Hans Centre Sydney Pty Ltd

338 Pitt Street, Sydney

SSDA Utility Services Report

MEP01

Issue 02 | 20 March 2020

Job number 271640-00

Arup Pty Ltd ABN 18 000 966 165

Arup
Level 5
151 Clarence Street
Sydney NSW 2000
Australia
www.arup.com

ARUP

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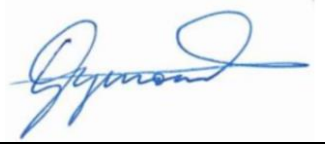
		Signature			
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Contents

1 Introduction

Arup has been commissioned by Hans Centre Sydney Pty Ltd to prepare an utility services report as part of the SSDA application for the proposed mixed-use development located at 338 Pitt Street, Sydney.

1.1 Project Overview

This report supports a Stage Significant Development Application (SSDA) for the mixed-use redevelopment of 338 Pitt Street, Sydney, which is submitted to the City of Sydney pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). China Centre Development Pty Ltd is the proponent of the SSDA.

The site is located at the corner of Pitt Street and Liverpool Street, within the 'Mid Town' precinct of Sydney's Central Business District (CBD) (see Figure 1). The site is approximately 150 m west of Museum Station and Hyde Park, and approximately 350 m from Town Hall Station. The site includes several allotments and constitutes nearly one third of the city block between Bathurst Street, Pitt Street and Liverpool Street. The site is an irregular shape and has a combined area of approximately 5,900 m^2.

The proposed development comprises of hotel, residential, commercial and retail uses and will include:

- demolition of all existing structures;
- excavation and site preparation, including any required remediation;
- construction and use of a mixed-use development, with an iconic 258 m two-tower built form above a podium and internal courtyard;
- four (4) basement levels and a lower ground level accommodating residential, retail and hotel car parking, motorcycle parking, bicycle parking, loading dock, storage and relevant building services;
- improvements to the public domain, including landscaping, pedestrian thoroughfares/connections, and landscaping; and
- augmentation and extension of utilities and services.

A detailed description of development is provided by Ethos Urban within the EIS.

