

Attachment A14

**Services Report - 133-145 Castlereagh
Street, Sydney**

Stockland

Stockland Piccadilly Complex

Preliminary Utility Services Infrastructure Assessment

249470-59

Issue 3 | 10 August 2020

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 249470-59

Arup
Arup Pty Ltd ABN 18 000 966 165



Arup
Level 10 201 Kent Street
PO Box 76 Millers Point
Sydney 2000
Australia
www.arup.com

ARUP

Document Verification

ARUP

Job title		Stockland Piccadilly Complex		Job number	
				249470-59	
Document title		Preliminary Utility Services Infrastructure Assessment		File reference	
Document ref		249470-59			
Revision	Date	Filename	Preliminary Infrastructure Services Report.docx		
Issue	03 July 2020	Description	Planning Proposal draft		
			Prepared by	Checked by	Approved by
		Name	ZW/TR	GK	CD
		Signature			
Issue 2	25 July 2020	Filename	249470-59_Preliminary Infrastructure Services Report_Issue 2.docx		
		Description	Planning Proposal		
			Prepared by	Checked by	Approved by
		Name	Zoe Wu Thiru Ragupathy	Greg Kalisz	Glenn Wheatley
		Signature			
Issue 3	10 Aug 2020	Filename	249470-59_Preliminary Infrastructure Services Report_Issue 3.docx		
		Description			
			Prepared by	Checked by	Approved by
		Name	Zoe Wu Thiru Ragupathy	Greg Kalisz	Glenn Wheatley
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			

Issue Document Verification with Document
☒

Contents

	Page
1 Introduction	1
1.1 Subject site	2
1.2 Concept Reference Design	2
1.3 Purpose of report	3
2 Utility services infrastructure	5
2.1 Electricity supply	5
2.2 Communications	6
2.3 Water, sewer and stormwater services	8
2.4 Gas supply	10
3 Protection and relocation strategies for infrastructure assets	12

1 Introduction

This Preliminary Utility Services Infrastructure assessment report has been prepared by Arup on behalf of Stockland. It accompanies a planning proposal seeking to initiate the preparation of a Local Environmental Plan amendment for the land known as ‘Stockland Piccadilly Complex’ located at 133-145 Castlereagh Street, Sydney (the site) legally described as Lot 10 in DP828419, and shown in Figure 1.

