

Redfern Place - Stormwater Report

Prepared for Hickory and Bridge Housing

06/2024
Project Number S23123
Version C



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Document Control				
Revision	Date	Prepared	Reviewed	Approved
A	20/05/2024	Abrar Mohammed	Stephen Hazlewood	Stephen Hazlewood
B	27/06/2024	Abrar Mohammed	Stephen Hazlewood	Stephen Hazlewood
C	08/07/2024	Abrar Mohammed	Stephen Hazlewood	Stephen Hazlewood

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1. Executive Summary

This report has been prepared by BG&E to address the stormwater requirements for 600-660 Elizabeth Street, (Redfern Place). BG&E has been engaged by Hickory and Bridge Housing to provide a stormwater solution for the development of multiple residential towers and a PCYC low rise building. The report has been prepared to be lodged for a State Significant Development Approval. The development will also include through site links from the public domain between the buildings at ground floor.

This report will outline the methodology adopted and the associated results of:

- Requirement of an on-site detention tank; and
- Water sensitive urban design.
- SEARs condition 14 Water Management

Addressing the requirements directly, the report will present all information to show the quantity of runoff from the site can be suitably managed by the proposed On-Site Detention (OSD) Tank as required by Sydney Water. The quality of the runoff has been treated to satisfy City of Sydney (Council) conditions which have been qualitatively demonstrated in Sections 5.8 and 5.9. Considering this report and its contents, it can be concluded the development has demonstrated a neutral environmental impact in terms of water quality and quantity.

As part of the civil package prepared by BG&E, erosion and sediment controls must be installed before construction and maintained throughout the construction stages per the BlueBook. These measures ensure there is no impact on the ecological values adjacent to the site. To further ensure the park is not impacted during construction.

It is understood that this report will be utilised in the State Significant Development Application submission and will also inform the

basis of the next phases of design works to ensure continuity through the project. As outlined in this report, the following key items have been identified:

- Discharge from the site is limited to 317L/s for the 1% AEP storm event as specified by Sydney Water correspondence.
- The on-site detention must have a minimum volume of 253 m³ as specified by Sydney Water
- WSUD targets achieved by using 28 (twenty-eight) StormFilters, 7 (seven) OceanGuards and a small, landscaped swale along the boundary.

By discussing the key elements of the existing and proposed site conditions, and providing sufficient evidence, it can be concluded that development satisfies the City of Sydney DCP requirements.

1.1 Relevant Documentation

The following documentation has been used as a reference in the preparation of this report and the stormwater concept plans:

- Architectural Plans by Hayball dated June 2024
- Landscape Architectural plans by Aspect Studios dated June 2024
- Survey Plan provided by Geosurv dated November 2023



2. Introduction

This report accompanies a detailed State Significant Development Application that seeks approval for a mixed-use development at 600-660 Elizabeth Street, Redfern (Redfern Place). The development proposes four buildings comprising community facilities, commercial/office, affordable/social/specialist disability housing apartments and new public links and landscaping.

The project site comprises Lot 1 in DP 1249145. It has an area of approximately 10,850m². Part of the site currently accommodates the existing Police Citizens Youth Club (PCYC) (to be demolished and replaced). The remaining portion of the site is vacant with remnant vegetation.

The SSDA seeks approval for redevelopment of the site, including:

- Demolition of existing buildings.
- Tree removal.
- Bulk earthworks, including excavation.
- Construction of a community facility building known as Building S1.
- Construction of two residential flat buildings (known as Buildings S2 and S3) up to 14 and 10 storeys, respectively, for social and affordable housing.
- Construction of a five-storey mixed-use building (known as Building S4) comprising commercial uses on the ground level and social and specialist disability housing above.
- Construction of one basement level below Buildings S2, S3 and part of S4 with vehicle access from Kettle Street.
- Site-wide landscaping and public domain works, including north-south and east-west pedestrian through-site link.

For a detailed project description, refer to the Environmental Impact Statement prepared by Ethos Urban.

Purpose of Report

BG&E have been engaged by Hickory and Bridge Housing to design the stormwater management system and prepare a stormwater report to inform and support the State Significant Development Application (SSDA) for 600-660 Elizabeth Street, Redfern.

This report will outline the approach BG&E has adopted to evaluate the following

- Existing stormwater management on site
- Proposed stormwater management on site
- Water Sensitive Urban Design

Item	SEARS Requirement	Relevant Section of Report
14 Water Manag ement	Provide an integrated Water Management Plan for the development that:	
	Is prepared in consultation with the local council and any other relevant drainage or water authority	Refer to 4.1 and 4.2 for council DCP requirements that have been adopted as a guild to ensure coordination with council expectations.
	Outlines the water-related servicing infrastructure required by the development (informed by the anticipated annual and ultimate increase in servicing demand) and evaluates opportunities to reduce water demand (such as recycled water prevision)	Refer to the Neuron Report (Hydraulic Engineer) for all wastewater (sewer), rainwater tank connections, reuse and downpipe locations.
	Details the proposed drainage design (stormwater and Wastewater) for the site, including any on-site treatment reuse and detention	Refer to Appendix C for Stormwater Drawings.



	facilities, water quality management measures, and nominated discharge points.	Refer to section 4 for all requirements for the site's stormwater quality and quantity management.
	Demonstrates compliance with the local council or other drainage or water authority requirements and avoids adverse downstream impacts	Refer to section 5 for the results of the stormwater quality and quantity management.
	Where water and drainage infrastructure works are required that would be handed over to the local council or other drainage or water authority, provide full hydraulic details and detailed plans and specifications of proposed works that have been prepared in consultation with and comply with the relevant standards, the local council or other drainage or water authority	None of this type of work is proposed at this time.

2.1 Referenced Standards and Documentation

The following documents have been used as part of this report:

- City of Sydney Development Control Plan 2012 Section 3
- City of Sydney Stormwater Drainage Manual 2017
- Sydney Water requirements (via email dated 20.10.2023)
- Sydney Water's On Site Detention Policy (February 2021)
- Sydney Water's On Site Stormwater Detention Guide (June 2020)
- Australian Rainfall and Runoff Guidelines 2019

2.2 Development Controls

The development has used the City of Sydney DCP as a guidance and reference for the stormwater management design. The objectives of Stormwater Management in Section 3 of the DCP are as follows:

- Ensure an integrated approach to water management across the city using water sensitive urban design principles.
- Encourage sustainable water use practices.
- Assist in the management of stormwater to minimise flooding and reduce the effects of stormwater pollution on receiving waterways.
- Ensure that development above the flood planning level as defined in the Sydney LEP 2012 will minimise the impact of stormwater and flooding on other developments and the public domain both during the event and after the event.



2.3 Location

The site is located on a corner lot at the intersection of Elizabeth Street and Philip Street in Redfern within the LGA of City of Sydney. As shown in the locality plan in **Figure 1**, the site is bordered by Elisabeth St to the west, Kettle St to the north, Walker St to the east and Philip St to the south. The site has an area of approximately 1.081Ha.



Figure 1: Site Locality Plan (Mecone Maps - May 2024)

2.4 Existing Site Information and Description

Currently, the site consists of 3 (three) single story brick building with various roofs, sporting courts and a large green scape area. There is limited information available on the existing site drainage but it is understood to be insufficient for the future development use and will be demolished. There is existing stormwater drainage under the adjoining roads with varying sizes and depths.

Before You Dig Australia (BYDA) information obtained from the City of Sydney Council showed the following stormwater assets (refer to **Figure 2** for more information):



Figure 2: Before You Dig Australia - Stormwater Map (City of Sydney Council)

The location of the existing stormwater pits shown in the Before You Dig Australia around the site was confirmed by the survey completed by Geosurv and a site visit. The survey was unable to confirm the depth of the stormwater pits around the site due to the build-up of debris. A site visit confirmed that the stormwater pit with the lowest RL was located close to the intersection of Elizabeth Street and Phillip Street and was confirmed to be approximately 1.4m deep.

2.5 Existing Flooding Information

The site is flood affected by the 1% AEP and PMF flood event. Refer to the Redfern Place – Flood Assessment June 2024 Version E by BG&E for details of flood levels, impact, and mitigation strategies. The impact of the flood assessment has effected the stormwater management strategy. This has led to the design taking the flood assessment results into the design of the On-Site Detention Tank and documentation of flood storage.

3. Proposed Development

The development proposes four buildings comprising community facilities, commercial/office, affordable/social/specialist disability housing apartments and new public links and landscaping.

The project site comprises Lot 1 in DP 1249145. It has an area of approximately 10,850m². Part of the site currently accommodates the existing Police Citizens Youth Club (PCYC) (to be demolished and replaced). The remaining portion of the site is vacant with remnant vegetation.

The SSDA seeks approval for redevelopment of the site, including:

- Demolition of existing buildings.
- Tree removal.
- Bulk earthworks including excavation.
- Construction of a community facility building known as Building S1.
- Construction of two residential flat buildings (known as Buildings S2 and S3) up to 14 and 10 storeys respectively, for social and social and specialist disability housing.
- Construction of a five-storey mixed use building (known as Building S4) comprising commercial uses on the ground level and affordable housing above.
- Construction of one basement level below Buildings S2, S3 and part of S4 with vehicle access from Kettle Street.
- Site-wide landscaping and public domain works including north-south and east-west pedestrian through-site link.

For a detailed project description refer to the Environmental Impact Statement prepared by Ethos Urban.

Refer to Appendix B for the relevant Architectural Plans. The masterplan for the site is shown as a snippet in figure 3 below.

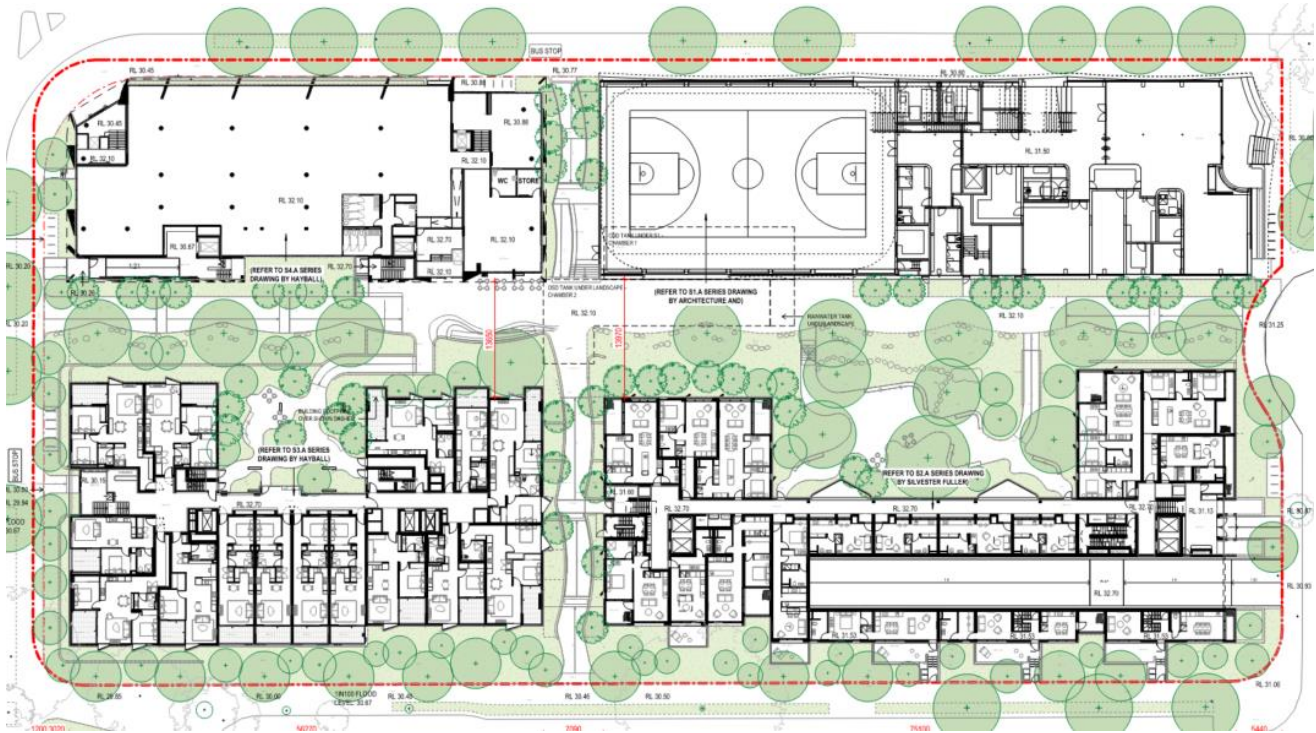


Figure 3: Masterplan of Development by Hayball Architects (June 2024)

4. Design Criteria

4.1 Water Sensitive Urban Design

The City of Sydney DCP Section 3 of City of Sydney's DCP 2012 specifies stormwater quality requirements and objectives. The technical pollutant reduction requirements for post-development flows are as follows:

- Achieve a minimum of 90% retention of the total Gross Pollutants (GP) average annual load
- Achieve a minimum of 85% retention of the total Suspended Solids (TSS) average annual load
- Achieve a minimum of 65% retention of the Total Phosphorus (TP) average annual load
- Achieve a minimum of 45% retention of the Total Nitrogen (TN) average annual load

The stormwater quality assessment is to be prepared by a suitably qualified engineer with experience of in water sensitive urban design (WSUD).

