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Waste Management Facility, Botany

Infrastructure Assessment – Water, Sewer & Stormwater

PREPARED FOR:

Coombes Property Group Pty Ltd

Waste Management Facility, Botany

Infrastructure Assessment – Water, Sewer & Stormwater

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EXECUTIVE SUMMARY

This Infrastructure Assessment report has been prepared as part of a DA seeking consent for a construction and demolition (C&D) waste management facility at 2-4 Hale Street, Botany (Lot 1 DP 562374) (the subject site). The proposal is classified as State Significant Development (SSD) under Section 4.36 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and is subject to NSW Planning Secretary's Environmental Assessment Requirements (SEARs, SSD-62855708, 25 Oct 2023).

The focus of this report is to demonstrate that the proposed development can be serviced from surrounding infrastructure.

Based on the investigations into the existing surrounding infrastructure, preliminary engagement with Sydney Water and the development proposal we believe the site is adequately serviced with provisions for water supply, sewage and stormwater drainage.

Sydney Water Feasibility Case Number: CN212482 has been lodged and will form the basis for future detailed (Section 73) application process to be undertaken during the design phase of the project.

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1. INTRODUCTION

This Infrastructure Assessment report has been prepared as part of a DA seeking consent for a construction and demolition (C&D) waste management facility at 2-4 Hale Street, Botany (Lot 1 DP 562374) (the subject site).

It is planned that the proposed C&D waste management facility will be licenced and designed to accept up to 300,000 tonnes per annum of C&D waste. It would operate as a waste transfer station undertaking receipt, basic sorting, and recycling with aggregation of material for bulk transport to Luddenham advanced resource recovery facility or another approved facility within the KLF group where more advanced sorting and recycling would be undertaken.

The new C&D waste management facility must be designed and managed such that it can operate within the parameters of the surrounding water, sewer and stormwater network.

The focus of this report is to demonstrate that the proposed development can be serviced from surrounding infrastructure.

1.1 DOCUMENTS REFERENCED IN THIS REPORT

This report refers to, and should be read in conjunction with, all documents submitted as part of this application. These include, and are not limited to: Flood Impact Assessment, Infrastructure, Ecologically Sustainable Development, and Landscape Masterplan reports:

- CJ Arms, 2024. Integrated Water Management Strategy. March 2024
- CJ Arms, 2024. Landscape Concept Design. March 2024
- CJ Arms, 2024. Hale Street, Botany. Flood Impact Assessment Report. March 2024
- JBS&G, 2022. Detailed Site Investigation. 2-4 Hale St Botany. Report 62740/144,250 Rev A.
- Planning Secretary's Environmental Assessment Requirements SEARs, 25 Oct 2023. SSD-62855708 SEARs Waste Management Facility, Botany. including issued Govt Authority Advice on SEARs (appended).
- SEARs, 25 October 2023. NSW Planning Secretary's Environmental Assessment Requirements Waste Management Facility, Botany.

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1.2 DEVELOPMENT PROPOSAL

Reference is made to the architectural master plan for the proposed development, which is included in Appendix A. Proposed Infrastructure Connections.

Please also refer to the architecture drawing set and planning documents submitted as part of this DA.

The subject site covers a total area of around 7,435 m². The development proposal for the site includes a single large warehouse and ancillary buildings with a combined GFA of 3992.5 m², comprising:

- Warehouse (3,670 m²)
- Office (260 m²)
- Gatehouse (14.5 m²)
- Pump room (48 m²)

In addition to the warehouse and office, the site will be laid out and developed to include:

- Vehicle access via Hale Street, including 2 new crossovers (one for cars and one for trucks)
- Large hardstand area, for vehicle ingress, egress, and turning
- On-grade car parking (14 spaces) for staff and visitors
- Inground weighbridges
- Substation (relocated from current location)
- Appropriate setbacks from site boundaries
- Landscape buffer to Hale St
- Water management elements, including rainwater tank and biofiltration

To prepare the subject site for development, the existing buildings will be demolished, and the existing substation will be relocated.

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2. SUBJECT SITE – EXISTING

2.1 LOCALITY

Refer Figure 1 below for general site location.

The subject site is located at 2-4 Hale Street, Botany and is identified as Lot 1 in Deposited Plan (DP) 562374 in the Bayside Local Government Area (LGA).

The subject site covers a total area of 7,439 m².