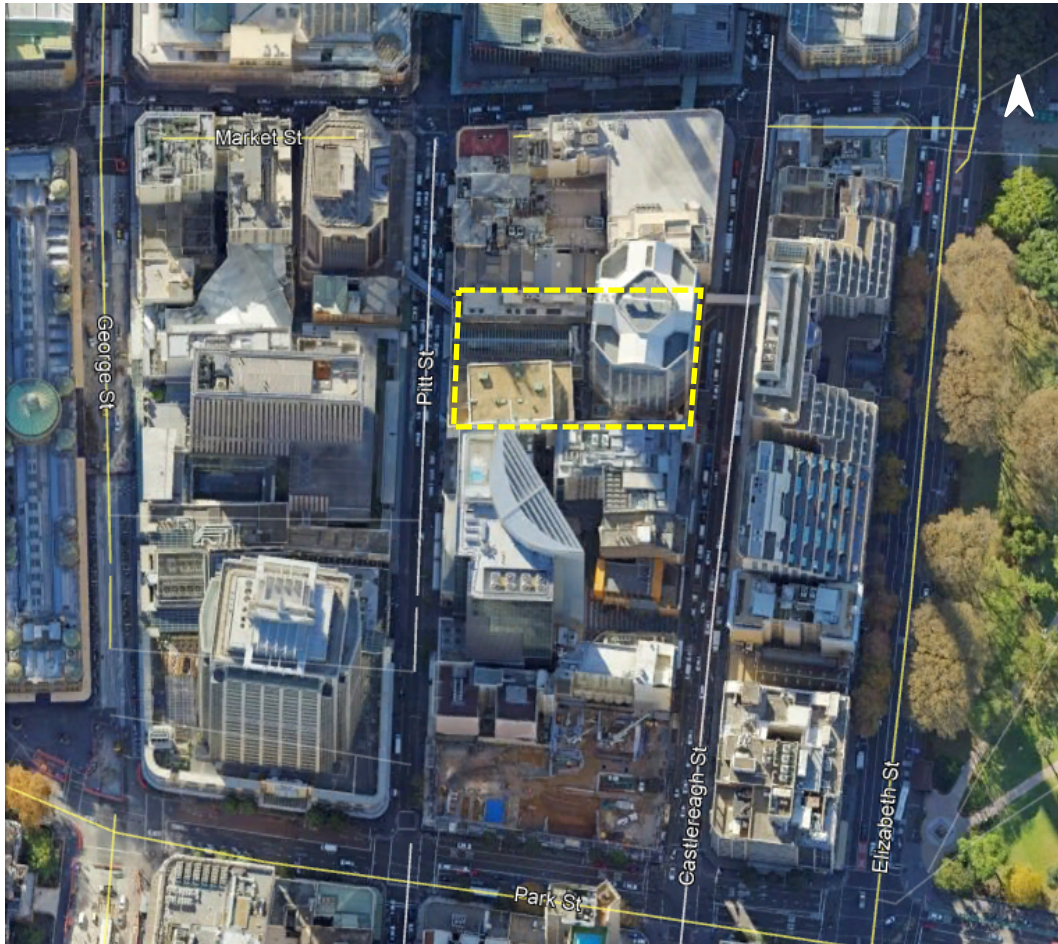


Figure 1: 133-145 Castlereagh Street, Sydney – Stockland Piccadilly Complex

The planning proposal seeks to amend the floor space ratio development standard applicable to the site, under the *Sydney Local Environmental Plan 2012* (the LEP), in accordance with Section 3.33 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

In accordance with Clause 7.20 of the LEP, this planning proposal also seeks amendments to the *Sydney Development Control Plan 2012* (the DCP) to establish site specific provisions to guide the future development, including establishing a building envelope for the site as well as other key assessment criteria.

The intended outcome of the proposed amendments to the LEP and DCP is to facilitate the redevelopment of the site for a mixed-use commercial development together with basement car parking and associated facilities. Such a proposal aligns with the draft Central Sydney Planning Strategy to facilitate additional

commercial floor space capacity in Central Sydney while also delivering improved public domain outcomes. Such outcomes will include a northerly aligned direct through-site link between Pitt and Castlereagh Street and enhanced pedestrian amenity and activation at the ground plane.

1.1 Subject site

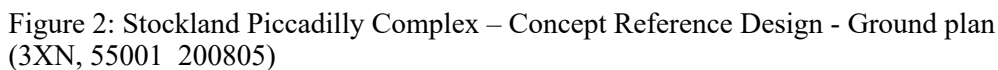
The site currently comprises three buildings known as the ‘Piccadilly Complex’ completed in 1991 which has been the subject of progressive improvements to upgrade selected elements within the building. The buildings currently occupying the site are detailed in Table 1.

Table 1: Description of existing buildings and improvements

Building	Description
Piccadilly Court	Comprises a 14-storey office building completed in 1975 and first refurbished in 1991 with frontage to Pitt Street.
Piccadilly Shopping Centre	Comprises a 2-storey retail building and the Wesley Mission facilities including the Wesley Church, Lyceum, Wesley Theatre and supporting office space predominately located at basement level. The Wesley Centre facilities comprise the following patron capacity: <ul style="list-style-type: none"> • Theatre – 950 • Lyceum – 277 • Chapel – 534 A footbridge over Pitt Street connects the building to 55 Market Street to the west.
Piccadilly Tower	Comprises a 31-storey commercial building comprising office floor space and end of trip facilities and four basement levels of car parking accessed from Castlereagh Street. The building includes two lobby spaces, the main Castlereagh Street entrance and a smaller northern entrance to the through site link. A footbridge over Castlereagh Street connects the building to the Sheraton On the Park located to the east of the site.

