



849 – 859 PACIFIC HWY, 2 & 8 WILSON ST, CHATSWOOD.
MIXED-USE DEVELOPMENT
INFRASTRUCTURE DELIVERY, MANAGEMENT AND
STAGING PLAN

STATE SIGNIFICANT
DEVELOPMENT APPLICATION
(SSD) No. 74319707

DOCUMENT CONTROL SHEET

Title	Infrastructure Delivery, Management & Staging Plan
Project	849 – 859 Pacific Hwy, 2 & 8 Wilson St, Chatswood, Mixed Use Development
Description	Hydraulic and Electrical Services
Key Contact	Diego Montelvere

Prepared By

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1. EXECUTIVE SUMMARY

This Infrastructure Delivery Management and Staging Plan has been prepared by JHA Consulting Engineers to accompany a detailed State Significant Development Application (SSDA) for a mixed use, residential development at 849 – 859 Pacific Hwy, 2 & 8 Wilson St, Chatswood. The site is made up of five lots. The legal description of the site is outlined in Table 1.

Table 1 Legal Description

Property Address	Title Description
2 Wilson St	SP52947
859 Pacific Hwy	SP10110
853 Pacific Hwy	SP60178
849 Pacific Hwy	SP1496
8 Wilson St (Lot 1 O'Brien St)	Lot 1 DP1189541
Site Area	4,294m ² (excluding SP2 zoned area), 4,752m ² totalc

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-74319707).

This report concludes that the proposed development is suitable, warrants approval, satisfies SEARs Item 21 – Infrastructure Requirements and Utilities being in consultation with the relevant services providers:

- Assess the impact of the development on existing infrastructure and service provider assets surrounding the site.
- Identify any infrastructure required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained.
- Provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development.

This report has considered:

- WSA 03-2011-3.1 Water Supply Code of Australia (Sydney Water Edition 2014)
- WSA 02-2002-2.2 Sewerage Code of Australia (Sydney Water Edition 1 Version 4)
- Ausgrid Network Standards
- Existing infrastructure information obtained from Before-You-Dig-Australia (BYDA) & Ausgrid GIS

This report has prepared in consultation with:

- Water Authority – Sydney Water
- Sewerage Authority – Sydney Water
- Gas Authority - Jemena
- Electrical Authority – Ausgrid Energy
- Telecommunications Authority – Telstra / NBN

The report also details the mitigation measures implemented within the design such as future applications and strategies.

The following mitigation measures to be implemented in the future, post-SSDA lodgement, includes:

- Lodgement of Section 73 application
- Lodgement of gas application
- Finalisation of the Ausgrid ASP3 design works

Following the implementation of the above mitigation measures, the remaining impacts are appropriate and acceptable. If there are any queries regarding this report, please do not hesitate to contact the undersigned.



Diego Montelvere

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Phone: 02 9437 1000

This report has been prepared by JHA Consulting Engineers to identify and summarise the proposed utility infrastructure requirements which will be incorporated into the design of the proposed development at 849 – 859 Pacific Hwy, 2 & 8 Wilson St, Chatswood

This report demonstrates that the existing authority's infrastructure have adequate capacity to support the proposed redevelopment. This report should be read in conjunction with the Architectural design drawings and other consultant design reports submitted as part of the application.

2. INTRODUCTION

The application seeks consent for the development of a 36 storey mixed use development.

The applicant is proposing to construct a mixed-use development at 849, 853 and 859 Pacific Highway and 2 & 8 Wilson Street, Chatswood. The application seeks consent for the delivery of a 36-storey mixed-use residential tower, comprising:

- o Six storey (+ mezzanine) basement
- o Four-storey podium (Ground Level to Level 03)
- o Two modulated 35-storey residential buildings (above podium) (Levels 04 – 35) containing 14 x live / work studios, affordable housing units & private residential units
- o Public domain works, including landscaping, street trees, and publicly accessible open spaces; and
- o Reticulation of site services and infrastructure (electricity, telecommunication, gas, water, and sewer).

This report has been prepared in response to the requirements contained within the Secretary’s Environmental Assessment Requirements (SEARs) and issued for the SSDA (SSD-74319707). Specifically, this report has been prepared to respond to the SEARs requirement issued below.

Table 2 – SEARs Requirements

Item	Description of Requirement	Section Reference (this Report)
21. Infrastructure Requirements and Utilities	<p>In consultation with the relevant service providers</p> <ul style="list-style-type: none"> • Assess the impact of the development on existing infrastructure and service provider assets surrounding the site. • Identify any infrastructure required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained. • Provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development. 	<ul style="list-style-type: none"> • Section 3 existing infrastructure • Section 4 proposed infrastructure services • Section 4 proposed infrastructure services

2.1 THE SITE

The site is located at 2 & 8 Wilson St., 849, 853 and 859 Pacific Highway and 1 O’Brien St, Chatswood, within the City of Willoughby local government area (LGA). The site is legally described as Strata Plans SP52947, SP10110 SP60178 SP1496 and Lot 1 in Deposited Plan 1189541 and has a total site area of 4,294m².

The site is near Chatswood to Train station. The immediate urban context surrounding the site is characterised by a mix of commercial, retail, residential and recreational land uses.

Figure 1 – Site Location Plan



Source – Urbis

Figure 2 – Site Context Plan



Source - Urbis

2.2 REPORT QUALIFICATIONS

This report provides an assessment of existing infrastructure and utilities at the site and identifies infrastructure upgrades and associated arrangements required on-site and off-site to facilitate the proposed development.

JHA have undertaken a desktop review of the hydraulic, electrical, and communication information provided from the site Before-You-Dig-Australia (BYDA) searches, Utility GIS, and provided survey documents.

The report provides an overview of existing infrastructure surrounding and servicing the site from the following in-ground services:

- Water & Sewer Utility – Sydney Water
- Gas Utility – Jemena
- Electrical Utility – Ausgrid

All analysis undertaken for this report has occurred with an understanding that a high level of seamless integration with the development is achieved.

Any potential works on existing authority infrastructure services is subject to negotiation and approvals by the respective Utility. Liaison with each Utility will be undertaken as part of the next detailed design phase works for the site. All information herein is based on experience and knowledge of the network only and must be confirmed by the Utilities.