To satisfy the stormwater quality requirements, a post-development catchment plan has been created and attached in Figure 4 below. A pre-development plan is not needed to satisfy the stormwater requirements for this development. Table 1 below shows the breakdown of the areas shown in the plan for the total site.

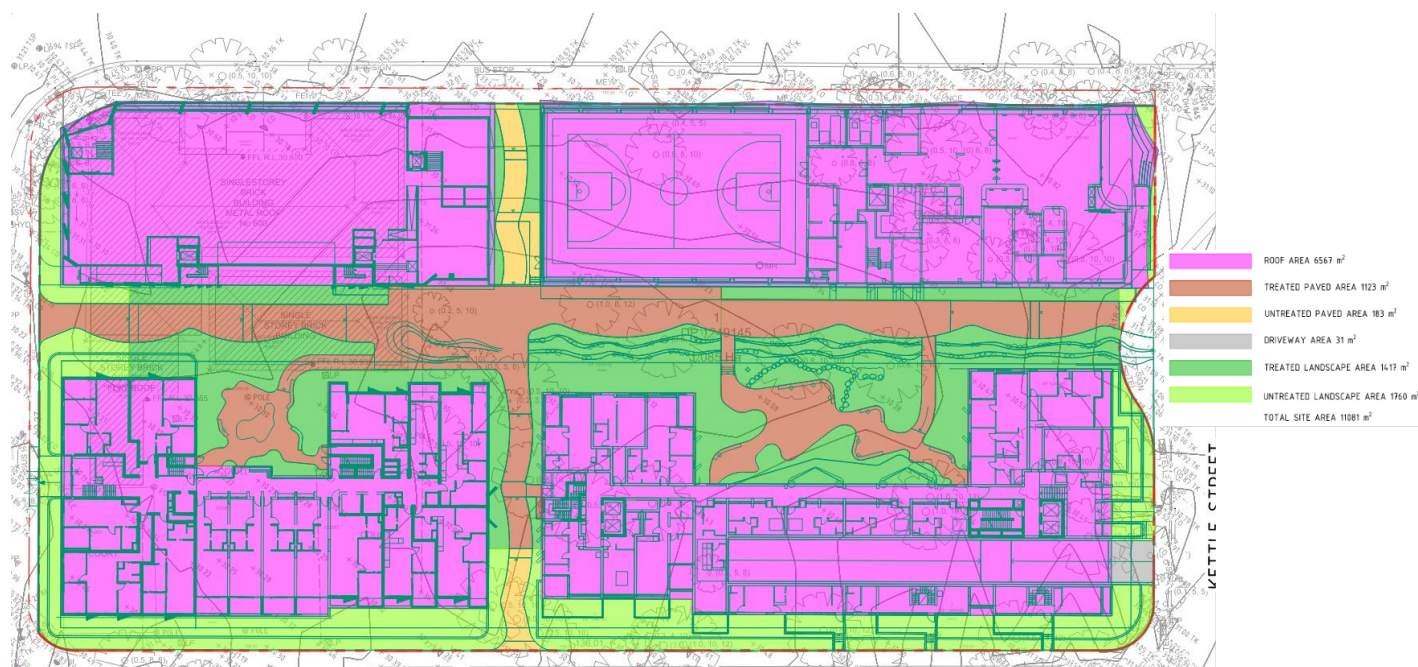


Figure 4: Post-Development Stormwater Plan

Table 1: Site Catchment Breakdown

Catchment Type	Post-Developed Catchment Area (m ²)
Roof	6557
Treated Paved Area	1123
Untreated Paved Area	183
Driveway Area	31
Treated Landscape Area	1417
Untreated Landscape Area	1760

4.2 Proposed Drainage Design

An integrated stormwater management and water-sensitive urban design concept has been prepared for the proposed development. The proposed development discharge connection is to a pit on Elisabeth Street. The pit is affected by the 1% AEP and PMF flood event. In line with Sydney Water requirements, an application was made to Sydney Water to confirm if our site with the proposed development would require On Site Detention. The confirmation from Sydney Water was the development is required to provide an OSD tank with 253 m³ and a permissible site discharge of the site of 317 L/s. The discharge location of the site is to the lowest stormwater pit around the site. Which was one discussed earlier to be the intersection of Elisabeth Street and Phillip Street at a depth of 1.4m. Refer to Appendix D for an email from Sydney Water confirming the requirements for the development. Refer to Appendix C for Civil Drawings and Stormwater discharge point.

5. Stormwater and WSUD Design

5.1 Stormwater Considerations On-Site Detention Design

The stormwater discharge and storage requirements for the site are outlined in Section 4.2 of this report. The OSD is proposed to minimise peak stormwater discharge flow to minimise the impact of new developments and increase runoff rates on existing infrastructure. The proposed location of the OSD Tank is below the paved shared space located in the middle of the site (Refer to Figure 5). A portion of the OSD will be under the PCYC ground floor. The OSD, as mentioned, will drain to an existing council pit located on Elizabeth Street.

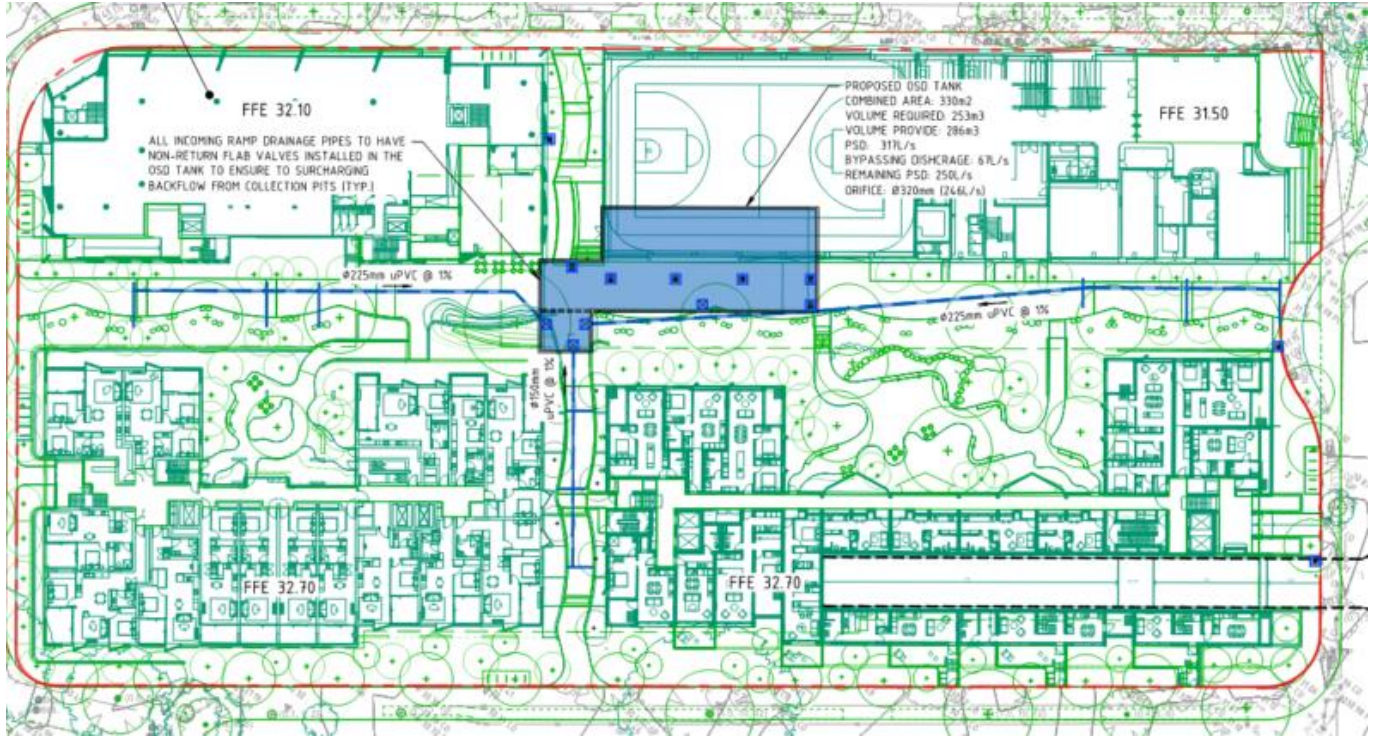


Figure 5 On-Site Detention Tank Location on Site

The pit on Elizabeth Street is affected by flooding, with the flood level at the pit being RL 30.88 for the 1% AEP flood event. To achieve the required storage volume, the orifice is drowned, which means it is below the 1% AEP flood level. This was the only way to ensure the required volume could be met above the 1% AEP flood level. The orifice has been sized, taking into account that it is drowned.

The OSD tank is proposed to have a volume of 286m³, including the storage within the water quality chamber. The orifice will be installed within the main OSD chamber to limit discharge from the site to 250L/s in the 1% AEP.

The tank has been designed with multiple access grates to allow for maintenance and safe access. Due to the nature of the site, there is portions of the site that cannot be collected due to the OSD tank level being mostly above the 1% AEP flood level. To ensure that water quality requirements can be met, these areas will still be connected with non-return valves to avoid any surcharge from pits or grated trench drains that are lower than the top water level of the OSD tank.

5.2 Water Sensitive Urban Design

The water quality modelling software MUSIC v6.3 was used to analyse the performance of the treatment train. Figure 6 shows the MUSIC node and link diagram prepared for the development. The model has been built to assess the adequacy of the proposed stormwater treatment measures and ensure that the stormwater discharge meets quality objectives prior to leaving the site.

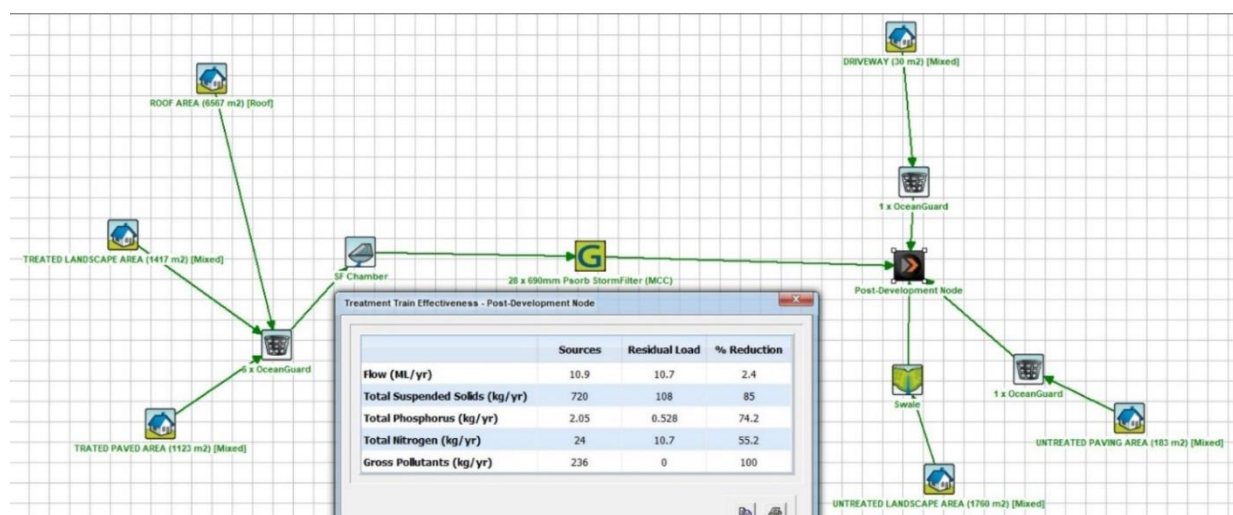


Figure 6: Music Model and Results

The MUSIC analysis shows the proposed treatment train would achieve the water quality targets. In order to meet the water quality targets, 28 Psorb (MCC) Stormfilters (or equivalent product) 7 OceanGuards (or equivalent product), and any areas that cannot be drained to the water quality chamber are to drain to a small, landscaped swale designed to hold the water to ensure the water is treated. Table 2 displays the site's MUSIC results concerning Council objectives.

Table 2 MUSIC Model Results and Council Objectives

Pollutant	Reduction Target (%)	Redevelopment Reduction (%)	Complaint
Total Suspended Solids (TSS)	85	85	Yes
Total Phosphorus (TP)	65	74.2	Yes
Total Nitrogen (TN)	45	55.2	Yes
Gross Pollutants (GP)	90	100	Yes

6. Conclusion

BG&E has been engaged by Hickory and Bridge Housing to design the stormwater management system and prepare a stormwater report for the development at 600-600 Elizabeth Street, Redfern.

