minimum pressure (Peak Day Demand)	0	640
Pressure expected under peak day demand conditions		
Fire hose reel (x2)	0.66	640
Pressure expected under 95%ile peak day demand conditions		
Fire hydrant /sprinkler installations	20.0 L/s	630
Fire hydrant /sprinkler installations	40.0 L/s	605
Max available flow	50.0 L/s	600

For further information, please direct enquiries to
development.planning@hunterwater.com.au

Figure 3 – Hunter Water Watermain Flow and Pressure Inquiry Results

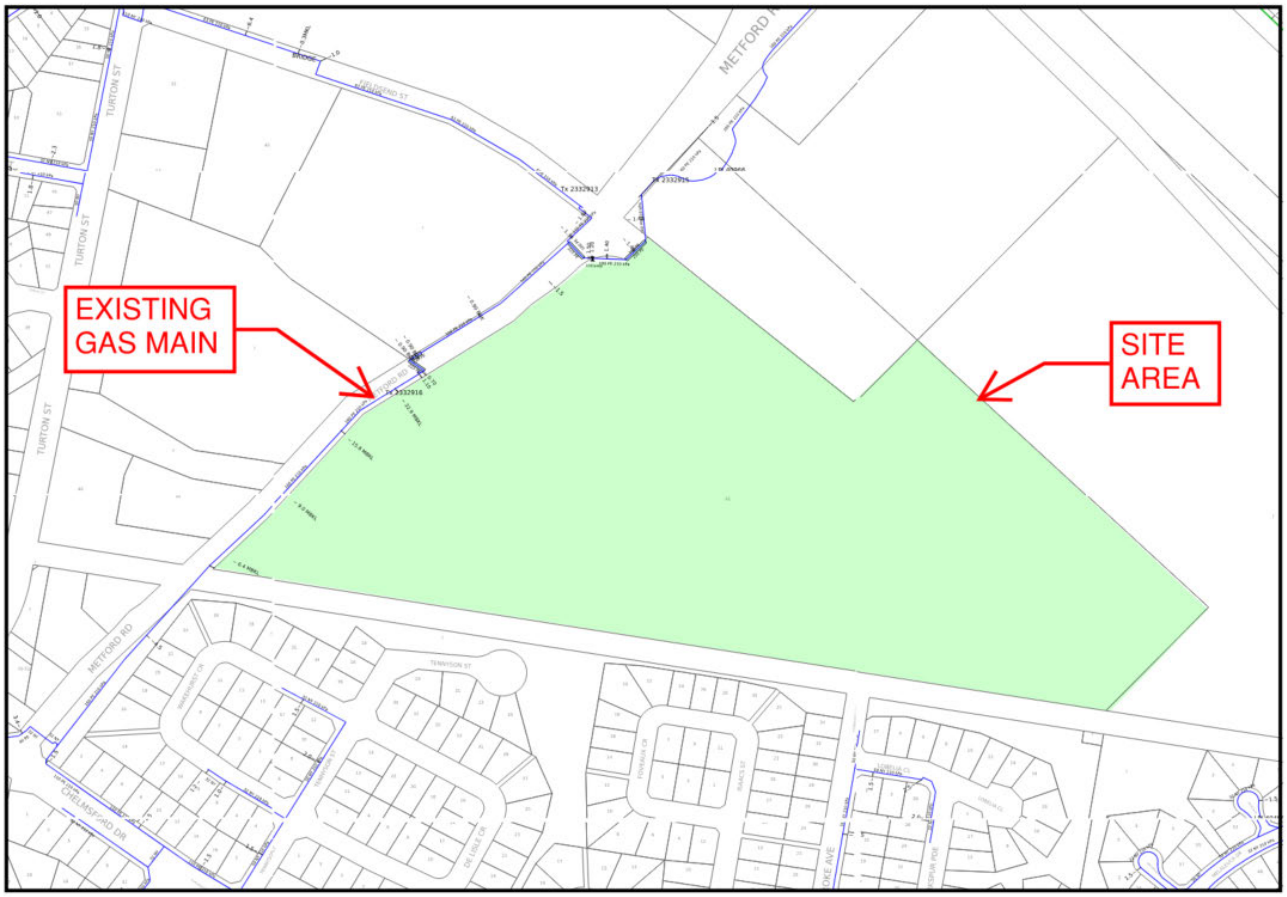


Figure 4 – Existing Jemena Gas Mains Overview

3 HYDRAULIC INFRASTRUCTURE CAPACITY AND PROPOSED CONNECTIONS

3.1 SEWER DRAINAGE

3.1.1 SEWER CONNECTION

