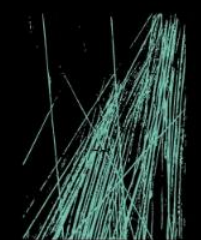




136-148 NEW SOUTH HEAD ROAD, EDGECLIFF.

MIXED-USE DEVELOPMENT

STATE SIGNIFICANT
DEVELOPMENT APPLICATION
(SSD) No-77608714



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DOCUMENT CONTROL SHEET

Title	Infrastructure Delivery, Management & Staging Plan
Project	136-148 New South Head Road, Edgecliff, Mixed Use Development
Description	Hydraulic and Electrical Services
Key Contact	Diego Montelvere

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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 136-148 New South Head Road, Edgecliff. The site is made up of four lots. The legal description of the site is outlined in Table 1.

1.1.1 TABLE 1 LEGAL DESCRIPTION

Property Address	Title Description
Lot 1	DP 663495
Lot 2	DP 983678
Lot 1	DP 1092694
Lot A	DP 443992
Lot B	DP 443992
Site Area	1,746 sqm

This report has been prepared to address the Secretary’s Environmental Assessment Requirements (**SEARs**) issued for the project SSD-76855210 (Concept SSDA) and SSD-77608714 (Detailed SSDA)

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
- Electrical Authority – Ausgrid
- Telecommunications Authority – Telstra / NBN

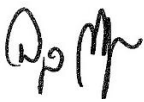
The report also details the mitigation measures implemented within the design such as future applications and strategies.

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

- Lodgement of Section 73 application
- Lodgement of the Ausgrid application for connection

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.



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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 1 Darling Point Road, Darling Point.

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

This report supports both a Concept State Significant Development Application (SSDA) and Detailed SSDA being lodged concurrently with the Department of Planning, Housing and Infrastructure (DHPI) for a new shop top housing development including in-fill affordable housing at 136-148 New South Head Road, Edgecliff (the site). The proponent for the SSDAs is Lendlease (One Darling Point) Pty Ltd (Lendlease) along with capital partner Mitsubishi Estate Asia.

The proposal aims to:

- Retain and refurbish the existing heritage building at 136 New South Head Road.
- Contribute to the continued renewal of the Edgecliff Commercial Centre.
- Respond to the housing challenges facing NSW through boosting the delivery of housing in a highly accessible location with high levels of amenity.
- Align with the NSW Government's ambition to deliver high density housing around transport infrastructure.
- Deliver affordable housing in accordance with the in-fill affordable housing provisions of State Environmental Planning Policy (Housing) 2021.
- Deliver active street frontages to support a vibrant public domain.
- Deliver a built form that relates to the surrounding context while emphasising the key gateway/corner of New South Head Road and Darling Point Road.

2.1 BACKGROUND

In response to strategic planning reforms instigated by the NSW Government across metropolitan Sydney in the 2010's, Woollahra Municipal Council commenced a process to investigate areas within its LGA that could accommodate additional housing and employment. The focus of these planning reviews was within the LGA's key local centres, including Edgecliff. Council accordingly commenced a review of the Edgecliff Commercial Centre (ECC) in 2015, and this finally culminated in the adoption of the ECC Planning and Urban Design Strategy in April 2024. The ECC Strategy sets a new vision for the Edgecliff commercial centre and makes recommendations (including in relation to the subject site) on built form outcomes, public domain upgrades and community infrastructure.

Overlapping with Council progressing its strategic planning of Edgecliff, the proponent at the time progressed a site-specific planning proposal (rezoning) which sought to amend the existing planning controls applying to the site under Woollahra Local Environmental Plan 2014 in order to support additional height and floor space for a mixed-use development outcome. The planning proposal was subsequently supported on both strategic and site-specific merit grounds, with new site-specific planning controls commencing in May 2024.

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-77608714). Specifically, this report has been prepared to respond to the SEARs requirement issued below.

2.1.1 PLANNING APPROVALS STRATEGY

State Environmental Planning Policy (Planning Systems) 2022 identifies development which is declared to be State Significant. The proposal is SSD as it includes development for the purposes of in-fill affordable housing and the residential component has an estimated development cost of more than \$75 million.

Subject to Clause 6.11 of the Woollahra LEP, the realisation of the new planning controls applying to the site is contingent on the preparation of a DCP that provides for:

- Building envelopes and built form controls, including storeys and setbacks and provision for a podium and tower,
- A mix of apartment types, including the number of bedrooms in each apartment,
- Conservation of heritage items on the consolidated lot,
- Appropriate car parking and vehicle access arrangements.

In accordance with Section 4.23 of the *Environmental Planning and Assessment Act 1979*, if an environmental planning instrument requires the preparation of a DCP, that obligation may be satisfied by the making and approval of a concept development application in respect of that land. Correspondingly, a Concept SSDA in accordance with Section 4.22 of the EP&A Act is being prepared to satisfy this requirement. This Concept SSDA is being prepared concurrently with a Detailed SSDA that seeks approval for the final design and execution of the proposed development. Together, these concurrent SSDAs will realise one vision for the site through conceptual and detailed design and approval.

2.2 SITE DESCRIPTION

The subject site is located at 136 – 148 New South Head Road, Edgecliff which is situated on the corner of New South Head Road and the southern end of Darling Point Road. The site is located within the Woollahra Local Government Area (LGA), where the traditional custodians of the land are the Dharawal people.

The site is located within the Edgecliff Commercial Centre (ECC) and is within a 50m walking distance from the Edgecliff Shopping Centre, Edgecliff Bus Interchange and Edgecliff Train Station, providing bus and railway connection to Watsons Bay, Bondi Junction, Walsh Bay, Chatswood and the Sydney CBD. The site has an approximate frontage of 27m to Darling Point Road and 50m to New South Head Road, with a total site area of 1,746m². It is legally described as:

- Lot 1 in DP663495
- Lot 2 in DP 983678
- Lot 1 in DP 1092694
- Lot A in DP 443992
- Lot B in DP443992