This report has outlined the approach BG&E has adopted to evaluate the following:

- Proposed stormwater management on site
- Water Sensitive Urban Design

As outlined in this report, the following key items have been identified:

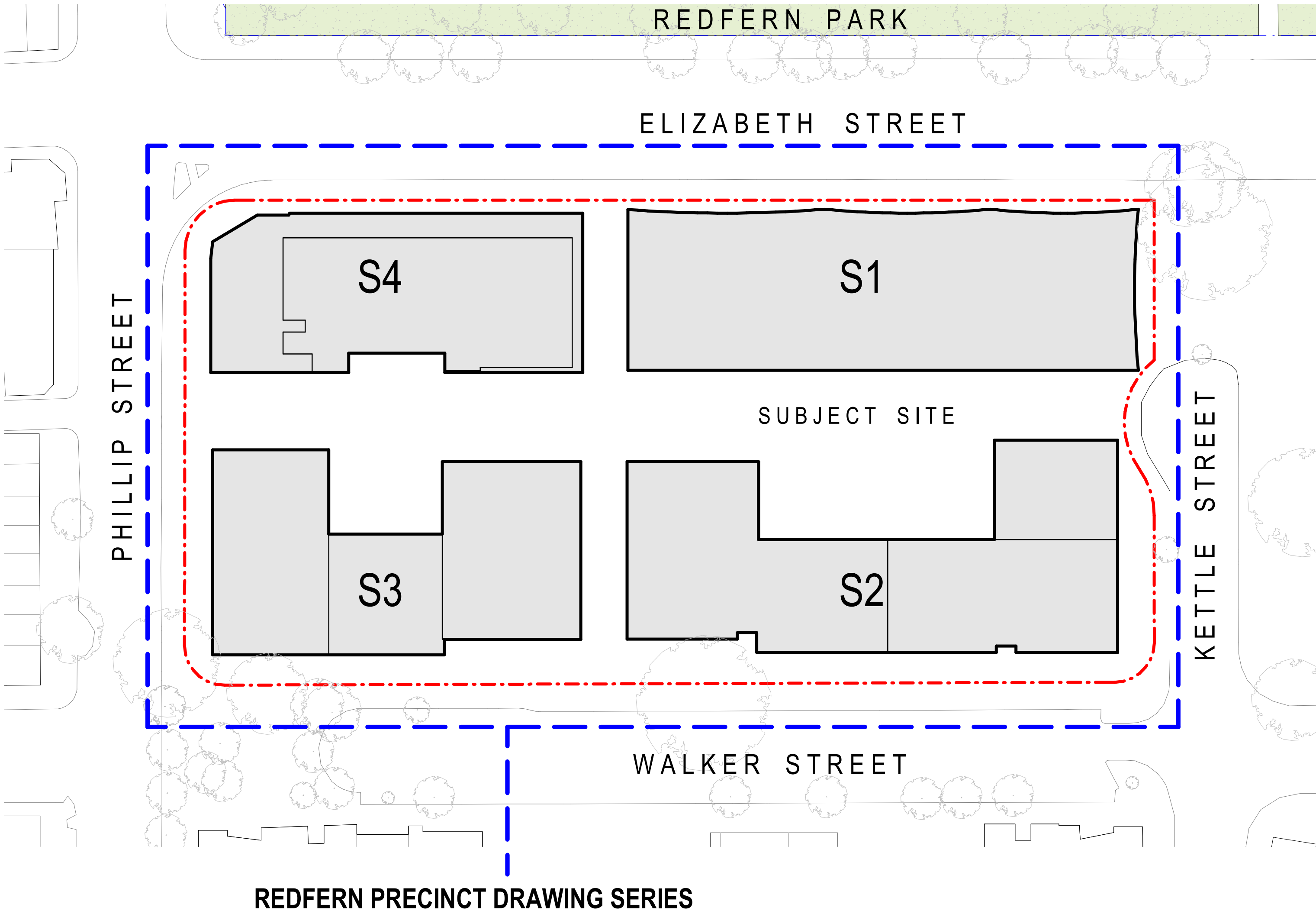
- Sydney Water has been contacted to confirm OSD requirements, which are a detention volume of 253 cubic meters and permissible site discharge of 317 L/s
- The OSD tank and orifice has been designed to have a site discharge is to be limited to 317L/s to satisfy Sydney Water requirements through a drowned orifice
- The OSD tank has been designed to provide 286 m³ which is more than the required by Sydney water due to the impact of the 1% AEP flood levels.
- The stormwater discharge from the site will connect to an existing stormwater pit located on Elizabeth Street.
- The Site has been modelled in MUSIC to calculate the Water Quality requirements for the site inline with the guidance of City of Sydney DCP .
- The results of the MUSIC Modelling is the site requires 28x690Psorb StormFilters by OceanProtect (or equivalent), 7 OceanGuards by Ocean Protect (or equivalent) and small landscaped swales for the lower external landscape zones.

The development provides on-site detention in line with Sydney Water's requirements to manage the stormwater quantity on-site. The stormwater quantity is being managed through 8x690Psorb StormFilters and 7 OceanGuards by Ocean Protect, as well as small swales in the external landscaping. The site also has a flood tank shown in the southwest corner of the site, as required by the flood report. Through these measures, the stormwater discharge on site is improving as a result of the development and fulfilling all of its infrastructure requirements. Future details will be required for coordination around other services at the next stage of the development to ensure no minor clashes with pipe runs.



Appendices

Appendix A - Architectural Drawings By Hayball



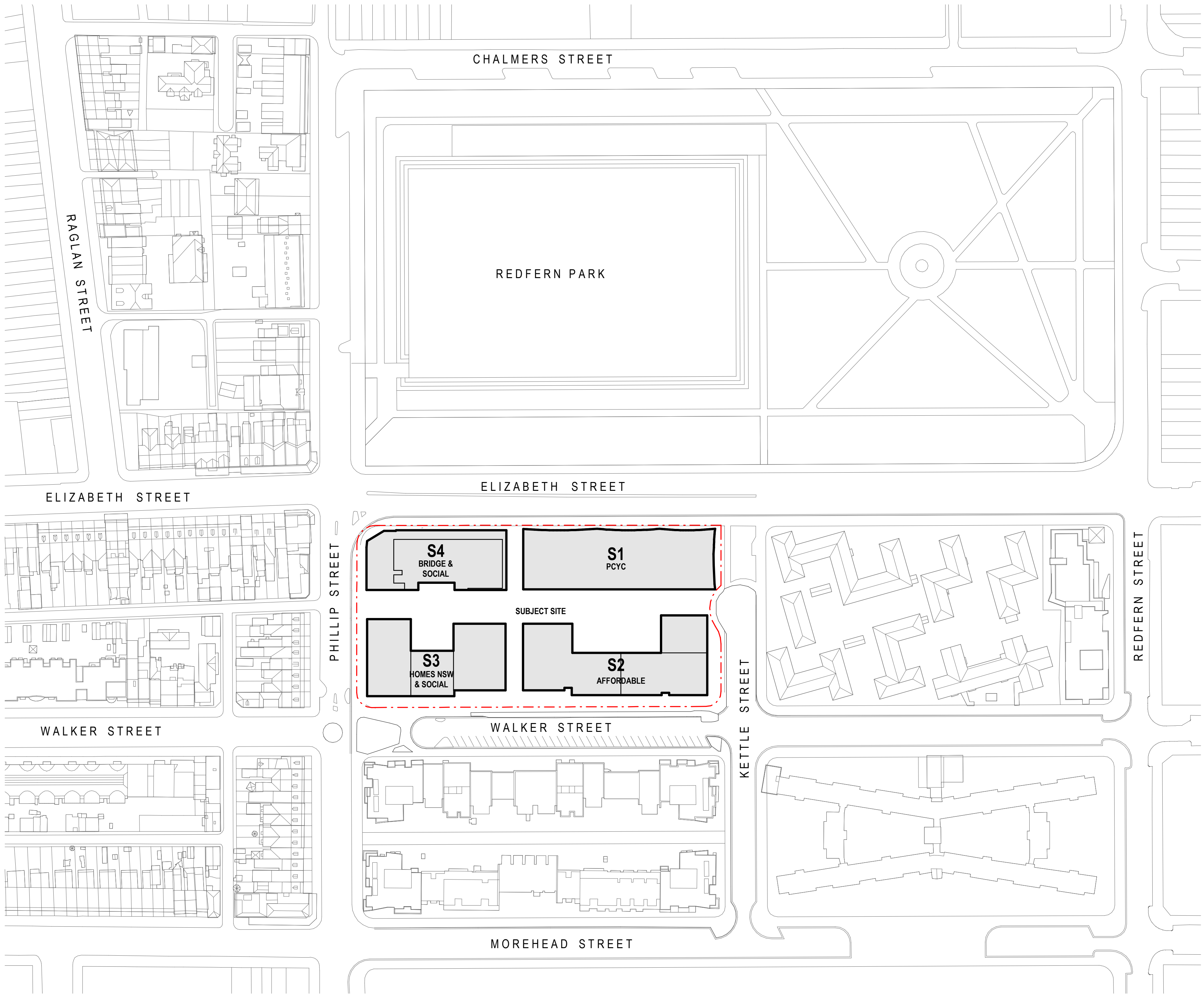
600-660 ELIZABETH STREET, REDFERN

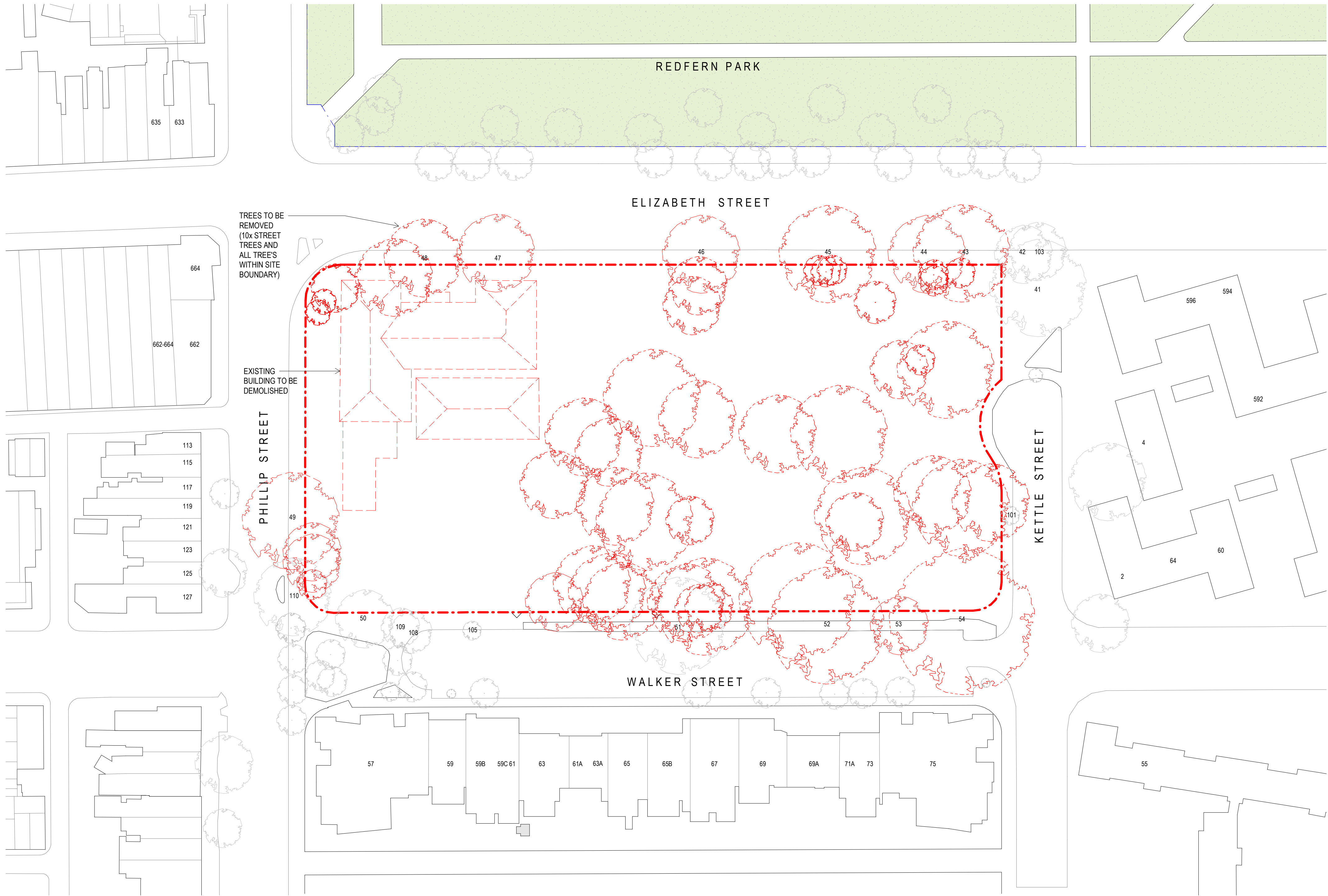
Series A - Precinct Wide

NO	SHEET NAME
A00.00	COVER SHEET
A01.00	SITE PLAN - LOCALITY PLAN
A01.01	SITE PLAN - EXISTING & DEMOLITION
A01.05	SITE PLAN
A02.00	BASEMENT PLAN
A02.01	MASTERPLAN
A06.01	SITE SECTIONS
A06.02	SITE SECTIONS
A06.20	SITE ELEVATIONS
A40.04	SOLAR STUDIES - SHADOW DIAGRAM - VIEWS FROM SUN
A40.05.01	SOLAR STUDIES - SHADOW DIAGRAM - PLAN - WINTER SOLSTICES
A40.05.02	SOLAR STUDIES - SHADOW DIAGRAM - PLAN - SUMMER SOLSTICES
A40.05.03	SOLAR STUDIES - SHADOW DIAGRAM - PLAN - EQUINOX
A40.06	SOLAR STUDIES - REDFERN PARK
A40.07	SOLAR STUDIES - WALKER ST
A40.08	SOLAR STUDIES - PHILLIP ST
A40.09	SOLAR STUDIES - COMMUNAL OPEN SPACE

