NORTHROP

HYDRAULIC SERVICES INFRASTRUCTURE MANAGEMENT PLAN

St. Luke's Grammar School

210 Headland Rd, Dee Why NSW 2099

PREPARED FOR
Midson Group
C/- Toby James
PO Box 283
Hunters Hill NSW 2110
Tel: 02 9868 6923

Ref: SY191248-IMP
Rev: 1
Date: 02.03.2020

Hydraulic Services Infrastructure Management Plan

Revision Schedule

Date	Revision	Issue	Prepared By	Approved By
02.03.2020	1	Issue for Development Application	S.Murray	

Northrop Consulting Engineers Pty Ltd

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Table of Contents

1. Introduction

1.1 General

This Hydraulic Services Infrastructure Management Plan has been prepared by Northrop Consulting Engineers Pty Ltd (Northrop), the hydraulic engineering consultants for the design and documentation of the works to be completed for the St. Luke's Grammar School development, located at 210 Headland Rd, Dee Why NSW 2099.

This Hydraulic Services Infrastructure Management Plan is intended to clarify the project's scope of works and to provide a clear baseline for the engineering designs to be delivered by Northrop during the detailed design phase. It is recommended that this document is read carefully so that there is a clear understanding of the scope of works.

This Hydraulic Services Infrastructure Management Plan is a working document. Northrop welcomes comments and/or queries regarding the content of this document from all project stakeholders so that all specific project requirements are captured.

1.2 Referenced Documents

This Hydraulic Services Infrastructure Management Plan has been prepared with reference to the following documentation:

- Architectural Plans provided by TZG Architects, dated 18.10.2019;
- DBYD response from Sydney Water;
- DBYD response to Jemena.

2. Existing Services

Northrop has performed non-invasive investigations in regards to the existing site conditions and additional loading from the proposed building onto the existing utility infrastructure available for connection to the site.

Our assessment has been based on information provided by the relevant water, sewer, and natural gas utility authorities.

2.1 Sydney Water Sewer Infrastructure

Advice obtained from Sydney Water indicates that there are several existing sewer mains to the north of the site, which includes:

- 1,219mm x 1,701mm concrete encased unlined rock sewer main traversing the approximate centre of the in a site north-south orientation;
- DN 225 Salt Glazed Ware (SGW) sewer main located within Pittwater Road;
- DN 225 Salt Glazed Ware (SGW) sewer main located within Headland Road;

Northrop has conducted non-invasive investigations in regards to the sewer infrastructure available for connection to the site. This investigation indicates that a DN225 Sydney Water sewer service will be available for connection at the Pittwater Road and Headland Road frontages. Refer to Appendix A for Sydney Water Infrastructure Plans.

All works will be subject to Sydney Water assessment and approval through a Section 73 application once the Development Application has been approved and DA conditions of consent are made available.

2.2 Sydney Water Potable Water Infrastructure

Advice obtained from Sydney Water indicates that there are several existing water mains to the north of the site, which includes:

- DN 450 Cast Iron Cement Lined water main located within Pittwater Road;
- DN 250 Cast Iron Cement Lined water main located within Pittwater Road;
- DN 100 Cast Iron Cement Lined water main located within Pittwater Road;
- DN 150 Cast Iron Cement Lined water main located within Headland Road.

Northrop has conducted non-invasive investigations in regards to the water infrastructure available for connection to the site. This investigation indicates that a DN250 Sydney Water potable water service will be available for connection at the Pittwater Road frontage, and DN150 Sydney Water potable water service will be available for connection at the Headland Road frontage. Refer to Appendix A for Sydney Water Infrastructure Plans.

All works will be subject to Sydney Water assessment and approval through a Section 73 application once the Development Application has been approved and DA conditions of consent are made available.

