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To: Hale Property Services Pty Ltd

Project: 42 Boorea Street, Lidcombe – Service Infrastructure Assessment

Our Ref: SY075485.000 **Date:** April 2022

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Revision:

Issue	Date	Comment
A	03/2022	Issue for comment
B	18-03-2022	Pressure & Flow result added
C	21-03-2022	Updated masterplan, SEARS reference added
D	29-04-2022	Updated masterplan

EXECUTIVE SUMMARY

Servicing Capability

- Potable Water
 - ▲ Estimated Potable Water Demand
 - Average Day Demand 28kl/day
 - Max Day Demand 50kl/day
 - ▲ Potable water reticulation system exists adjacent to the site. A 375mm trunk water main provides frontage to the site for connection of potable water supply.
 - ▲ Pressure and flow enquiry with Sydney Water indicates the existing potable water system provides adequate service to support the proposed development .

- Waste Water
 - ▲ Estimated Waste Water Demand 27kl/day
 - ▲ A 750mm R.C trunk sewer main (relined 2008) is constructed within the site. The trunk sewer is comprised within an Easement for Sewerage Purposes which benefits Sydney Water.
 - ▲ Development of the site will involve the normal Building Plan Approval process with Sydney Water to ensure the trunk sewer main is protected and accessible.
 - ▲ The existing development within the site is connected to the trunk sewer and adequate waste water capacity exists to serve the proposed development.

- Electricity
 - ▲ The site is currently serviced by an existing Ausgrid padmount substation (Substation 6459) established onsite and high voltage feeder (within easement) from Boorea Street.
 - ▲ Electrical demand has been calculated as 1.7MVA.
 - ▲ Applications for decommissioning the existing padmount substation and provision of a new padmount substation will be undertaken by accredited Level 3 ASP through Ausgrid asset creation path.

- Telco
 - ▲ NBN is the network owner for the area and has established underground fibre optic cables within Boorea Street having acquired the Telstra network assets in this area. Substantial fibre optic network exists in Boorea Street to service the industrial precinct.

- Gas
 - ▲ Jemena have a 1,050kPa gas reticulation main in Boorea Street immediately along the frontage of the site. The existing facility on the subject site is connected to this main.