There is an existing Hunter Water sewer connection currently serving the Main Maitland Hospital building available to service the Maitland Mental Health Rehabilitation Project. The development will drain to the existing sewer connection via a new private sewer pumpstation (Refer to Figure 6). It should be noted that Hunter Water requires all private sewerage pumping systems discharging to the Hunter Water sewerage system to be approved prior to the commencement of works.

Refer to Figure 5 for the existing connection to authority sewer main.

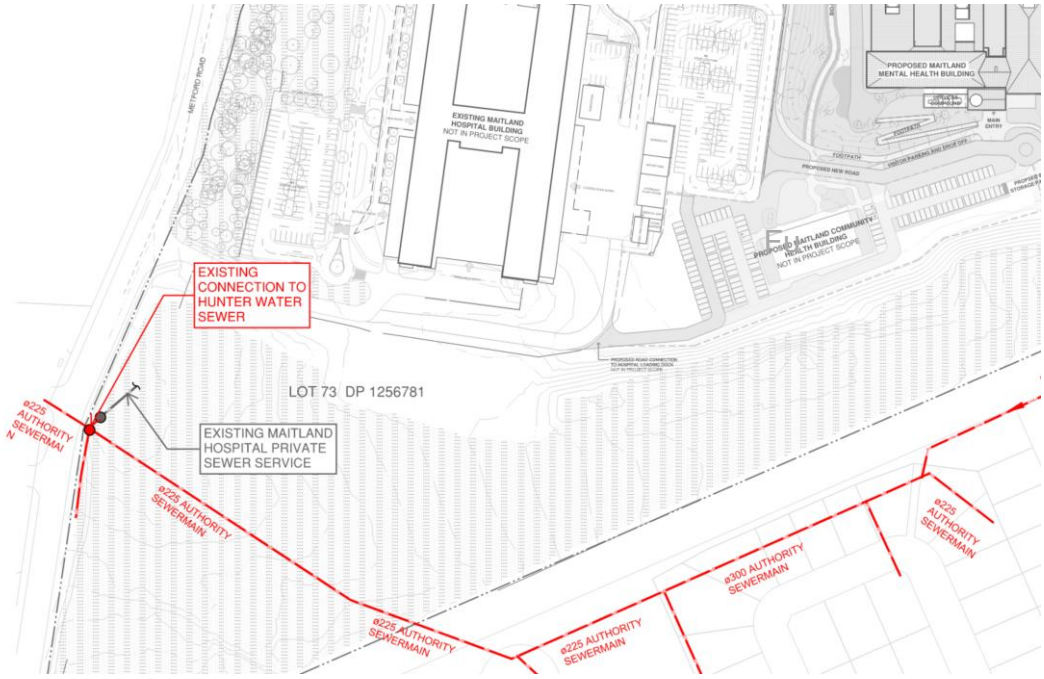


Figure 5 – Existing Connection to Authority Sewer Main

Refer to Figure 6 for the proposed sewer connection to the site's existing private sewer.