2.3 Jemena Natural Gas Infrastructure

The development has access to the following Jemena natural gas mains:

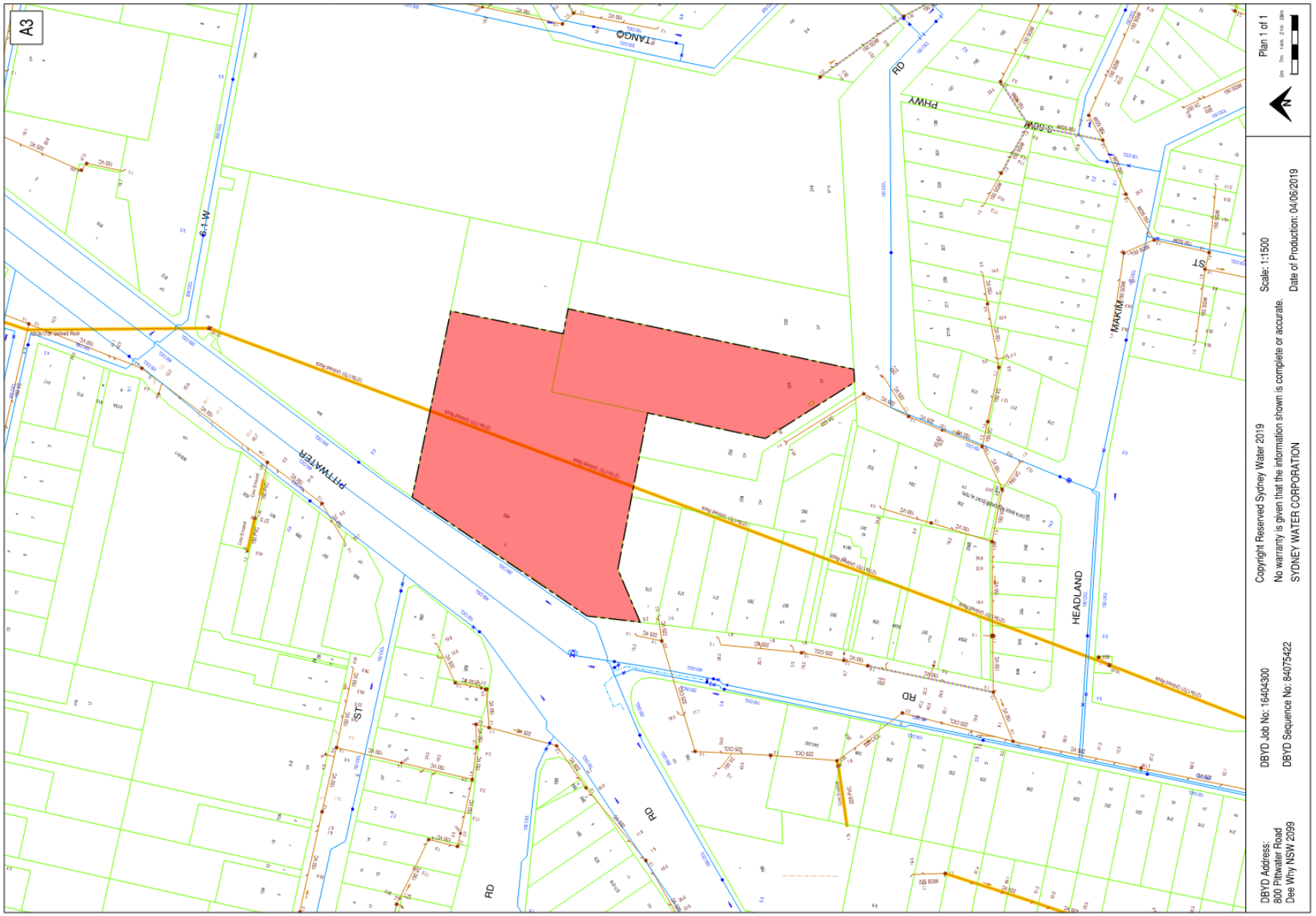
- DN 160 pe 210kPa gas main located within Pittwater Road;
- DN 50 Nylon 210kPa gas main located within Pittwater Road at the northern property boundary;

- DN 32 Nylon 210kPa gas main located within Pittwater Road at the southern property boundary;
- DN 40 Nylon 210kPa gas main located within Headland Road.