1.2 Concept Reference Design

To demonstrate that the proposed building envelope is capable of accommodating a viable scheme, a Concept Reference Design accompanies the planning proposal within the Urban Design Study. The Concept Reference Design is indicative only and the final detailed design will be the subject of a competitive design process and detailed development application (DA) which will ultimately result in further refinement. The ground floor plan is shown in Figure 2.



- Basement car parking and mechanical plant (B05-B03);
- Wesley Mission facilities including the Church, Theatre and Lyceum, and supporting offices (B2-B1);
- End of trip, back of house area and plant (B1);
- A northerly aligned east-west pedestrian through-site link connecting Pitt St and Castlereagh St (L00);
- Podium levels (L00-L09) comprising lobby (L00), retail (L00-L01), commercial (L02-L09) and plant (L09); and
- Tower levels (L10-L34) comprising commercial and plant (L19, L35-L36).

The purpose of this Preliminary Utility Services Infrastructure report is to provide a review of relevant aspects of the proposed planning amendments and Concept Reference Design, to evaluate their likely suitability, and requirements for future assessment and detailed design. As the planning submission does not seek consent for the specific development, a detailed quantitative assessment of the Concept Reference Design is not considered to be warranted at this stage.

Accordingly, this report provides advice regarding:

- Availability, capacity and location of utility services infrastructure in the vicinity;
- Protection and relocation strategies for infrastructure assets of each utility stakeholders

2 Utility services infrastructure

A 'dial before you dig' (DBYD) enquiry was sought (23/06/2020) and the information collated into this report.

The available utility information indicates the existence of the following services serving or traversing the site:

- **Electricity Supply** – Ausgrid:
 - Existing HV and LV services
- **Communications Services** – Optus, NBN and Fibre Networks
 - Fibre, NBN
- **Water Services** – Sydney Water
 - Sewer
 - Potable Water
 - Stormwater and On-Site Detention
- **Gas Supply** – Jemena
 - Natural gas supply

2.1 Electricity supply

Estimated maximum demand will be in the order of 10 kVA. This will require three substations, arranged as 3No. 'triplex' chamber substations to Ausgrid standards. To accommodate the proposed load, three new triplex chamber substations will be required within the site boundary. There are existing services within the site, namely 11 kV and 400 V cables including a substation. It is noted that the existing substation does not serve any other developments and therefore can be decommissioned, if required, without impacting other sites. At the next stage a detailed assessment and application to Ausgrid will be undertaken.