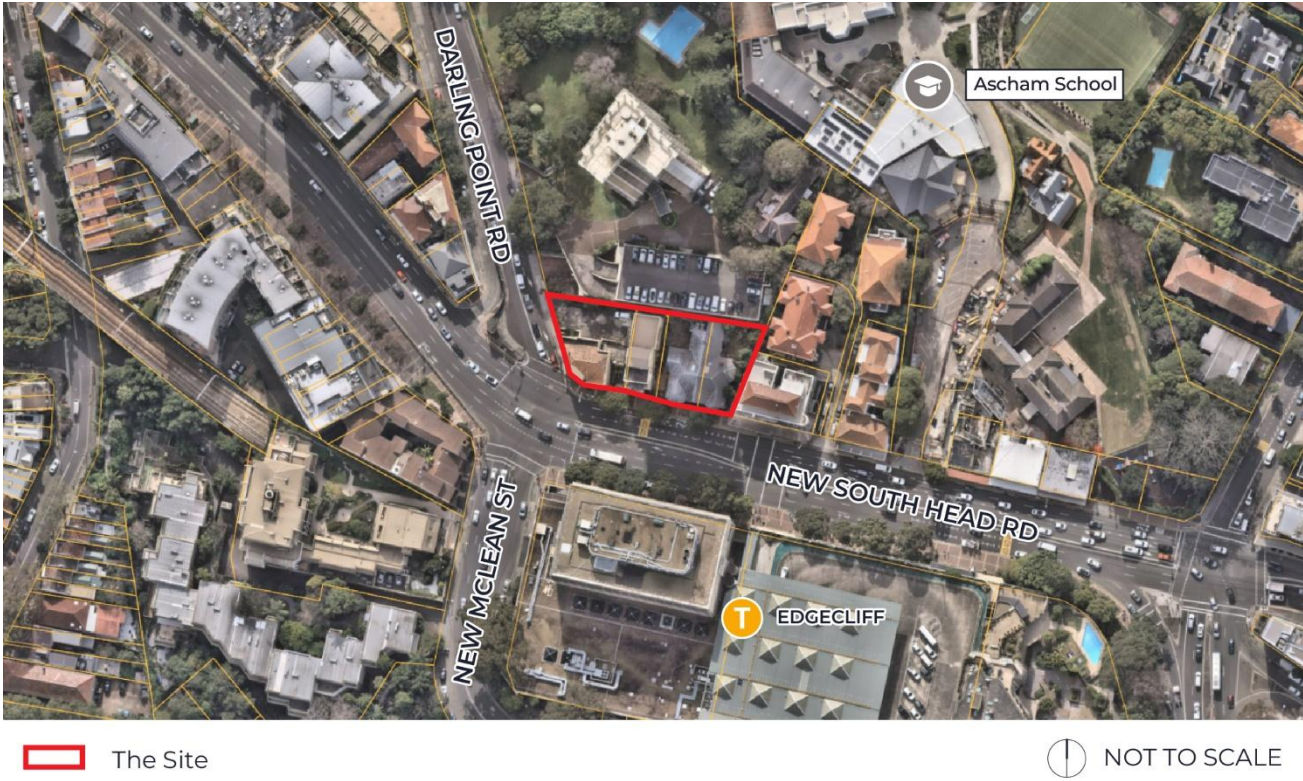


Figure 1: Site Aerial

2.2.1 SITE AERIAL

The existing development on the site comprises three separate buildings ranging from two to four storeys. The corner site is also partially subject to a land acquisition reservation and is identified as a local heritage item (I238).

2.3 OVERVIEW OF PROPOSED DEVELOPMENT

Lendlease have engaged the leading and highly experienced Tzannes architectural team to lead the design of the project. A high-level summary of the proposed development is described below, with further details provided within the respective Environmental Impact Assessments (EISs) prepared by Ethos Urban.

Section 4.22 of the EP&A Act relates to concept development applications. A concept development application is one that sets out concept proposals for the development of a site, and for which detailed proposals for the site are to be the subject of a subsequent development application/s. There is an administrative/technical need to progress with a concept proposal SSDA and for which a detailed proposal will be progressed within a subsequent SSDA (albeit in this instance concurrent).

The Concept SSDA will seek consent for land uses, gross floor area, apartment mix, building envelope, public domain concept, heritage conservation strategy, pedestrian and vehicle access and circulation arrangements and associated car parking provision. It will also incorporate strategies to a concept level of detail with respect to utilities services provision, drainage and ESD.

The detailed SSDA seeks approval for:

- The restoration and fit-out of the existing heritage item at 136 New South Head Road.
- Demolition of the existing buildings at 138 and 140-148 New South Head Road.
- The construction and operation of a 17-storey mixed-use building, comprising the following:
 - Residential dwellings (market and affordable housing units).
 - Commercial office space,
 - Retail floor space,
 - Podium car parking,
- Associated landscaping and public domain works, including a publicly accessible through-site link; and
- Augmentation and servicing of infrastructure and utilities.

2.4 SECRETARY’S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

In accordance with section 4.39 of the *Environmental Planning & Assessment Act 1979* (EP&A Act), Secretary’s Environmental Assessment Requirements (SEARs) for SSD-76855210 (Concept SSDA) and SSD-77608714 (Detailed SSDA) have been issued. This report has been prepared to respond to the issued SEARs, as set out in the tables below.

2.4.1 TABLE 2 SSD-76855210 (CONCEPT SSDA) SEARS

Item	Description of Requirement	Section Reference (this Report)
14. Water Management	• Provide an Integrated Water Management Plan for the development that: ▪ Is prepared in consultation with the local council and any other relevant drainage or water authority. ▪ Outlines the water-related servicing infrastructure required by the development (informed by the anticipated annual and ultimate increase in servicing demand) and evaluates opportunities to reduce water demand (such as recycled water provision). ▪ Details the proposed drainage design (stormwater and wastewater) for the site including any on-site treatment, reuse and detention facilities, water quality measures, and nominated discharge points. ▪ Demonstrates compliance with the local council or other drainage or water authority requirements and avoids adverse downstream impacts Where water and drainage infrastructure works are required that would be handed over to the local council, or other drainage or water authority, provide full hydraulic details and detailed plans and specification of proposed works that have been prepared in consultation with, and comply with the relevant standards of, the local council or other drainage or water authority	Refer to Civil and ESD reports retrospectively Section 4 proposed infrastructure services

2.4.2 TABLE 3 SSD-77608714 (DETAILED SSDA) SEARS

Item	Description of Requirement	Section Reference (this Report)
21. Infrastructure Requirements and Utilities	In consultation with the relevant service providers	
	▪ Assess the impact of the development on existing infrastructure and service provider assets surrounding the site.	Section 3 existing infrastructure
	▪ 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.	Section 4 proposed infrastructure services
	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.	Section 4 proposed infrastructure services

2.5 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 Ø225mm Vitrified Clay (VC) sewer main running along the Southern Boundary & a Sydney Water Ø225mm Vitrified Clay (VC) sewer main running along the Western boundary. With maintenance shafts located Southwest to the site boundary.