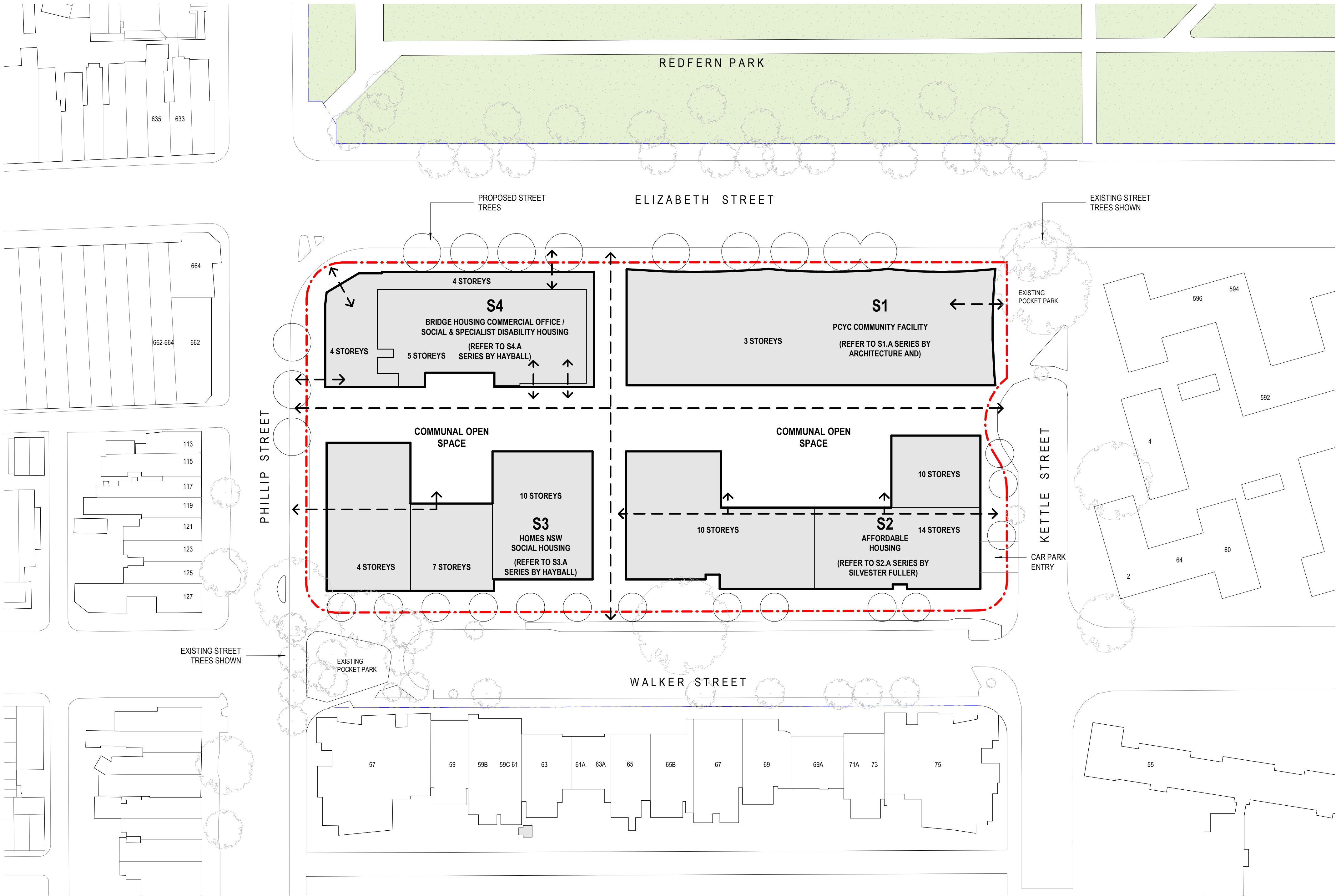
Full Drawing List - Project Wide

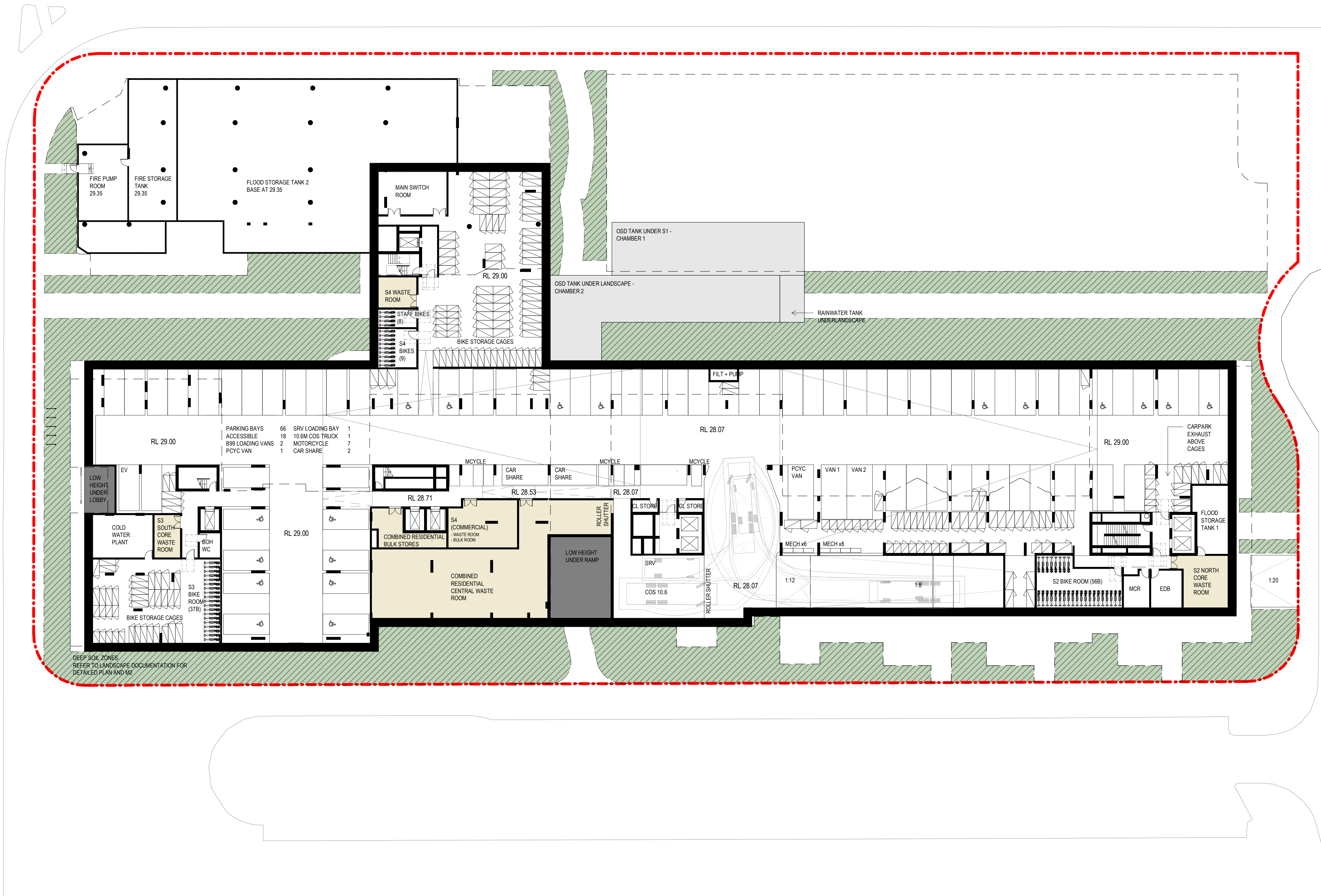
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A01.01	SITE PLAN - EXISTING & DEMOLITION	S3.A02.01	S3 PLAN - LEVEL 1-3
A01.05	SITE PLAN	S3.A02.04	S3 PLAN - LEVEL 4
A02.00	BASEMENT PLAN	S3.A02.05	S3 PLAN - LEVEL 5-6
A02.01	MASTERPLAN	S3.A02.07	S3 PLAN - LEVEL 7-9
A06.01	SITE SECTIONS	S3.A02.10	S3 PLAN - ROOF
A06.02	SITE SECTIONS	S3.A06.01	BUILDING ELEVATIONS
A06.20	SITE ELEVATIONS	S3.A06.02	BUILDING SECTIONS
A40.04	SOLAR STUDIES - SHADOW DIAGRAM - VIEWS FROM SUN	S3.A06.03	BUILDING SECTIONS
A40.05.01	SOLAR STUDIES - SHADOW DIAGRAM - PLAN - WINTER SOLSTICES	S3.A09.01	DA APARTMENT TYPES - ADG+SILVER
A40.05.02	SOLAR STUDIES - SHADOW DIAGRAM - PLAN - SUMMER SOLSTICES	S3.A09.02	DA APARTMENT TYPES - ADG+GOLD+ADP
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A40.06	SOLAR STUDIES - REDFERN PARK	S3.A40.21	ADG COMPLIANCE (X VENT + SOLAR) DIAGRAM - NOISE UNAFFECTED
A40.07	SOLAR STUDIES - WALKER ST	S3.A40.30	AREA SCHEDULE - S3 GFA
A40.08	SOLAR STUDIES - PHILLIP ST		
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S1.A02.02	LEVEL 2 FLOOR PLAN / ROOF PLAN	S4.A02.01	S4 PLAN - LEVEL 1
S1.A02.03	SECTIONS	S4.A02.02	S4 PLAN - LEVEL 2-3
S1.A02.04	ELEVATIONS	S4.A02.04	S4 PLAN - LEVEL 4
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S2.A02.03	LEVEL 2	S4.A09.02	DA APARTMENT TYPES - ADG+GOLD+ADP+SDA
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S2.A02.05	LEVEL 4	S4.A40.21	ADG COMPLIANCE (X VENT + SOLAR) DIAGRAM - NOISE UNAFFECTED
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S2.A02.08	LEVEL 7		
S2.A02.09	LEVEL 8		
S2.A02.10	LEVEL 9		
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S2.A02.12	LEVEL 11		
S2.A02.13	LEVEL 12		
S2.A02.14	LEVEL 13		
S2.A02.16	ROOF		
S2.A06.01	EAST		
S2.A06.02	NORTH		
S2.A06.03	WEST		
S2.A06.04	SOUTH		
S2.A06.11	A		
S2.A06.12	B		
S2.A06.13	C		
S2.A14.11	STUDIO		
S2.A14.12	1 BED 1/2		
S2.A14.13	1 BED 2/2		
S2.A14.14	2 BED		
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S2.A14.16	Adaptable		
S2.A40.11	APARTMENT MIX		
S2.A40.12	GFA		
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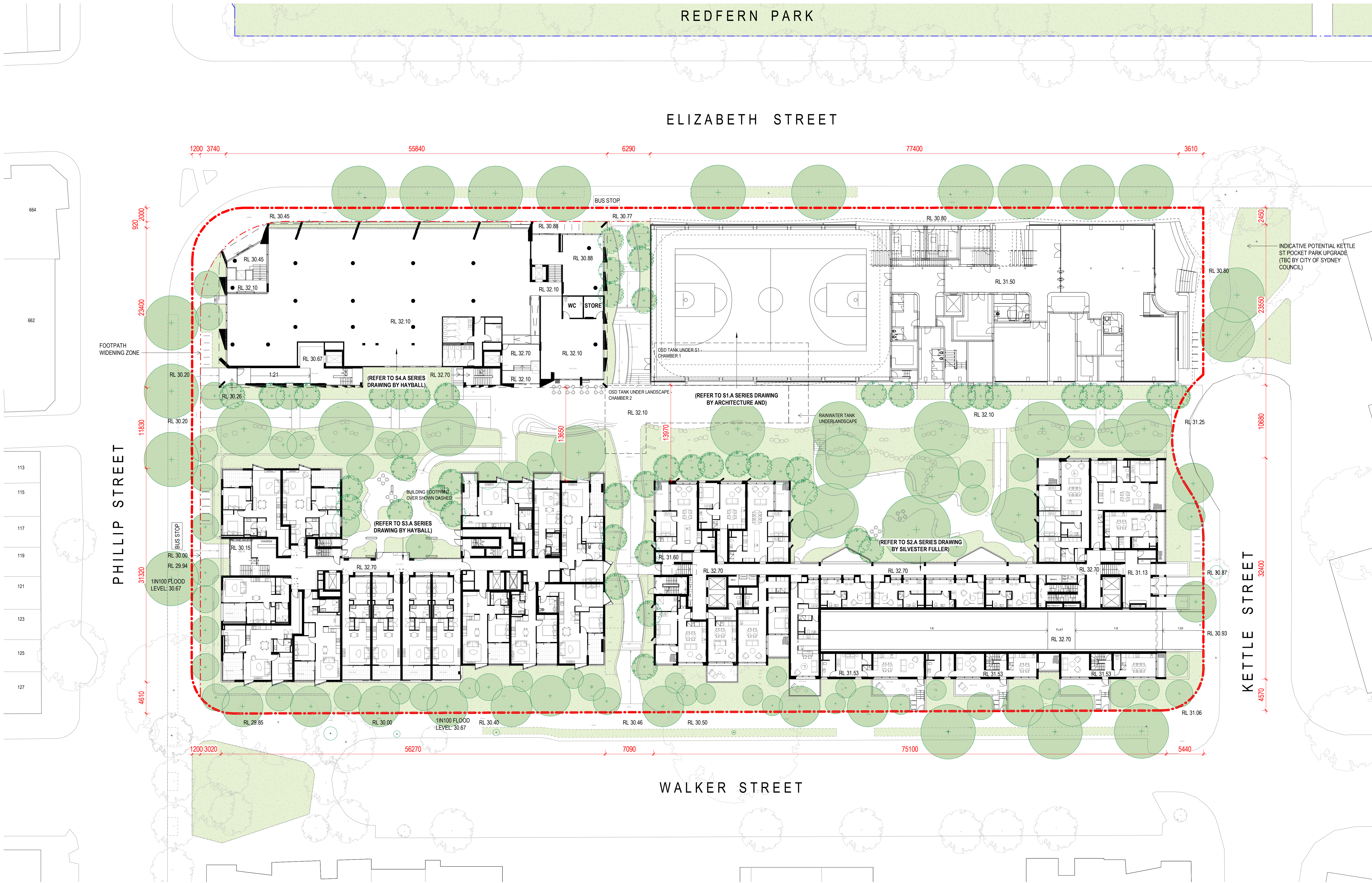