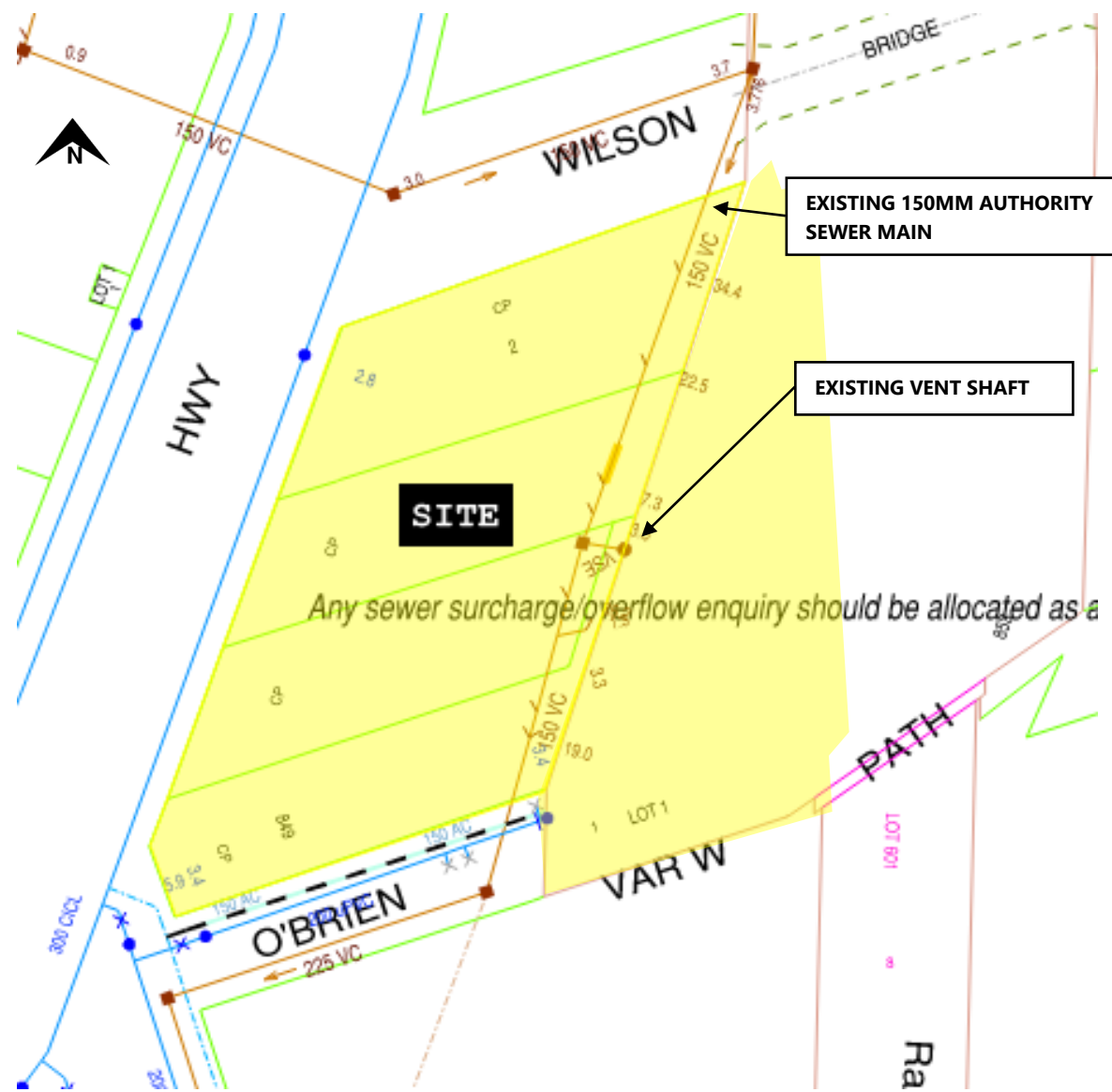
3. EXISTING INFRASTRUCTURE

3.1 HYDRAULIC INFRASTRUCTURE

3.1.1 SEWER DRAINAGE

Based on Sydney Waters' documents, including DBYD and sewer services diagram, there is a Sydney Water Ø150mm Vitrified Clay (VC) sewer main running along the eastern boundary, which includes a Vent Shaft

Diagram below, illustrates the authority sewer main in proximity of the site.



3.1.2 POTABLE WATER

Based on Sydney Waters' DBYD information, the site has frontage to the following authority water mains:

- Ø300mm Cast Iron Cement Lined (CICL) main on the eastern side of Pacific Hwy (W1)
- Ø200mm Unplasticized Polyvinyl Chloride (uPVC) main on the eastern side of Railway St (W2)
- Ø200mm uPVC main on the northern side of O'Brien St (W3)

Diagram below, illustrates the surrounding authority water mains.



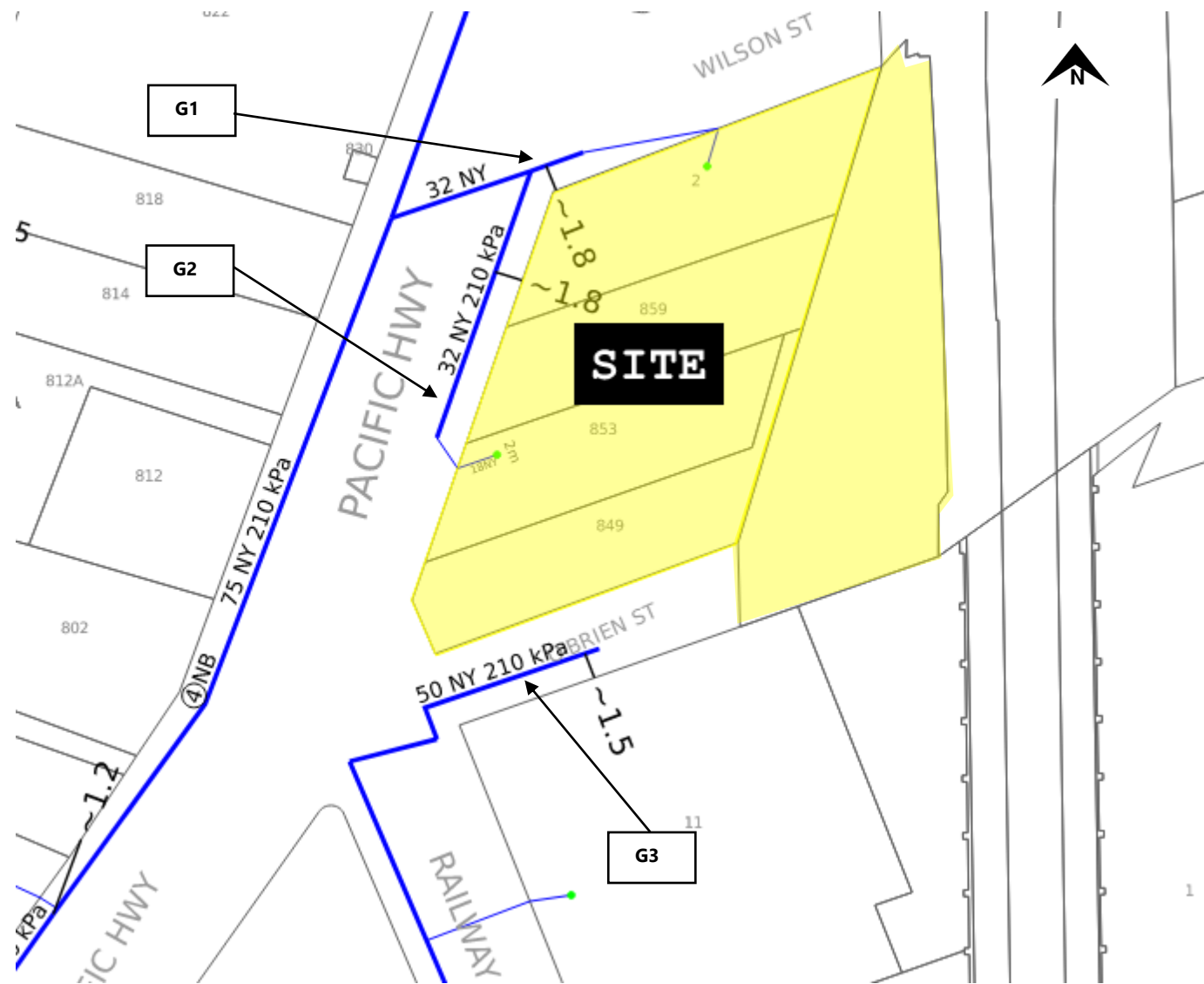
The pressure test results for the water main in O'Brien St can be found in the appendices of this report.

3.1.3 GAS SERVICES

Based on Jemena's DBYD information, the site has frontage to the following authority natural gas mains:

- Ø32mm, 210kPa Nylon gas main on the southern side of Wilson St (G1)
- Ø32mm, 210kPa Nylon gas main on the eastern side of Pacific Hwy (G2)
- Ø50mm, 210kPa Nylon gas main on the southern side of O'Brien St (G3)

Diagram below, illustrates the surrounding authority natural gas mains.



3.2 ELECTRICAL INFRASTRUCTURE

3.2.1 LOW VOLTAGE INFRASTRUCTURE

The proposed development site is currently occupied by five separate lots.

These separated lots are currently supplied individually from the existing Ausgrid low voltage distribution street network via underground and overhead connections as shown in Figure 3.

Existing low voltage Ausgrid assets reticulate around the perimeter of the site, outside of the development boundary within public footpath and roadways.

3.2.2 HIGH VOLTAGE INFRASTRUCTURE

The existing site is not encumbered by any existing Ausgrid HV infrastructure.

Existing high voltage Ausgrid assets reticulate below ground along the Pacific Highway, O'Brien Street, and Wilson Street frontages of the site, outside of the development boundary within public footpath.