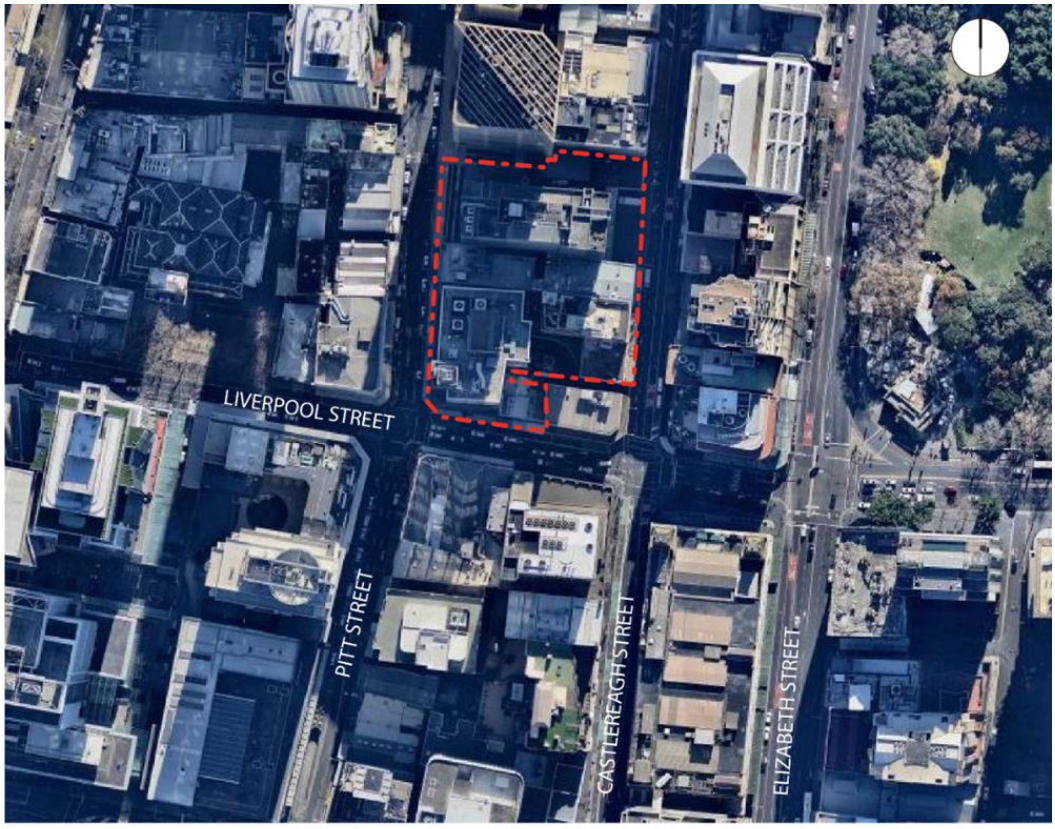

Figure 1: Site location and boundary

1.2 SEARS requirements

The requirements for the SSDA are provided in the SEARs SSD-10362 dated 19/08/2019, as summarised in Table 1 below.

Table 1: Relevant SEARs requirements

Clause	Relevant requirements/policies for the assessment
14. Utilities	The EIS shall: • address the existing capacity of the site to service the proposed development and any augmentation requirements for utilities • identify the existing infrastructure on-site and any possible impacts of the construction and operation of the proposal on this infrastructure. • provide details on the location, construction and servicing of the waste/recycling collection facilities for the building.

1.3 Report overview

This report has been prepared to detail the existing utilities (electrical, communications, water, sewer, stormwater and gas) infrastructure within the vicinity of the proposed project.

The report provides an overview of the following key issues with respect to each service:

- Existing conditions
- Design status and process for approval going forward
- Status in terms of authority engagement.

This report should not be relied upon as providing detailed services information for construction purposes.

This report has been produced based on the following available information:

- Supply Authority response to the “Dial Before You Dig” request
- Supply Authority responses to informal enquiries.

It is likely that some services remain undocumented and this report should not be used as a guarantee of all in-ground services in the vicinity.

1.4 Project description

The Detailed Design Development proposal is for;

- Two 81-level towers, which will be connected by a link bridge. The towers shall contain residential apartments and a 5 star hotel.
- 8 Storey podium that contains retail, food and beverage, hotel facilities, conference and meeting space form of approx. 7000 sqm (GFA)
- 5 basement levels for car park loading dock, waste handling, plant room, drop off and end of trip facilities.
- Vehicular access and crossovers via Pitt Street and Castlereagh Street and indicative locations for east-west through site links at the northern end of the site and southern end of the site between Dungate Lane and Pitt Street.

1.5 Project Address

The Site comprises 8 properties, all are owned by The Hans Centre Sydney Pty Limited. The properties are:

- 324-330 Pitt street, Lot 3 DP 1044304;
- 332-336 Pitt street, Lot 1 DP 66428;
- 338-348 Pitt street, Lot 10 DP 857070;
- 241-243 Castlereagh street, Lot 1 DP 90016;
- 245-247 Castlereagh street, Lot 1 DP 70702, Lot 1 DP 78245;
- 249-253Castlereagh street, Lot B DP 183853;
- 126 Liverpool street, Lot A DP 448971;

The site has frontages to Pitt Street to the West and Liverpool Street to the South and Castlereagh Street to the East.

Dungate Lane is a private lane for access for service vehicles to the Site.