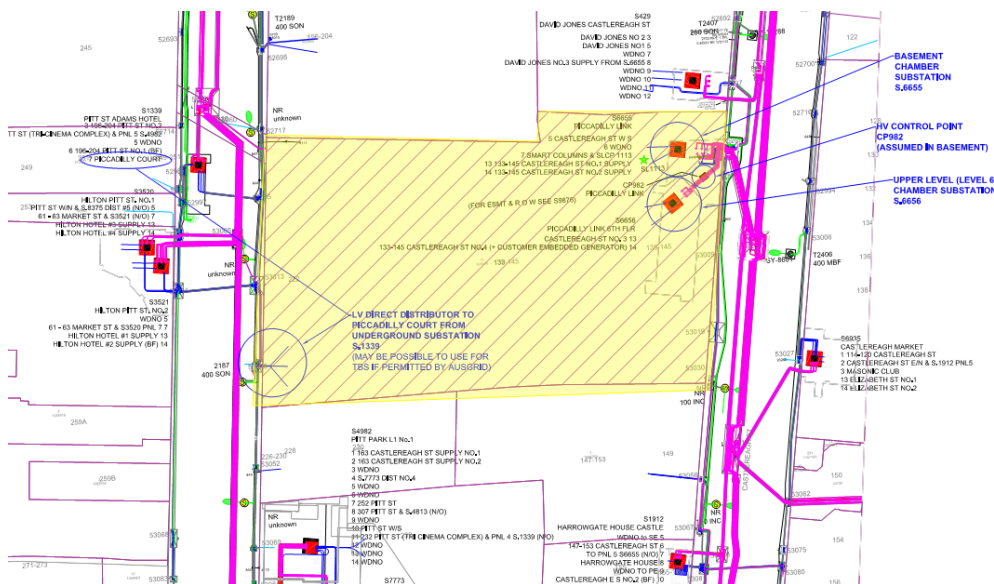


Figure 3: Existing Ausgrid substations and HV cables

2.2 Communications

2.2.1 Existing services

The following communications services networks exist within or in proximity of the boundary of the development site based on our interpretation of the 'Dial Before You Dig' (DBYD) information. The utility communications cabling is generally installed in underground conduits on street verges with regular access points through manholes or pits.

Services identified include:

- **NBN** - NBN services are currently within the area, as per the NBN Co roll out maps.
- **Optus** - Optus services exist within Market Street and also enter the rear lane adjacent to the proposed development.

Further discussions are required with the service providers to confirm existing arrangements and can be undertaken at the design stage.



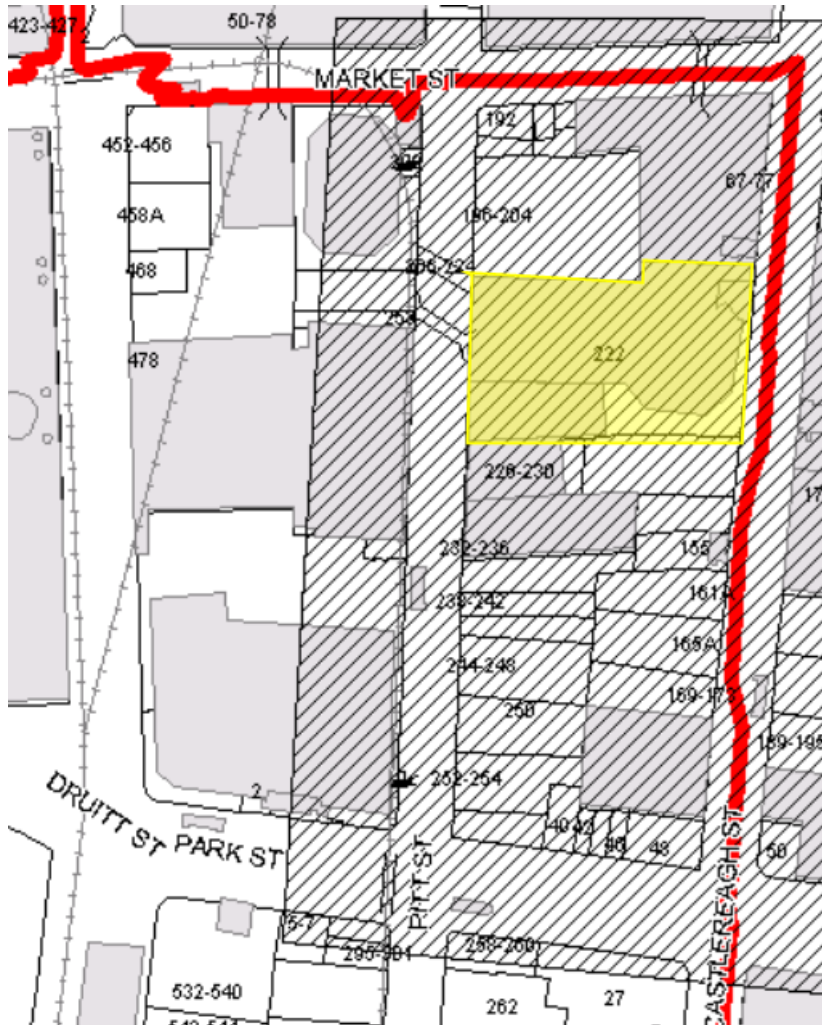


Figure 5: Existing Optical Fibre Routes

2.2.2 Required alterations

Depending on the proposed tenant communications services requirements, augmentation of the pit and duct systems will be required to facilitate a connection to the new development.