Northrop has conducted non-invasive investigations in regards to the natural gas infrastructure available for connection to the site. This investigation indicates that a DN 50 Jemena natural gas service will be available for connection at the Pittwater Road frontage, and a DN 40 Jemena natural gas service will be available for connection at the Headland Road frontage

All works will be subject to Jemena assessment and approval through a connection application once the Development Application has been approved and DA conditions of consent are made available.

3. Appendix A – Sydney Water Infrastructure

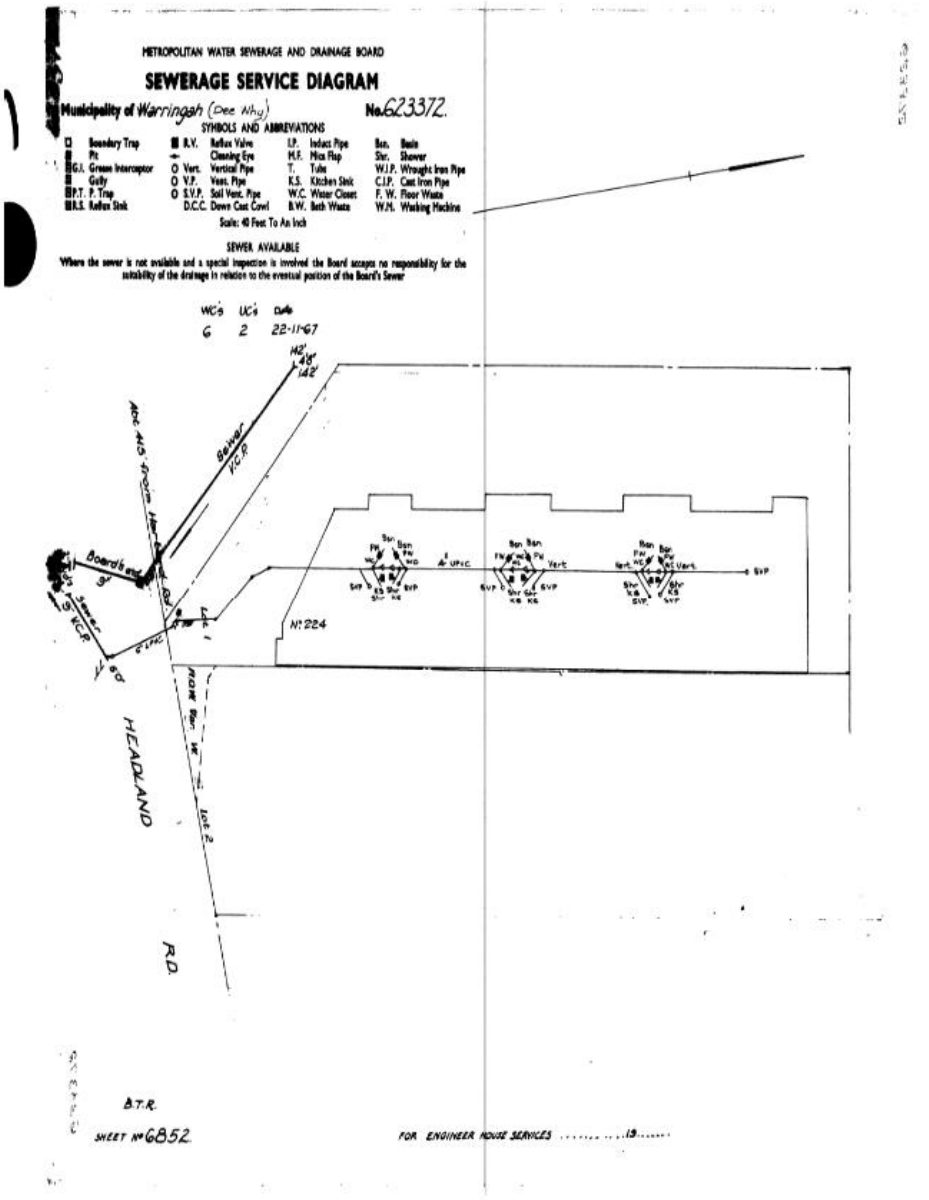

A3
PITTWATER
RD
HEADLAND
Plan 1 of 1
Scale: 1:1500
Date of Production: 04/06/2019
Copyright Reserved Sydney Water 2019
No warranty is given that the information shown is complete or accurate.
SYDNEY WATER CORPORATION
DBYD Job No: 16404300
DBYD Sequence No: 84075422
DBYD Address:
800 Pittwater Road
Dee Why NSW 2099

4. Appendix B – Sydney Water Sewer Service Diagram

Sydney WATER

Sewer Service Diagram

Application Number: 668659



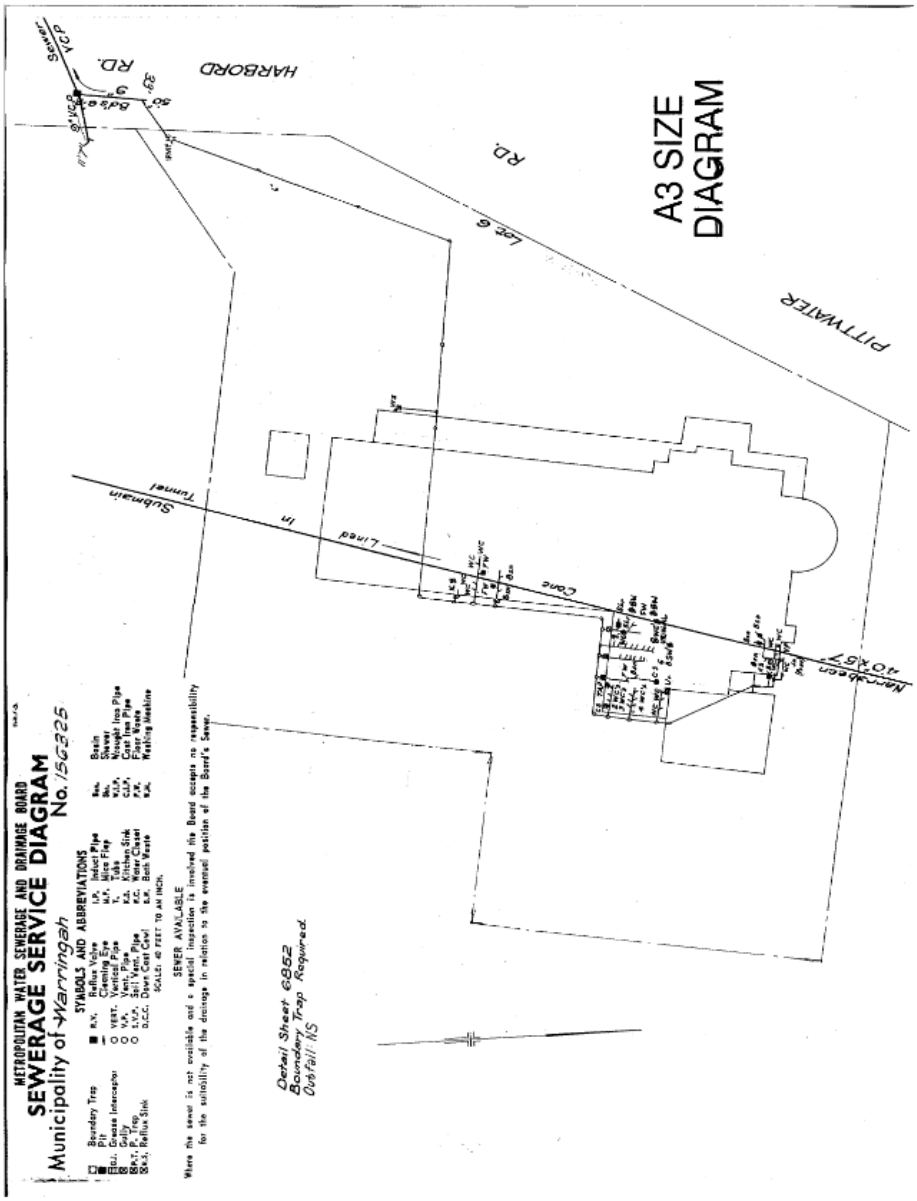
Document generated at 06-06-2019 02:01:05 PM