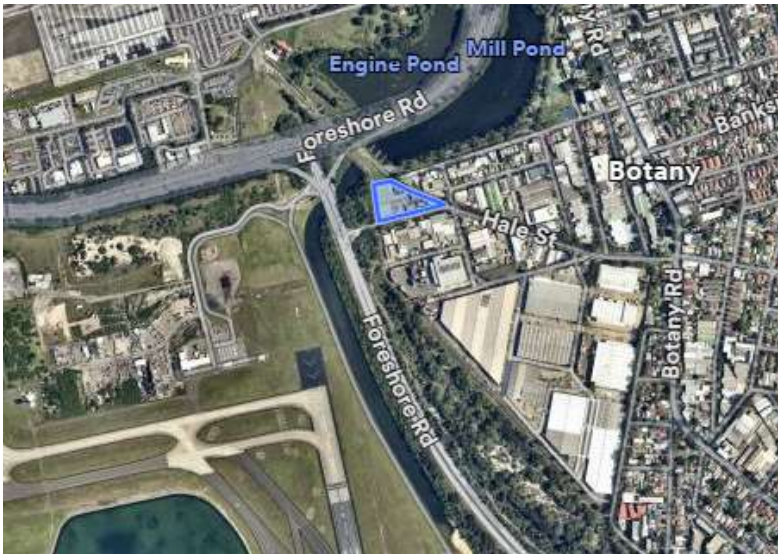


Figure 1: Locality Plan (Source: Nearmap, Jan 2024)

2.2 EXISTING TOPOGRAPHY

Refer to Figure 2 for topographical survey map. Topographical data has been obtained from a topographical level and features survey (United Surveyors, May 2022).

The site falls between 1-3% in a general direction towards the south-east corner of the site. Hale Street, which fronts the site, drains from west to east at a gentle grade of 0.4%.

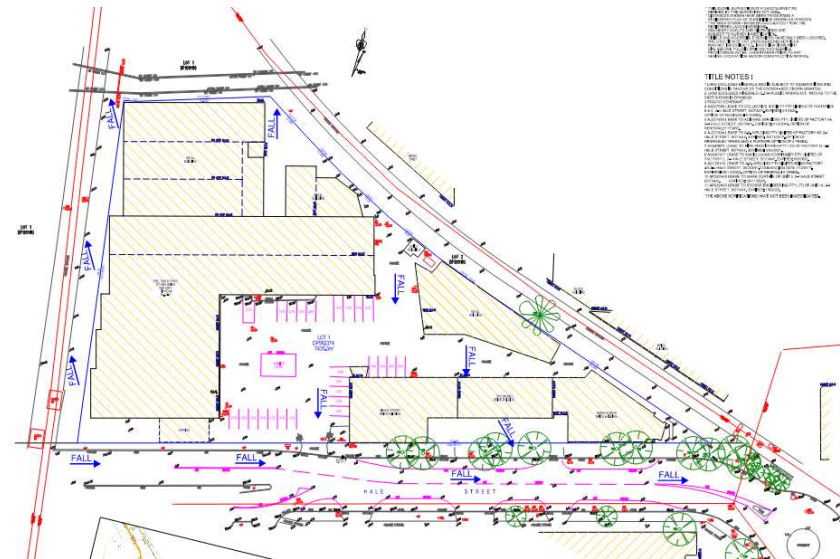


Figure 2: Existing Survey Plan

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2.3 STORMWATER DRAINAGE NETWORK – EXISTING

The subject site currently discharges surface water (stormwater) via several kerb outlets into Hale Street. There is no stormwater drainage network in Hale Street fronting the subject site and drainage is conveyed completely via surface runoff along kerb and channel. The closest kerb inlet pit is on Hale Street approx. 22m downstream from the subject site's southeastern boundary.

There are two downpipe connections from the existing building that discharge directly into the open stormwater drain (Sydney Water channel) to the north of the site. These downpipe connections will be removed as part of redevelopment, and all from the site will be discharged towards Hale St at the front of the site (Figure 3).

Set back areas from the western and northern boundaries of the site are essentially landlocked and currently drain outwards from the site towards the northern drainage channel (Figure 4).



Figure 3. Current site conditions, north of the existing building, showing existing downpipe connections (to be removed).



Figure 4. Current site conditions, west of the existing building – set back between existing building and site boundary.

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2.4 SEWER AND WATER NETWORK – EXISTING

2.4.1 Water Supply

The existing $\varnothing 80\text{mm}$ water meter for the current property is located at the main driveway at the end of the Hale St bridge (Figure 5 - Existing Water Meter).

The location of this existing service is not suitable for the proposed development and it will require relocation.

It does not appear that the existing site has a dedicated fire service connection, however if one is discovered it will require removal.