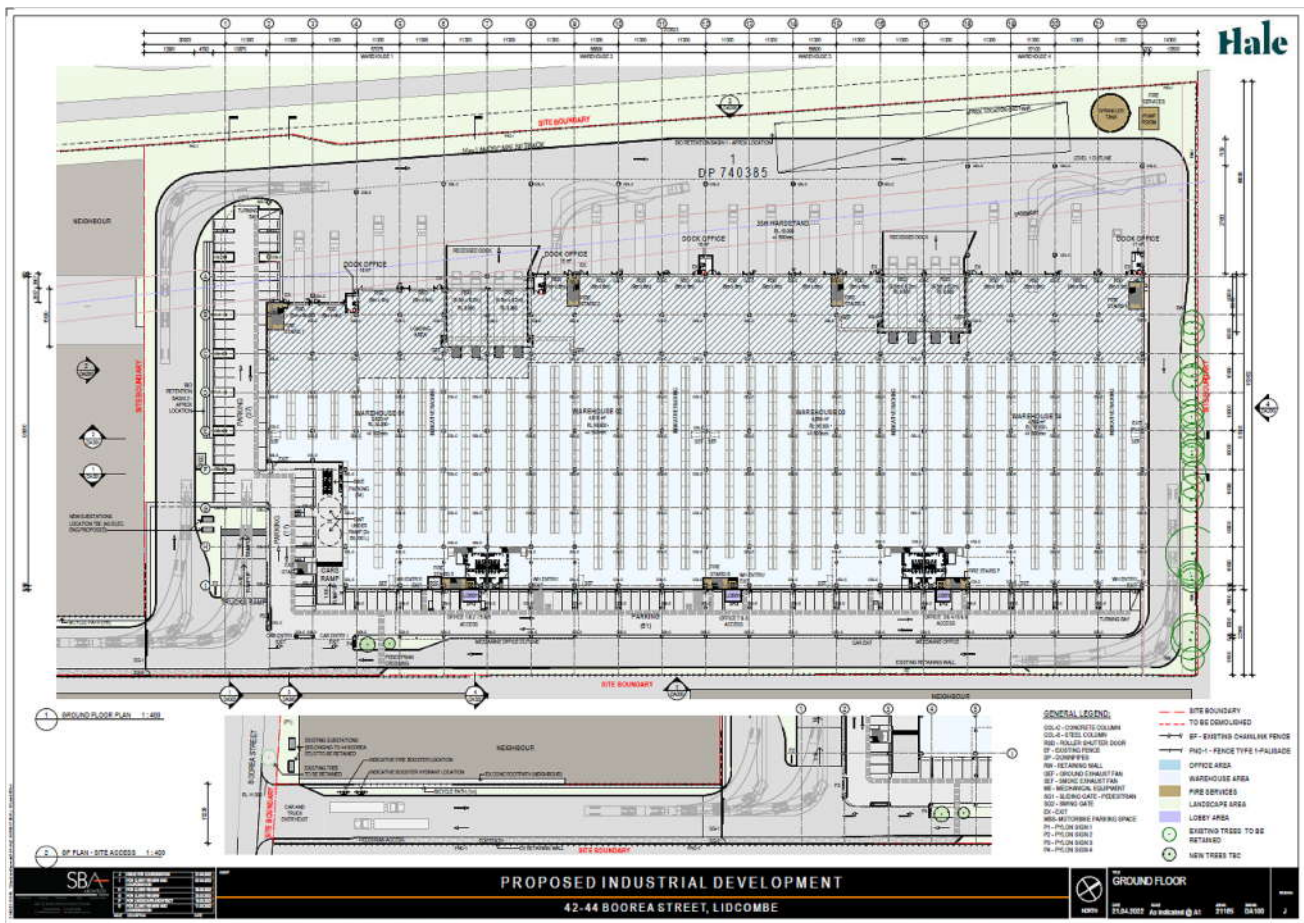
1.0 INTRODUCTION

The Department of Planning and Environment have issued SEARS requirements for the proposed development under application No. SSD-36464788. This report addresses the Infrastructure Requirements and Utility requirements of the proposed development.

The proposed development is described as the construction of a two-storey warehouse and distribution centre comprising 39,983m² GFA including ancillary office space, lobby and fire stairs.

The site is described as Lot 1 DP740385 located within a well-established and well serviced industrial precinct. Substantial infrastructure has been installed by the utility service operators that will provide adequate capacity to service the proposed development.

Concept architectural layout has been provided that is the basis of comments within this report. The architectural is shown as follows:



1.1 SEARS REQUIREMENTS

Standard Sears requirements from the Department of Planning, Industry & Environment have been addressed. Those requirements outline key issues one of which is the following:

Infrastructure Requirements & Utilities	How It Is Addressed	Section of this Report
Assess the impacts of the development on existing utility infrastructure & service provider assets surrounding the site. Infrastructure Delivery, Management and Staging Plan	Identify existing services through site inspection and utilising existing service utility plans	Section 3, 4, 5 & 6
Identify any infrastructure upgrades required onsite and offsite to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained.	Determine demand requirements for the development, determine if any upgrades or infrastructure amplifications required.	Appendix A & B
Provide infrastructure staging plan, description of how infrastructure requirements would be coordinated, funded and delivered to facilitate the development.	Assess existing infrastructure if staging of any upgrades (if required) will be required and if so what funding is required	Sec 8.0

2.0 SERVICE AUTHORITIES:

The service authorities who provide infrastructure services to this area are:

- | | | |
|-----|---------------|--|
| (a) | Sydney Water: | Potable Water & Waste Water Infrastructure |
| (b) | Ausgrid: | Electrical Infrastructure |
| (c) | NBN Co: | Telecommunications Infrastructure |
| (d) | Jemena: | Gas Infrastructure |

3.0 POTABLE WATER AND WASTE WATER

3.1 POTABLE WATER

- Immediately adjacent to the site along the frontage of Boorea Street is a 375mm trunk water main. This main is available for connection.
- Within Boorea Street the site has frontage to a 100mm reticulation water main which services the residential area of south of Boorea Street.
- Potable Water Average Day Demand is estimated at 28kl/day for warehouse/distribution development with associated office facilities (refer Appendix A). This calculates as a demand of 0.6litres/second over a 12 hour working shift. This level of demand can be catered by the existing 375mm main in Boorea Street.
- Sydney Water Sec 73 process is an asset creation process that would outline connection requirements for the proposed development.
- Pressure and Flow enquiry has been lodged with Sydney Water and Sydney Water response is attached in Appendix A. Adequate pressure and flows are available to support the proposed development.

3.2 WASTE WATER

- a) A 750mm trunk sewer carrier traverses the site. This carrier is available for connection. It is noted that the existing development on the site is connected to this sewer carrier.
- b) This existing main will adequately cater for the proposed development.
- c) Waste Water discharge is estimated as 27kl/day or 0.6litres/second over a 12 hour work shift – a level of discharge that will be adequately catered for by the existing Sydney Water system.
- d) A private sewer within an “Easement for Sewerage over Existing Line of Pipes” exists adjacent to the northern boundary of the site. This sewer pipe serves the adjacent property to the east. The developer has commissioned a service locating company to accurately locate the sewer to determine if that asset has to be relocated or can remain insitu.