3.2.3 STREET LIGHTING

Existing Ausgrid street lighting assets currently provide illuminance to the area surrounding the development site. These includes

- Steel columns along O'Brien Street supplied by underground LV cables
- Timber poles along Pacific Highway and Wilson Street, supplied by overhead LV cables

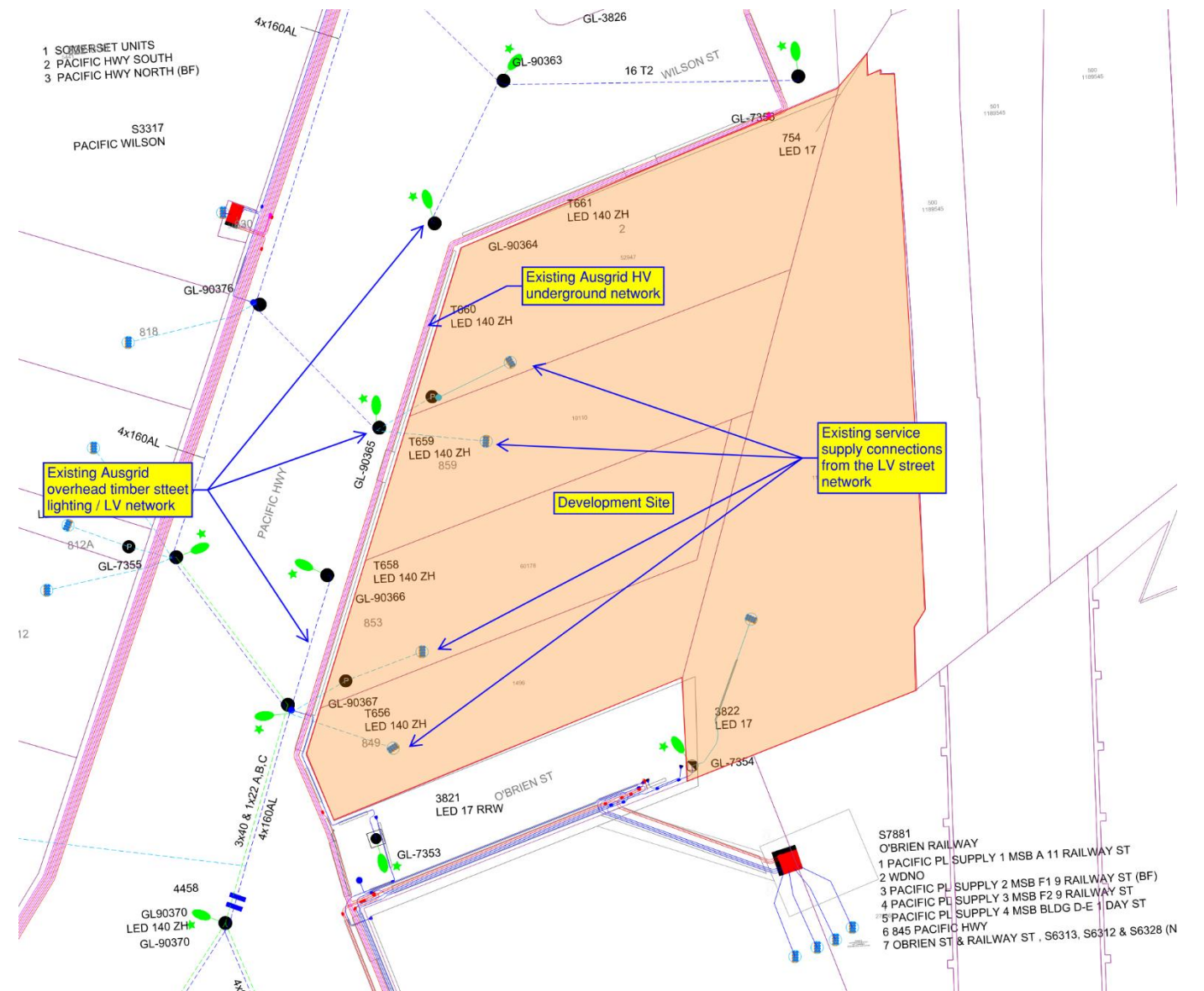


Figure 3: Existing Ausgrid HV / LV / SL Networks (Ausgrid GIS Extract 15/08/2024)

4. PROPOSED INFRASTRUCTURE SERVICES

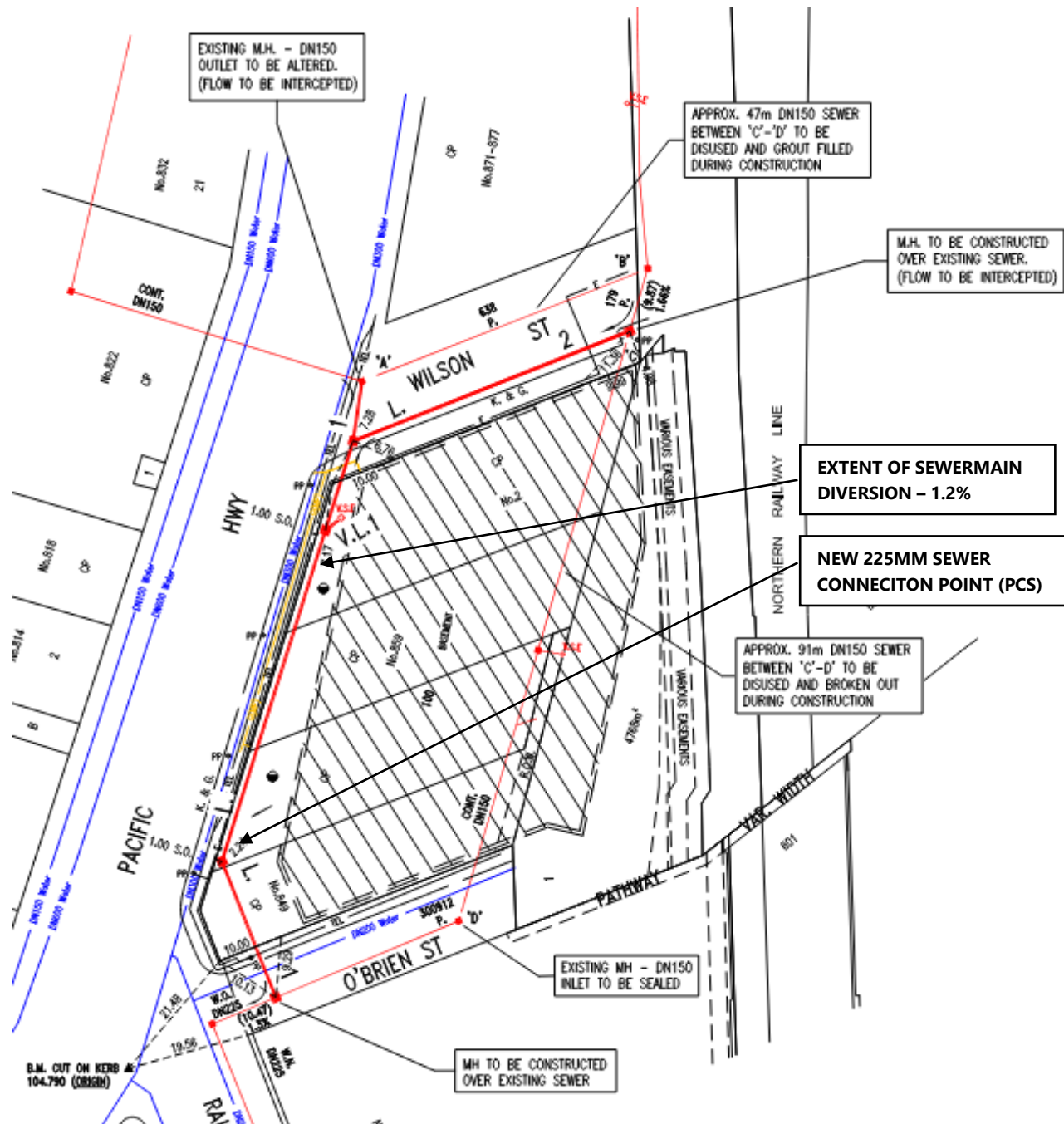
4.1 HYDRAULIC INFRASTRUCTURE

4.1.1 SEWER DRAINAGE

4.1.1.1 Connection Point

Based on preliminary discussions with Sydney Water, a concept plan has been developed by a Water Servicing Coordinator, which indicates that a new Ø225mm sewermain diversion will be provided along the western property boundary, complete with a new Ø225mm Property Connection Service (PCS)

Diagram 4.1.1 below, illustrates the proposed sewermain diversion works and proposed PCS



A Section 73 application will be lodged with Sydney Water to seek approval for the proposed sewer services, subsequent to receiving development approval.