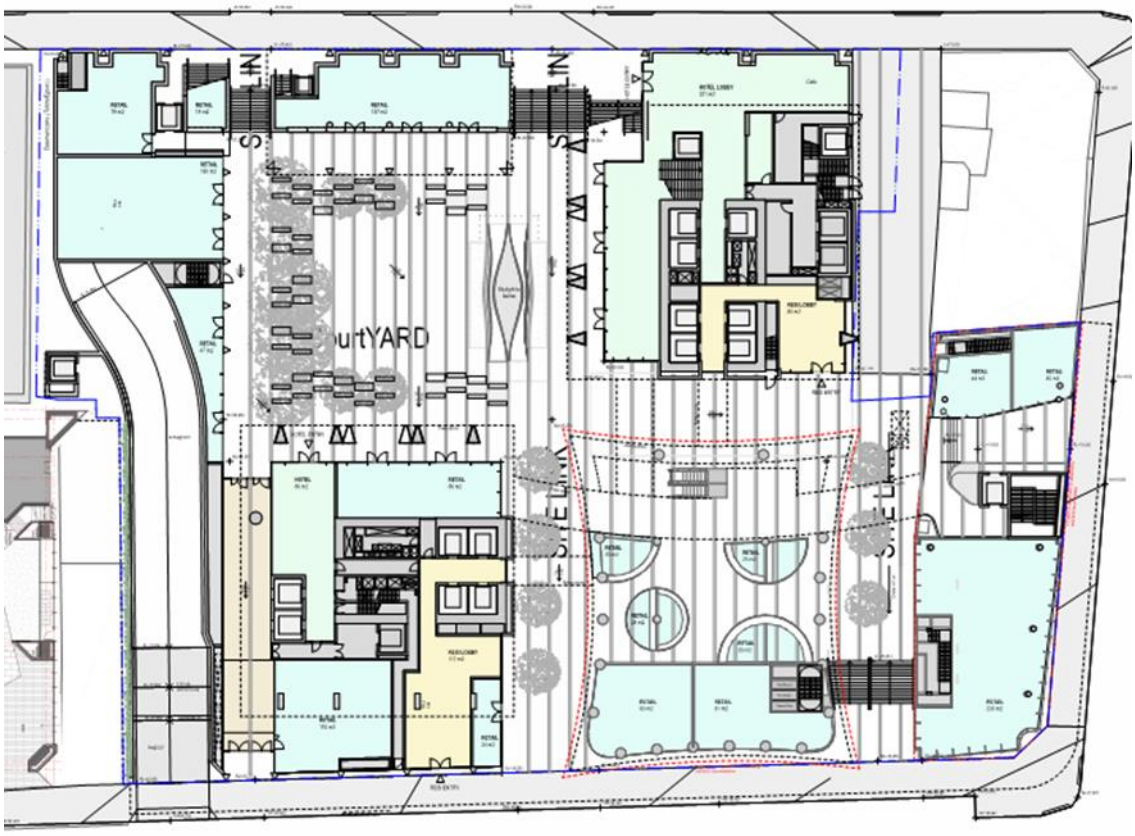

Figure 2 Site Plan

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2 Utilities Services

The following provides an outline of the existing services available to the site and identifies any required alterations to serve the proposed development.

The available information and initial discussions with the Supply Authorities indicate the existence of the following services serving or traversing the site:

Electricity Supply – Ausgrid: triplex chamber

Communications Services – Telstra, Optus, AAPT / Powertel, AARNet, Nextgen, Pipe Networks, Vocus and Verizon Business, NBN

- Fibre Services (all of the above)
- Copper Services (Telstra) – Legacy cabling

Water Services – Sydney Water

- Sewer
- Potable Water
- Stormwater and On-Site Detention

Gas Supply – Jemena

- Natural Gas Supply

2.1 Electricity Supply

The maximum demand estimation is approximately 6200kVA for the development site. It includes residential, retail area, hotel, electric vehicle charging station, carpark, EOT facilities and podium areas. The estimation has no allowance of electrical cooking stove and electrical hot water units.

Area	Qty	Load (kVA)	Comment
Residential North		1254.14	
Residential South		936.06	
Core Area North		981.29	
Core Area South		702.00	
Hotel Area		1636.63	
Retail Area		1887.01	
B1-2-3 EVC assume total 120KVA		120.00	
Lifts (Assume 80A each)	8	112.93	*Residential lifts*
Lifts (Assume 63A each)	7	89.03	*Hotel lifts*
Lifts (Assume 25A each)	6	36.03	*Others*
Total			
Total without Diversity		7755.11	kVA
Diversity		0.80	
Total with Diversity		6204.09	kVA
Power Factor		0.98	
Total Amps with diversity		9137.59	Amps

The appointed L3 ASP consultant shall provide a separate report on the existing and new energy utilities requirement.

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.

Additionally, communications conduits appear to run through the development site.