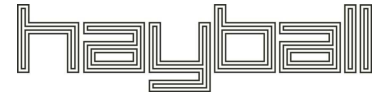
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Project Title:
600-660 Elizabeth Street,
Redfern (Redfern Place)

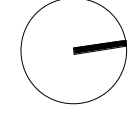
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— Precinct + S3 + S4 Lead Architect

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Checked By
Date Printed
Scale

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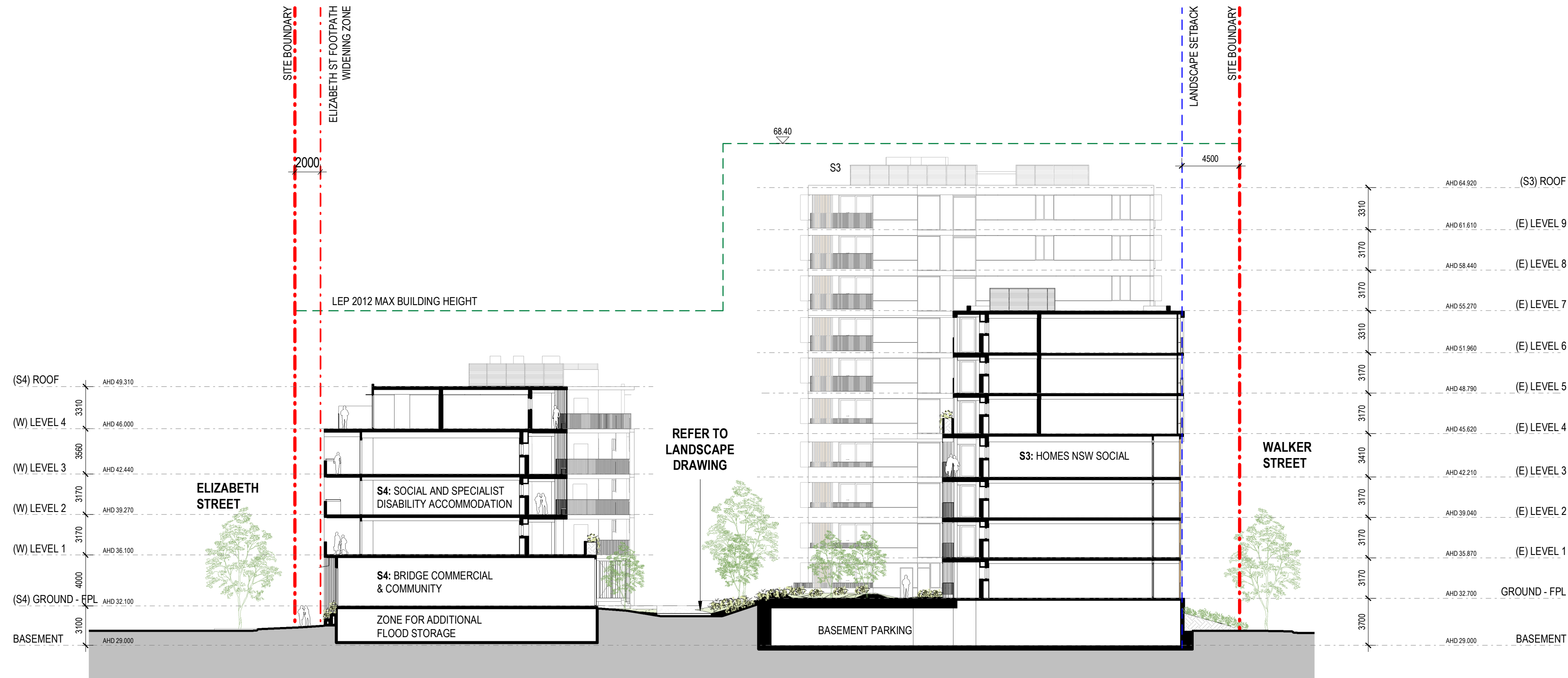
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Status:
STATE SIGNIFICANT
DEVELOPMENT APPLICATION
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MASTERPLAN

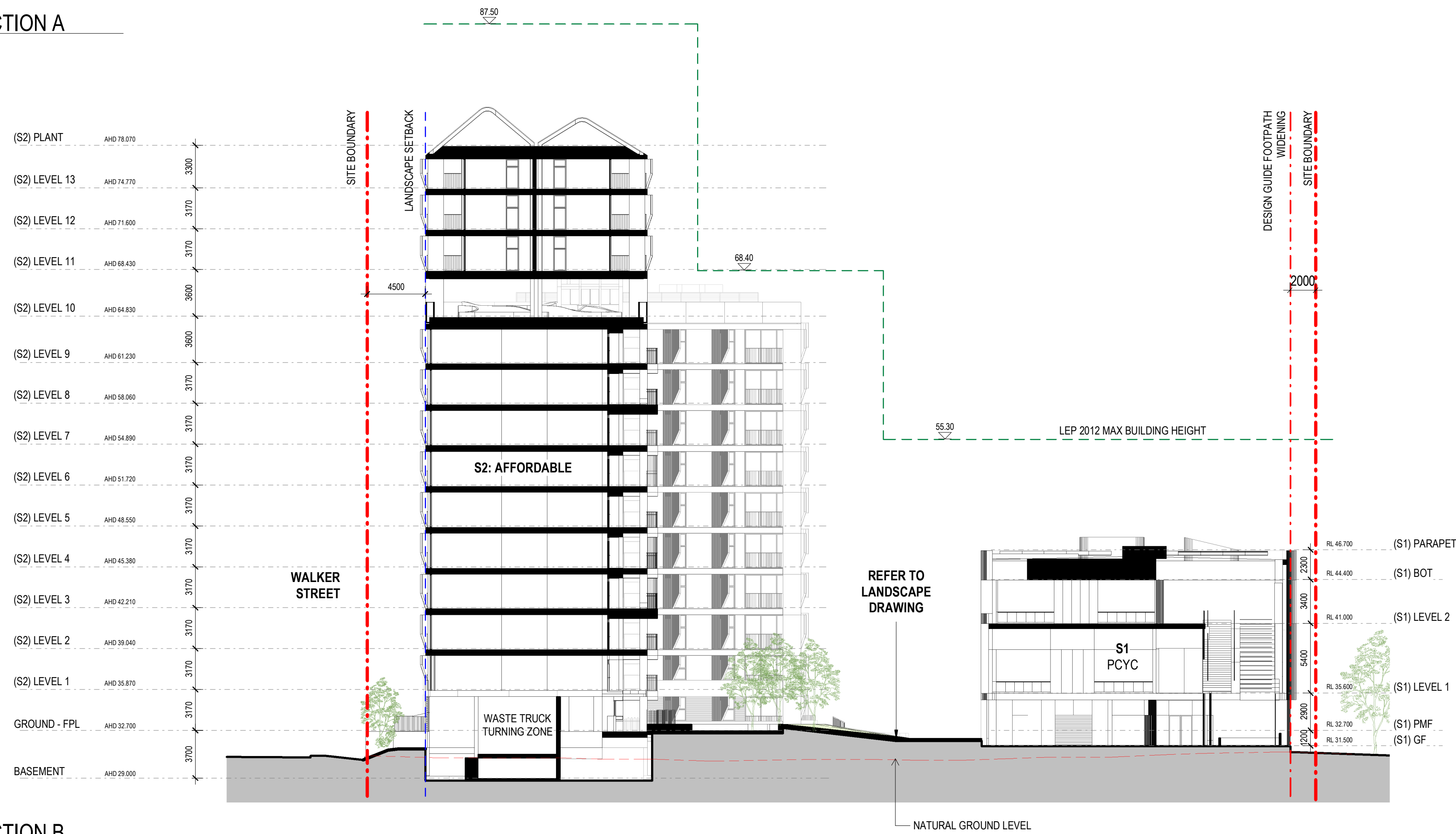
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Revision
A

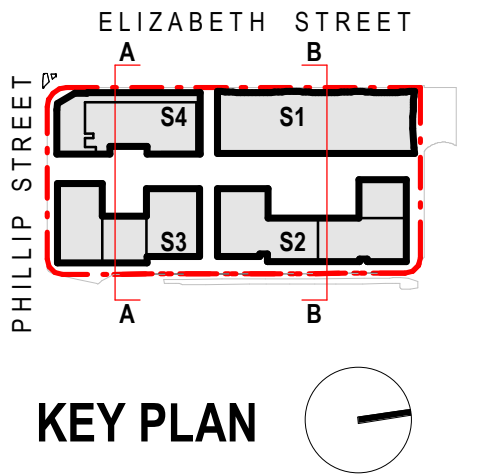
Verify all figured dimensions on site before undertaking any works. Do not scale dimensions off drawings.



3 SECTION A
1:250



2 SECTION B
1:250



Project Title:
600-660 Elizabeth Street,
Redfern (Redfern Place)

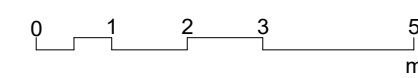
Sheet drawn by:



Project Architectural Team:
Architecture AND
SILVESTER
— S1 Lead Architect
— S2 Lead Architect
— Precinct + S3 + S4 Lead Architect

Notes:

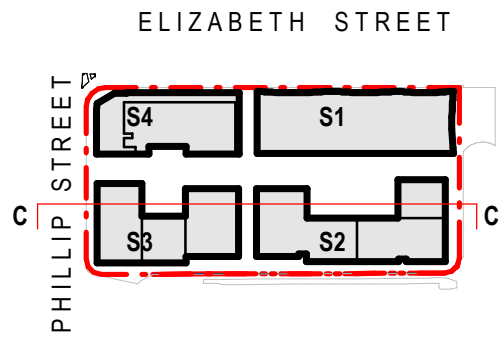
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Checked By: DT
Date Printed: 19/06/2024 5:20:17 PM
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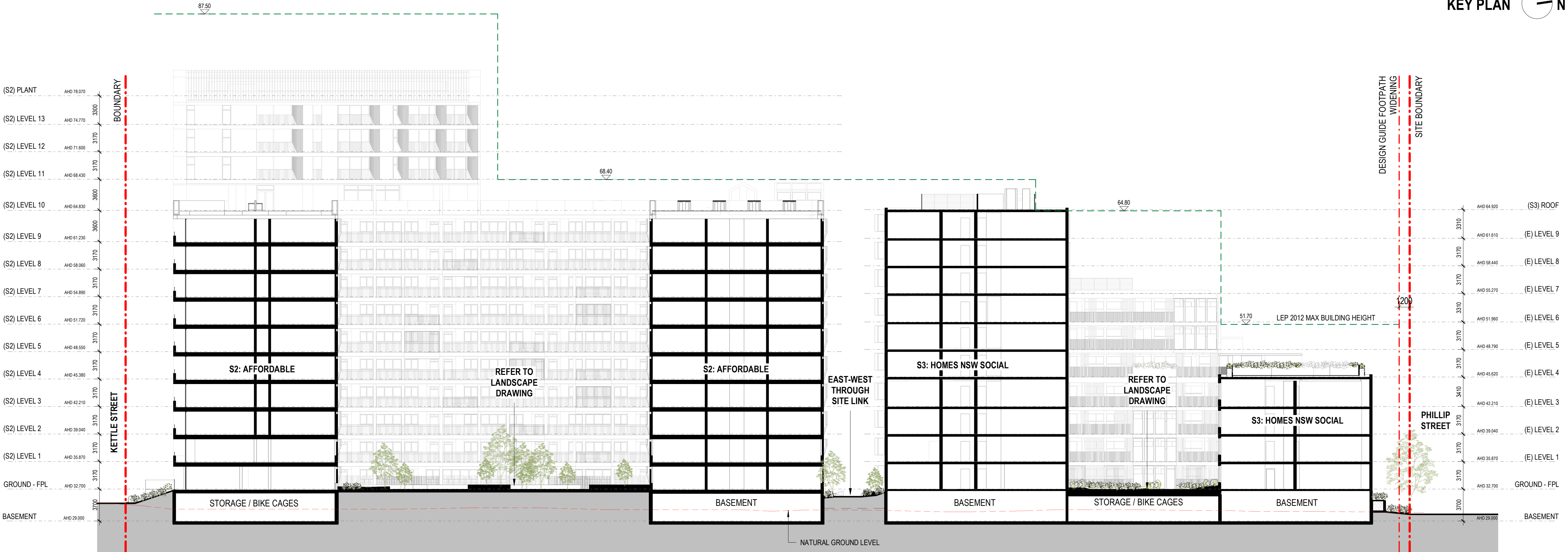
Rev	Date	Description
A	19/06/2024	SSDA