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

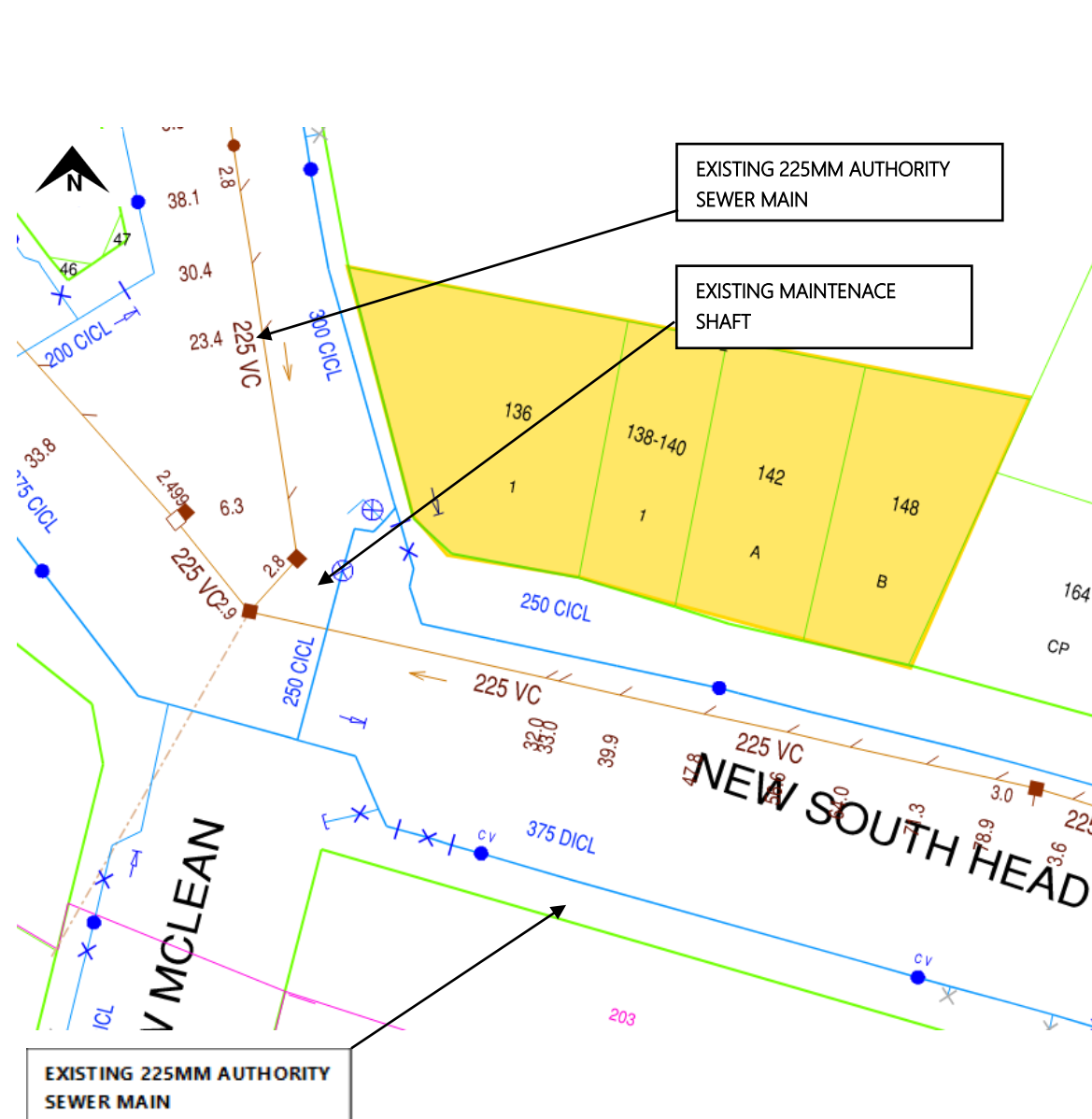


Figure 2: Authority Sewer Infrastructure

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 Darling Point Road (W1)
- Ø250mm Cast Iron Cement Lined (CICL) main on the Northern side of New South Head Road (W2)
- Ø375mm Ductile Iron Cement (mortar) Lined (DICL) main on the Southern side of New South Head Road (W3)

Diagram below, illustrates the surrounding authority water mains.



Figure 3: Authority Water Infrastructure

The pressure test results for the water main in New South Head Road 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:

- Ø75mm, 210kPa Nylon gas main on the southern side of New South Head Road (G1)

Diagram below, illustrates the surrounding authority natural gas mains.