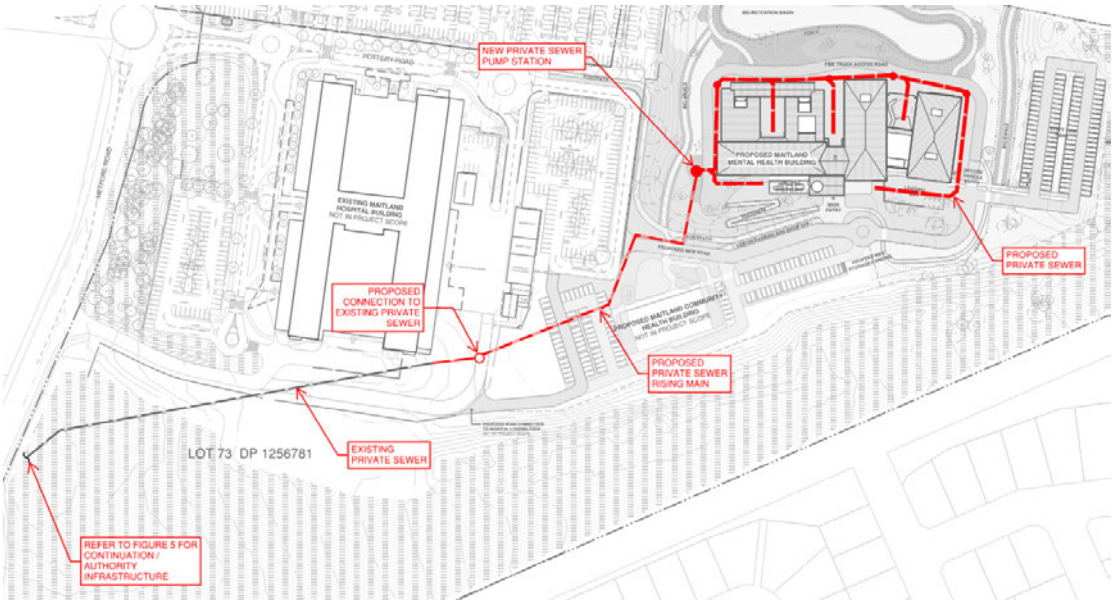


Figure 6 – Proposed Connection to Private Sewer

3.1.2 SEWER DRAINAGE CAPACITY

The sewer rising main is proposed to connect to an existing on-site sewer provision which will have adequate capacity to accept pumpout from the sewer pumpstation.

A Section 50 Application has been submitted and we are awaiting a response from Hunter Water.

3.2 COLD WATER SERVICE

3.2.1 WATER CONNECTION

The cold-water supply for the Maitland Mental Health Rehabilitation Project site will be connected to the existing 150mm New Maitland Hospital service that is already supplied to the site (Refer to Figure 8). A new connection to the Hunter Water watermain is not required.

Refer to Figure 7 for existing authority water main connection location.