Status:
STATE SIGNIFICANT
DEVELOPMENT APPLICATION
Drawing Title:
SITE SECTIONS

Project No.
2610
Drawing No.
A06.01
Revision
A



KEY PLAN



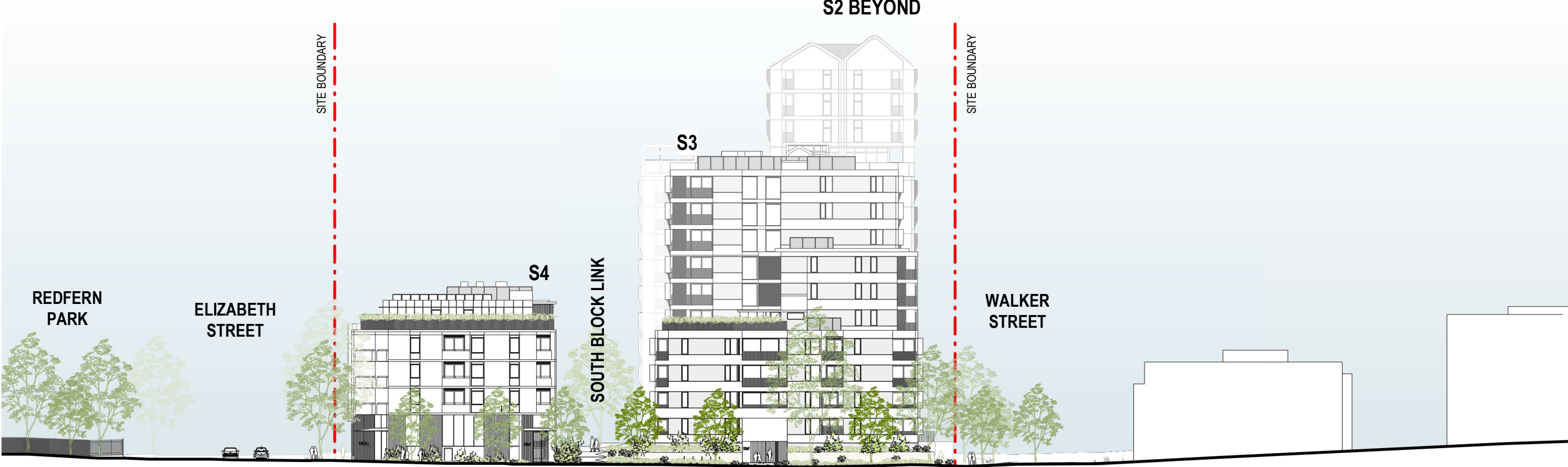
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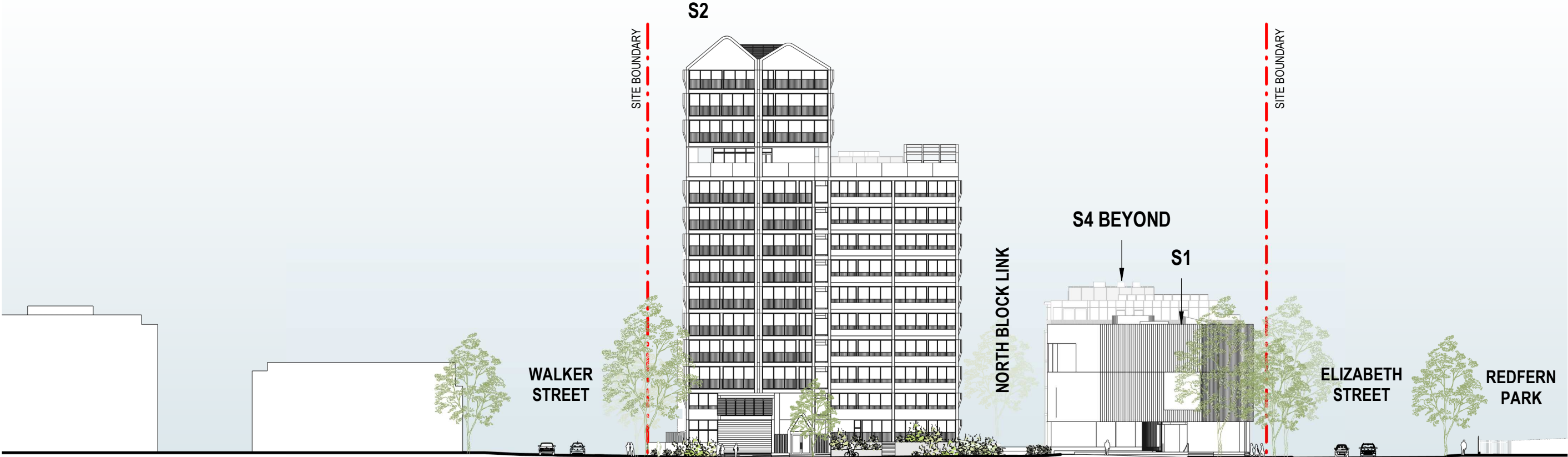
WALKER STREET ELEVATION



