

# HARBOURSIDE SHOPPING CENTRE

## Utilities Report SSDA1 – Stage 1

16 SEPTEMBER 2020

Incorporating



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# MIRVAC HARBOURSIDE SHOPPING CENTRE

## Utilities Report

Stage 1 Development Application (DA) Report

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## REVISIONS

Revision	Date	Description	Prepared by	Approved by
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## 1 INTRODUCTION

This report provides a response to submissions (as relevant) and assessment of the proposed amended Concept Proposal in relation to the State Significant Development (SSD) Development Application (DA) for the redevelopment of the Harbourside Shopping Centre (Harbourside) (SSD 7874).

The SSD DA was publicly exhibited for a second time from 2 April to 29 April 2020. During this time, six (6) submissions were received from government agencies and City of Sydney Council and 57 submissions were received from the general public and organisations.

This report should be read in conjunction with the previous assessments prepared by Arcadis dated 28th September 2016 and dated 18th February 2020 to support the Harbourside Concept Proposal.

### 1.1 Background

Mirvac acquired Harbourside, a key location within the Darling Harbour precinct, in November 2013. Harbourside, which was opened in 1988 as part of the Bicentennial Program, has played a key role to the success of Darling Harbour as Australia's premier gathering and entertainment precinct.

Despite its success, with an annual pedestrian visitation of around 13 million people, Harbourside is now outdated and in decline. The building lacks a quality interface to the Darling Harbour public domain and Cockle Bay and does not integrate well with the major transformation projects underway and planned for across Darling Harbour.

Harbourside is at risk of being left behind and undermining the significant investment being made in Darling Harbour that will see it return to the world stage as a destination for events and entertainment.

Accordingly, Mirvac are taking a carefully considered and staged approach to the complete revitalisation of the site and its surrounds.

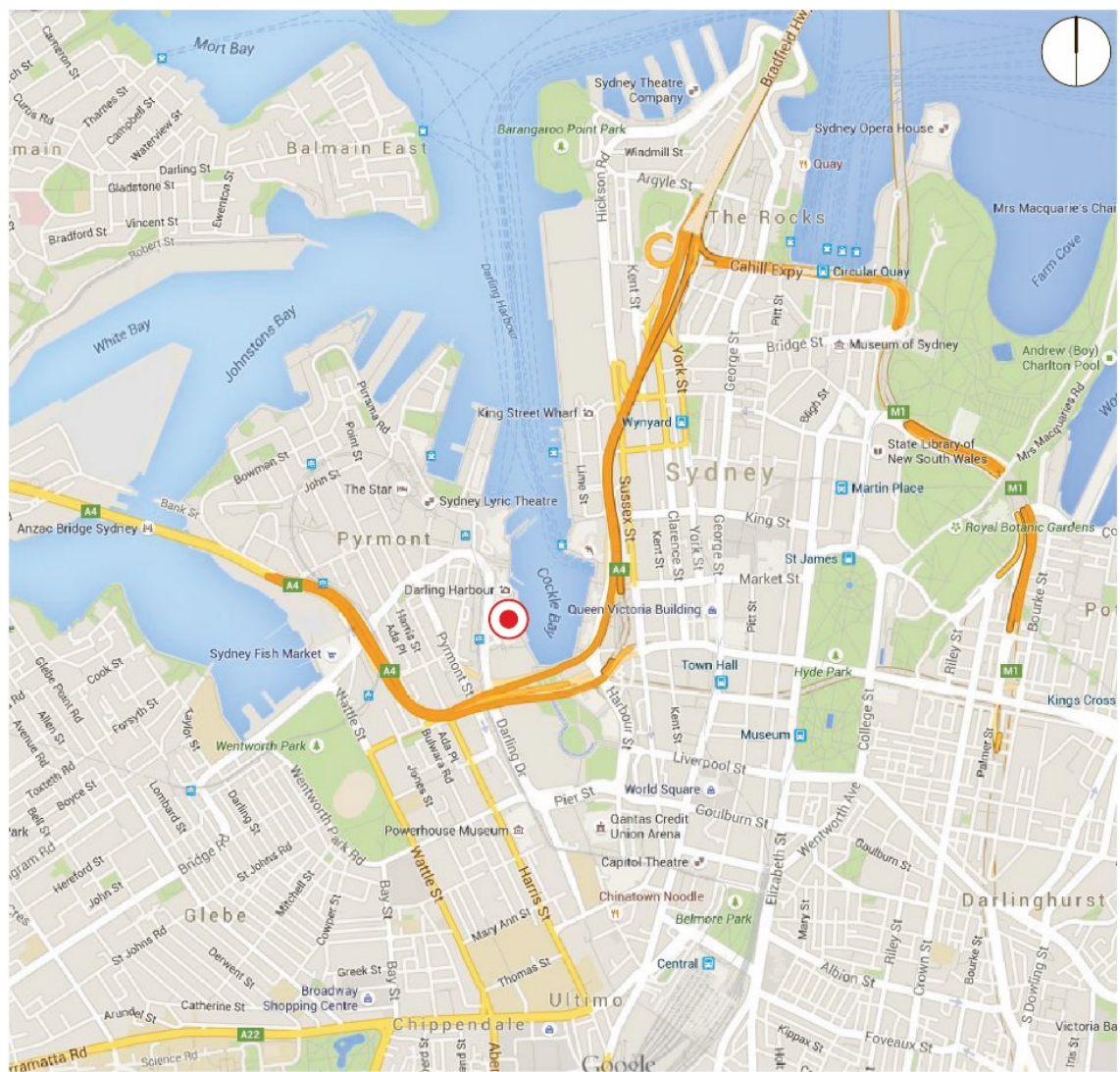
### 1.2 Site Description

The Site is located within Darling Harbour. Darling Harbour is a 60-hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

More generally the site is bound by Pyrmont Bridge to the north, the Sydney International Convention, Exhibition and Entertainment Centre Precinct (SICEEP) to the south, Darling Drive and the alignment of the Light Rail to the west and Cockle Bay to the east.

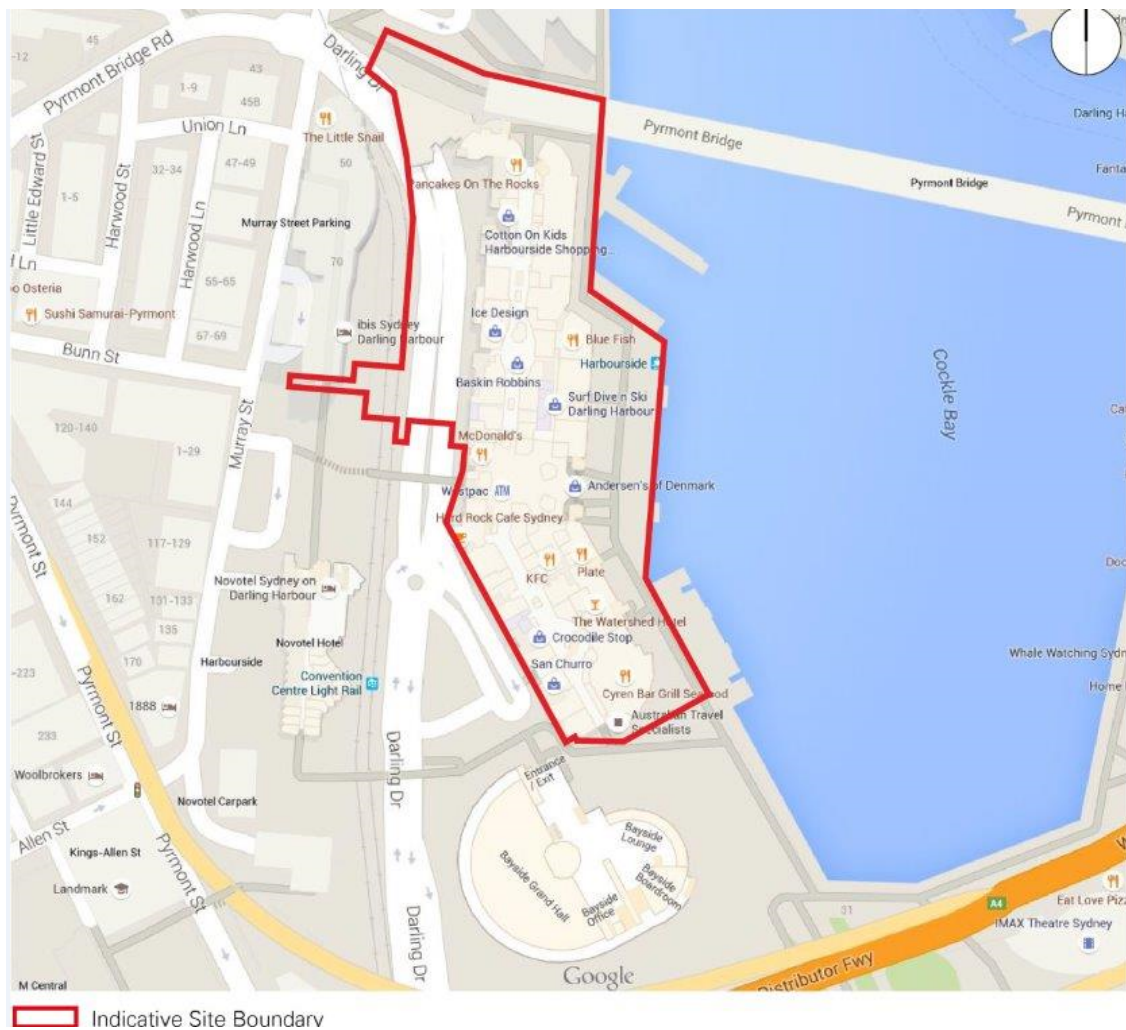
A locational context area plan and location plan are provided at **Figures 1 and 2** below.

The Darling Harbour precinct is undergoing significant redevelopment as part of the SICEEP, Darling Square, and IMAX renewal projects. The urban, built form and public transport / pedestrian context for Harbourside will fundamentally change as these developments are progressively completed.



● The Site

**Figure 1:** Location Context Area Plan (Source: Google Maps)



**Figure 2:** Site Location Plan (Source: Google Maps)

## 1.3 Proposed Amended Development

### Introduction

This report provides a response to submissions (as relevant) and assessment of the proposed amended Concept Proposal in relation to the State Significant Development (SSD) Development Application (DA) for the redevelopment of the Harbourside Shopping Centre (SSD 7874).

The SSD DA was publicly exhibited for a second time from 2 April to 29 April 2020. During this time, six (6) submissions were received from government agencies and City of Sydney Council and 57 submissions were received from the general public and organisations.

This report should be read in conjunction with previous assessments prepared by Arcadis Consulting and dated 18th March 2016 and 04th February 2020 to support the Harbourside Concept Proposal.

### Proposed Amended Development

Following the second exhibition of the proposal in April 2020 and given the nature and range of submissions made from agencies and the public, Mirvac has again reviewed the overall approach and elements of the Concept Proposal. This has accordingly led to developing a Further Amended

Concept Proposal. This further and final Concept Proposal therefore includes amendments made by Mirvac pursuant to Clause 55 of the Environmental Planning & Assessment Regulation, in the main to address matters raised in the submissions and deliver an overall significantly improved outcome on the site and for the broader Darling Harbour precinct and Pyrmont Peninsula.

In addition to the further amendments made to the Concept Proposal, Mirvac are also now including detailed Stage 1 Early Works, comprising demolition of existing site improvements down to ground slab level (no ground disturbance). Revised SEARs were accordingly issued by the Department on 12 May 2020.

The following further key amendments have been made to the Concept Proposal since its April 2020 public exhibition:

## **Increase in Height of the Tower**

The height of the tower has been increased to be consistent with the height originally proposed (from RL 153.75 to RL 166.95). The tower height has been increased in order to better align with the place outcomes identified within the Draft Pyrmont Place Strategy for Harbourside. This opportunity for additional height is supported with the provision of additional public benefit through the creation of a new significant public accessible area of open space on the northern podium rooftop.

## **Reduction in Height of Northern Podium**

A portion of the podium height at its northern extent has been further reduced from RL 25 to part RL 17.6 and part 13.75. The reduction in height provides for an improved relationship to the state heritage listed Pyrmont Bridge, further improve view sharing from 50 Murray Street, along with providing an opportunity to create a new publicly accessible open space area.

## **Gross Floor Area / Land use Mix**

A portion of the podium height at its northern extent has been partly reduced from 30.5 RL to RL 25. The reduction in height provides for improved view sharing from 50 Murray Street.

The amended proposal retains the same overall 87,000sqm of GFA, however there is a minor adjustment in the split between non-residential and residential. The final proposal now includes:

- Non-residential uses floor space – 45,000sqm; and
- Residential uses floor space – 42,000sqm

In response to market demand and the focus of local and regional strategic planning policies, it is proposed for the podium to now include predominantly commercial land uses along with supporting retail. Indicatively, comprising ~28,000sqm net lettable area of commercial office and ~8,500sqm gross lettable area of retail.

The podium enables large campus sized commercial floor plates that are favoured by large multinational tech, media, finance, and professional services companies.

## **Apartment Numbers**

No change is proposed to the indicative number of apartments (357), with the minor increase in the tower height resulting in a review of the mix and sizing of apartments. Note, this yield is on the 'Indicative Design' only and will be subject to future design development and a Stage 2 DA. This Stage 1 DA only seeks approval for land uses and the building envelope comprising a total of 87,000sqm GFA.

## **Car Parking**

The overall footprint of the basement has been reduced, but there is proposed to be an additional basement level of parking (increase from 3 levels to 4 levels). There is no change to proposed indicative parking spaces, remaining at 306 spaces. As above, this is based on the 'Indicative Design' only.

## **Landscaped Open Space and Public Domain**

The key concepts and public benefits as originally proposed are retained under the amended Concept Proposal, with the addition of a new significant area of publicly accessible open space created on the rooftop of the northern podium (referred to as "Guardian Square").

## **Final Description of Development**

As a result of a review of the mix and sizing of apartments, there is a minor reduction in the indicative number of apartments, from 364 to 357. Note, this yield is on the 'Indicative Design' only and will be subject to future design development and a Stage 2 DA. This Stage 1 DA only seeks approval for land uses and the building envelope comprising a total of 87,000sqm GFA.

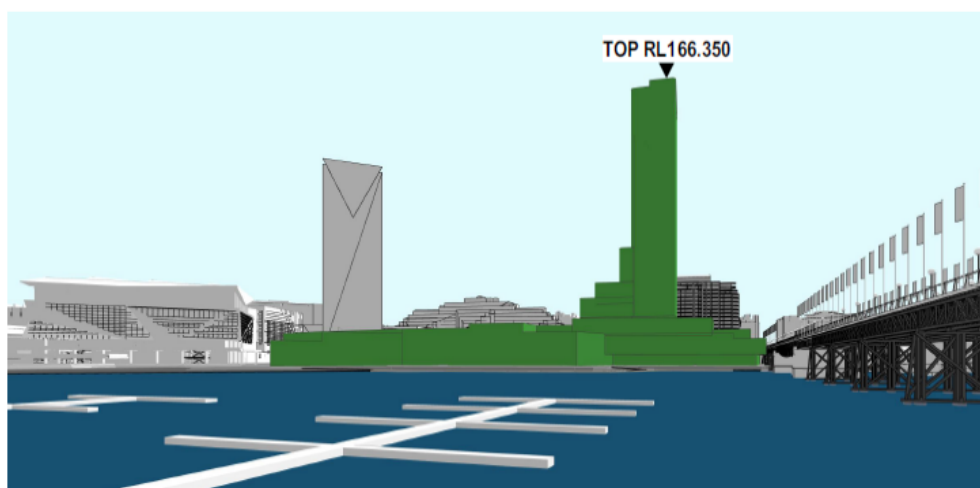
The Harbourside Shopping Centre Redevelopment application will include a Concept Proposal and detailed Stage 1 Early Works.

The final Concept Proposal seeks approval for the following key components and development parameters:

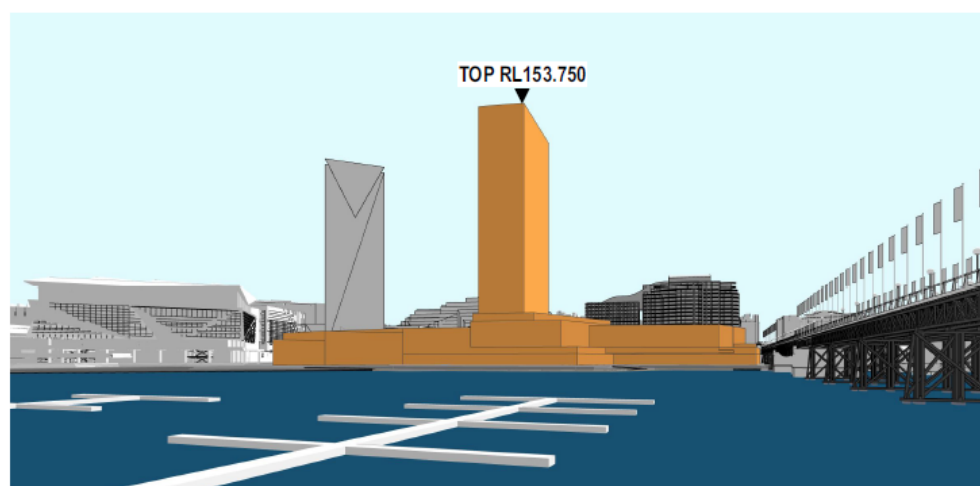
- A network of open space areas and links generally as shown within the Public Domain Concept Proposal, to facilitate re-integration of the site into the wider urban context;
- Building envelopes;
- Land uses across the site, non-residential and residential uses;
- A maximum total Gross Floor Area (GFA) across the Harbourside site of 87,000sqm for mixed use development (45,000sqm non-residential and 42,000sqm residential development);
- Basement car parking;
- Car parking rates to be utilised in subsequent detailed (Stage 2) Development Applications);
- Urban Design and Public Realm Guidelines to guide future development and the public domain; and
- Strategies for utilities and services provision, drainage and flooding, and ecological sustainable development.

The Stage 1 Early Works comprises:

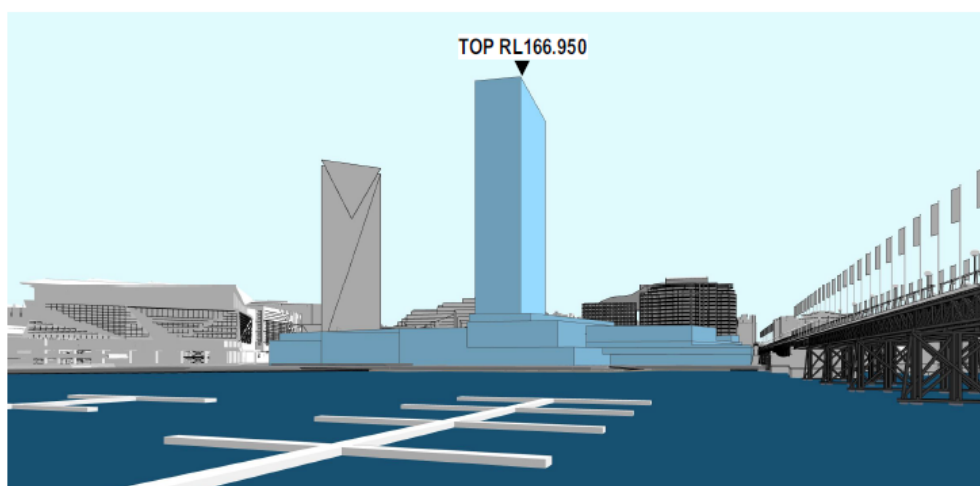
- Demolition of the existing site improvements, including the Harbourside Shopping Centre, obsolete monorail infrastructure, and associated tree removal.



**Figure 3:** Original submitted Concept Proposal



**Figure 4:** Amended Concept Proposal



**Figure 5:** Further and Final Amended Concept Proposal

The proposed development indicative design plans are contained in **Appendix A** of this report.

## 1.4 Planning Approvals Strategy

The Site is located within the Darling Harbour precinct, which is identified as a State Significant Site in Schedule 2 of State Environmental Planning Policy (State and Regional Development) 2011. As the proposed development will have a capital investment exceeding \$10 million, it is declared to be State Significant Development (SSD) for the purposes of the Environmental Planning and Assessment Act 1979 (EP&A Act), with the Minister for Planning the consent authority for the project.

This State Significant Development Application (DA) is a staged development application made under section 83B of the EP&A Act. It seeks approval for the concept proposal for the entire site and its surrounds.

More specifically this staged DA includes establishing land uses, gross floor area, building envelopes, public domain concept, pedestrian and vehicle access and circulation arrangements and associated car parking provision.

Detailed development application/s (Stage 2 DAs) will accordingly follow seeking approval for the detailed design and construction of all or specific aspects of the proposal in accordance with the approved staged development application.

The Department of Planning and Environment provided the Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement for the proposed development on 30 August 2016. This report has been prepared having regard to the SEARs as relevant.

## 2 PURPOSE OF THIS REPORT

This report has been prepared to accompany the Stage 1 DA for the Harbourside Shopping Centre. It addresses the relevant requirements of the public authorities' response to the request for SEARs for the Harbourside Shopping Centre (SSD 7874), and the submissions received from the public authorities, issued 30<sup>th</sup> August 2016. A summary of the relevant SEARs is listed below in **Table 1**.

### 2.1 Secretary's Environmental Assessment Requirements

SEARs Reference	Key Assessment	Relevant Section in This Report	Comments
10. Utilities	In consultation with relevant agencies, address the existing capacity and any augmentation requirements of the development for the provision of utilities, including staging of infrastructure	Sections 3, 4, 5, 6, 7, & 8	Discussions and negotiations with relevant services infrastructure authorities has been undertaken and is ongoing.
10. Utilities	Provide details of how infrastructure assets of various utilities stakeholders will be protected or relocated during the demolition and construction of the project.	Sections 5 & 9	Construction methodology and process is described however will be the subject of continuous adjustment to suit staging, site conditions and authority requirements.
Plans and Documents	The EIS must include the following: <ul style="list-style-type: none"> <li>Services and infrastructure report</li> </ul>		

**Table 1:** SEARs Key Assessment Requirements for Utilities

### 2.2 Response to Submissions

This report provides a Response to Submissions to submissions received on the Stage 1 DA that was exhibited in April 2020. **Table 2** below provides a summary of the relevant agency submissions received, and corresponding references to how they have been responded to within the Report. **Appendix B** of this report contains a copy of the received agency submissions relevant to this report.

Agency Response to Submission Reference	Agency Response to Submission	Relevant Section in This Report	Comment
Water servicing (Sydney Water)	Potable water servicing should be available to serve the development. Amplifications, adjustments, and/or minor extensions may be required.	Sections 3.2 & 4.2	Noted. This will be investigated during the Stage 2 DA. A S73 application will be lodged in the detailed design stage.
Wastewater servicing (Sydney Water)	Wastewater servicing should be available to serve the development. Amplifications, adjustments, and/or minor extensions may be required.	Sections 3.2 & 4.2	Noted. This will be investigated during the Stage 2 DA. A S73 application will be lodged in the detailed design stage.
Stormwater (Sydney Water)	Within the current site footprint there is an existing Sydney Water 2700×1725 RC stormwater channel. As the redevelopment is understood to utilise this same footprint, requirements for Sydney Water's stormwater assets will apply to this site. The proponent should ensure that satisfactory steps/measures are taken to protect existing stormwater assets, such as avoiding building over and/or adjacent to stormwater assets and building bridges over stormwater assets. Particular considerations regarding protection during demolition and construction will be also be required.  The proponent is required to liaise with Sydney Water regarding measures which must be taken prior to commencement of any works and the required protection measures which are to be implemented as a part of this development.	Sections 5.1 & 10 & Appendix G	Noted. The proponent has already met with Sydney Water to discuss the build over of this stormwater channel.  At his meeting, Sydney Water explained that at that moment Sydney Water would permit the future build over on condition that Sydney Water polices are adhered to and no direct loads were placed on the culvert, and any damage during construction be rectified.  Further consultation will be undertaken during future design stages of the development. Any future design will be undertaken in accordance with Sydney Water build over policy.
Recycled Water and Water Reuse (Sydney Water)	While there is no existing Sydney Water recycled water supply to this area, Sydney Water is open to working in partnership with developers to consider recycled water servicing solutions that may offset potable water demands.  Consideration should be given for rainwater capture and stormwater runoff reduction.		Noted. Rainwater tanks will be considered during future design stages of the development.  Indicative calculations have been undertaken regarding the sizing of rainwater tanks,

Agency Response to Submission Reference	Agency Response to Submission	Relevant Section in This Report	Comment
	The proponent is advised to contact their Sydney Water Account Manager to investigate the potential for a commercial arrangement to supply recycled water to the development.		which is outlined in the SSDA1 Flooding & Stormwater Report. A meeting was held between the Proponent and Sydney Water on the 16 <sup>th</sup> of April 2020 to discuss the development and water recycling opportunities at high level.
Existing High Voltage Infrastructure (Sydney Trains)	<p>Sydney Trains requests that construction and operational activities associated with the proposed development do not impact on the existing 'in service' 33kV High Voltage cable located west of the subject site. It is requested that ongoing consultation is required between the Applicant and Sydney Trains during the life of the project to ensure the continued protection of the subject cable at each stage of the development.</p> <p>This submission is in addition to the comments and conditions provided as part of the Transport for NSW response for SSD 7874 in letter dated 27 April 2020.</p>	Section 9.2 and Appendix Q	<p>Meetings have been held with TrNSW and TransDev to discuss the development proposal.</p> <p>The proposed pedestrian bridges will span the light rail corridor. As such, no works is anticipated at ground level within the light rail corridor.</p> <p>It is assumed that the existing HV is located within the light rail property boundary. As such, any proposed works adjacent to the light rail corridor should not impact on this HV. Nonetheless, the location of this HV will be considered in detailed designs to ensure no damage is done and to comply with Safety in Design requirements.</p>

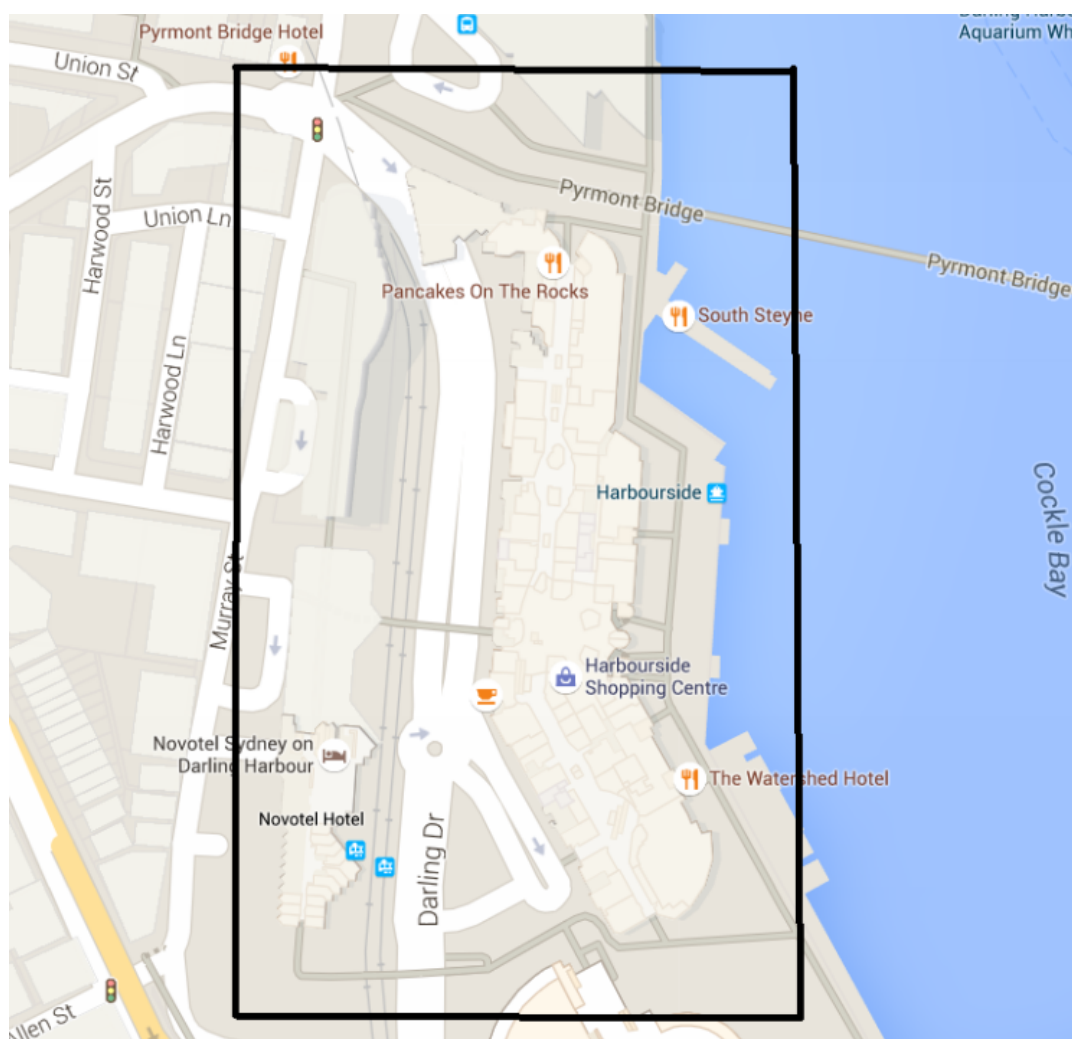
**Table 2** Agency Response to Submissions

## 2.3 Desk Top Investigation

This report details the investigation of existing utilities in the vicinity of the development, the likely points of future connection to the utilities; and associated potential upgrades or augmentation that may be required.

The basis for the investigation of the existing utilities in the vicinity of the site was a 'Dial before You Dig' enquiry that was undertaken on 25<sup>th</sup> September 2019. **Figure 6** depicts the area subject to the DBYD enquiry. This report does not consider any utility infrastructure outside the enquiry boundary and its' potential relationship to, or impact on the supply of utility services to the site.

While preliminary development staging and sequencing information has formed the basis of consultation with utility providers to date, the final staging of utility works and the protection of assets is dependent on detailed construction staging and shall be developed in detail at a later stage of the planning and design process.



**Figure 6:** Dial Before You Dig Enquiry Area (Source: Google Maps)

The following asset owners were identified as having an interest in the DBYD enquiry area, which are outlined in **Table 3**.

Authority Name	Directly Impacted – (Yes / No)
AARNet Pty Ltd	No
Ausgrid	Yes

Authority Name	Directly Impacted – (Yes / No)
City of Sydney	Yes
Jemena Gas South	Yes
NBN Co.	No
Nextgen	Yes
Optus and/or Uecomm	No
PIPE Networks	Yes
RailCorp	No
Roads and Maritime Services (RMS)	No
Sydney Water	Yes
Telstra NSW	Yes
TPG	Yes
Verizon Business	Yes
Vocus Fibre Pty Ltd	No

**Table 3:** Asset Owners identified in DBYD

This report only details the investigations undertaken in relation to the services infrastructure belonging to Ausgrid, Telstra, NBN Co / Telstra, Jemena, Sydney Water, as required to supply the Harbourside Shopping Centre development, and any potential impacts to statutory stakeholders such as the RMS, City of Sydney and RailCorp.

The Report findings and all discussions with service authorities are based on the current proposed development GFA of 45,000sq.m and 42,000sq.m of non-residential and residential development, respectively.

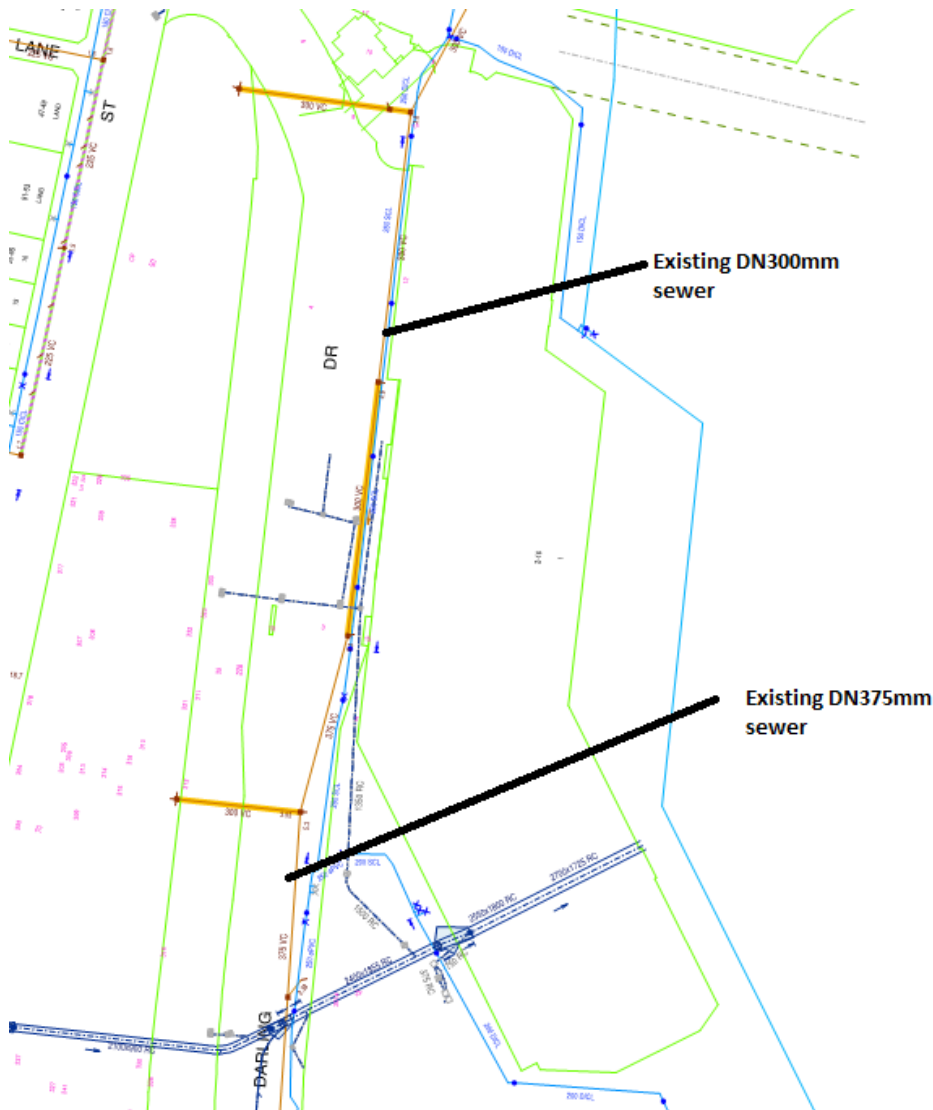
## 3 SEWER INFRASTRUCTURE

### 3.1 Existing Sewer Infrastructure

The Harbourside Shopping Centre development is located in the Sydney Water Corporation (SWC) service area, and is located within the existing urban sewer collection network. The DBYD search indicated that there are existing Sydney Water sewer assets located directly within the Harbourside development boundary. Please refer to **Appendix C** for a copy of the DBYD search results from Sydney Water.

All gravity sewer mains in the vicinity of the site drain to Sewerage Pumping Station No. 1 (SP0001), which is located to the immediate west of the site, at the corner of William Henry Street and Pyrmont Street in Ultimo. SP0001 is of historic, aesthetic and technical/research significance (SWC 2012) being one of the original sewerage pumping stations constructed to serve the city of Sydney in the late 19th century.

There is an existing DN300mm / DN375mm gravity sewer that is located to the west of the Harbourside development, which is concrete encased over a section of the sewer adjacent to the Harbourside development. Please refer to **Figure 7** for a plan of the existing sewer network in the vicinity of the Harbourside development.



**Figure 7:** Existing SWC Sewer Network

It is very likely that all existing sanitary sewerage flows connect into this existing DN300mm / DN375mm sewer main, from the existing Harbourside Shopping Centre development.

This sewer flows to the south and connects into a DN750mm sewer before enlarging into a 1.3m x 1.75m unlined rock channel along Darling Drive towards and into SP0001

A 600mm rising (pressure) main runs from SP0001 directly to the east and through the Public Realm area of Darling Harbour, located to the south of the site.

### 3.2 Sewer Service to the Precinct

The Harbourside development can connect by gravity to the existing DN300mm / DN375mm sewer located directly to the west and adjacent to the proposed development. Any new connections will require a new manhole to be built over the connection point to the existing sewer network. However, there are four existing sewer manholes located along the DN 300mm / DN375mm sewer in the vicinity of the proposed development that will likely be suitable for future sewer connections.

Subject to detailed design development and further consultation with the utility authorities, some existing sewer mains may need to be augmented to enable supply to the development. Based on the current proposed development building envelope, it is not expected that any existing Sydney Water sewerage assets in the vicinity of the site will be adversely impacted upon by the proposed development.

Consultation with SWC has commenced regarding servicing the development with sanitary sewer infrastructure. A preliminary meeting regarding the retail/commercial scheme was held with SWC on 4th February 2016. Further to this a SWC e-Developer servicing feasibility application was submitted to SWC on the 8<sup>th</sup> February 2016, where SWC in principle confirmed that the development can be serviced from their existing infrastructure. An updated SWC e-Developer servicing feasibility application was submitted to SWC on the 19<sup>th</sup> September 2016, to reflect the increased load and changes from Retail/Commercial to Retail/Residential development. The SWC preliminary wastewater investigation was based on supply from the DN 300mm / 375mm sewer constructed under WN 300418/1 located in Darling Drive.

This updated feasibility study enquiry assumed a total peak sewer demand flow of 80 litres/sec.

Previous correspondence from SWC on the previous scheme has indicated that subject to commercial negotiation and confirmation of developer charges, SWC will be able to supply the site with the required sanitary water connections. The SWC feasibility response to the updated mixed use development (residential and retail) was received on the 11<sup>th</sup> October 2016 and is contained in **Appendix D** of this report. This SWC response states that:

*“Strategic investigations shows that the trunk wastewater system has adequate capacity to service this development area.*

*Determination of sewer facilities has been based on supply from the DN300 wastewater main constructed under WN 300418/1 (located in Darling Drive).*

*Your Water Servicing Coordinator can assess the reticulation wastewater mains and advise you of any amplification requirements based on your anticipated discharge.”*

Updated sewer demand calculations were undertaken for the revised mixed development proposal containing commercial, retail and residential components to the development. These updated sewer calculations resulted in an average daily sewer flow rate of 8.42 litres/sec, and a peak demand sewer flow rate of 47 litres/sec. The updated peak demand flow rate is a reduction to that previously assumed in the previous feasibility application, which Sydney Water confirmed they had capacity to cater for in their existing sewer network. The updated sewer calculations are based on sewer demands on the methods described in the Water and Sewer Code of Australia (Sydney Water Edition), and the preliminary updated mixed development floor areas.

An updated SWC e-Developer feasibility application was submitted to SWC in Jan 2020 to reflect the previously updated mixed use residential, retail and commercial development. A response to

this feasibility application was received on the 04<sup>th</sup> May 2020 and this is contained in **Appendix E**. Within this response, SWC noted the following:

*“Your development must have a sewer main that is the right size and can be used for connection. That sewer must also have a connection point within your development’s boundaries.*

*Sydney Water has assessed your application and found that the proposed development will not have a significant additional impact on the existing wastewater system.*

*However, please note that there are no gravity connections to anything below 4m from the ground level. If the Reduced Level is below 4m of the connection point (e.g. in a basement) design alternative should be considered e.g. reflux valve on the CSD or private pumping/ storage.”*

Following the current change to the proposed residential, retail, and commercial development maximum sewer demands were calculated. The updated sewer calculations resulted in an average daily sewer flow rate of 8.4 litres/sec, and a peak demand sewer flow rate of 47 litres/sec. These demands are the same as what was previously consulted with Sydney Water. As such, the previous advice received from Sydney Water should still be valid.

Sewer flow (litres/sec)	March 2020 DA	September 2020 DA
Average daily flow	8.4	8.4
Peak demand flow	47	47

**Table 4** Estimated sewer flows for the Harbourside development

SWC developer charges and amplification costs cannot be advised until a formal application is made to SWC. This cannot occur until a more detailed development concept has been completed.

The new sewer collection system shall be designed and constructed in accordance with SWC requirements. Grease arrestors will be required for any Food & Beverage element of the proposed development, prior to discharge into the sewer network.

Trade waste will be required for portions of the proposed development. The property owner must apply requesting permission to discharge trade wastewater to Sydney Water’s sewerage system. A boundary trap is required for all developments that discharge trade wastewater where arrestors and special units are installed for trade wastewater pre-treatment.

Further consultation with SWC regarding the proposed development in the form of a Section 73 Application will be required prior to commencement of detailed design.

## 4 POTABLE WATER INFRASTRUCTURE

### 4.1 Existing Potable Water Infrastructure

The Harbourside Shopping Centre development is located in the Sydney Water Corporation (SWC) service area, and is located within the existing urban sewer collection network. The DBYD search indicated that there are existing Sydney Water sewer assets located directly within the Harbourside development boundary. Please refer to **Appendix C** for a copy of the DBYD search results from Sydney Water.

There are a number of existing SWC watermains located in the vicinity of the proposed development. These include an existing:

- DN150mm DICL watermain located to the east of the northern section of the proposed development located in the vicinity of Pyrmont Pedestrian Bridge;
- DN250mm SCL watermain located along the western side of the proposed development; and
- DN200mm DICL watermain located to the South-West corner of the proposed development, between the Harbourside Shopping Centre and the future International Convention Centre (ICC) Hotel.

Please refer to **Figure 8** for a plan of the existing potable watermain network in the vicinity of the Harbourside development

### 4.2 Potable Water service to the development

It is proposed that private water services will be taken off either the DN200mm DICL and / or the DN250mm DICL water mains to supply potable water and fire requirements to the proposed Harbourside development.

This new reticulation pipework shall be installed to suit the development scheme planning. The reticulation pipework shall be designed in accordance with Water Supply Code of Australia (WSA 03) – Sydney Water edition 2014, suitable for the water loading and fire requirements for the development.

Subject to detailed design development and further consultation with the utility authorities, some existing water mains may need to be augmented to enable supply to the development. Based on the current proposed development building envelope, it is not expected that any existing Sydney Water potable water assets in the vicinity of the site will be adversely impacted upon by the proposed development.

Consultation with SWC has commenced regarding servicing the development with potable water and fire water infrastructure. A preliminary meeting regarding the retail/commercial scheme was held with SWC on the 4th February 2016. Further to this a SWC e-Developer servicing feasibility application was submitted to SWC. SWC confirmed in principle that the development can be serviced from their existing infrastructure. An updated SWC e-Developer servicing feasibility application was submitted on the 19<sup>th</sup> September 2016 to SWC to reflect the increased load and changes from Retail/Commercial to Retail/Residential development. The SWC preliminary potable water investigation was based on supply from the DN 250mm drinking watermain located in Darling Drive.

This previously updated feasibility study enquiry assumed a total peak water flow rate of 140 litres/sec and an estimated fire services domestic usage of 50 litres/sec for retail (combined hydrant and sprinklers), and 25 litres/sec for residential (combined hydrant and sprinklers).

Previous correspondence from SWC on the previous scheme has indicated that subject to commercial negotiation and confirmation of developer charges, SWC will be able to supply the site with the required potable water connections. The SWC feasibility response to the updated mixed

use development (residential and retail) was received on the 11<sup>th</sup> October 2016 and is contained in **Appendix D** of this report. This SWC response states that:

*“Strategic investigations shows that the trunk water system has adequate capacity to service the development area.*

*Determination of water facilities has been based on supply from the existing DN250 drinking water main in Darling Drive.*

*Your Water Servicing Coordinator can assess the reticulation water mains and advise you of any amplification requirements based on your water connection points. You should also refer to the advice on “Large Water Service Connections”, “Private Water Services, Connection and Metering”, “Fire Services”, “Disused Water Service Sealing” located at the end of this letter and on “Multi Level Individual Metering” located in Section 7 below.”*

Updated potable water flow rate calculations were undertaken for the revised mixed development proposal containing commercial, retail and residential components to the development. These updated potable water calculations resulted in an average daily water demand of 351 KL, peak daily water demand of 584 KL and a peak water flow rate of 53.7 litres/sec. Updated fire services calculations resulted in a fire sprinkler flow rate of 18 litres/sec and a fire hydrant flow rate of 20 litres/sec. The updated potable water calculations are based on water demands on the methods described in the Water and Sewer Code of Australia (Sydney Water Edition), and the preliminary updated mixed development floor areas.

An updated SWC e-Developer feasibility application was submitted to SWC in Jan 2020 to reflect the previous mixed use residential, retail and commercial development. A response to this feasibility application was received on the 04<sup>th</sup> May 2020 and this is contained in **Appendix E**.

Within this response, SWC noted the following:

*“Your development must have a frontage to a water main that is the right size and can be used for connection.*

*Sydney Water has assessed your application and found the proposed development will not have a significant additional impact on the existing drinking system.*

*A service connection and property service must be provided for your development off the drinking water main in Darling Drive Sydney.”*

SWC developer charges and amplification costs cannot be advised until a formal application is made to SWC. This cannot occur until a more detailed development concept has been completed.

Further consultation with SWC regarding the proposed development in the form of a Section 73 Application will be required prior to commencement of detailed design.

Following the current change to the proposed residential, retail, and commercial development maximum potable water demands were calculated. The updated potable water calculations resulted in an average daily water demand of 300 KL, peak daily water demand of 500 KL and a peak water flow rate of 52 litres/sec. These demands are lower than previously consulted with Sydney Water. As such, the previous advice received from Sydney Water should still be valid.

Potable water demand	March 2020 DA	September 2020 DA
Average daily water demand (KL)	351	300
Peak daily water demand (KL)	584	500
Peak water flow rate (litres / sec)	53.7	52

**Table 5** Estimated potable water flows for the Harbourside development

A Pressure and Flow enquiry was made to Sydney Water on the 21<sup>st</sup> of January 2020, to determine currently available pressure and flow of drinking water. The Pressure and Flow enquiry

response from Sydney Water was received on the 04<sup>th</sup> of February 2020 and it is contained in **Appendix E**. The pressure and flow data provided indicates that there is sufficient pressure flow available for the proposed development.

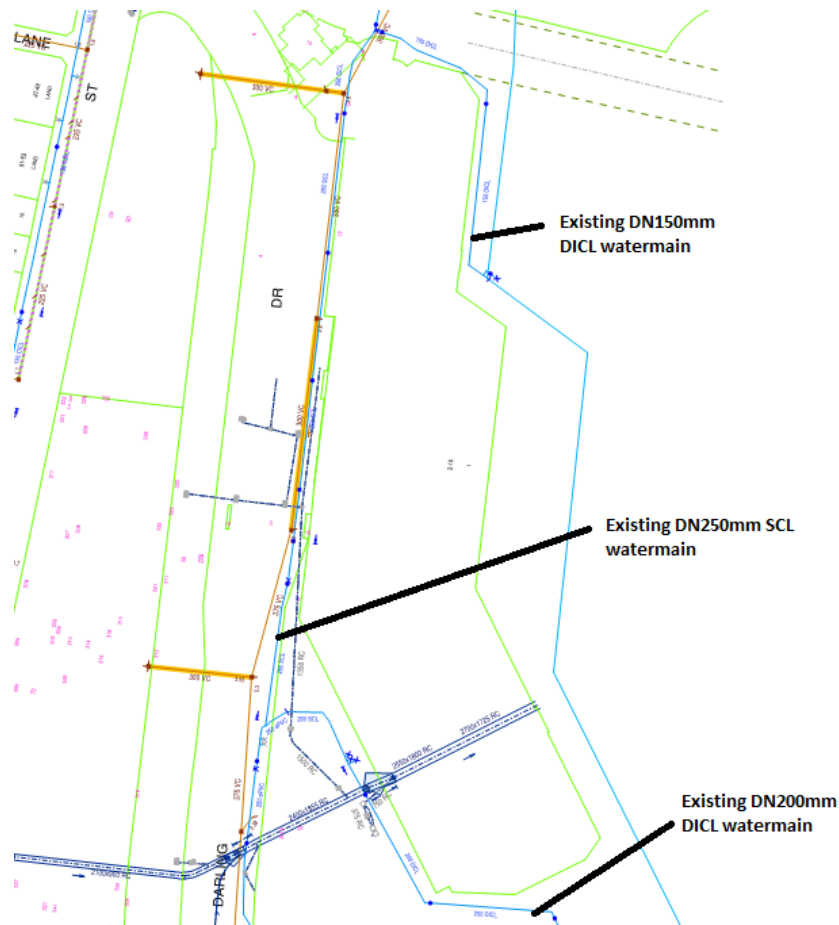
It is assumed that a single connection can be made to Sydney Water's potable water main, and the incoming supply will reticulate to a shared water meter room. As required by Sydney Water, a master meter will be provided for each stratum. All valves and equipment (such as pumps, backflow prevention devices and filters) will be downstream of the master meters and a separate reticulation will be provided for each stratum.

With regard to recycled water, SWC also noted the following in their latest feasibility application response, received on the 04<sup>th</sup> May 2020:

*"While there is no existing Sydney Water recycled water supply to this area, Sydney Water is open to working in partnership with developers to consider potential decentralised recycled water servicing solutions that may offset potable water demands for irrigation, toilet flushing and domestic washing machines, as well as air cooling towers. Consideration can also be given for rainwater capture and stormwater runoff reduction. Please contact your Sydney Water Account Manager to investigate the potential for a commercial arrangement to supply recycled water to your development."*

Rainwater tanks for recycled water will be considered as part of the Stage 2 DA and concept design. Preliminary rainwater tank sizing calculations have been undertaken, and these are outlined in the stormwater water quality section of the Flooding and Stormwater SSDA1 Report.

A meeting was also held between the Proponent and Sydney Water on the 16<sup>th</sup> of April 2020 to discuss the development and water recycling opportunities at high level. Evidence of that meeting is outlined in **Appendix E** of this Report.



**Figure 8:** Existing SWC Potable Water Network

## 5 STORM WATER INFRASTRUCTURE

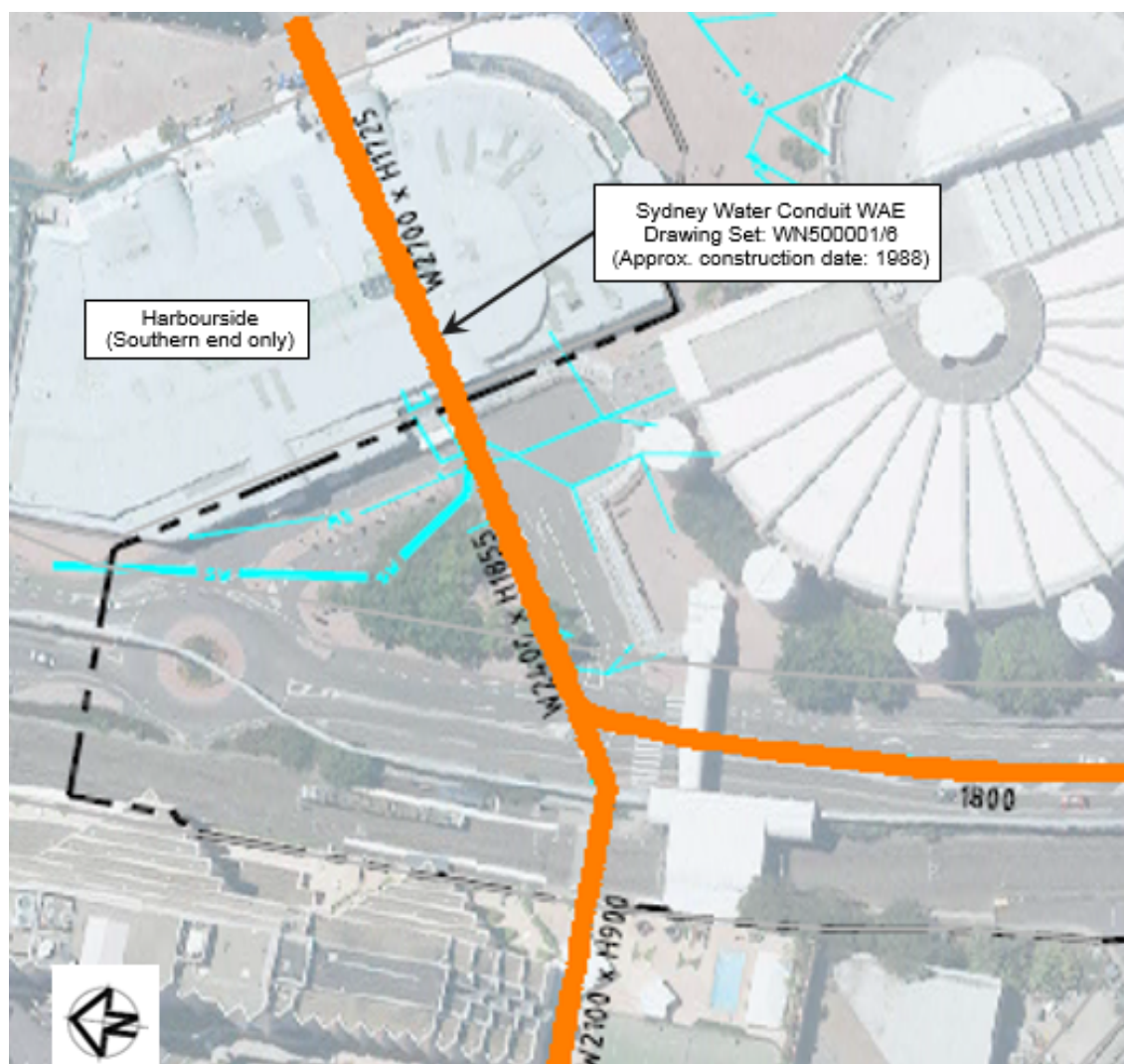
Stormwater overland flows and roof flows currently drain into the existing SWC and City of Sydney Council (CoS) / Sydney Harbour Foreshore Authority (SHFA) stormwater pit and pipe network, before discharging into the nearby Cockle Bay. The proposed stormwater strategy to service the development is discussed in more detail under the Stormwater, Flooding and WSUD report.

However, there is an existing SWC stormwater asset that is discussed within the report for the purpose of addressing the following SEARs requirement:

*“Provide details of how infrastructure assets of various stakeholders will be protected during the demolition and construction of the project.”*

### 5.1 SWC Build-Over Policy

There is an existing SWC stormwater 2700mm x 1725mm box culvert that passes below the existing Harbourside Shopping Centre building footprint. Please refer to **Figure 9** for a location plan of this existing box culvert.



**Figure 9:** Existing SWC Stormwater Box Culvert

The proposed development will result in the demolition of the existing building and the construction of a new shopping centre development in its place. However, the extent of building footprint that is

directly located over the box culvert will be reduced relative to existing conditions, which will result in some form of betterment compared to current conditions.

It is proposed that the future Harbourside development will be built over the existing culvert. An initial consultation was undertaken with SWC on the 5<sup>th</sup> of February 2016, to discuss the potential for the future build over of this SWC asset.

At this meeting SWC confirmed the following:

- The existing box culvert is in reasonable condition to allow it to remain its current location for the present time;
- SWC has requested that an easement is provided as part of the ICC Hotel development under the SICEEP Local Area Servicing plan (LASP), for the potential diversion of this box culvert;
- This easement is located to the south of the Harbourside Shopping Centre development between it, the future ICC hotel and the International Convention Centre;
- As such, SWC confirmed in principle for the future build-over of this box culvert as part of the redevelopment of the Harbourside Shopping Centre;
- SWC confirmed that all works are to be undertaken in accordance with their build-over policy; and
- SWC may request that an additional access chamber be constructed as part of the Harbourside development, which would be located to the east of the development, and some form of pollution treatment be installed on this stormwater outlet.

Please refer to **Appendix G** of this Report for a copy of the meeting minutes with SWC. Please refer to **Appendix F** of this Report for a copy of the SWC stormwater build-over policy. Consultation with SWC with regard to the build over of their asset will be ongoing throughout the design and construction phases of the development.