Figure 5 - Existing Water Meter

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2.4.2 Sewer Drainage

The existing sewer branch (indicated in yellow below) is understood to have no existing data associated with it. It appears to be connected to the existing manhole in Hale Street and its location is potentially suitable for the new facility.

Figure 6 - Existing Sewer Network has been provided by our Water Services Coordinator from Sydney Waters asset register.

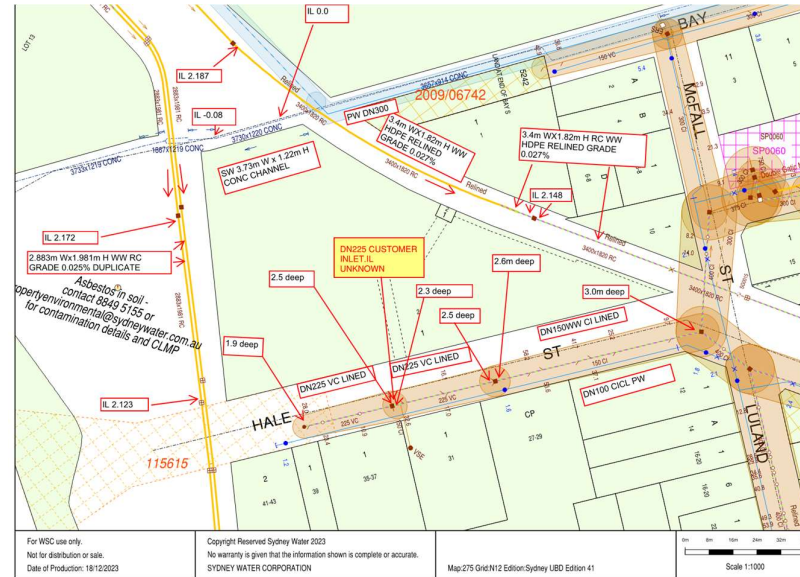


Figure 6 - Existing Sewer Network

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3. PROPOSED CONNECTIONS

The proposed integrated water strategy for the project is defined in some detail in *CJ Arms, 2024. Integrated Water Management Strategy. March 2024.*

A summary of the resulting infrastructure connection requirements is provided below – forming the basis for the feasibility application made to Sydney Water in February 2024 (feasibility application CN212482).

The available pressure and flow has been requested from Sydney Water and is provided in Figure 7 - Pressure & Flow Data on the right.

This data has been used to inform the basis of design for water and fires services for the project – and these are discussed on the following pages.



Statement of Available Pressure and Flow

Will Barlow
24 Hickson Road
Millers Point, 3000

Attention: Will Barlow

Date: 04/01/2024

Pressure & Flow Application Number: 1797296
Your Pressure Inquiry Dated: 2023-12-18
Property Address: 2 Hale Street, Botany 2019

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: Hale Street	Side of Street: South
Distance & Direction from Nearest Cross Street	16 metres West from McFall Street
Approximate Ground Level (AHD):	3 metres
Nominal Size of Water Main (DN):	100 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	72 metre head
Minimum Pressure	42 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	42
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10	39
	15	36
	20	31
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	10	37
	15	33
Maximum Permissible Flow	20	28

(Please refer to reverse side for Notes)

Figure 7 - Pressure & Flow Data

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3.1 DOMESTIC WATER

It is proposed to make a new connection to the existing \varnothing 100mm main in Hale Street – removing the old \varnothing 80mm supply as its location is not suitable.

The basis for domestic water supply is based around the following assumptions (simultaneous demands in brackets):

- Flow of 0.5 L/s for fire hose reels (*not concurrent with building demands*)
- Flow of 0.5 L/s for the office building consisting of the following inputs:
 - 9 handbasins (0.1 L/s)
 - 1 accessible shower (0.1 L/s)
 - 2 kitchen sinks (0.1 L/s)
 - Hose taps/safety showers in factory (0.2L/s)
- Top up of rainwater tank/non-potable system (1.5 L/s)

The resultant requirement we have requested from Sydney Water is for a minimum 2 L/s flow rate (\varnothing 50mm meter).

3.2 FIRE SERVICES

From a single new fire connection, it is proposed to provide two separate fire systems for the development:

- one for fire hydrants including a break tank and dual fire pumpset
 - supplied using 100% of the available 20 L/s from the \varnothing 100mm main in Hale Street (*confirmed by Pressure and Flow data from Sydney Water*)
- one for fire sprinklers, based on storing 100% of the sprinkler demand onsite with dual fire pumpset
 - requires refill rate of 1,000,000 litres in 18 hours (15 L/s)

As such we have requested 20 L/s flow rate (\varnothing 100mm service) from Sydney Water as part of the feasibility process underway.