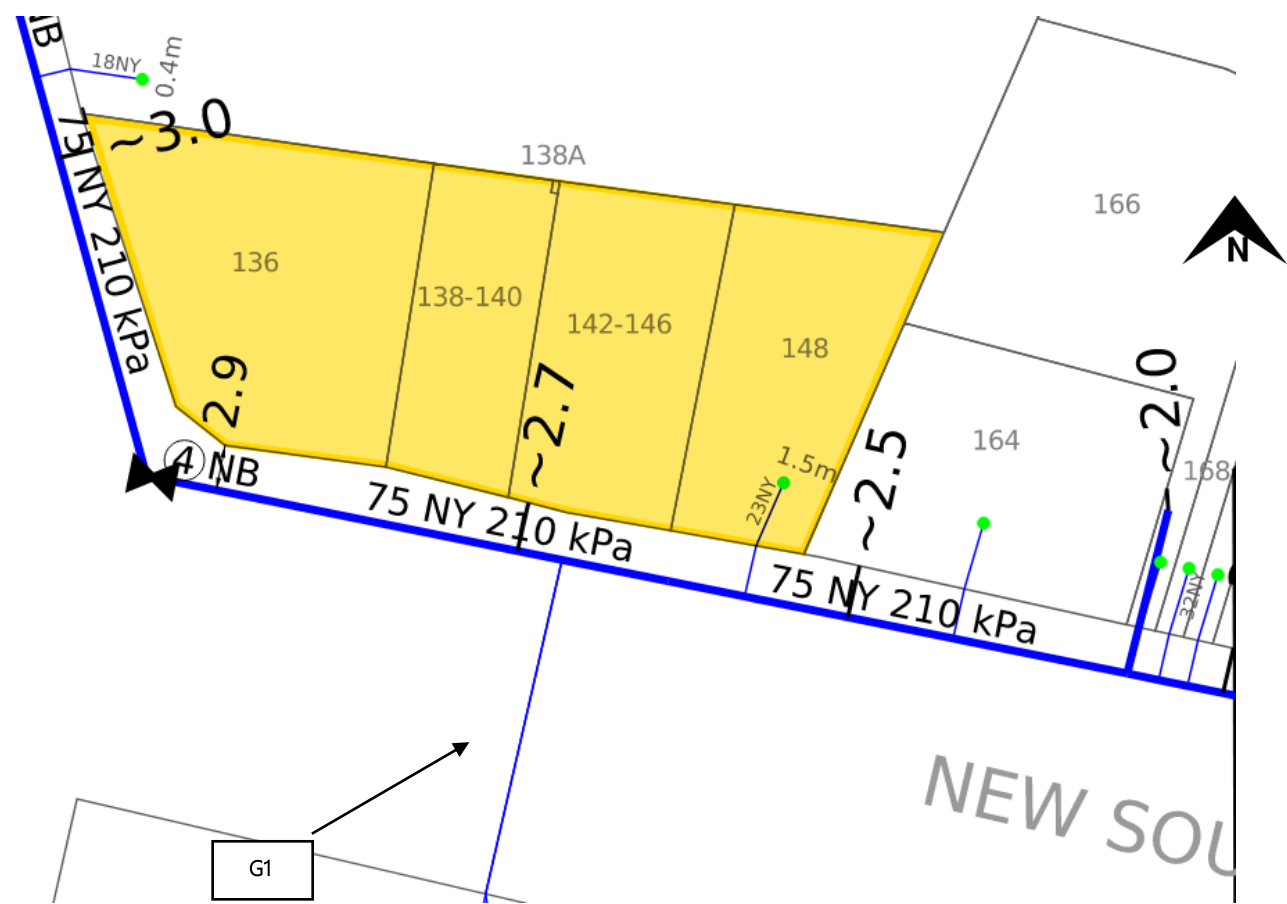


Figure 4: Authority Gas Infrastructure

3.1.4 CONNECTION POINTS

There is a move away from gas fuel/fossil fuels due to the push for clean and renewable energy, the proposed development will be gas free

3.2 ELECTRICAL INFRASTRUCTURE

3.2.1 LOW VOLTAGE INFRASTRUCTURE

The existing site is not encumbered by any existing Ausgrid Low Voltage (LV) infrastructure.

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

These separated lots are currently supplied individually from the existing Ausgrid low voltage distribution street network via underground 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 High Voltage (HV) infrastructure.

Existing high voltage Ausgrid assets reticulate below ground along the New South Head Road frontage 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 include steel columns along New South Head Road supplied by underground LV cables

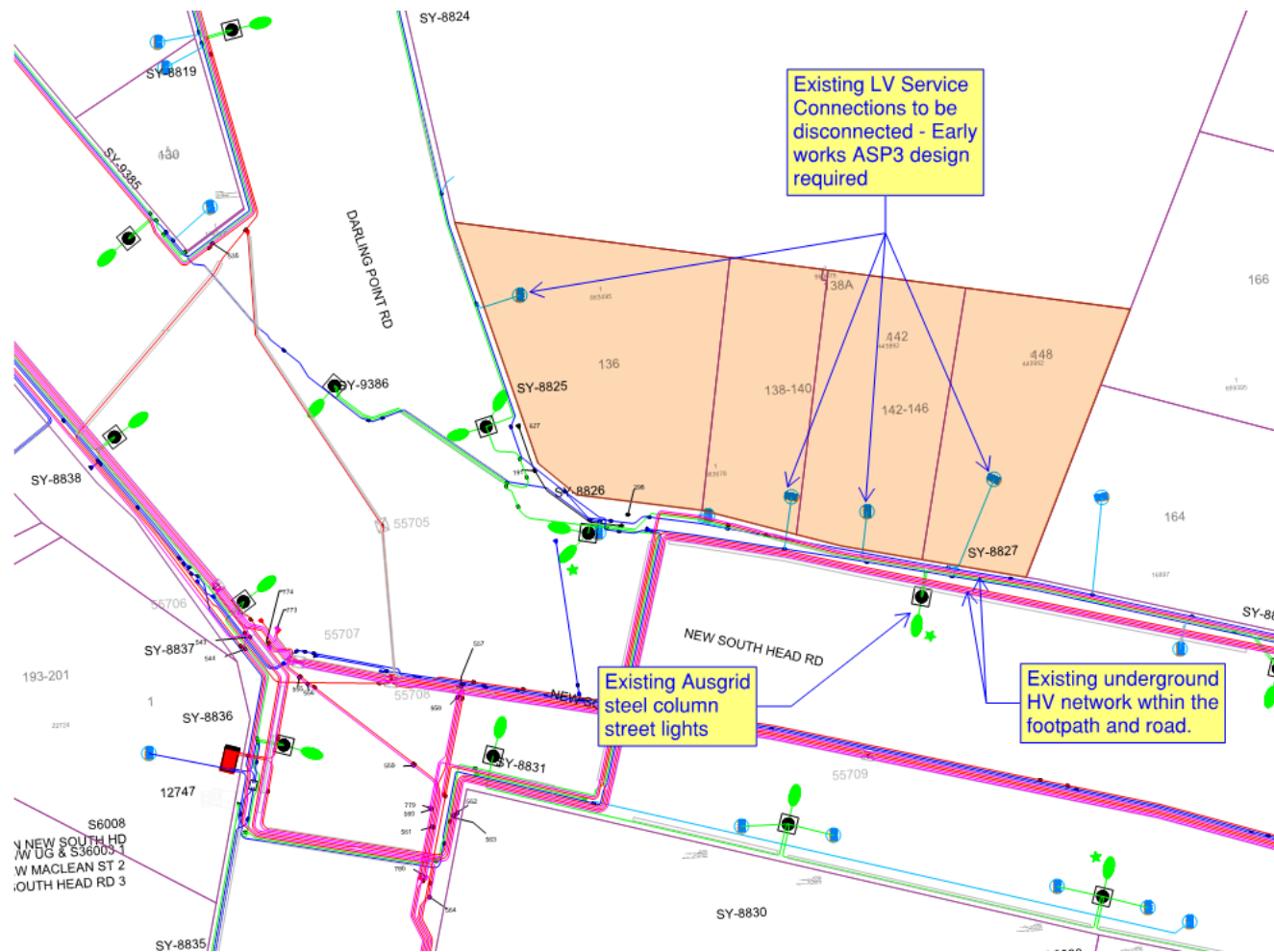


Figure 5: Existing Ausgrid HV / LV / SL Networks (Ausgrid GIS Extract 13/11/2024)

3.3 TELECOMMUNICATIONS INFRASTRUCTURE

There are a number of existing telecommunications assets near the vicinity of the site from the following authorities:

- NBNco
- Aussie Broadband
- TPG Telecom
- Vocus
- AARNet
- Telstra
- Optus

Refer to the below BYDA extracts for the various locations of authority pits:

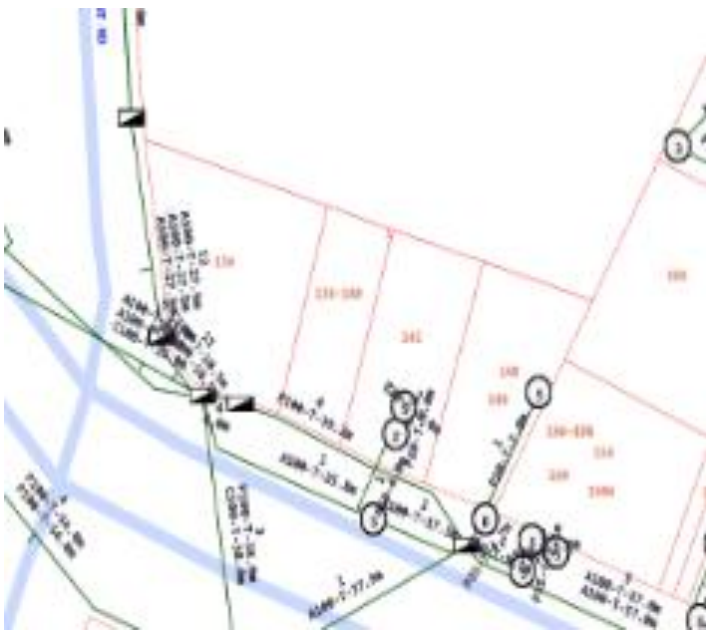


Figure 6: NBNCo BYDA Extract near the 1 DP site

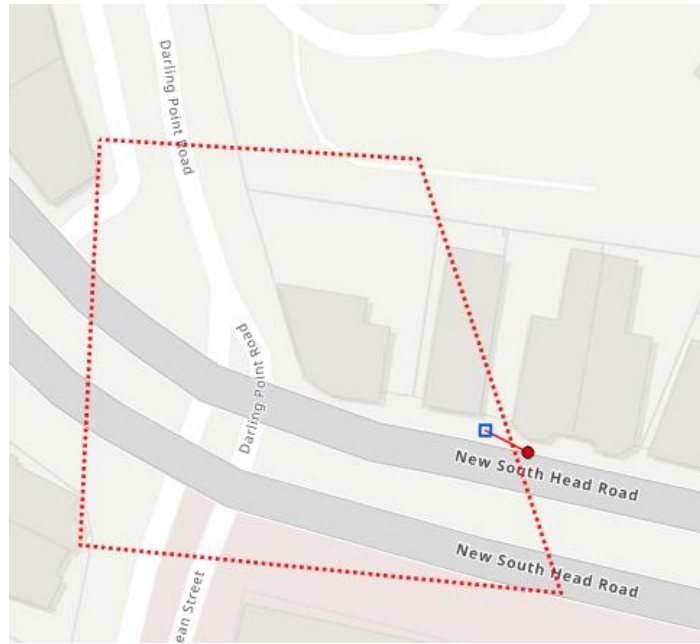


Figure 8: Aussie Broadband BYDA Extract near the 1 DP site

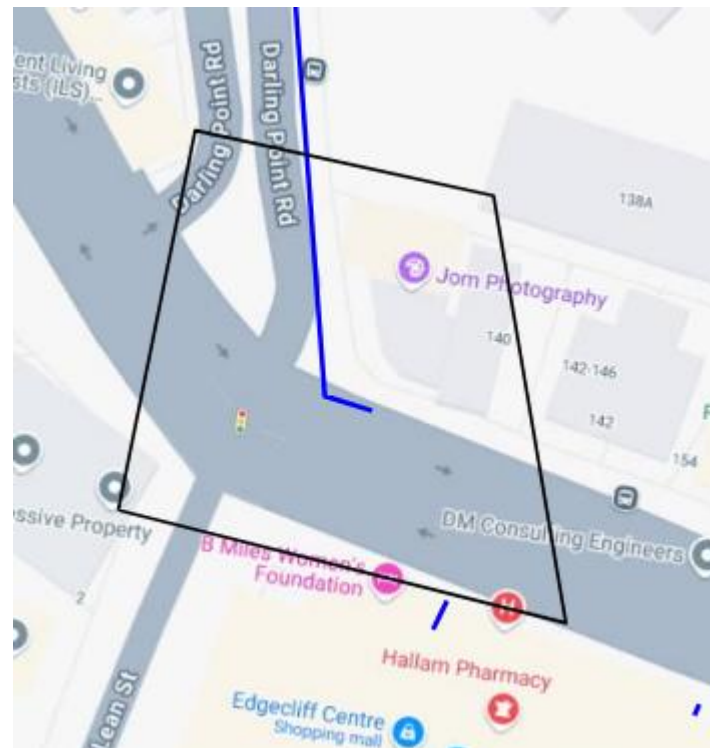


Figure 7: TPG BYDA Extract near the 1 DP site



Figure 8: Vocus BYDA Extract near the 1 DP site

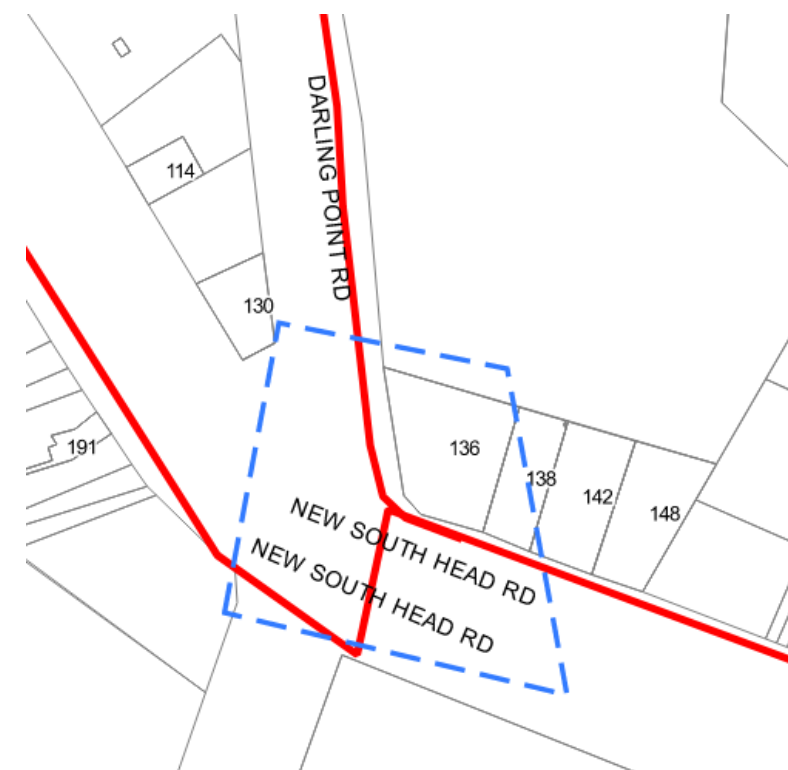


Figure 9: AARnet BYDA Extract near the 1 DP site

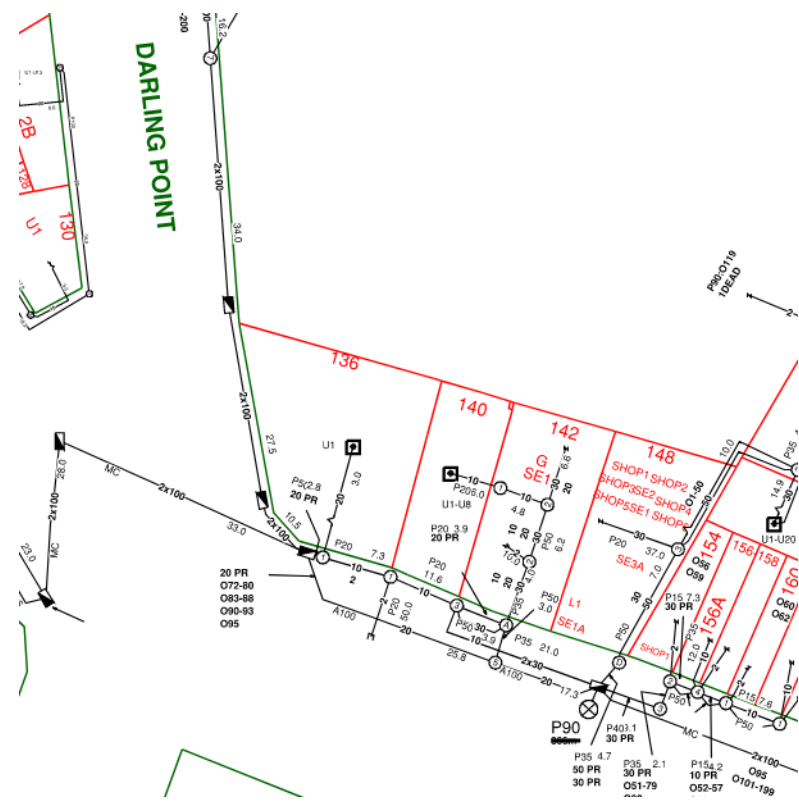


Figure 10: Telstra BYDA Extract near the 1 DP site

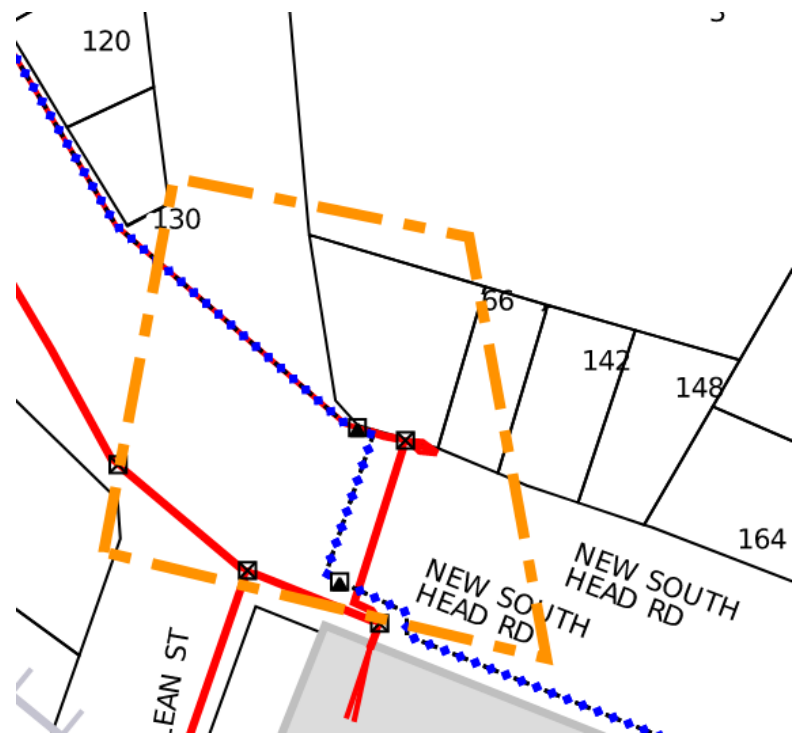


Figure 11: Optus BYDA Extract near the 1 DP site

4 PROPOSED INFRASTRUCTURE SERVICES

4.1 HYDRAULIC INFRASTRUCTURE

4.1.1 SEWER DRAINAGE

4.1.2 CONNECTION POINT

The preliminary assessment of the existing Sydney Water sewer network obtained from a dial before you dig drawing, suggests that the current connection points serving lots 136-148 New South Head Road are likely inadequate for the proposed development. A new authority sewer connection point will therefore be established from the existing Ø225mm Vitrified Clay pipe on the eastern side of Darling Point Road. A Section 73 application will be submitted to Sydney Water for approval of this new sewer connection upon receiving development approval. A Section 73 application will be submitted to Sydney Water for approval of the proposed sewer services once development approval has been obtained.

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



Figure 12: Proposed Sewer Extension

4.1.3 LOAD ESTIMATION

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

Catchment	Calculated EP's
Residential	142
Commercial	23
Total	165

4.1.4 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 Ø225 connection point is adequate to serve the entire development. Refer to below extract.

Table 4.4 MAXIMUM EP FOR RETICULATION SEWERS

Pipe Size	Grade		Maximum EP
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

Figure 13: WSA 02 Pipe Size Capacity

4.1.5 DELIVERY & STAGING

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

4.1.6 COORDINATION

The new authority sewermain extension works will need to be coordinated with all other internal and external assets along the New South Head Road boundary, which shall be undertaken by an accredited Sydney Water designer.

4.1.7 FUNDING

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

4.2 WATER SUPPLY

4.2.1 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 Ø300mm C1CL main on the Eastern side of Darling Point Road. 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.



Figure 14: Proposed Water main Extension

4.2.2 LOAD ESTIMATION – POTABLE WATER

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

- Average daily demand – 24kL
- Average flow – 0.3 l/s
- Peak flow – 1.7 l/s

4.2.3 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.

4.2.4 COORDINATION

The new water connection point will need to be coordinated with all other internal and external assets along the Darling Point Road boundary.

4.2.5 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.

4.2.6 ADEQUACY OF AUTHORITIES INFRASTRUCTURE

Pressure boosting pumps will be provided to boost towns 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 Ø250mm authority water main in New South Head Road 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.