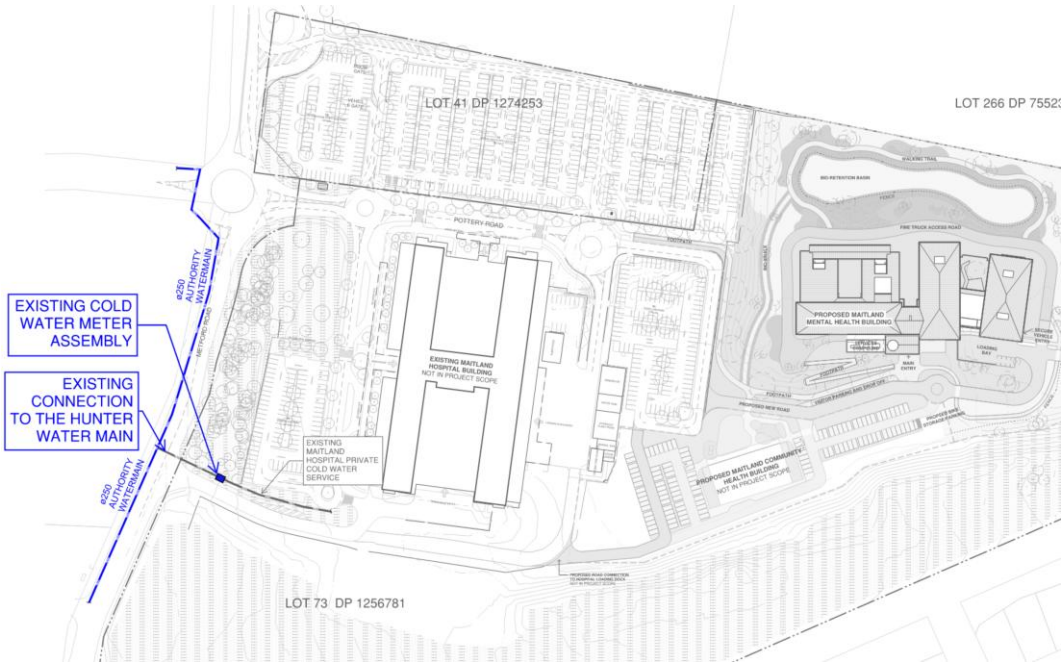


Figure 7 – Existing Connection to Authority Water Main

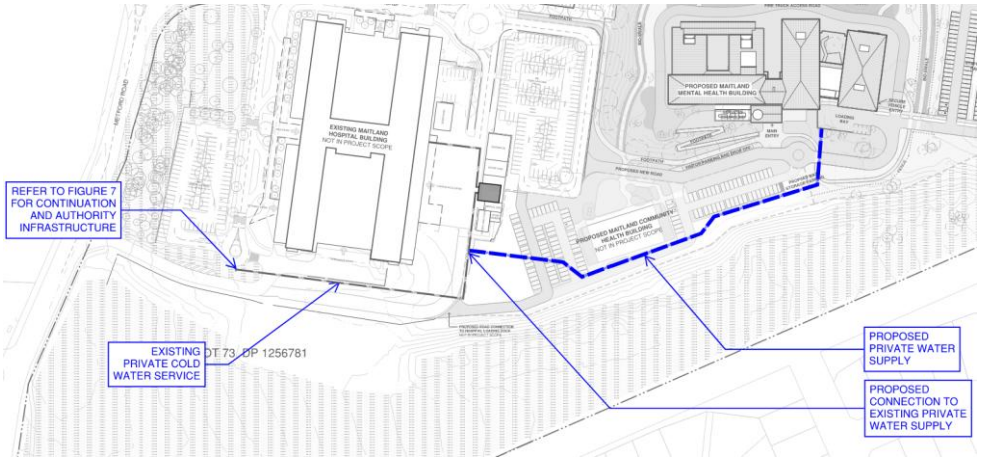


Figure 8 – Proposed Connection to Site's Existing Private Water Supply

3.2.2 WATER SUPPLY CAPACITY

The New Maitland Hospital Building design included for provision of future development on the site through oversizing of the incoming mains connection and cold-water supply. The New Maitland Hospital cold water demand is estimated to be approximately 17 L/s (probably simultaneous flow). The incoming main is a 160mm HDPE pipe and should be capable of approximately 30 L/s based on available mains pressure. Therefore, the existing Hunter Water supply would be able to support the Maitland Mental Health Rehabilitation Project site.

A Section 50 Application has been submitted and we are awaiting a response from Hunter Water.

3.3 GAS SERVICE

3.3.1.1 Gas Connection

There is an existing natural gas supply and meter assembly servicing the New Maitland Hospital Site, however with the move towards electrification, the Maitland Mental Health Rehabilitation Project does not require a gas supply.

Refer to Figure 7 below for existing gas main connection for information.