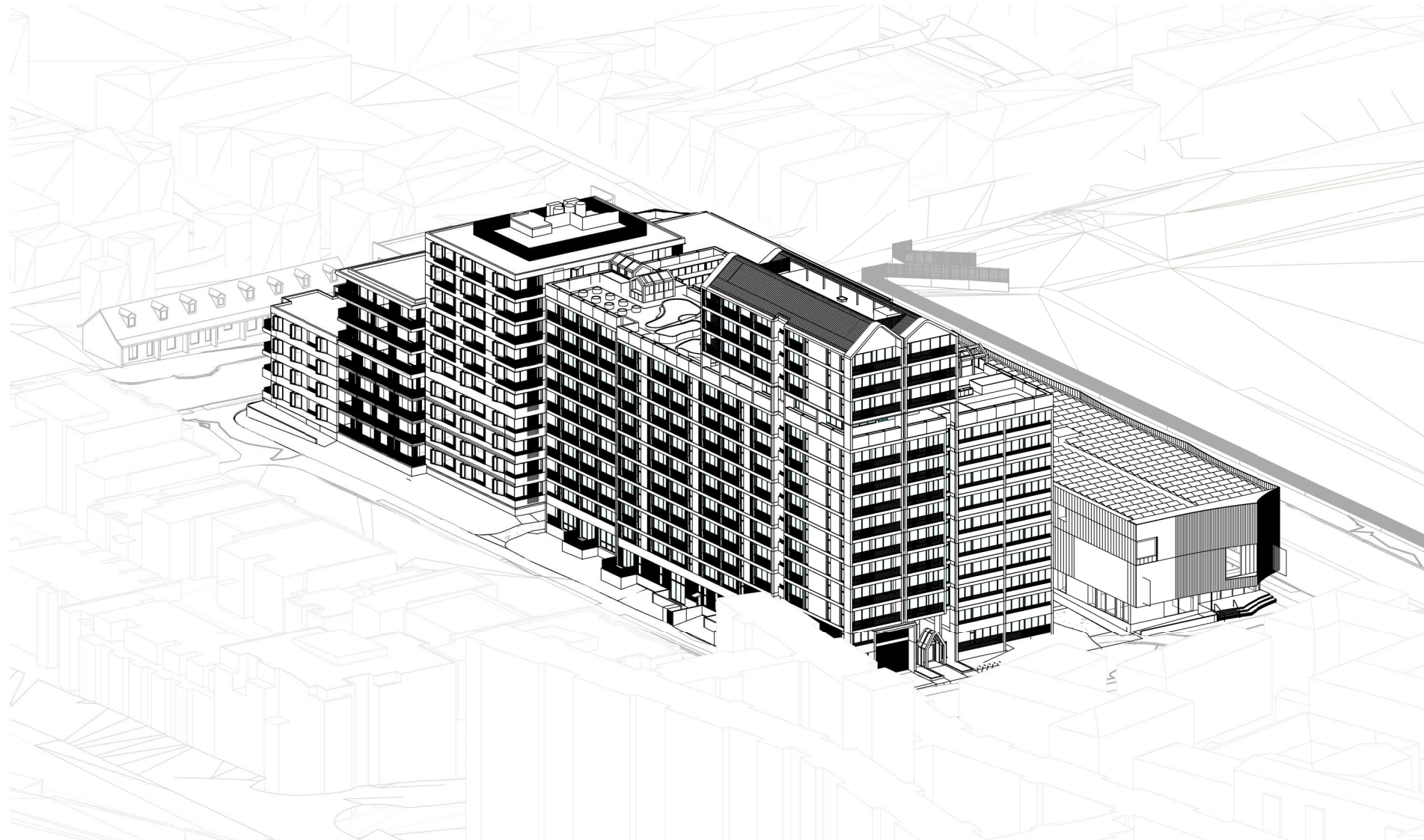
ELIZABETH STREET ELEVATION



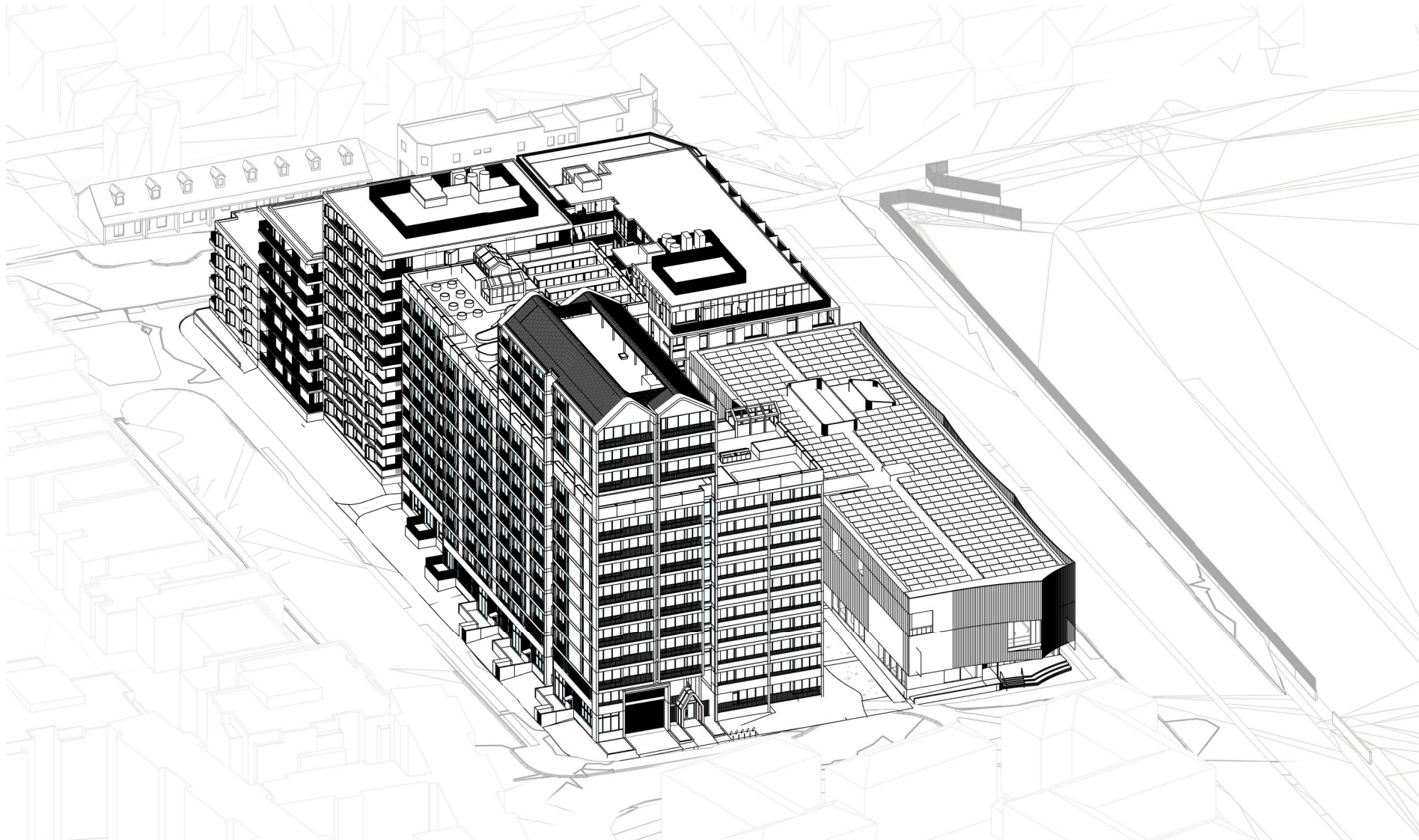
PHILLIP STREET ELEVATION



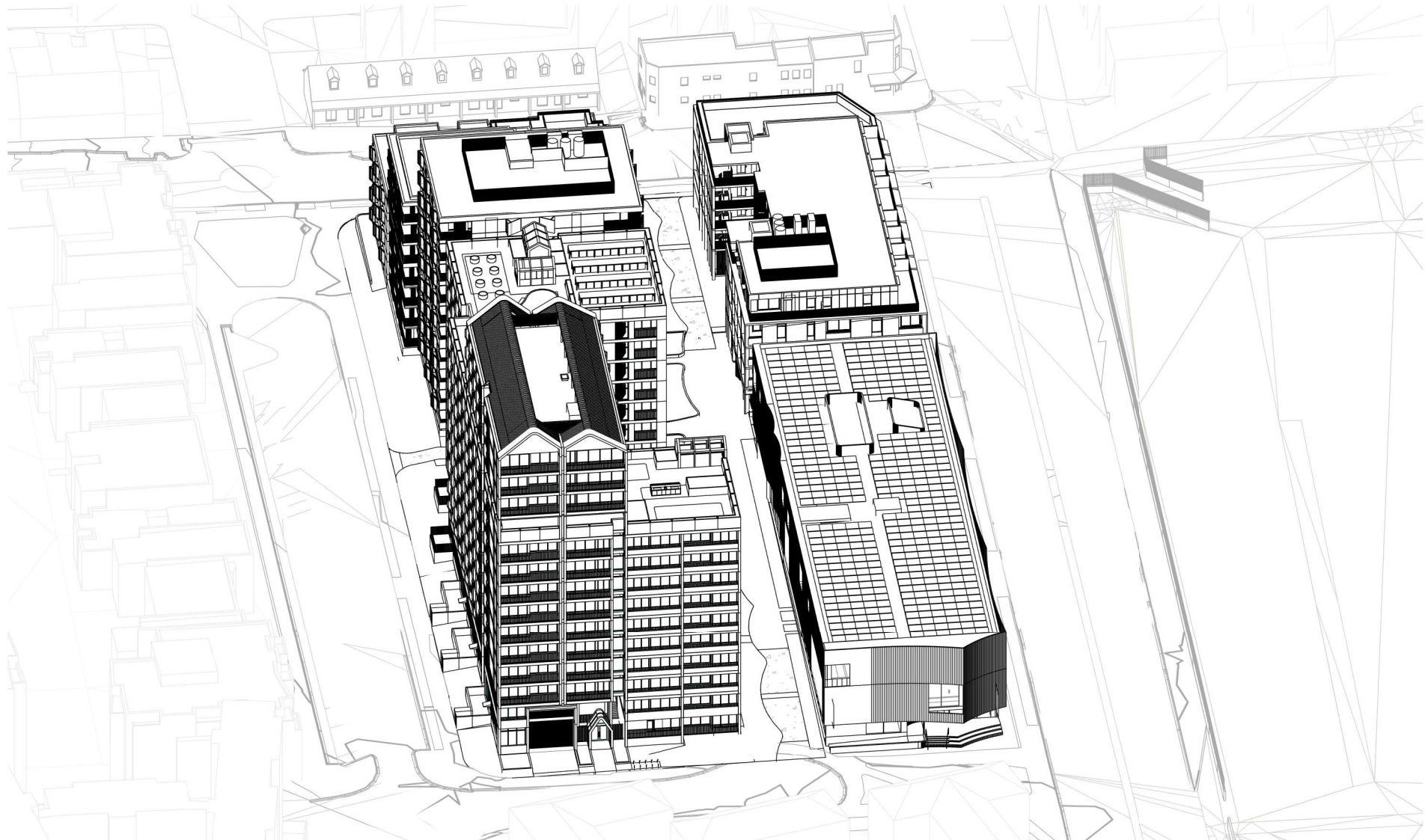
KETTLE STREET ELEVATION



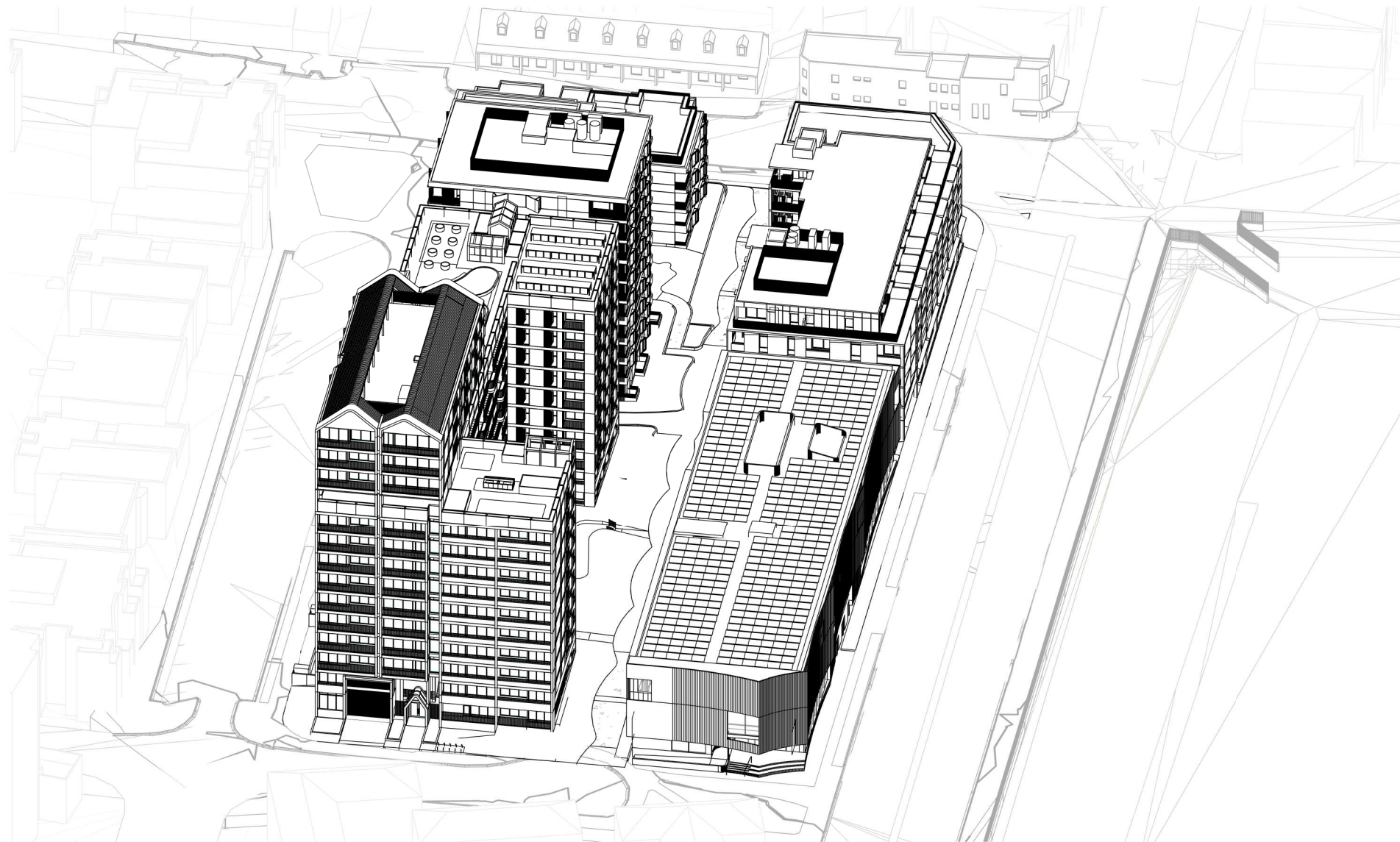
9AM WINTER SOLSTICE



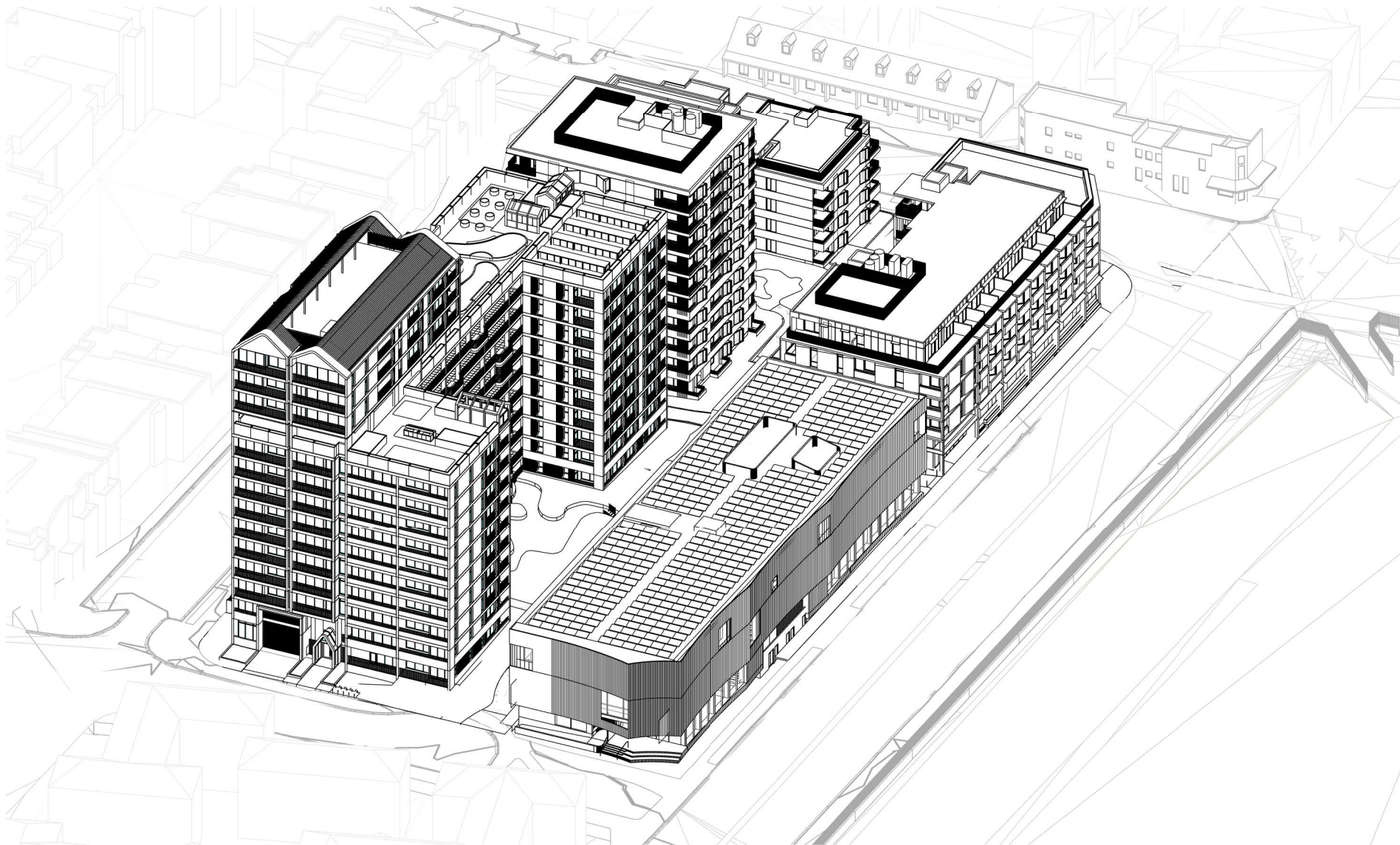
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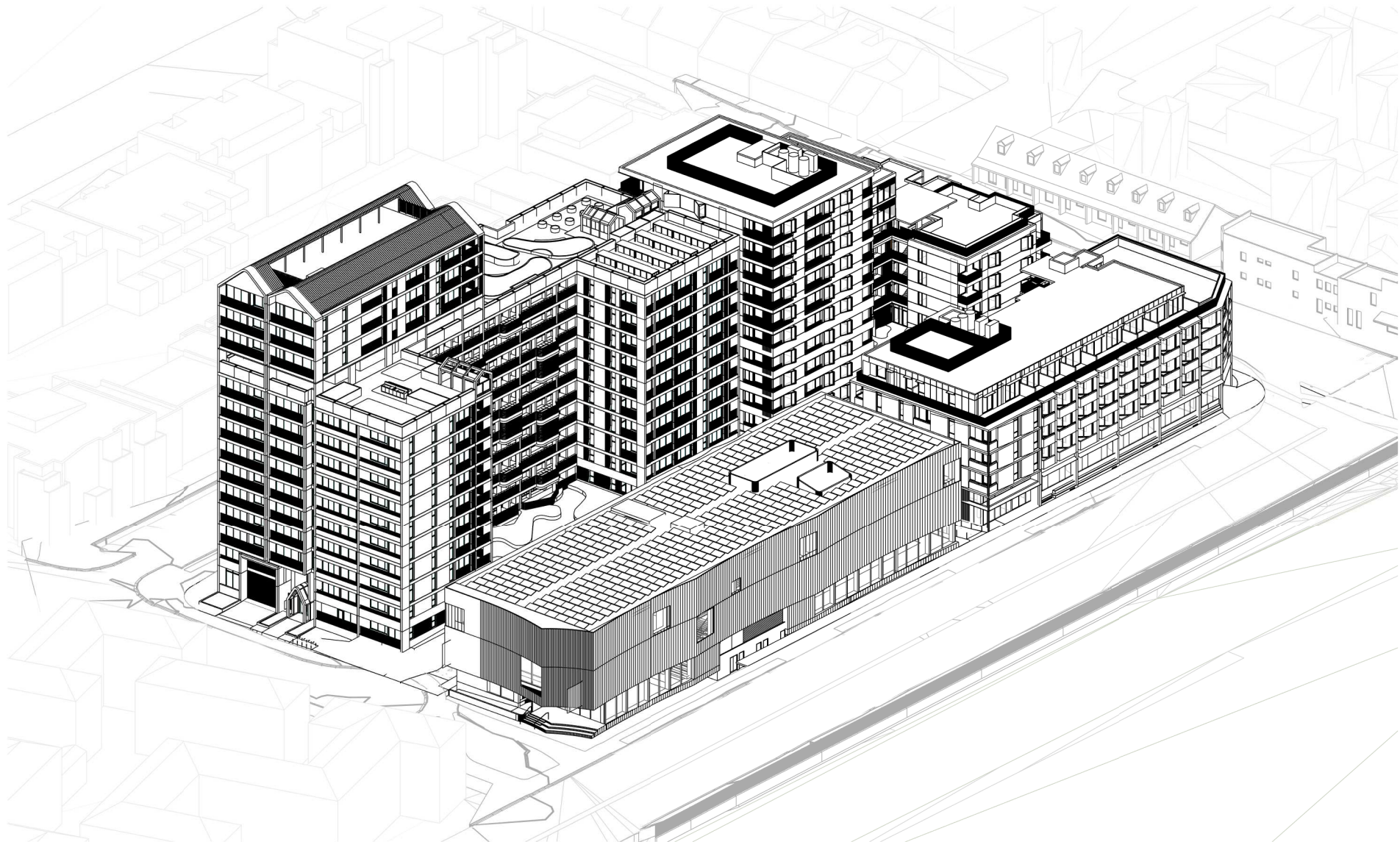
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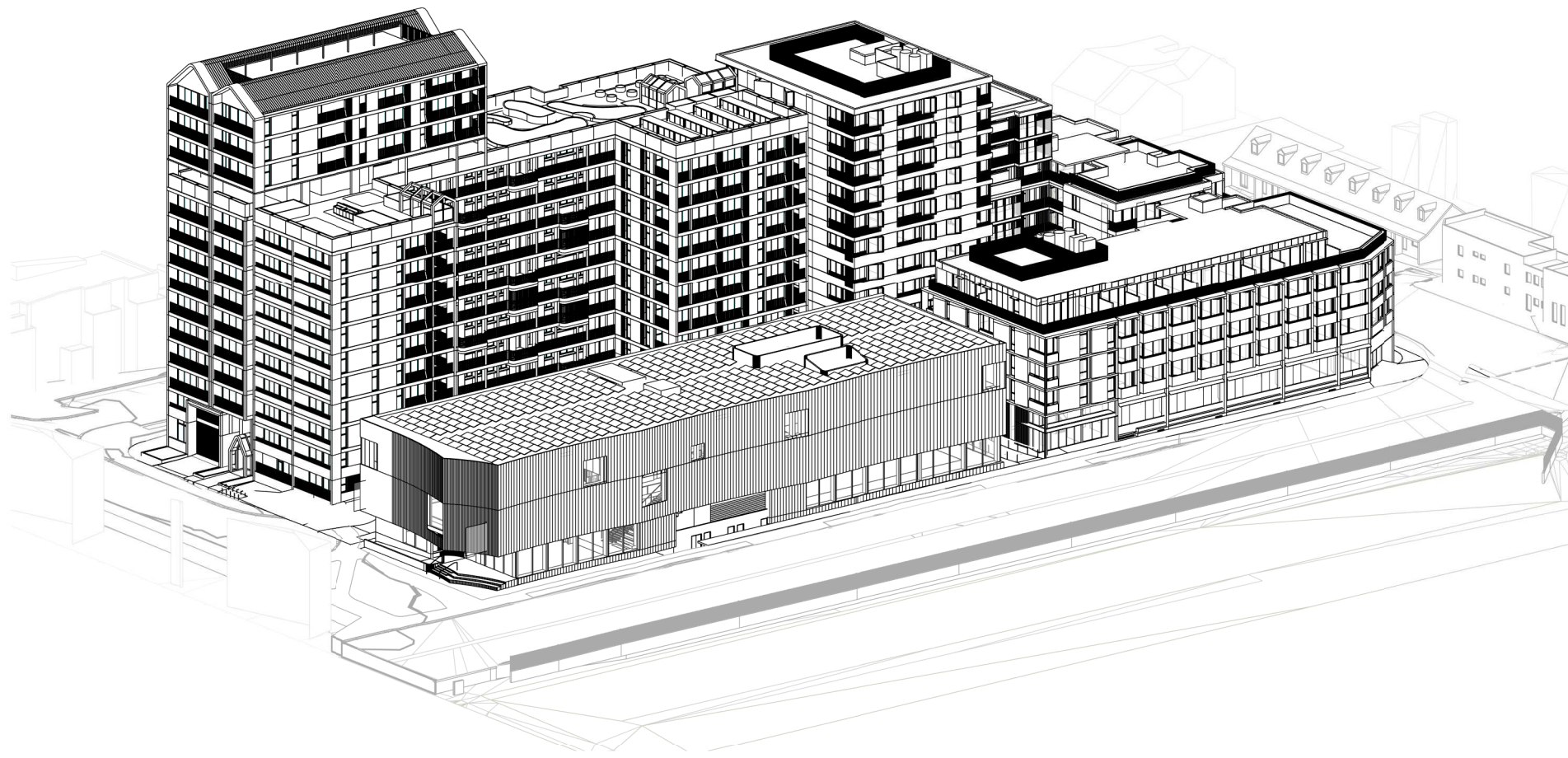
12PM WINTER SOLSTICE