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3.3 SEWER & TRADE WASTE

The project is proceeding with the intention of recycling any significant washdown or process water used to manage dust within the facility, however wastewater generation volumes are expected to be very low.

Rainwater is likely to be the primary source of this water and the resultant wastewater or 'trade waste' flows are considered to be extremely low.

Trade Waste

The process of operating the recycling facility does not lend itself to a 'wet' product as it makes handling and processing the material difficult. On this basis there is likely to be near to no process water flowing out of the facility. In the event that onsite treatment and recycling is implemented the vast majority of the water will be re-used and the only expected waste stream is to be filtrate from the treatment process.

Understanding this may attract trade waste charges or require offsite disposal the ultimate design of the facility will need to consider these elements and Sydney Water trade waste requirements including volumes and/or concentrations. Given the nature of the project (pre Development Application) it is prudent to have these detailed conversations once detailed design has commenced and we intend to make this liaison very early in that process. Regardless of the selected outcome it will comply with Sydney Water requirements in all respects.

Domestic Sewage

Domestic sewerage is also going to be generated from this facility from the following proposed fixtures:

- 9 handbasins
- 4 urinals
- 9 toilet pans
- 1 accessible shower
- 2 kitchen sinks
- Tundishes from pumps and air conditioning systems

At this stage there are no domestic waste fixtures proposed throughout the factory floor.

We have requested a ø150mm sewer branch from Sydney Water as part of the feasibility process underway.

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3.4 STORMWATER

The proposed stormwater management strategy for the project is defined in some detail in *CJ Arms, 2024. Integrated Water Management Strategy. March 2024.*

The project seeks to recycle harvested rainwater and use passive treatment systems such as raingardens to ultimately comply with water quality standards and onsite detention/flood storage requirements in accordance with Bayside Council DCP requirements.

Currently the site has no underground stormwater connection, rather a number of discharges to the kerb and channel in Hale Street and two 'illegal' downpipe connections to the channel on the north.

To service our site, Figure 8 - Proposed Stormwater Connection (right) indicates a required stormwater mains extension in pink – from near to the

Key stormwater initiatives are summarised as follows:

- Roof drainage. The intention is that the warehouse and office roofs will be drained into a 60 m³ RWT. Collected roofwater will be available for nonpotable reuse.
- Minor drainage: ground level rainfall runoff (stormwater) up to and including the 5% AEP storm event.
- Major drainage: ground level runoff up to and including the 1% AEP storm event.
- Raingarden: 30 m² treatment (filter) area, located at the Hale St frontage of the site.

- Minor and major stormwater drainage and overflow from RWT will be directed through the raingarden.
- Flood storage: 86.5 m³

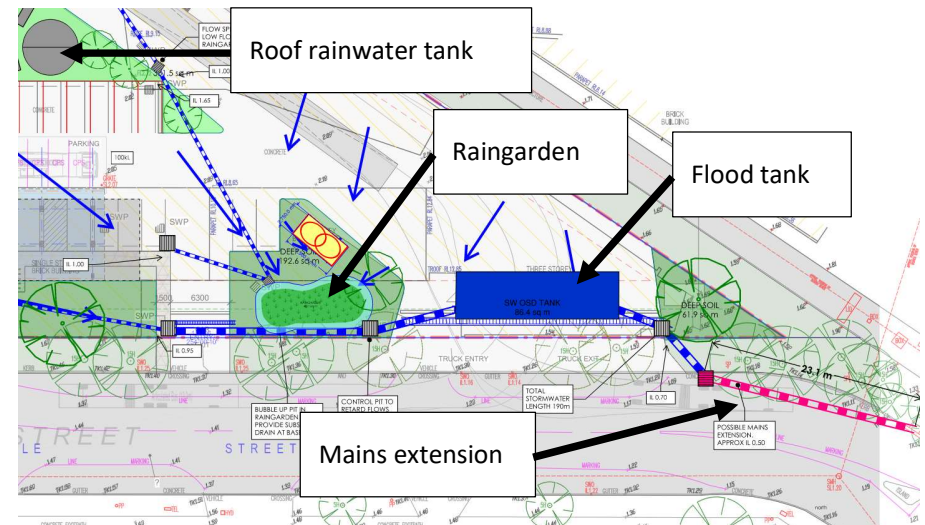


Figure 8 - Proposed Stormwater Connection

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4. APPENDIX A. PROPOSED INFRASTRUCTURE CONNECTIONS