4.1.1.2 Load Estimation

A preliminary load analysis has been undertaken and the following sewer discharges have been calculated:

Catchment	Calculated EP's
Residential	568
Commercial	52
Total	620

4.1.1.3 Adequacy of Authorities Infrastructure

Based on the above load estimates, and in accordance with Water Supply Code of Australia (WSA 02), Sydney Water Edition, the proposed new Ø225 connection point is adequate to serve the entire development. Refer to below extract.

DN 225	1 in 270	0.37%	1,600
	1 in 250	0.40%	1,700
	1 in 200	0.50%	1,950
	1 in 150	0.67%	2,350
	1 in 125	0.80%	2,650
	1 in 100	1.00%	3,025
	1 in 80	1.25%	3,450
	1 in 60	1.67%	4,100

4.1.1.4 Delivery & Staging

The new Ø225mm sewermain diversion will be constructed, tested, and commissioned prior to any Occupation Certificates associated with residential, commercial or retail portions of the development.

4.1.1.5 Coordination

The new Ø225mm sewermain extension will need to be coordinated with all other internal and external assets along the Wilson St, Pacific Hwy and O'Brien St boundaries, which shall be undertaken by an accredited Sydney Water designer.

4.1.1.6 Funding

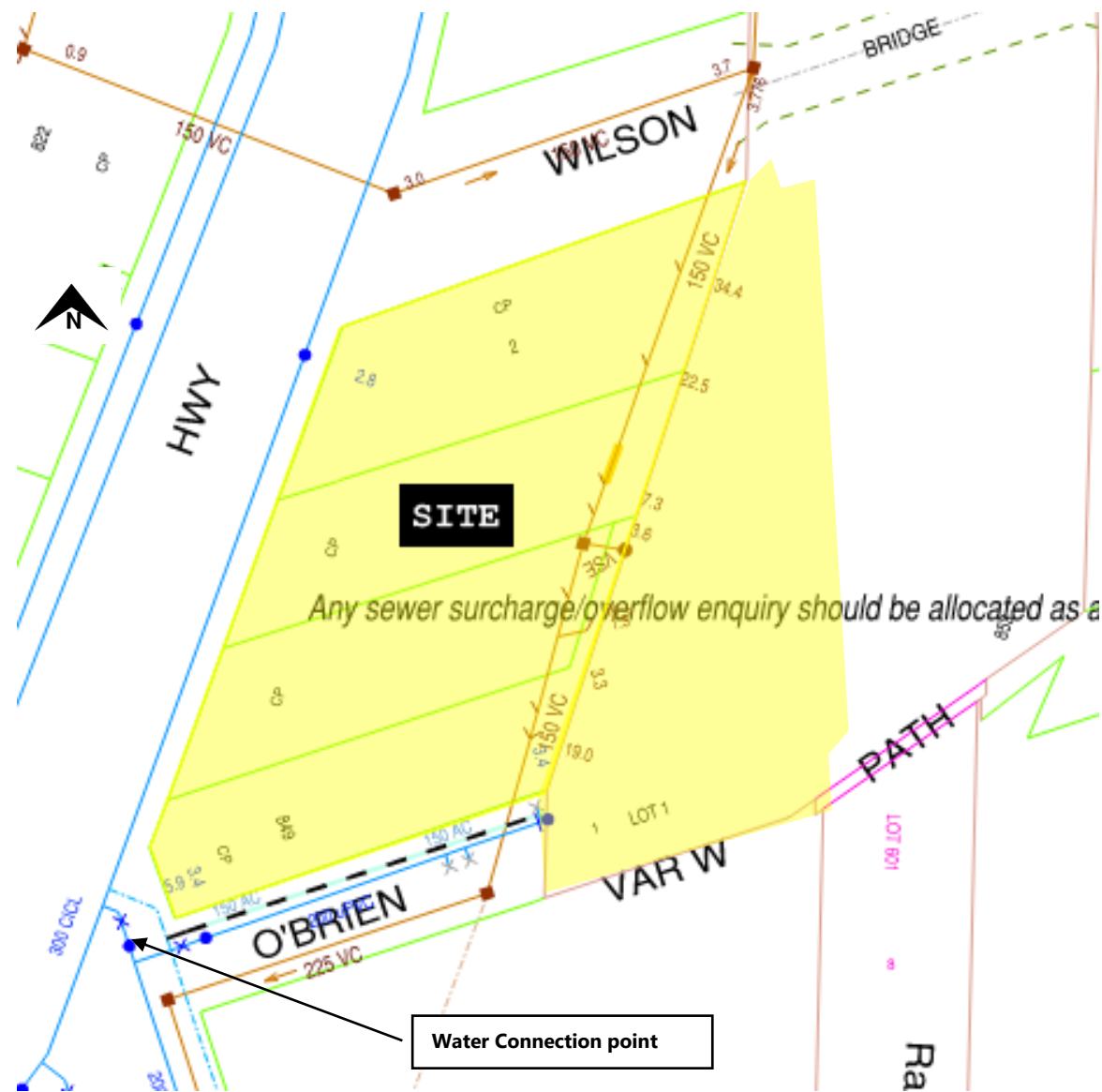
It is envisaged that the new Ø225mm sewermain extension will be funded by the developer, with the Sydney Water Notice of Requirements determining any associated developer contribution charges.

4.1.2 WATER SUPPLY

4.1.2.1 Connection Points

Based on preliminary assessment of the existing Sydney Water potable water network, it is envisaged that the potable water connection for the proposed development shall be supplied from the Ø200mm uPVC main on the northern side of O'Brien St. This will need to be further discussed with Sydney Water, post development approval.

The diagram below provides an illustration of the proposed water connection point.



A preliminary cold water usage analysis has been undertaken and the following estimated loads have been calculated:

- Average daily demand – 89kL
- Average flow – 1.0 l/s
- Peak flow – 5.9 l/s

4.1.2.3 Delivery & Staging

The new water supply point shall be constructed, and commissioned prior to any Occupation Certificates associated with residential, commercial or retail portions of the development.

4.1.2.4 Coordination

The new water connection point will need to be coordinated with all other internal and external assets along the O'Brien St boundary.

4.1.2.5 Funding

It is envisaged that any associated developer charges, as determined in the Section 73 Notice of Requirements determining will be funded by the developer.

4.1.2.6 Adequacy Of Authorities Infrastructure

Pressure boosting pumps will be provided to boost town's mains pressures and ensure adequate pressure are received at the upper most floors of the proposed residential towers.

In accordance with the Water Supply Code of Australia (WSA 03), Sydney Water Edition and load estimation above, there is an opportunity to supply the proposed development via the Ø200mm authority water main in O'Brien without the need for amplification Refer to extract below.