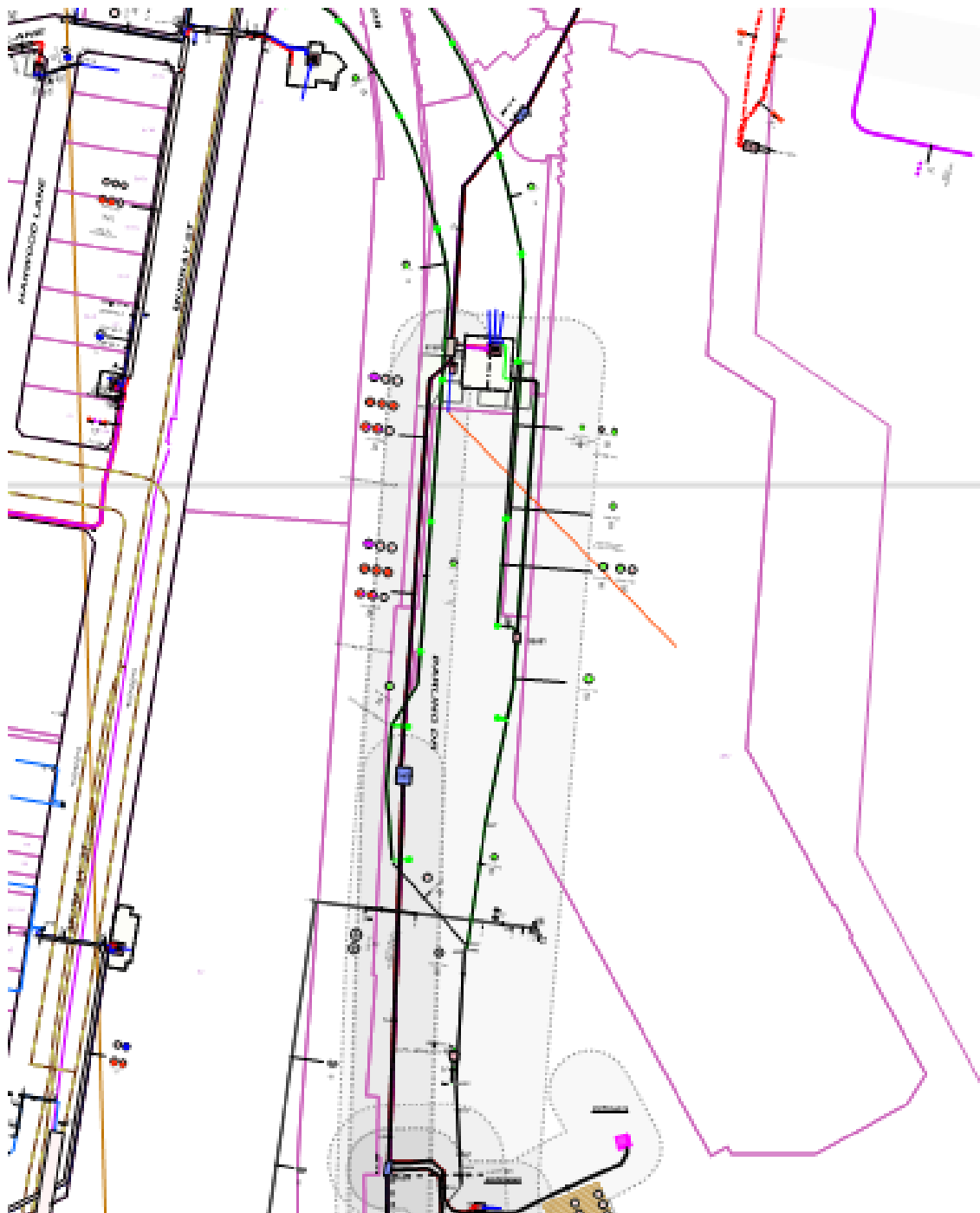
Where the proposed Harbourside development building crosses over the existing stormwater culvert, the building structure will need to be designed to ensure that building loads are not supported by the culvert and the culvert is not affected in terms of structural integrity and function. In addition, a construction methodology will be developed to ensure excessive temporary construction loadings are not imposed on the existing culvert.

The feasibility application responses received from SWC on the 11<sup>th</sup> of October 2016 and 04<sup>th</sup> May 2020 (refer to **Appendix D & E**) also references the existing SWC stormwater culvert, build over policy and LASP easement.

## 6 ELECTRICAL INFRASTRUCTURE

### 6.1 Existing Electrical Infrastructure

The DBYD search indicated that there are existing Ausgrid electrical assets located directly within the Harbourside development boundary. Please refer to **Figure 10** for a location plan of existing Ausgrid assets, and to **Appendix H** for a copy of the DBYD search results from Ausgrid.



**Figure 10:** Existing Ausgrid Electrical Infrastructure

There is existing HV infrastructure in-ground directly adjacent to the site location and some minor LV (street lighting) located within the site boundary which will be made redundant as a result of the new development. However, in the event that live services are identified, they will be protected / relocated in accordance with Ausgrid requirements.

The existing Harbourside Shopping Centre is powered by two substations, which are located to the west of the existing building.

## 6.2 Electrical service to the development

Mirvac has commenced negotiations for supply to the site with Ausgrid. These negotiations include network design / impact, identification of redundant services and potential relocations as well as site specific (substation) servicing arrangements. A "Preliminary Enquiry" was submitted to Ausgrid on the 22<sup>nd</sup> of January 2016, with regard to future power supply to the development.

Ausgrid confirmed the following in their response to the 'Preliminary Enquiry': Please refer to **Appendix I** for a copy of the consultation records with Ausgrid.

*"The existing 11kV network would not be able to support a load of 11MVA without extensive network augmentation, and more than likely a new set of feeders from a zone substation, most likely Darling Harbour, but a full application submission (NECF03) would be required to provide this information. The existing substations on site and details are:*

- *S.6445 (3 x 1500kVA TX substation, Max Loading approximately 4700A (between 2010-2015), Substation rated at 5300A*
- *S.3092 (1 x 1500KVA TX Substation, Max Loading approximately 1900A (between 2010-2015). Substation rated at 2392A*

*Based on the above, the proposed site will require new substation infrastructure (3 x 1500kVA substations), and more than likely a new feeder direct from a Zone/or large scale 11kV network Augmentation."*

Following the above correspondence and changes in scheme to provide a retail/residential development. A full NECF03 application was submitted to Ausgrid on the 4<sup>th</sup> of August 2016.

Ausgrid have conducted a preliminary assessment of the Harbourside application and advice that the proposal requires a certified design and associated certification number for the application to be complete. For now Ausgrid's preliminary assessment, which was dated 12<sup>th</sup> September 2016 has determined that

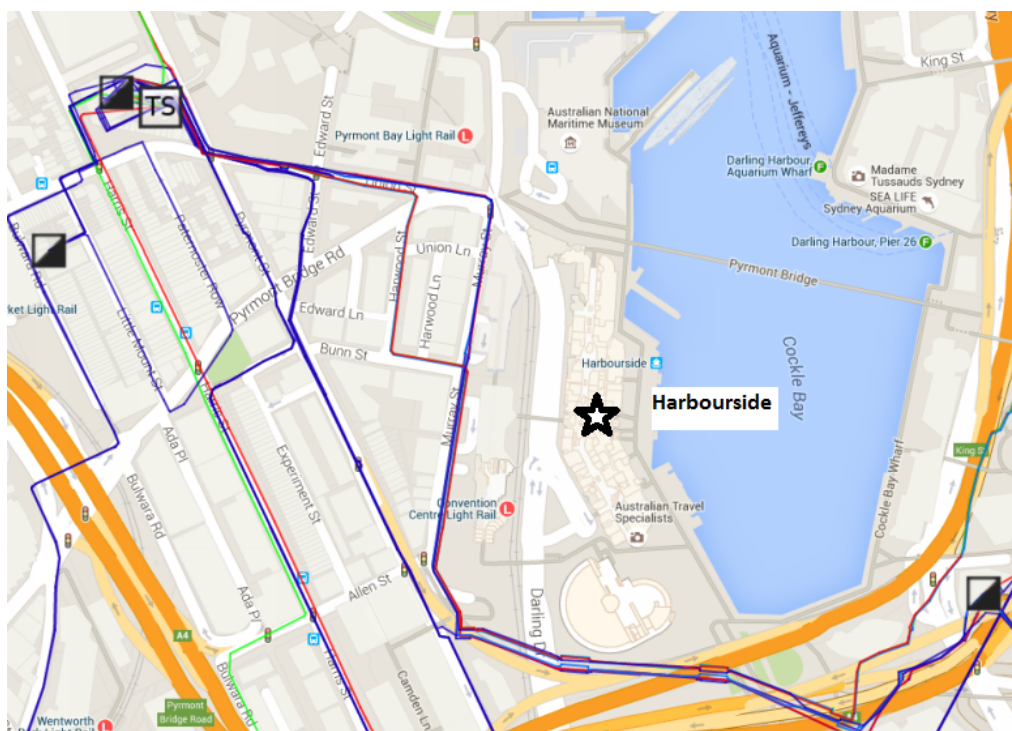
*'The following works are likely to be required to connect your development.*

- *'Establishment Of 3x1500kva Surface Chamber Substation, And Extension Of 11kv Network*

*These works are classified as contestable, which means that you are required to fund the design and some or all of the construction works. In this regard, 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 in accordance with Ausgrid's policies and standards.*

*Once the works have been satisfactorily completed and electrified, the premises connection assets will be owned and maintained by Ausgrid as part of our electricity distribution network. The timeframe for the works will vary depending on factors such as the complexity and the way in which you manage your ASPs.'*

Please refer to **Appendix I** for a copy of the September 2016 consultation records with Ausgrid.



**Figure 11:** Nearby Transformer Substations, Zone Substations & Transmission Feeders

Electrical demand calculations were undertaken for the updated mixed-use development comprising residential, retail and commercial, based on VA/sq.m allowance and high level area schedule data. The updated proposed development was anticipated to have a maximum demand of 8.7 MVA, which will potentially be serviced by the two existing substations and an additional new single surface chamber substation containing 3x1500kVA transformers, associated HV and LV switchgear. Connection of this substation is proposed either via new in-ground pit and pipe infrastructure from the new substation to the adjacent existing 11kV network in Darling Drive, or more than likely via new in-ground pit and pipe infrastructure to one of the nearby zone substations. Please refer to **Figure 11** for the location of nearby zone substations based on the Ausgrid GIS mapping information.

A new preliminary enquiry was submitted to Ausgrid on the 24<sup>th</sup> of January 2020, which is based on the updated proposed development mix. A response to this enquiry was received on the 09<sup>th</sup> March, and this response can be found in **Appendix J**. The updated Ausgrid response provides similar advice to the original preliminary enquiry, and it will be considered in ongoing consultations with Ausgrid and the future design development stages.

Updated calculations to determine maximum demand were undertaken to support the current residential, retail and commercial development proposal, outlined in this report. The updated development proposal is anticipated to have a maximum demand of 8.5 MVA, which is less than that the maximum load previously consulted on with Ausgrid (refer to **Table 6** below) As such, previous advice received from Ausgrid should still be valid, with regard to existing electrical capacity and proposed development substation requirements.

Electrical Load (MVA)	March 2020 DA	September 2020 DA
Total	8.7	8.5

**Table 6** Estimated gas loads for the Harbourside development

A Level 3 Accredited Service Providers (ASPs) will be engaged to undertake the design and construction in accordance with Ausgrid's policies and standards past SSDA1.

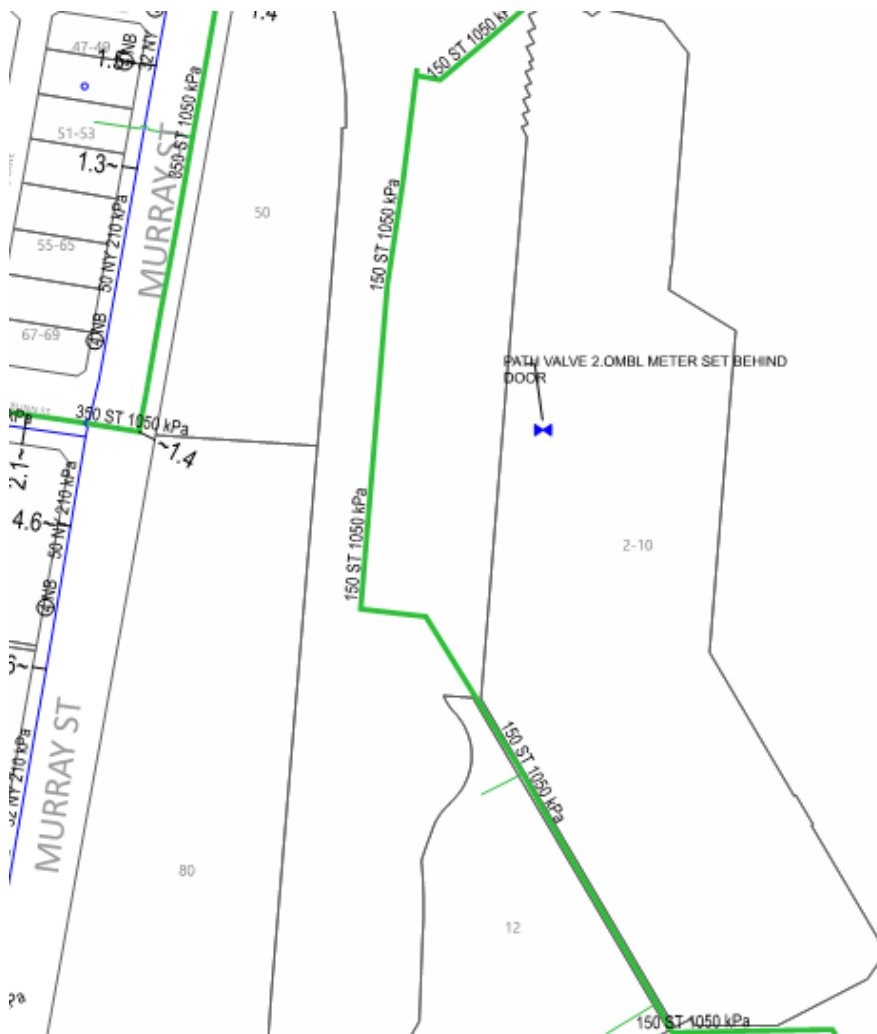
## 7 GAS INFRASTRUCTURE

## 7.1 Existing Gas Infrastructure

The Harbourside development is located in the Jemena service area for gas supply.

The DBYD search indicated that there is an existing 150mm diameter 1050KPa secondary Jemena gas main located directly within the Precinct D development boundary. Please refer to **Appendix K** for a copy of the DBYD search results from Jemena.

**Figure 12** below outlines the Jemena gas design located in the area of the development site.



**Figure 12:** Existing Jemena Gas Infrastructure

## 7.2 Gas supply to the proposed development

Arcadis Consulting undertook consultation with Jemena on the 05<sup>th</sup> of February 2016. Jemena provided a response to this enquiry on the 29<sup>th</sup> of February 2016 and confirmed that natural gas is available in the development area. Jemena also confirmed that the existing DN150 1050KPa main to the west of the site may be able to supply gas to the Harbourside development, subject to the commercial viability of the development. Please refer to **Appendix L** for a copy of this consultation.

It is proposed that a single connection would be made to Jemena's secondary main with a single incoming supply and boundary regulator. Downstream of the boundary regulator the low-pressure system (5kPA) would be split into a separation system for each Stratum.

Since the original consultation with Jemena took place the development changed from a commercial/retail to a retail/residential/commercial development. As the development changed a new consultation was submitted to Jemena on the 24<sup>th</sup> of January 2020 – refer **Appendix L**. This enquiry relates to the previous mixed use residential, commercial, and retail development. That assessment assumed a maximum gas demand calculated at 25,500 MJ/hr.

Jemena provided a response to the updated development and enquiry on the 3rd of February and confirmed that the existing steel high pressure main in Darling Drive currently has sufficient capacity to supply the expected load of 25,000MJH. Please refer to **Appendix L** for a copy of this correspondence.

The maximum demands for natural gas were assessed to support the current mixed-use development, outlined in this report. The updated and current maximum demand for gas is now calculated at 20,850 MJ/hr. A breakdown and comparison of the different development type gas loads from March 2020 to current are outlined in **Table 7**. As such, the current advice last received from Jemena should still be valid for the current development proposal outlined in this Report.

Gas Load (MJ/hr)	March 2020 DA	September 2020 DA
Residential	5,500	7,400
Commercial	4,000	4,950
Retail	16,000	8,500
Total	25,500	20,850

**Table 7** Estimated gas loads for the Harbourside development

#### Assumptions and clarifications:

##### Commercial:

- The commercial natural gas demands are based on a 5 Star NABERS rating and an energy mix of 20% natural gas.
- The peak hour gas loads are based on 50% of the average daily demand.
- Potential gas for commercial kitchens (by Tenant) has been considered

##### Retail

- The retail is based on an average shopping centre energy intensity of 1,600MJ/m2.a. and an energy mix of 5% natural gas (Baseline Energy Consumption and Greenhouse Gas Emissions In Commercial Buildings in Australia, Council of Australian Governments (COAG) National Strategy on Energy Efficiency– 2012)
- The peak load is based on 200% of average daily demand.
- Calculations assume indicative yield of 8,500m2 of GLAR
- Calculations assumes retail mix will consist of 60-70% Food & Beverage, serviced by gas

##### Residential

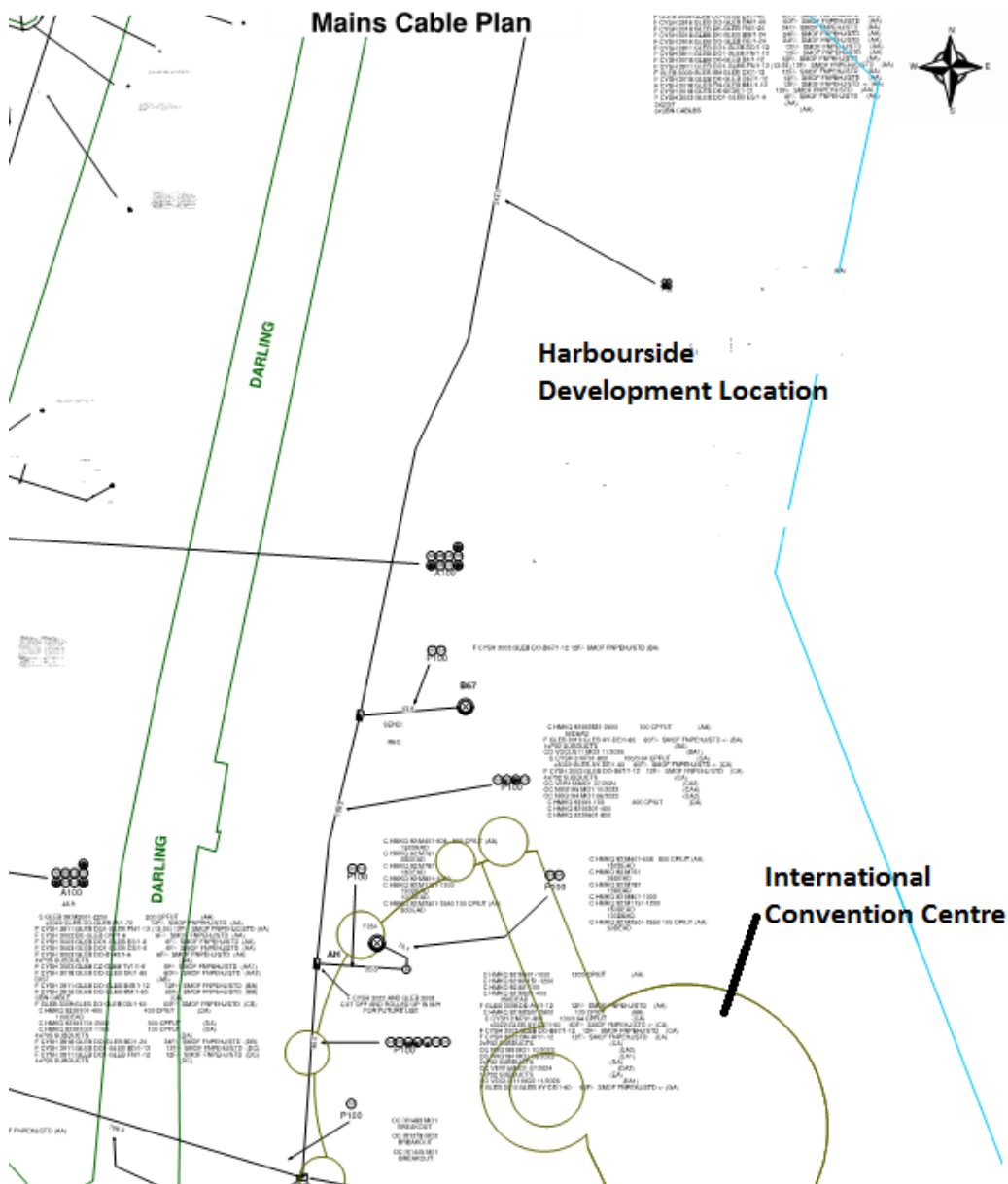
- Residential peak loads are based on 40MJ/hr per apartment (375 off) and a diversity of factor 0.195 with an allowance of 3,500MJ/hr. for centralised hot water plant.
- Calculations assumes induction cooktops in kitchens

## 8 TELECOMMUNICATIONS INFRASTRUCTURE

## 8.1 Existing Telecommunications infrastructure

Telecommunication services infrastructure in the vicinity of the site is owned and operated by Telstra, NBN, TPG, Optus, Nextgen, Pipe Networks and Verizon.

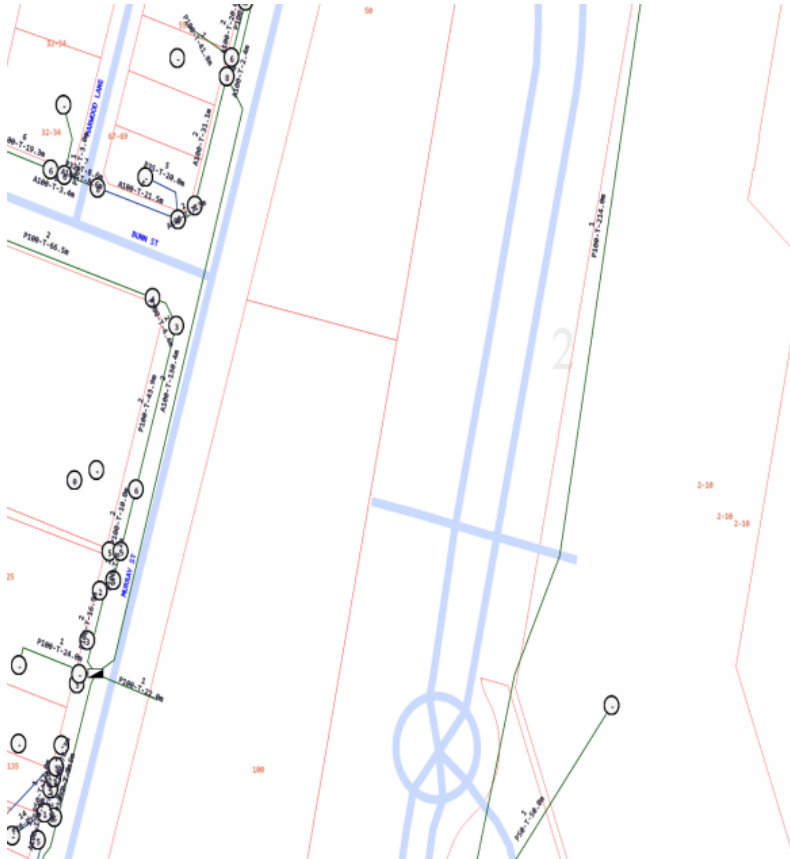
The DBYD search indicated that there are existing NBN Co telecommunications assets located directly within the Harbourside Shopping Centre development boundary. Please refer to **Appendix M** for a copy of the DBYD search results from Telstra and NBN Co, and to **Figures 13 and 14** for a location plan of existing Telstra and NBN Co. telecommunications infrastructure.



**Figure 13:** Existing Telstra Infrastructure

Telstra has indicated that there is existing Telstra infrastructure located in the vicinity of the proposed development.

Telstra have existing telecommunications cables located in Darling Drive. Telstra have capacity to support the site but due to recent changes in the Telecommunications Act, NBN Co have first right of refusal.



**Figure 14:** Existing NBN Co. Infrastructure

## 8.2 Telecommunication supply to the proposed development

A feasibility and development application was submitted to NBN Co in 2016. with regard to future telecommunication service to the proposed retail and residential development. As the proposed development has now changed to a mixed use residential, retail and commercial development a new application enquiry was made to NBN on the 21<sup>st</sup> of January 2020. Please refer to **Appendix N** for a copy of the updated feasibility and new development registration.

New infrastructure and lead-in locations from the NBN Co. infrastructure will be required into the Harbourside development site. Additional designs will be required for the MDU site (High-rise buildings). These designs will be completed under future projects (NBN Co MDU pathway designs).

## 9 ADDITIONAL STATUTORY UTILITIES

This Report also investigates additional utility infrastructure such as utility assets associated with Statutory Authorities and an existing salt water in-take channel that may be impacted by the proposed development. The Statutory Authorities assessed include:

- RMS;
- RailCorp; and
- City of Sydney

### 9.1 RMS infrastructure

There are no RMS utility assets located within the proposed development boundary. As such, it not expected that any RMS assets will be impacted as a result of the proposed Harbourside development. Please refer to **Appendix O** for a copy of existing RMS assets.

### 9.2 RailCorp infrastructure

There are no RailCorp utility assets located directly within the proposed development boundary. However, there is an existing 33KV electrical conduit located along the eastern boundary of the light rail land, which bounds the existing vehicular access to the development site. Please refer to **Appendix P** for a copy of the RailCorp assets provided during the DBYD search.

Consideration of this asset will be required for any interface works associated with any access designs to the proposed development site, which will be undertaken during the detailed design phase. Consideration of the demolition of the existing pedestrian bridge and the construction of the proposed pedestrian bridge linking the development with Bunn Street will also require consideration of RailCorp assets during the detailed design phase.

Arcadis Consulting met with RailCorp and the Department of Transport on the 12<sup>th</sup> of February 2016 and 03<sup>rd</sup> of August 2018 to inform them of the proposed development. It was noted at these meetings that there were no objections in principle to the proposed development. Please refer to **Appendix Q** for a copy of these meeting minutes.

### 9.3 City of Sydney Infrastructure

There are no City of Sydney assets that are impacted directly by the proposed development other than existing stormwater pits and pipes. This existing stormwater network will be considered as part of the proposed detailed design of the development. Please refer to **Appendix R** for a copy of the City of Sydney assets provided during the DBYD search.

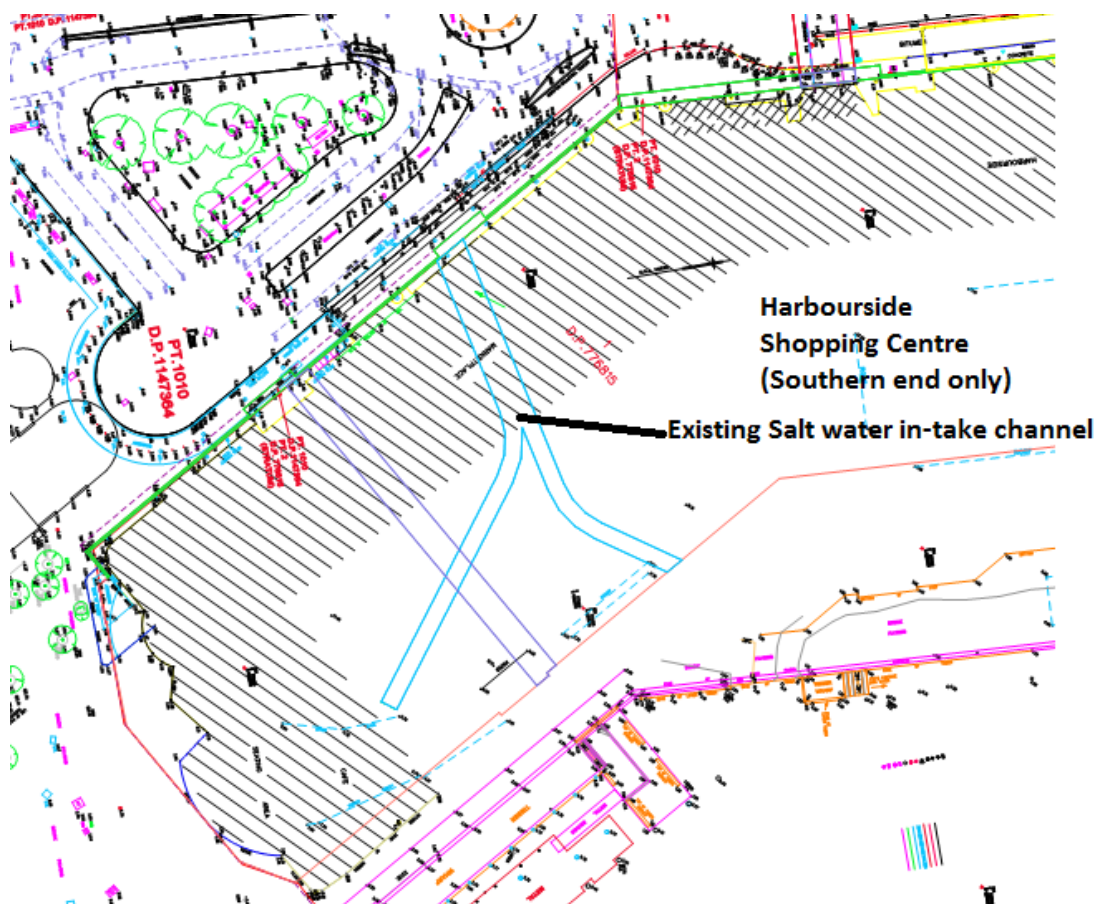
### 9.4 Existing salt water in-take channel

There is an existing salt water in-take system, which is located below the footprint of the existing Harbourside Shopping Centre, and there is an existing easement associated with this structure. Please refer to **Figure 15** of this Report for a location plan of the existing salt water in-take channel.

It is understood that this infrastructure was completed circa 1928 and provided cooling water from Darling Harbour to the Ultimo Power House (now known as Power Museum). This infrastructure is included in the SHFA Heritage and Conservation Register.

The intake channel comprises of twin 1.8m diameter pipes, which run parallel until approximately 50m prior to the Harbour, where they diverge. It is not believed that this infrastructure still provides any cooling benefit to any development and that this system is currently redundant.

Further consultation will be required during the next stages of the proposed development to determine if this system can be capped or not. However, at a minimum the future design of the proposed development will need to consider the location of this system, with respect to potential impacts and damage.



**Figure 15:** Existing Salt Water In-take Channel location Plan

## 10 PROTECTION OF EXISTING UTILITY INFRASTRUCTURE

The following process will be followed to ensure existing utilities infrastructure is protected:

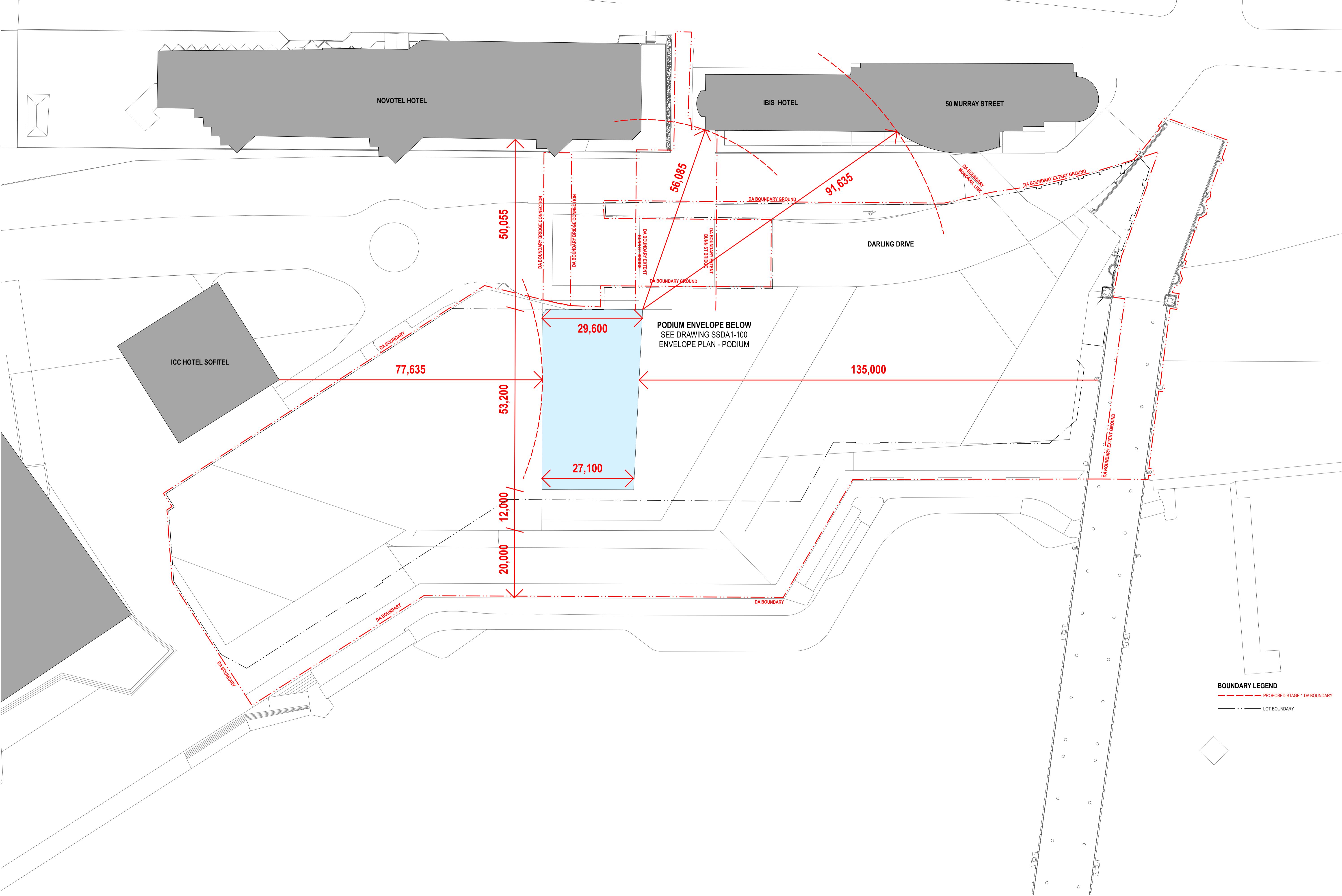
- A desk-top investigation of existing services will be undertaken using Dial Before You Dig information and site observations;
- Site survey will be undertaken to accurately locate existing infrastructure assets where practical;
- Site exploration works will be undertaken where considered necessary to more accurately locate existing infrastructure assets and test for unknown services;
- Consultation will be undertaken with utility providers to confirm location of services and to obtain all necessary consents to work in their vicinity;
- Utility technical and hazard requirements will be incorporated into the design and construction documentation;
- Safe work methods statements and inspection and test plans will be prepared by accredited contractors;
- Pre-start work checklists will be implemented and recorded;
- Workshops will be conducted with utility providers where diversion of, connection to or construction close to critical assets is required; and
- Field safety inspectors will be present during critical works as determined by each utility provider.

As design progresses or as new information becomes available, the above process will be adjusted or supplemented as required to ensure existing infrastructure assets are adequately protected.

## **APPENDIX A**

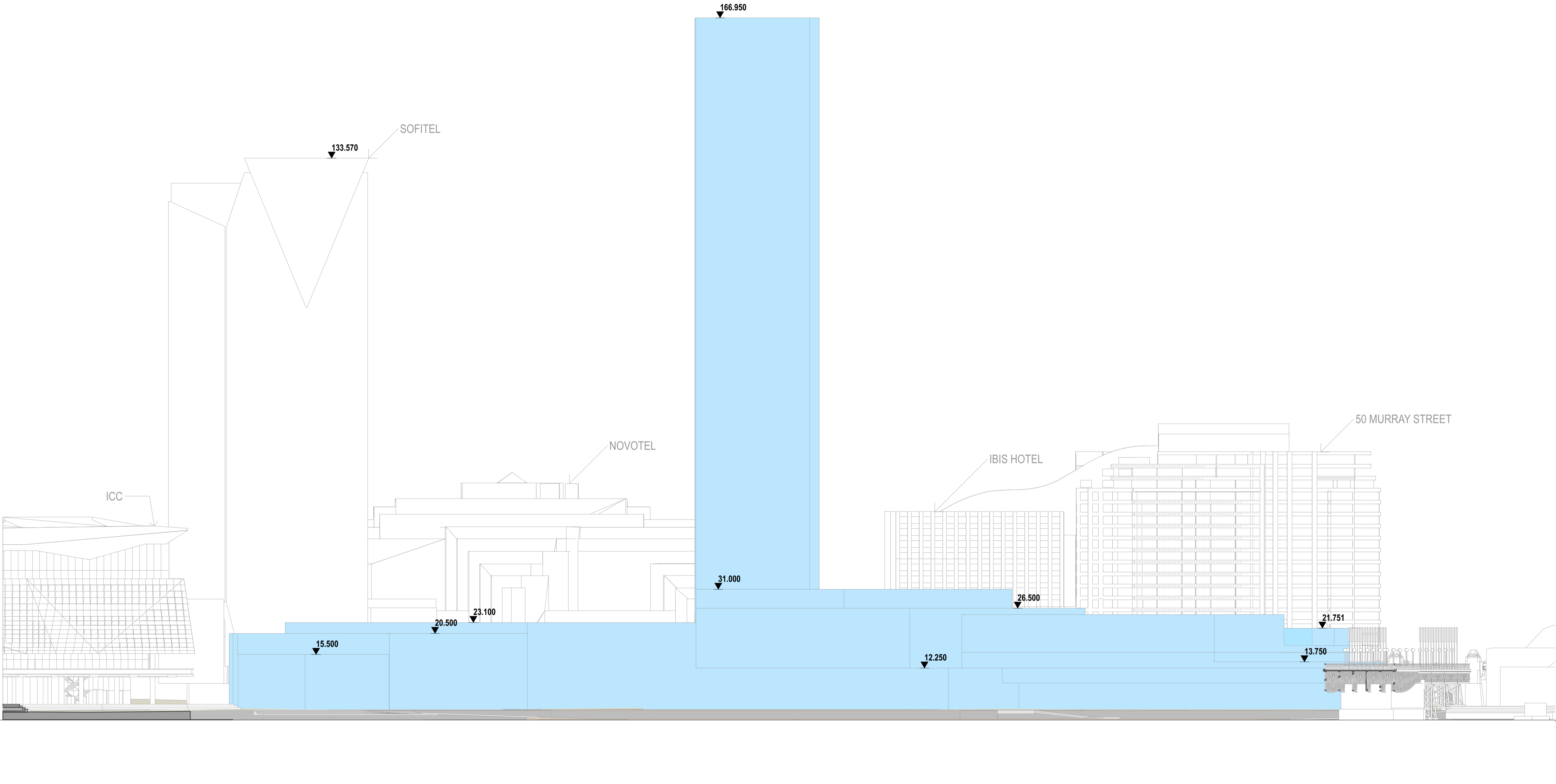
### **Proposed Development Indicative Design Plans**

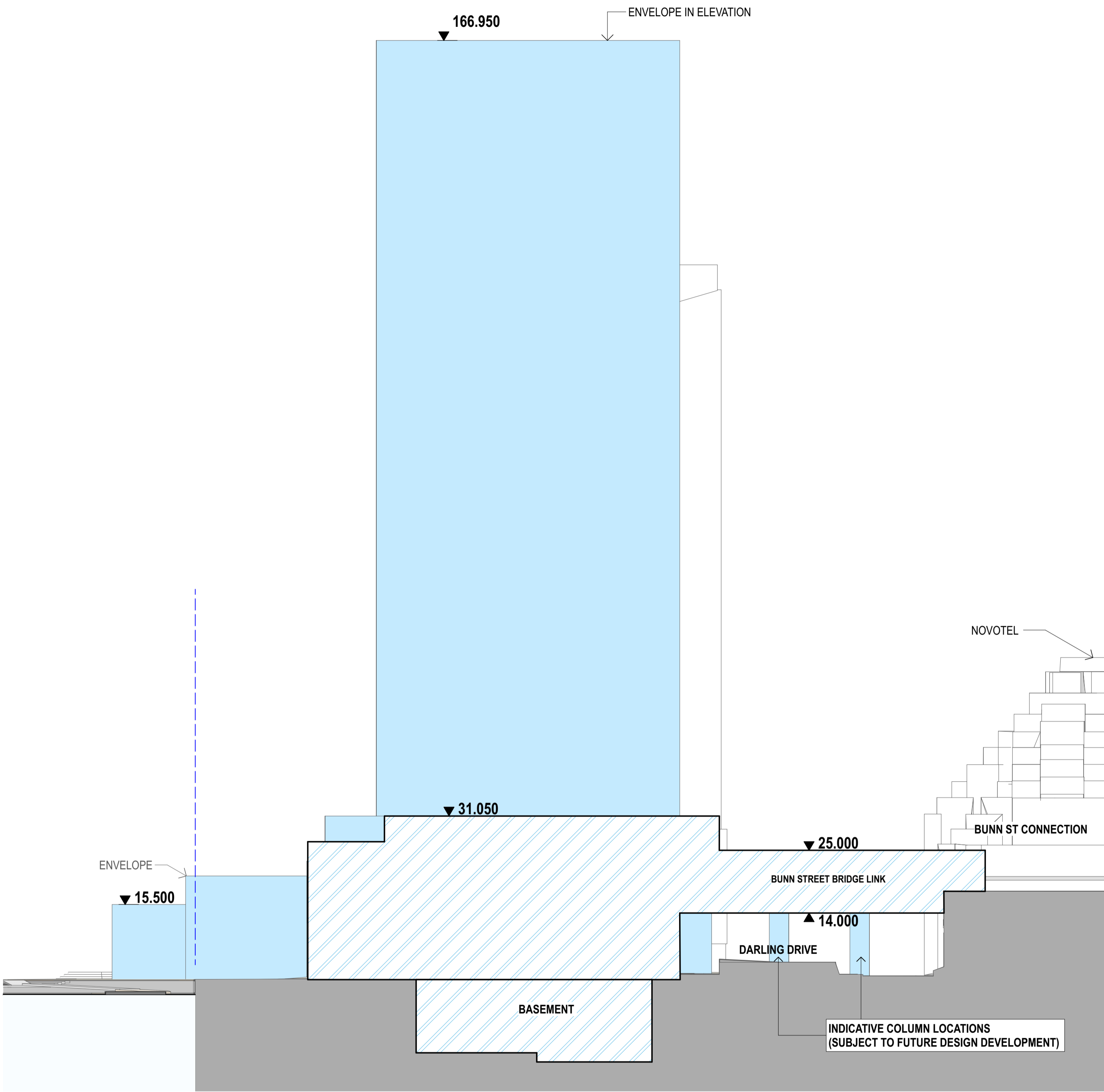




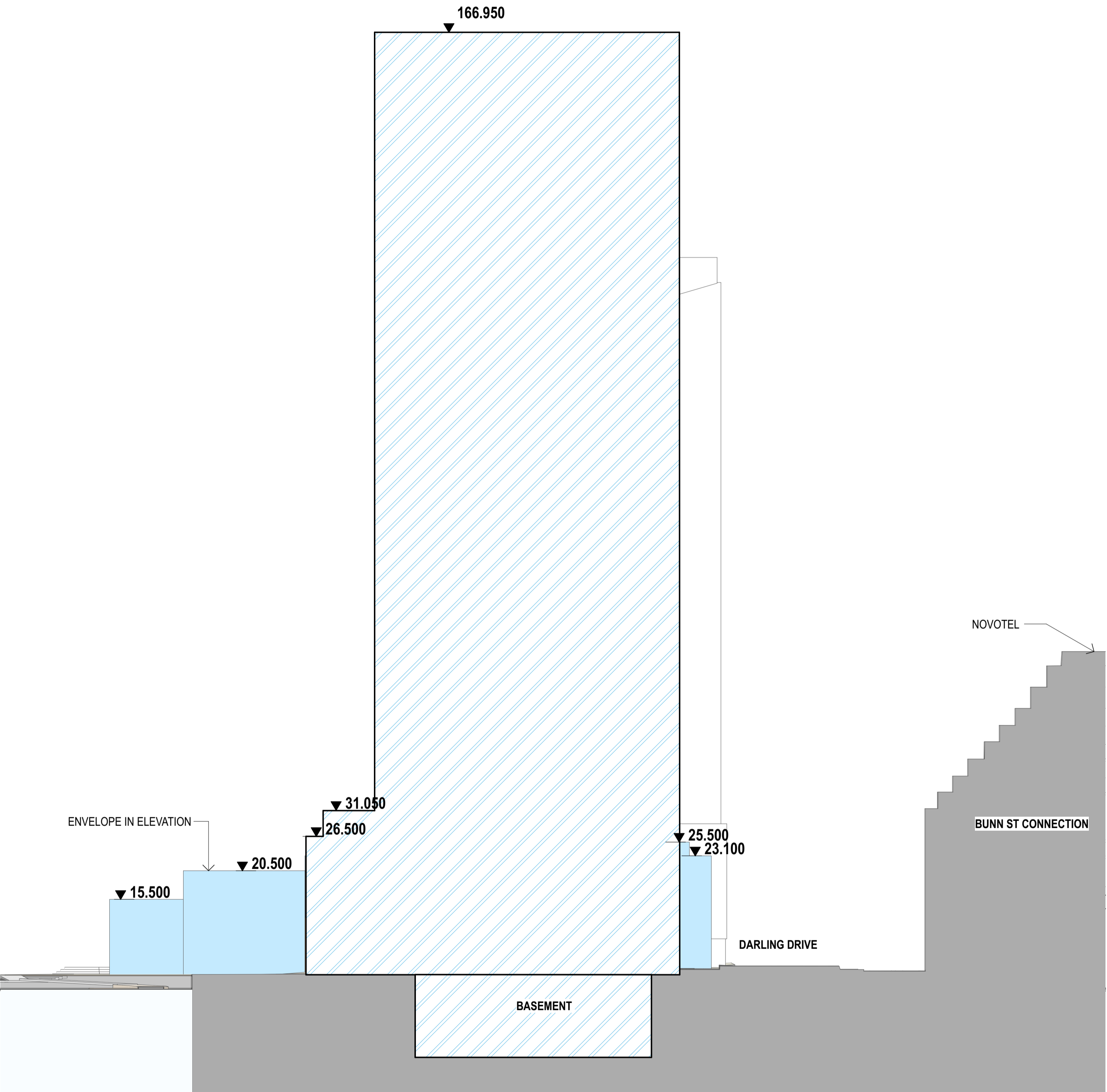
**BOUNDARY LEGEND**  
- - - PROPOSED STAGE 1 DA BOUNDARY  
... LOT BOUNDARY



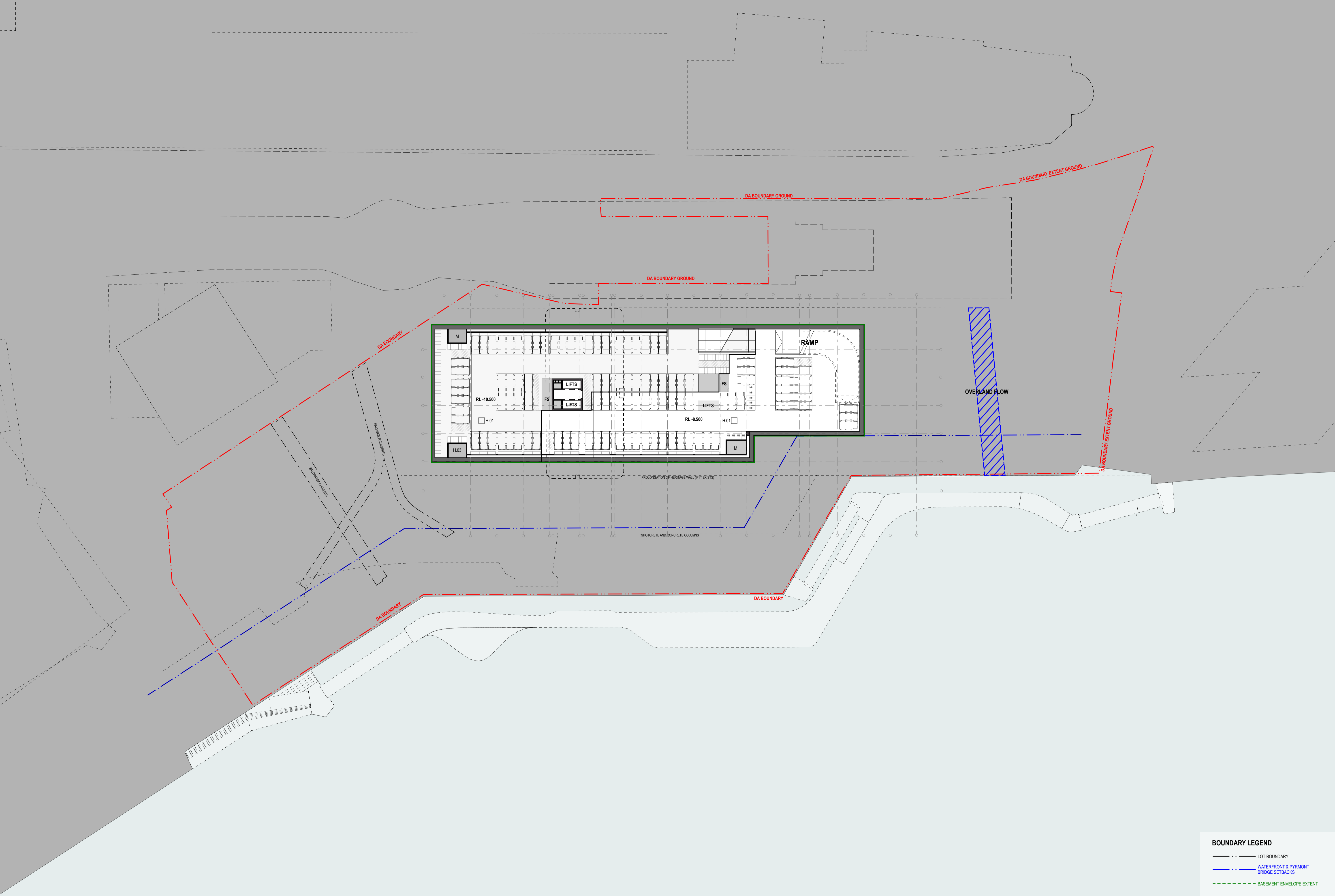




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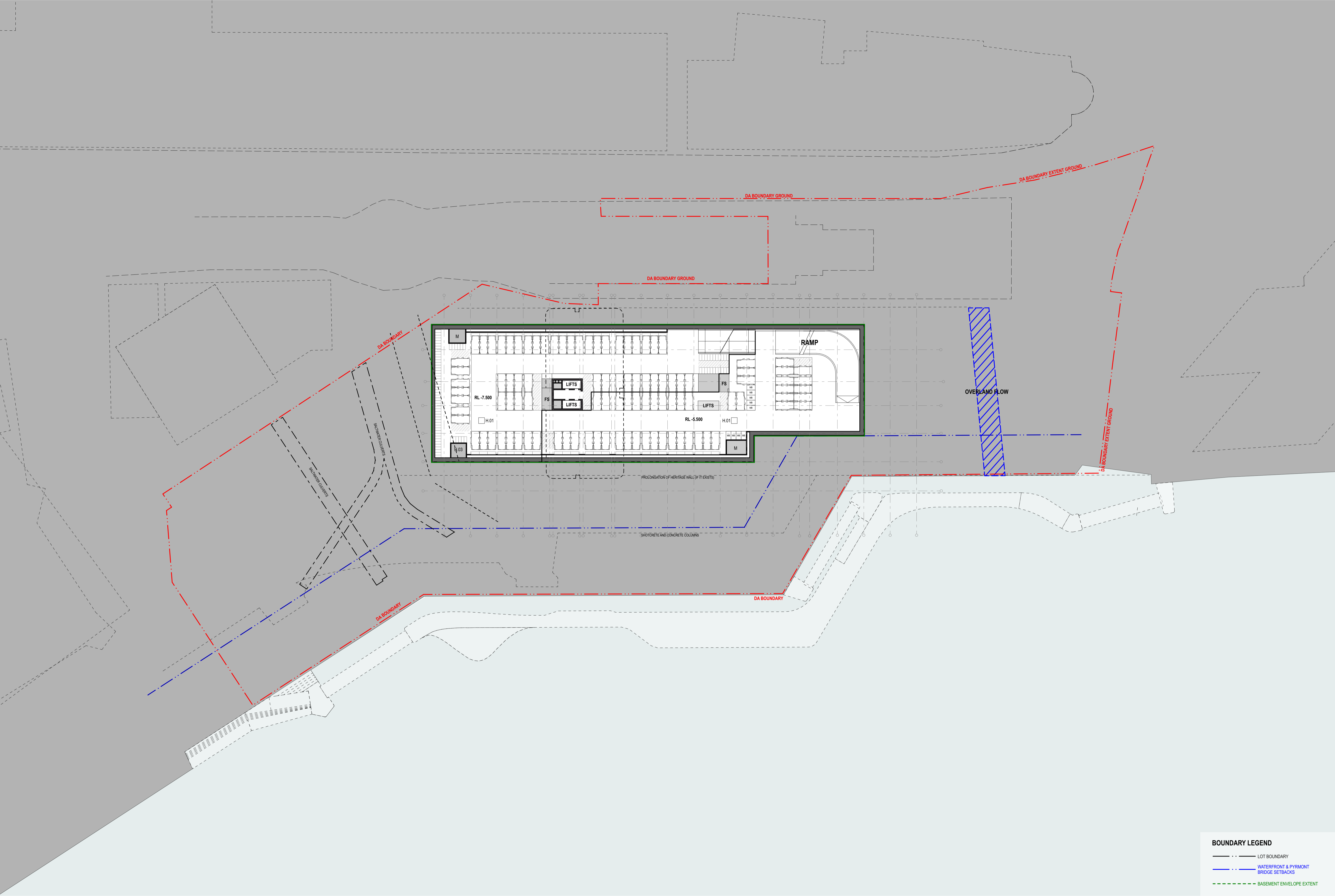


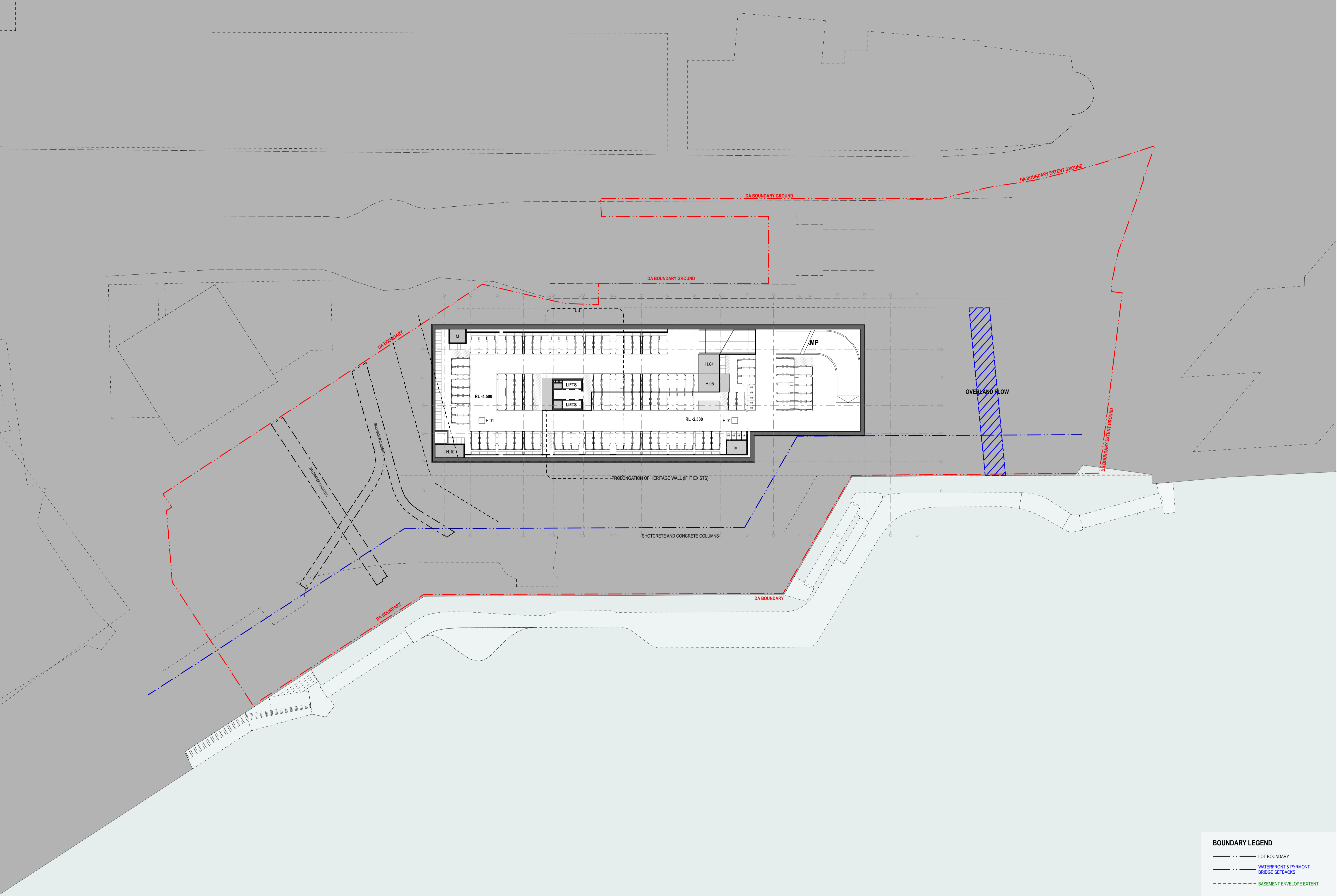
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**BOUNDARY LEGEND**