Services identified include:

- **AAPT / PowerTel –** AAPT services are located near 231 Castlereagh Street.
- **AARNet** – AARNet services exist along Elizabeth Street. There are no services directly adjacent the site.
- **NBN -** NBN services are currently within the area, as per the NBN Co roll out maps.
- **Nextgen** – Nextgen cables exist within Pitt Street and Liverpool Street.
- **Optus and/or Uecomm** – Underground fibre optic cables exist along Eastern side of Castlereagh Street. Connectivity is provided for Castlereagh Street to 241-243 Castlereagh Street.
- **Primus** – cables are contained in Telstra ducts / conduit network within the development site boundary.
- **Telstra** – Telstra services are relatively complex within the development site. The City South exchange cable chamber is located in proximity of the boundary of the development site. For further details, please refer to Section 2.2.2.
- **Vocus** – Fibre optics services are located along Castlereagh Street, with Vocus group pits located in 245 and 249 Castlereagh Street respectively.

2.2.2 Telstra Tunnel

There is an existing 100-Year Telstra Tunnel which is located directly adjacent the site along Pitt Street. The existing Telstra tunnels are heritage listed, with care required to be undertaken during excavation adjacent the tunnel. Figure 3 details the location of Telstra Tunnels in the areas adjacent the development.

The following gives a high level of the Telstra services within or in proximity of the

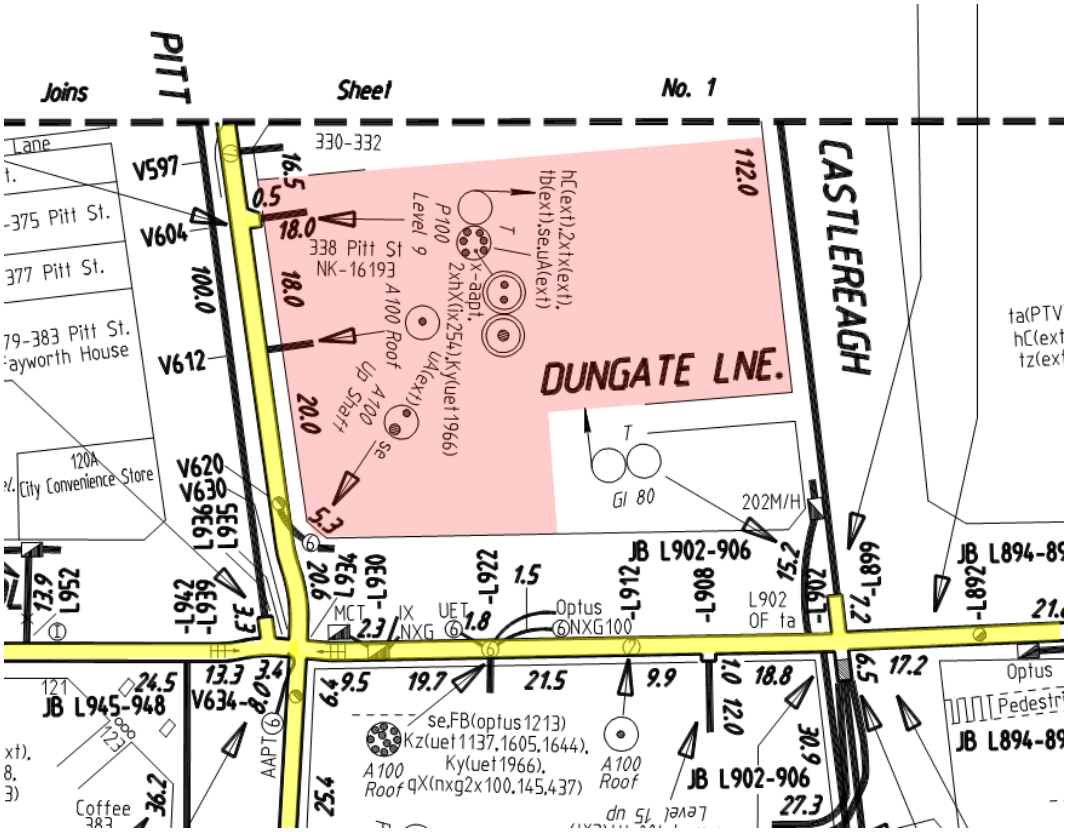

Figure 3 - Telstra Tunnel Locations (Tunnel in Yellow)