Figure 15: WSA 03 Pipe Size Requirements

4.3 ELECTRICAL INFRASTRUCTURE

4.3.1 ELECTRICAL DEMAND LOADINGS

A site-specific maximum demand was calculated 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 **0.97MVA** (approximately 1,400Amps/3phase).

The calculated maximum demand expectation is based on an ASNZS 3000 conservative arrangement with the building likely to draw much less than the above, providing additional spare capacity.

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:

Proposed Infrastructure	Approx. Amp Rating	Approx. Firm KVA Rating
Ausgrid Standard Surface Chamber Substation (1000kVA)	1,450A	1.0MVA
Total Capacity	1,450A (Non-Firm)	1.0MVA
Required Capacity		~0.97MVA
Spare Capacity (from proposed substation)		~0.03MVA

These substations are 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.

4.3.2 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 New South Head Road will be utilised to connect the new Ausgrid chamber substation proposed along the site boundary. This arrangement is subject to suitable spare capacity in the existing HV feeder and Ausgrid design acceptance.

A formal application will be required for submission to Ausgrid to receive a formal Design Information Package (DIP) to confirm the final substation infrastructure to be installed and the ability to connect to the existing Ausgrid HV feeder cables within New South Head Road as proposed.

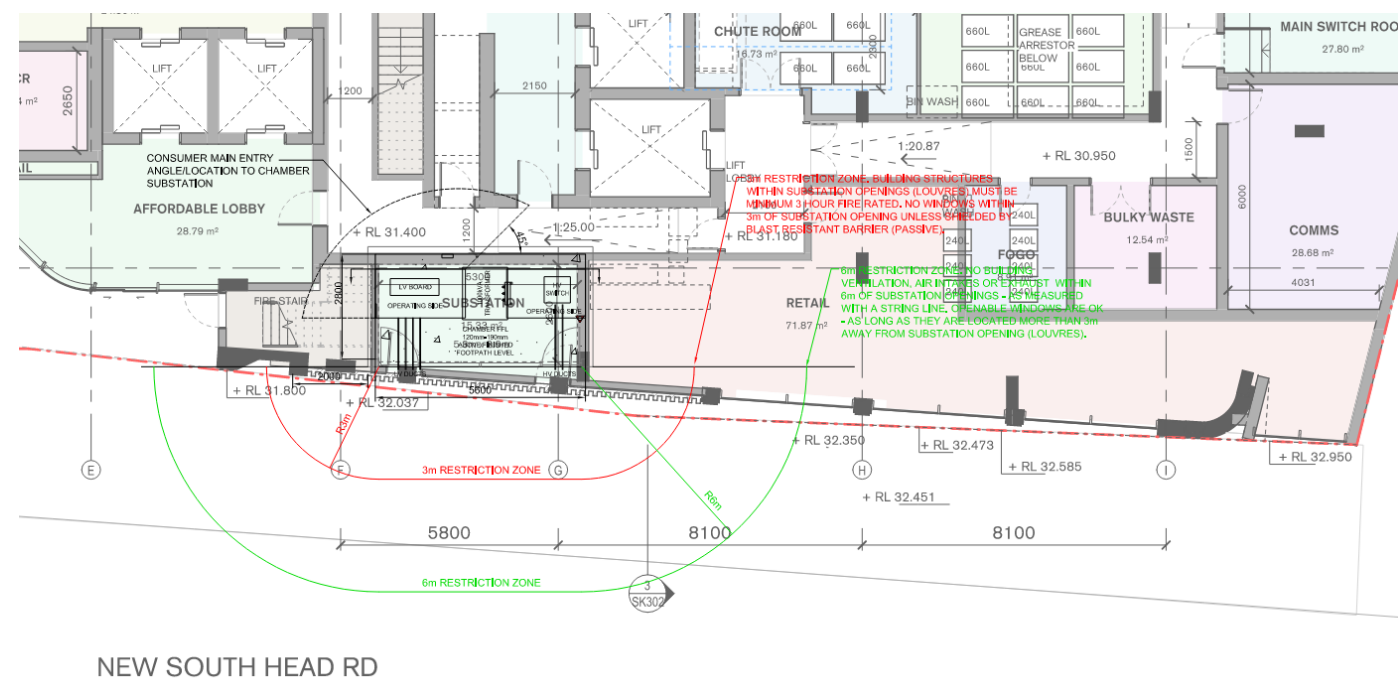


Figure 16: Proposed Substation Location within the Building Envelope

4.3.3 AUSGRID EXISTING LV SERVICE DISCONNECTION

The existing four 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 ASP3 early works design package to remove these supplies from site being service tee-joints on the existing LV network underground.

4.3.4 AUSGRID SUBSTATION ARRANGEMENTS

The design team has considered several options for substation locations and have determined the new Ausgrid substation infrastructure will be in the form of a single 1000kVA transformer Ausgrid standard surface chamber substation located facing New South Head Road frontage.

This substation will be wholly contained within the site boundaries to service the site, in accordance with Ausgrid Network Standards.

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

The substation will require the following minimum spatial arrangements:

- Chamber Room (~15.68m2 excluding columns; 5,600mm x 2,800mm x 3,200mm height + 700mm cable zone below) is to be established on Ground Level along the site boundary line.
- 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 chamber 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
- The substation 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 New South Head Road 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 an Ausgrid Certified Level 3 design