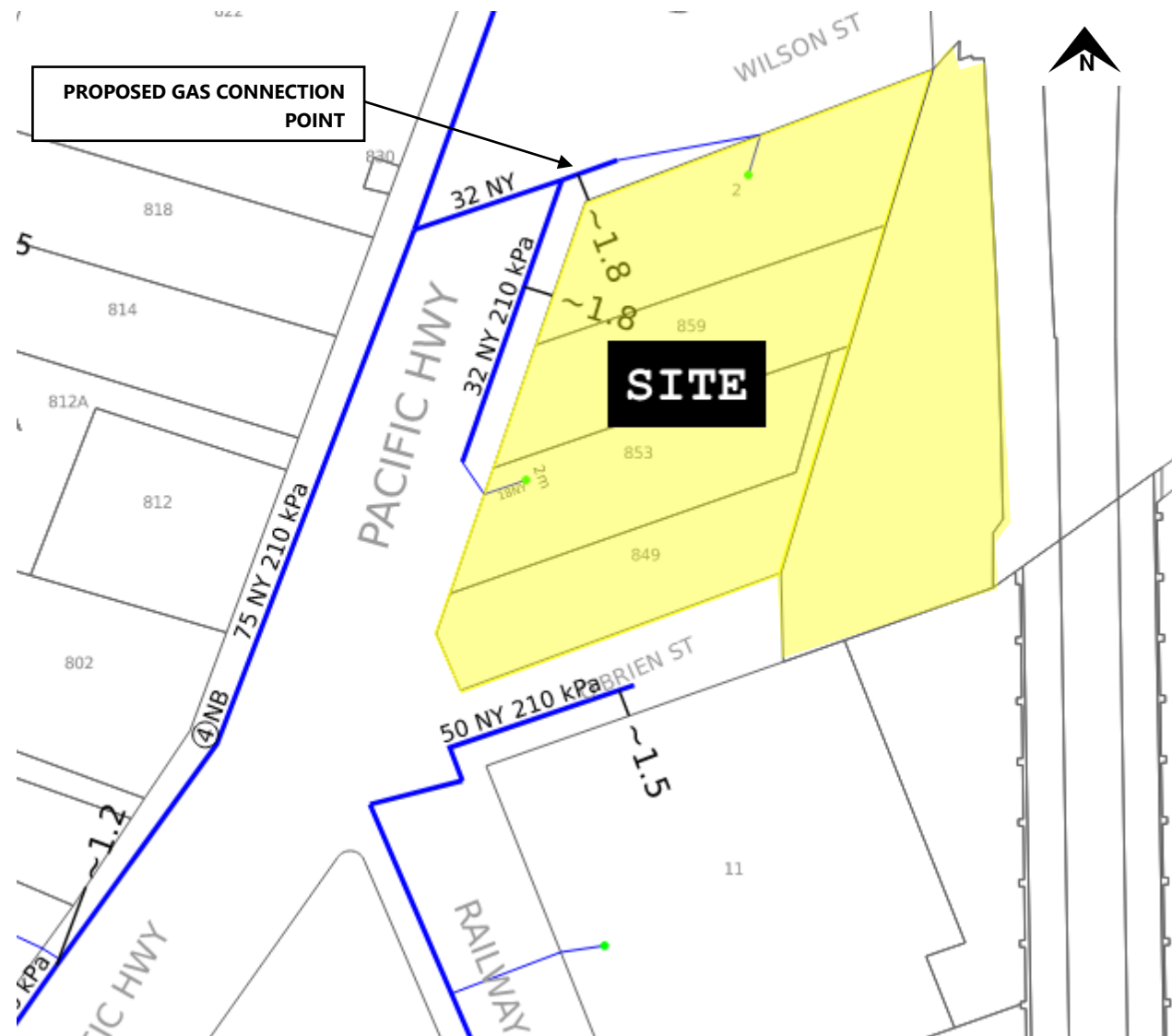
ZONING/DEVELOP	MENTMINIMUM PIPE SIZE (DN)	
	Cast iron outside diameter series	ISO series ⁽³⁾
High density residential (≥ 4 storeys)	150 If a 100 mm main currently fronts a proposed development and the hydraulic capacity is sufficient to serve the property's domestic future demand, then the existing main will be deemed acceptable until the main requires renewal. The developer might upgrade the existing pipe size for other reasons – this is subject to Water Agency agreement.	180 If a 125 mm main currently fronts a proposed development and the hydraulic capacity is sufficient to serve the property's domestic future demand, then the existing main will be deemed acceptable until the main requires renewal. The developer might upgrade the existing pipe size for other reasons – this is subject to Water Agency agreement.
Multiple developments of high density residential (≥ 8 storeys)	200 or 225 ⁽²⁾ If a 100 or 150 mm main currently fronts a proposed development and the hydraulic capacity is sufficient to serve the property's domestic future demand, then the existing main will be deemed acceptable until the main requires renewal. The developer might upgrade the existing pipe size for other reasons – this is subject to Water Agency agreement.	250 or 280 ⁽²⁾ If a 125 or 180 mm main currently fronts a proposed development and the hydraulic capacity is sufficient to serve the property's domestic future demand, then the existing main will be deemed acceptable until the main requires renewal. The developer might upgrade the existing pipe size for other reasons – this is subject to Water Agency agreement.

4.1.3 GAS SUPPLY

4.1.3.1 Connection Points

Natural gas to the development is proposed to be provided from the existing Ø32mm Nylon 210kPa main in Wilson St. If possible, the existing gas connection will be utilised. It is noted that only the retail stratum will be provided with natural gas.

Diagram below, illustrates the proposed natural gas connection point.



4.1.3.2 Load Estimation

Natural gas to the development is proposed to be provided as per the following:

- Live/ Work Tenancy 2 (Ground floor) – 400mJ/hr
- Live/ Work Tenancy 3 (Ground floor) – 400mJ/hr
- Live/ Work Tenancy 4 (Ground floor) – 400mJ/hr

- Live/ Work Tenancy 5 (Ground floor) – 400mJ/hr
- Live/ Work Tenancy 6 (Ground floor) – 400mJ/hr
- Live/ Work Tenancy 7 (Ground floor) – 400mJ/hr

Total diversified gas flow rate is estimated to be 1,200mJ/hr or 32m3/hr

4.1.3.3 Delivery & Staging

The gas main connection will be constructed, tested, and commissioned prior to any Occupation Certificates associated with residential, commercial or retail portions of the development.

4.1.3.4 Coordination

The gas main connection will need to be coordinated with all other internal and external assets along the Wilson St boundary, which shall be undertaken by Jemena's internal designer.

4.1.3.5 Funding

It is envisaged that no funding will be required, as the intent is to utilise the existing assets

4.1.3.6 Adequacy Of Authorities Infrastructure

Based on discussions with Jemena, it was advised that 3 of the existing properties (2 Wilson St, 850 Pacific Hwy & 853 Pacific Hwy) are currently connected to the natural gas main, including supply to domestic hot water. Based on this the new load is below the existing demand and therefore the existing gas mains have sufficient capacity to cater for the proposed retail gas loads.

Prior to commencement of construction a formal gas application will be lodged with Jemena to confirm the suitability of the gas main.

4.2 ELECTRICAL INFRASTRUCTURE

4.2.1 ELECTRICAL DEMAND LOADINGS

A site-specific maximum demand was calculated (by others) to determine the anticipated demand for the proposed development. From this it was determined the optimum demand for the site is anticipated to be approximately **2.42MVA** (approximately 3,510Amps/3phase).

The development will operate as an LV customer, with 400V connections being made from newly proposed Ausgrid substations located within the building footprint.

On the strength of the above, the constraints set by Ausgrid regarding their chamber substation firm ratings, and consideration towards futureproofing the installation, the following authority electrical infrastructure will be required for the subject development:

Substation Infrastructure	Approx. Amp Rating	Approx. Firm KVA Rating
Ausgrid 3 x Transformer Chamber Substation	5,500A Firm	3.8MVA
Total Capacity	5,500A Firm	3.8MVA
Required Capacity		~2.42MVA
Spare Capacity (from proposed substation)		~1.38MVA

The substation is standard fixed sizes from Ausgrid and are the only available in discrete step sizes. These discrete step sizes are quite large, which yields the spare capacity noted above.

The buildings power distribution system can be summarised as follows:

- A single Ausgrid 3 x transformer surface chamber substation along the O'Brien Street frontage of the site (SE-corner)
- The substation shall be firm rated in accordance with NS109 with a rating of 5,500A
- Connected LV Main Switchboards to service the building will be documented by the project's electrical consultant.

4.2.2 AUSGRID EXISTING LV SERVICE DISCONNECTION

The existing five lots that make up the subject site are currently serviced by LV service connections from the surrounding underground Ausgrid LV street network.

The four existing LV supplies to each lot will require an ASP2 Contractor to undertake the works, without the need for an ASP3 Ausgrid Contestable project.

4.2.3 HV FEEDER CONNECTIONS & RETICULATION

To provide electrical supply connections to the proposed development, and in consideration to the number of different HV feeders located around the perimeter of the site, it is proposed the existing Ausgrid High Voltage (HV) feeders within O'Brien Street will be utilised to connect the new Ausgrid chamber substation proposed. This arrangement is subject to suitable spare capacity in the existing HV feeder and Ausgrid design acceptance.

An extension of the existing High Voltage (HV) network within O'Brien Street is proposed to be used for the new substation infrastructure connections to the Ausgrid network. High voltage joints will be installed within the O'Brien Street footpath to the existing high voltage feeders and new cabling installed underground to the new substation infrastructure.