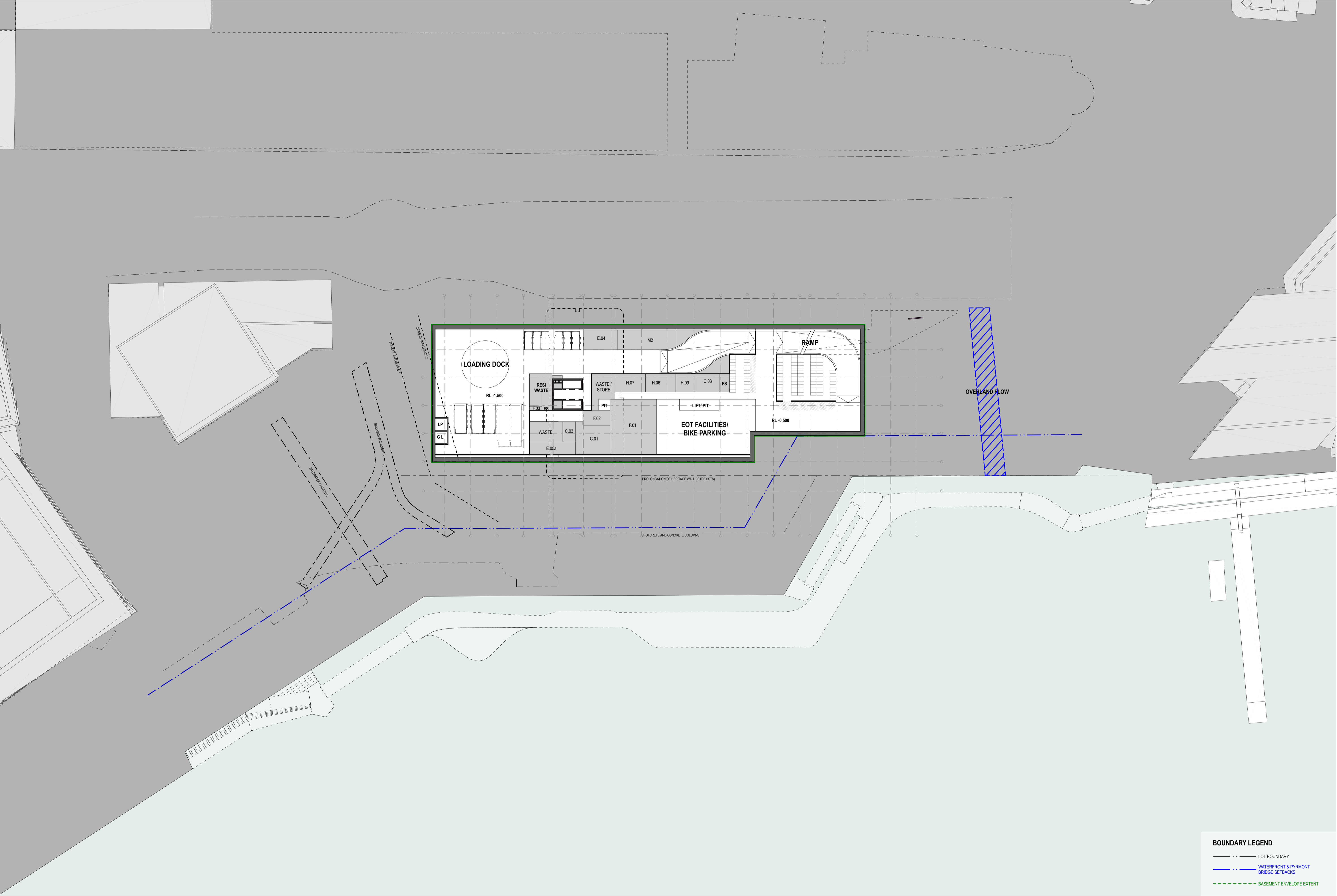
- LOT BOUNDARY
- WATERFRONT & PYRMONT BRIDGE SETBACKS
- BASEMENT ENVELOPE EXTENT



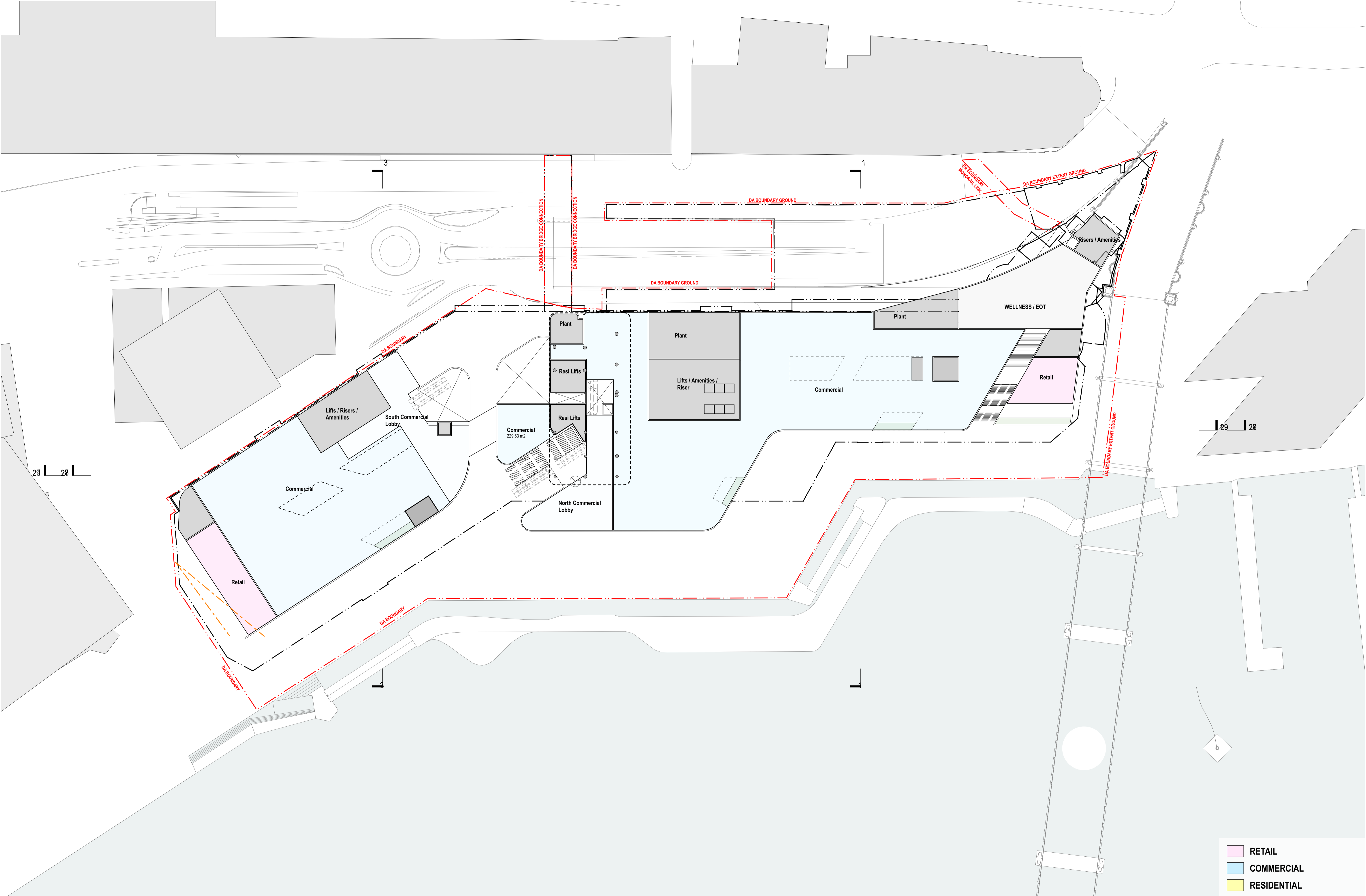


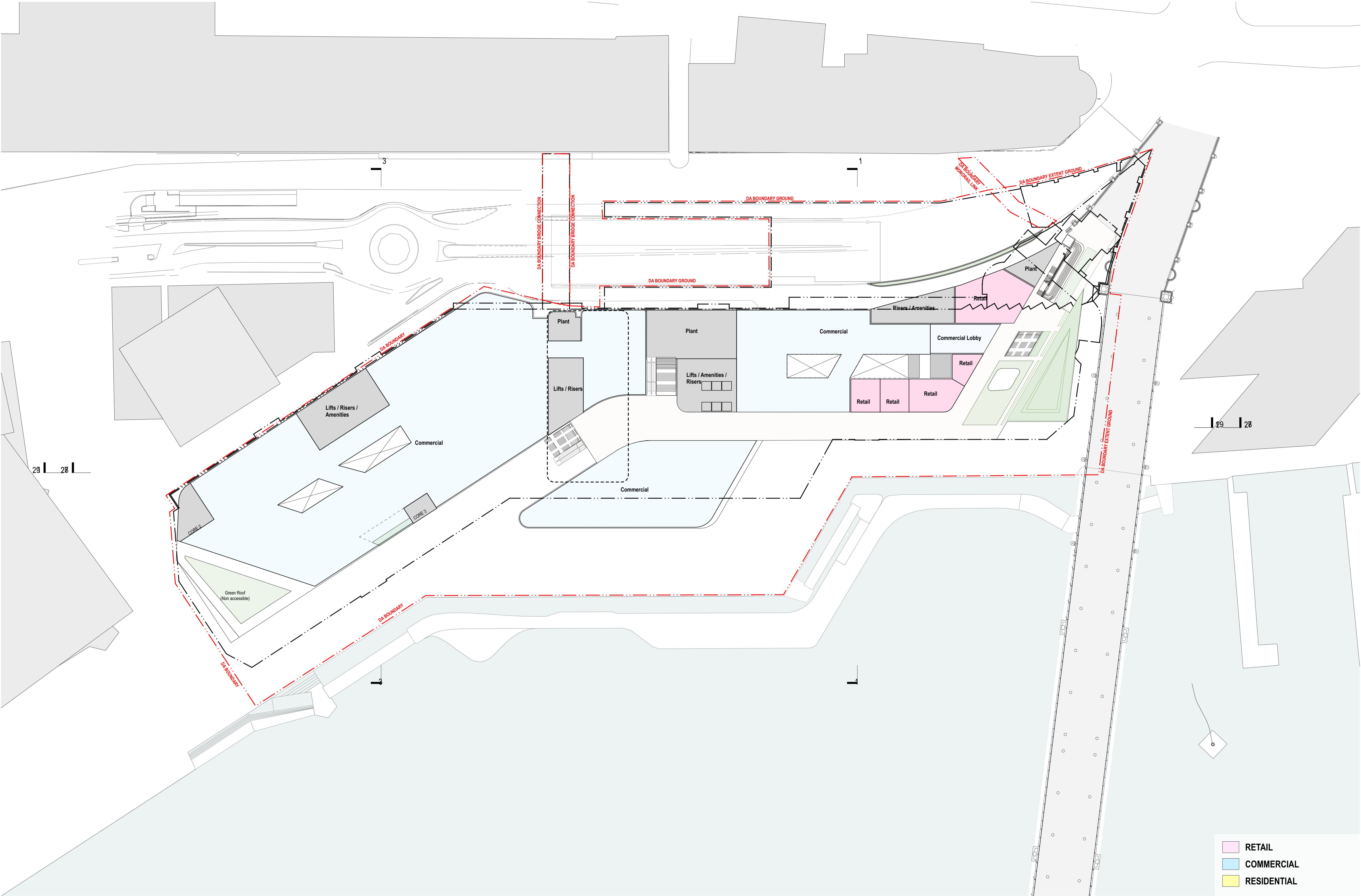
**BOUNDARY LEGEND**

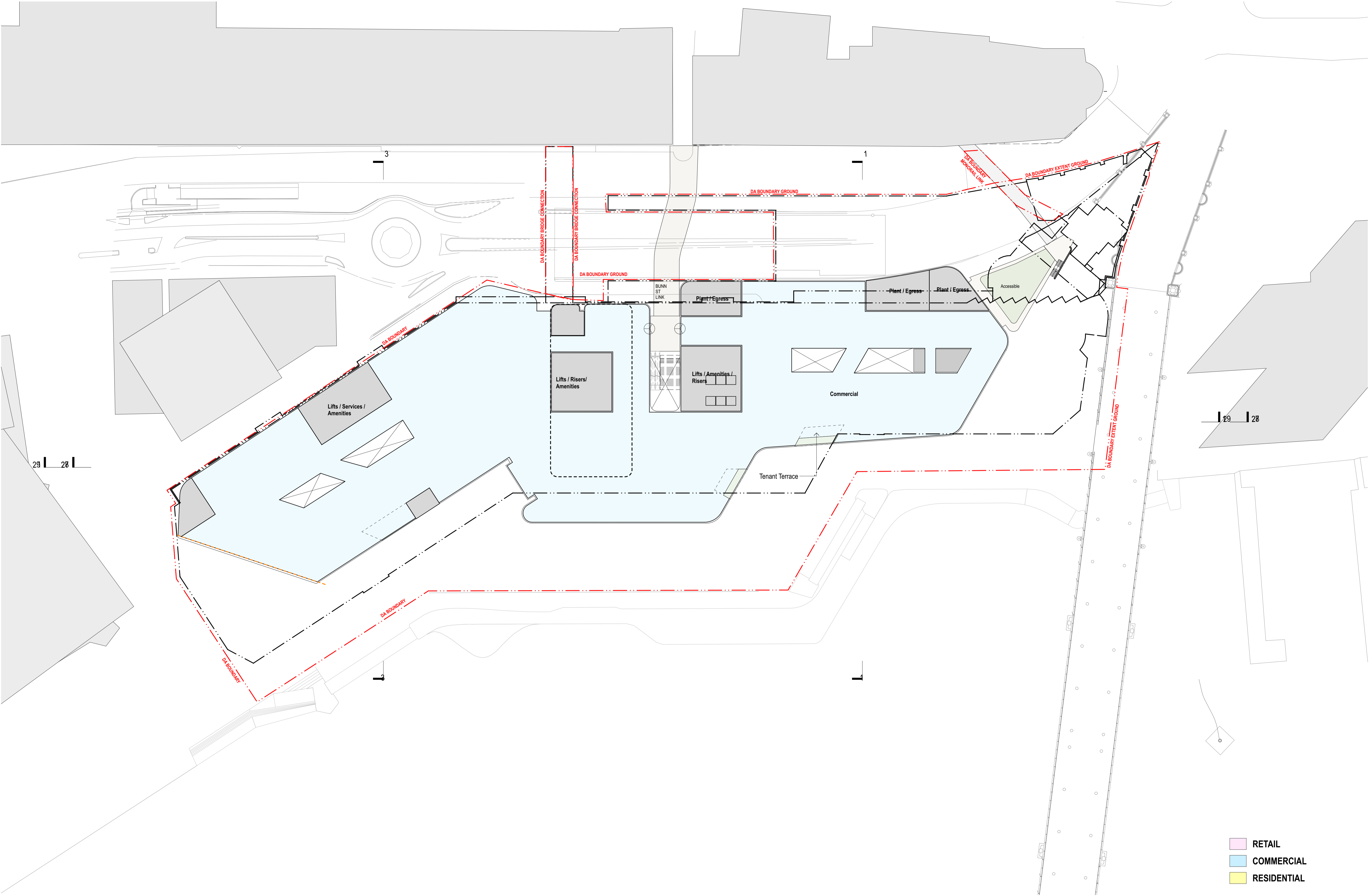
- LOT BOUNDARY
- WATERFRONT & PYRMONT BRIDGE SETBACKS
- BASEMENT ENVELOPE EXTENT

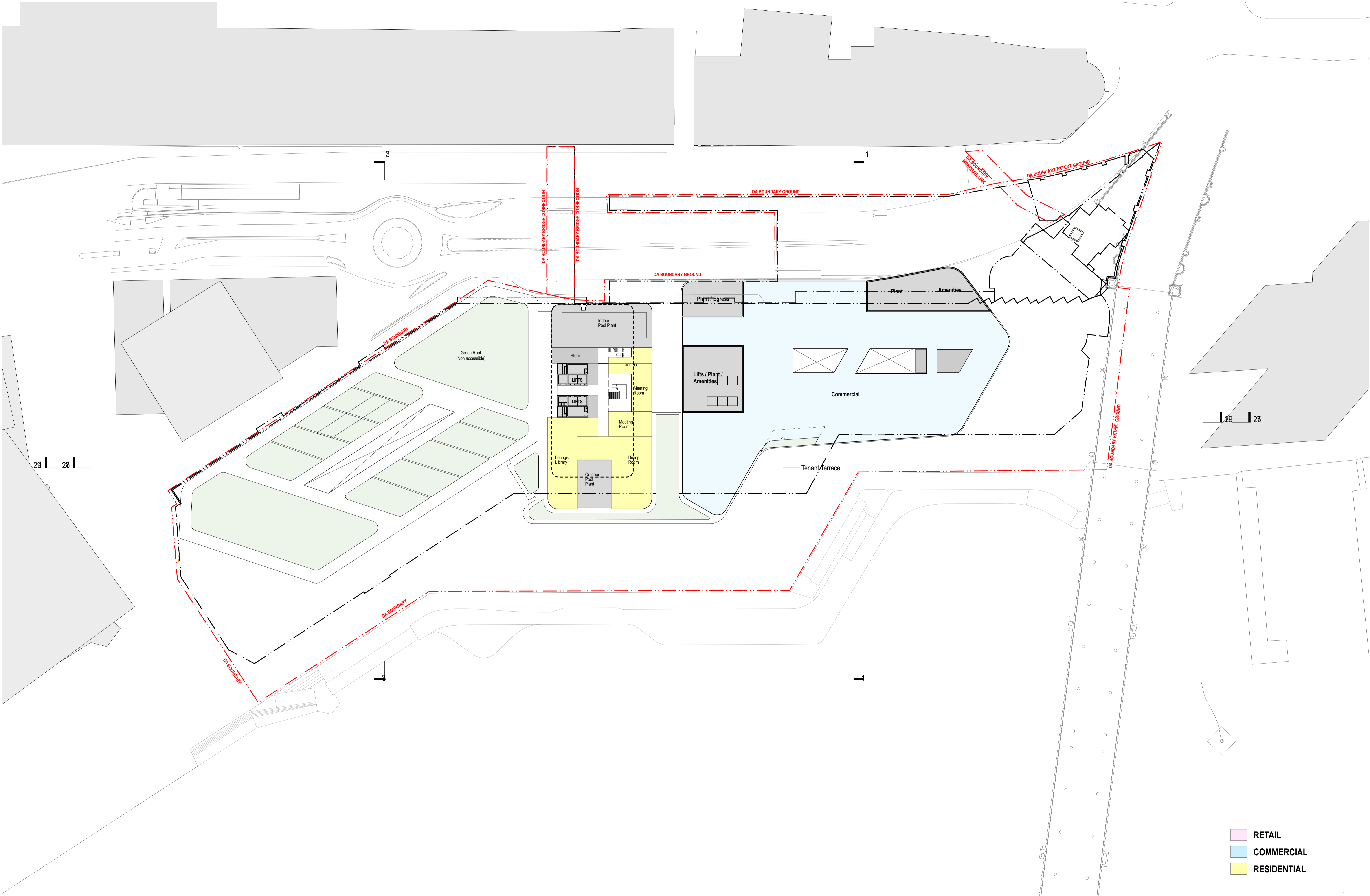




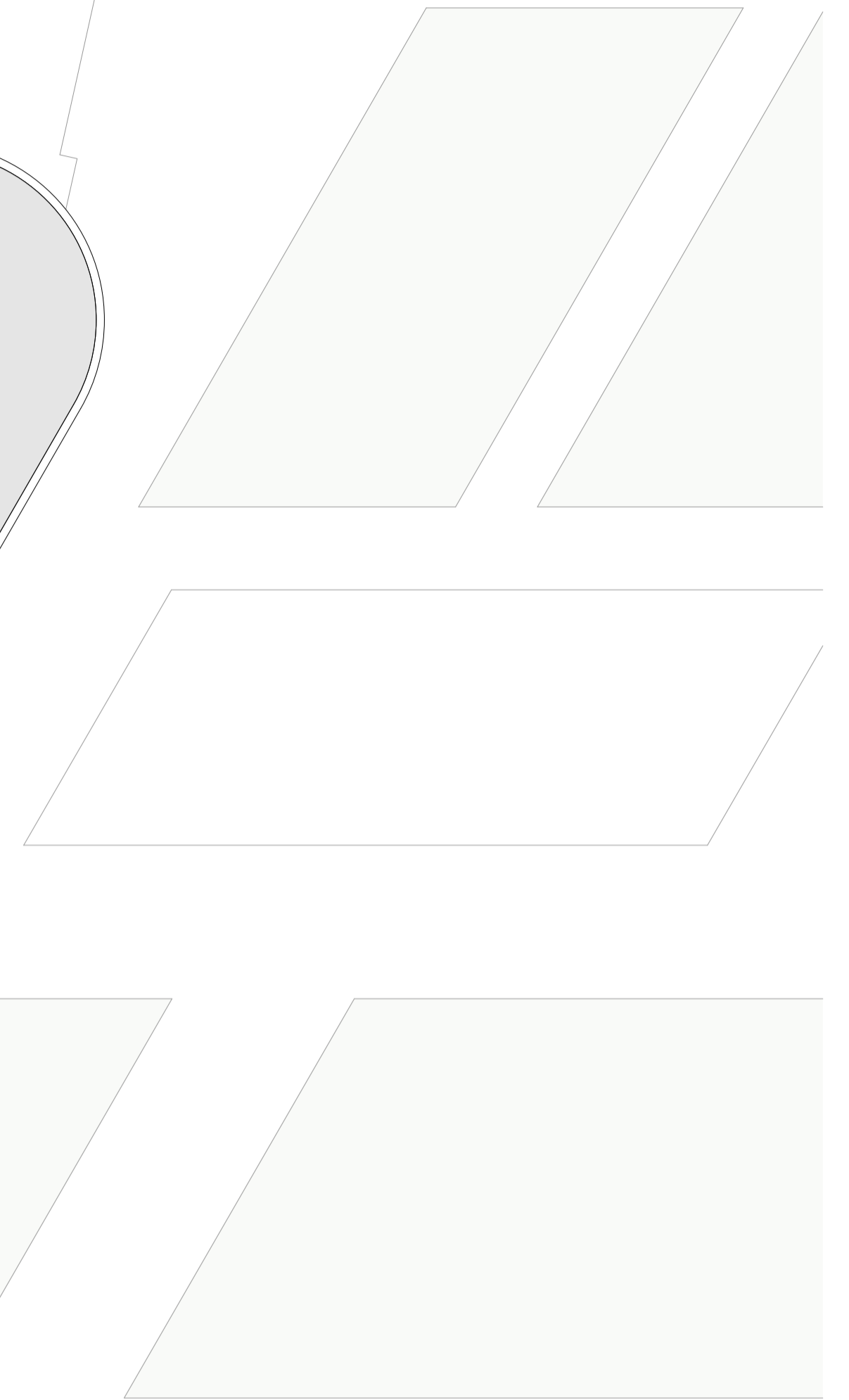
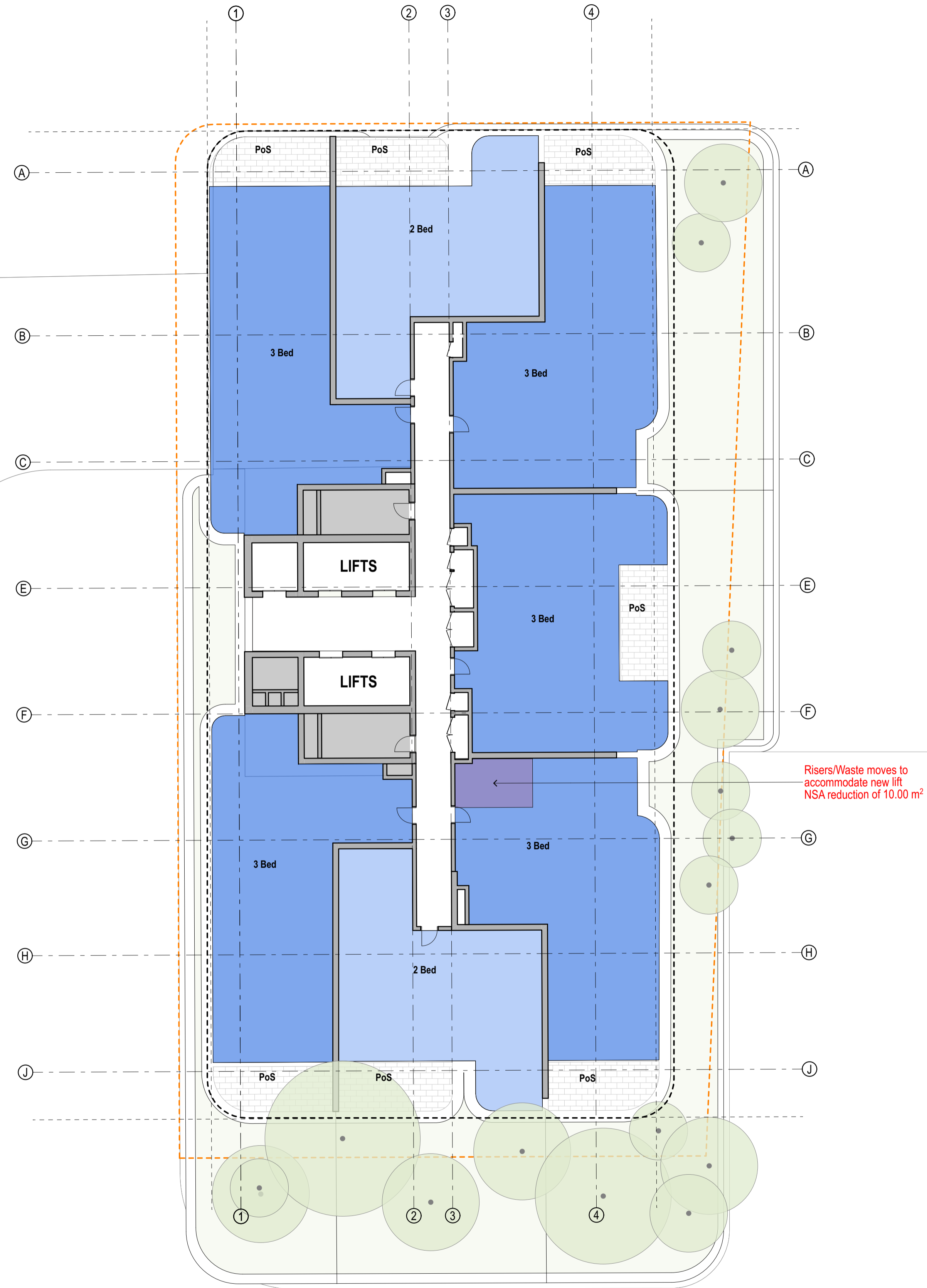


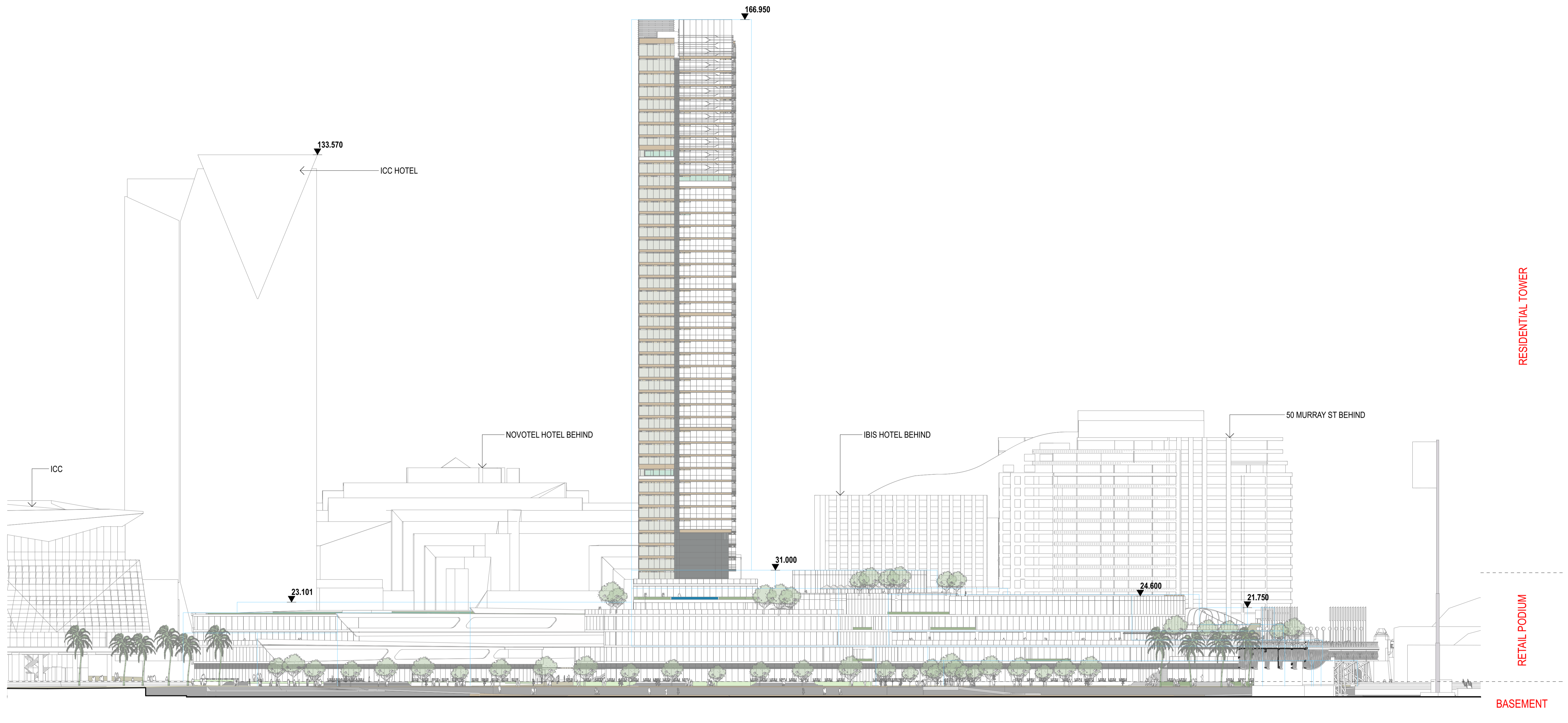


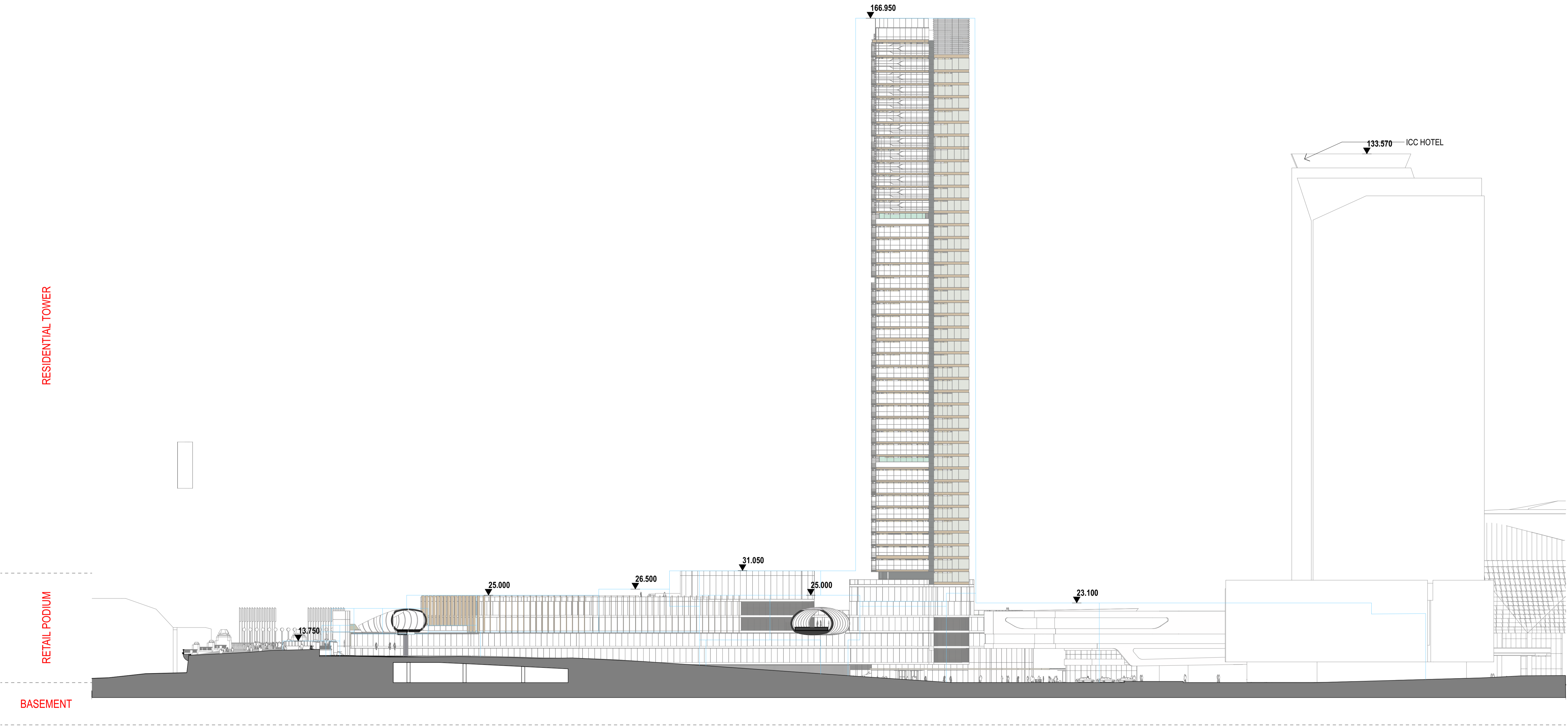


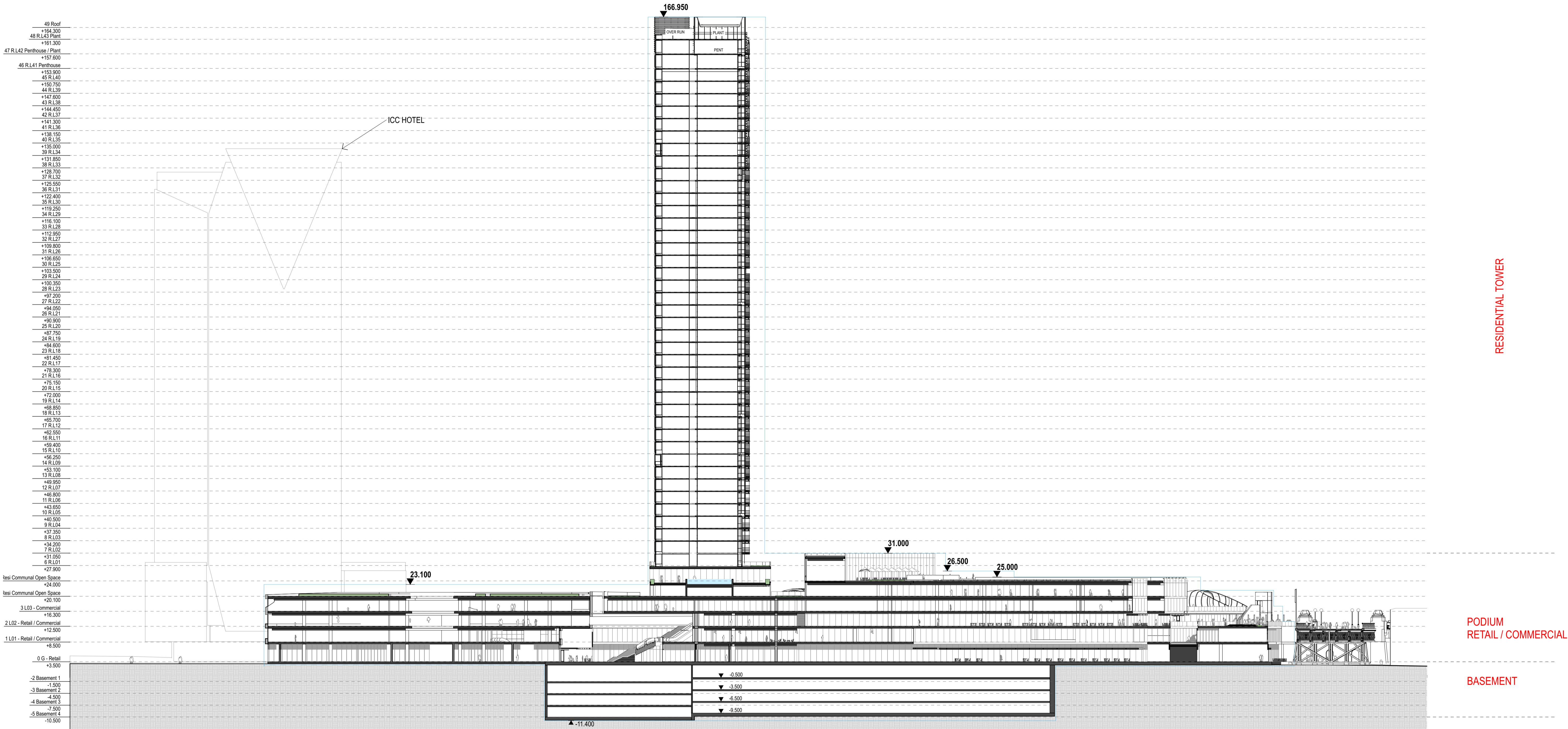












## **APPENDIX B**

### **Agency Response to Submissions**

22 April 2020

Our Ref: 182788

**David Glasgow**

Principal Planner

Key Sites Assessments, Planning & Assessment

Department of Planning, Industry and Environment

4 Parramatta Square, Parramatta NSW 2150

david.glasgow@planning.nsw.gov.au

**RE: SSD-7874 Harbourside Shopping Centre Redevelopment**

Thank you for notifying Sydney Water of SSD-7874 at 2-10 Darling Drive, Sydney NSW 2000, a Staged Development Application (Concept Proposal) for a new retail shopping centre, residential apartment tower, and public domain improvements. Sydney Water has reviewed the application based on the information supplied and provides the following comments to assist in planning the servicing needs of the proposed development.

**Water Servicing**

- Potable water servicing should be available to serve the development.
- Amplifications, adjustments, and/or minor extensions may be required.

**Wastewater Servicing**

- Wastewater servicing should be available to serve the development.
- Amplifications, adjustments, and/or minor extensions may be required.

**Stormwater**

- Within the current site footprint there is an existing Sydney Water 2700x1725 RC stormwater channel. As the redevelopment is understood to utilise this same footprint, requirements for Sydney Water's stormwater assets will apply to this site. The proponent should ensure that satisfactory steps/measures are taken to protect existing stormwater assets, such as avoiding building over and/or adjacent to stormwater assets and building bridges over stormwater assets. Particular considerations regarding protection during demolition and construction will be also be required.
- The proponent is required to liaise with Sydney Water regarding measures which must be taken prior to commencement of any works and the required protection measures which are to be implemented as a part of this development.

**Recycled Water and Water Reuse**

- While there is no existing Sydney Water recycled water supply to this area, Sydney Water is open to working in partnership with developers to consider recycled water servicing solutions that may offset potable water demands.
- Consideration should be given for rainwater capture and stormwater runoff reduction.
- The proponent is advised to contact their Sydney Water Account Manager to investigate the potential for a commercial arrangement to supply recycled water to the development.

This advice is not formal approval of our servicing requirements. Detailed requirements, including any potential extensions or amplifications, will be provided once the development is referred to Sydney Water for a Section 73 application. More information about the Section 73 application process is available on our web page in the [Land Development Manual](#).

Further advice and requirements for this proposal can be found in Attachments 1 & 2. If you require any further information, please do not hesitate to contact the Growth Planning Team at [urbangrowth@sydneywater.com.au](mailto:urbangrowth@sydneywater.com.au).

Yours sincerely,



**Kristine Leitch**

Growth Intelligence Manager  
City Growth and Development, Sydney Water  
1 Smith Street, Parramatta NSW 2150

## Attachment 1

### Sydney Water Servicing

A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water.

The proponent is advised to make an early application for the certificate, as there may be water and wastewater pipes to be built that can take some time. This can also impact on other services and buildings, driveways or landscape designs.

Applications must be made through an authorised Water Servicing Coordinator. For help either visit [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, building and developing > Developing > Land development or telephone 13 20 92.

### Building Plan Approval

The approved plans must be submitted to the Sydney Water [Tap in™](#) online service to determine whether the development will affect any Sydney Water sewer or water main, stormwater drains and/or easement, and if further requirements need to be met.

*The Sydney Water [Tap in™](#) online self-service replaces our Quick Check Agents as of 30 November 2015.*

The [Tap in™](#) service provides 24/7 access to a range of services, including:

- building plan approvals
- connection and disconnection approvals
- diagrams
- trade waste approvals
- pressure information
- water meter installations
- pressure boosting and pump approvals
- changes to an existing service or asset, e.g. relocating or moving an asset.

Sydney Water's [Tap in™](#) online service is available at:  
<https://www.sydneywater.com.au/SW/plumbing-building-developing/building/sydney-water-tap-in/index.htm>

## Attachment 2

### Requirements for **Business Customers for Commercial and Industrial Property Developments.**

#### **Trade Wastewater Requirements**

If this development is going to generate trade wastewater, the property owner must submit an application requesting permission to discharge trade wastewater to Sydney Water's sewerage system. You must obtain Sydney Water approval for this permit before any business activities can commence. It is illegal to discharge Trade Wastewater into the Sydney Water sewerage system without permission.

The permit application should be emailed to Sydney Water's [Business Customer Services](mailto:businesscustomers@sydneywater.com.au) at [businesscustomers@sydneywater.com.au](mailto:businesscustomers@sydneywater.com.au)

A Boundary Trap is required for all developments that discharge trade wastewater where arrestors and special units are installed for trade wastewater pre-treatment.

If the property development is for Industrial operations, the wastewater may discharge into a sewerage area that is subject to wastewater reuse. Find out from Business Customer Services if this is applicable to your development.

#### **Backflow Prevention Requirements**

Backflow is when there is unintentional flow of water in the wrong direction from a potentially polluted source into the drinking water supply.

All properties connected to Sydney Water's supply must install a testable Backflow Prevention Containment Device appropriate to the property's hazard rating. Property with a high or medium hazard rating must have the backflow prevention containment device tested annually. Properties identified as having a low hazard rating must install a non-testable device, as a minimum.

Separate hydrant and sprinkler fire services on non-residential properties, require the installation of a testable double check detector assembly. The device is to be located at the boundary of the property.

Before you install a backflow prevention device:

1. Get your hydraulic consultant or plumber to check the available water pressure versus the property's required pressure and flow requirements.
2. Conduct a site assessment to confirm the hazard rating of the property and its services. Contact PIAS at NSW Fair Trading on 1300 889 099.

For installation you will need to engage a licensed plumber with backflow accreditation who can be found on the Sydney Water website:

<http://www.sydneywater.com.au/Plumbing/BackflowPrevention/>

## Water Efficiency Recommendations

Water is our most precious resource and every customer can play a role in its conservation. By working together with Sydney Water, business customers are able to reduce their water consumption. This will help your business save money, improve productivity and protect the environment.

Some water efficiency measures that can be easily implemented in your business are:

- Install water efficiency fixtures to help increase your water efficiency, refer to WELS (Water Efficiency Labelling and Standards (WELS) Scheme, <http://www.waterrating.gov.au/>
- Consider installing rainwater tanks to capture rainwater runoff, and reusing it, where cost effective. Refer to <http://www.sydneywater.com.au/Water4Life/InYourBusiness/RWTCalculator.cfm>
- Install water-monitoring devices on your meter to identify water usage patterns and leaks.
- Develop a water efficiency plan for your business.

It is cheaper to install water efficiency appliances while you are developing than retrofitting them later.

## Contingency Plan Recommendations

Under Sydney Water's [customer contract](#) Sydney Water aims to provide Business Customers with a continuous supply of clean water at a minimum pressure of 15meters head at the main tap. This is equivalent to 146.8kpa or 21.29psi to meet reasonable business usage needs.

Sometimes Sydney Water may need to interrupt, postpone or limit the supply of water services to your property for maintenance or other reasons. These interruptions can be planned or unplanned.

Water supply is critical to some businesses and Sydney Water will treat vulnerable customers, such as hospitals, as a high priority.

Have you thought about a contingency plan for your business? Your Business Customer Representative will help you to develop a plan that is tailored to your business and minimises productivity losses in the event of a water service disruption.

For further information please visit the Sydney Water website at: <http://www.sydneywater.com.au/OurSystemsandOperations/TradeWaste/> or contact Business Customer Services on 1300 985 227 or [businesscustomers@sydneywater.com.au](mailto:businesscustomers@sydneywater.com.au).

## Submission for: Harbourside Shopping Centre Redevelopment

### Comments

# **SYDNEY TRAINS**

BURWOOD, New South Wales

## Message

- Sydney Trains requests that construction and operational activities associated with the proposed development do not impact on the existing 'in service' 33kV High Voltage cable located west of the subject site. It is requested that ongoing consultation is required between the Applicant and Sydney Trains during the life of the project to ensure the continued protection of the subject cable at each stage of the development.
- This submission is in addition to the comments and conditions provided as part of the Transport for NSW response for SSD 7874 in letter dated 27 April 2020.

The Department of Planning, Industry and Environment acknowledges the Traditional Custodians of the land and pays respect to all Elders past, present and future.

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Department of Planning, Industry and Environment  
NSW Government  
NSW Planning Portal






























































## **APPENDIX C**

### **Sydney Water Dial Before You Dig Plans**

# Guide to reading Sydney Water DBYD Plans



## Legend

Sewer		Property Details	
Sewer Main (with flow arrow & size type text)		Boundary Line	
Disused Main		Easement Line	
Rising Main		House Number	
Maintenance Hole (with upstream depth to invert)		Lot Number	
Sub-surface chamber		Proposed Land	
Maintenance Hole with Overflow chamber		Sydney Water Heritage Site (please call 132 092 and ask for the Heritage Unit)	
Ventshaft EDUCT			
Ventshaft INDUCT			
Property Connection Point (with chainage to downstream MH)			
Concrete Encased Section			
Terminal Maintenance Shaft			
Maintenance Shaft			
Rodding Point			
Lamphole			
Vertical			
Pumping Station			
Sewer Rehabilitation			
Pressure Sewer		Water	
Pressure Sewer Main		WaterMain - Potable (with size type text)	
Pump Unit (Alarm, Electrical Cable, Pump Unit)		Disconnected Main - Potable	
Property Valve Boundary Assembly		Proposed Main - Potable	
Stop Valve		Water Main - Recycled	
Reducer / Taper		Special Supply Conditions - Potable	
Flushing Point		Special Supply Conditions - Recycled	
Vacuum Sewer		Restrained Joints - Potable	
Pressure Sewer Main		Restrained Joints - Recycled	
Division Valve		Hydrant	
Vacuum Chamber		Maintenance Hole	
Clean Out Point		Stop Valve	
Stormwater		Stop Valve with By-pass	
Stormwater Pipe		Stop Valve with Tapers	
Stormwater Channel		Closed Stop Valve	
Stormwater Gully		Air Valve	
Stormwater Maintenance Hole		Valve	
		Scour	
		Reducer / Taper	
		Vertical Bends	
		Reservoir	
		Recycled Water is shown as per Potable above. Colour as indicated	
		Private Mains	
		Potable Water Main	
		Recycled Water Main	
		Sewer Main	
		Symbols for Private Mains shown grey	

## Pipe Types

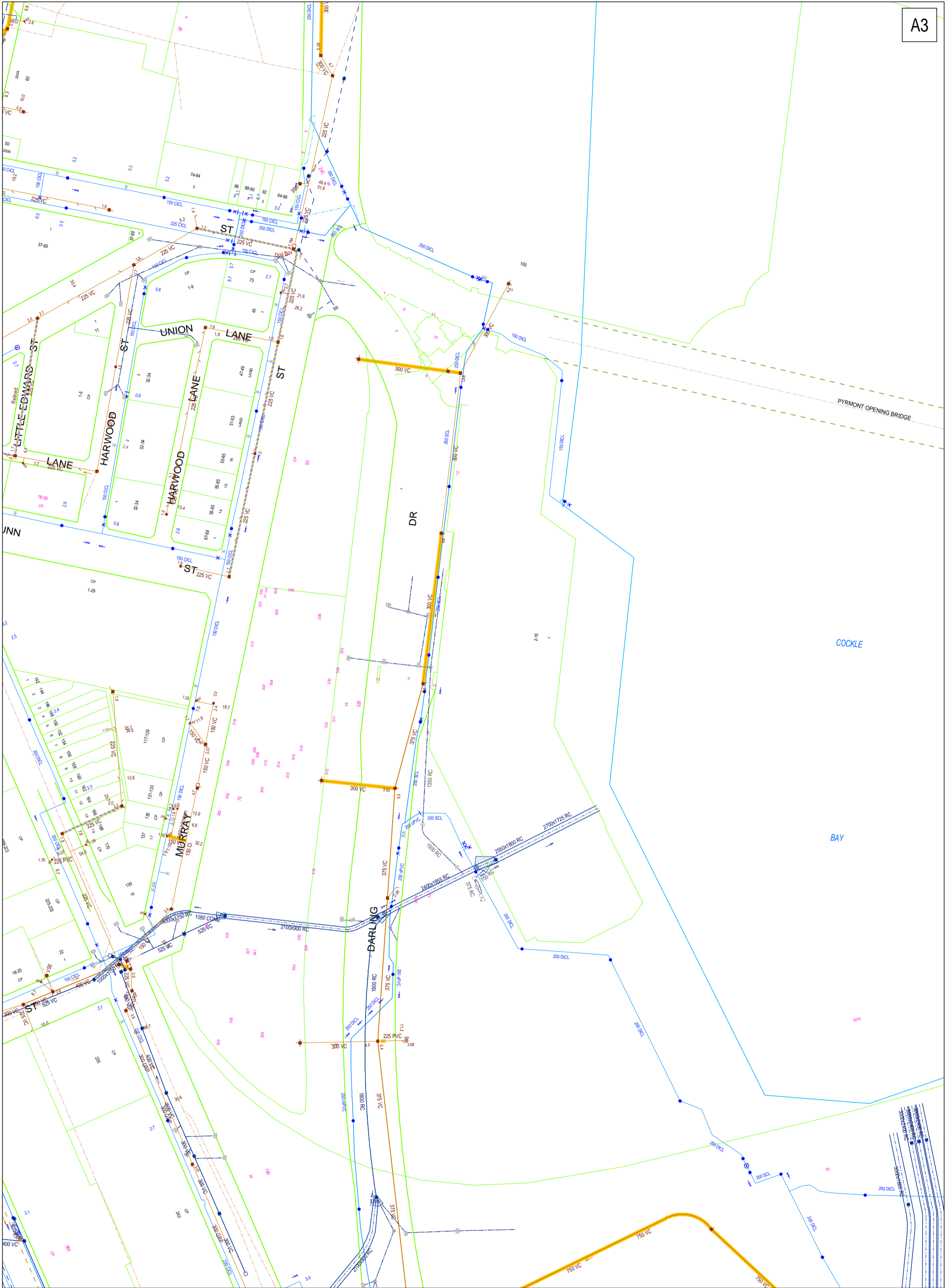
<b>ABS</b>	Acrylonitrile Butadiene Styrene	<b>AC</b>	Asbestos Cement
<b>BRICK</b>	Brick	<b>CI</b>	Cast Iron
<b>CICL</b>	Cast Iron Cement Lined	<b>CONC</b>	Concrete
<b>COPPER</b>	Copper	<b>DI</b>	Ductile Iron
<b>DICL</b>	Ductile Iron Cement (mortar) Lined	<b>DIPL</b>	Ductile Iron Polymeric Lined
<b>EW</b>	Earthenware	<b>FIBG</b>	Fibreglass
<b>FL BAR</b>	Forged Locking Bar	<b>GI</b>	Galvanised Iron
<b>GRP</b>	Glass Reinforced Plastics	<b>HDPE</b>	High Density Polyethylene
<b>MS</b>	Mild Steel	<b>MSCL</b>	Mild Steel Cement Lined
<b>PE</b>	Polyethylene	<b>PC</b>	Polymer Concrete
<b>PP</b>	Polypropylene	<b>PVC</b>	Polyvinylchloride
<b>PVC - M</b>	Polyvinylchloride, Modified	<b>PVC - O</b>	Polyvinylchloride, Oriented
<b>PVC - U</b>	Polyvinylchloride, Unplasticised	<b>RC</b>	Reinforced Concrete
<b>RC-PL</b>	Reinforced Concrete Plastics Lined	<b>S</b>	Steel
<b>SCL</b>	Steel Cement (mortar) Lined	<b>SCL IBL</b>	Steel Cement Lined Internal Bitumen Lined
<b>SGW</b>	Salt Glazed Ware	<b>SPL</b>	Steel Polymeric Lined
<b>SS</b>	Stainless Steel	<b>STONE</b>	Stone
<b>VC</b>	Vitrified Clay	<b>WI</b>	Wrought Iron
<b>WS</b>	Woodstave		

## Further Information

Please consult the [Dial Before You Dig enquiries](#) page on the Sydney Water website

For general enquiries please call the Customer Contact Centre on **132 092**

**In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)**



## IMPORTANT INFORMATION - DIAL BEFORE YOU DIG

### Attention: You must read the information below

The material provided or made available to you by Sydney Water (including on the Sydney Water website) in relation to your Dial Before You Dig enquiry (**Information**) is provided on each of the following conditions, which you are taken to have accepted by using the Information:

- 1 The Information has been generated by an automated system based on the area highlighted in the "Locality Indication Only" window on your Caller Confirmation. It is your responsibility to ensure that the dig site is properly defined when submitting your Dial Before You Dig enquiry and, if the Information does not match the dig site, to resubmit your enquiry for the correct dig site.
- 2 Neither Sydney Water nor Dial Before You Dig make any representation or give any guarantee, warranty or undertaking (express or implied) as to the currency, accuracy, completeness, effectiveness or reliability of the Information. The Information, including Sydney Water plans and work-as-executed diagrams, amongst other things:
  - (a) may not show all existing structures, including Sydney Water's pipelines, particularly in relation to newer developments and in relation to structures owned by parties who do not participate in the Dial Before You Dig service;
  - (b) may be out of date and not show changes to surface levels, road alignments, fences, buildings and the like;
  - (c) is approximate only and is therefore not suitable for scaling purposes; and
  - (d) does not show locations of property services (often called house service lines) belonging to or servicing individual customers, which are usually connected to Sydney Water's structures.
- 3 You are responsible for, amongst other things:
  - (a) exposing underground structures, including Sydney Water's pipelines, by pot-holing using hand-held tools or vacuum techniques so as to determine the precise location and extent of structures before any mechanical means of excavation are used;
  - (b) the safe and proper excavation of and for underground works and structures, including having regard to the fact that asbestos cement pipelines, which can pose a risk to health, may form part of Sydney Water's water and sewerage reticulation systems;
  - (c) protecting underground structures, including Sydney Water's pipelines, from damage and interference;
  - (d) maintaining minimum clearances between Sydney Water's structures and structures belonging to others;
  - (e) ensuring that backfilling of excavation work in the vicinity of Sydney Water's structures complies with Sydney Water's standards contained on its website or otherwise communicated to you;
  - (f) notifying Sydney Water immediately of any damage caused or threat of damage to Sydney Water's structures;
  - (g) ensuring that plans are approved by Sydney Water (usually signified by stamping) prior to landscaping or building over or in the vicinity of any Sydney Water structure; and
  - (h) ensuring that the Information is used only for the purposes for which Sydney Water and Dial Before You Dig intended.