The proposed development will require lead in cable routes for multiple service providers. New lead in conduits are to reticulate from the property boundary to the new Building Distributor Rooms proposed for the Basement.

Conduit provisions will be provided to allow for servicing from multiple service providers. This will include as a minimum:

- **NBN** – Dedicated 100 mm conduit in accordance with NBN design requirements.
- **Other Providers** – 4 x 100 mm conduits will be provided to a pit location at the site boundary to facilitate connection to other service providers as required. This will include providing flexibility for connection of fibre services through providers who don't utilise NBN infrastructure.

2.3 Water, sewer and stormwater services

2.3.1 Existing service

The existing services are described as follows and are owned by Sydney Water.

Potable water supplies

All of the existing services available are described as follows:

- Castlereagh Street (East) – 250SCL & 250CICL water mains
- Pitt Street (West) – 2 x 250CICL water mains

Sewer Drainage

All of the existing services available are described as follows:

- Castlereagh Street – 225VC Sewer main running south to north
- Pitt Street – 225VC Sewer main running south to north

Stormwater Drainage

All of the existing services available are described as follows:

- Castlereagh Street – Existing stormwater shown on DBYD plans as 710x1070 Brick
- Pitt Street – Existing stormwater shown on DBYD plans as 910x1370 Brick

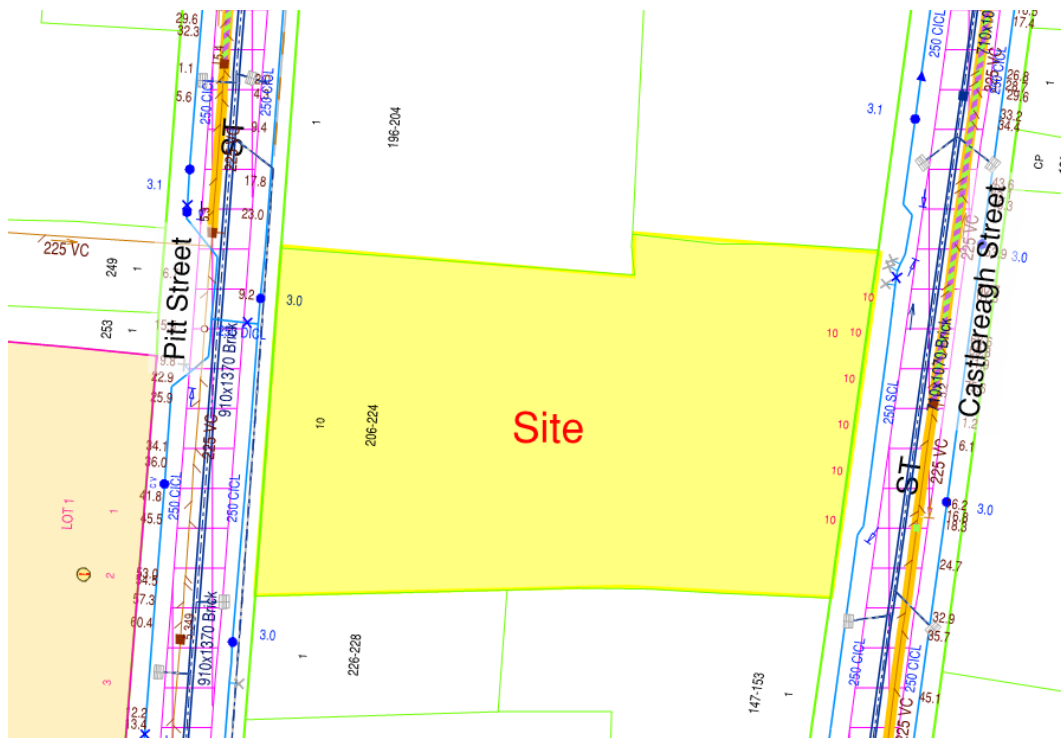


Figure 6: Existing Sydney Water Services shown around the site

2.3.2 Required alterations

Potable water supplies

At present we anticipate an increase in water demand above the existing site supply, so therefore a new connection will be provided. Cold water to the building can be provided from Castlereagh Street or Pitt Street. These connection points have been described below with the preferred strategy to be taken forward for formal Sydney Water application by Water Services Coordinator (WSC) at a later stage.