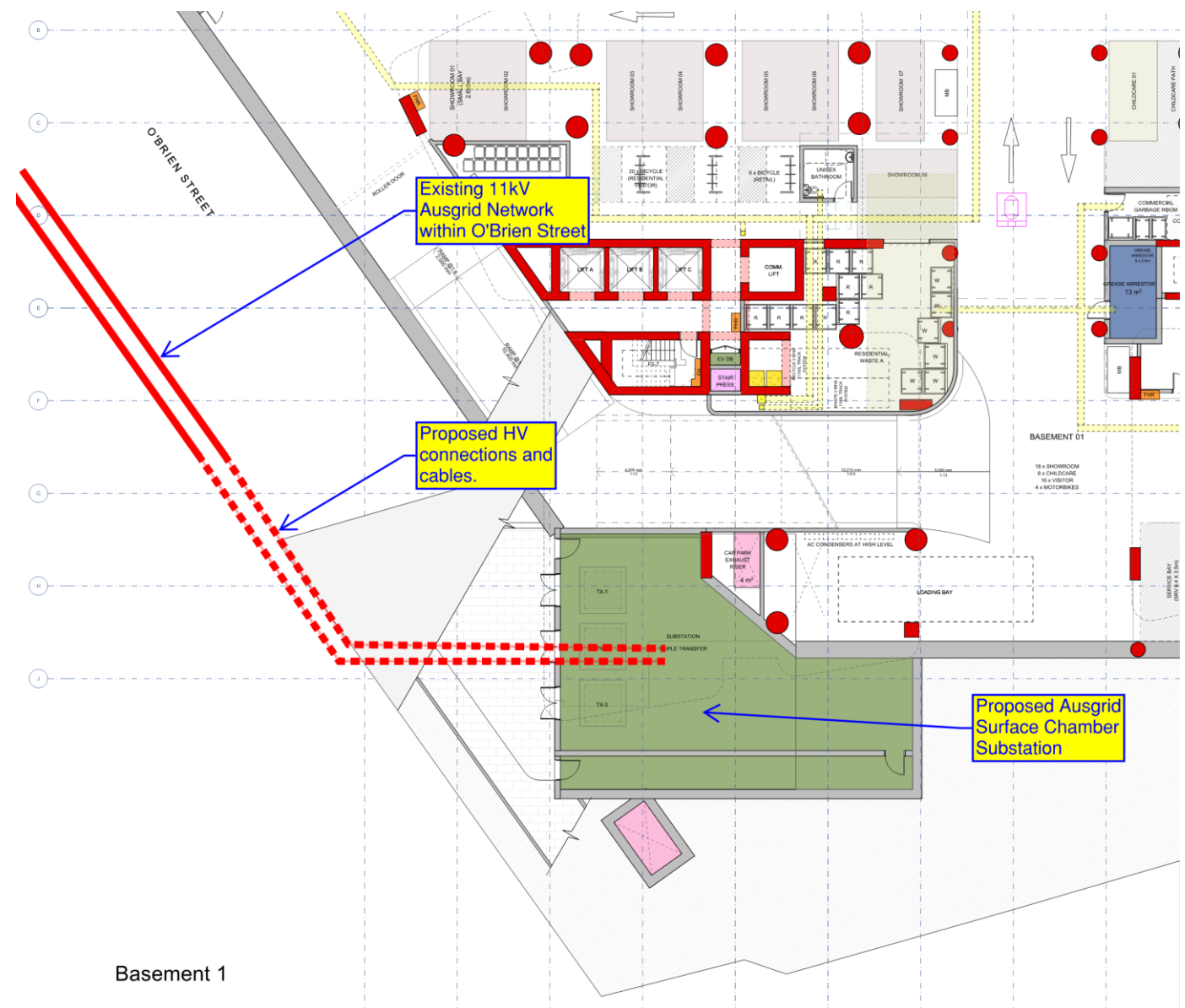


Figure 4: Proposed HV Feeder & Substation Works

A formal application will need to be submitted to Ausgrid to receive a formal Design Information Package (DIP) to confirm the final substation infrastructure and the ability to connect to the existing Ausgrid HV feeder cables within O'Brien Street as proposed.

4.2.4 AUSGRID SUBSTATION ARRANGEMENTS

The design team has considered a number of options for substation location and have developed a surface chamber substation option along O'Brien Street.

The following are general spatial requirements/principles adopted for the proposed surface chamber substation:

- Chamber room (~160m²) to be established at Basement 1 Level which is at Ground Level along O'Brien Street, within the building envelope facing a public roadway
- All substation structural and architectural elements will require a fire rating of minimum FRL 180/180/180 and a blast rating of 2kPa

- A transformer handling area in front of the chambers is to be provided to Ausgrid's requirements. Ausgrid generally use a Franna crane for moving large equipment in and out of the substation using and require a minimum 4.0m head height clearance for the full width of the chamber room from the boundary
- Where the substations are not located directly on the property boundary, a minimum 4.0m wide x 4.0m high clear right-of-way will be required from the public road to the substation façade
- The substations will be naturally ventilated using louvers for the entire façade of the substation. All building elements within 3m of the substation are to be 3hr fire rated; and all other building ventilation openings (natural or forced) is to be at least 6m from the substation louvers.
- 24hr/7day week access is to be provided from public roads to the substation from the boundary for heavy vehicle movement and personnel access to the substation
- All works are to be in accordance with the site specific Ausgrid Design Information Package, Ausgrid Network Standards, and a certified Level 3 design

4.2.5 DELIVERY & STAGING

The new Ausgrid chamber substation will be constructed, tested, commissioned, and handed over to Ausgrid ownership prior to any Occupation Certificates associated with residential, commercial or retail portions of the development.

The following is an expected staging arrangement to be undertaken by an ASP1 contractor, and to be finalised with Ausgrid as part of the ASP3 design process:

1. ASP2 to disconnect and remove all existing service connections from site
2. Establish and commission new chamber substation along the O'Brien Street frontage

4.2.6 COORDINATION

The new Ausgrid chamber substation will be coordinated with all other internal and external assets along the O'Brien Street boundary, which shall be undertaken by an Ausgrid Accredited Service Provider Level 3 (ASP3) designer.

4.2.7 FUNDING

It is envisaged that all augmentation of existing, and establishment of new Ausgrid infrastructure associated with the site will be funded by the developer, with the Ausgrid Design Information Package determining any associated developer contribution charges.