- 4 You acknowledge that you use the Information at your own risk. In consideration for the provision of the Dial Before You Dig service and the Information by Sydney Water and Dial Before You Dig, to the fullest extent permitted by law:
- (a) all conditions and guarantees concerning the Information (whether as to quality, outcome, fitness, care, skill or otherwise) expressed or implied by statute, common law, equity, trade, custom or usage or otherwise are expressly excluded and to the extent that those statutory guarantees cannot be excluded, the liability of Sydney Water and Dial Before You Dig to you is limited to either of the following as nominated by Sydney Water in its discretion, which you agree is your only remedy:
    - (i) the supplying of the Information again; or
    - (ii) payment of the cost of having the Information supplied again;
  - (b) in no event will Sydney Water or Dial Before You Dig be liable for, and you release Sydney Water and Dial Before You Dig from, any Loss arising from or in connection with the Information, including the use of or inability to use the Information and delay in the provision of the Information:
    - (i) whether arising under statute or in contract, tort or any other legal doctrine, including any negligent act, omission or default (including wilful default) by Sydney Water or Dial Before You Dig; and
    - (ii) regardless of whether Sydney Water or Dial Before You Dig are or ought to have been aware of, or advised of, the possibility of such loss, costs or damages;
  - (c) you will indemnify Sydney Water and Dial Before You Dig against any Loss arising from or in connection with Sydney Water providing incorrect or incomplete information to you in connection with the Dial Before You Dig service; and
  - (d) you assume all risks associated with the use of the Dial Before You Dig and Sydney Water websites, including risk to your computer, software or data being damaged by any virus, and you release and discharge Sydney Water and Dial Before You Dig from all Loss which might arise in respect of your use of the websites.
- 5 **“Sydney Water”** means Sydney Water Corporation and its employees, agents, representatives and contractors. **“Dial Before You Dig”** means Dial Before You Dig Incorporated and its employees, agents, representatives and contractors. References to **“you”** include references to your employees, agents, representatives, contractors and anyone else using the Information. References to **“Loss”** include any loss, cost, expense, claim, liability or damage (including arising in connection with personal injury, death or any damage to or loss of property and economic or consequential loss, lost profits, loss of revenue, loss of management time, opportunity costs or special damages). To the extent of any inconsistency, the conditions in this document will prevail over any other information provided to you by Sydney Water and Dial Before You Dig.

**In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)**

Further information and guidance is available in the Building Development and Plumbing section of Sydney Water's website at [www.sydneywater.com.au](http://www.sydneywater.com.au), where you will find the following documents under 'Dial Before You Dig':

- Avoid Damaging Water and Sewer Pipelines
- Water Main Symbols
- Depths of Mains
- Guidelines for Building Over/Adjacent to Sydney Water Assets
- Clearances Between Underground Services

Or call **13 20 92** for Customer Enquires.

Note: The lodging of enquiries via **[www.1100.com.au](http://www.1100.com.au)** will enable you to receive colour plans in PDF format 24 hours a day, 7 days a week via email.

**This communication is confidential. If you are not the intended recipient, please destroy all copies immediately. Sydney Water Corporation prohibits unauthorised copying or distribution of this communication.**

## **APPENDIX D**

### **Previous Sydney Water Feasibility Application**

Case Number: **157413**

11 October 2016

MIRVAC PROJECTS PTY LTD  
c/- Cardno (NSW/ACT) Pty Ltd

### **FEASIBILITY LETTER**

**Developer:** MIRVAC PROJECTS PTY LTD  
**Development:** Lot 1 DP 776815 (No's. 2-10) Darling Drive, Sydney  
**Development Description:** Redevelopment of existing harbourside shopping precinct into a 40 storey retail/residential development  
**Your application date:** 19 September 2016

Dear Applicant,

This Feasibility Letter (Letter) is a guide only. It provides general information about what Sydney Water's requirements could be if you applied to us for a Section 73 Certificate (Certificate) for your proposed development. **The information is accurate at today's date only.**

If you obtain development consent for that development from your consent authority (this is usually your local Council) they will require you to apply to us for a Section 73 Certificate. You will need to submit a new application (and pay another application fee) to us for that Certificate by using your current or another Water Servicing Coordinator (Coordinator).

Sydney Water will then send you either a:

- Notice of Requirements (Notice) and Developer Works Deed (Deed) or
- Certificate.

These documents will be the definitive statement of Sydney Water's requirements.

There may be changes in Sydney Water's requirements between the issue dates of this Letter and the Notice or Certificate. The changes may be:

- if you change your proposed development eg the development description or the plan/site layout, after today, the requirements in this Letter could change when you submit your new application; and
- if you decide to do your development in stages then you must submit a new application

(and pay another application fee) for each stage.

**You have made an application for specific information. Sydney Water's possible requirements are set out on the following pages:**

## **What You Must Do To Get A Section 73 Certificate In The Future**

To get a Section 73 Certificate you must do the following things. You can also find out about this process by visiting [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, building & developing > Developing > Land development.

- 1. Obtain Development Consent from the consent authority for your development proposal.**
- 2. Engage a Water Servicing Coordinator (Coordinator).**

**You must engage your current or another authorised Coordinator** to manage the design and construction of works that you must provide, at your cost, to service your development. If you wish to engage another Coordinator (at any point in this process) you must write and tell Sydney Water.

For a list of authorised Coordinators, either visit [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, building & developing > Developing > Providers > Lists or call **13 20 92**.

The Coordinator will be your point of contact with Sydney Water. They can answer most questions that you might have about the process and developer charges and can give you a quote or information about costs for services/works (including Sydney Water costs).

### **3. Developer Works Deed**

**After** the Coordinator has submitted your new application, they will receive the Sydney Water Notice and Developer Works Deed. You and your accredited Developer Infrastructure Providers (Providers) will need to sign and lodge both copies of the Deed with your nominated Coordinator. After Sydney Water has signed the documents, one copy will be returned to the Coordinator.

The Deed sets out for this project:

- your responsibilities;
- Sydney Water's responsibilities; and
- the Provider's responsibilities.

**You must do all the things that we ask you to do in that Deed.** This is because your development does not have storm water services and you must construct and pay for the following works extensions under this Deed to provide these services.

**Note:** The Coordinator must be fully authorised by us for the whole time of the agreement.

### **4. Water and Sewer Works**

#### **4.1 Water**

Your development must have a frontage to a water main that is the right size and can be used for connection.

Sydney Water has assessed the details accompanying your application and found that:

- Strategic investigation shows that the trunk water system has adequate capacity to service this development area.
- Determination of water facilities has been based on supply from the existing DN250 drinking water main in Darling Drive.
- Your Water Servicing Coordinator can assess the reticulation water mains and advise you of any amplification requirements based on your water connection points. You should also refer to the advice on “Large Water Service Connections”, “Private Water Services, Connection and Metering”, “Fire Services”, “Disused Water Service Sealing” located at the end of this Letter and on “Multi Level Individual Metering” located in Section 7 below.
- This advice is not a formal approval of our servicing requirements. Formal requirements for servicing the development will be determined as part of the Section 73 application phase. More information about the Section 73 application process is available on Sydney Water’s web page in the *Land Development Manual*.

#### 4.2 Sewer

Your development must have a sewer main that is the right size and can be used for connection.

Sydney Water has assessed the details accompanying your application and found that:

- Strategic investigation shows that the trunk wastewater system has adequate capacity to service this development area.
- Determination of sewer facilities has been based on supply from the DN300 waste water main constructed under WN 300418/1 (located in Darling Drive).
- Your Water Servicing Coordinator can assess the reticulation wastewater mains and advise you of any amplification requirements based on your anticipated discharge.
- This advice is not a formal approval of our servicing requirements. Formal requirements for servicing the development will be determined as part of the Section 73 application phase. More information about the Section 73 application process is available on our web page in the *Land Development Manual*.

#### 4.3 Stormwater

It is assumed that the proposed development will utilise the existing footprint. The existing structure is presently over an existing Sydney Water 2700 x 1725 RC Stormwater Channel and the proposed redevelopment is also proposed to be constructed over this stormwater channel.

Sydney Water has determined the following conditions;

**1. Protection of Asset (ie; No impacts to stormwater asset)**

Sydney Water needs to ensure the existing stormwater channel is protected and operational. Please refer to Sydney Water's [Guidelines for constructing buildings over or adjacent to stormwater assets](#). This guideline outlines the process and design requirements for such activities.

As per the guidelines, you are advised of the following:

- Ensure the proposed redevelopment structure is independent of the stormwater channel. There must be no loading on the channel. A CCTV inspection /asset condition assessment of the asset will be required before and after construction to ensure it has not been damaged or disturbed for it to be fully operational.
- No building or permanent structure is to be constructed within **1m** from the outside wall of the stormwater asset. This should be demonstrated in a detailed survey plan showing all the existing services and proposed culvert amplification. The plans should indicate:
  - Ø existing and new building footprints
  - Ø detailed existing infrastructure and services.
  - Ø at least three X-Sections along the route of the proposed culvert (X-Sections for each connection point and midpoint where it is considered the closest or highest hazard to the proposed building).

Proposals to build over or adjacent to Sydney Water stormwater assets must be consistent with the Building Over and Adjacent to Stormwater Assets policy and guidelines, unless otherwise agreed. Proposals to build over and adjacent to stormwater assets will be developed, assessed and agreed with Sydney Water before plans are lodged or building construction commences.

**2. Connection to our stormwater asset**

To connect to this stormwater channel, please refer to Sydney Water's "Asset adjustment and protection manual". In addition, consider the following to connect to our stormwater channel:

- All drawings showing detailed connections to existing stormwater assets are to be submitted in AutoCad to the Water Servicing Coordinator. The title of the drawings shall be as follows:

**[Suburb]** Drainage

Case No. **[##]** SW

**[Catchment Name]** SWC **[##]**

**Highlight connections with clear specification details**

- A qualified **structural engineer** is required to design the connection with a structural engineer's certificate is to be attached with the design drawings.
- Proposed connections that are less than 300mm in diameter can use Sydney Water's standard drawings to design the connection drawings.

- Connection angles are to be no greater than 45 degrees in the direction of the channel flow.
- Plans showing X-Sections of connections with **detailed designs fit for construction**.
- Plan specifications must include protection of existing infrastructure and assets particularly the existing stormwater culverts along Hay Street.

### 3. **Flooding Impacts**

As per the development adjacent to your property (SICEEP), Lend Lease needs to comply with an approved Local Area Servicing Plan. This plan provides our requirements to their development. One of the conditions of this development which will apply to this redevelopment is to ensure there is no adverse flooding to adjoining properties, proposed public domains and the development itself. If there is adverse flooding we require flood mitigation options to be identified.

We seek the proponent to evaluate the development on the existing flood model used for SICEEP (modelled by Arcadis ex Hyder) and assess the existing flooding impacts for the same rainfall events.

### 4. **Operation and Maintenance**

Sydney Water will require appropriate or improved access to the stormwater channel for operations and maintenance. It is recommended this be carried out in consultation with Sydney Water.

### 5. **Stormwater Easement**

For SICEEP, the development adjacent to your property, the Local Area Servicing Plan requires a new stormwater easement to be created on the southern side of your development in favour of Sydney Water. Based on the life and condition of the stormwater channel, the stormwater easement will be used for Sydney Water to divert the existing stormwater channel. Further advice can be provided as this is presently being addressed with Lend Lease.

### 6. **Other agency notification**

The Developer is reminded that other agencies are to be informed of this work e.g. City of Sydney, Roads and Maritime Services, Sydney Harbour Foreshore Authority and their endorsement/approval is sought.

Irrespective, Sydney Water should be consulted for each for each stage of the development.

Sydney Water seeks acknowledgement to the above to ensure the proposed building meets our requirements.

## 5. **Ancillary Matters**

### 5.1 **Asset adjustments**

After Sydney Water issues this Notice (and more detailed designs are available), Sydney Water may require that the water main/sewer main/stormwater located in the footway/your

property needs to be adjusted/deviated. If this happens, you will need to do this work as well as the extension we have detailed above at your cost. The work must meet the conditions of this Notice and you will need to complete it **before we can issue the Certificate**. Sydney Water will need to see the completed designs for the work and we will require you to lodge a security. The security will be refunded once the work is completed.

### 5.2 Entry onto neighbouring property

If you need to enter a neighbouring property, you must have the written permission of the relevant property owners and tenants. You must use Sydney Water's **Permission to Enter** form(s) for this. You can get copies of these forms from your Coordinator or the Sydney Water website. Your Coordinator can also negotiate on your behalf. Please make sure that you address all the items on the form(s) including payment of compensation and whether there are other ways of designing and constructing that could avoid or reduce their impacts. You will be responsible for all costs of mediation involved in resolving any disputes. Please allow enough time for entry issues to be resolved.

### 5.3 Costs

Construction of these **future** works will require you to pay project management, survey, design and construction costs **directly to your suppliers**. Additional costs payable to Sydney Water may include:

- water main shutdown and disinfection;
- connection of new water mains to Sydney Water system(s);
- design and construction audit fees;
- contract administration, Operations Area Charge & Customer Redress prior to project finalisation;
- creation or alteration of easements etc; and
- water usage charges where water has been supplied for building activity purposes prior to disinfection of a newly constructed water main.

Note: Payment for any Goods and Services (including Customer Redress) provided by Sydney Water will be required prior to the issue of the Section 73 Certificate or release of the Bank Guarantee or Cash Bond.

Your Coordinator can tell you about these costs.

## 6. Approval of your Building Plans

You must have your building plans approved **before the Certificate can be issued**. **Building construction work MUST NOT commence until Sydney Water has granted approval**. Approval is needed because construction/building works may affect Sydney Water's assets (e.g. water and sewer mains).

Your Coordinator can tell you about the approval process including:

- Your provision, if required, of a "Services Protection Report" (also known as a "pegout"). This is needed to check whether the building and engineering plans show accurately

where Sydney Water's assets are located in relation to your proposed building work. Your Coordinator will then either approve the plans or make requirements to protect those assets before approving the plans;

- Possible requirements;
- Costs; and
- Timeframes.

You can also find information about this process (including technical specifications) if you either:

- visit [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, building & developing > Building > Building over or next to assets. Here you can find Sydney Water's *Technical guidelines - Building over and adjacent to pipe assets*; or
- call 13 20 92.

**Notes:**

- **The Certificate will not be issued until the plans have been approved and, if required, Sydney Water's assets are altered or deviated;**
- **You can only remove, deviate or replace any of Sydney Water's pipes using temporary pipework if you have written approval from Sydney Water's Urban Growth Business. You must engage your Coordinator to arrange this approval; and**
- **You must obtain our written approval before you do any work on Sydney Water's systems. Sydney Water will take action to have work stopped on the site if you do not have that approval. We will apply Section 44 of the *Sydney Water Act 1994*.**

**7. Additional Requirement**

**Multi-level individual metering requirements**

Your development must either allow for or provide individual metering. This means that you must:

1. comply at all times and in all respects with the requirements of Sydney Water's "*Multi-level Individual Metering Guide*" (version 6 dated 1 July 2015);
2. provide and install plumbing and space for individual metering in accordance with Sydney Water's "*Multi-level Individual Metering Guide*";
3. if and when you implement a strata/ stratum plan (or strata/ stratum subdivide) you must:
  - a. engage an Accredited Metering Supplier ("**AMS**") to provide individual metering in accordance with the "*Multi-level Individual Metering Guide*" and meet the cost of the meters and metering system;
  - b. transfer the meters and metering system to Sydney Water once the Testing Certificate has been issued by Sydney Water to the AMS and the AMS has

confirmed that payment for the meters and metering system has been paid in full.

**Before the Section 73 Certificate can be issued**, you will be required to sign an undertaking to show that you understand and accept these metering requirements and associated costs.

Visit [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, Building & Developing > Plumbing > Meters & metered standpipes to see the *Multi-level individual metering guide* and find out more.

### **OTHER THINGS YOU MAY NEED TO DO**

Shown below are other things you need to do that are NOT a requirement for the Certificate. They may well be a requirement of Sydney Water in the future because of the impact of your development on our assets. You must read them before you go any further.

#### **Disused Sewerage Service Sealing**

Please do not forget that you must pay to disconnect all disused private sewerage services and seal them at the point of connection to a Sydney Water sewer main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed drainer. The licensed drainer must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

#### **Soffit Requirements**

Please be aware that floor levels must be able to meet Sydney Water's soffit requirements for property connection and drainage.

#### **Fire Fighting**

Definition of fire fighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the fire fighting flow of the development and the ability of Sydney Water's system to provide that flow in an emergency. Sydney Water's Operating Licence directs that Sydney Water's mains are only required to provide domestic supply at a minimum pressure of 15 m head.

A report supplying modelled pressures called the Statement of Available pressure can be purchased through Sydney Water Tap in<sup>TM</sup> and may be of some assistance when defining the fire fighting system. The Statement of Available pressure, may advise flow limits that relate to system capacity or diameter of the main and pressure limits according to pressure management initiatives. If mains are required for fire fighting purposes, the mains shall be arranged through the water main extension process and not the Section 73 process.

#### **Large Water Service Connection**

The DN250 water main in Darling Drive may be available to provide your development with a domestic supply. The size of your development means that you will need a connection larger than the standard domestic 20 mm size.

To get approval for your connection, you will need to lodge an application with Sydney Water Tap in™. You, or your Hydraulic Consultant, may need to supply the following:

- A plan of the hydraulic layout;
- A list of all the fixtures/fittings within the property;
- A copy of the fireflow pressure inquiry issued by Sydney Water;
- A pump application form (if a pump is required);
- All pump details (if a pump is required).

You will have to pay an application fee.

Sydney Water does not consider whether a water main is adequate for firefighting purposes for your development. We cannot guarantee that this water supply will meet your Council's firefighting requirements. The Council and your Hydraulic Consultant can help.

### **Private Water Services Connection and Metering**

To provide domestic water to the total development you will need to connect to the Sydney Water main. You must lodge an application for this connection at Sydney Water Tap in™. We will then tell you about any requirements you need to meet. Visit [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, building & developing > Building > Sydney Water Tap in™ to find out more.

Visit [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, building & developing > Plumbing > Meters & metered standpipes to find out more about our metering requirements for your development.

### **Disused Water Service Sealing**

You must pay to disconnect all disused private water services and seal them at the point of connection to a Sydney Water water main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

### **Other fees and requirements**

The requirements in this Notice relate to your Certificate application only. Sydney Water may be involved with other aspects of your development and there may be other fees or requirements.

These include:

- plumbing and drainage inspection costs;
- the installation of backflow prevention devices;
- trade waste requirements;
- large water connections and
- Council firefighting requirements. (It will help you to know what the firefighting requirements are for your development as soon as possible. Your Hydraulic Consultant

can help you here.)

**No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from Sydney Water and to the extent that it is able, Sydney Water limits its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.**

---

**END**

## APPLICATION ENTRY

An application fee will be charged as per standard schedule of charges. Additional charges may also be incurred.

## CASE INFORMATION

Application Number	157413
Application Type	<input type="text"/>
<i>This is not a formal application. Sydney Water will issue an advice letter "Guidance Note for Proposed Development" in due course. The advice is provided as a guide only, is current at the date of issue and may be subject to change.</i>	
Associated Cases	<input type="text" value="152030"/>
Agent Contact	Gabriel Sciannimanica
Agent Contact Phone	4228 4133
Agent Reference	<input type="text"/>

## DEVELOPER SAME AS THE APPLICANT?

Is the developer the same as the applicant?

Yes ☒ No

## APPLICANT INFORMATION

Search Type	<input type="text"/>		
Name	Cardno (NSW/ACT) Pty Ltd	ABN	95001145035
Address	Level 1 47 Burelli Street, Wollongong 2500	Phone	4228 4133

## DEVELOPER INFORMATION

Search Type	<input type="text"/>		
Name	MIRVAC PROJECTS PTY LTD	ABN	72001069245
Address	Level 26 60 Margaret St, SYDNEY 2000	Phone	

## HYDRA DATA AUTO POPULATION

Hydra Download Number	<input type="text" value="1609151415"/>	<input type="button" value="Auto-Populate"/>
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## LEAD ADDRESS

Section Number	<input type="text"/>	Street Number	<input type="text" value="2-10"/>
Street Name	<input type="text" value="DARLING DR"/>	Comment	<input type="text"/>
Suburb	<input type="text"/>	Comment	<input type="text"/>
Cross Street	<input type="text"/>		

LGA	<input type="text"/>	Comment	<input type="text"/>
UBD Edition	<input type="text"/>		
UBD Map	<input type="text"/>	UBD Reference	<input type="text"/>
Plan Number (s)	<input type="text"/> ?	Lot Number (s)	<input type="text"/>

**DEVELOPMENT LOCATIONS**

Property Number	Lot or Portion Number	Section Number	Plan Type and Number	Lot Area Sq m	Street Number	Street Name	Suburb	Lead Address
4707209	1		DP776815	14378.07	2-10	DARLING DR	Sydney	●

Total Calculated Area (Sq M)	<input type="text"/>	Comment	<input type="text"/>
Total Number of Lot/Portion Nos flagged for Development	<input type="text"/>	Comment	<input type="text"/>

**PROPERTY USE**

Lot Status	<input type="text"/>
------------	----------------------

Current Property Type

Delete

Comment

Add Current Property Type

Describe Current and Proposed Development:

Redevelopment of existing harbourside shopping precinct into a 40 Storey retail/residential development

**PROPOSED DEVELOPMENT**

Development Type	<input type="text"/>
Development sub type	<input type="text"/>
Is it 'Serviced apartments'?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Strata/Stratum Subdivision	<input checked="" type="radio"/> Yes <input type="radio"/> No
Development contains multi-level building	<input checked="" type="radio"/> Yes <input type="radio"/> No
Number of multi-level buildings	<input type="text"/>
No. of levels in tallest building	<input type="text"/>
Stage Number	<input type="text"/> of <input type="text"/>
Stage Name	<input type="text"/>
Subdivision required?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Total Dwellings	<input type="text"/>
Attach Subdivision Plan	
Attach Development Plan	

Attach Additional Application Information Form	
--	--

**CONSENT INFORMATION**

Consent Authority	<input type="text"/>
Development Consent Number	<input type="text"/>
Consent Date	<input type="text"/> 
Attach Consent Document	
Attach Stormwater Analysis	
Total Impervious Surface Area	<input type="text"/>

**RESIDENTIAL/COMMERCIAL/INDUSTRIAL MIXED DEVELOPMENT**

Number of Residential Units	<input type="text"/>
Residential Footprint	<input type="text"/> sqm
Commercial Footprint	<input type="text"/> sqm

**EXPECTED REQUIREMENTS FOR THE PROPOSED DEVELOPMENT****Water**

Maximum demand	<input type="text"/> KL/Day
Average demand	<input type="text"/> KL/Day
Peak demand	<input type="text"/> L/Sec

**Recycled Water**

Maximum demand	<input type="text"/> KL/Day
Average demand	<input type="text"/> KL/Day
Peak demand	<input type="text"/> L/Sec

**Waste Water**

Maximum discharge	<input type="text"/> KL/Day
Average discharge	<input type="text"/> KL/Day
Peak simultaneous discharge	<input type="text"/> L/Sec

**Irrigation Systems**

Maximum demand	<input type="text"/> L/Day
Average demand	<input type="text"/> L/Day
Peak demand	<input type="text"/> L/Sec
Automatic Timer	

Proposed Pattern of Usage:

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**Process Water**

Maximum demand	<input type="text"/>	L/Day
Average demand	<input type="text"/>	L/Day
Peak demand	<input type="text"/>	L/Sec

Proposed Pattern of Usage:

--

**Other Requirements**

Air-conditioning make-up water	<input type="text"/>	L/Sec
Proposed meter size	<input type="text"/>	mm

Any other relevant information affecting usage:

--

**Fire Fighting Requirements**

Fire Hose Reel	<input type="text"/>	Number
Fire Hydrant	<input type="text"/>	L/Sec
Fire Sprinkler	<input type="text"/>	L/Sec
Wall Drencher	<input type="text"/>	L/Sec



## ADDITIONAL APPLICATION INFORMATION

Case Number: **157413**

Date: **19/09/2016**

[Complete by either scanning the relevant sections of the Consent  
or by completing the details below]

### Section 1 – Additional DA Consent Information

<ul style="list-style-type: none"> <li>How many levels are there in the development and what is their use? (eg 6 storey development comprising 5 residential and 1 basement)</li> </ul>	Mixed use development with 52,000sqm ground floor retail area, 135,000sqm residential ground floor and 40 storey residential development
<ul style="list-style-type: none"> <li>Are there other types of lots? (eg residue, public reserve, open space, restricted development) If yes, specify details (including lot numbers)</li> </ul>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <li>Does the Council require further consent for the residue land?</li> </ul>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <li>Are there any previous Consents referred to in the Consent? If yes, specify details</li> </ul>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <li>Is there a condition in the Consent for the consolidation of lots? If yes, specify details.</li> </ul>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <li>Are there any conditions for road works in the Consent? (eg closure of roads, slip lanes, widening) If yes, specify details.</li> </ul>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <li>Are there any conditions in the Consent relating to Sydney Water stormwater requirements? If yes, specify details.</li> </ul>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<ul style="list-style-type: none"> <li>Are there any other conditions that impact upon existing or proposed Sydney Water services? (e.g. Heritage items, environmental constraints) If yes, specify details.</li> </ul>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

**Warning - Document current at time of printing or downloading**

## Section 2 – Future Connection Requirements

Provide a description of any existing services that are to be retained on property or need to be removed (if required):

Sewer	DN300 VC located to the east of the proposed development lot
Drinking Water	DN250 SCL located to the east and DN150 DICL to the west of the proposed development lot
Recycled Water	
Stormwater	

## Section 3 – General Comments

Redevelopment of the Harbourside Shopping Precinct to expand the retail ground for to 52,000sqm with a 40 Level Residential Development. Car-parking provision has reduced from 320 to 295 car-spaces

Estimated sewer and water loads for the Harbourside development;

-Towns Water Domestic - 140l/s

-Sewer - 80l/s

An Expected a monthly saving of water usage 70kL/month from roof water collection.

Estimated Fire Services Towns Water Domestic usage;

-Retail combined Hydrant and Sprinklers - 50l/s

-Residential combined Hydrant and Sprinklers - 25l/s

## **APPENDIX E**

### **Updated Sydney Water Correspondence**

Case Number: 182788

4 May 2020

WAYNE MOENTING  
MIRVAC PROJECT PTY LTD  
c/- ARCADIS AUSTRALIA PACIFIC PTY LTD

### FEASIBILITY LETTER

**Developer:** MIRVAC PROJECT PTY LTD  
**Your reference:** AA008883  
**Development:** Lot 1 DP776815 2-10 DARLING DR, Sydney  
**Development Description:** Redevelopment of existing harbourside shopping precinct into a 40 storey retail/residential/commercial mixed development.  
**Your application date:** 2 March 2020

**Note: Level 1 water restrictions are now in place**, which limits how and when water can be used outdoors. This can impact you and your contractors in the activities they need to undertake for this proposal.

Using water to suppress dust is not restricted, but this does mean that you/your contractors will need to apply for an exemption permit to use water for most outdoor uses including:

- Cleaning equipment and the exterior of new buildings
- Drilling and boring, and
- Batching concrete on-site

Fines for deliberate breaches of restriction rules apply from 1 September 2019.

For more information on the restrictions and for applying for an exemption, visit our web site at <http://www.sydneywater.com.au/SW/water-the-environment/what-we-re-doing/water-restrictions/index.htm>

The more water everyone saves, the longer we can stave off the progression to stricter restrictions or emergency measures.

Please provide this information to your contractors and delivery partners to inform them of their obligations.

Dear Wayne Moenting,

This Feasibility Letter is a guide only. It provides general information about what Sydney Water's requirements could be if you applied to us for a Section 73 Certificate for your proposed

development. **The information is accurate at today's date only.**

If you obtain development consent for that development from your consent authority (this is usually your local Council) they will require you to apply to us for a Section 73 Certificate. You will need to submit a new application (and pay another application fee) to us for that Certificate by using your current or another Water Servicing Coordinator.

Sydney Water will then send you either a:

- Notice of Requirements (Notice) and Developer Works Deed (Deed); or
- Certificate.

These documents will be the definitive statement of Sydney Water's requirements.

There may be changes in Sydney Water's requirements between the issue dates of this Letter and the Notice or Certificate. The changes may be:

## **1. Developer Charges**

- (a) Adjustment of charges due to the Consumer Price Index (CPI);
- (b) Adjustment of charges because of a scheduled review by the Independent Pricing and Review Tribunal (IPART). After that review and registration of the new charges, Sydney Water has to apply those charges; or
- (c) If there is rezoning of any land within the development proposal then new charges will apply.

## **2. Changing the Proposed Development**

- If you change your proposed development, e.g. the development description or the plan/site layout, after today, the requirements in this Letter could change when you submit your new application; and
- if you decide to do your development in stages then you must submit a new application (and pay another application fee) for each stage.

## What You Must Do To Get A Section 73 Certificate in the Future

To get a Section 73 Certificate in the future you must do the following things. You can also find out about this process by visiting [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, building & developing > Developing > Land Development.

1. **Obtain Development Consent from the consent authority for your development proposal.**
2. **Engage a Water Servicing Coordinator (Coordinator).**

**You must engage your current or another authorised Coordinator** to manage the design and construction of works that you must provide, at your cost, to service your development. If you wish to engage another Coordinator (at any point in this process) you must write and tell Sydney Water.

For a list of authorised Coordinators, either visit [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, building & developing > Developing > Providers > Lists or call **13 20 92**.

The Coordinator will be your point of contact with Sydney Water. They can answer most questions that you might have about the process and developer charges and can give you a quote or information about costs for services/works (including Sydney Water costs).

3. **Developer Works Deed**

It would appear that your feasibility application is served from existing mains and does not require any works to be constructed at this time. Sydney Water will confirm this with you after you have received Development Approval from Council and your Coordinator has submitted a new Development application and Sydney Water has issued you with a formal Notice of Requirements.

4. **Drinking Water, Recycled Water , Sewer and Stormwater Works**

### 4.1 Drinking Water

Your development must have a frontage to a water main that is the right size and can be used for connection.

Sydney Water has assessed your application and found the proposed development will not have a significant additional impact on the existing drinking system.

- A service connection and property service must be provided for your development off the drinking water main in Darling Drive Sydney.

### 4.2 Recycled Water

While there is no existing Sydney Water recycled water supply to this area, Sydney Water is open to working in partnership with developers to consider potential decentralised recycled water servicing solutions that may offset potable water demands for irrigation, toilet flushing

and domestic washing machines, as well as air cooling towers. Consideration can also be given for rainwater capture and stormwater runoff reduction.

Please contact your Sydney Water Account Manager to investigate the potential for a commercial arrangement to supply recycled water to your development.

#### 4.3 Sewer

Your development must have a sewer main that is the right size and can be used for connection. That sewer must also have a connection point within your development's boundaries.

Sydney Water has assessed your application and found that the proposed development will not have a significant additional impact on the existing wastewater system.

However, please note that there are no gravity connections to anything below 4m from the ground level. If the Reduced Level is below 4m of the connection point (e.g. in a basement) design alternatives should be considered e.g. reflux valve on the CSD or private pumping/storage.

#### 4.4 Stormwater

Base on the information provided with this Application, it is understood that the proposed development will use the existing footprint. The existing structure is presently over an existing Sydney Water 2700 x 1725 RC Stormwater Channel and the proposed redevelopment is apparently also expected to be constructed over this stormwater channel.

Sydney Water has assessed your application and made the following findings;

The proposed development requires following stormwater work on Sydney Water's stormwater assets:

- Modification to existing pit to suit the new building
- Provision of one Gross Pollutant trap across Sydney Waters stormwater channel, between Harbourside Shopping Centre and Cockle Bay.
- Ensure the existing stormwater channel is protected and operational. Please refer to Sydney [Water's Guidelines for constructing buildings over or adjacent to stormwater assets](#).

#### Protection of Stormwater asset:

- Ensure the proposed redevelopment structure is independent of the stormwater channel. There must be no loading on the channel. A CCTV inspection /asset condition assessment of the asset will be required before and after construction to ensure it has not been damaged or disturbed for it to be fully operational.
- No building or permanent structure is to be constructed within 1m from the outside wall of the stormwater asset. This should be demonstrated in a detailed survey plan

showing all the existing services and proposed culvert amplification. The plans should indicate:

- existing and new building footprints
- detailed existing infrastructure and services.
- at least three X-Sections along the route of the proposed culvert (X-Sections for each connection point and midpoint where it is considered the closest or highest hazard to the proposed building).

Proposals to build over, or adjacent to, Sydney Water stormwater assets will be consistent with the Building Over and Adjacent to Stormwater Assets policy and guidelines, unless otherwise agreed. Proposals to build over and adjacent to stormwater assets will be developed, assessed and agreed with Sydney Water before plans are lodged or building construction commences.

### **Flood Impact Assessment (FIA)**

The applicant is required to submit a Flood Impact Assessment report based on a current flood model which can be obtained from the local Council, if there is none available the customer will need to create one for the proposed development and identify flood hazards. The FIA must:

- demonstrate that there are no potential adverse flood impacts offsite due to the development; and
- evaluate the impacts of flooding on the proposed development.

### **Liaising with Sydney Water**

As the proposed stormwater work is associated with a major stormwater trunk drainage system, the applicant and their service providers are required to liaise with Sydney Water continuously until the ownership of the stormwater work is transferred to Sydney Water according to the Asset Creation Process.

### **Flow Management Plan and Safe Work Plan**

It is the constructor's responsibility to ensure to maintain continuous stormwater flow through the existing pipes or through temporary stormwater pipe during the construction period. The nominated constructor is required to submit a Flow Management Plan and will need to obtain approval prior to commencement of any work on the site.

### **Design and Construction**

Design and construction of the work is to be according to the Sewerage Code of Australia, Sydney Water's Technical Specification Part 1 Civil Works / AUS-SPEC as appropriate.

### **Design of the required stormwater modification work/Gross Pollutant Trap**

Design of the required stormwater modification work/ Gross Pollutant Trap are to be carried out by Sydney Water accredited providers for stormwater design. Structural aspect of the proposed stormwater work is to be carried out by a qualified structural engineer. A copy of the structural engineer's certificate is to be attached with the design drawing.

Structural details of the stormwater modification work/ Gross Pollutant Trap are to be submitted with the design drawings and would be referred to Sydney Water's Engineering Services for comments. Any requirements as determined by Engineering Services must be complied with.

### **Construction of the Stormwater work**

Construction of the stormwater work is to be carried out by Sydney Water accredited providers for construction for sewer and water and based on their capability S2, W2 & W3 for any size of connection.

### **Creation of Easement**

Easement is to be created as per the meeting discussion on 04 February 2016 as per "Appendix F" of the document title "Harbour Site Shopping Centre, Utilities Report SSDA1 – Stage 1" prepared by Arcadis dated 04 February 2020. Easement is to be minimum 5m wide. The applicant is required to liaise with Sydney Water's property services to create the required easement.

### **Direct Stormwater Connection**

If direct stormwater connection is required to Sydney Water's stormwater system then the connection details should also be included in the design drawings and the connection must satisfy Sydney Water's connection requirements.

Proposed connections that are 300mm or more in diameter require a qualified structural engineer to design the connection details. Structural details of the connections are to be submitted with the design drawing. A structural engineer's certificate is to be attached with the design drawings.

### **Dilapidation Survey/CCTV Inspection**

Dilapidation survey/ CCTV inspection of the stormwater pipe/ channel within the development site is to be carried out prior to commencement of any work (pre-construction dilapidation survey). The length of the inspection is to be extended at least 5m from the property boundary on both ends.

Similar dilapidation survey / CCTV inspection is to be carried out once the entire construction work is completed (post-construction dilapidation survey).

A report comparing both pre-and post-dilapidation / CCTV reports is to be prepared by a qualified person to ascertain that no damage occurs to Sydney Water's asset during the construction. A copy of this report is to be made available to Sydney Water for review.

### **Lodgement of a Bond for Stormwater work**

A Bond is required to be submitted prior to releasing the design drawings for construction or prior to stamping the plans for construction. The value of the Bond cannot be determined until the design is accepted and your providers have submitted their quotations for review.

The amount of bond is assessed based on the likely risk to Sydney Water due to the proposed stormwater work. Please refer to [Sydney Water's Bonding Guidelines/Policy](#) for more information.

Refund of the bond money is subject to the acceptance of the Work As Constructed drawing and the review of final CCTV inspection/ dilapidation report which is required to undertake upon completion of the construction work and payment of all outstanding fees.

### **Crossing the services**

Any service crossing across the Sydney Water's stormwater pipe/ culvert is to be perpendicular to the stormwater pipe/ culvert and must have minimum 500mm vertical clearance between the services and Sydney Water's stormwater assets.

### **Review of Design by Sydney Water**

Review of the design by Sydney Water shall be not construed as relieving the Designer of their responsibility. Note, Sydney Water examine only the supplied information and provide comment for consideration. Sydney Water does not verify, approve or endorse the design. Design responsibility remains with the Designer.

## **5. Ancillary Matters**

### **5.1 Asset adjustments**

If any Sydney Water drinking water main, recycled water main, sewer or stormwater asset constructed or under construction is found, after the issue of this Notice, to require adjustment or deviation because of your development; then you will need to do this work as well as any other works we have detailed above at your cost. The work must meet the conditions of this Notice and you will need to complete it **before we can issue the Certificate**. Sydney Water will need to see the completed designs for the work and we will require you to lodge a security. The security will be refunded once the work is completed.

## **6. Developer Charges**

Development Servicing Plan (DSP)	Basis of Calculation	Charge (\$) for Applicable Period  (4/05/20-30/06/20)
DEVELOPER CHARGES TOTAL:		\$Nil

## **7. Special Requirements**

### **Multi-level individual metering requirements**

Your development must either allow for or provide individual metering. This means that you

must:

1. comply at all times and in all respects with the requirements of Sydney Water's "*Multi-level Individual Metering Guide*" (version 6 dated 1 July 2015);
2. provide and install plumbing and space for individual metering in accordance with Sydney Water's "*Multi-level Individual Metering Guide*";
3. if and when you implement a strata/ stratum plan (or strata/ stratum subdivide) you must:
  - a. engage an Accredited Metering Supplier ("**AMS**") to provide individual metering in accordance with the "*Multi-level Individual Metering Guide*" and meet the cost of the meters and metering system;
  - b. transfer the meters and metering system to Sydney Water once the Testing Certificate has been issued by Sydney Water to the AMS and the AMS has confirmed that payment for the meters and metering system has been paid in full.

**Before the Section 73 Certificate can be issued**, you will be required to sign an undertaking to show that you understand and accept these metering requirements and associated costs.

Visit [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, Building & Developing > Plumbing > Meters & metered standpipes to see the *Multi-level individual metering guide* and find out more.

## OTHER THINGS YOU NEED TO DO:

Shown below are other things you need to do that are NOT a requirement for the Certificate. They may well be a requirement of Sydney Water in the future because of the impact of your development on our assets. You must read them before you go any further.

### Approval of your building plans

Please note that the building plans must be approved when each lot is developed. This can be done at Sydney Water Tap in<sup>TM</sup>. Visit [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, building & developing > Building > Sydney Water Tap in<sup>TM</sup>.

**This is not a requirement for the Certificate** but the approval is needed because the construction/building works may affect Sydney Water's assets (e.g. water, sewer and stormwater mains).

Where a Sydney Water stormwater channel, pipe or culvert is located within ten (10) metres of your development site it must be referred to Sydney Water for further assessment.

Your Coordinator can tell you about the approval process including:

- Possible requirements;
- Costs; and
- Timeframes.

Please note that your building plans must be approved. This can be done at Sydney Water Tap in™. Visit [www.sydneywater.com.au](http://www.sydneywater.com.au) > Plumbing, building & developing > Building > Sydney Water Tap in™ or call 13 20 92.

**Note: You must obtain our written approval before you do any work on Sydney Water's systems. Sydney Water will take action to have work stopped on the site if you do not have that approval. We will apply Section 44 of the *Sydney Water Act 1994*.**

### **Disused Sewerage Service Sealing**

Please do not forget that you must pay to disconnect all disused private sewerage services and seal them at the point of connection to a Sydney Water sewer main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed drainer. The licensed drainer must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

### **Soffit Requirements**

Please be aware that floor levels must be able to meet Sydney Water's soffit requirements for property connection and drainage.

### **Requirements for Business Customers for Commercial and Industrial Property Developments**

If this property is to be developed for Industrial or Commercial operations, it may need to meet the following requirements:

### **Trade Wastewater Requirements**

If this development is going to generate trade wastewater, the property owner must submit an application requesting permission to discharge trade wastewater to Sydney Water's sewerage system. You must wait for approval of this permit before any business activities can commence.

The permit application should be emailed to Sydney Water's Business Customer Services at [businesscustomers@sydneywater.com.au](mailto:businesscustomers@sydneywater.com.au)

It is illegal to discharge Trade Wastewater into the Sydney Water sewerage system without permission.

A **Boundary Trap** is required for all developments that discharge trade wastewater where arrestors and special units are installed for trade wastewater pre-treatment.

If the property development is for Industrial operations, the wastewater may discharge into a sewerage area that is subject to wastewater reuse. Find out from Business Customer Services if this is applicable to your development.

## Backflow Prevention Requirements

Backflow is when there is unintentional flow of water in the wrong direction from a potentially polluted source into the drinking water supply.

All properties connected to Sydney Water's supply must install a testable **Backflow Prevention Containment Device** appropriate to the property's hazard rating. Property with a high or medium hazard rating must have the backflow prevention containment device tested annually. Properties identified as having a low hazard rating must install a non-testable device, as a minimum.

Separate hydrant and sprinkler fire services on non-residential properties, require the installation of a testable double check detector assembly. The device is to be located at the boundary of the property.

Before you install a backflow prevention device:

1. Get your hydraulic consultant or plumber to check the available water pressure versus the property's required pressure and flow requirements.
2. Conduct a site assessment to confirm the hazard rating of the property and its services. Contact PIAS at NSW Fair Trading on **1300 889 099**.

For installation you will need to engage a licensed plumber with backflow accreditation who can be found on the Sydney Water website:

<http://www.sydneywater.com.au/Plumbing/BackflowPrevention/>

## Water Efficiency Recommendations

Water is our most precious resource and every customer can play a role in its conservation. By working together with Sydney Water, business customers are able to reduce their water consumption. This will help your business save money, improve productivity and protect the environment.

Some water efficiency measures that can be easily implemented in your business are:

- Install water efficiency fixtures to help increase your water efficiency, refer to WELS (Water Efficiency Labelling and Standards (WELS) Scheme, <http://www.waterrating.gov.au/>
- Consider installing rainwater tanks to capture rainwater runoff, and reusing it, where cost effective. Refer to <http://www.sydneywater.com.au/Water4Life/InYourBusiness/RWTCalculator.cfm>
- Install water-monitoring devices on your meter to identify water usage patterns and leaks.
- Develop a water efficiency plan for your business.

It is cheaper to install water efficiency appliances while you are developing than retrofitting them later.

## Contingency Plan Recommendations

Under Sydney Water's [customer contract](#) Sydney Water aims to provide Business Customers with a continuous supply of clean water at a minimum pressure of 15meters head at the main tap. This is equivalent to 146.8kpa or 21.29psi to meet reasonable business usage needs.

Sometimes Sydney Water may need to interrupt, postpone or limit the supply of water services to your property for maintenance or other reasons. These interruptions can be planned or unplanned.

Water supply is critical to some businesses and Sydney Water will treat vulnerable customers, such as hospitals, as a high priority.

Have you thought about a **contingency plan** for your business? Your Business Customer Representative will help you to develop a plan that is tailored to your business and minimises productivity losses in the event of a water service disruption.

For further information please visit the Sydney Water website at: <http://www.sydneywater.com.au/OurSystemsandOperations/TradeWaste/> or contact Business Customer Services on **1300 985 227** or [businesscustomers@sydneywater.com.au](mailto:businesscustomers@sydneywater.com.au)

## Fire Fighting

Definition of firefighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the firefighting flow of the development and the ability of Sydney Water's system to provide that flow in an emergency. Sydney Water's Operating Licence directs that Sydney Water's mains are only required to provide domestic supply at a minimum pressure of 15 m head.

A report supplying modelled pressures called the Statement of Available pressure can be purchased on-line through Sydney Water Tap in<sup>TM</sup> and may be of some assistance when defining the firefighting system. The Statement of Available pressure, may advise flow limits that relate to system capacity or diameter of the main and pressure limits according to pressure management initiatives. If mains are required for firefighting purposes, the mains shall be arranged through the water main extension process and not the Section 73 process.

## Large Water Service Connections

A drinking water main is available to serve your development. The size of your development means that you will need water connections larger than the standard domestic 20 mm size.

To get approval for your connection, you will need to lodge an application with Sydney Water Tap in<sup>TM</sup>. You, or your hydraulic consultant, may need to supply the following:

- A plan of the hydraulic layout;
- A list of all the fixtures/fittings within the property;
- A copy of the fire flow pressure inquiry issued by Sydney Water;
- A pump application form (if a pump is required);
- All pump details (if a pump is required).

You will have to pay an application fee.

The service connection will need to meet with:

Administrative requirements of the Plumbing Code of Australia; and  
Technical requirements of the Water Drawings Set within the Code.

Sydney Water does not consider whether a water main is adequate for firefighting purposes for your development. We cannot guarantee that this water supply will meet your Council's firefighting requirements. The Council and your hydraulic consultant can help.

### **Disused Water Service Sealing**

You must pay to disconnect all disused private water services and seal them at the point of connection to a Sydney Water water main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

### **Other fees and requirements**

The requirements in this Advice Letter relate to your future Certificate application only. Sydney Water may be involved with other aspects of your development and there may be other fees or requirements. These include:

- construction/building plan approval fees;
- plumbing and drainage inspection costs;
- the installation of backflow prevention devices;
- trade waste requirements;
- large water connections and
- council firefighting requirements. (It will help you to know what the firefighting requirements are for your development as soon as possible. Your hydraulic consultant can help you here.)

**No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from Sydney Water and to the extent that it is able, Sydney Water limits its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.**

---

**END**

# Statement of Available Pressure and Flow

**Mai Lam**  
**141 Walker Street**  
**North Sydney NSW 2060**

**Attention: Mai Lam**

**Date:** 3/02/2020

**Pressure & Flow Application Number: 798133**  
**Your Pressure Inquiry Dated: 2020-01-21**  
**Property Address: 1 Darling Drive, Sydney NSW 2000**

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: Access Road	Side of Street: East
Distance & Direction from Nearest Cross Street	30 metres East from Darling Drive
Approximate Ground Level (AHD):	4 metres
Nominal Size of Water Main (DN):	200 mm (Nominated Asset ID: 10947403)

## EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	51 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)	5	40
	10	39
	15	39
	20	39
	26	39
	30	39
	40	38
	50	38
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	5	37
	10	37
	15	36
	20	36
	26	36
	30	36
	40	35
	50	35
Maximum Permissible Flow	99	31

(Please refer to reverse side for Notes)

**For any further inquiries regarding this application please email :**

[swtapin@sydneywater.com.au](mailto: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](http://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.

**Heydon, Joe**

---

**From:** GONSALVES, SHALINI <SHALINI.GONSALVES@sydneywater.com.au>  
**Sent:** Friday, 17 April 2020 11:42 AM  
**To:** Lachlan Attiwill  
**Cc:** THALIB, LUBNA; CAMILLERI, LUKE  
**Subject:** RE: Mirvac | Harbourside - intro and background  
**Attachments:** 2020 01 29 - Mirvac Industrial - NDA signed.pdf

Hi Lachlan

Thanks for your time yesterday – it was good to get a sense of the scale and scope of the project, and to hear you're keen to consider WSUD principles for this development. We're looking forward to working with you on realising this.

As discussed, we're finalising the feasibility assessment now, and should be able to send this to you next week. Sydney Water is also providing a response to DPIE for the SSDA.

I'll touch base with you in a few months to check in, and to see how we can work with you to offer input into the design scope from WSUD perspective.

Until then, if you can send us indicative layout and the high level plans you shared with us yesterday, Luke and I can start to have a think about potential recycled / integrated water servicing options – and can bring our recommendation back to you. We understand the plans will change – it won't go further than our team. I'm attaching the NDA for Mirvac O&I, to give you additional comfort 😊

Have a great weekend.

Cheers  
Shalini

[Shalini Gonsalves](#)

Account Manager, City Growth and Development

**Sydney**  
**WATER**

Ph 02 8849 6864

Mob 0434 756 999

-----Original Appointment-----

**From:** GONSALVES, SHALINI  
**Sent:** Tuesday, 14 April 2020 2:40 PM  
**To:** GONSALVES, SHALINI; THALIB, LUBNA; CAMILLERI, LUKE; 'Lachlan Attiwill'  
**Subject:** Mirvac | Harbourside - intro and background  
**When:** Thursday, 16 April 2020 4:30 PM-5:00 PM (UTC+10:00) Canberra, Melbourne, Sydney.  
**Where:** Microsoft Teams (see notes)

As discussed, quick meeting for Lachlan Attiwill from Mirvac to give us background on this development, and discuss opportunities for integrated water servicing/partnership with Sydney Water.

### [Join Microsoft Teams Meeting](#)

+61 2 9053 4881 Australia, Sydney (Toll)

Conference ID: 788 161 855#

[Local numbers](#) | [Reset PIN](#) | [Learn more about Teams](#)



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## **APPENDIX F**

### **Sydney Water Build Over Policy**

# Guidelines for building over or adjacent to Sydney Water stormwater assets



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# 1 When to use these guidelines

These Guidelines support the implementation of Sydney Water's *Building Over or Adjacent to Sydney Water Stormwater Assets Policy*, and provide details on the requirements for building over or adjacent to Sydney Water stormwater assets.

When planning your development, you need to contact 'Dial Before You Dig' or a Quick Check agent to find out if there are any existing Sydney Water stormwater assets near your proposed building. You can also purchase a service location diagram from a Quick Check agent. Before you start building, your building plans must be approved by Sydney Water.

If a stormwater asset is located on or within 10 metres of your site, your building plans can only be approved by Sydney Water through a Water Servicing Coordinator and you must follow these Guidelines to design your building.

The Coordinator will work with Sydney Water to review your plans and assess any requirements. The Coordinator will tell you about any requirements and help you meet them.

## 1.1 Reports may be required

Depending on the proposal and its impacts upon the stormwater asset, the Water Servicing Coordinator can help you prepare the following reports:

- *Services Protection Report*
- *Stormwater Deviation Report*
- *Flood Impact Assessment Report*

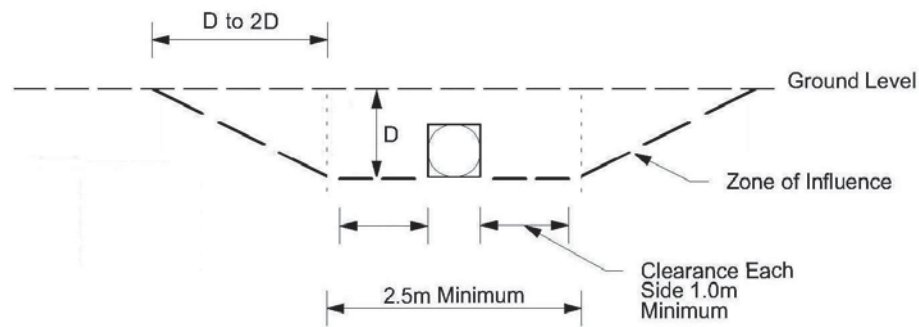
### Services Protection Report

As part of the development, the asset must be accurately located to design the appropriate asset protection requirements. This information must be presented in a *Services Protection Report*.

The report will accurately locate the size, alignment and depth of all Sydney Water assets in the vicinity (i.e. water, sewer, stormwater) within the zone of influence of the existing or proposed stormwater asset. This area may include the subject property, adjoining properties and dedicated road reserve (including footpath area). Figure 1 depicts the zone of influence from Sydney Water's clearance requirements.

A condition assessment of the asset is to be included in the report. Where available, Sydney Water will provide a recent condition assessment from its scheduled inspection program.

**Figure 1 – Zone of influence**



### Stormwater Deviation Report

Buildings over stormwater assets interfere with our ability to maintain and reconstruct these assets. In order to avoid increased public costs to maintain and reconstruct assets, Sydney Water may require the asset to be deviated around the proposed building, where it is possible to do so.

Options to deviate the asset around the proposed building must be presented in a *Stormwater Deviation Report*. This report needs to examine the feasibility of constructing a new stormwater asset, including:

- Any changes to the slope of the stormwater asset.
- Consideration of all existing services, structures, etc. that are within the deviation route.

The report is to include cost estimates for each deviation option and for the 'base case' of reconstructing the asset to its existing alignment and length.

### Flood Impact Assessment Report

Floodplain risks should be managed by using the floodplain in a manner that is compatible with the flood hazard and at a level of risk that is accepted by the community. The control and management of land use provides the most effective means of managing the consequences of floods and minimising flood risks. This approach to managing flood risk is in line with the NSW Government's Flood Policy as described in the Floodplain Development Manual.

**Sydney Water will require the submission of a *Flood Impact Assessment Report* in support of applications to build over or adjacent to a stormwater asset. Refer to Appendix 1 for further details.**

## 2 Building Over Stormwater Assets

Sydney Water will consider proposals to locate building structures over its stormwater assets where existing buildings are located over these assets, and building over the asset is the only feasible solution to facilitate reasonable development of the property.

Build over proposals must meet the requirements of these Guidelines.

### 2.1 Asset may require deviation or reconstruction

Sydney Water will assess the remaining life of the stormwater asset, and may require deviation or reconstruction of the asset in circumstances where:

- The remaining life of the asset is less than the expected life of the proposed building.
- The proposed building will intersect the asset.
- The type of asset is not suitable for building over.

If Sydney Water advises that the asset must be deviated or reconstructed as part of the development, the Water Servicing Coordinator will first explore options to deviate the stormwater asset around the proposed building and present these in a *Stormwater Deviation Report*.

After reviewing the *Stormwater Deviation Report*, Sydney Water will determine whether:

- The asset must be deviated around the proposed building (refer to section 2.2).
- The asset must be reconstructed to permit building over (refer to section 2.2).
- The asset does not require deviation or reconstruction to permit building over (refer to section 2.3).

#### Designer and constructor of new assets

Where a development requires deviation or reconstruction of the stormwater asset, the works will be managed by a Water Servicing Coordinator, with a designer and constructor selected by the customer and approved by Sydney Water (unless this approach is impractical).

Sydney Water will work with the customer to determine the most appropriate means of delivering the works.

### 2.2 Deviation or reconstruction required by Sydney Water

After reviewing the *Stormwater Deviation Report*, Sydney Water may require:

- Deviation of the stormwater asset around the proposed building.
- Reconstruction of the stormwater asset below the proposed building.

These activities must be carried out before the proposal's building works.

The Water Servicing Coordinator (WSC) will undertake the following key steps depending on whether or not reconstructing the stormwater asset is included in their responsibilities (as decided between Sydney Water and the customer under section 2.1):

Action	Deviation or reconstruction is managed by WSC	Deviation or reconstruction is managed by Sydney Water
Engage a suitably qualified and experienced designer to design the new stormwater asset.	Yes	N/A
Submit full stormwater design drawings to Sydney Water for approval.	Yes	N/A
Submit a Services Protection Report for the asset location prepared by an accredited provider or a registered surveyor.	Yes	Yes
<p>Submit building plans and structural details to Sydney Water for approval, with clearances between the building, footings, piers and Sydney Water assets clearly marked.</p> <p>These plans must certify that the building and asset design will meet all of Sydney Water's requirements, including:</p> <ul style="list-style-type: none"> <li>• Structural independence between the building and the stormwater asset (refer to section 4.1).</li> <li>• For reconstruction – 'Build Over Clearance Requirements' are met (refer to section 4.2).</li> <li>• For deviation – 'Build Adjacent Clearance Requirements' are met (refer to section 4.3).</li> <li>• The building is outside any easement in favour of, or land owned by, Sydney Water.</li> </ul>	Yes	Yes
<b>HOLD POINT:</b> Sydney Water must approve the plans before any further work may commence.	Yes	Yes
<p>Seek and obtain three written quotations (in 'Template 14' format, with modifications to suit stormwater construction work) from qualified and experienced contractors capable of constructing the approved design.</p> <p>The customer will recommend a preferred constructor for Sydney Water's acceptance.</p>	Yes	N/A
<b>HOLD POINT:</b> Sydney Water must accept the constructor before any further work may commence.	Yes	N/A
Supervise construction of the stormwater asset.	Yes	N/A
Supervise construction of the stormwater asset protection requirements (e.g. piling) in accordance with these Guidelines (refer to section 4).	Yes	Yes (after new asset constructed)
Submit the Project Completion Package upon completion of the works.	Yes	Yes

## 2.3 Deviation or reconstruction not required

Where Sydney Water has determined that reconstruction of the asset is not required to permit the building over proposal, the Water Servicing Coordinator will undertake the following key steps:

- Submit a Services Protection Report prepared by an accredited provider.
- Submit building plans and structural details to Sydney Water for approval, with clearances between the building, footings, piers and Sydney Water assets clearly marked.