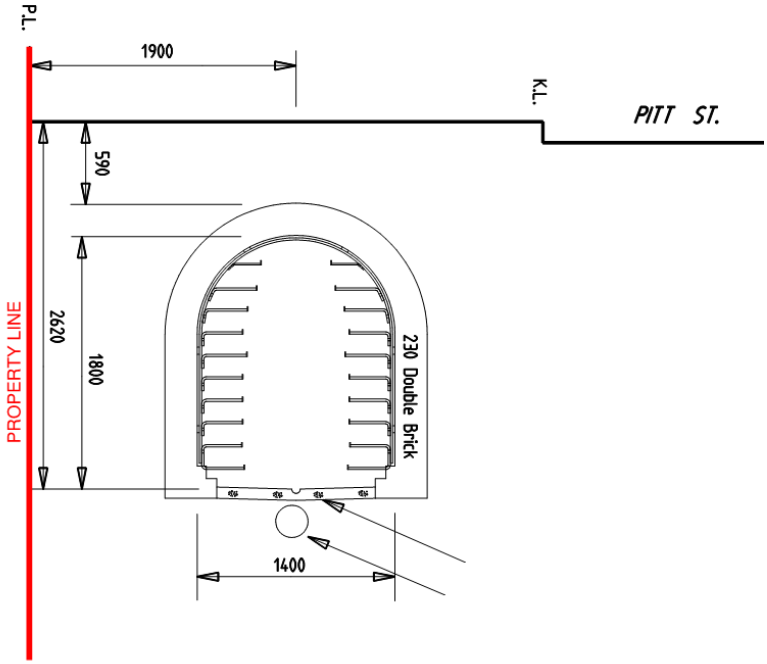

Figure 4 - Telstra Tunnel Section (Looking South on Pitt Street)

2.2.3 Required Alterations

Required alterations to suit the new development are to be considered throughout design development. The project will be registered with the relevant service providers to achieve the aspirations for this site.

2.2.3.1 Lead-in infrastructure

New Lead-In services and conduit provisions shall be provided as a minimum to allow for servicing from multiple service providers including:

- **NBN** – Dedicated 100mm conduit in accordance with NBN design requirements.
- **Other Providers** – 4 x 100mm 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 utilised NBN infrastructure.

2.2.3.2 Telstra tunnel

With regards to the existing heritage tunnel infrastructure, Telstra are to be advised of all works which are going to be undertaken within close proximity. Proposed construction methodology and protection methods shall be provided to Telstra to allow for review and comment as necessary.

2.2.3.3 Existing Pit Locations

Subject to final planning, if existing carrier pits are located in front of proposed driveways, these may be required to be located (subject to individual carrier requirements).

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:

- Pitt Street (West) – 250CICL water main
- Pitt Street (East) – 250CICL water main
- Liverpool Street (North) – 250CICL water main
- Liverpool Street (South) – 250CICL water main
- Castlereagh Street (West)– 250CICL water main
- Castlereagh Street (East)– 250CICL water main

Sewer Service

All of the existing services available are described as follows:

- Pitt Street (West) – 300VC Sewer main running North South
- Liverpool Street – 450VC Sewer main running East West
- Liverpool Street –533x736 Brick Oviform
- Castlereagh Street – 300VC Sewer main running North South
- Dungate Lane – 225CICL Sewer main running West East

Stormwater Drainage

All of the existing services available are described as follows:

- Pitt street – 450 Stormwater Line
- Liverpool street – 750 Stormwater Line
- Castlereagh Street – 300 Stormwater Line