3.3 STORMWATER

- a) Immediately adjacent to the subject site along the northern boundary of the property is a Sydney Water stormwater channel.
- b) The channel is known as the Haslams Creek Channel No. 13 being a concrete lined open channel with concrete base measuring 6.25m x 1.83m.
- c) The Sydney Water asset creation path outlined in Section 73 process will require an “out of scope” Building Plan Approval application to be submitted to Sydney Water. This application will outline the engineering details for any structure to be constructed adjacent to the stormwater channel.

4.0 ELECTRICITY

- a) The existing facility constructed and currently operational on the site is serviced by a padmount substation (Substation 6459) and high voltage feeder installed within the site.
- b) It is expected that this substation will be de-commissioned and a new padmount substation (or substations) will be installed to supply the new development.
- c) The developers Level 3 ASP will engage with Ausgrid for decommissioning of the existing substation and creation of the new substations on site.
- d) Electrical demand is estimated at 1.1MVA however an allowance of a further 50% should be made to cater for any potentially automated facilities+ or specialised end user requirements. Therefore, a demand figure of 1.7MVA is utilised in this report.
- e) Ausgrid has a number of high voltage feeders (underground) in Boorea Street which currently service substation 6459 and these feeders will service any replacement padmount substation installed for the proposed development.

5.0 GAS

- a) Jemena is the utility supplier for gas. Jemena has installed a 1,050kPa high pressure gas main in Boorea Street.
- b) The current facilities constructed on the site are connected to this main.
- c) The subject site is adequately serviced by this existing gas main.

6.0 TELCOMMUNICATIONS

- a) NBN Co is the network provider for this area.
- b) Prior to NBN Co being the provider for this area Telstra had substantial fibre optic systems within Boorea Street. The current user of the subject site is connected to this reticulation system.
- c) The subject site is adequately serviced by the existing fibre optic system in Boorea Street.

7.0 EXPECTED IMPACTS ON EXISTING INFRASTRUCTURE

- a) Existing electrical substation located onsite, together with the high voltage feeder from Boorea Street to the substation, to be decommissioned and assets recovered.
- b) Connection of stormwater discharge to Sydney Waters' adjacent stormwater channel is currently in place to service the existing development and it is expected the existing connection into the stormwater channel will be utilised as the point of connection for the proposed development.
- c) Sydney Water Building Plan Approval for construction work adjacent to the stormwater channel will be required to ensure protection of the existing stormwater channel.
- d) Asset Protection will be maintained for the existing 750mm sewer carrier that traverses the site via Sydney Building Plan Approval processes.
- e) Apart from the items mentioned above there is expected to be no other impact on existing infrastructure to the site.

8.0 INFRASTRUCTURE STAGING & DELIVERY PLAN

8.1 SYDNEY WATER INFRASTRUCTURE

Sydney Water has a standard asset creation path through their Sec 73 process.

The development does not have any substantial impact on the delivery of potable water and waste water services to the site as these facilities already service the site and as such no amplification of existing Sydney Water assets is expected.

The site is already serviced by Sydney Water assets so no staging of delivery of any Sydney Water asset is required.

8.2 ELECTRICITY

Decommissioning of the existing electrical substation can commence once the developers Level 3 ASP consultant receives Ausgrid approval.

Provision of a new padmount substation within the development with high voltage feeder connection to existing Ausgrid assets in Boorea Street will occur as per Ausgrid's normal asset creation path. The new substation will be installed during the development process for the new building and will be coordinated by the selected building company delivering the new facilities.

8.3 TELCO & GAS

Existing assets exist to serve the proposed development.

8.4 COST

All assets will be delivered through the service utility organisations asset creation path and this instance those assets will be developer funded.

APPENDIX A

POTABLE WATER & WASTE

WATER DEMAND

1. Hale Capital have provided an architectural plan as noted in the report.
(SBA Architects Job No. 21165 DA000 revision H)
2. The architectural plan outlines the following development areas:
 - (a) Warehouse 35,111m²
 - (b) Office 4,138m²
3. EP is based upon 1EP/250m² of warehouse area and 1EP/20m² of office area

Potable Water

Development Type	Floor Area (m ²)	EP	P.W Demand/EP	P.W Demand
Warehouse	35,111	141	80litres/day	11.3kl/day
Office	4,138	207	80litres/day	16.5kl/day
Total				Say 28kl/day

So: Average Day Demand 28kl/day
 Max Day Demand 50kl/day

Waste Water

An estimate of 95% of Potable Water for Waste Water discharge:

$28\text{kl/day} \times 0.95 = 27\text{kl/day}$

Statement of Available Pressure and Flow

Lilliane Moujalli
23-29 South Street
Rydalmere, 2116

Attention: Lilliane Moujalli

Date: 15/03/2022

Pressure & Flow Application Number: 1365854
Your Pressure Inquiry Dated: 2022-03-09
Property Address: 42 Boorea Street, Lidcombe 2141

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: Boorea Street	Side of Street: North
Distance & Direction from Nearest Cross Street	80 metres East from Olympic Drive
Approximate Ground Level (AHD):	10 metres
Nominal Size of Water Main (DN):	375 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	65 metre head
Minimum Pressure	37 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	37
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10	39
	15	39
	20	39
	25	39
	30	39
	40	39
	50	39
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	60	39
	10	36
	15	36
	20	36
	25	36
	30	36
	40	36
Maximum Permissible Flow	50	36
	60	36
	65	36

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au

General Notes

This report is provided on the understanding that (i) the applicant has fully and correctly supplied the information necessary to produce and deliver the report and (ii) the following information is to be read and understood in conjunction with the results provided.

1. Under its Act and Operating Licence, Sydney Water is not required to design the water supply specifically for fire fighting. The applicant is therefore required to ensure that the actual performance of a fire fighting system, drawing water from the supply, satisfies the fire fighting requirements.
2. Due to short-term unavoidable operational incidents, such as main breaks, the regular supply and pressure may not be available all of the time.
3. To improve supply and/or water quality in the water supply system, limited areas are occasionally removed from the primary water supply zone and put onto another zone for short periods or even indefinitely. This could affect the supply pressures and flows given in this letter. This ongoing possibility of supply zone changes etc, means that the validity of this report is limited to one (1) year from the date of issue. It is the property owner's responsibility to periodically reassess the capability of the hydraulic systems of the building to determine whether they continue to meet their original design requirements.
4. Sydney Water will provide a pressure report to applicants regardless of whether there is or will be an approved connection. Apparent suitable pressures are not in any way an indication that a connection would be approved without developer funded improvements to the water supply system. These improvements are implemented under the Sydney Water 'Urban Development Process'.
5. Pumps that are to be directly connected to the water supply require approval of both the pump and the connection. Applications are to be lodged online via Sydney Water Tap in™ system - Sydney Water Website – www.sydneywater.com.au/tapin/index.htm. Where possible, on-site recycling tanks are recommended for pump testing to reduce water waste and allow higher pump test rates.
6. Periodic testing of boosted fire fighting installations is a requirement of the Australian Standards. To avoid the risk of a possible 'breach' of the Operating Licence, flows generated during testing of fire fighting installations are to be limited so that the pressure in Sydney Water's System is not reduced below 15 metres. Pumps that can cause a breach of the Operating Licence anywhere in the supply zone during testing will not be approved. This requirement should be carefully considered for installed pumps that can be tested to 150% of rated flow.

Notes on Models

1. Calibrated computer models are used to simulate maximum demand conditions experienced in each supply zone. Results have not been determined by customised field measurement and testing at the particular location of the application.
2. Regular updates of the models are conducted to account for issues such as urban consolidation, demand management or zone change.
3. Demand factors are selected to suit the type of fire-fighting installation. Factor 1 indicates pressures due to system demands as required under Australian Standards for fire hydrant installations. Factor 2 indicates pressures due to peak system demands.
4. When fire-fighting flows are included in the report, they are added to the applicable demand factor at the nominated location during a customised model run for a single fire. If adjacent properties become involved with a coincident fire, the pressures quoted may be substantially reduced.
5. Modelling of the requested fire fighting flows may indicate that local system capacity is exceeded and that negative pressures may occur in the supply system. Due to the risk of water contamination and the endangering of public health, Sydney Water reserves the right to refuse or limit the amount of flow requested in the report and, as a consequence, limit the size of connection and/or pump.
6. The pressures indicated by the modelling, at the specified location, are provided without consideration of pressure losses due to the connection method to Sydney Water's mains.

APPENDIX B

ELECTRICAL DEMAND

1. Hale Capital have provided an architectural plan as noted in the report.
(SBA Architects Job No. 21165 DA000 revision H)
2. The architectural plan outlines the following development areas:
 - (a) Warehouse 35,111m²
 - (b) Office 4,138m²

Development Type	Floor Area (m²)	Demand/m²	Demand
Warehouse	35,111	17VA/m ²	0.6MVa
Office	4,138	120VA/m ²	0.5MVa
Total			SAY 1.1MVa

Based on possible uses of some of the proposed units greater than traditional warehousing and distribution a load factor of 50% should be allowed to cater for potentially highly automated or specialised end user requirements.

Therefore, demand allowance is 1.7MVa.