Disclaimer
The information in this diagram shows the private wastewater pipes on this property. It may not be accurate or to scale and may not show our pipes, structures or all property boundaries. If you'd like to see these, please buy a **Service location print**.

Page 1

Sewer Service Diagram

Application Number: 668658



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Disclaimer
The information in this diagram shows the private wastewater pipes on this property. It may not be accurate or to scale and may not show our pipes, structures or all property boundaries. If you'd like to see these, please buy a **Service location print**.

Page 1

5. Appendix C - Water Main Pressure and Flow Test Results

Statement of Available Pressure and Flow

Sydney WATER

Steve Astorga
345 George Street
Sydney, 2000

Attention: Steve Astorga Date: 17/07/2019

Pressure & Flow Application Number: 668642
Your Pressure Inquiry Dated: 2019-06-06
Property Address: 800 Pittwater Road, Dee Why 2099

The expected maximum and minimum pressures available in the water main given below relate to modelled existing demand conditions, either with or without extra flows for emergency fire fighting, and are not to be construed as availability for normal domestic supply for any proposed development.

ASSUMED CONNECTION DETAILS

Street Name: Pittwater Road	Side of Street: East
Distance & Direction from Nearest Cross Street	20 metres South from Moorilla Street
Approximate Ground Level (AHD):	39 metres
Nominal Size of Water Main (DN):	250 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	71 metre head
Minimum Pressure	47 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	47
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5 10 15 20 26 30 40	56 56 55 55 55 54 54
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	5 10 15 20 26 30 40	47 46 46 46 45 45 44
Maximum Permissible Flow	50	43

(Please refer to reverse side for Notes)