Option 1 – Connection from Castlereagh Street:

- A new town main connection/meter from Castlereagh Street will be established and will be subject to discussion with Sydney Water and coordination with other utilities. The supply requirements and connection point location(s) will need to be confirmed with Sydney Water as part of a future formal Section 73 application by Water Services Coordinator (WSC).

Option 2 – Connection from Pitt Street:

- Consideration will be given to provide a new cold-water supply to the development from Pitt Street and will be subject to discussion with Sydney Water and coordination with other utilities. The supply requirements and connection point location(s) will need to be confirmed with Sydney Water as part of a future formal Section 73 application by Water Services Coordinator (WSC).

The need for amplification of the city water network is considered highly unlikely.

Sewer Service

At present, we anticipate increases in wastewater demand over and above the existing site discharge. Option 1 as below (two connections) is recommended to minimise the gravity pipe run and therefore the depth of sewer connection. The drainage discharged requirements and connection point location(s) will need to be confirmed with Sydney Water as part of a future formal Section 73 application by Water Services Coordinator (WSC).

At this stage it is envisaged that sewerage from the development can discharge as per following options:

Options 1 – Pitt Street & Castlereagh Street (Two connections)

- Consideration has been given to provide two separated sewer mains connections in order to minimise the gravity pipe run and therefore the depth of sewer connection. Connections including the existing 225 mm VC Sewer Main in Castlereagh Street and 225 mm VC Sewer Main in Castlereagh Street, new sewer junctions /pits will be required to allow these connections.
- This is recommended to minimise the gravity pipe run and therefore the depth of sewer connection subject to Sydney Water approval.

Option 2 – Castlereagh Street (Single connection)

- Wastewater will discharge to the existing 225 mm VC Sewer Main in Castlereagh Street and new sewer junction /pit will be required to allow this connection

Options 3 – Pitt Street (Single connection)

- Wastewater will discharge to the existing 225 mm VC Sewer Main in Pitt Street and new sewer junction /pit will be required to allow this connection

The need for amplification of the city wastewater network is considered highly unlikely based on the preliminary review and will be subject to Sydney Water review and approval.

Stormwater Drainage

At this stage it is envisaged that rainwater from the project will discharge to the surrounding infrastructure located in Castlereagh Street and Pitt Street. Information regarding the project's stormwater design will be contained within the Stormwater Management Plan as part of the future detailed development application (DA).

Sydney Water Stormwater division has preliminary advised that OSD is required for the development, as listed below, and based on the 4,800 m² site area. The need for amplification of the council network is considered highly unlikely and will be confirmed via formal application to Sydney Water.

The following figures have been provided:

- On Site Detention 75 cubic meter
- Permissible Site Discharge 177 L/s

It should be noted that the Sydney Water requirements for OSD relates to the limited capacity of the existing downstream stormwater infrastructure. It does not relate to an increase in stormwater runoff associated with the proposed development.

2.4 Gas supply**2.4.1 Existing service**

All of the existing services available are described as follows.

Refer to the Figure below for details:

- Castlereagh Street – Secondary high pressure main 100 mm ST @ 1050 kpa
- Castlereagh Street – Distribution low pressure main 75 mm NY @ 7 kpa
- Castlereagh Street – Distribution low pressure main 110 mm NY @ 7 kpa
- Pitt Street – Secondary high pressure main 100 mm ST @ 1050 kpa
- Pitt Street – 2 x Distribution low pressure main 110 mm NY @ 7 kpa

Detailed 'Dial Before You Dig' drawings have been received on 23 June 2020, identifying the existing gas services in and adjacent to the development site.