These plans must certify that the building and asset design will meet all Sydney Water's requirements, including:

- Structural independence between the building and the stormwater asset (refer to section 4.1).
  - 'Build Over Clearance Requirements' (refer to section 4.2).
  - The building is outside any easement in favour of, or land owned by, Sydney Water.
- Submit a pre-construction closed circuit television (CCTV) or dilapidation survey report carried out by an accredited provider.

**HOLD POINT:** Sydney Water must approve the plans before any further work may commence.

- Supervise construction of the stormwater asset protection requirements (e.g. piercing) in accordance with these Guidelines (refer to section 4).
- Submit the Project Completion Package upon completion of the work.

The Project Completion Package must include a post-construction CCTV or dilapidation survey report carried out by an accredited provider.

### 3 Building Adjacent to Stormwater Assets

Sydney Water will approve a proposal to construct a building adjacent to a stormwater asset where the proposal meets the requirements of these Guidelines.

The Water Servicing Coordinator will undertake the following key steps:

- Submit a Services Protection Report prepared by an accredited provider or a registered surveyor.
- Submit building plans and structural details to Sydney Water for approval, with clearances between the building structures, footings, piers and Sydney Water assets clearly marked.

These plans must certify that the building design will meet all Sydney Water's requirements, including:

- Structural independence between the building and the stormwater asset (refer to section 4.1).
- 'Build Adjacent Clearance Requirements' (refer to section 4.3).
- The building is outside any easement in favour of, or land owned by, Sydney Water.
- Submit a pre-construction CCTV or dilapidation survey report carried out by an accredited provider.

**HOLD POINT:** Sydney Water must approve the plans before any further work may commence.

- Supervise construction of the stormwater asset protection requirements (e.g. piercing) in accordance with these Guidelines (refer to section 4).
- Submit the Project Completion Package upon completion of the work.

The Project Completion Package must include a post-construction CCTV or dilapidation survey report carried out by an accredited provider.

## 4 Asset Protection Requirements

Sydney Water requires clearances between stormwater assets and other structures for the purposes of inspecting, maintaining and reconstructing the stormwater asset when required.

### 4.1 Structural independence requirements

For any build over or build adjacent proposal, the customer will need to ensure the continued structural integrity and independence of both the building and the stormwater asset. Building foundations are to be designed and certified by a structural engineer and must meet the following requirements:

- The building is to be supported on pier foundations so that no load is transferred to the stormwater asset.
- The building needs to be fully supported in the event of structural failure and collapse of the stormwater asset.
- Piers are to be bored, not driven.
- Piers are to extend to at least one metre below the zone of influence of the stormwater asset, in order to provide some support should a stormwater asset failure during a storm may cause substantial erosion beneath the building.

The gradient of the zone of influence commences at the minimum horizontal clearance from Sydney Water's assets and needs to be determined by a geotechnical or structural engineer based on their assessment of local soil conditions (typically 1H:1V in clay or 2H:1V in sand).

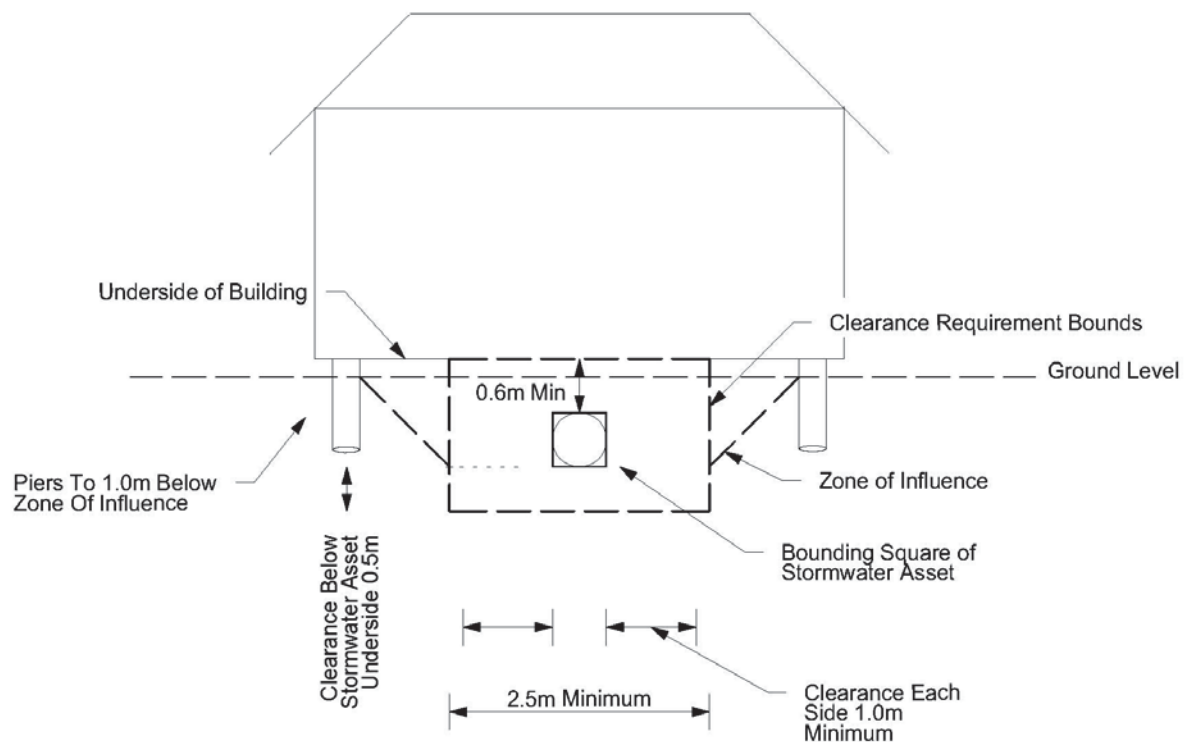
## 4.2 Build over clearance requirements

Sydney Water's clearance requirements for building over stormwater assets are:

- 1 metre from the outside edges of the asset to the adjacent structure.
- 0.6 metres from the outside edge of the asset to the overlying structure.

Figure 2 depicts the clearance requirements when building over a Sydney Water stormwater asset.

**Figure 2 – Build over clearance requirements**



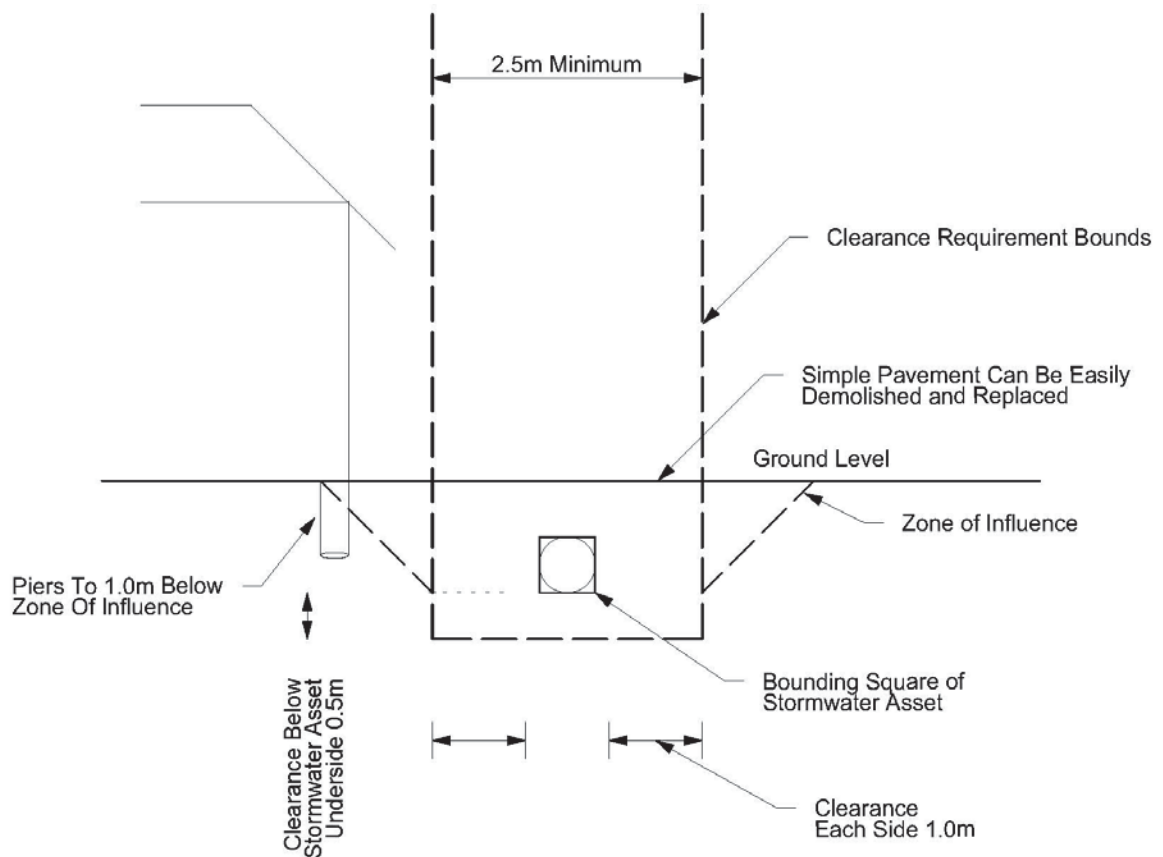
### 4.3 Build adjacent clearance requirements

Sydney Water's clearance requirements for building adjacent to stormwater assets are:

- 1 metre from the outside edges of the asset to the adjacent structure.
- No structure above the asset.

Figure 3 depicts the clearance requirements when building adjacent to a Sydney Water stormwater asset.

**Figure 3 – Build adjacent clearance requirements**



## 5 Context

### 5.1 Definitions

Term	Definition
<b>Accredited provider</b>	<p>A private company that is accredited by Sydney Water to do work on Sydney Water assets.</p> <p>Lists of accredited providers for a number of different functions are available on Sydney Water's website, under: <i>Sydney Water &gt; Building and developing &gt; Provider information</i></p>
<b>Build Adjacent Clearance Requirements</b>	<p>The reservation of space about the stormwater asset for adjacent structures, being one metre horizontally from the outside edges of the asset.</p> <p>Refer to Figure 3.</p>
<b>Build Over Clearance Requirements</b>	<p>The reservation of space about the stormwater asset for overlying structures, being one m horizontally and 0.6 m vertically from the outside edges of the asset.</p> <p>Refer to Figure 2.</p>
<b>Expected life</b>	<p>The total lifespan expected for an asset, based on a structural assessment of the asset's condition.</p>
<b>Flood Impact Assessment Report</b>	<p>A report detailing the impacts of flooding on the proposed development, and the impacts of the proposed development on local flooding.</p> <p>This document needs to have been completed within the past two years.</p>
<b>Overland flow paths</b>	<p>Land that carries surface stormwater flows when the volume of stormwater either exceeds that of the stormwater assets, or the flows cannot enter the assets due to topography or asset configuration.</p>
<b>Project Completion Package</b>	<p>A suite of information required under Sydney Water's e-Developer process for the completion of work and the take-over of developer works by Sydney Water. The package includes such elements as Work As Constructed drawings, completed field tests, etc.</p>
<b>Reasonable development</b>	<p>A development that either:</p> <ul style="list-style-type: none"> <li>complies with the relevant planning controls (e.g. Local Environment Plan, Development Control Plan, State Environmental Planning Policy) or</li> <li>is approved by both the relevant consent authority (e.g. Council) and Sydney Water's stormwater planning / strategy team.</li> </ul>
<b>Remaining life</b>	<p>The expected life of a stormwater asset, minus its consumed life.</p>
<b>Service Protection Report</b>	<p>A report accurately locating all Sydney Water assets in the vicinity in order to design appropriate asset protection measures.</p> <p>This document needs to have been completed within the past two years.</p>
<b>Stormwater assets</b>	<p>Includes open and covered channels, oviforms, pipes and box culverts, constructed from a variety of materials.</p>

Term	Definition
<b>Stormwater Deviation Report</b>	<p>A report detailing the feasibility of constructing a new stormwater asset around the proposed development.</p> <p>This document needs to have been completed within the past two years.</p>
<b>'Template 14' format</b>	<p>This template is called 'Schedule of rates – Wastewater mainlaying'. It is a template used for providing a complete breakdown of costs for wastewater construction works. Water Servicing Coordinators have this template.</p> <p>Since there is no corresponding template for stormwater works, 'Template 14' must be modified to suit any specific differences between wastewater and stormwater construction.</p>
<b>Water Servicing Coordinator</b>	<p>A private company contracted to Sydney Water to be the point of contact with customers for the provision of advice, project management and Quality Assurance in relation to the construction and protection of Sydney Water assets.</p> <p>A list of Water Servicing Coordinators is available from Sydney Water's website, under:  <i>Sydney Water &gt; Building and developing &gt; Developing your land &gt; Water Servicing Coordinators</i></p>
<b>Zone of influence</b>	<p>The envelope within which building works (both above and below the ground level) will exert an influence on an asset. The zone of influence must be determined by a geotechnical or structural engineer based on local soil conditions (refer to section 4.1).</p>

# Appendix 1 – Flood Impact Assessment Report

Most developments in a floodplain modify existing flood behaviour. This may adversely impact the surrounding environment, including existing properties and assets. The proposed development itself is also exposed to flood risk, including risk to life and property. Sydney Water will require a Flood Impact Assessment Report whenever a development is proposed in the floodplain adjacent to or over one of its assets.

It is worth noting that both open channel and pipe/enclosed systems have associated floodplains. A brief description of the typical flooding scenario for both these cases is presented in Annexure A.

The latest version of the NSW Government Floodplain Development Manual (FDM) should be used to guide the assessment and management of flood risks.

## Consideration of the flood risk

All development proposing to build over or adjacent to the Sydney Water stormwater assets should consider the assessment and management of flood risk associated with the development. Where available, local council guidelines should be followed while preparing the Flood Impact Assessment Report.

In the absence of any guidance, Sydney Water requires the following requirements to be met and relevant information presented in the report as a minimum:

1. Details of the proposed development including survey of the stormwater asset/s and the existing site and its surrounds
2. Catchment definition and the description of existing stormwater drainage system.
3. Details of the existing flood behaviour, including flood level, discharge and velocity for at least the 100 year Average Recurrence Interval (ARI) design flood. Data for other design floods may be requested depending on the nature of the development.
4. Impact of debris blockage of the stormwater asset should be considered in deriving the design flood events.
5. Flood planning level to be determined by adding 500 mm freeboard to the peak 100 year ARI flood level
6. Habitable floor levels to be at the flood planning level
7. Floor levels carport/parking space/garage may be considered at a reduced freeboard provided an acceptable level of risk to damage and safety can be demonstrated
8. Entry to below ground or basement car park would be required at the Probable Maximum Flood (PMF) level or the flood planning level, whichever is higher. Evacuation issues in the event of basement flooding should be addressed.
9. Various uses within the development should be consistent with the flood hydraulic hazard as defined in the FDM.
10. Evacuation strategies in the event of 100 year ARI and the PMF event need to be identified.
11. For significant increase in the number of occupants of the development, a Flood Emergency Response Plan would be required. The Plan should address the evacuation issues associated with the basement car parks.

12. The structural integrity of the development should be ensured by considering the floodwater flow velocity for the 100 year ARI or the PMF event, depending on the risk level. Impact of floating debris may also need to be considered where required.
13. Flood proofing strategies should be provided for various services such as electrical equipment, wiring, fuel lines and other services proposed to be connected to the development. Placement of these services should be considered above the PMF level.
14. Appropriate storage places, above the PMF level, should be identified for the hazardous material in the development.

The required information for the Flood Impact Assessment Report may not be readily available and appropriate flood modelling would be required to prepare this report.

Further advice can be obtained through Sydney Water's Liveable City Program unit.

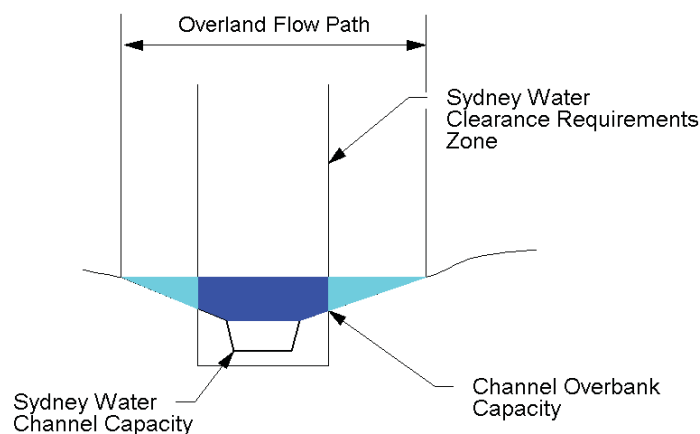
## Annexure A – Rationale

When the capacity of stormwater systems is not sufficient to contain storm flows, overland flows and localised flooding occur. Stormwater assets are often located along the alignment of original watercourses (such as creeks or rivers). Building over open or enclosed stormwater assets is generally not permitted because of the adverse impacts on capacity and flow behaviour that are usually associated with building across overland flow paths.

### Open channels

When the capacity of an open stormwater channel is not sufficient to convey stormwater flows, the water level rises above the top of the banks. This 'overbank flow' substantially increases the total open stormwater capacity for only moderate increases in flow depth. Figure 4 depicts the drainage capacity of an open stormwater asset, consisting of the channel flows and the 'overbank flow'.

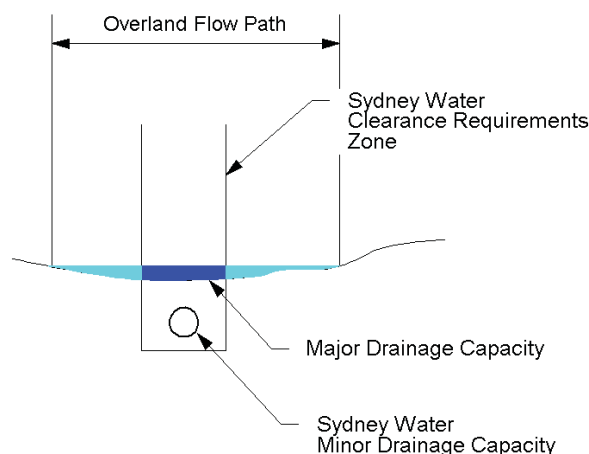
**Figure 4 – Open channel drainage capacity**



### Enclosed assets

In contrast, the capacity of the enclosed stormwater system usually can only increase marginally over the pipe or culvert, due to the asset being buried. Figure 5 depicts the drainage capacity of an enclosed stormwater asset, consisting of the minor flows within the pipe / culvert and the major flows overland.

**Figure 5 – Enclosed asset drainage capacity**



## **APPENDIX G**

### **Sydney Water Meeting Minutes**

**Issue date** 5/02/2016  
**Issue to** Fernando Ortega – Sydney Water (FO)  
**Issued by** Joe Heydon – Arcadis (JH)  
**Subject** Harbourside Shopping Centre – Culvert Build over  
**Reference** Harbourside-MM-001  
**Client** Mirvac  
**Meeting date** 4/02/2016  
**Time** 10:00am  
**Location** Sydney Water, 39 St Martin Place  
**Present** Joe Heydon (JH) – Arcadis  
Fernando Ortega (FO) – Sydney Water  
Lachlan Attiwell – Mirvac (LA)  
**Copy to** David Hogendijk – Mirvac

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ITEM	COMMENTS	ACTION
1	JH and LA introduced the proposed development to FO	
2	JH informed FO that Rob Dowey of Cardno was acting as WSC	
3	JH outlined the existing build-over that was required by the ICC Hotel	
4	JH outlined the proposed build over associated with Harbourside to FO	
5	FO explained that SW has requested that the ICC Hotel provide an easement located to the south of Harbourside for potential future diversion of the culvert	
6	FO explained that SW has in the past requested NSW State funding to divert this culvert but this request was denied at this moment as the existing culvert is in reasonable condition	
7	FO explained that the ICC Hotel team undertook a dilapidation report on the condition of the existing culvert and it was deemed to be in reasonable condition	
8	FO explained that at the moment Sydney Water would permit the future build over on condition that Sydney Water polices are adhered to and no direct load placed on culvert, and any damage during construction be rectified.	
9	FO recommended that Mirvac undertake their own dilapidation report or discuss with Lend Lease potential for using recent LL one with regard to copyright etc.	

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10	FO suggested that Sydney Water may impose some conditions on DA for Mirvac to provide Sydney Water with additional access pit to the culvert in space located between eastern building façade and harbour.
11	FO suggested that Sydney Water may also condition the DA that some form of mesh be installed after culvert outlet to mitigate pollution e.g. plastic bottles etc. entering the harbour. This detail would be similar to that imposed on Lend Lease at Barangaroo.
12	LA confirmed that those requests are reasonable and Mirvac would consider in future.
13	LA and JH agreed to keep FO informed in future of any related issues to this culvert.

## **APPENDIX H**

### **Ausgrid Dial Before You Dig Records**

If further information is required, please contact:  
Ausgrid DBYD  
Phone: (02) 4951 0899  
Fax: (02) 4951 0729



Emergency Phone Number 131388

## Underground Cable Location Search Advice

-- Ausgrid Assets Affected including **TRANSMISSION** --

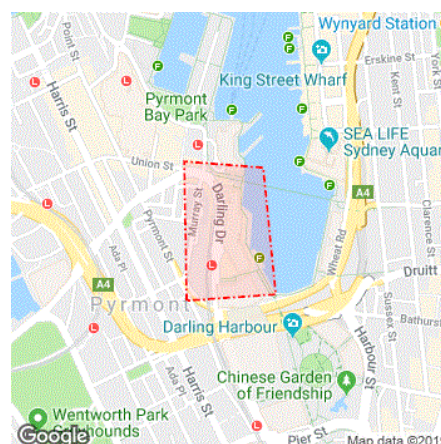
If you are working within 2 metres of **TRANSMISSION** cables you are required to have an Ausgrid Supervisor on site. The number to call to organise this is **49519200** and can also be found at the top of the supplied Transmission plan(s) in **RED**. Note: The Transmission Team requires **2 weeks notice** if required on site.

To:	Ms Michelle Fletcher Arcadis Level 16 580 George Street Sydney NSW 2000	Phone No:	0421170753
		Issue Date:	27/09/2019

In response to your enquiry, Sequence No: 89401484 the records of Ausgrid disclose that there **are** Ausgrid underground cables in the defined search location and relevant Ausgrid plans have been provided.

This search is based on the geographical position of the dig site as denoted in the Dial Before You Dig caller confirmation sheet and an overview is provided:

Address:	Darling Drive Sydney NSW 2000
Job #:	18175578



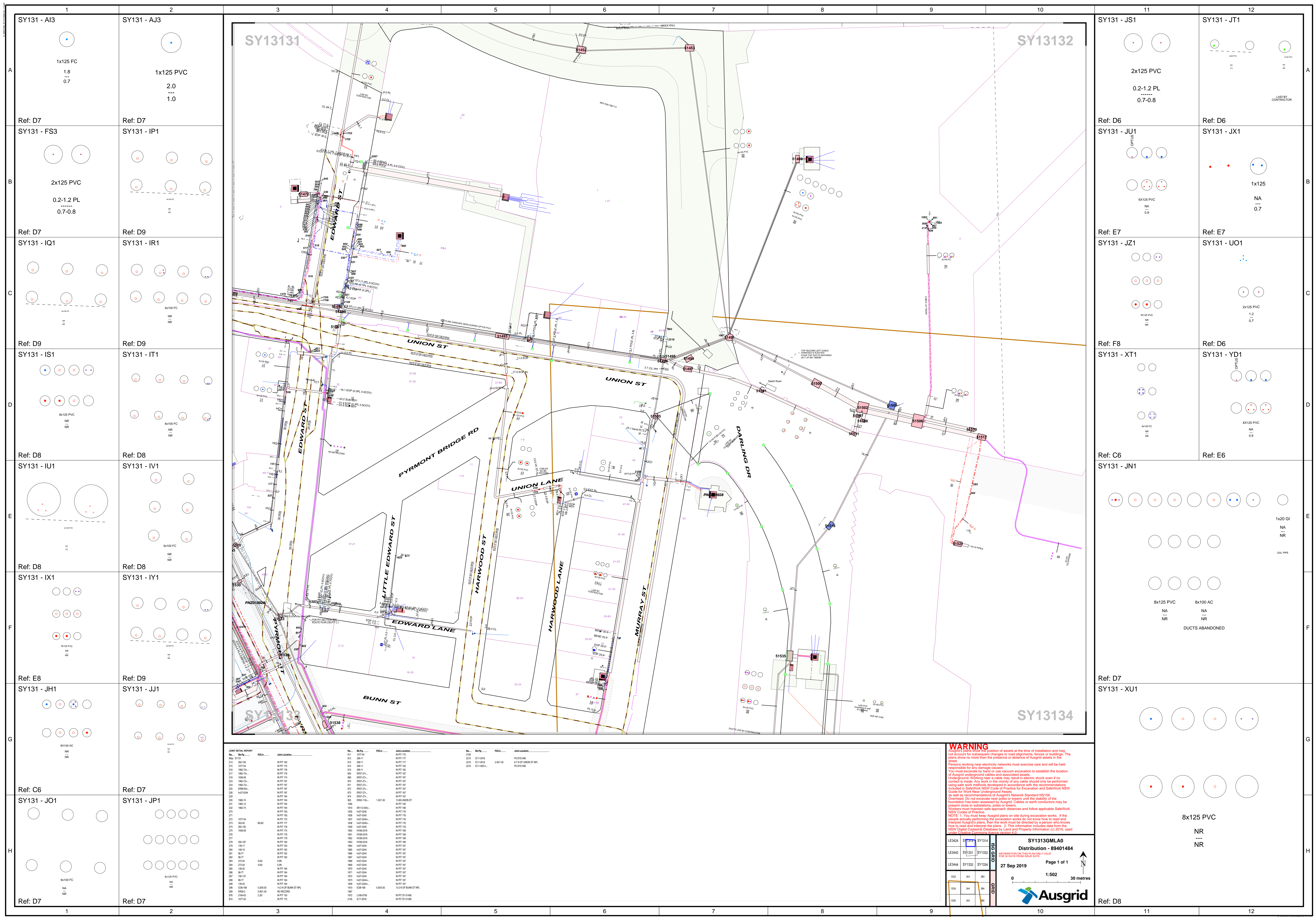
### **\*\*Important\*\***

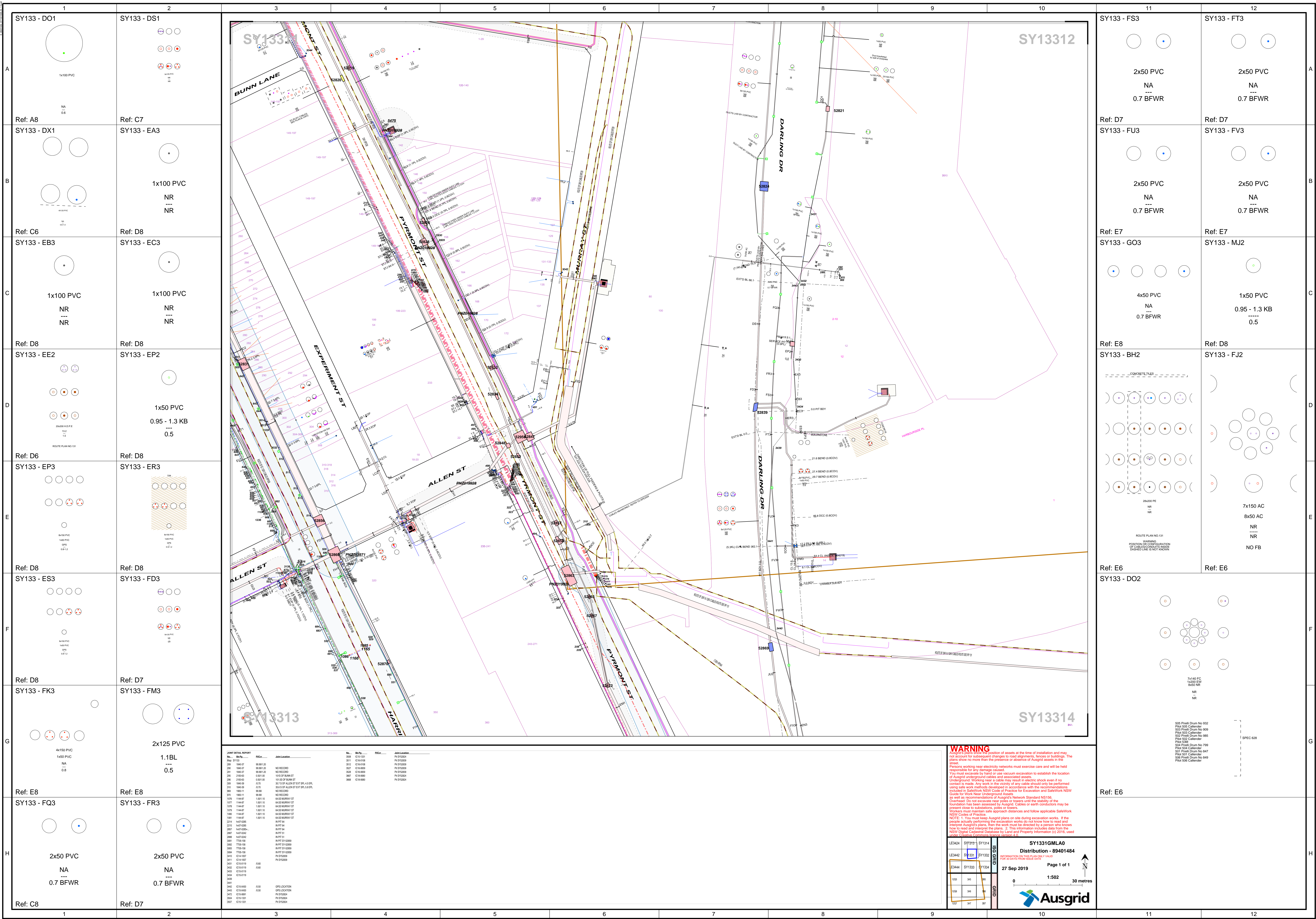
- All information provided to you is **ONLY VALID FOR 30 DAYS** from the date of issue
- You must keep Ausgrid plans on site during excavation works. If the people actually performing the excavation works do not know how to read and interpret Ausgrid's plans, then the work must be directed by a person who knows how to read and interpret plans.
- If you require a full size print of A0 plans and don't have the resources to do so please contact our office on 49510899 to request a hard copy to be posted. **Please allow 3 working days for delivery.**
- Please note you will ONLY receive portions of your search area that contain Ausgrid Underground Assets

### **YOU MUST READ AND UNDERSTAND THE SUPPLEMENTARY MATERIAL CONTAINED IN THIS ADVICE BEFORE PROCEEDING WITH ANY WORKS.**

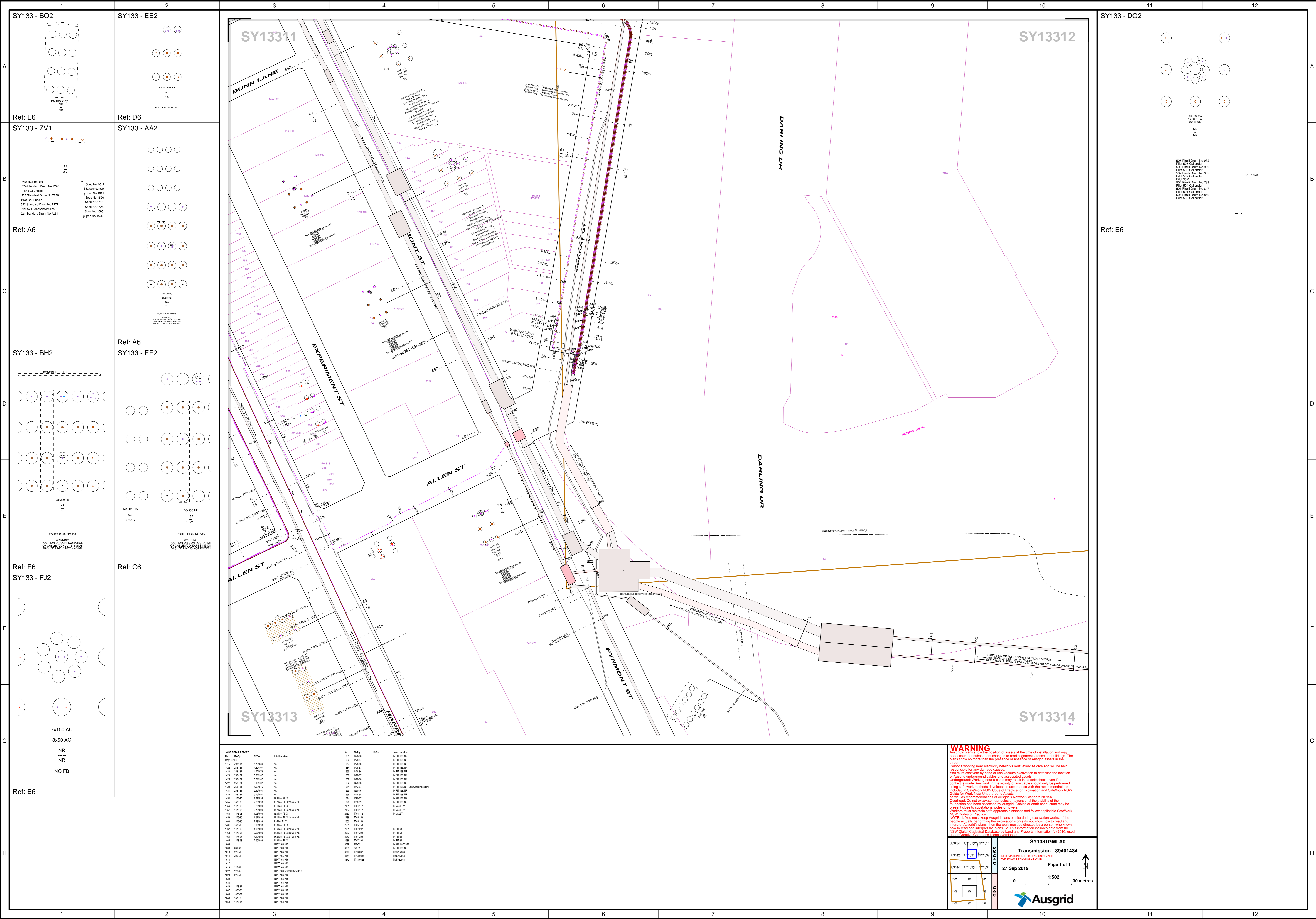
#### Summary of Supplementary Information:

Material	Purpose	Location
Important Information.pdf	Details important information	Attached
Working near Ausgrid Cables.pdf	Summary of NS156	Attached
COMN0119 How To Read Ausgrid Plans.pdf	Details how to read Ausgrid plans	Attached
SafeWork NSW "Work near underground assets: Guide"	To assist you in deciding appropriate measures to eliminate or control risks when working near underground assets.	Web Link <a href="#">[Click Here]</a>
Ausgrid's Network Standard NS156	For important information for work near or around underground cables	Web Link <a href="#">[Click Here]</a>
Ausgrid's Network Standard NS199	"This Network Standard applies to specific work on Ausgrid Low Voltage Underground Assets"	Web Link <a href="#">[Click Here]</a>
Working in Confined Spaces	For important information when working in confined spaces	Web Link <a href="#">[Click Here]</a>





You are working near Transmission Cables. You must contact Ausgrid on (02) 4951 9200 at least two weeks before work commences. See Ausgrid Network Standard NS156.





# Reading Ausgrid Plans

COMN0119

## 1 Property Lines

“**property line**” (PL), sometimes referred to as “**building line**” (BL), is the standard dimensioning reference point on all Ausgrid plans and represents property boundaries.

Typically the PL is the boundary between private property and local council’s footpath area or nature reserve. Most residential fences and office blocks are erected along the PL.

“**kerb line**” (KL) is less frequently referred to on Ausgrid plans, and where used will be identified clearly as KL.

Numbers listed within property boundaries should correspond to recognised “street numbers” (refer to figure 1).



Figure 1

## 2 Datum References

“**datum references**” identify distances (in metres) from significant features (such as corners of property boundaries) to reference points such as Ausgrid assets (eg: “conduits”, “cables”, “joints”) (refer to figure 2).

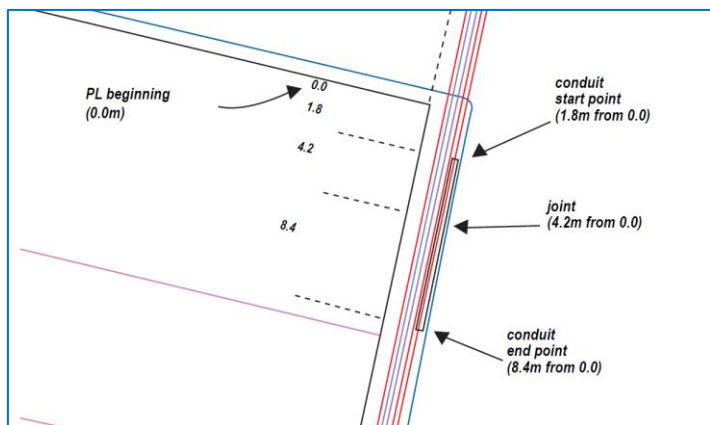


Figure 2

## 3 Cross Sections

A “cross sections” displayed on Ausgrid plans detail information relating to the relative position (ie: distance from the “**property line**”, and the depth of “**cover**”) of Ausgrid assets.

“**Cover**” is a term used to refer to the depth of cables underground.

A “cross section” leader line will be drawn indicating the location of the displayed “**cable**” or “**conduit**” information on Ausgrid plans.

The distance from “**property line**” (in metres) and depth of “**cover**” (in metres) references are displayed as; ie: 0.6 metres from PL and 0.5 metres underground.

Where distance and cover are not recorded, they will be clearly marked as “**NR**”.

NOTE: Distance and cover where indicated may be different to the actual position of the cables (eg: fill may have been placed at site that has changed the ground level).

“PL” distance shown in cross sections is an indicative measure to the centre of the trench allocation from the adjacent property line.

On some plans the “cross sections” may also be shown with a specific number (eg: HR1). This number will match with a cross section detail found in the border of the plot or on a separate plot page (refer to figures 3 and 4).

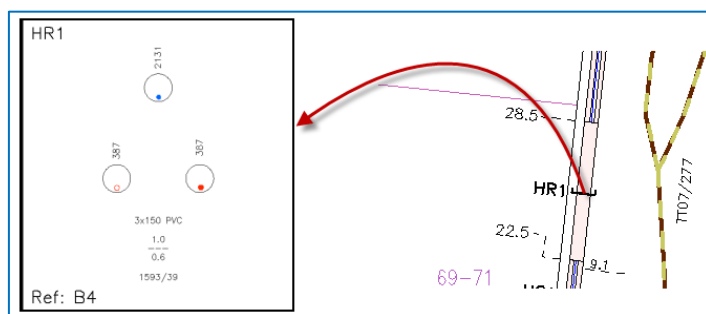


Figure 3

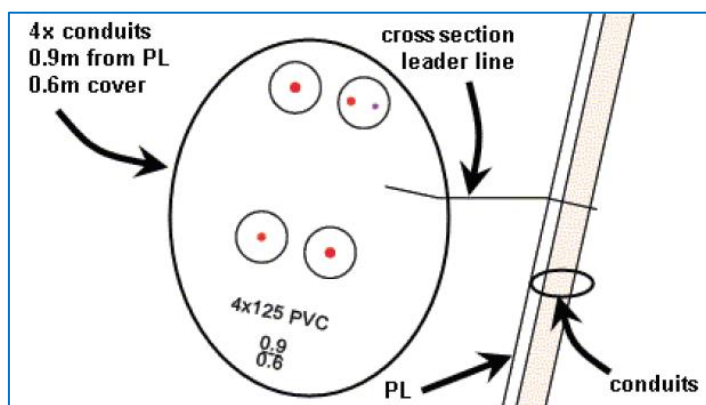


Figure 4

## 4 Cable Joints and Joint Reports

“cable joints” (numbered individually) and “joint reports” (attached to Ausgrid plans) can provide information relating to the relative position of Ausgrid assets, distance from the “property line” (in metres), and the depth of “cover” (in metres) (refer to figures 5 and 6).

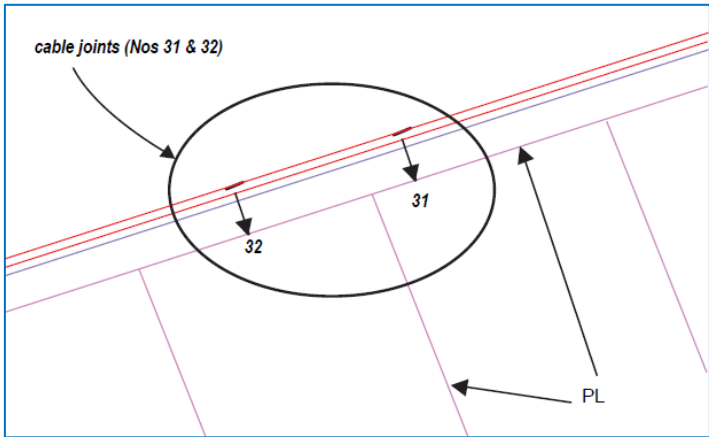


Figure 5

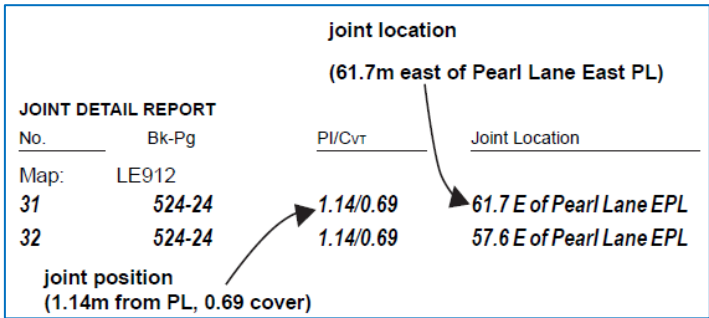


Figure 6

## 5 Cross Section Detail Boxes

“cross section” detail boxes on the sides of an Ausgrid plan are used when there is insufficient room to display “cable” and/or “conduit” information on the Ausgrid plan.

Ausgrid plans (refer to figure 7) are bordered by numeric identifiers along the top and bottom borders and alpha identifiers along the side borders.

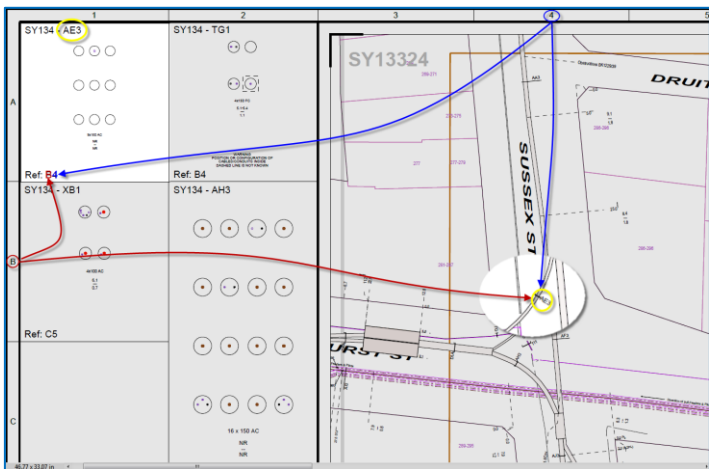


Figure 7

“Cross section” leader line and annotation is drawn on the Ausgrid plan for a reference to “cable” and/or “conduit” information in the “cross section” detail boxes.

## 6 Pits

Underground “pits” are numbered on Ausgrid plans, positioned relative to the “property line” (PL), and can be found on either the footpath (nature strip) or the road (refer figure 8).

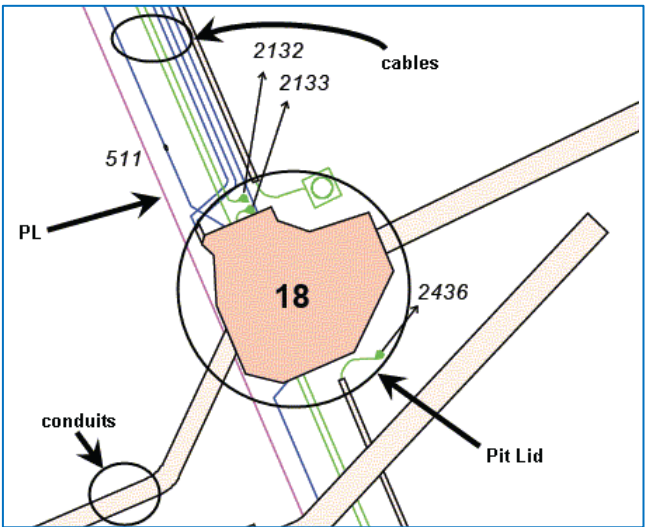


Figure 8

## 7 Proposal Areas

There are areas where underground work may have been issued for construction by Ausgrid, but details are not yet completely displayed on Ausgrid plans. In such cases a shaded “proposal area” is displayed on the Ausgrid plan, indicating underground work may have commenced in the vicinity but is not yet complete.

In some instances cables and other assets within the shaded “proposal area” will be shown in a bright magenta colour, indicating that the proposed new work displayed within the shaded area is based on initial planning documentation (refer to figure 9).

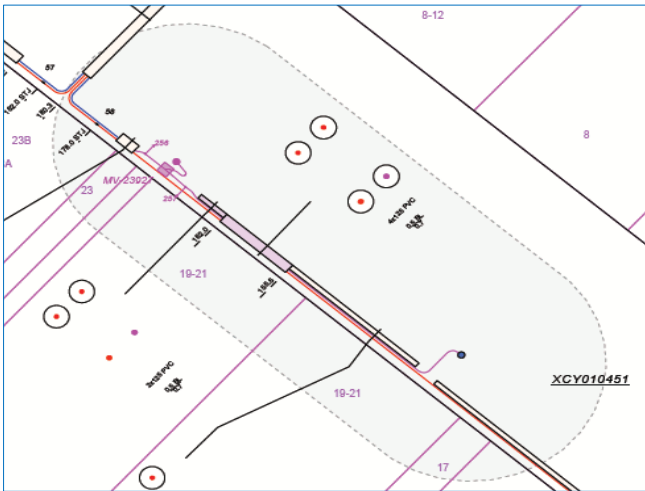
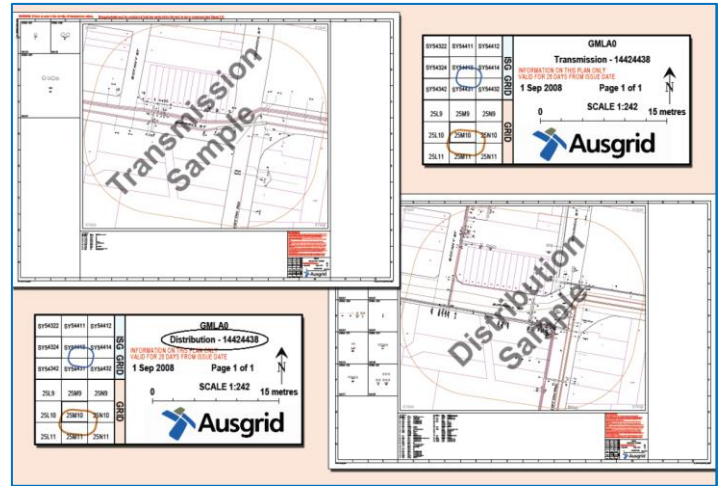


Figure 9



**WARNING: If there is work in the vicinity of transmission cables, Ausgrid must be contacted at least two weeks before the work is due to commence.**

## 10 “Shifting Land Base” on Ausgrid Distribution and Transmission Plans

In some instances, the plans supplied may indicate road or property outlines that appear to have shifted in relation to the Ausgrid assets displayed (refer to figure 12).

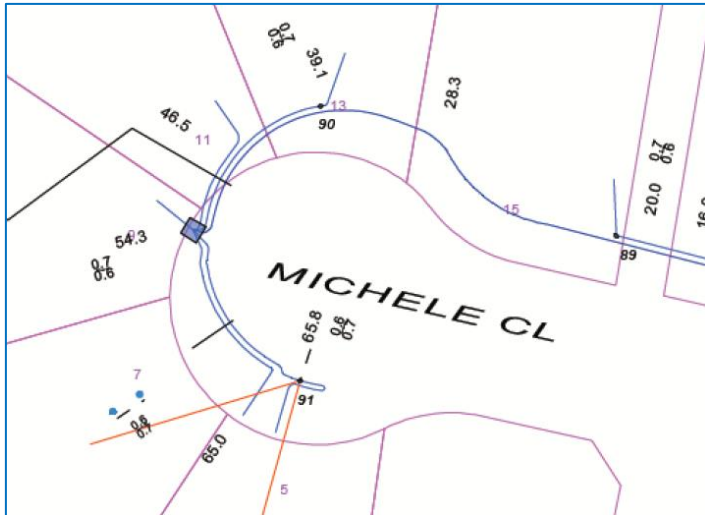


Figure 12

In such instances, always refer to the “**property line**” (in metres) and depth of “**cover**” (in metres) references displayed on the nearest relevant “**cross sections**” to obtain Ausgrid asset location information (see Reading Ausgrid Plans, clause 3, Cross Sections for more detail).

## 11 “Underground Earthing Infrastructure”

In some instances, the plans supplied may also indicate the presence of underground earthing infrastructure associated with underground and/or overhead Ausgrid assets.

The “**Earth Point**” symbol (refer to figure 13) will be shown on plans to minimize risk of disturbance or damage to any Ausgrid underground earthing infrastructure in the vicinity.



Figure 13

## 12 Aluminium Single Core Cables – Specific Excavation Hazard

Certain cables specifically illustrated in figures 14 and 15 below are susceptible to deterioration that may pose a risk of electric shock when working near them, particularly in damp ground.

For all work on or near Ausgrid’s network (where workers have been trained in Ausgrid’s “Work Near Underground Power Lines” course) the work practices outlined in NS199 “Safe Electrical Work on Low Voltage Underground Assets” Section 7 for work near low voltage aluminium single core cable must be adhered to.

All other persons must contact Ausgrid before excavating near these cables to arrange for appropriate precautions to be applied.

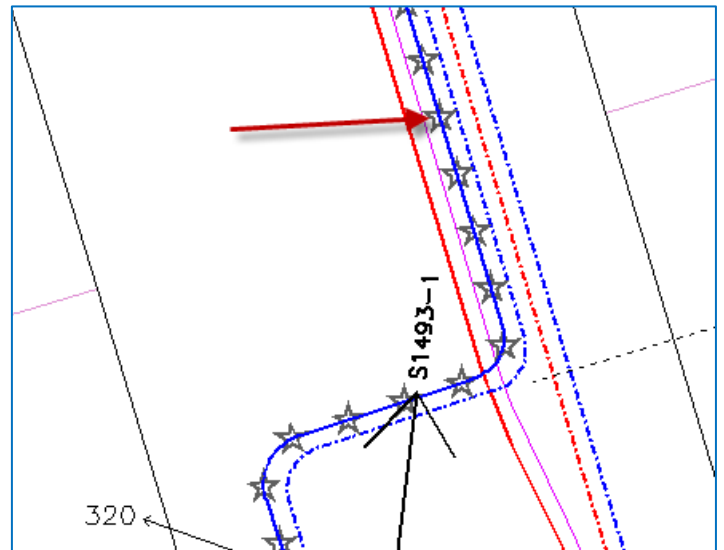


Figure 14

The “**star**” symbols over the cable indicate that it is susceptible to this deterioration.

Cables that are in duct lines have this symbology covered so an at-risk cable is indicated only within a cross section by a “#” appended to its cable code as illustrated below.

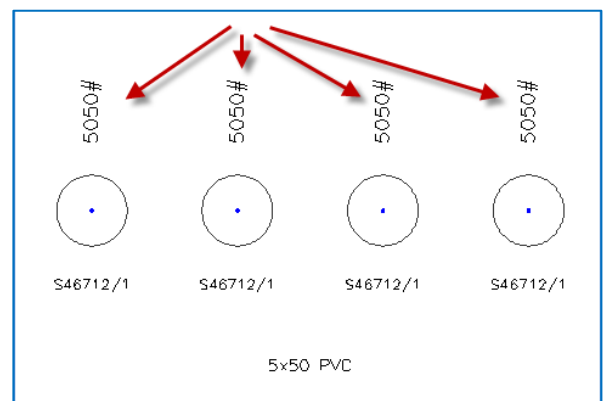













































Figure 15

## Ausgrid Underground Map Symbology

**NOTE:** Please note symbology is subject to change. This document provides underground (UG) related objects only. In cases where you are unsure of the data presented, please contact Ausgrid's DBYD for clarification *prior* to any planning/excavation works.

Object		Symbol
HV Cable	HV (High Voltage) 5kV-22kV	<u>In Service</u>  <u>Out of Service</u> 
	TR (Transmission) 33kV – 330kV	<u>In Service</u>  <u>Out of Service</u> 
LV Cable (Low Voltage)	Mains (Dark blue)	<u>In Service</u>  <u>Out of Service</u>  <u>In Service Risk</u> 
	Street Lighting (Green) Note: Mains Connector also used as Street Lighting (dark blue)	<u>In Service</u>  <u>Out of Service</u> 
	Service (Light blue)	<u>In Service</u>  <u>Out of Service</u>  <u>In Service Risk</u> 
	Unknown	
Auxiliary Cable	Data	<u>In Service</u>  <u>Out of Service</u> 
	Comms	
	Telco	
	Protection	
	Fibre Optic	
	Pilot	

Object	Symbol
HV UG Joint	Straight Through, Parallel Branch or Tee 
	Switchgear, End Box or Transition 
HV UG Termination	Sealed end 
	Pot End 
	UGOH 
HV Cable Repair	5kV-330kV (HV & TR) 
LV UG Joint	Straight Through, Parallel Branch, Tee or Service 
	Network Box 
LV UG Termination	Switchgear, End Box or Transition 
	Sealed end 
	Pot End 
	UGOH 

Object	Symbol
Auxiliary Fix	Pilot Window 
Auxiliary Joint	Straight Through, Parallel Branch or Tee 
Auxiliary Termination	UGOH or Pole Termination 
	Pilot 
	UGOP-ADSS Termination 
Cable Pit (Can be various shapes)	Auxiliary 
	Distribution 
	Transmission 
LV Pillar	Distribution 
	Switch 
	SL Pillar 
	SL Cubicle 
	Fargo 
	Private 
LV Auxiliary Pillar	All Types 
LV Link Box	2 Way & 4 Way 

## Ausgrid Underground Map Symboly

Object	Symbol
<b>Substation</b>	Cottage & Chamber
	Ground & Subtransmission Ground
	Kiosk & Subtransmission Kiosk
	Zone
	Transmission
	Bulk Supply Point
	Metering Station & Subtransmission Metering
<b>Switching Station</b>	Isolating & Earth
	Other – OH & UG
	Ring Main Unit
<b>Earthing</b>	UG Earth Cable
	Earth Point
<b>Frequency Marker</b>	Distribution and Transmission Power Ball or Disc Type Marker
	Auxiliary Communications Ball or Disc Type Marker
	Distribution and Transmission Power Tape Marker
	Auxiliary Communications Tape Marker

Object	Symbol
<b>Trench</b>	Centreline
<b>Conduit</b> (Can be various shapes)	Coverage (Distribution)
	Coverage (Transmission)
	Coverage (Underbore – cross hatched)
<b>Cross Section</b>	Marker (Staple)
	User Line
<b>Measurement Point</b>	
<b>Miscellaneous Point Feature</b>	Cable Clamp
	Cable Core split (Trifurcation)
	Cable Marker
	Electrolysis Point
	End Of Pipe
	Frequency Injection Unit
	Gas Charger
	Gas Control Cabinet
	Gas Control Kiosk
	Gas Control Point
	Gas Control Valve
	Gatic Pit lid

Object	Symbol
<b>Miscellaneous Point Feature</b>	Inspection Box
	Link point
	Oil Control Valve
	Oil Gauge
	Oil Tank
	Sniffer Box
	Thermocouple Box
	Transmission Cable Marker
	Transmission Link Point
<b>Miscellaneous Linear Feature</b>	All Geometries
<b>Map Note</b>	Location & Text Text about note
<b>Dimension Feature</b>	Placement Change

## **IMPORTANT INFORMATION**

### **YOU MUST BE AWARE THAT:**

1. There may be underground cables owned by other utilities, in the vicinity of your work, about which Ausgrid has no information.
2. Ausgrid does not usually keep plans of privately owned underground cables or its underground service cables on private property. (Refer NS 156 for further information.)