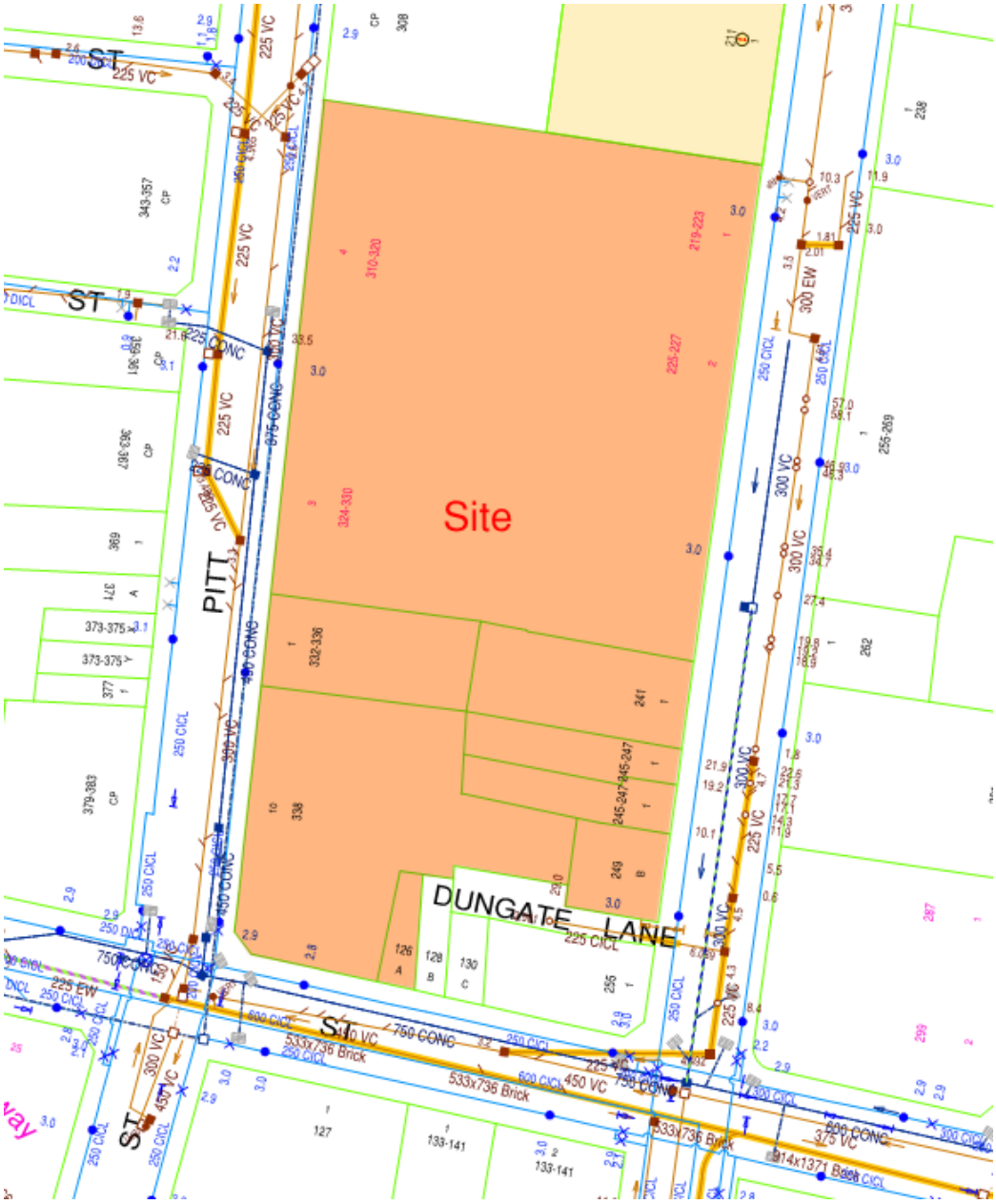

Figure 1. Existing Sydney Water Services shown around the site (DBYD)

2.3.2 Required Alterations

Potable water supplies

At present we anticipate an increase in water demand above the existing site supply therefore new connection will be provided. Cold water to the building can be provided from Pitt Street or Liverpool 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 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).

Option 2 – Connection from Liverpool Street:

- A new town main connection/meter from Liverpool 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).

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

Sewer Service

At present, we anticipate increases in waste water 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 300mm VC Sewer Main in Pitt Street and 300mm VC Sewer Main in Castlereagh Street, new sewer junctions /pits will be required to allow these connections.

Options 2 – Pitt Street (Single connection)

- Waste Water will discharge to the existing 300mm VC Sewer Main in Pitt Street and new sewer junction /pit will be required to allow this connection

Option 3 – Castlereagh Street (Single connection)

- Waste Water will discharge to the existing 300mm VC Sewer Main in Castlereagh Street and new sewer junction /pit will be required to allow this connection

The need for amplification of the city waste water 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 Pitt Street, Liverpool Street and Castlereagh Street. Information regarding the project's stormwater design will be contained within the Stormwater Management Plan.

Sydney Water Stormwater division has preliminary advised that OSD is required for the development, as listed below, and based on the 6,091 m^2 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 95 cubic meter
- Permissible Site Discharge 226 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.