Figure 7 – Existing Gas Connection

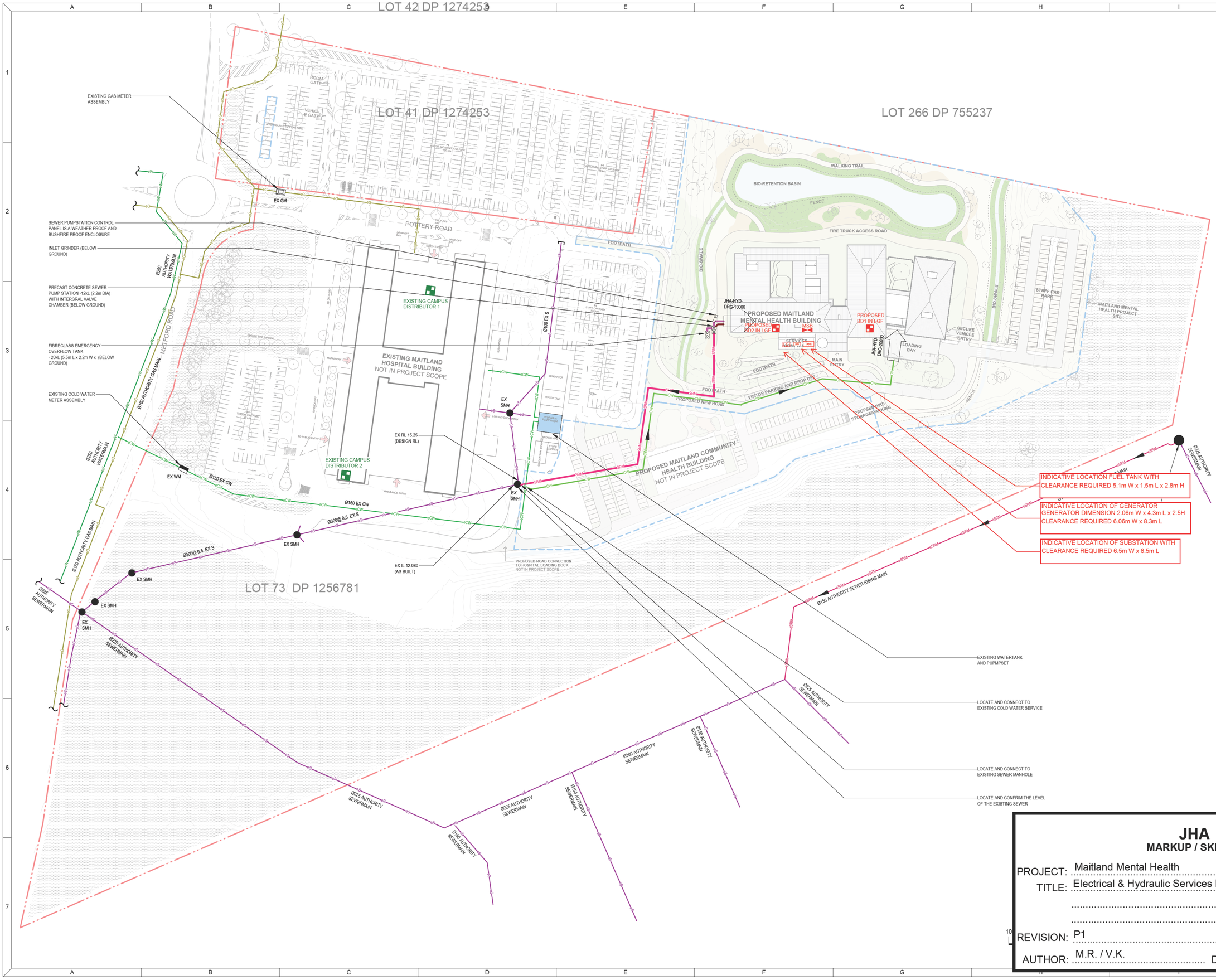
4 CONCLUSION

There is existing authority infrastructure surrounding the site to adequately service the Maitland Mental Health Rehabilitation Project. Based on formal meetings with Hunter Water, there should be sufficient capacity in the Hunter Water sewer and water mains to cater for the proposed loads expected from the development. A Section 50 Application has been submitted and we are awaiting a response from Hunter Water for a formal confirmation of the adequacy of the surrounding authority infrastructure. Refer to Appendix A for a summary of mitigation measures.

5 APPENDIX A - MITIGATION MEASURES

Project Stage Design (D) Construction (C) Operation (O)	Mitigation Measures	Relevant Section of Report
D	A Building Plan Assessment will need to be submitted to Hunter Water during the Design Development phase to confirm the proposed building does not damage / limit access to Hunter Water's assets.	Section 2
D	A Section 50 Application has been submitted and we are awaiting a response from Hunter Water for a formal confirmation of the adequacy of the surrounding authority infrastructure.	Section 3

6 APPENDIX B – SERVICES INFRASTRUCTURE PLAN



All dimensions to be verified on site/s prior to commencement of on-site work and/ or off-site prefabrication. Figured dimension to be taken in preference to scaled dimensions. This drawing is copyright and remains the property of JHA Consulting Engineers. Reproduction in whole or part of these drawings without written consent constitutes an infringement of copyright.

REVISIONS / AMENDMENTS

Rev	Date	Description	Verified
1	10.09.24	100% SCHEMATIC DESIGN	V.K.

CLIENT

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PROJECT

Maitland Mental Health Rehabilitation Project

Metford Rd, Metford NSW 2323

JHA
MARKUP / SKETCH

PROJECT: Maitland Mental Health

TITLE: Electrical & Hydraulic Services Infrastructure Plan

REVISION: P1

AUTHOR: M.R. / V.K. DATE: 25/11/2024