### **YOU MUST MAKE YOUR OWN ENQUIRIES IN RESPECT OF THESE CABLES.**

### **YOU MUST UNDERSTAND THAT:**

1. Ausgrid takes all reasonable care in providing details of its underground cables. However, owing to changes in road and footway alignments and levels, and the age and incompleteness of some records, it is not possible to conclusively specify the location of all of Ausgrid's underground cables. The accuracy and completeness of the information provided to you cannot be guaranteed. It is intended to be indicative only. It must not be **solely** relied upon when undertaking underground works.
2. Except to the extent that liability may not be capable of lawful exclusion, Ausgrid, its servants and agents will be under no liability whatsoever to any person for loss or damage (including indirect or consequential loss or damage) however caused (including without limitation, for breach of contract, negligence and breach of statute) which may be suffered or incurred from or in connection with the advice provided.
3. Due to the inherent dangers associated with excavation in the vicinity of underground cables, precautions must always be taken when undertaking any underground works. Ausgrid's Network Standard NS 156 specifies standards for working in the vicinity of underground cables. It is deemed to be part of this Advice, and it must be read by you.

**YOU MUST READ NETWORK STANDARD NS 156, *WORKING NEAR OR AROUND UNDERGROUND CABLES*. IT IS PART OF THIS ADVICE.**

## **APPENDIX I**

### **Ausgrid Assessment Response**



Address all relevant correspondence to:

Ausgrid Contestability Section  
Level 1, Building 4, 130 Joynton Avenue  
Zetland NSW 2017

E: [Contestability@ausgrid.com.au](mailto:Contestability@ausgrid.com.au)  
F: 02 96639499

12 September 2016

ARCADIS  
Attention: John Walsh  
32/140 William St,  
MELBOURNE VIC 3000

Email: [john.walsh@arcadis.com](mailto:john.walsh@arcadis.com)

Reference Number: 1900065901

Dear John

### **Electricity Network Connection Application at: 2-10 Darling Dr, Sydney**

We have received your Connection Application dated 04.08.2016, and assigned it reference number 1900065901.

We have made a preliminary assessment of your application and wish to advise that your application is not complete because your proposal requires a certified design and associated certification number which must be specified in the Connection Application. This letter provides guidance on how to obtain a certified design and associated number to enable Ausgrid to further consider and process your Connection Application.

### **Scope of Network Alterations**

Ausgrid's assessment has determined that the following works are likely to be required to connect your development.

#### **❑ Establishment Of 3x1500kva Surface Chamber Substation, And Extension Of 11kv Network**

These works are classified as contestable, which means that you are required to fund the design and some or all of the construction works. In this regard, 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 in accordance with Ausgrid's policies and standards.

Once the works have been satisfactorily completed and electrified, the premises connection assets will be owned and maintained by Ausgrid as part of our electricity distribution network. The timeframe for the works will vary depending on factors such as the complexity and the way in which you manage your ASPs.

### **Contract for Design Related Services**

This letter is an offer to enter into a Contract for Design Related Services. It remains open for acceptance for 45 business days. A copy of the Contract for Design Related Services is available for your review on our website <http://www.ausgrid.com.au> at the following link: <http://www.ausgrid.com.au/Common/Industry/Accredited-service-providers/-/media/Files/Connections/Contracts/Design/Design%20Contract%20for%20Connection%20Assets%20ASP3.pdf>.

No work will be undertaken by Ausgrid until a Design Contract is in place.

## Design Stage

You or the person you represent must engage an Accredited Service Provider Level 3 (ASP/3) to design the necessary network alterations. Ausgrid has classified the design information for connection as **complex**. Therefore, for this connection, Ausgrid will need to prepare the Design Information – Site Specific Terms and Conditions. Your ASP/3 will then use this document to prepare and submit a design that is certifiable.

To proceed, you or the person you represent must now engage an Accredited Service Provider Level 3 (ASP/3) to design the necessary contestable works. You will also need to enter into a Contract for Design Related Services with Ausgrid. This Contract sets out the rights and obligations of Ausgrid and yourself with respect to certification of the design by Ausgrid.

Once the design has been certified by Ausgrid, your Connection Application will be complete and you may use the design certification number to request that your Connection Application proceed to a connection offer or expedited connection, provided you assure Ausgrid that the development has not materially changed since you submitted your original Connection Application.

### Acceptance Fees

The acceptance fees relating to the Contract for Design Related Services are payable upon acceptance. In this regard, Ausgrid will invoice you once we receive your signed acceptance form. The Contract will not commence until you pay the invoiced Acceptance Fee.

These fees are an estimate for the Ausgrid services required, further fees may apply for any additional services required and these will be quoted on each occasion. Ausgrid's published rates for our services are amended from time to time in our Connection Policy – Connection Charges 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.

The Acceptance Fee will be calculated as follows (GST inclusive). These fees and rates are set by the Australian Energy Regulator:

Design Information	\$4,091.02
Design Certification	\$7,457.60
Administration	\$624.78
Facilitation	\$472.50
<b>TOTAL</b>	<b>\$12,645.89</b>

### General

Standard Ausgrid documents mentioned in this letter, including those enclosed, are available on Ausgrid website [www.ausgrid.com.au](http://www.ausgrid.com.au). If you do not have access to the web and would like to read any of the documents mentioned in this letter they may be obtained by contacting the phone number below.

Should you require any further information please contact me on the phone number or email address detailed below.

### What to do next

- ☐ Read the Contract for Design Related Services on our website. To accept our offer to enter into a Contract for Design Related Services,
  - Complete and sign the Acceptance of Offer in the space provided below and return it to Ausgrid.  
**Note that a tax invoice will be generated based on the details provided on the form.**
  - You will also need to pay Ausgrid's fees as detailed above. An invoice for the above total amount will be forwarded to you on acceptance of the contract.

- ☐ Engage the services of an ASP/3 to submit a design to Ausgrid for certification. Note that Ausgrid will not accept the design for certification until the Contract for Design Related Services is in place.

Yours sincerely,



David Tomlin  
Team Leader – Sydney East & CBD Region  
Contestable Connections  
AUSGRID

Direct Telephone Number: 02 9663 9526  
Mobile: 0407 278 470  
Facsimile: 02 9663 9949  
Email: dtomlin@ausgrid.com.au

Encl: Acceptance of Offer Form  
Contestable Connection or Relocation flowchart

## Acceptance of Offer

Design Offer Expiry Date: 15.11.2016

Ausgrid - MC Reference Number: 1900065901

Ausgrid - AP/AE Reference Number: 800127888

Ausgrid - Trim Reference Number: B16/12203

Premises: 2-10 DARLING DR, SYDNEY

The Connection Applicant accepts the above Ausgrid's offer of a Contract for Design Related Services in relation to the design of connection assets at the above premises.

Please note that a tax invoice will be generated based on the details provided on this form.  
Changes to this information following invoice processing will result in additional charges.

Details of Person or Company to invoice for the payment of Ausgrid Fees and Charges.	
<p>This is the party that will be billed and responsible for payment.</p> <p>If you are signing on behalf of a third party, we require their details for invoicing</p>	_____ print name of person or company
	_____ ABN
	_____ postal address - line 1
	_____ postal address - line 2
	_____ contact name
	_____ contact phone number
	_____ email address
	_____ purchase order number
	_____

Signed by the Connection Applicant

\_\_\_\_\_ signature

\_\_\_\_\_ print name of signatory

\_\_\_\_\_ print position of signatory

\_\_\_\_\_ date

\_\_\_\_\_ company name

\_\_\_\_\_ ABN

\_\_\_\_\_ email address

\_\_\_\_\_ contact phone number

AUSGRID USE ONLY: Date of Receipt : \_\_\_\_\_

## **APPENDIX J**

### **Updated Ausgrid Response**

**Heydon, Joe**

---

**Subject:** FW: Preliminary Enquiry Response 2-10 Darling Drive, Darling Harbour

---

**From:** David Tomlin <[dtomlin@ausgrid.com.au](mailto:dtomlin@ausgrid.com.au)>  
**Sent:** Monday, 9 March 2020 11:12 PM  
**To:** Bhardwaj, Rohan <[Rohan.Bhardwaj@arcadis.com](mailto:Rohan.Bhardwaj@arcadis.com)>  
**Subject:** Preliminary Enquiry Response 2-10 Darling Drive, Darling Harbour

Dear Rohan,  
Ausgrid has reviewed your enquiry, please see response below:

**Age and MDI of substations S6445 & S3092**

S.6445 was established in 1987, the substation has a firm rated capacity of 5329A, and is currently drawing approx 4000A.

S.3092 was established in 1998, the substation has a non-firm rated capacity of 2392A, and is currently drawing approx 1400A.

**If Substations S6445 & S3092 can be utilised to supply the new development without modifications**  
The above substation can be utilised for the proposed development.

**Whether the existing 11kv feeder has enough capacity to supply a new 4.5mVA chamber substation.**

In 2017 a project (now closed) was established for the site in question, this required the establishment of additional 11kV feeders to the site by connecting into two existing 11kV feeders from Darling Harbour Zone, with an additional Ausgrid chamber substation for the site.

Ausgrid will not approve the use of High Voltage Private substations for the site due to the site consisting of multiple commercial customers, and also will not approve the mix of Ausgrid and Private substations for the site. If you require further information, please contact me on the below details.

Regards,

**David Tomlin**

Contestable Connections Team Leader Sydney South & East | Customer



02 9663 9526 | 0407278470  
Level 1, Bldg 4, 130 Joynton Ave, Zetland  
Bldg 1A, 33-35 Judd St, Oatley  
[dtomlin@ausgrid.com.au](mailto:dtomlin@ausgrid.com.au)

Please consider the environment before printing this email.

This e-mail may contain confidential or privileged information. If you have received it in error, please notify the sender immediately via return e-mail and then delete the original e-mail. If you are the intended recipient, please note the change of sender email address to @ausgrid.com.au. Ausgrid has collected your business contact details for dealing with you in your business capacity. More information about how we handle your personal information, including your right of access is contained at <http://www.ausgrid.com.au/>

## **APPENDIX K**

### **Jemena Dial Before You Dig Plans**

In reply to your enquiry, there are **High Pressure Gas Mains** in the vicinity of your intended work, as generally illustrated on the attached map. There may also be other mains or services at the location, as discussed in the warning below. For an explanation of the map, please see the key below.






The following excavations guidelines apply:

### Excavation Guidelines:

Prior to **any** excavations in this area, you **must** contact the High Pressure Response Coordinator on **1300 665 380**. **(Appointments will be coordinated with availability of a Jemena Representative)** to arrange a survey. For all works in the vicinity of High Pressure Gas Mains you must arrange for a Jemena Representative to attend and supervise all excavations. Charges apply for attendance of any works outside the hours of 7am to 4pm, Monday to Friday ("**Standard Business Hours**") and for any attendance during Standard Business Hours that is longer than 2 hours.

In accordance with clause 34(5) of the Gas Supply (Safety and Network Management) Regulation 2013 (NSW), you should be informed that all excavation, (including pot-holing by hand to confirm the location of pipes) should be performed in accordance with "**Work Near Underground Assets Guideline**" published in 2007 by the Work Cover Authority.

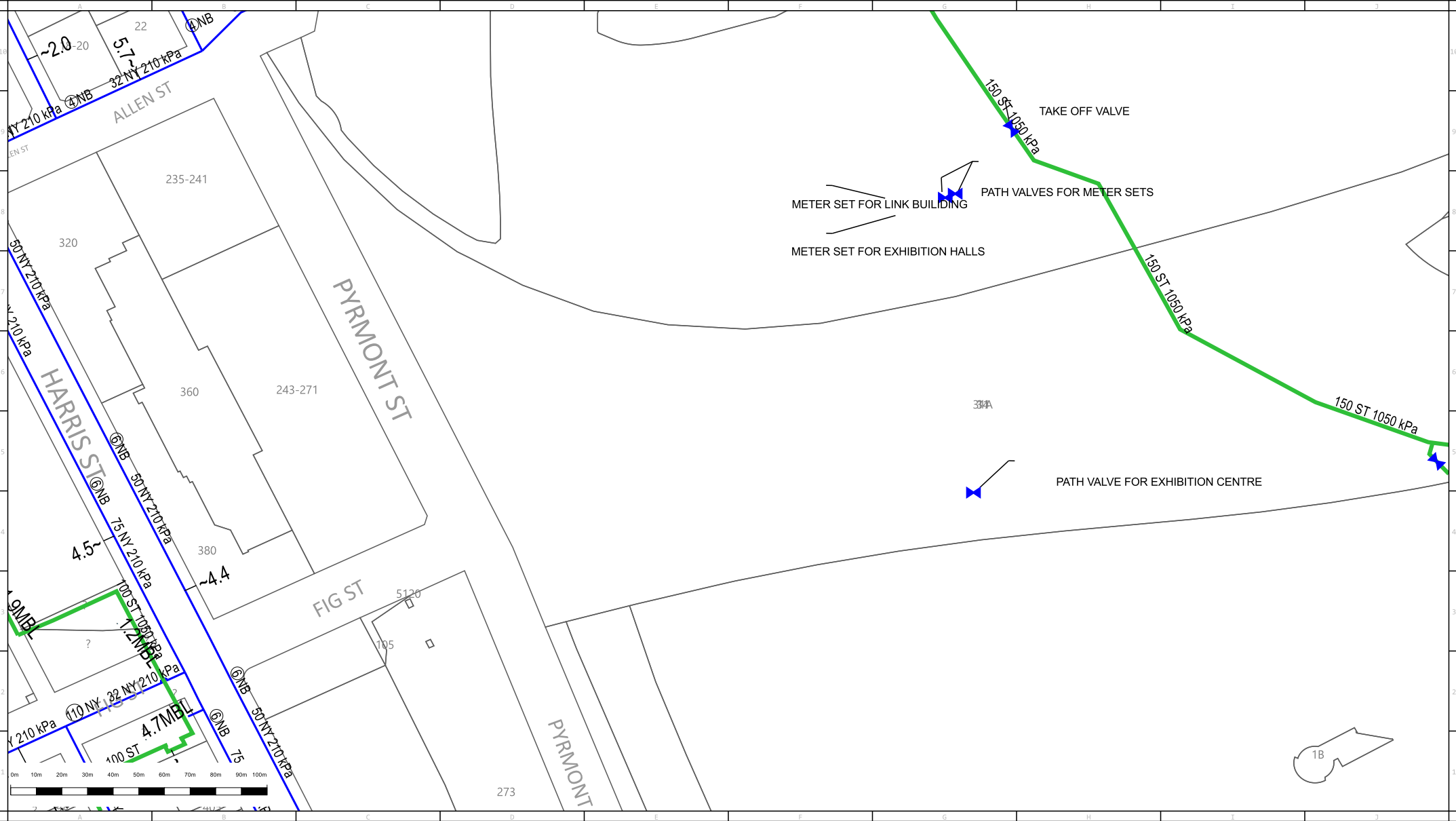
A copy of this Guideline is available at: [www.safework.nsw.gov.au](http://www.safework.nsw.gov.au)


KEY						
Main	In Service	Proposed	High Pressure Main & Pipeline	In Service	Proposed	Fittings, Valves & Regulators
Unknown Pressure	—	- - - -	Critical Main Treat as High Pressure Main	●—●—●—		Regulator Set 
Distribution - 2 kPa	—	- - - -	Secondary - 1050 kPa	—	- - - -	Regulator Station 
Distribution - 7 kPa	—	- - - -	Secondary Service - 1050kPa	—	- - - -	Automatic Line Break Valve 
Distribution - 30 kPa	—	- - - -	Primary - 3500 kPa	—		Valve 
Distribution - 100 kPa	—	- - - -	JGN Trunk - 4000 to 14500 kPa	—	- - - -	Siphon 
Distribution - 210 kPa	—	- - - -	Transmission	—	- - - -	
Distribution - 300 kPa	—	- - - -				
Distribution - 400 kPa	—	- - - -	50mm Nylon main inserted into 6 inch (Nominal Bore) Cast Iron Main	⑥NB 50MM NY		
Proposed Isolate (coloured according to kPa)	—	- - - -	32mm Nylon main inserted into 50mm Steel Main	⑤0MM 32MM NY		
Conduit or Casing Size & Material	100 PVC		~1.5 = Distance in metres of Main from Boundary Line MBK = Metres Back of Kerb MFL = Metres from Fence Line			
(PL - Plastic, PVC, PE, NY, ST)						

**Warning:** The enclosed plans show the position of Jemena Gas Networks (NSW) Ltd's underground gas mains and installations in public gazetted roads only. **Individual customers' services and services belonging to other third parties are not included** on these plans. These plans have been prepared solely for the use of Jemena Gas Networks (NSW) Ltd and Jemena Asset Management Pty Ltd (together "**Jemena**") and any reliance placed on these plans by you is entirely at your own risk. The plans may show the position of underground mains and installations relative to fences, buildings etc., as they existed at the time the mains etc were installed. The plans may not have been updated to take account of any subsequent change in the location or style of those features since the time at which the plans were initially prepared. Jemena makes no warranty as to the accuracy or completeness of the enclosed plans and does not assume any duty of care to you nor any responsibility for the accuracy, adequacy, suitability or completeness of the plans or for any error, omission, lack of detail, transmission failure or corruption in the information provided. Jemena does not accept any responsibility for any loss that you or anyone else may suffer in connection with the provision of these plans, however that loss may arise (including whether or not arising from the negligence of Jemena, its employees, agents, officers or contractors). The recipient of these plans must use their own care and diligence in carrying out their works and must carry out further surveys to locate services at their work site. Persons excavating or carrying out other earthworks will be held responsible for any damage caused to Jemena's underground mains and equipment. Jemena advises that you may be required to carry out potholing by hand if required by a Jemena Representative to confirm the location of Jemena's main and installations. This must also be performed by you under the supervision of a Jemena Representative and be carried out in accordance with the Working Near Underground Assets Guideline published in 2007 by Work Cover Authority

**In case of Emergency Phone 131 909 (24 hours)**


Admin  
1300 880 906





ABN 87 003 004 322

Main	In Service	Proposed	Main	In Service	Proposed	High Pressure Main & Pipeline	In Service	Proposed	Fittings, Valves & Regulators
Unknown Pressure	—	- - - -	Distribution - 300 kPa	—	- - - -	Critical Main	—	—	Siphon
Distribution - 2 kPa	—	- - - -	Distribution - 400 kPa	—	- - - -	Treat as High Pressure Main	—	—	Valve
Distribution - 7 kPa	—	- - - -				Secondary - 1050 kPa	—	—	Distance in metres of Main from Boundary Line ~ 1.5
Distribution - 30 kPa	—	- - - -	Proposed Isolate (coloured according to kPa)	—	—	Secondary Service	—	—	MBK = Metres Back of Kerb
Distribution - 100 kPa	—	- - - -	Conduit or Casing (Size & Material)	—	—	Primary - 3500 kPa	—	—	MFL = Metres from Fence Line
Distribution - 210 kPa	—	- - - -	100 PVC	—	—	JGN Trunk - 7000 kPa	—	—	Regulator Set
						Transmission	—	—	Regulator Station
									Automatic Line Break Valve



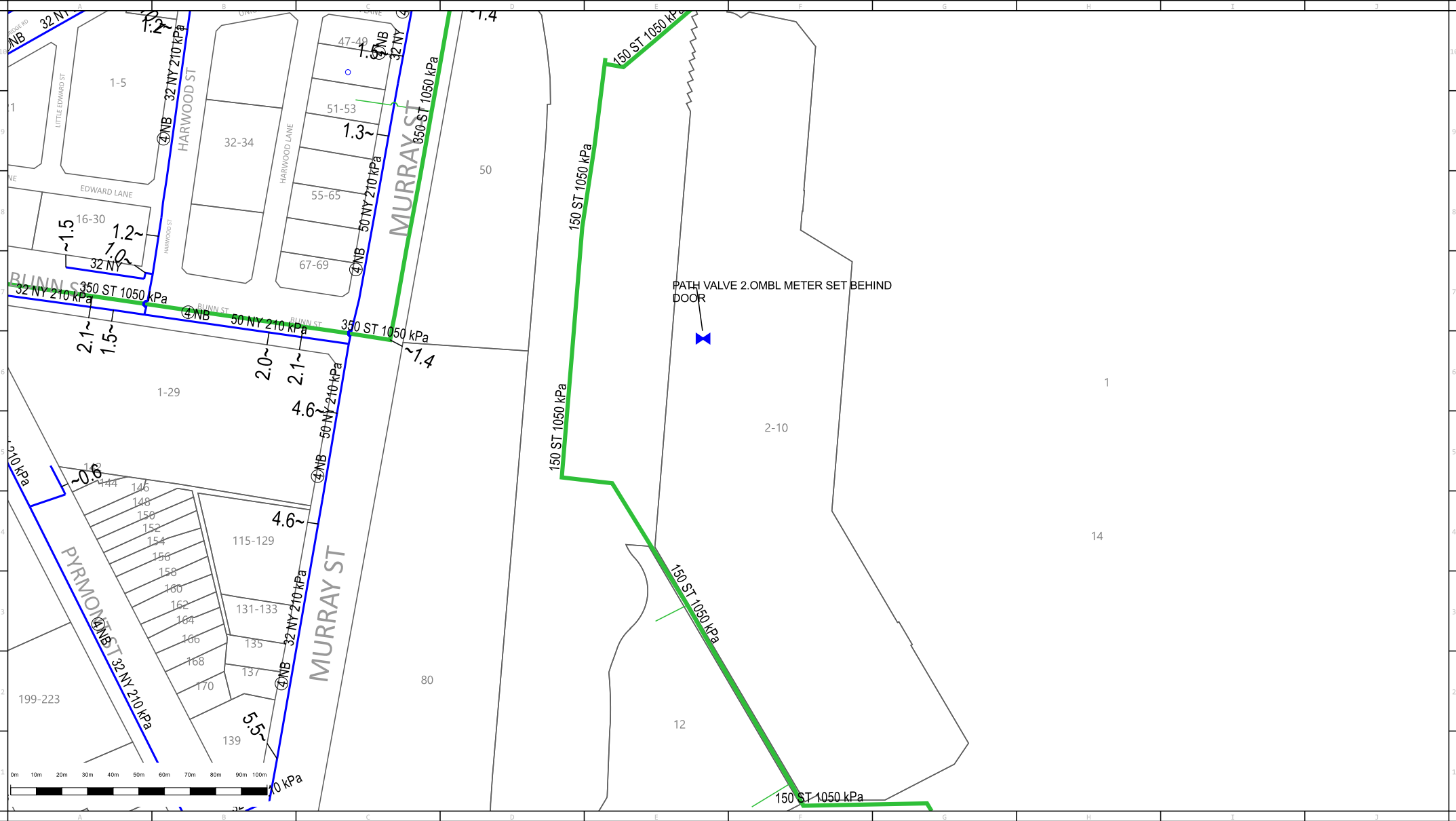
Scale: 1:2000


**Issue Date:** 25/09/2019

**DBYD Seq No:** 89401487

**DBYD Job No:** 18175578

**WARNING:** This is a representation of Jemena Gas Networks underground assets only and may not indicate all assets in the area. It must not be used for the purpose of exact asset location in order to undertake any type of excavation. This plan is diagrammatic only, and distances scaled from this plan may not be accurate. Please read all conditions and information on the attached information sheet. This extract is subject to those conditions. The information contained on this plan is only valid for 28 days from the date of issue.





ABN 87 003 004 322

Main	In Service	Proposed	Main	In Service	Proposed	High Pressure Main & Pipeline	In Service	Proposed	Fittings, Valves & Regulators
Unknown Pressure	-----	-----	Distribution - 300 kPa	-----	-----	Critical Main	-----	-----	Siphon
Distribution - 2 kPa	-----	-----	Distribution - 400 kPa	-----	-----	Treat as High Pressure Main	-----	-----	Valve
Distribution - 7 kPa	-----	-----				Secondary - 1050 kPa	-----	-----	Distance in metres of Main from Boundary Line ~ 1.5
Distribution - 30 kPa	-----	-----	Proposed Isolate (coloured according to kPa)	-----	-----	Secondary Service	-----	-----	Regulator Set
Distribution - 100 kPa	-----	-----	Conduit or Casing (Size & Material)	-----	-----	Primary - 3500 kPa	-----	-----	Regulator Station
Distribution - 210 kPa	-----	-----	100 PVC	-----	-----	JGN Trunk - 7000 kPa	-----	-----	Automatic Line Break Valve
						Transmission	-----	-----	

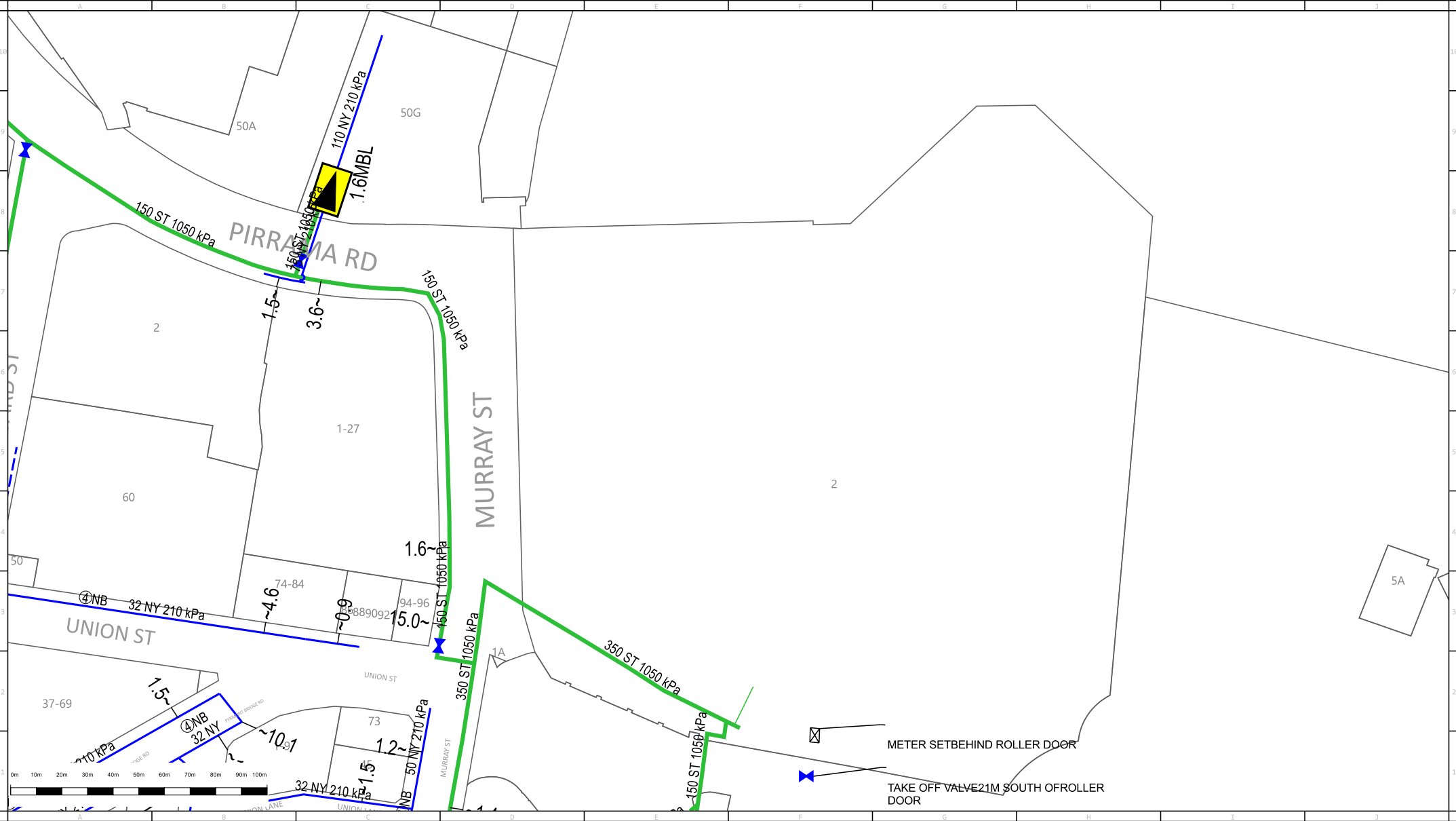
MBK = Metres Back of Kerb  
MFL = Metres from Fence Line




Issue Date: 25/09/2019  
DBYD Seq No: 89401487  
DBYD Job No: 18175578

Scale: 1:2000


**WARNING:** This is a representation of Jemena Gas Networks underground assets only and may not indicate all assets in the area. It must not be used for the purpose of exact asset location in order to undertake any type of excavation. This plan is diagrammatic only, and distances scaled from this plan may not be accurate. Please read all conditions and information on the attached information sheet. This extract is subject to those conditions. The information contained on this plan is only valid for 28 days from the date of issue.





ABN 87 003 004 322

Main	In Service	Proposed	Main	In Service	Proposed	High Pressure Main & Pipeline	In Service	Proposed	Fittings, Valves & Regulators
Unknown Pressure	---	---	Distribution - 300 kPa	---	---	Critical Main	---	---	Siphon
Distribution - 2 kPa	---	---	Distribution - 400 kPa	---	---	Treat as High Pressure Main	---	---	Valve
Distribution - 7 kPa	---	---				Secondary - 1050 kPa	---	---	Distance in metres of Main from Boundary Line ~ 1.5
Distribution - 30 kPa	---	---	Proposed Isolate (coloured according to kPa)	---	---	Secondary Service	---	---	MBK = Metres Back of Kerb
Distribution - 100 kPa	---	---	Conduit or Casing (Size & Material)	---	---	Primary - 3500 kPa	---	---	MFL = Metres from Fence Line
Distribution - 210 kPa	---	---	100 PVC	---	---	JGN Trunk - 7000 kPa	---	---	Regulator Set
						Transmission	---	---	Regulator Station
									Automatic Line Break Valve



Scale: 1:2000

Issue Date: 25/09/2019

DBYD Seq No: 89401487

DBYD Job No: 18175578

**WARNING:** This is a representation of Jemena Gas Networks underground assets only and may not indicate all assets in the area. It must not be used for the purpose of exact asset location in order to undertake any type of excavation. This plan is diagrammatic only, and distances scaled from this plan may not be accurate. Please read all conditions and information on the attached information sheet. This extract is subject to those conditions. The information contained on this plan is only valid for 28 days from the date of issue.

## **APPENDIX L**

### **Jemena Consultation Correspondence**

## Heydon, Joe

---

**From:** Zachary Kennett <Zachary.Kennett@jemena.com.au>  
**Sent:** Monday, 3 February 2020 2:26 PM  
**To:** Heydon, Joe  
**Subject:** RE: Harbourside Shopping Centre - Darling Harbour

Hi Joe,

I can confirm that the existing steel high pressure main in Darling Drive currently has sufficient capacity to supply the expected load of 25,000MJH as per your proposal.

Please note that Jemena does not reserve capacity on the network until a formal application is submitted and an offer made on the connection.

Please let me know if you need any additional information regarding this project.

Regards,

**Zachary Kennett**

Network Development Specialist – I&C

**Jemena**

99 Walker Street, North Sydney NSW 2060

PO Box 1220, North Sydney NSW 2059

Tel: 02 9867 7182 | 0409 608 399

[www.jemena.com.au](http://www.jemena.com.au)



*This is a confidential message intended for the named recipient only. The contents herein are privileged to the sender and the use thereof is restricted to the intended purpose. If you have received this e-mail in error, please secure its contents and reply to the sender. Thank you.*

---

**From:** Heydon, Joe <Joe.Heydon@arcadis.com>  
**Sent:** Friday, 31 January 2020 9:33 AM  
**To:** Zachary Kennett <Zachary.Kennett@jemena.com.au>; Brad Gee <Brad.Gee@jemena.com.au>  
**Subject:** RE: Harbourside Shopping Centre - Darling Harbour

**CAUTION:** This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and are expecting the content or attachment from the sender.

Hi Zac,

Much appreciated.

Kind Regards,

Joe

**Joe Heydon** | Principal Engineer – Urban Development & Regeneration | BE Civil Eng. | [joe.heydon@arcadis.com](mailto:joe.heydon@arcadis.com)

**Arcadis** | Level 16, 580 George Street, Sydney | NSW 2060 | Australia

T. + 61 2 8907 9149 | M. + 61 468 745 425

[www.arcadis.com](http://www.arcadis.com)





Be green, leave it on the screen.



Registered office: Level 16, 580 George Street, Sydney NSW 2060, Australia ABN 76 104 485 289

---

**From:** Zachary Kennett <[Zachary.Kennett@jemena.com.au](mailto:Zachary.Kennett@jemena.com.au)>  
**Sent:** Friday, 31 January 2020 9:28 AM  
**To:** Heydon, Joe <[Joe.Heydon@arcadis.com](mailto:Joe.Heydon@arcadis.com)>; Brad Gee <[Brad.Gee@jemena.com.au](mailto:Brad.Gee@jemena.com.au)>  
**Subject:** RE: Harbourside Shopping Centre - Darling Harbour

Hi Joe,

No problems, I have sent this off to our engineers to confirm there is sufficient capacity for the new proposal and will provide an update as soon as possible.

Thanks,

Regards,  
**Zachary Kennett**  
Network Development Specialist – I&C  
**Jemena**  
99 Walker Street, North Sydney NSW 2060  
PO Box 1220, North Sydney NSW 2059  
Tel: 02 9867 7182 | 0409 608 399  
[www.jemena.com.au](http://www.jemena.com.au)



*This is a confidential message intended for the named recipient only. The contents herein are privileged to the sender and the use thereof is restricted to the intended purpose. If you have received this e-mail in error, please secure its contents and reply to the sender. Thank you.*

---

**From:** Heydon, Joe <[Joe.Heydon@arcadis.com](mailto:Joe.Heydon@arcadis.com)>  
**Sent:** Friday, 31 January 2020 9:08 AM  
**To:** Brad Gee <[Brad.Gee@jemena.com.au](mailto:Brad.Gee@jemena.com.au)>; Zachary Kennett <[Zachary.Kennett@jemena.com.au](mailto:Zachary.Kennett@jemena.com.au)>  
**Subject:** RE: Harbourside Shopping Centre - Darling Harbour

**CAUTION:** This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and are expecting the content or attachment from the sender.

Hi Brad,

Thank you for your assistance.

Zac – if you need anything further from me, please let me know.

Kind Regards,

Joe

**Joe Heydon** | Principal Engineer – Urban Development & Regeneration | BE Civil Eng. | [joe.heydon@arcadis.com](mailto:joe.heydon@arcadis.com)

**Arcadis** | Level 16, 580 George Street, Sydney | NSW 2060 | Australia

T. + 61 2 8907 9149 | M. + 61 468 745 425

[www.arcadis.com](http://www.arcadis.com)



Be green, leave it on the screen.



Registered office: Level 16, 580 George Street, Sydney NSW 2060, Australia ABN 76 104 485 289

---

**From:** Brad Gee <[Brad.Gee@jemena.com.au](mailto:Brad.Gee@jemena.com.au)>

**Sent:** Wednesday, 29 January 2020 3:42 PM

**To:** Zachary Kennett <[Zachary.Kennett@jemena.com.au](mailto:Zachary.Kennett@jemena.com.au)>

**Cc:** Heydon, Joe <[Joe.Heydon@arcadis.com](mailto:Joe.Heydon@arcadis.com)>

**Subject:** RE: Harbourside Shopping Centre - Darling Harbour

Hi Zac

Can you please assist Joe with the below request.

**Brad Gee**

Commercial Manager – Key Accounts

**Jemena**

Level 14, 99 Walker Street, North Sydney, NSW 2060

02 9867 7134 | 0429 363 835

[brad.gee@jemena.com.au](mailto:brad.gee@jemena.com.au) | [www.jemena.com.au](http://www.jemena.com.au)



**From:** Heydon, Joe <[Joe.Heydon@arcadis.com](mailto:Joe.Heydon@arcadis.com)>  
**Sent:** Wednesday, 29 January 2020 3:00 PM  
**To:** Brad Gee <[Brad.Gee@jemena.com.au](mailto:Brad.Gee@jemena.com.au)>  
**Subject:** RE: Harbourside Shopping Centre - Darling Harbour

**CAUTION:** This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and are expecting the content or attachment from the sender.

Hi Bradley,

I'm unsure if you're still the right person at Jemena to contact. Please feel free to pass to a more relevant colleague if required.

I originally contacted you a number of years ago regarding the redevelopment of Harbourside Shopping Centre, Darling Harbour.

That development proposal was submitted for a Stage 1 DA but then was put on hold for a number of years. The Developer has since responded to the submissions made during the planning phase and made amendments to their concept design. They now wish to submit another Stage 1 DA for the mended proposal.

I need to update my original DA utilities report. Part of that report update requires me to recontact all of the Statutory Authorities. As such, I am providing a Memo attached that outlines the revised anticipated gas demand.

Can Jemena please review this Memo and provide any advice with regard to existing natural gas supply in the vicinity of the development, point of connection and any potential augmentation of the existing gas network that may be required, in order to service the proposed development.

I would be happy to meet and discuss the proposal in more detail if needed.

Kind Regards,

Joe

**Joe Heydon** | Principal Engineer – Urban Development & Regeneration | BE Civil Eng. | [joe.heydon@arcadis.com](mailto:joe.heydon@arcadis.com)  
**Arcadis** | Level 16, 580 George Street, Sydney | NSW 2060 | Australia  
T. + 61 2 8907 9149 | M. + 61 468 745 425  
[www.arcadis.com](http://www.arcadis.com)





Be green, leave it on the screen.



Registered office: Level 16, 580 George Street, Sydney NSW 2060, Australia ABN 76 104 485 289

---

**From:** Brad Gee <[Brad.Gee@jemena.com.au](mailto:Brad.Gee@jemena.com.au)>  
**Sent:** Monday, 29 February 2016 4:36 PM  
**To:** Joe Heydon <[Joe.Heydon@arcadis.com](mailto:Joe.Heydon@arcadis.com)>  
**Subject:** RE: Harbourside Shopping Centre - Darling Harbour

Hi Joe

The below loads seem low at this stage, based on similar buildings. Once final designs and plant have been selected this will firm up the proposed loads.

Please find attached an initial response to the proposed development.

**Bradley Gee**  
Network Development Manager I&C  
**Jemena**  
Level 14, 99 Walker Street, North Sydney, NSW 2060  
02 9867 7134 | 0429 363 835  
[bradley.gee@jemena.com.au](mailto:bradley.gee@jemena.com.au) | [www.jemena.com.au](http://www.jemena.com.au)  
[www.gonaturalgas.com.au](http://www.gonaturalgas.com.au)



---

**From:** Joe Heydon [<mailto:Joe.Heydon@arcadis.com>]  
**Sent:** Friday, 5 February 2016 3:10 PM  
**To:** Gregory Knight  
**Subject:** Harbourside Shopping Centre - Darling Harbour

Hi Greg,

We have been engaged by Mirvac to provide civil engineering consultancy services to support the Stage 1 DA for the redevelopment of the Harbourside Shopping Centre. As such, I require confirmation from Jemena that the future development can be serviced by existing gas infrastructure or if additional infrastructure is required. I assume the development would tap into the existing gas main supply in a similar location to existing.

Any indicative information on future upgrade requirements and supply strategy would be much appreciated.

Please see attached some concept plans, floor schedules and design flows.

The proposed development consists of 4 floors of retail and a commercial tower (27 floors).

There is 26,000m<sup>2</sup> Gross Lease Area for the retail element of which approx. 66% is proposed as Food & Beverage.  
There is a 40,000m<sup>2</sup> NLA / 27 story commercial tower.

Please see below the predicted future gas loads.

We will use 300 Mj/hr for each F&B tenancy

Total F&B 32 no. x 300Mj/ hr x 0.25 = 2400 say 2500 Mj/hr

Gas heating mechanical Load = 50 Mj/hr each floor x 26 = 1300 Mj/hr

Total Say 4,000 to 5,000 Mj/hr

Please let me know if you require anything else. Happy to come and meet with you or relevant person in your team if necessary.

Kind Regards,

Joe

**Joe Heydon** | Principal Engineer | BE Civil Eng. | [joe.heydon@arcadis.com](mailto:joe.heydon@arcadis.com)  
**Arcadis** | Level 5/141 Walker Street, North Sydney | NSW 2060 | Australia  
T. + 61 2 8907 9149 | M. + 61 468 745 425  
[www.arcadis.com](http://www.arcadis.com)



Be green, leave it on the screen.



Registered office: Level 5, 141 Walker Street, Sydney NSW 2060, Australia ABN 76 104 485 289

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\*\*\*\*\*

**Date** 24/01/2020  
**To** Bradley Gee  
**From** Joe Heydon  
**Subject** Harbourside Shopping Centre

---

Hi Bradley,

We have been engaged by Mirvac to provide civil and utilities engineering consultancy services to support the Stage 1 DA for the redevelopment of the Harbourside Shopping Centre, Darling Harbour, Sydney.

Since our last correspondence (refer to **Appendix A**) the Harbourside development has been amended to include:

- Demolition of the existing centre
- 87,000sqm gross floor area (GFA) comprising:
  - 49,000sqm GFA non-residential
  - 38,000sqm GFA residential
- ~38,000sqm floor area non-residential comprising:
  - ~23,000sqm net lettable area of commercial
  - ~15,000sqm gross lettable area of retail
- Car-parking (Note: To accommodate 306 cars for residential use only, over 3 levels of basement)
- Public domain

The main amendments from the original proposal (retail / commercial) as per our initial correspondence with Jemena (05/02/2016) are:

- Reduction of GFA from 97,000sqm to 87,000sqm
- Change from commercial tower to residential tower
- Change from retail podium only to a mixed retail and commercial podium
- Car-parking provision has reduced from 320 to 306 car-spaces

The gas loads for the development have been re-calculated and are substantially larger than initially advised. We require confirmation from Jemena that the future development can be serviced by the existing gas infrastructure or if additional infrastructure is required.

Any indicative information on future upgrade requirements and supply strategy would be much appreciated. The below table outlines the estimated gas loads for the proposed Harbourside residential / retail / commercial mix development.

Residential Gas Load (MJ/hr)	Commercial Gas Load (MJ/hr)	Retail Gas Load (MJ/hr)	Total (MJ/hr)
5,500	4,000	16,000	25,500

**Table 1** Estimated gas loads for the Harbourside development

### Assumptions and clarifications:

#### Commercial:

- The commercial natural gas demands are based on a 5 Star NABERS rating and an energy mix of 20% natural gas.
- The peak hour gas loads are based on 50% of the average daily demand.

#### Retail

- The retail is based on an average shopping centre energy intensity of 1,600MJ/m<sup>2</sup>.a. and an energy mix of 5% natural gas (Baseline Energy Consumption and Greenhouse Gas Emissions In Commercial Buildings in Australia, Council of Australian Governments (COAG) National Strategy on Energy Efficiency– 2012)
- The peak load is based on 200% of average daily demand.

#### Residential

- Residential peak loads are based on 40MJ/hr per apartment (375 off) and a diversity of factor 0.195 with an allowance of 2500MJ/hr. for centralised hot water plant.

The above loads are based on the following area schedule and retail mix:

#### Area Schedule

Total GBA (m <sup>2</sup> )	Residential GFA (m <sup>2</sup> )	Number of Apartments	Retail GFA (m <sup>2</sup> )	Retail GLAR (m <sup>2</sup> )	Commercial GFA (m <sup>2</sup> )	Commercial NLA (m <sup>2</sup> )
121,202	37,814	357	37,814	15,850	27,268	23,100

#### Retail Mix

Food & Beverage	Specialty NLA (m <sup>2</sup> )
70%	30%

Please let us know if you need anything else. Happy to come and meet with you or the relevant person within your team.

## **Appendix A – Previous Correspondence**

## Joe Heydon

---

**From:** Joe Heydon  
**Sent:** 5 February 2016 3:08 PM  
**To:** 'Gregory Knight'  
**Subject:** Harbourside Shopping Centre - Darling Harbour  
**Attachments:** Attachment A Preliminary Concept 5 Nov 2015.pdf; 160128 MVHS Update.zip; S1CC\_HIGH\_PRESSURE\_SECONDARY.pdf; S1CA\_HIGH\_PRESSURE\_SECONDARY.pdf

Hi Greg,

We have been engaged by Mirvac to provide civil engineering consultancy services to support the Stage 1 DA for the redevelopment of the Harbourside Shopping Centre. As such, I require confirmation from Jemena that the future development can be serviced by existing gas infrastructure or if additional infrastructure is required. I assume the development would tap into the existing gas main supply in a similar location to existing.

Any indicative information on future upgrade requirements and supply strategy would be much appreciated.

Please see attached some concept plans, floor schedules and design flows.

The proposed development consists of 4 floors of retail and a commercial tower (27 floors).

There is 26,000m<sup>2</sup> Gross Lease Area for the retail element of which approx. 66% is proposed as Food & Beverage. There is a 40,000m<sup>2</sup> NLA / 27 story commercial tower.

Please see below the predicted future gas loads.

We will use 300 Mj/hr for each F&B tenancy

Total F&B 32 no. x 300Mj/ hr x 0.25 = 2400 say 2500 Mj/hr

Gas heating mechanical Load = 50 Mj/hr each floor x 26 = 1300 Mj/hr

Total Say 4,000 to 5,000 Mj/hr

Please let me know if you require anything else. Happy to come and meet with you or relevant person in your team if necessary.

Kind Regards,

Joe

**Joe Heydon** | Principal Engineer | BE Civil Eng. | [joe.heydon@arcadis.com](mailto:joe.heydon@arcadis.com)  
**Arcadis** | Level 5/141 Walker Street, North Sydney | NSW 2060 | Australia  
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29/02/2016



Arcadis  
Level 5/141 Walker Street,  
North Sydney  
NSW 2060

Jemena Gas Networks (NSW) Ltd  
ABN 87 003 004 322

Level 9-15  
99 Walker St  
North Sydney NSW 2060  
PO Box 1220  
North Sydney NSW 2059  
T 1300 137 078  
F +61 2 9867 7453  
[www.jemena.com.au](http://www.jemena.com.au)

Attention: Joe Heydon

**RE: Harbourside Shopping Centre, Darling Harbour**

Natural Gas is available in the vicinity and could supply this proposal.

Our policy is to supply all developments wherever possible, depending upon economic viability.

In consideration of our shareholders' interests and under NSW regulation, Jemena Gas Networks (NSW) Ltd is required to ensure that any connection to the natural gas distribution system is commercially viable and therefore must assess each request for supply on an individual basis.

Upon the provision of the final layout and load configurations for the development a full economic evaluation can be undertaken to determine the availability of natural gas to the site.

A contribution may be required to assist in the economic viability of the proposal.

To assist in the planning of supply to the development

- I can confirm that the nearest gas mains are located in Darling Drive and it may be able supply the proposed development at this site, depending upon its commercial viability.
- To enable a thorough economic evaluation to be undertaken we would require an accurate breakdown of the total yield envisaged for the site and hydraulic plans, including metering configuration once all approvals and zonings are in place.

Thank you for your enquiry. If further information or assistance is required, please do not hesitate to contact me on 0429 363 835.

Yours faithfully

A handwritten signature in black ink, appearing to read "Bradley Gee".

Bradley Gee  
Network Development Manager



## **APPENDIX M**

### **Telstra and NBN Co. Dial Before You Dig Plans**

27<sup>th</sup> May, 2013

K and L Gates  
C/- SAI Global Property  
PO Box A2151  
Sydney South NSW 1235

Our Ref: S13537ss  
Your Ref:13949860:27170328

Dear Sir / Madam,

RE: 10 Darling Drive Central, Sydney, NEW SOUTH WALES  
Lot 2 DP 776815

In response to your request for property information, searches of the records show the following:

- The property has provision for a communications service.
- Communication network cables exist outside the property boundary located in the footpath/road reserve area.
- Care will need to be taken if you/your client undertake any earth works outside the property boundary.
- No other cables cross the property.
- Plans Supplied: YES – Telstra.

#### General Information

Please note that communication carriers have strict security and privacy policies. This may prevent any additional information regarding the property being released in the course of a search. Plans may or may not be supplied upon request. If supplied, they are intended to assist you/your client in the prevention of damage to an underground telecommunication plant. Telco Cable Searches does not guarantee the accuracy of the information supplied to it by the communication carriers. Please note that if you/your client choose to perform earth works on the property, it is performed at your/your client's own risk.

Telco Cable Searches is not a conveyancer nor does it intend to act as such. Telco Cable Searches is a plan interpretation service which informs you/your client of potential risks within the property boundary. Please note the plans supplied are only valid for a period of 30 days from date of letter.

This report is based on the information supplied from the carriers which is current at time of request. If the location of any specific cabling is significant to you/your client, then you/your client should call Telco Cable Searches on 1300 557 114 for further assistance.

#### Additional Information

Under Clause 7 of Schedule 3 of the Telecommunications Act 1997, a general telecommunications carrier has rights to enter private property for the maintenance or continued operation of the telephone service.

The carrier will object to any additional structure being erected on the property or over its cables, or any landscaping or earthworks which would: (a) prevent the carrier from performing its functions above or; (b) reduce the security of its cables, making them more prone to damage.


Prior to earthworks being conducted on or in the vicinity of the property, we recommend that you/your client contact Telco Cable Searches for information regarding how to avoid cable damage. In the event that cable damage does occur from earthworks, you/your client will be responsible for the cost of repairs.

Due to the nature of underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all plant from any carrier's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. The carriers do not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. It is your responsibility to locate underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.





**To:** Ms Michelle Fletcher  
**Phone:** Not Supplied  
**Fax:** Not Supplied  
**Email:** michelle.fletcher@arcadis.com

<b>Dial before you dig Job #:</b>	18175578	 <b>DIAL BEFORE YOU DIG</b> www.1100.com.au
<b>Sequence #</b>	89401490	
<b>Issue Date:</b>	25/09/2019	
<b>Location:</b>	Darling Drive , Sydney , NSW , 2000	<b>Some impact.</b> <b>No onsite action required.</b>

## Information

The area of interest requested by you contains one or more assets.

nbn Assets	Search Results
<b>Communications</b>	Asset identified
<b>Electricity</b>	No assets

In this notice **NBN Facilities** means *underground fibre optic, telecommunications and/or power facilities, including but not limited to cables, owned and controlled by nbn*

## Location of Underground Power Facilities

We thank you for your enquiry. In relation to your enquiry at the above address:

- **nbn's** records indicate that there **ARE nbn** Facilities in the vicinity of the location identified above ("Location").
- **nbn** indicative plan/s are attached with this notice ("Indicative Plans").
- The Indicative Plan/s show general depth and alignment information only and are not an exact, scale or accurate depiction of the location, depth and alignment of **nbn** Facilities shown on the Plan/s.
- In particular, the fact that the Indicative Plans show that a facility is installed in a straight line, or at uniform depth along its length cannot be relied upon as evidence that the facility is, in fact, installed in a straight line or at uniform depth.
- You should read the Indicative Plans in conjunction with this notice and in particular, the notes below.
- You should note that, at the present time, the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables. As such, consistent with the notes below, particular care must be taken by you to make your own enquiries and investigations to precisely locate any power cables and manage the risk arising from such cables accordingly.
- The information contained in the Indicative Plan/s is valid for 28 days from the date of issue set out



above. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators at your cost to locate **nbn** Facilities during any activities you carry out on site).

We thank you for your enquiry and appreciate your continued use of the Dial Before You Dig Service. If you are planning to excavate and require further information, please contact **nbn** on 1800 626 329. For any enquiries related to moving assets or Planning and Design activities, please visit the **nbn** [Commercial Works](#) website to complete the online application form.

#### Notes:

1. You are now aware that there are **nbn** Facilities in the vicinity of the above property that could be damaged as a result of activities carried out (or proposed to be carried out) by you in the vicinity of the Location.
2. You should have regard to section 474.6 and 474.7 of the *Criminal Code Act 1995* (CoA) which deals with the consequences of interfering or tampering with a telecommunications facility. Only persons authorised by **nbn** can interact with **nbn's** network facilities.
3. Any information provided is valid only for **28 days** from the date of issue set out above.

## Referral Conditions

The following are conditions on which **nbn** provides you with the Indicative Plans. By accepting the plans, you are agreeing to these conditions. These conditions are in addition, and not in replacement of, any duties and obligations you have under applicable law.

1. **nbn** does not accept any responsibility for any inaccuracies of its plans including the Indicative Plans. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators at your expense to locate **nbn** Facilities during any activities you carry out on site).
2. You acknowledge that **nbn** has specifically notified you above that the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables.
3. You should not assume that **nbn** Facilities follow straight lines or are installed at uniform depths along their lengths, even if they are indicated on plans provided to you. Careful onsite investigations are essential to locate the exact position of cables.
4. In carrying out any works in the vicinity of **nbn** Facilities, you must maintain the following minimum clearances:
  - 300mm when laying assets inline, horizontally or vertically.
  - 500mm when operating vibrating equipment, for example: jackhammers or vibrating plates.
  - 1000mm when operating mechanical excavators.
  - Adherence to clearances as directed by other asset owner's instructions and take into account any uncertainty for power cables.
5. You are aware that there are inherent risks and dangers associated with carrying out work in the vicinity of underground facilities (such as **nbn** fibre optic, copper and coaxial cables, and power cable feed to **nbn** assets). Damage to underground electric cables may result in:
  - Injury from electric shock or severe burns, with the possibility of death.
  - Interruption of the electricity supply to wide areas of the city.
  - Damage to your excavating plant.
  - Responsibility for the cost of repairs.
6. You must take all reasonable precautions to avoid damaging **nbn** Facilities. These precautions may include but not limited to the following:
  - All excavation sites should be examined for underground cables by careful hand excavation. Cable cover slabs if present must not be disturbed. Hand excavation needs to be undertaken with extreme care to



minimise the likelihood of damage to the cable, for example: the blades of hand equipment should be aligned parallel to the line of the cable rather than digging across the cable.

- If any undisclosed underground cables are located, notify **nbn** immediately.
  - All personnel must be properly briefed, particularly those associated with the use of earth-moving equipment, trenching, boring and pneumatic equipment.
  - The safety of the public and other workers must be ensured.
  - All excavations must be undertaken in accordance with all relevant legislation and regulations.
7. You will be responsible for all damage to **nbn** Facilities that are connected whether directly, or indirectly with work you carry out (or work that is carried out for you or on your behalf) at the Location. This will include, without limitation, all losses expenses incurred by **nbn** as a result of any such damage.
8. You must immediately report any damage to **nbn**<sup>TM</sup> network that you are/become aware of. Notification may be by telephone - 1800 626 329.
9. Except to the extent that liability may not be capable of lawful exclusion, **nbn** and its servants and agents and the related bodies corporate of **nbn** and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any plans(including Indicative Plans) attached hereto. Except as expressly provided to the contrary in this information sheet or the attached plans(including Indicative Plans), all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

All works undertaken shall be in accordance with all relevant legislations, acts and regulations applicable to the particular state or territory of the Location. The following table lists all relevant documents that shall be considered and adhered to.