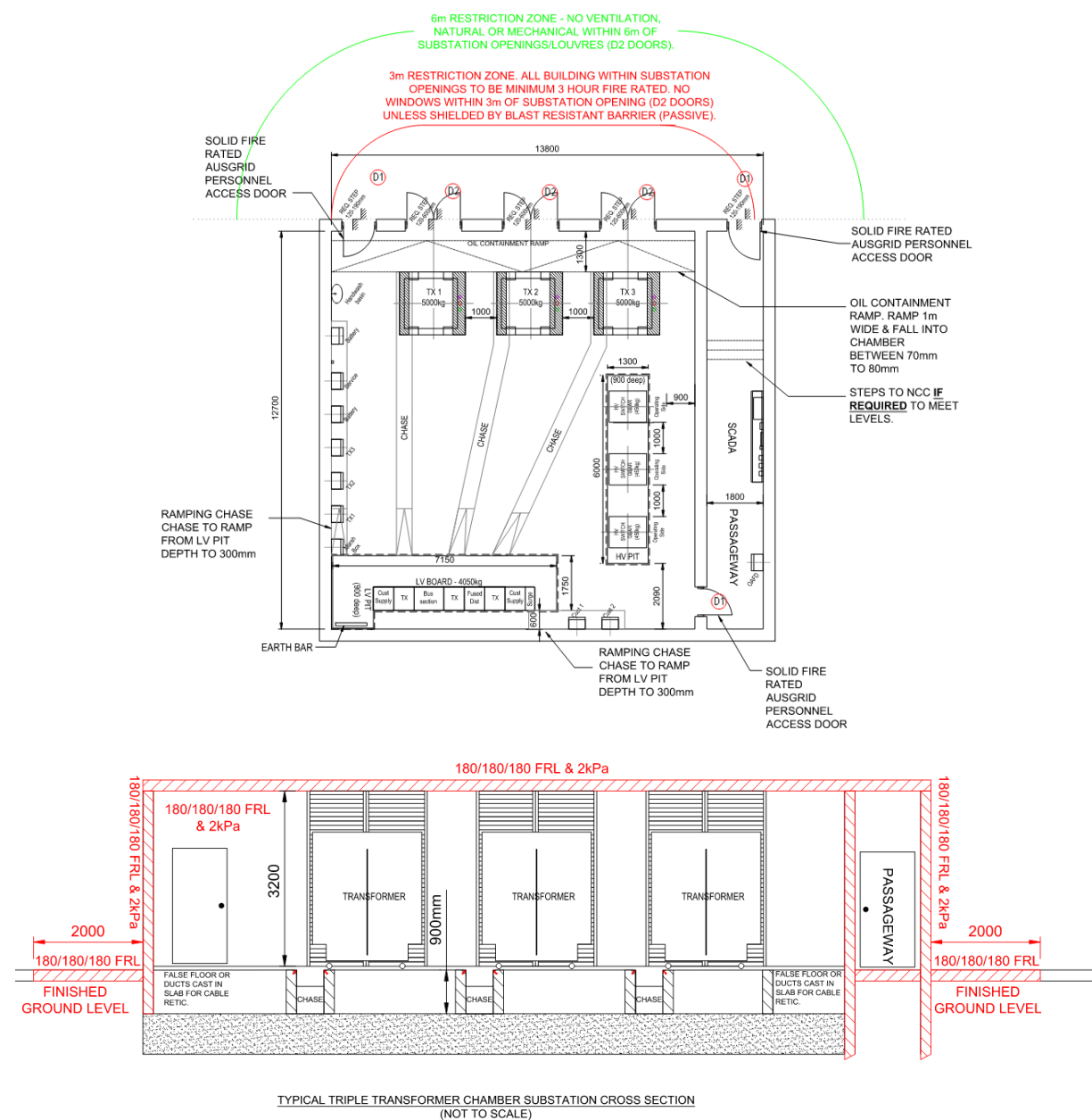


Figure 5: Typical 3 x 1500kVA Transformer Surface Chamber Layout

5. MITIGATION MEASURES

The following mitigation measures to be implemented in the future, post-SSDA lodgement, includes:

- Lodgement of Section 73 application with Sydney Water to obtain Notice of Requirements, which will outline Sydney Water compliance requirements for obtaining a Section 73 Certificate. The Notice of Requirements is envisaged to contain:
 - Confirm the adequacy and of the surrounding sewer main and proposed new discharge point.
 - Confirm the adequacy of the watermain in O'Brien St
 - Any applicable developer charges
- Lodgement of gas application with Jemena via the online portal, which will confirm the suitability of the gas connection point in Wilson St
- Continued design and coordination of the Ausgrid ASP3 design package by JHA as the engaged ASP3 designer. Achieve certification approvals from Ausgrid to allow construction of services.
- Lodgement of an Ausgrid Connection Application to determine Ausgrid required connection points and viability of substation infrastructure for the site.
- JHA as the engaged ASP3 design will undertake the ASP3 Ausgrid Contestable Design to achieve certification approvals from Ausgrid to allow construction of services.

6. CONCLUSION

This Infrastructure Delivery Management and Staging demonstrates that the respective service provided have been consulted as part of the SSDA and:

- The impacts of the development on existing infrastructure and service provider assets surrounding the sites have been considered.
- Any infrastructure required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained.
- Staging for the delivery of infrastructure as noted in this report.
- Infrastructure requirements will be coordinated with the respective service providers, post SSDA approval, after the formal applications being lodged.
- Any required funding of infrastructure will need to be confirmed with the respective service providers, post SSDA approval, after the formal applications being lodged.

7. STAKEHOLDER CONSULTATION REGISTER

Stakeholder	Stakeholder Name/ Contact	Date/ Time of Contact	Type of Contact	Summary of Feedback	Project Response
Sydney Water	dbydgis@sydneywater.com.au	19/10/2023	Email Correspondence	Maps showing surrounding Sydney Water infrastructure (Water & Sewer)	Design to progress based on assessment of infrastructure
Sydney Water	swtapin@sydneywater.com.au	30/10/2023	Email Correspondence	Statement of Available Pressure and Flow	Design to progress based on results of pressures and flows. Allowance has been made for pumps and tanks, where required
Sydney Water	Water Servicing Coordinator: Billbergia – (02) 8878 6931	04/09/2024	Sewermain Diversion – Issued for Sydney Water Approval	Relocation of vent shaft and new sewer connection point	Design to progress based on the need to provide a new compliant sewer connection point
Jemena	dbyd.gasreply@jemena.com.au	19/10/2023	Email Correspondence	Maps showing surrounding Jemena gas infrastructure	Design to progress based on assessment of infrastructure
Jemena	Neale Hilton – Jemena Network Development Manager neale.hilton@jemena.com.au	30/10/2024	Phone Conversation	Existing gas loads are substantially higher than the new gas demands and therefore no capacity issues are envisaged	Gas supply is adequate
Jemena	Neale Hilton – Jemena Network Development Manager neale.hilton@jemena.com.au	18/11/2024	Email Correspondence	Follow up to confirm phone conversations	Gas supply is adequate
Ausgrid	dbyd@ausgrid.com.au	18/10/2023	Email Correspondence	Maps showing surrounding Ausgrid infrastructure	Design to progress based on assessment of infrastructure
Ausgrid	Ausgrid Customer Team <CRM-no-reply@Ausgrid.com.au>	24/11/2023	Email Correspondence	Ausgrid Design Service Offer	Design to progress based on the 2 off standard mini chamber substations
Ausgrid	David Barker – Ausgrid Contestable Project Coordinator dbarker@ausgrid.com.au	16/10/2024	Email Correspondence	New application will be required for the significant change of scope due to additional uplifting. A new Ausgrid project number will be created.	Proceed with new Ausgrid application for a custom 3 transformer chamber.

8. APPENDIX A – PRESSURE FLOW INQUIRY RESULTS

Statement of Available Pressure and Flow



Diego Montelvere
 23 101 Miller Street
 North Sydney, 2060

Attention: Diego Montelvere

Date: 12/11/2024

Pressure & Flow Application Number: 2009015

Your Pressure Inquiry Dated: 2024-10-30

Property Address: 849 Pacific Highway, Chatswood 2067

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: Railway Street	Side of Street: East
Distance & Direction from Nearest Cross Street	5 metres North from O'Brien Street
Approximate Ground Level (AHD):	106 metres
Nominal Size of Water Main (DN):	200 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	67 metre head
Minimum Pressure	50 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	50
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10	56
	15	56
	20	55
	25	55
	30	55
	40	54
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	50	54
	10	49
	15	49
	20	49
	25	48
Maximum Permissible Flow	30	48
	40	47
	50	47
60	46	

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

hydraulicassessment@sydneywater.com.au

9. APPENDIX B – AUSGRID CORRESPONDENCES

OFFER to provide DESIGN RELATED SERVICES



DESIGN RELATED SERVICES OFFER

Premises address: 8 WILSON STREET, CHATSWOOD 2067

NMI - Number: 1900125313 **Webform Ref** 1859479

MC Reference: 1900125313 **AP Reference:** 800612691

This offer is made on 24/11/2023

By Ausgrid of 24 Campbell St, Haymarket NSW 2000.

To the **connection applicant** named in the *connection application* received on 20/11/2023 in respect of the premises referred to above.

Ausgrid has determined that network alterations are required to connect your development and we cannot proceed to a connection or relocation offer at this stage. To enable Ausgrid to further consider and process your application you will require a certified design and associated certification number. Your application remains technically incomplete until you have been issued a certification number.

This Design Related Services Offer provides guidance on how to obtain a certified design and associated certification number.

Scope of Network Alterations

Ausgrid has determined that the following works are likely to be required:

- Installation of 2 x 1000kVA Standard Chamber Type Substations.

These works are classified as contestable, which means that you are required to fund the design and some or all of the construction works. If you have not already done so, you will need to engage and manage suitably qualified contractors, known as Accredited Service Providers (ASPs) to undertake the design and construction.

Initially, your ASP Level 3 (ASP/3) will undertake the design, and then your ASP Level 1 (ASP/1) will undertake construction in accordance with the design and Ausgrid's policies and standards. The timeframe for the works will vary depending on factors such as the complexity and the way in which you manage your ASP's.