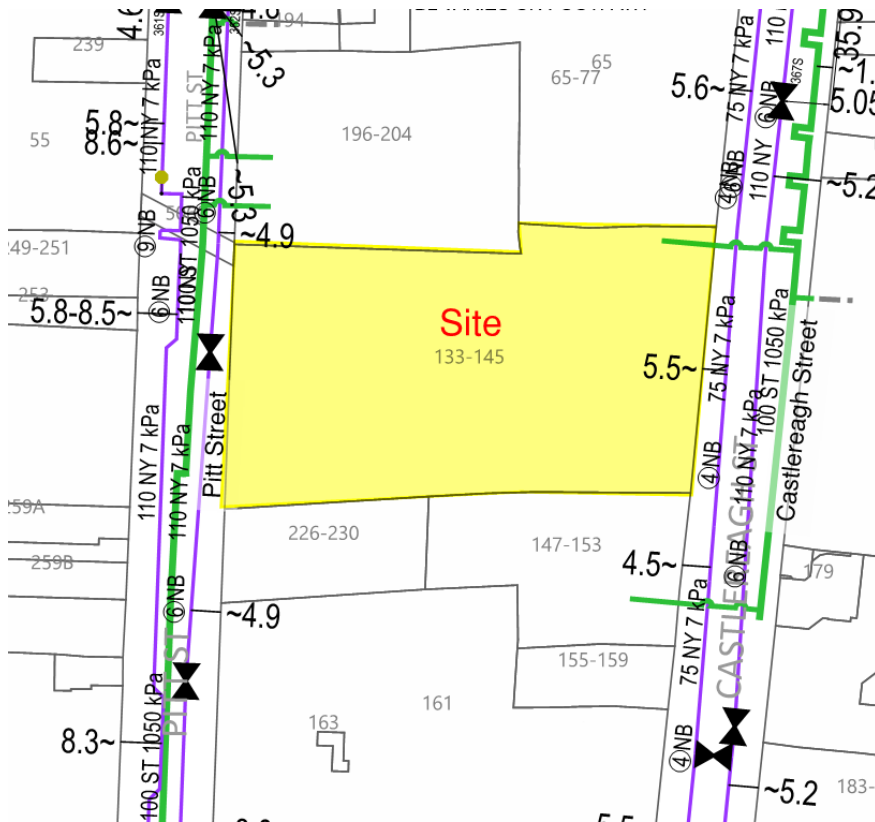


Figure 7: Existing Gas Services shown around the site

We understand that there is a target to have a primarily electrical system to achieve net zero carbon, however the option of gas connection has been described below for consideration at a later stage where required. Based on our initial review the site appears to be provided with adequate natural gas infrastructure.

To determine any required alterations, demand, metering and pressures will need to be confirmed with Jemena via formal application at a later stage.

2.4.2 Required alterations

It is anticipated that the development will be required to establish one common connection with one regulator room from the existing Jemena network located in Castlereagh Street or Pitt Street. The connection of existing secondary high-pressure main (1050 kPa) is likely for gas consumption exceed 200 m³/hr. The exact connection point will be discussed with Jemena once the application for connection is lodged.

The need for amplification of the city network is considered highly unlikely.

3 Protection and relocation strategies for infrastructure assets

A ‘dial before you dig’ (DBYD) enquiry was sought and the information collated for proposing preliminary plan of protection and relocation strategies to allow for minimal impact and appropriate protection of infrastructure assets. The following lists strategies.

- Being aware of affected utility stakeholders, including: Ausgrid, City of Sydney, Jemena, Optus, Roads and Maritime Services, Sydney Water, and Telstra.
- Locating assets: Assets’ and permanent survey marks’ exact location and assistance will be requested from each utility stakeholders at a reasonable time before work begins. A thorough site examination will be conducted for visible structures through field survey including the use of appropriately qualified personnel and equipment.
- Acquiring approvals: Relevant approvals will be obtained prior to commencement of works on or near infrastructure assets of various utility stakeholders. And all works are undertaken in accordance with the requirements of any approval.
- Reporting damage: Damage of assets will be reported immediately to utility stakeholders any time, any day.