State/Territory	Documents
<b>National</b>	Work Health and Safety Act 2011
	Work Health and Safety Regulations 2011
	Safe Work Australia - Working in the Vicinity of Overhead and Underground Electric Lines (Draft)
	Occupational Health and Safety Act 1991
<b>NSW</b>	Electricity Supply Act 1995
	Work Cover NSW - Work Near Underground Assets Guide
	Work Cover NSW - Excavation Work: Code of Practice
<b>VIC</b>	Electricity Safety Act 1998
	Electricity Safety (Network Asset) Regulations 1999
<b>QLD</b>	Electrical Safety Act 2002
	Code of Practice for Working Near Exposed Live Parts
<b>SA</b>	Electricity Act 1996
<b>TAS</b>	Tasmanian Electricity Supply Industry Act 1995
<b>WA</b>	Electricity Act 1945
	Electricity Regulations 1947
<b>NT</b>	Electricity Reform Act 2005
	Electricity Reform (Safety and Technical) Regulations 2005
<b>ACT</b>	Electricity Act 1971

Thank You,

**Network Operations Centre - Assurance**



Date: 25/09/2019

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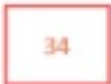




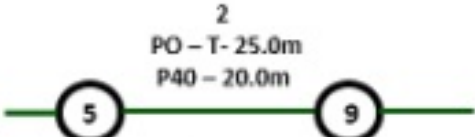






## Indicative Plans

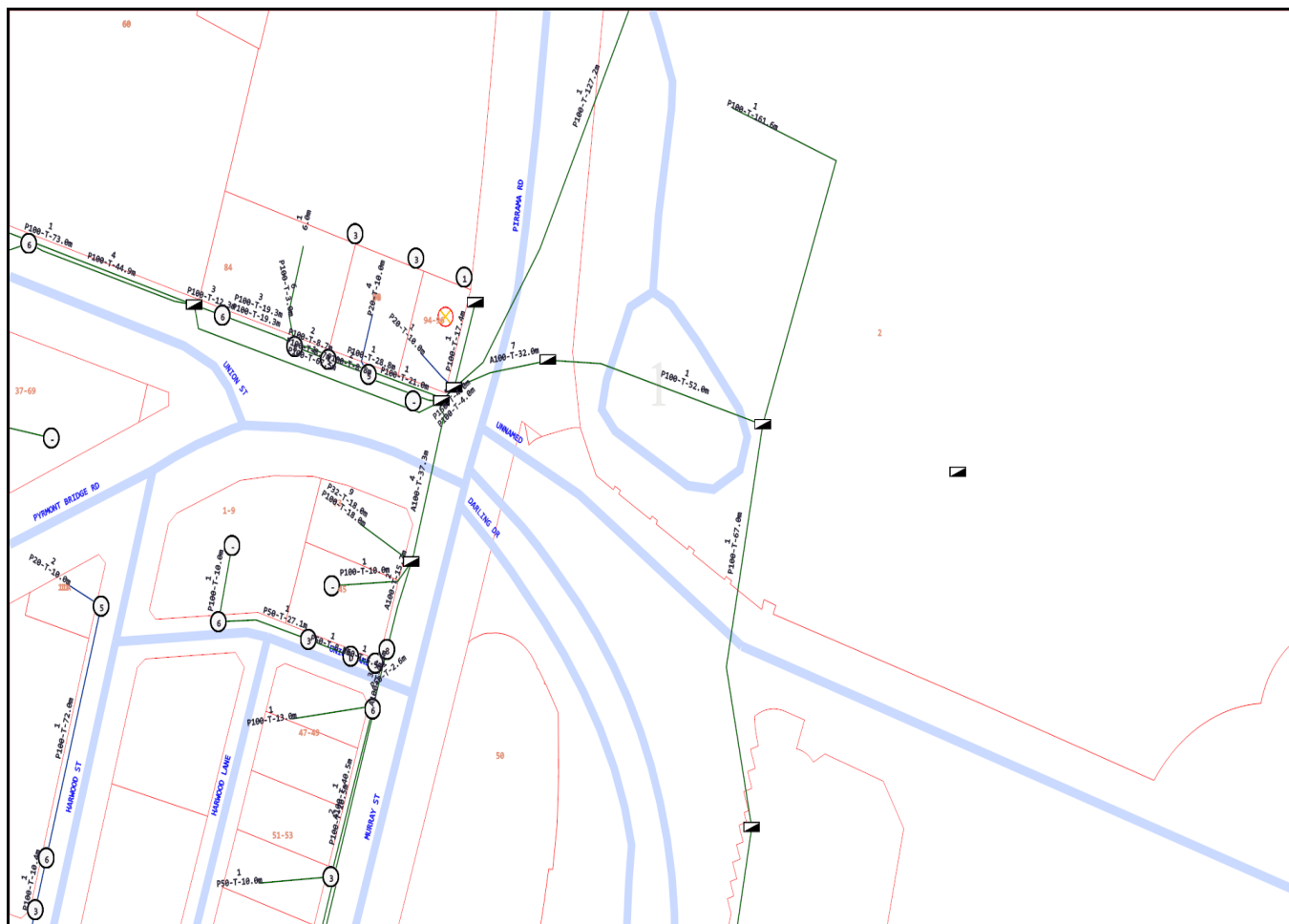
Issue Date:	25/09/2019	 <b>DIAL BEFORE YOU DIG</b> <a href="http://www.1100.com.au">www.1100.com.au</a>
Location:	Darling Drive , Sydney , NSW , 2000	

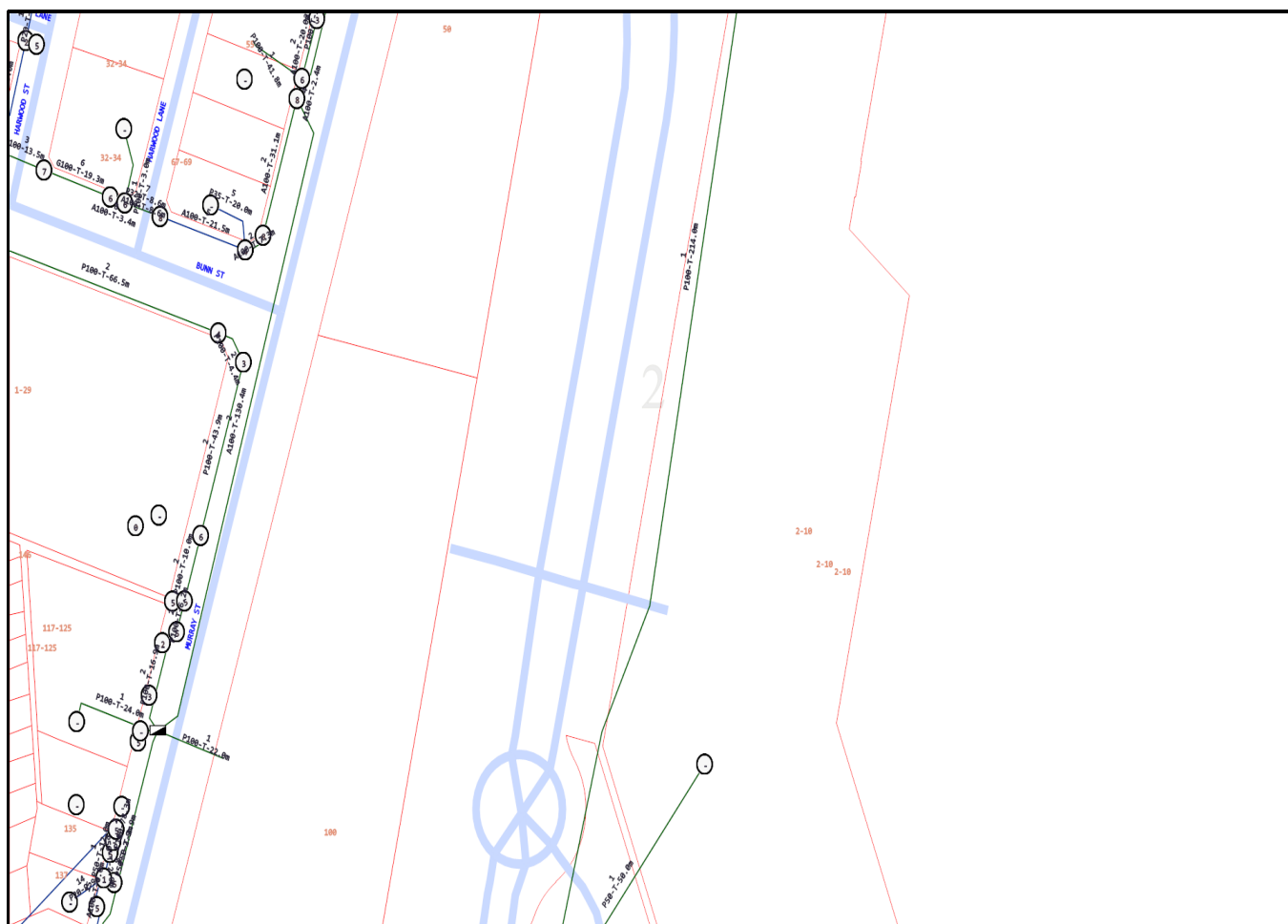




## LEGEND

	Parcel and the location
	Pit with size "5"
	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
	2 Direct buried cables between pits of sizes, "5" and "9" are 10.0m apart.
	Trench containing any <b>INSERVICE/CONSTRUCTED</b> (Copper/RF/Fibre) cables.
	Trench containing only <b>DESIGNED/PLANNED</b> (Copper/RF/Fibre/Power) cables.
	Trench containing any <b>INSERVICE/CONSTRUCTED</b> (Power) cables.
	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m 





You must immediately report any damage to **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.



# Working near **nbn**<sup>TM</sup> cables

**nbn** has partnered with Dial Before You Dig to give you a single point of contact to get information about **nbn** underground services owned by **nbn** and other utility/service provider in your area including communications, electricity, gas and other services. Contact with underground power cables and gas services can result in serious injury to the worker, and damage and costly repairs. You must familiarise yourself with all of the Referral Conditions (meaning the referral conditions referred to in the DBYD Notice provided by **nbn**).

## Practice safe work habits

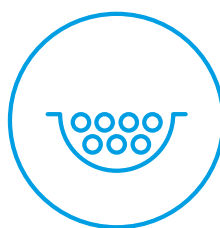
Once the DBYD plans are reviewed, the Five P's of Excavation should be adopted in conjunction with your safe work practices (which must be compliant with the relevant state Electrical Safety Act and Safe Work Australia "Excavation Work Code of Practice", as a minimum) to ensure the risk of any contact with underground **nbn** assets are minimised.



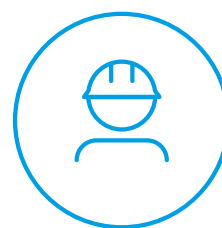
**Plan:** Plan your job ensuring the plans received are current and apply to the work to be performed. Also check for any visual cues that may indicate the presence of services not covered in the DBYD plans.



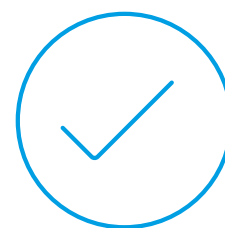
**Prepare:** Prepare for your job by engaging a DBYD qualified Plant Locator to help interpret plans and identify on-site assets. Contact **nbn** should you require further assistance.



**Pothole:** Non-destructive potholing (i.e. hand digging or hydro excavation) should be used to positively locate **nbn** underground assets with minimal risk of contact and service damage.

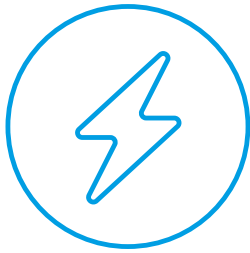


**Protect:** Protecting and supporting the exposed **nbn** underground asset is the responsibility of the worker. Exclusion zones for **nbn** assets are clearly stated in the plan and appropriate controls must be implemented to ensure that encroachment into the exclusion zone by machinery or activities with the potential to damage the asset is prevented.

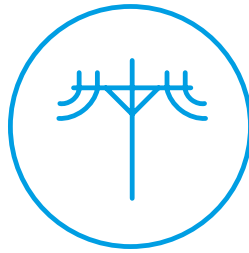


**Proceed:** Proceed only when the appropriate planning, preparation, potholing and protective measures are in place.

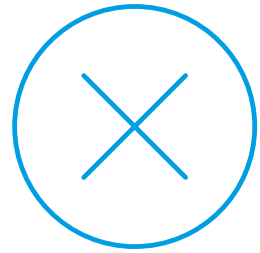
# Working near **nbn**<sup>TM</sup> cables



Identify all electrical hazards, assess the risks and establish control measures.



When using excavators and other machinery, also check the location of overhead power lines.



Workers and equipment must maintain safety exclusion zones around power lines.

Once all work is completed, the excavation should be re-instated with the same type of excavated material unless specified by **nbn**. Please note:

- Construction Partners of **nbn** may require additional controls to be in place when performing excavation activities.
- The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

## Contact

In the event of the **nbn**<sup>TM</sup> network facility damage please call 1800 626 329

### Disclaimer

This brochure is a guide only. It does not address all the matters you need to consider when working near our cables. You must familiarise yourself with other material provided (including the Referral Conditions) and make your own inquiries as appropriate.

**nbn** will not be liable or responsible for any loss, damage or costs incurred as a result of reliance on this brochure.

This document is provided for information purposes only. This document is subject to the information classification set out on this page. If no information classification has been included, this document must be treated as UNCLASSIFIED, SENSITIVE and must not be disclosed other than with the consent of nbn co. The recipient (including third parties) must make and rely on their own inquiries as to the currency, accuracy and completeness of the information contained herein and must not use this document other than with the consent of nbn co. Copyright © 2018 nbn co limited. All rights reserved.



## **APPENDIX N**

### **Telstra and NBN Co. Consultation Correspondence**



Phone: 1800 881 816  
URL: [www.nbn.com.au/NewDevelopments](http://www.nbn.com.au/NewDevelopments)  
Email: [DeveloperLiaison@nbnco.com.au](mailto:DeveloperLiaison@nbnco.com.au)  
(Please quote your development reference)

## New development registration

Development reference: **AYCA-3HTAFC**

Your internal reference: **Consultant**

### Developer

ABN:	92003280699
Registered entity name:	MIRVAC LIMITED

### Development details

Development name:	Harbourside Development
Development location:	1A Darling Dr, Sydney NSW 2000 Australia
Approximate total number of stages in your development:	3
Total number of premises/lots in your overall development:	335
Premises/lots to be serviced by nbn:	335
Total number of premises/lots already developed:	0
Real property description (e.g. Lot/Plan):	Mixed Residential and Retail

### External roadwork

Are you aware of any external utility works being planned or roads being built/upgraded to serve this development:	No
--	----

### Authorised Signatory Details

Name:	Norm Chow
Email address:	<a href="mailto:norm.chow@mirvac.com">norm.chow@mirvac.com</a>
Office:	02 9080 8485
Mobile:	0437 406 679
Postal address:	Level 28, 200 George Street, Sydney, NSW 2000

### Consultant contact

Name:	Nirul Singh
Email address:	<a href="mailto:nirul.singh@arcadis.com">nirul.singh@arcadis.com</a>
Office:	07 3337 0839
Mobile:	0405 940 812
Postal address:	Level 7, 199 Grey St, South Brisbane, QLD 4101

### Attachments

Darling Harbour - Masterplan.pdf (Master plan)
--

#### Additional information

Still in early stages but as more information is provided and the job progresses this information will be updated.

## **APPENDIX O**

### **RMS Dial Before You Dig Records**

## Legislation

Survey marks are protected under the *Surveying and Spatial Information Act 2002 (NSW) Section 24*. The following penalties and orders apply for unauthorised removal, damage or disturbance of survey marks:

- Maximum penalty of 25 units, currently **\$2,750** per mark; and
- up to **\$10,000** per mark in compensation to the Surveyor-General towards the cost of reinstatement of each survey mark; and
- up to **\$10,000** per mark in compensation to any other person towards any loss or damage suffered by that person as a consequence of the offence.

If works are likely to impact a survey mark, an application under the *Surveying and Spatial Information Regulation 2017 Clause 90* must be lodged with the Surveyor-General.

## Why are survey marks important?

Survey marks are a State asset and provide a wealth of important information to a wide range of people in the community. They are used to support the surveying of property boundaries and easements, and are important for engineering, road building, mapping and other land surveys.

The loss of survey marks can significantly degrade the integrity of the legal property boundaries and impact on the costs of development projects that depend upon position and height.

## How do I preserve survey marks?

*Surveyor-General's Direction No.11 – Preservation of Survey Infrastructure* provides directions on how to comply with the Legislation.

You can find the Direction on the following link:  
[http://spatialservices.finance.nsw.gov.au/\\_data/assets/pdf\\_file/0005/217094/SG\\_Directon\\_No11\\_Final4.pdf](http://spatialservices.finance.nsw.gov.au/_data/assets/pdf_file/0005/217094/SG_Directon_No11_Final4.pdf)

A Registered Land Surveyor will be able to provide advice about the preservation of survey infrastructure. A list of Registered Land Surveyors is available from the Board of Surveying and Spatial Information website: [http://www.bossi.nsw.gov.au/about/find\\_a\\_registered\\_surveyor](http://www.bossi.nsw.gov.au/about/find_a_registered_surveyor)

Additional information to assist with best practice guidelines for road infrastructure development can be found in Roads and Maritime Services QA Specification G71 – *Construction Surveys* by following the link: <http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/specifications/g071.pdf>

## Types of survey marks

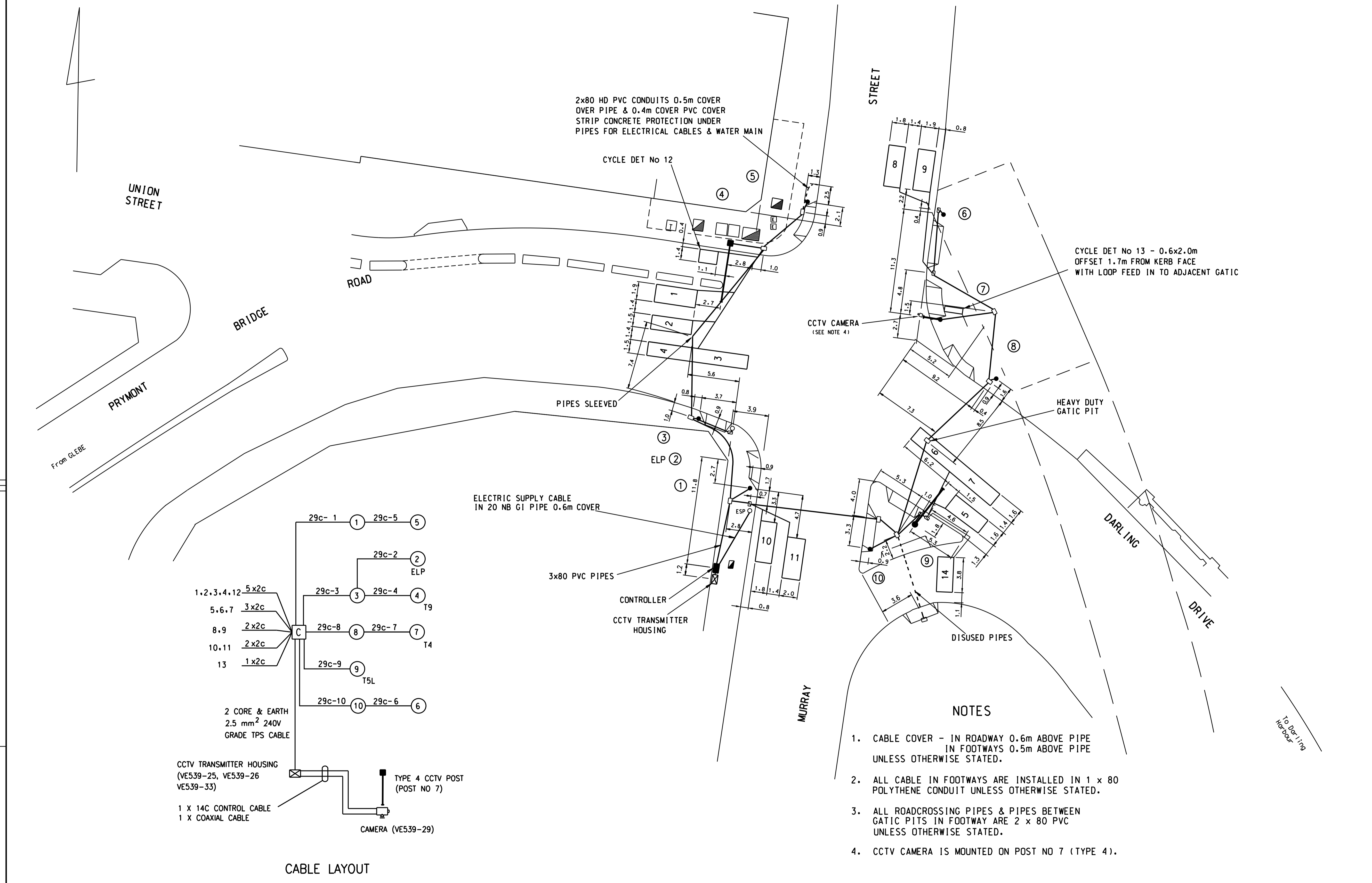
There are many types of survey marks used for various purposes. Many are buried and may only be identified by a Registered Land Surveyor. Some examples of common survey marks can be seen below.



## More information

For more information or to obtain advice on compliance with Legislation, please forward your enquiry to:  
[Surveyor-General-Approvals@finance.nsw.gov.au](mailto:Surveyor-General-Approvals@finance.nsw.gov.au)

Applications to remove a Survey Mark can be lodged here: [http://spatialservices.finance.nsw.gov.au/surveying/surveying\\_services/forms\\_and\\_applications/survey\\_marks\\_removal](http://spatialservices.finance.nsw.gov.au/surveying/surveying_services/forms_and_applications/survey_marks_removal)



A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND	
HYDRANT	□
STOP VALVE	▲
GAS VALVE	■
SEWER MANHOLE	⊗
TELECOM PIT	⊙
ELECT LIGHT POLE	⊕
POWER POLE	⊖
STAY POLE	⊗
TELEPHONE BOX	⊙
TELECOM PILLAR	⊕

REFERENCE PLANS	
SYMBOLS/ABBS.	VD003-6
STD. POSIT	VD001-5
DET. SCHED EXP	VD018-10
PRES. DETECT	VC005-17
SSG DIS. SEQ.	VD018-8
DESIGN	SHEET 8
CABLE CHART	SHEET 10
SURVEYOR	
DATE	

U.B.D. Ref. MAP 12 04
I.S.G. E: 318210
CO-ORDS N: 1250835
DESIGNED CORRIGAN
CHECKED
B. DANIEL 10-03-2012
SITE CHECKED
I. HAYES 07-04-2014
RECOMMENDED

APPROVED
ELECT DESIGN MANAGER
08-04-2014
DATE

ROADS AND MARITIME SERVICES

CITY OF SYDNEY

DARLING DRIVE, MURRAY STREET

PRYMONT BRIDGE ROAD

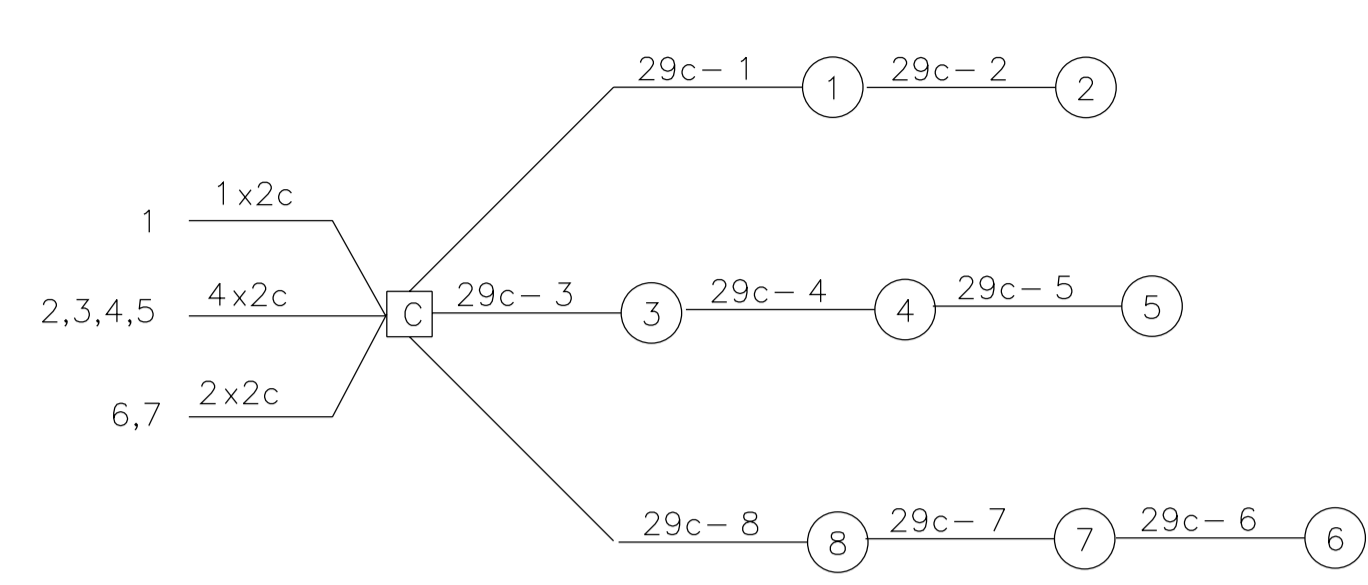
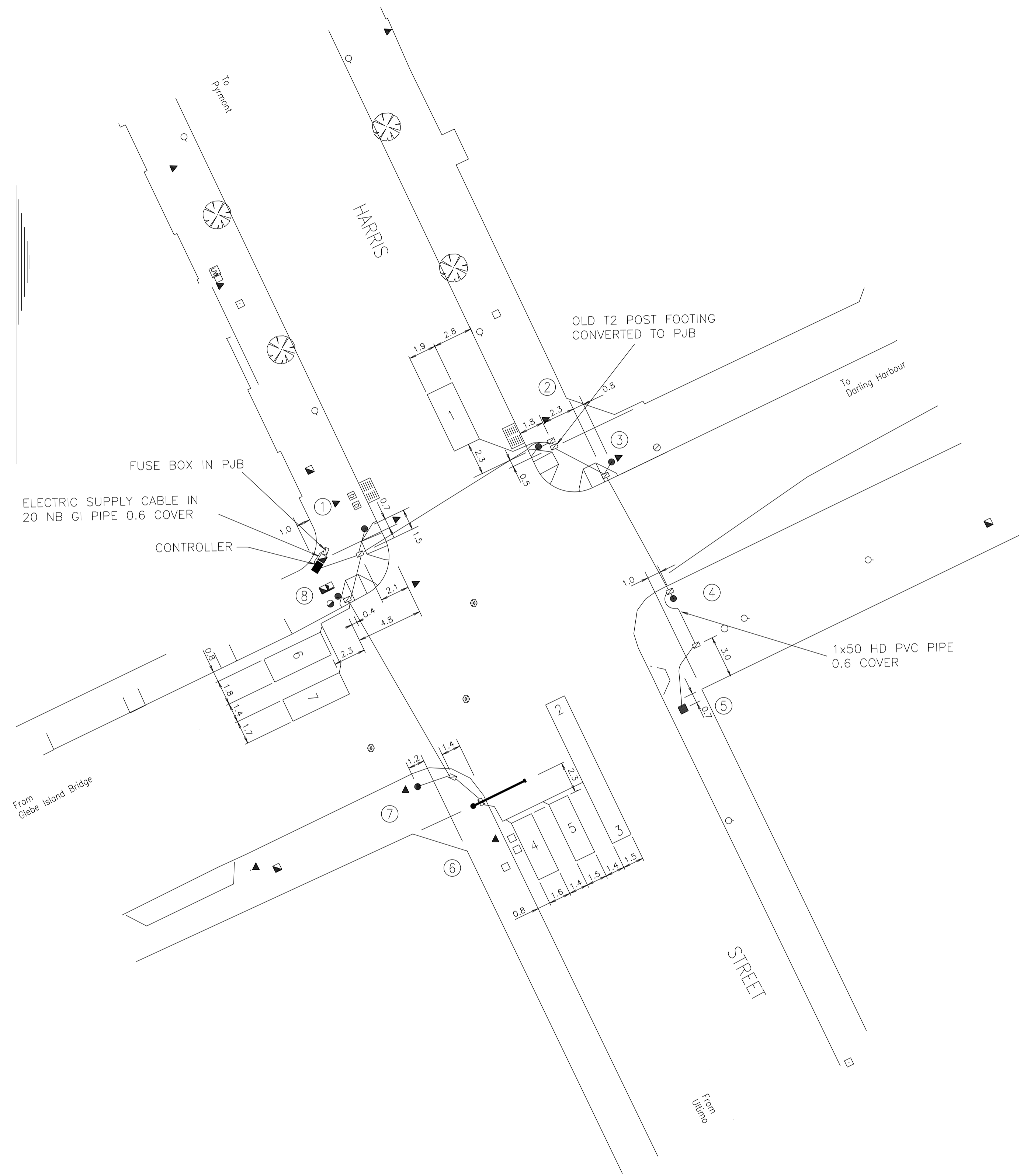
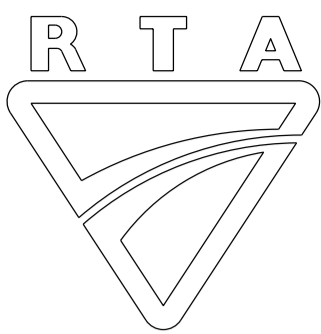
PRYMONT

CABLE INSTALLATION

TCS No 2834

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SCALE 5 0 (1:200) 5 10	ISSUE
FILE 412 TS 498	SUPERSEDES SHEET/ISSUE 6B
REGN. 7000.412.VV.2834	SHEET 9

© COPYRIGHT ROADS AND TRAFFIC AUTHORITY



CABLE LAYOUT

NOTES

- 1. CABLE COVER – IN ROADWAY 0.60m ABOVE PIPE  
IN FOOTWAYS 0.5m ABOVE PIPE  
UNLESS OTHERWISE STATED.
- 2. ALL CABLES IN FOOTWAYS ARE INSTALLED IN 1x80 HD PVC PIPE OR 1x90 POLYTHENE PIPE UNLESS OTHERWISE STATED.
- 3. ALL ROADWAY CONDUITS ARE 2x80 HD PVC PIPES.

A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND		REFERENCE PLANS	U.B.D. Ref. MAP 12 7-P
HYDRANT		SYMBOLS/ABBS. VD003-6	I.S.G. E: 318033
STOP VALVE		STD. POSIT. VD001-5	CO-ORDS N: 1250399
ELECTRICAL PIT		DET. SCHED EXP. VD018-10	DESIGNED CNJ
SEWER MANHOLE		PRES. DETECT. VC005-17	CHECKED
TELECOM PIT		SSG DIS. SEQ. VD018-8	..... SITE CHECKED
ELECT LIGHT POLE		DESIGN LAYOUT SHT 1	.....
POWER POLE		CABLE CHART SHT 7	.....
DRAINAGE GULLY PIT			.....
DRAINAGE JUNCTION PIT		SURVEYOR: HARD & FORESTER	.....
TELECOM PILLAR		DATE : APRIL 1995	..... RECOMMENDED

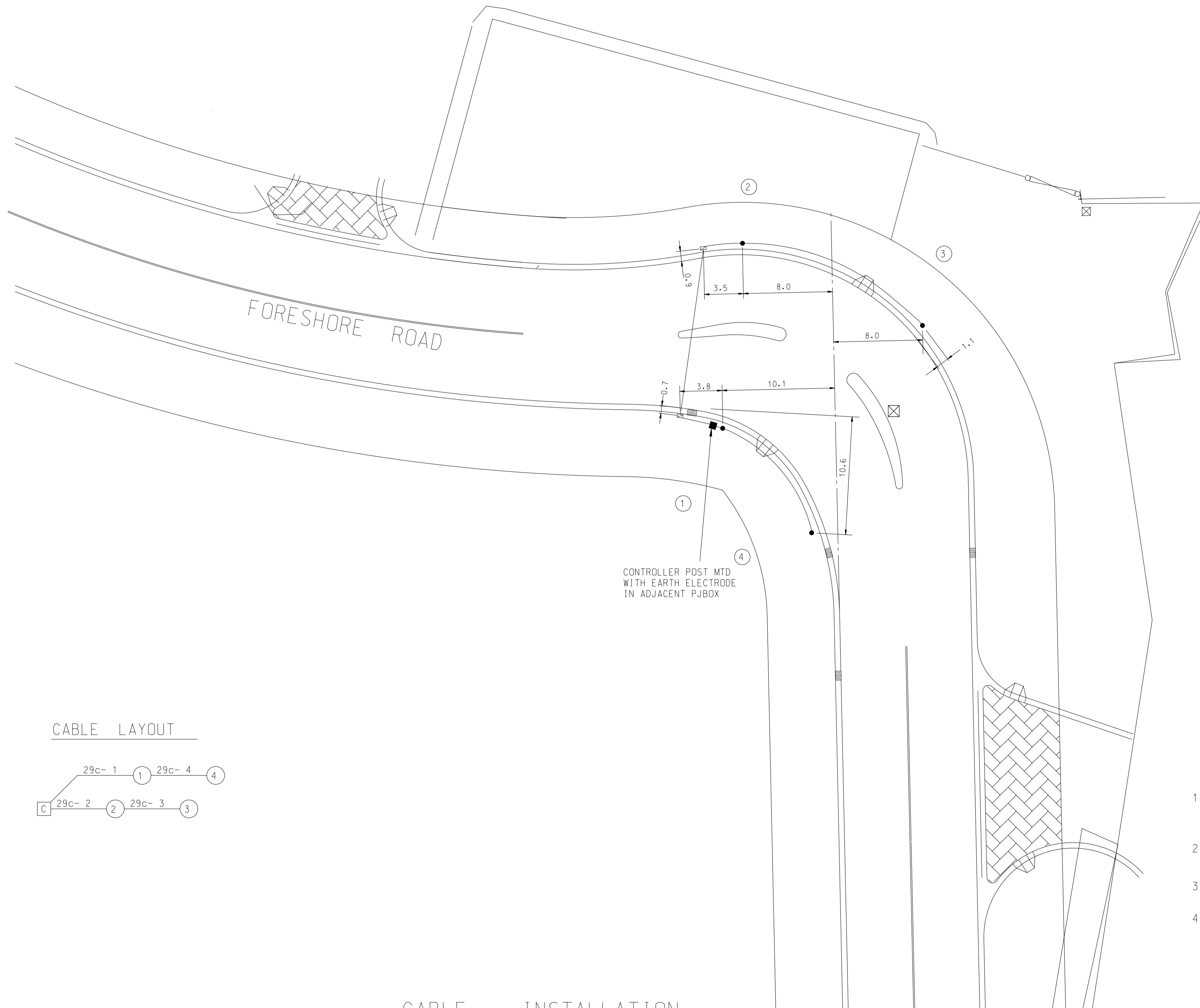
APPROVED  
  
R.C.BIRD  
ELECTRICAL DESIGN MANAGER  
.....16/06/98  
DATE

Roads and Traffic Authority,N.S.W  
  
CITY OF SYDNEY  
MR170 HARRIS ST AND ALLEN ST  
AT PYRMONT – STAGE 2  
CABLE INSTALLATION  
TCS No 2839

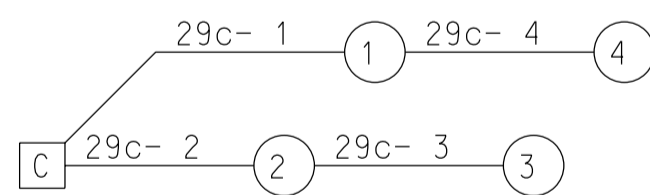
SYDNEY TECHNICAL SERVICES-DESIGN OFFICE PARRAMATTA			ISSUE
CAD DRAWING FILE: VV2839_6A_INS.dgn			A
SCALE			
FILE	412 TS 486	SUPERSEDES SHEET/ISSUE	4B
REGN.	0170.412.VV.2839		SHEET
			6

7000.412.VV.2921

DRAWN USING CAD  
DO NOT AMEND MANUALLY



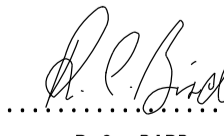
CABLE LAYOUT

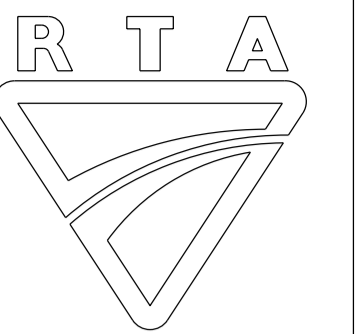


NOTES

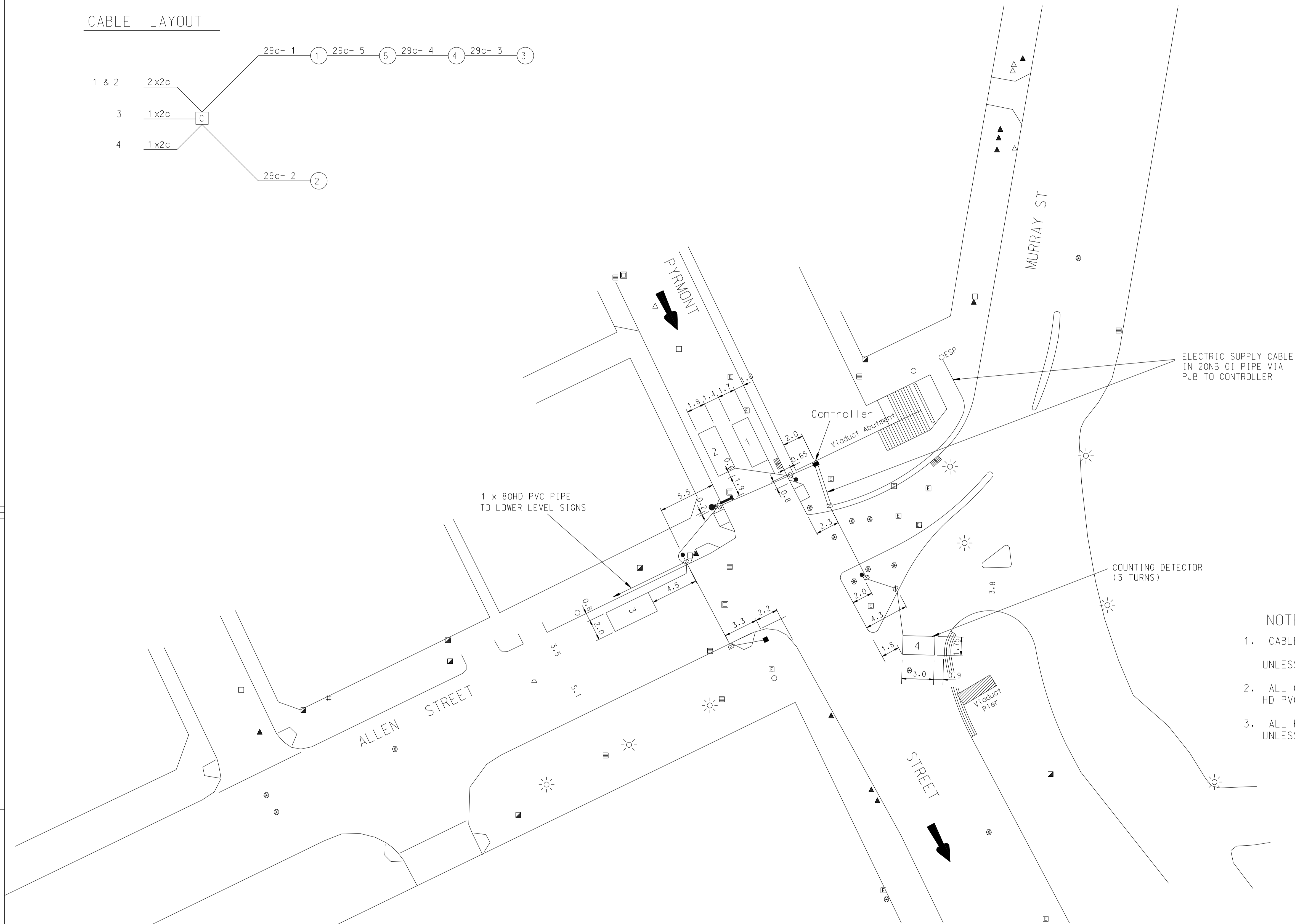
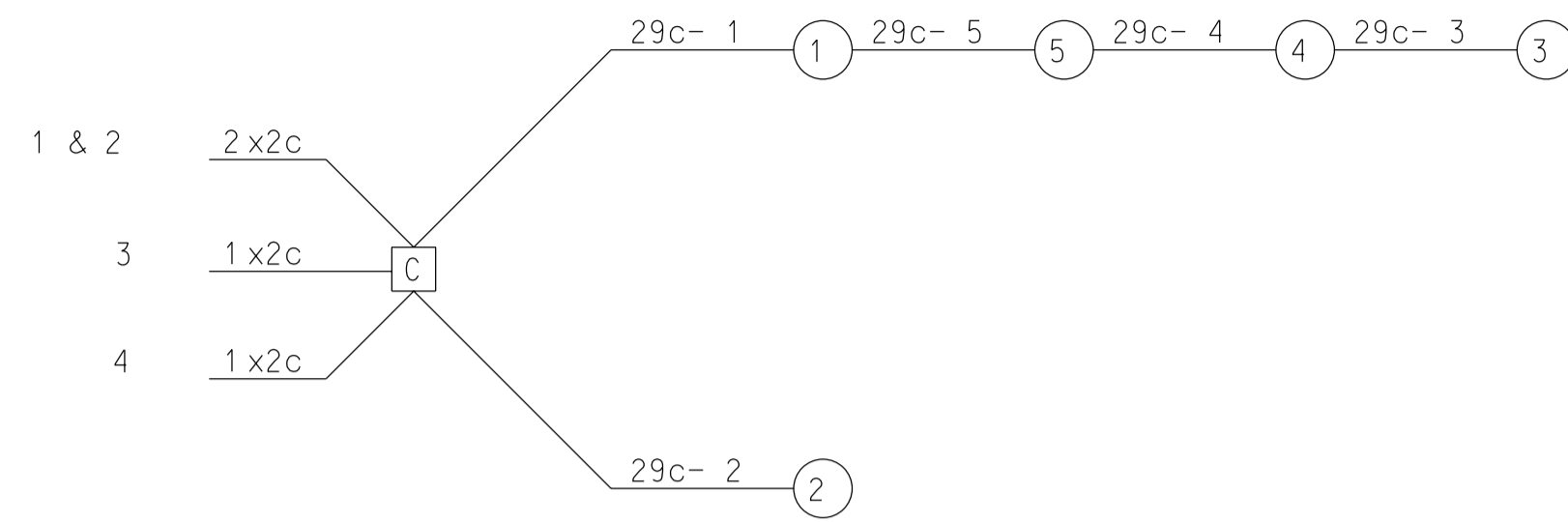
- 1. CABLE COVER - IN ROADWAY 0.75m ABOVE PIPE  
IN FOOTWAYS 0.5m ABOVE PIPE  
UNLESS OTHERWISE STATED.
- 2. ALL CABLE IN FOOTWAYS ARE INSTALLED IN 1 x 100  
HD PVC CONDUIT UNLESS OTHERWISE STATED.
- 3. ALL ROADCROSSING CONDUITS ARE 1 x 100 HD PVC.
- 4. SUPPLY AND ABOVE GROUND COMPONENTS NOT  
INSTALLED AT THIS SITE.

CABLE INSTALLATION

A ORIGINAL ISSUE	PUBLIC UTILITY LEGEND		REFERENCE PLANS		U.B.D. Ref. MAP 6 N14		APPROVED		Roads and Traffic Authority,N.S.W		REGION: SYDNEY		BRANCH: CONSULTANT SERVICES	
	HYDRANT		SYMBOLS/ABBS.		I.S.G. E: 318120		 R.C. BIRD ELECTRICAL DESIGN MANAGER	CITY OF SYDNEY	FORESHORE ROAD AND MURRAY STREET		LOGIN: ELECTA		DOGS DRAWING FILE: VV2921_2A.INS	
	STOP VALVE		STD POSIT		CO-ORDS N: 1,250,970				DESIGNED CNJ		SCALE 5 0 (1:200) 5 10		ISSUE	
	GAS VALVE		DET SCHED EXP		CHECKED				FILE 412.TS.573		SUPSEDES SHEET/ISSUE -		A	
	SEWER MANHOLE		PRES. DETECT		SITE CHECKED				REGN. 7000.412.VV.2921		TCS No 2921		SHEET 2	
	TELECOM PIT		SSG DIS. SEQ.		RECOMMENDED				DATE 04/04/95					
	ELECT LIGHT POLE		DESIGN											
	POWER POLE		CABLE CHART											
	STAY POLE													
	TELEPHONE BOX		SURVEYOR : PUBLIC WORKS											
TELECOM PILLAR		DATE :												



CABLE LAYOUT



ELECTRIC SUPPLY CABLE  
IN 20NB GI PIPE VIA  
PJB TO CONTROLLER

NOTES

1. CABLE COVER - IN ROADWAY 0.75m ABOVE PIPE  
IN FOOTWAYS 0.5m ABOVE PIPE  
UNLESS OTHERWISE STATED.
2. ALL CABLE IN FOOTWAYS ARE INSTALLED IN 1 x 80  
HD PVC CONDUIT UNLESS OTHERWISE STATED.
3. ALL ROADCROSSING CONDUITS ARE 1 x 80 HD PVC  
UNLESS OTHERWISE STATED.

CABLE INSTALLATION

A ORIGINAL ISSUE

"B" ISSUE UPDATED TO WAE

PUBLIC UTILITY LEGEND		REFERENCE PLANS		U.B.D. Ref. 12 0 6	
HYDRANT	□	SYMBOLS/ABBS.	VD003-6	I.S.G. E:	318120
STOP VALVE	▲	STD. POSIT.	VD001-5	CO-ORDS N:	1250438
GAS VALVE	#	DET. SCHED. EXP.	VD018-10	DESIGNED	CORRIGAN
SEWER MANHOLE	⊗	PRES. DETECT.	VCO05-17	CHECKED	C.Z.
TELECOM PIT	■	SSG DIS. SEQ.	VD018-8		
ELECT. LIGHT POLE	○	DESIGN	SHT 1		
POWER POLE	○	CABLE CHART	SHT 3		
STAY POLE	○				
TELEPHONE BOX	□	SURVEYOR: HARDFORESTER			
TELECOM PILLAR	●	DATE : APRIL 1995			

APPROVED

R.C. BIRD  
ELECTRICAL DESIGN MANAGER  
11/95  
DATE

Roads and Traffic Authority, N.S.W.

CITY OF SYDNEY  
PYRMONT ST, ALLEN ST, AND MURRAY ST  
AT PYRMONT

TCS No 3201

REGION: SYDNEY	BRANCH: CONSULTANT SERVICES
LOGIN: ELECTA	DOGS DRAWING FILE: VV3201_2B.INS
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FILE 412 TS 577	SUPERSEDES SHEET/ISSUE ---
REGN. 7000.412.VV.3201	SHEET 2

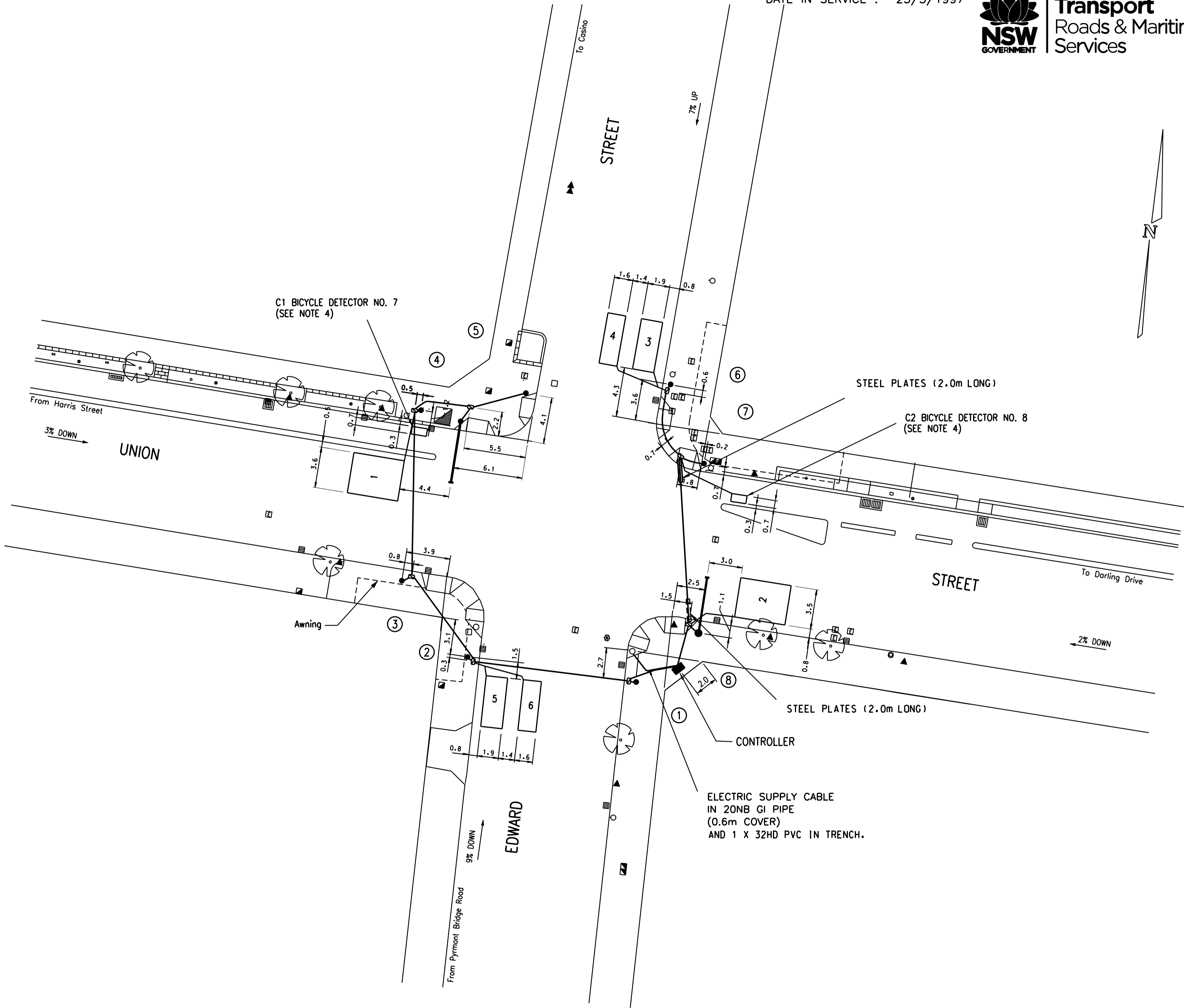
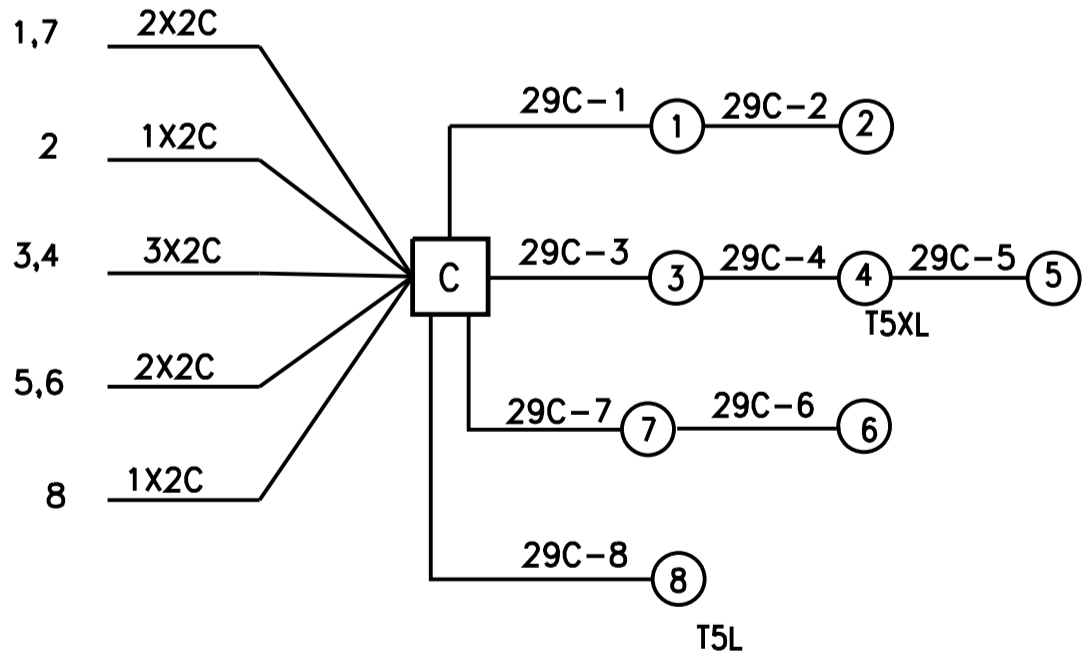
DRAWN BY CADD  
DO NOT AMEND MANUALLY

DATE IN SERVICE : 23/5/1997

NOTES

1. CABLE COVER: IN ROADWAYS 0.75m ABOVE PIPE. IN FOOTWAYS 0.5m ABOVE PIPE UNLESS OTHERWISE STATED.
2. ALL CABLES IN FOOTWAYS ARE INSTALLED IN 1 X 80 HD PVC CONDUIT UNLESS OTHERWISE STATED.
3. ALL ROADCROSSING PIPES ARE 2 X 80 HD PVC CONDUIT.
4. BICYCLE DETECTORS ARE INSTALLED AS A FIGURE 8 SINGLE LOOP AND DISARMED.