- George Street – Secondary high pressure main 100mm ST @ 1050kpa
- Elizabeth Street – Secondary high pressure main 150mm ST @ 1050kpa
- Pitt Street – Distribution low pressure main 75mm NY @ 7kpa (West)
- Pitt Street – Distribution low pressure main 75mm NY @ 7kpa (East)
- Liverpool Street – Distribution low pressure main 75mm NY @ 7kpa (North)
- Liverpool Street – Distribution low pressure main 110mm NY @ 7kpa (North)
- Liverpool Street – Distribution low pressure main 110mm NY @ 7kpa (South)
- Castlereagh Street – Distribution low pressure main 110mm NY @ 7kpa

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

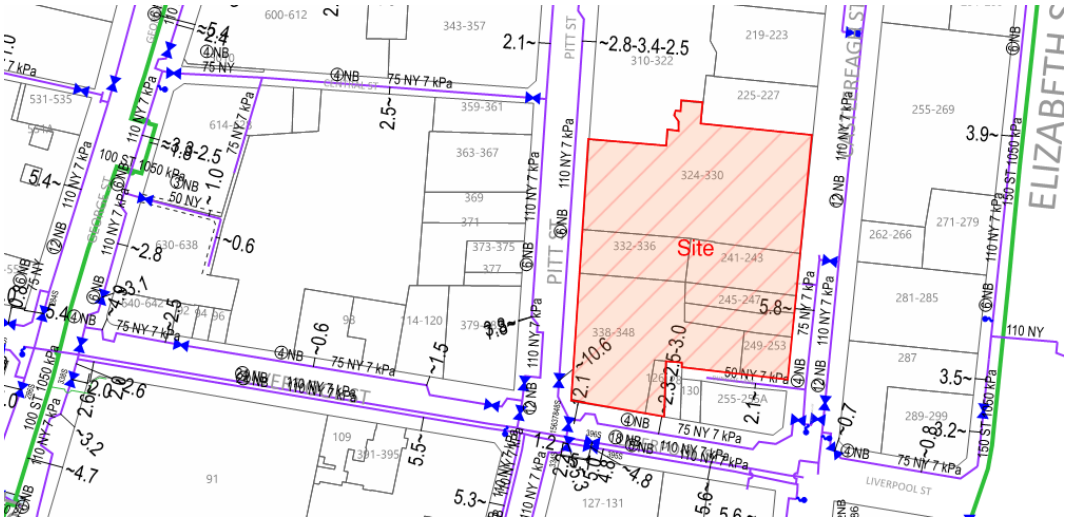

Figure 5 Existing Gas Services shown around the site (DBYD)

While we anticipate a minor increase in gas requirements to the site, 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

Jemena has informally advised that secondary high pressure main (1050kPa) connection is required for gas consumption exceed 200 m3/hr.

It is anticipated that the development will be required to extend and establish one common connection with a regulator room from the existing secondary high-pressure (1050kPa) Jemena network located in George Street or Elizabeth Street. 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 Supply Authority Engagement

Relevant authorities have been notified as the development of this project is progressed.

The status for each authority is summarised as follows:

- Ausgrid - a Formal Application shall be issued to Ausgrid with preliminary advice by the appointed L3 ASP designer.
- Communications Carries - Existing communications infrastructure existing currently on site. Formal applications process will commence upon detailed design stages.
- NBN - NBN Co website has been reviewed to determine accessibility to NBN.
- Sydney water– An application for a Section 73 Certificate will be made through a licensed Water Servicing Coordinator (WSC). WSC will return Sydney Water's response to identifying the requirements for servicing this proposal. The WSC has been already appointed and will provide coordinate the application to Sydney Water to obtain Notice of Requirements for the development.
- Jemena– Contact has been made with Jemena, however no response has been forthcoming. Jemena's formal procedures require an application for connection to be submitted, before conditions are provided. This application will need to be submitted in the next stage of design.

4 Conclusion

Early Authority engagement and review of existing Dial before you Dig detailed drawings indicate that there is sufficient existing capacity within the vicinity of the site to provide water, sewer, stormwater, gas and communications services to the new development.

Electricity capacity shall be advised by the appointed Level 3 ASP designer.

Further details will be provided during the design development.