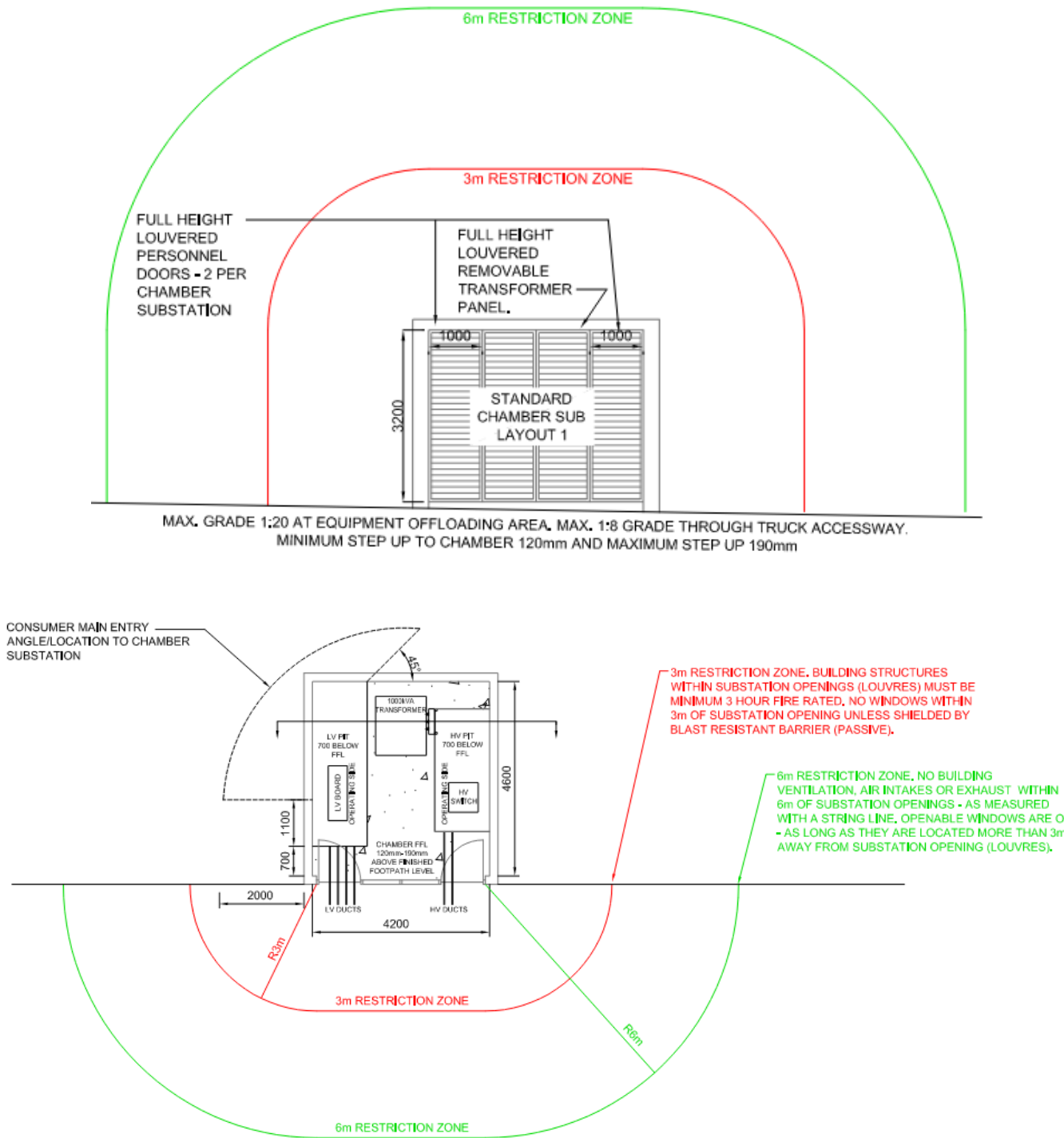


Figure 17: Typical 1 x 1000kVA Transformer Surface Chamber Layout

4.3.5 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 ASP3 designer, and constructed by an ASP1 contractor:

1. ASP3 designs to disconnect and remove all existing service connections from site
2. Establish and commission new chamber substation along the New South Head Road Street frontage
3. Undertake ASP3 design works separated into:
 - a. Early works disconnection and removal of existing private service connections and service tee-joints from the proposed development site.
 - b. Establish a new 1000kVA standard surface chamber substation along New South Head Road
4. ASP1 Construction works to be staged similar to the below:
 - c. Service Disconnections
 - d. Establish new permanent substation infrastructure in conjunction with the building construction phasing

4.3.6 COORDINATION

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

4.3.7 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.

4.4 TELECOMMUNICATIONS INFRASTRUCTURE

A new Main Communications Room will be established on the ground floor of the subject development which will house the incoming lead in telecommunications infrastructure. At this point in time, it is anticipated NBN will be the preferred lead in telecommunications carrier (TBC with the Client). There is space provision for two additional telecommunications carriers.

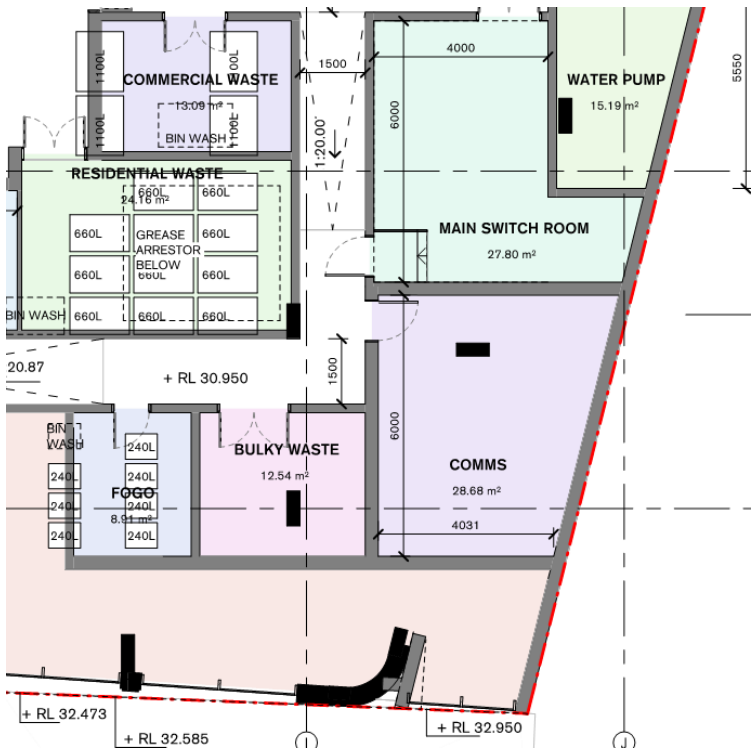


Figure 18: Indicative location of Main Communications Room for Telco Infrastructure

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 Darling Point Road
 - Any applicable developer charges
- Lodgement of an Ausgrid Connection Application to determine Ausgrid required connection points and viability of substation infrastructure for the site.
- Lodgement of an Ausgrid Connection Application to disconnect the existing LV lot connections to allow demolition of site.
- Engage a Level 3 Accredited Service Provider (ASP3) designer to undertake the ASP3 Ausgrid Contestable Designs 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	09/10/2023	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

8 APPENDIX A – PRESSURE FLOW INQUIRY RESULTS

Results from Sydney Water

ASSUMED CONNECTION DETAILS

Street Name: New South Head Road	Side of Street: North
Distance & Direction from Nearest Cross Street	15 metres East from Darling Point Road
Approximate Ground Level (AHD):	32 metres
Nominal Size of Water Main (DN):	250 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	53 metre head
Minimum Pressure	45 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	45
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10	46
	15	46
	20	45
	25	44
	30	43
	40	41
	50	38
	60	36
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	10	43
	15	42
	20	41
	25	40
	30	39
	40	36
	50	33
	60	30
Maximum Permissible Flow	87	20

(Please refer to reverse side for Notes)