CABLE LAYOUT



A ORIGINAL ISSUE

18' ISSUE -WAE  
Plan amended to suit design  
base. Bicycle lane on north  
side and posts 4 and 5 are  
new.  
CORRIGANS 04/ 2013

PUBLIC UTILITY LEGEND	
HYDRANT	□
STOP VALVE	▲
GAS VALVE	■
SEWER MANHOLE	⊗
TELECOM PIT	⊙
ELECT LIGHT POLE	○
POWER POLE	○
STAY POLE	○
TELEPHONE BOX	⊞
TELECOM PILLAR	⊞

REFERENCE PLANS	
SYMBOLS/ABBS.	VD003-6
STD POSIT.	VD001-5
DET SCHED EXP	VD018-10
PRES. DETECT	VC005-17
SSG DIS. SEQ.	VD018-8
DESIGN LAYOUT	VV3202-6
CABLE CHART	VV3202-7

U.B.D. Ref996 Map 12 P3	I.S.G. E: 318 040 CO-ORDS N: 1 250 810
DESIGNED R.W.A. 17/1/01	CHECKED D.C. 17/1/01
C. L. Bird	SITE CHECKED
C. L. Bird	RECOMMENDED

APPROVED  
*R.C. Bird*  
R.C. BIRD  
ELECTRICAL DESIGN MANAGER  
DATE 17/1/01

ROADS AND MARITIME SERVICES  
SYDNEY CITY COUNCIL AREA  
TRAFFIC SIGNALS AT THE INTERSECTION OF  
EDWARD STREET AND UNION STREET  
PYRMONT  
CABLE INSTALLATION

TCS No 3202

EXISTING <input checked="" type="checkbox"/>	PROPOSED <input type="checkbox"/>
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SCALE 5 0 (1:200) 5 10	B
FILE 412 TS 584	SUPERSEDES SHEET/ISSUE 4A
REGN. 7000.412.W.3202	SHEET 4

## **APPENDIX P**

### **RailCorp Dial Before You Dig Records**

Transport Sydney Trains  
477 Pitt Street  
Sydney, NSW, 2000

**To:**

Arcadis - Ms Michelle Fletcher  
Level 16 580 George Street  
Sydney NSW 2000

This is an **AFFECTED** Response – Please get in contact with **Sydney Trains** before any work including **pot hole** is undertaken using email: [DBYD-Stage2works@transport.nsw.gov.au](mailto:DBYD-Stage2works@transport.nsw.gov.au)

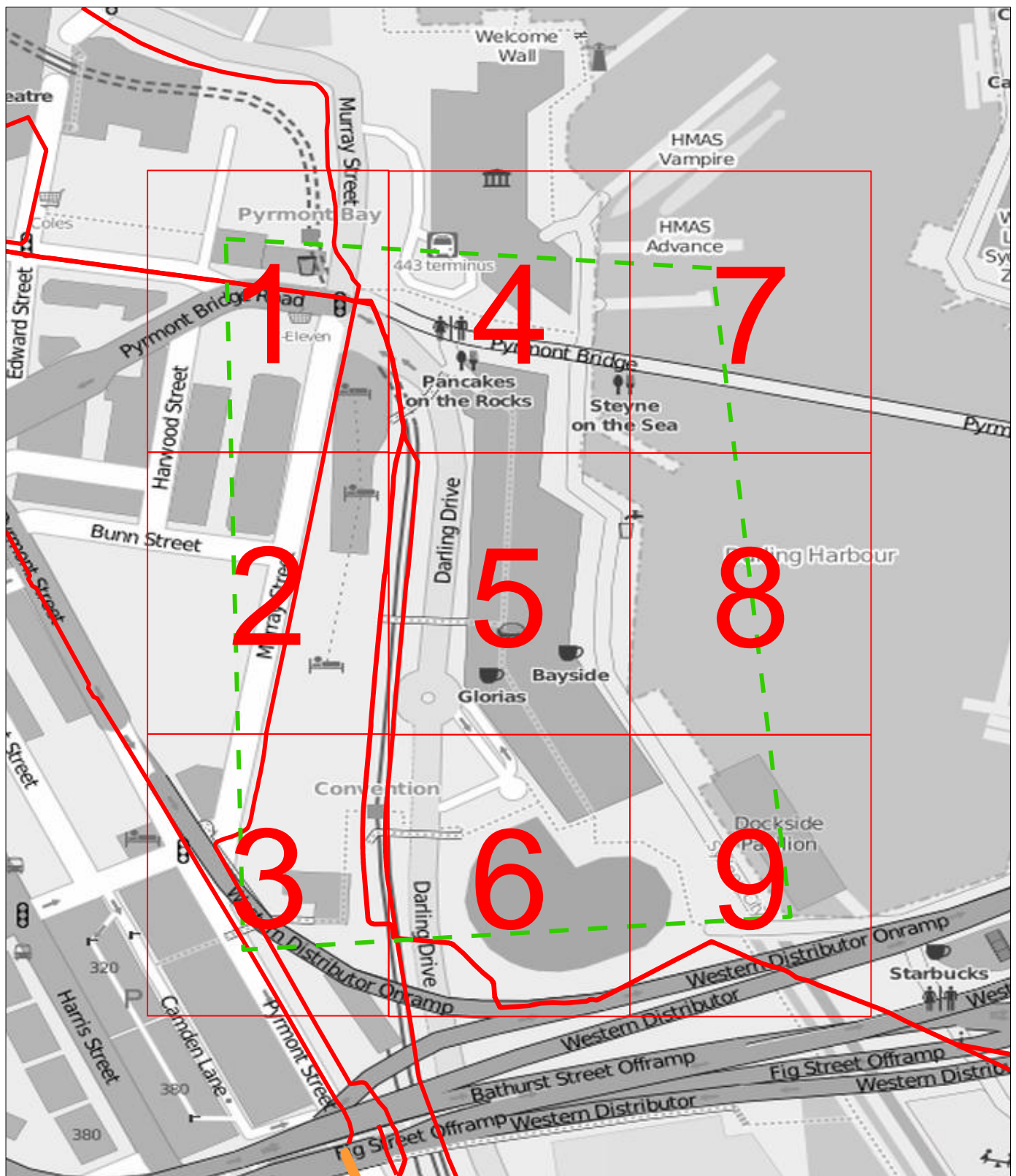
Enquiry Details	
Utility ID	30205 - Central
Sequence Number	89401481
Job Number	18175578
Enquiry Date	25/09/2019 13:21
Response	<b>AFFECTED</b>
Address	Darling Drive Sydney
Location in Road	CarriageWay, Footpath, Nature Strip
Activity	Planning & Design

Enquirer Details			
Customer ID	1749191		
Contact	Ms Michelle Fletcher		
Company	Arcadis		
Email	michelle.fletcher@arcadis.com		
Phone	0421170753	Mobile	Not Supplied

# Overview Map

Sequence No: 89401481

Darling Drive Sydney



The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

Greyscale basemaps sourced from [OpenStreetMaps](https://www.openstreetmap.org/)

## LEGEND:

1

Detail Map

Affected DBYD  
Work Area



Greyscale basemaps sourced from [OpenStreetMaps](https://www.openstreetmap.org/)

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

#### LEGEND:



Affected DBYD Work Area



Tunnel

— HV Cable

— Communications



Greyscale basemaps sourced from [OpenStreetMaps](https://www.openstreetmap.org/)

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

#### LEGEND:



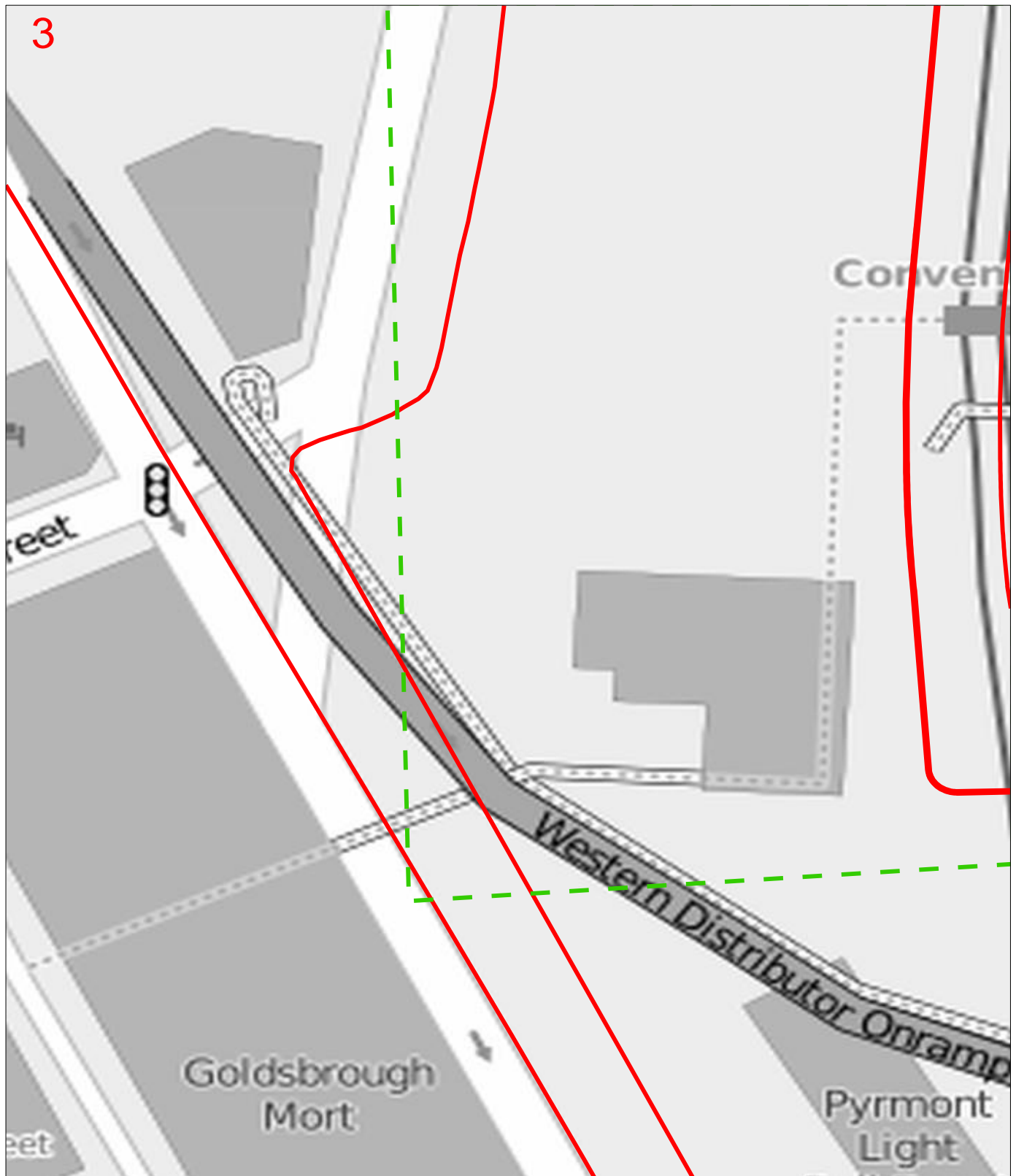
Affected DBYD Work Area



Tunnel

— HV Cable

— Communications



Greyscale basemaps sourced from [OpenStreetMaps](https://www.openstreetmap.org/)

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

#### LEGEND:



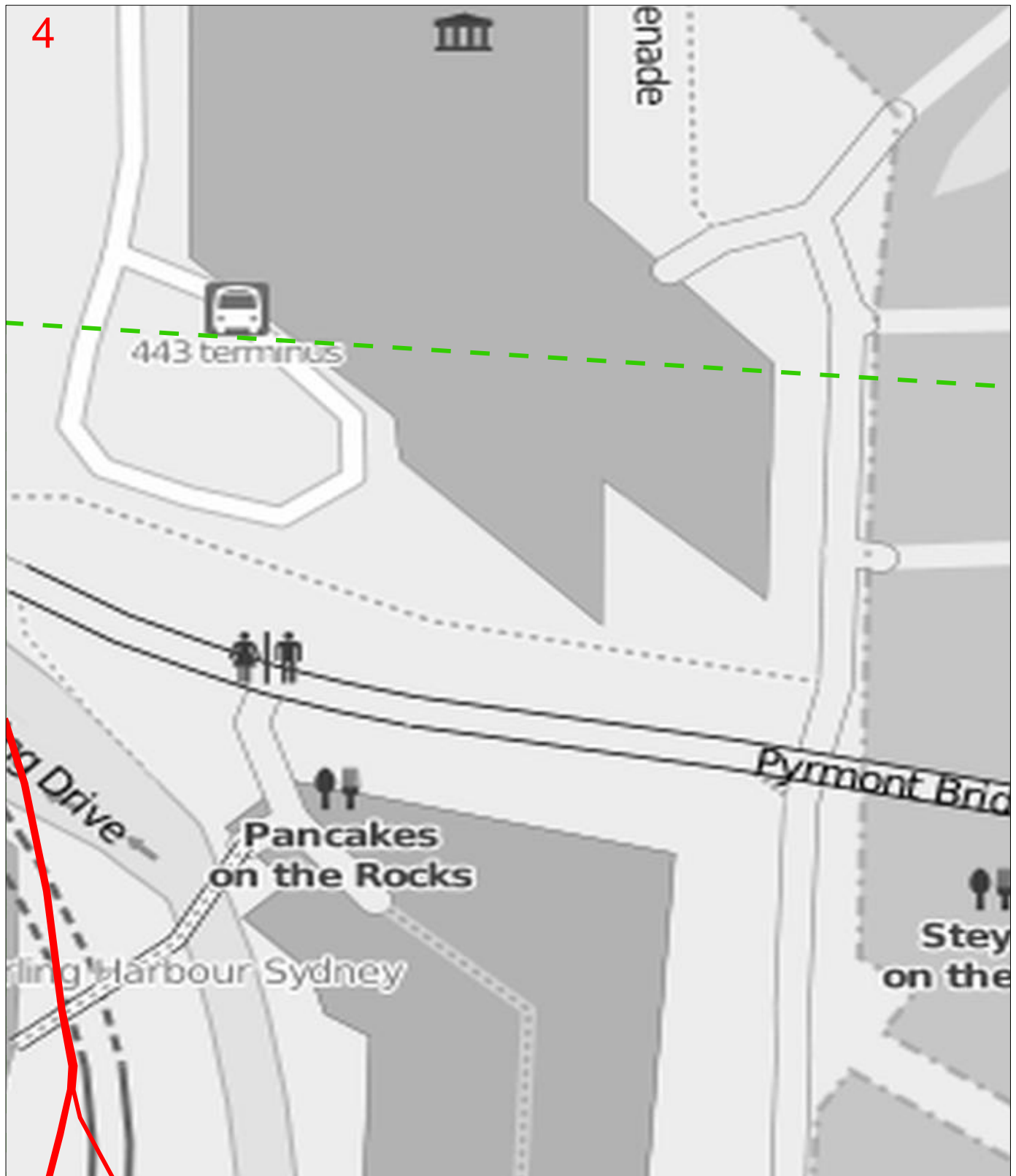
Affected DBYD Work Area



Tunnel

— HV Cable

— Communications



Greyscale basemaps sourced from [OpenStreetMaps](https://openstreetmap.org/)

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

#### LEGEND:



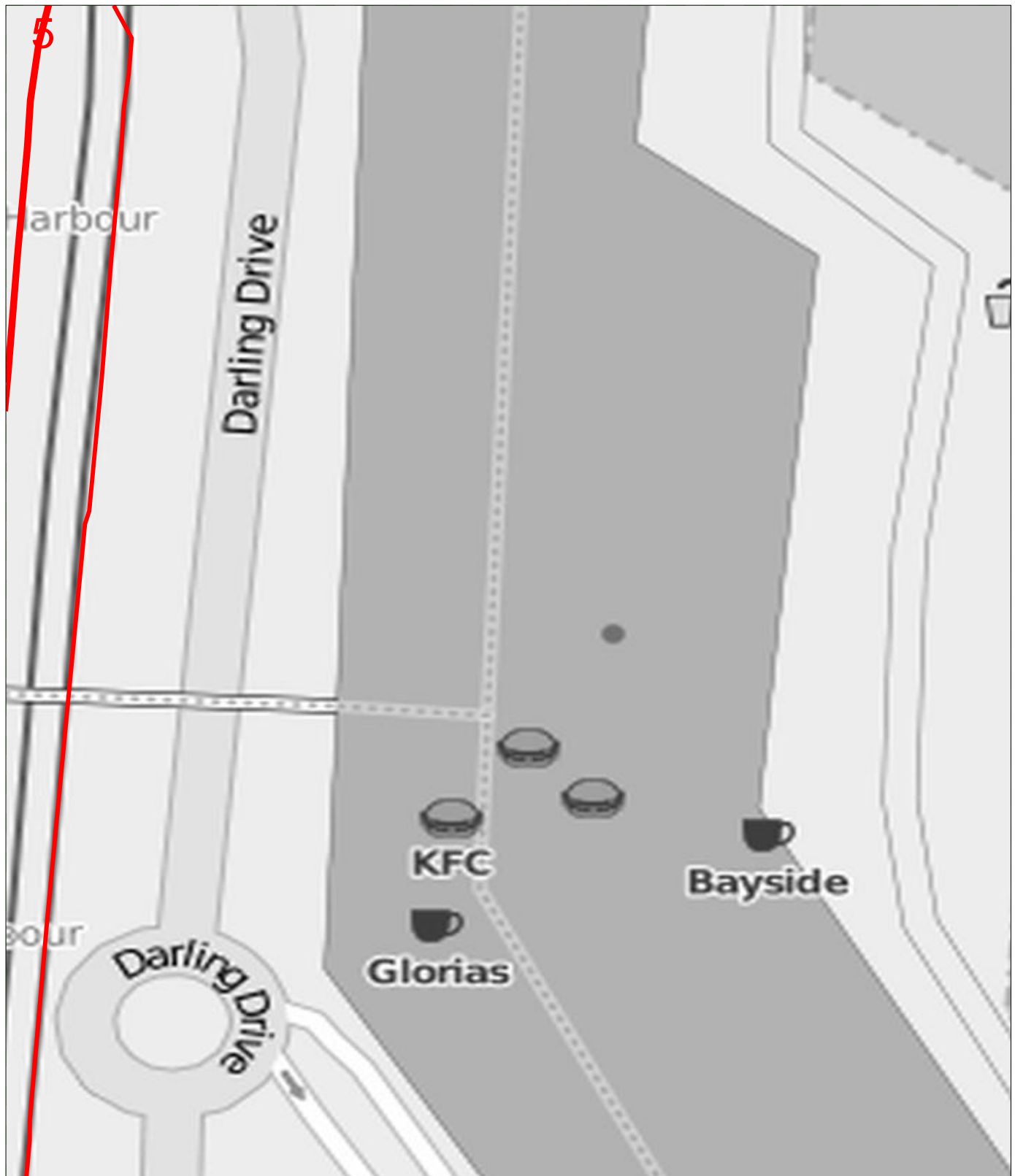
Affected DBYD Work Area



Tunnel

 HV Cable

 Communications



Greyscale basemaps sourced from [OpenStreetMaps](https://www.openstreetmap.org/)

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

#### LEGEND:



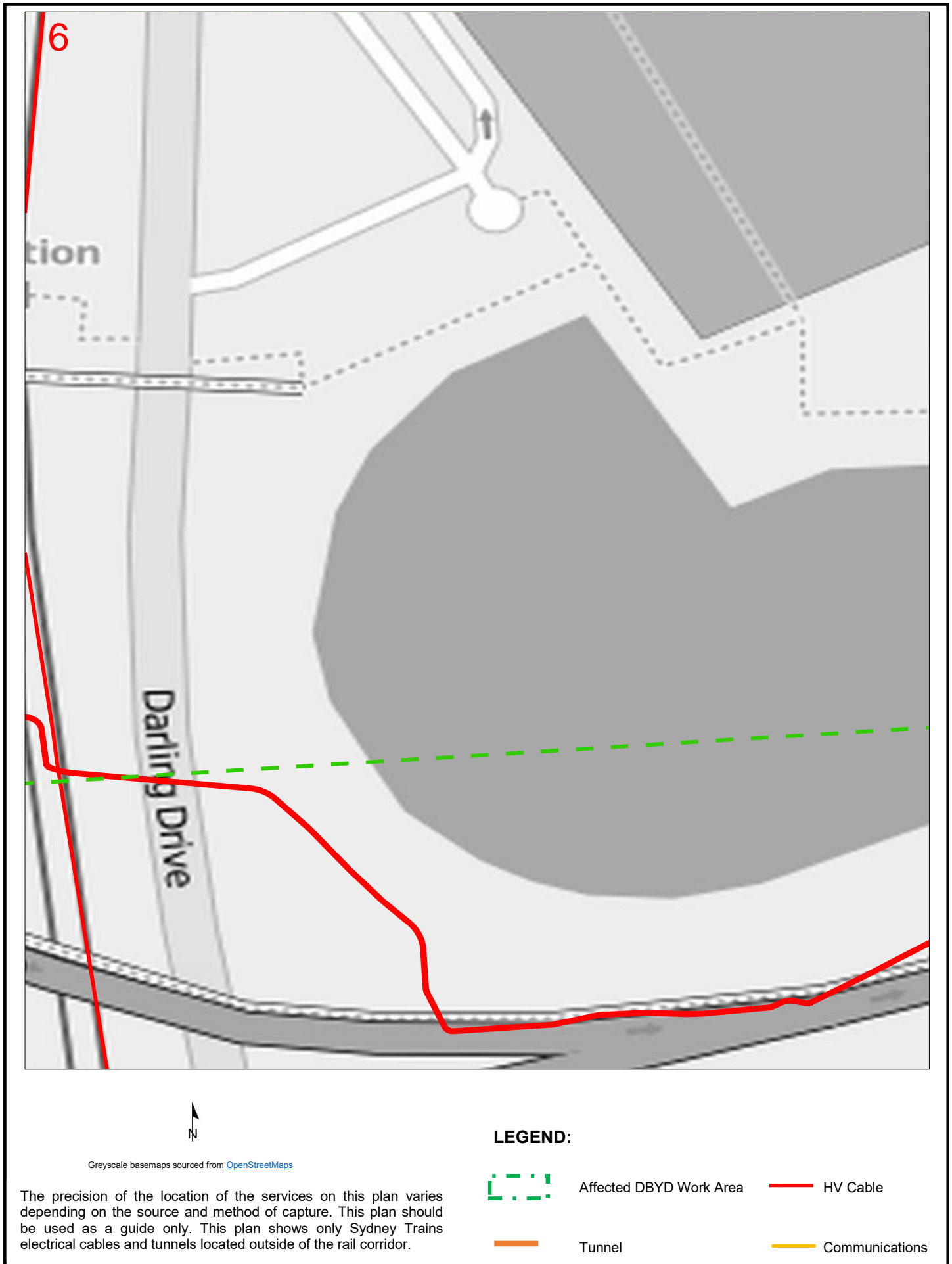
Affected DBYD Work Area

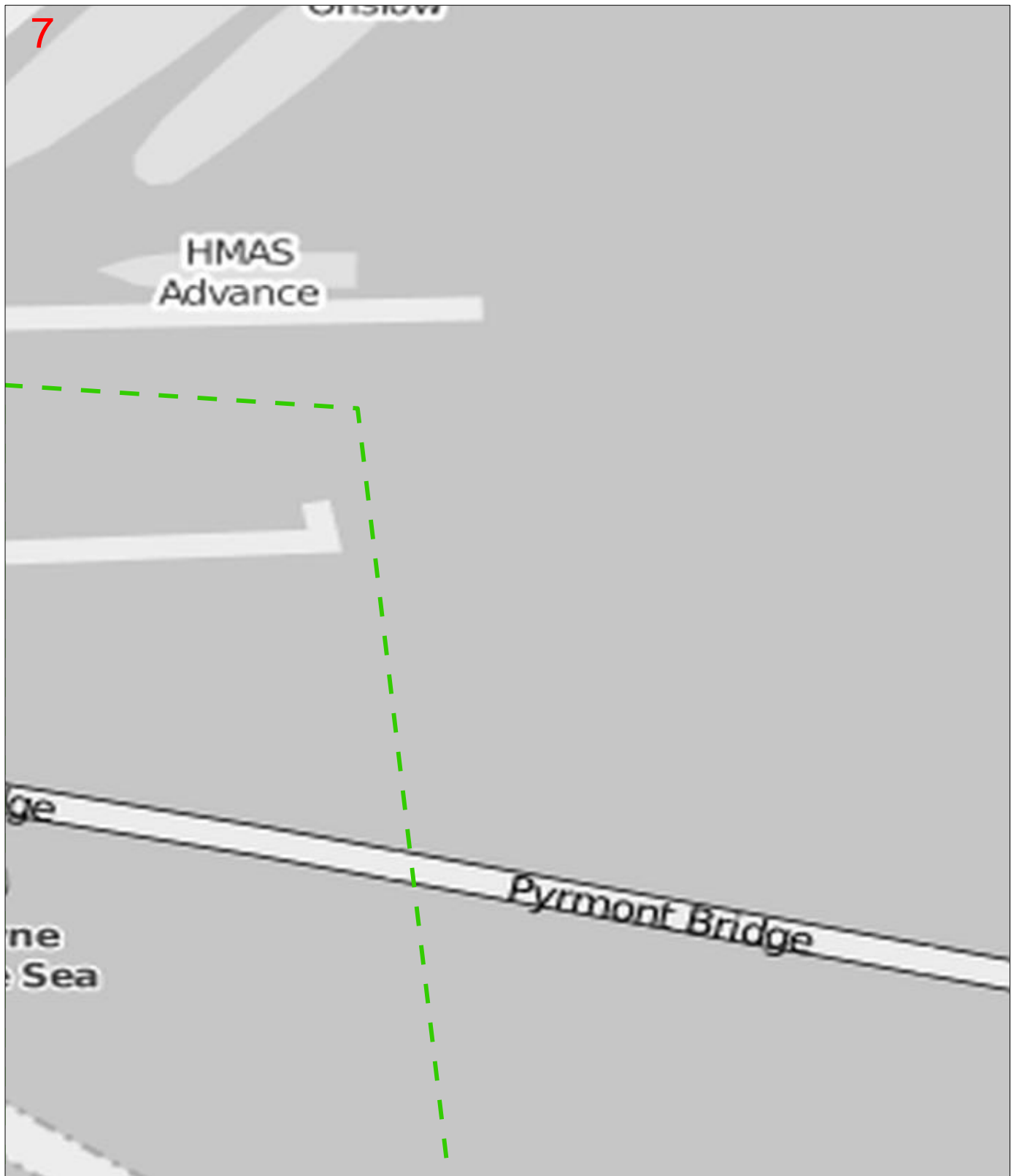


Tunnel

 HV Cable

 Communications





Greyscale basemaps sourced from [OpenStreetMaps](https://www.openstreetmap.org/)

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

#### LEGEND:



Affected DBYD Work Area



Tunnel

 HV Cable

 Communications



Greyscale basemaps sourced from [OpenStreetMaps](https://www.openstreetmap.org/)

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

#### LEGEND:



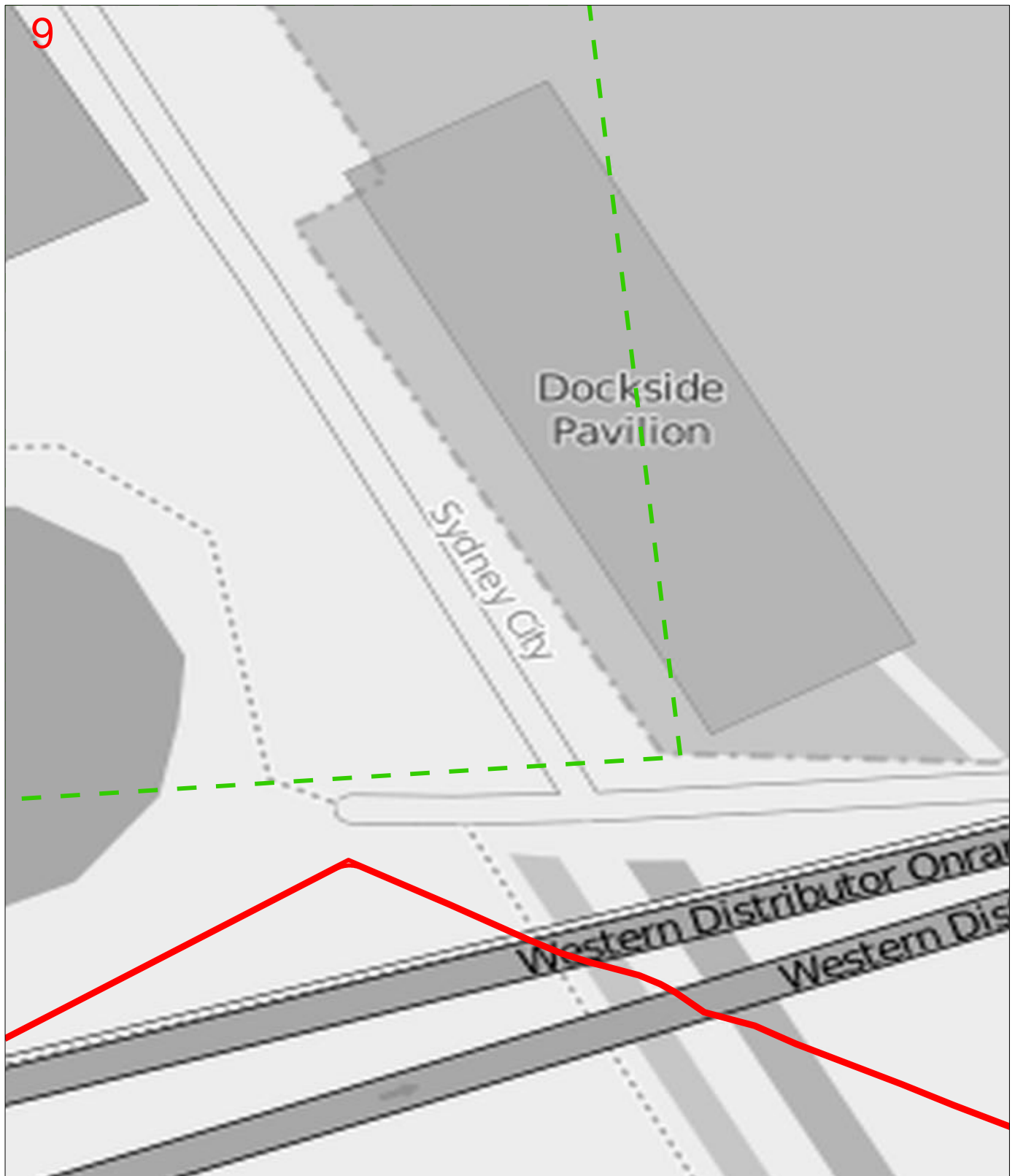
Affected DBYD Work Area



Tunnel

 HV Cable

 Communications



Greyscale basemaps sourced from [OpenStreetMaps](https://www.openstreetmap.org/)

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

#### LEGEND:



Affected DBYD Work Area



Tunnel

 HV Cable

 Communications

## **APPENDIX Q**

### **Meeting Minutes with TfNSW and TransDev**

**Issue date** 12/02/2016  
**Issue to** Lachlan Attiwell – Mirvac  
**Issued by** Joe Heydon – Arcadis (JH)  
**Subject** Harbourside Shopping Centre – Light Rail interface  
**Reference** Harbourside-MM-003  
**Client** Mirvac  
**Meeting date** 5/02/2016  
**Time** 14:00pm  
**Location** TransDev 220 Pyrmont Street, Sydney  
**Present** Joe Heydon (JH) – Arcadis  
Terry Brown (TB) – TfNSW  
Darren McDonald - TransDev

**Copy to**

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ITEM	COMMENTS	ACTION
1	JH introduced the proposed development to TB	
2	JH informed TB of the interface of loading dock access road and demolition and construction of walkways over light rail	
3	TB advised that Bridge designer needs to be AEO (Authorised Engineer Organisation) accredited	
4	TB advised that a design review process would be required	
5	TB advised that Indemnity and insurance will be required	
6	TB advised that a weekend shut down is in order of \$250k	
7	TB advised that its best to coordinate works with scheduled TransDev shutdowns to share costs	
8	TB advised that dilapidation surveys may be required	
9	TB advised that noise and vibration modelling may be required	
10	TB advised he had no objections in principle but wouldn't be able to provide detailed comment until more information was provided	

**Issue date** 3/08/2018  
**Issue to** Lachlan Attiwill - Mirvac  
**Issued by** Joe Heydon - Arcadis  
**Subject** Harbourside – TfNSW CBD Office & RMS briefing  
**Reference** HSC-0002  
**Client** Mirvac  
**Meeting date** 3/08/2018  
**Time** 12:00 – 13:00  
**Location** Level 44, 680 George Street  
**Present** Lachlan Attiwill (LA) – Mirvac DM  
Joe Heydon (JH) – Arcadis (Civil)  
Mukit Rahman (MR) – Arcadis (Traffic)  
Katherine McCray (KMC) - TfNSW  
Lisa McGill (LMG) - TfNSW  
Robert Rutledge (RR) - RMS

**Copy to**

ITEM	COMMENTS
1	LMG explained why the TfNSW CBD coordination office was established.
2.	It was set up to minimize the impact of the light rail development, “keep Sydney moving”, review Development Applications and to review and approve Construction Traffic Management Plans (CTMP).
3.	LA presented the original and amended concept proposals and explained that the development is for a SSDA1 application, to establish land uses, gross floor area, building envelopes etc.
4.	LA outlined the major changes between the original and amended proposals.
5.	LA explained that the applicant and their team had received and reviewed all of the agency response to submissions, and that the relevant reports had been updated to respond to these agency comments.
6.	JH explained that the applicant had met with the light rail (TransDev and TfNSW) in 2016 and that there were no significant issues raised at that meeting.
5.	LMG suggested that the proposed loading dock needs to be increased to cater for the residential element of the proposal to allow for online shopping and grocery deliveries.
6.	LMG stated that the new proposed Bunn Street pedestrian bridge crossing was good and welcomed that proposal. LMG suggested that security / surveillance will need to be considered and asked if it will be accessible 24 hrs.

7.	LMG and KMC recommended that parking for coaches is provided within the development proposal.
8.	LMG stated that the new City of Sydney 2018 – 2030 city cycle strategy is due to be published soon and that the proposal needs to consider this document and to review relevant cycleway connections.
9.	KMC asked when Mirvac expected the SSDA1 to be granted approval. LA suggested that given it is a SSD it will be at least no sooner than end of 2018 to early 2019.
10.	RR stated that Mirvac needs to assess cumulative construction traffic including the proposed Star Casino.
11.	LA stated that this was reviewed as part of the updated traffic report.
12.	LA was unsure of exact timing of construction program but suggested it would be no earlier than 18 months time.

## **APPENDIX R**

### **City of Sydney Dial Before You Dig Records**

## Dial Before You Dig (DBYD): Asset Location Response

Arcadis - Ms Michelle Fletcher  
Level 16 580 George Street  
Sydney NSW 2000  
michelle.fletcher@arcadis.com

City of Sydney has been advised that you have placed an enquiry through the Dial Before You Dig service. Our records indicate the enquiry with the following details are affecting City of Sydney asset(s) as per the attached plans.

Enquiry Details	
Sequence Number	89401478
Enquiry Date	25/09/2019 13:21
Response	<b>AFFECTED</b>
Address	Darling Drive Sydney
Location in Road	CarriageWay, Footpath, Nature Strip
Activity	Planning & Design

**It is important to read and understand all the information and disclaimers provided below and the responsibilities outlined in the attachment prior to commencing work(s)**

Due to the nature and the age of assets and records, the accuracy and/or completeness of the information in the attached plan(s) cannot be guaranteed. The City does not make any representation or give any guarantee, warranty or undertaking as to the accuracy, currency, completeness, effectiveness or reliability of the information.

**Plan(s) are indicative only and all information needs to be verified through field survey including the use of appropriately qualified personnel and equipment.**

This information has been generated by an automated system based on the information specified by the Enquirer. It is the Enquirer's responsibility to ensure that the work site has been properly identified and is accurately reflected in the information provided by the City. If the information does not match the work site, resubmit your enquiry for the correct site.

To the extent of any inconsistency, the information contained in this document will prevail over any other information provided to you by the City and Dial Before You Dig.

## Duty of Care

**When working in the vicinity of City Assets you have a “duty of care” that must be observed.**

Works or proposed works should be planned to allow for minimal impact and appropriate protection of City Assets.

### Locating Assets

It is the Enquirer's responsibility to:

- Request plans of City Assets for a particular location at a reasonable time before work begins. If you have any doubts as to the exact location of City Assets, we strongly recommend that you engage the service of a suitably qualified locator; and
- Visually locate City Assets. For buried assets this should be done by hand digging or using non-destructive methods such as water jetting (pot holing) where construction activities may damage or interfere with City Assets.

### Damage of Assets

Damage to City Assets must be reported immediately to 02 9265 9333 or [council@cityofsydney.nsw.gov.au](mailto:council@cityofsydney.nsw.gov.au) anytime, any day.

Enquirers and other parties undertaking works will be held responsible for all damage that occurs or impacts City Assets as a result of the works. This includes interfering with City Assets, conducting unauthorised modification works and interfering with City Assets in a way that prevents the City or a third party from accessing or using City Assets in the future.

The City reserves all rights to recover compensation for any Loss (including consequential losses).

### Relevant Approvals

Relevant approval must be obtained prior to commencement of works on or near City Assets. The Enquirer is responsible to ensure that all requisite approvals have been obtained prior to works and that all works are undertaken in accordance with the requirements of any approval.

There is a variety of legislation, regulation and City policies that govern requirements for approval to install or modify City Assets. These requirements will also vary depending on the type of asset. Additional guidance may be provided in subsequent sections of this document. This is intended for guidance purposes only and is not comprehensive. It should also be acknowledged that standards may vary from time to time and the information supplied regarding approvals or standards may be out of date or superseded.

## User Risk

The Enquirer acknowledges that they use the information at their own risk. In consideration of the information provided by the City to the fullest extent permitted by law:

- All conditions and guarantees concerning the information (whether as to quality, outcome, fitness, care, skill or otherwise) expressed or implied by statute, common law, equity, trade, custom or usage or otherwise are expressly excluded. To the extent that those statutory guarantees cannot be excluded, the liability of the City to the Enquirer is limited to the supplying of the information again;
- In no event will the City be liable for, and the Enquirer releases the City from, any Loss arising from or in connection with the information, including the use of or inability to use the information and delay in the provision of the information;
- The Enquirer will indemnify the City against any Loss arising from or in connection with the information and the works; and
- The Enquirer assumes all risks associated with the use of the Dial Before You Dig and City websites, including risk to the Enquirer's computer, software or data being damaged by any virus, and release and discharge the City from all Loss which might arise in respect of your use of the websites.

## Glossary

*“City” means The Council of the City of Sydney.*

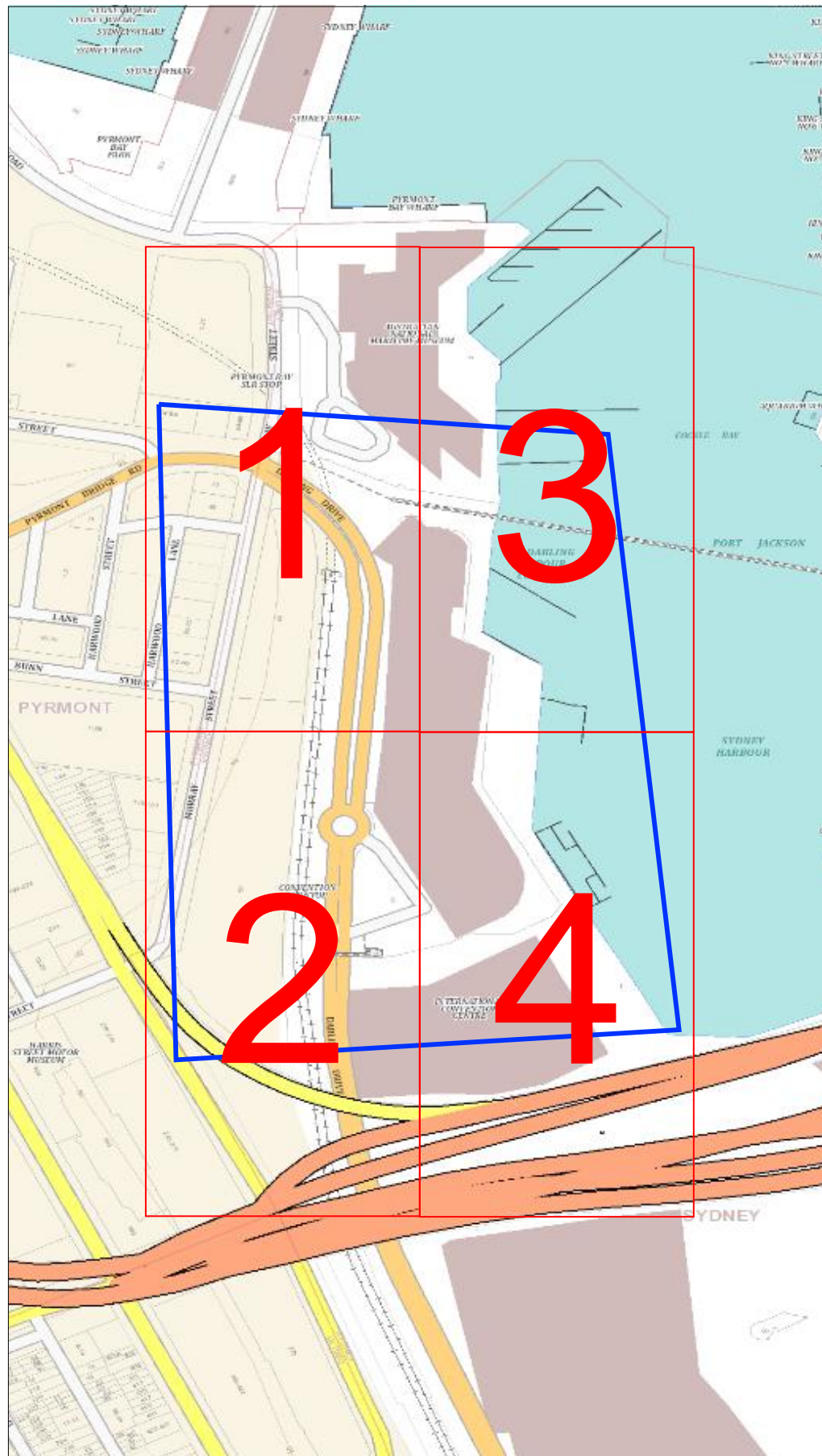
*“City Assets” mean those items that are under the ownership, care or control of the City*

*“Enquirer” is the person(s) or organisation(s) requesting or using the information.*

*“Loss” includes any loss, cost, expense, claim, liability or damage (including arising in connection with personal injury, death or any damage to or loss of property and economic or consequential loss, lost profits, loss of revenue, loss of management time, opportunity costs or special damages).*

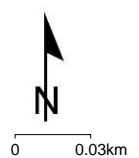
If you have any further enquiries in regards to assets affected in this referral, please contact the following:

- For **Survey Infrastructure** contact Don Urquhart or Paul Corry via email [Surveyors@cityofsydney.nsw.gov.au](mailto:Surveyors@cityofsydney.nsw.gov.au) or phone: (02) 9265 9333.
- For **Stormwater** contact Peter Garland or Shah Alam via email [Stormwater@cityofsydney.nsw.gov.au](mailto:Stormwater@cityofsydney.nsw.gov.au) or phone (02) 9265 9333.
- For **Electrical** contact Frank Morosin or Malik Huda via email [Electrical@cityofsydney.nsw.gov.au](mailto:Electrical@cityofsydney.nsw.gov.au) or phone (02) 9265 9333.



**LEGEND:**

- Affected DBYD Work Area
- 1 Detail Map

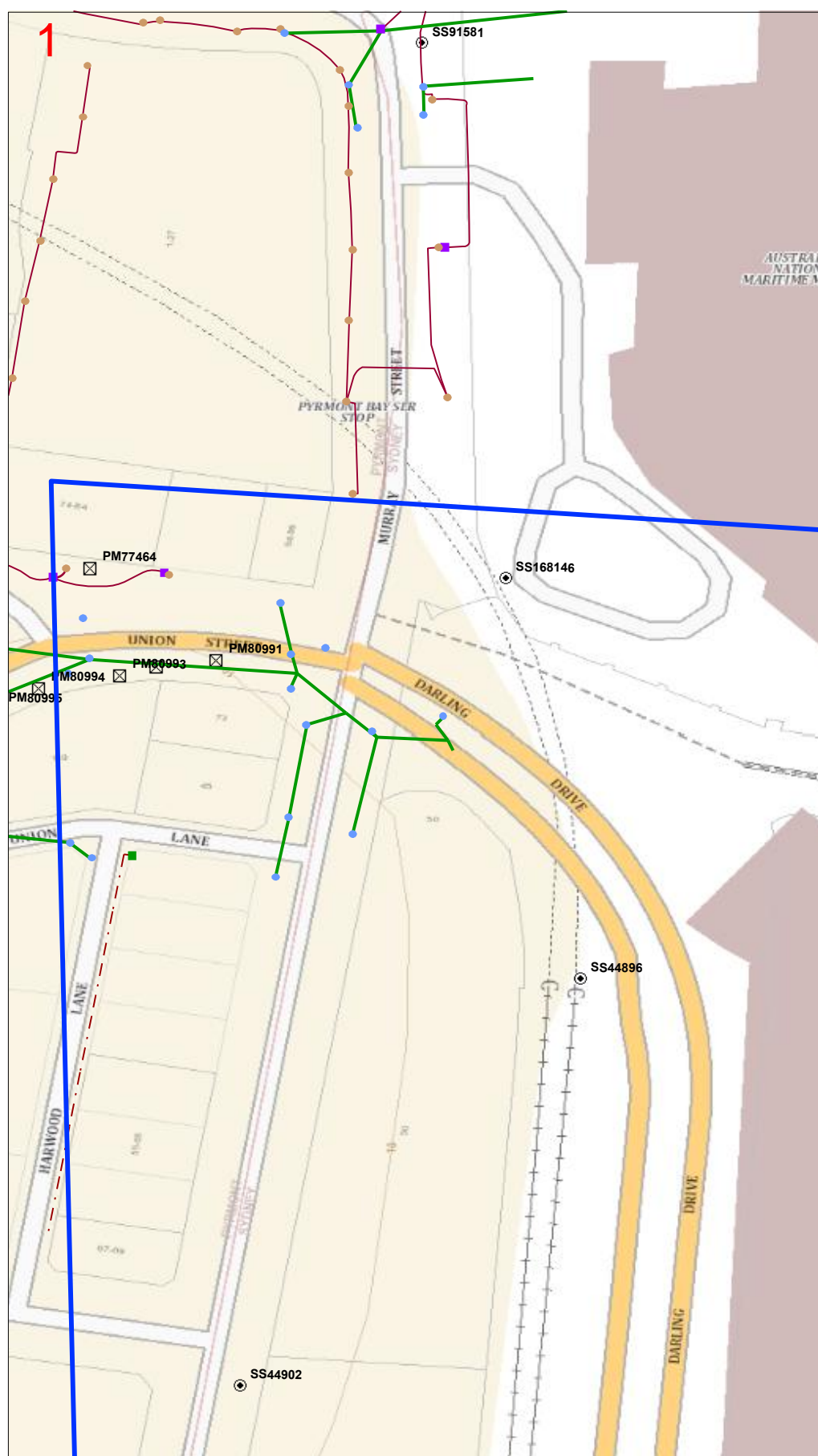


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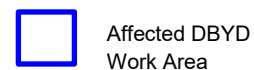
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#### LEGEND:



#### Survey Infrastructure

- ☒ Permanent Mark
- △ Trigonometrical Station
- ⊙ State Survey Mark
- ✚ Miscellaneous Mark
- ◇ Cadastral Reference Mark

#### Stormwater

- ★ Stormwater Gross Pollutant Traps
- Stormwater Structures
- Stormwater Conduit
- Stormwater Raingardens

#### Electrical

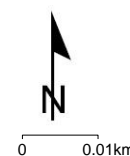
- Lightning Points
- Smart Poles

#### Electrical Services

- Main Switch Board
- Distribution Board
- Special Small Service
- Electrical Pit
- Supply Feature
- ▲ Other

#### Electrical Conduits & Cables

- Underground
- - - Building
- . - . Aerial

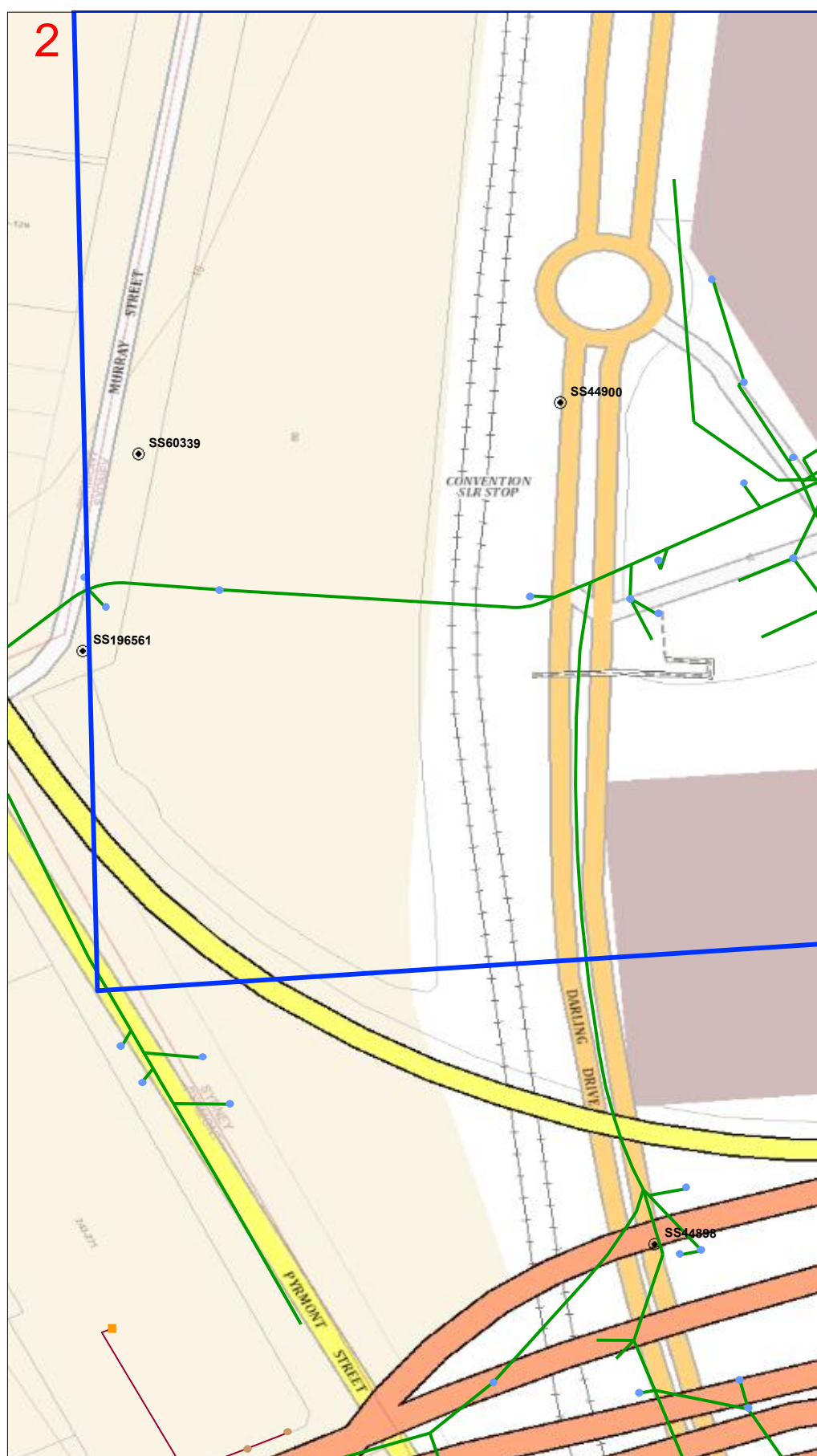


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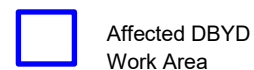
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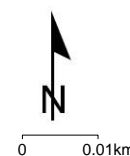
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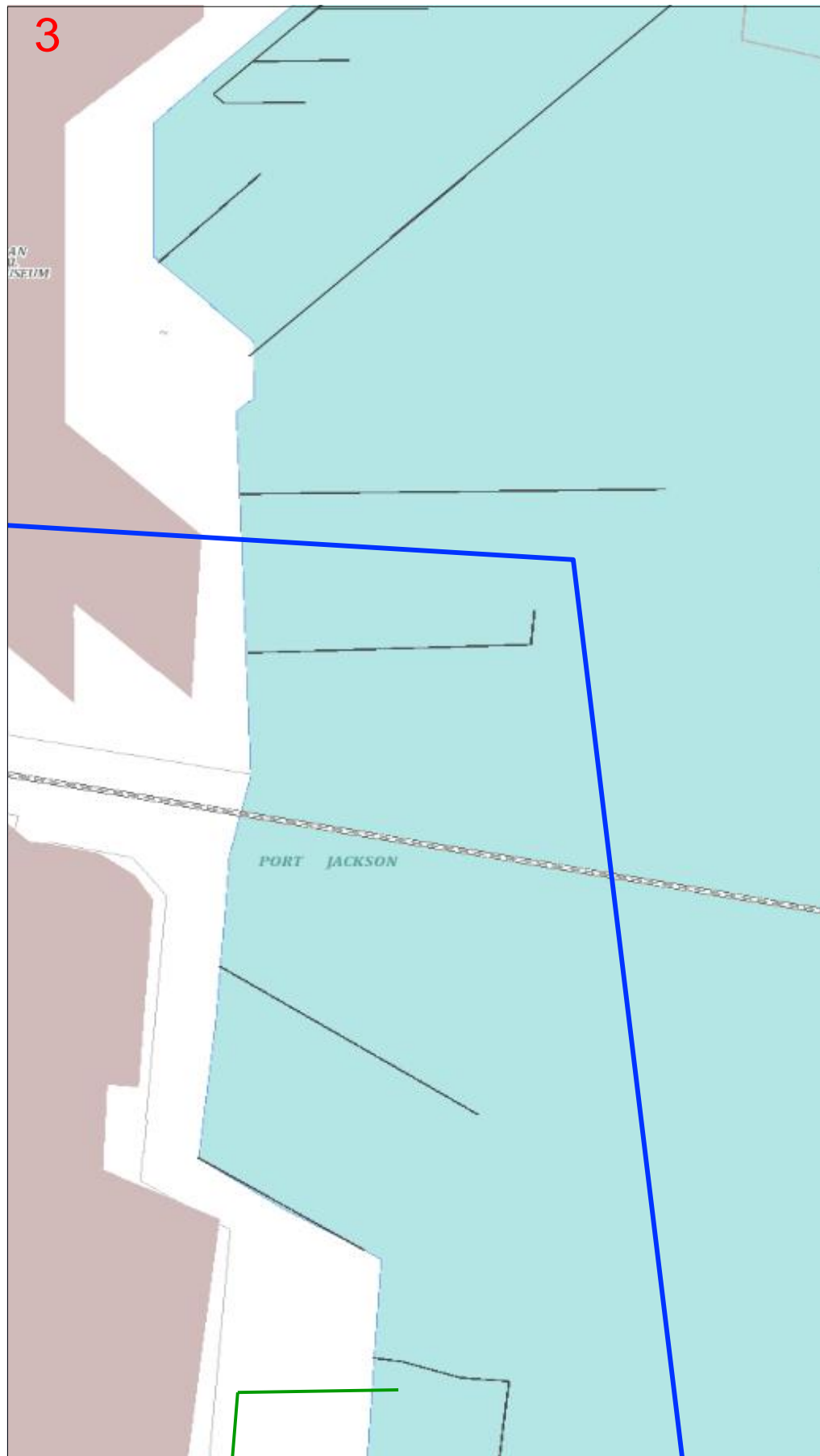


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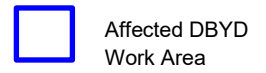
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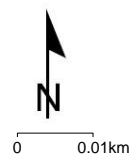
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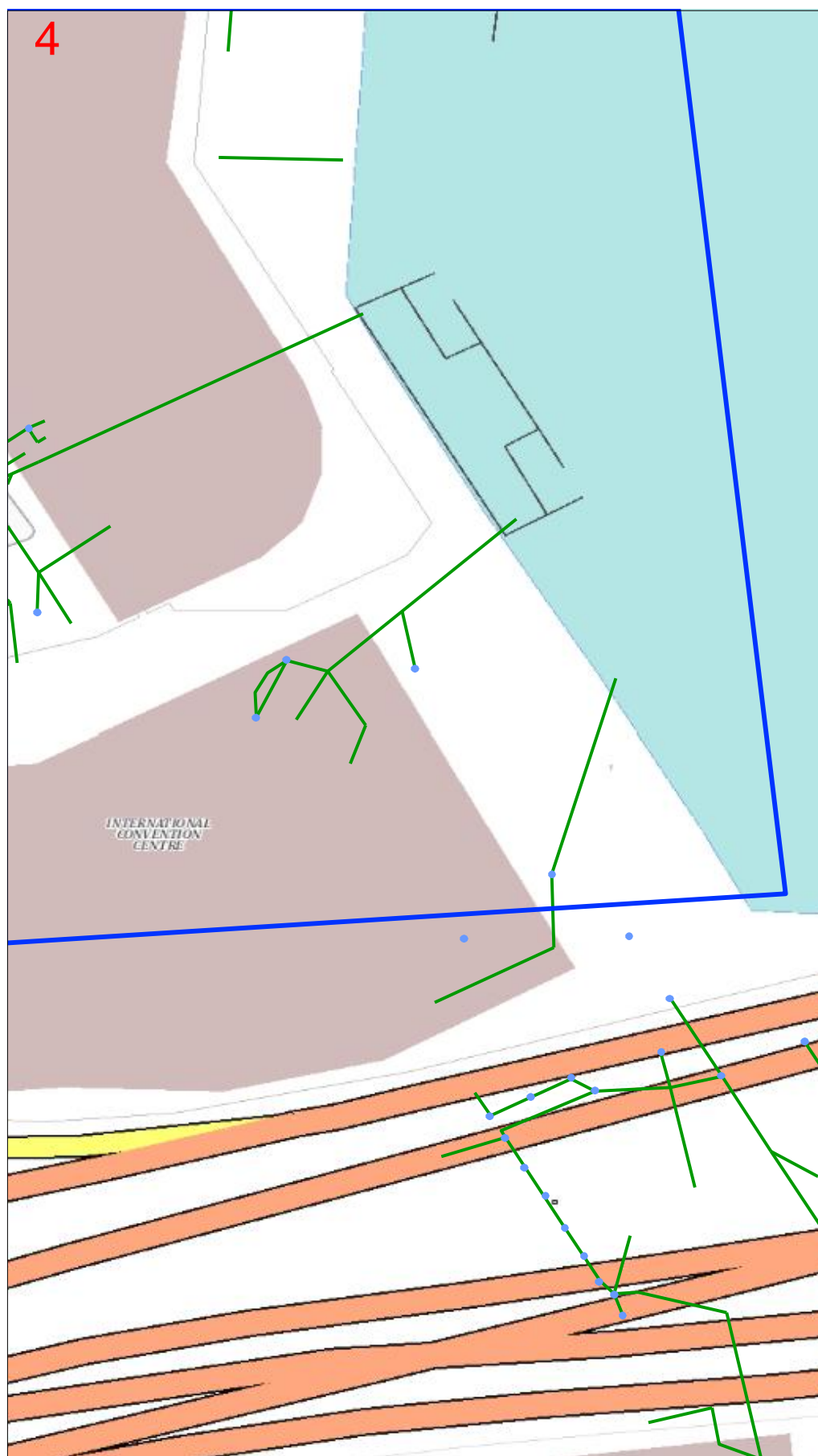


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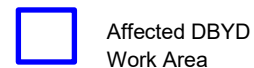
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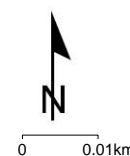
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