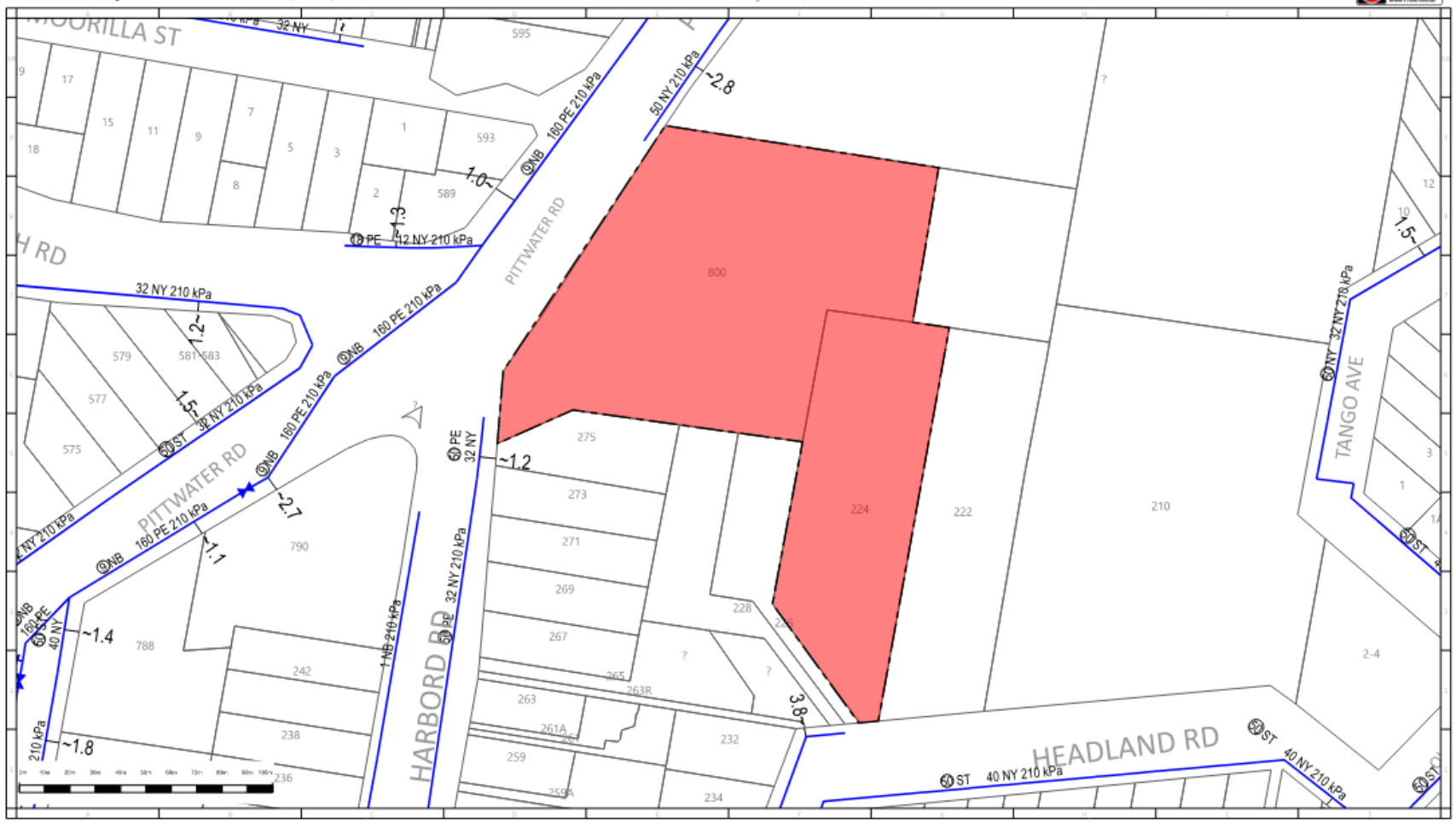
For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au

Sydney Water Corporation ABN 49 776 225 038
1 Smith St Parramatta 2150 | PO Box 399 Parramatta 2124 | DX 14 Sydney | T 13 20 92 | www.sydneywater.com.au
Delivering essential and sustainable water services for the benefit of the community

6. Appendix D - Jemena Infrastructure

DBYD Authority: Jemena Gas Networks (NSW) **DBYD Location:** 800 Pittwater Road Dee Why NSW, 2099



Jemena
ABN 87 003 004 322

Main In Service Proposed
Unknown Pressure
Distribution - 2 kPa
Distribution - 7 kPa
Distribution - 30 kPa
Distribution - 100 kPa
Distribution - 210 kPa
Distribution - 300 kPa
Distribution - 400 kPa
Critical Main - Treat as High Pressure Main
High Pressure Main & Pipeline In Service Proposed
Secondary - 1050 kPa
Secondary Service
Primary - 3500 kPa
JGN Trunk - 7000 kPa
Transmission
Fittings, Valves & Regulators
Siphon
Valve
Distance in metres of Main from Boundary Line ~1.5
MBK = Metres Back of Kerb
MFL = Metres from Fence Line
Regulator Set
Regulator Station
Automatic Line Break Valve

Issue Date: 04/06/2019
DBYD Seq No: 84075421
DBYD Job No: 16404300
Scale: 1:2000

WARNING: This is a representation of Jemena Gas Networks underground assets only and may not indicate all assets in the area. It must not be used for the purpose of exact asset location in order to undertake any type of excavation. This plan is diagramatic only, and distances scaled from this plan may not be accurate. Please read all conditions and information on the attached information sheet. This extract is subject to those conditions. The information contained on this plan is only valid for 28 days from the date of issue.