Once the works have been satisfactorily completed and electrified, the premises connection assets will be owned and maintained by Ausgrid as part of the electricity distribution network.

Contract for Design Related Services

This letter is an offer for the Customer to enter into a Contract for Design Related Services with Ausgrid. It remains open for acceptance for 45 business days. If the offer is accepted by the Applicant, the Applicant does so as the Customer's agent. No work will be undertaken by Ausgrid until a Design Contract is in place.

You are encouraged to contact ASP/3's and ASP/1's to understand the likely overall costs you will incur for design and construction before you accept and commit to the Contract for Design Related Services.

IMPORTANT: The contractual arrangements provide the framework for a design to be prepared by your ASP/3, and NOT by Ausgrid. Ausgrid's fees as outlined below are for the design related network services we provide during the design phase and are **IN ADDITION** to the fees charged by your ASP/3 in preparing the design.

Acceptance Fees

The acceptance fees relating to the Contract for Design Related Services are outlined in the attached Acceptance Fee Summary and also detailed on the Ausgrid Portal page. Ausgrid will invoice the Customer once we receive acceptance via the Ausgrid Portal along with a Customer Details Form (attached). The Contract will commence when you pay the invoiced fee.

The acceptance fees are an estimate for the Ausgrid services required and are payable up front by the Customer. Further fees may apply for any additional services required and these will be quoted via the Ausgrid Portal on each occasion.

Ausgrid's published rates for our services are amended from time to time in our Alternative Control Services Fee Schedule Publication, and in accordance with the Contract, Ausgrid reserves the right to charge the rates that are applicable at the time the service is provided.

Terence Sun

From: David Barker <dbarker@ausgrid.com.au>
Sent: Wednesday, 16 October 2024 9:18 AM
To: James Paul De Arce
Cc: Kosma Tzannes; Terence Sun
Subject: RE: AN-25767_Wilson St, Chatswood - New Supply Offer Request

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Hi James,

A new application would be required. Given the early stages of project AN-25767 I would recommend that we close project AN-25767 and I will organise a full refund of the design fees back to the customer. After the customer gets their refund, you can apply for a new application/ project to establish a 3x1500. You can review and accept that new offer and progress the chamber under a new project.

Please let me know if you want to close project AN-25767 and I will organise the refund. You can submit a new application when you receive the refund.

Regards,

David Barker
Contestable Project Coordinator | Connections Central



0476 853 343
Bldg 3A, 59 Bridge Road, Hornsby NSW 2077
dbarker@ausgrid.com.au

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From: James Paul De Arce <James.DeArce@jhaengineers.com.au>
Sent: Monday, October 14, 2024 2:07 PM
To: David Barker <dbarker@ausgrid.com.au>
Cc: kosma.tzannes@jhaengineers.com.au; terence.sun_jhaengineers.com.au <terence.sun@jhaengineers.com.au>
Subject: AN-25767_Wilson St, Chatswood - New Supply Offer Request

Hi David,

I hope you are well.

In regards with the project AN-25767 Chatswood, this project was previously for 2x1000kVA mini Ausgrid chambers, however with the uplift it needs to grow to a custom 3x1500kVA Tx chamber. May I ask for Ausgrid to increase the load requirement and issue a new supply offer or we to submit a new application. Please see attached supply offer(accepted) for your reference.

Any concerns, feel free to get in touch.

Kind regards,

James De Arce
Level 3 Engineer

Level 20, 2 Market Street, Sydney, NSW 2000
PO Box Q453, Queen Victoria Building, NSW 1230
E james.dearce@jhaengineers.com.au
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10. APPENDIX C – JEMENA CORRESPONDENCE

From: Neale Hilton <neale.hilton@jemena.com.au>
Sent: Monday, 18 November 2024 11:04 AM
To: Diego Montelvere
Subject: RE: 849 -859 Pacific Hwy and 2 & 8 Wilson St, Chatswood - Jemena Gas Capacity & Connection Point


Follow Up Flag: Follow up
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I would assume there is capacity for that nominated load.

Regards

neale.hilton@jemena.com.au | www.jemena.com.au



We're building a better way to connect.
From March 2025 we will be changing how we accept Leak Test Notices and Site Ready Photos for all new connections.

[CLICK HERE](#)

Neale Hilton

Network Development Specialist –
Residential Medium Density/High Rise

Jemena

Level 10, 99 Walker Street, North Sydney, NSW 2060
M 0402 060 151

From: Diego Montelvere <Diego@jhaengineers.com.au>

Sent: Monday, November 18, 2024 10:42 AM

To: Neale Hilton <neale.hilton@jemena.com.au>

Subject: 849 -859 Pacific Hwy and 2 & 8 Wilson St, Chatswood - Jemena Gas Capacity & Connection Point

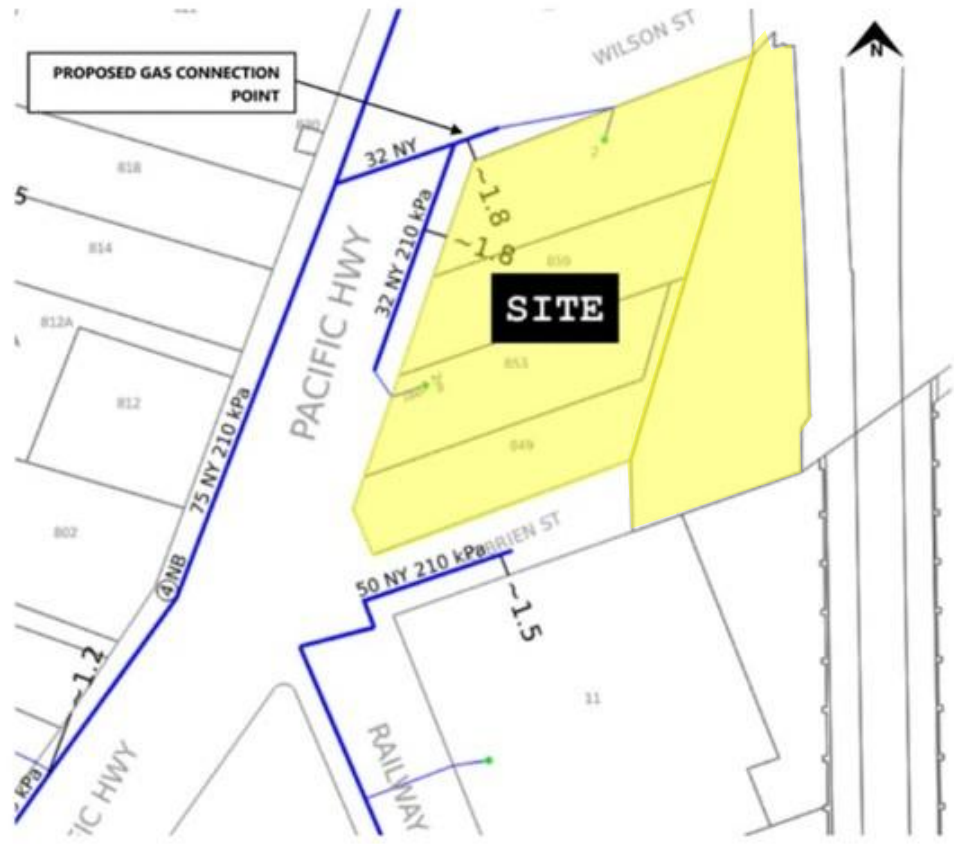
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Hi Neale,

Further to our discussions 30/10/2024, I advise that JHA are currently working on behalf of BB Wilson Property Pty Ltd, for the proposed development at 849 -859 Pacific Hwy and 2 & 8 Wilson St, Chatswood. Refer to snippet below of development site:



Natural gas for the proposed development is restricted to the 6 x retail tenancies on the ground floor. Based on an allowance of 400mJ/hr per unit and an assumed diversity of 50% the maximum natural gas, the maximum peak hourly gas consumption has been calculated to be 1,200mJ/r. Based on the estimated peak gas load, there is sufficient capacity in the existing Ø32mm, 210kPa gas main in Wilson St. Refer to snippet below:



Furthermore, given that most new developments are steering away from natural gas, there is no concerns regarding network capacity.

Please let me know if I have missed anything or misinterpreted our phone conversation.

Regards

Diego Montelvere
Director



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