1PM WINTER SOLSTICE



2PM WINTER SOLSTICE

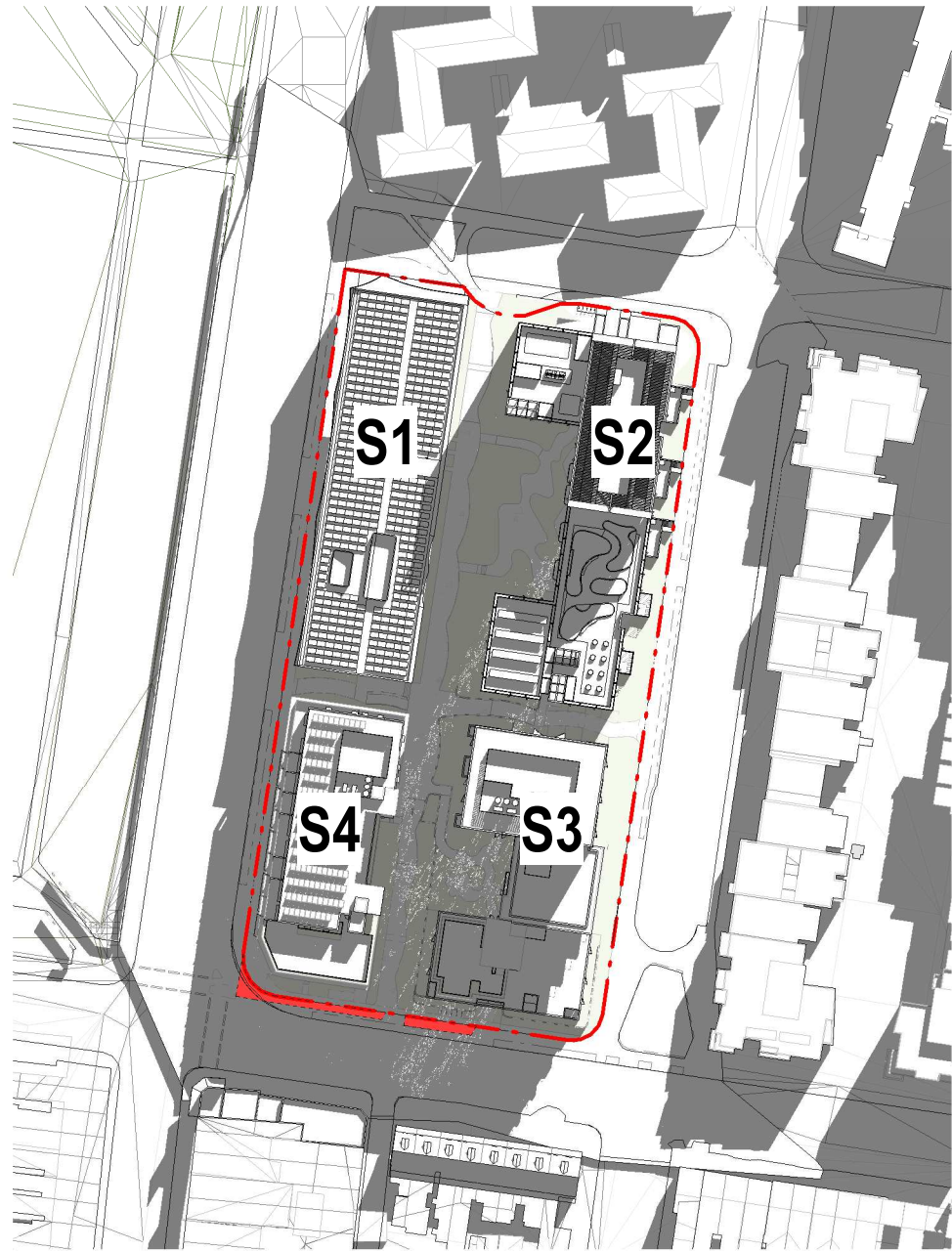


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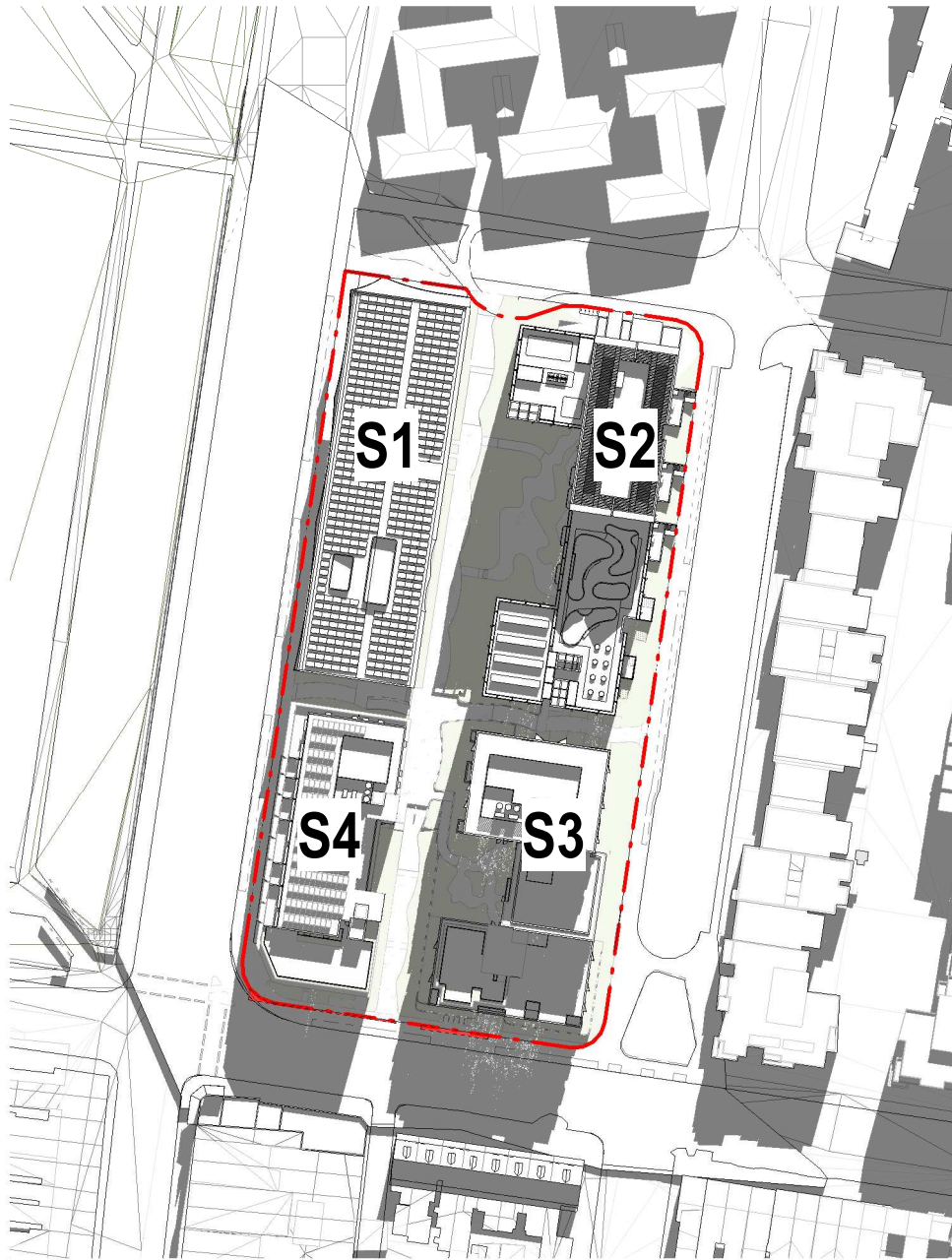
Verify all figured dimensions on site before undertaking any works. Do not scale dimensions off drawings.



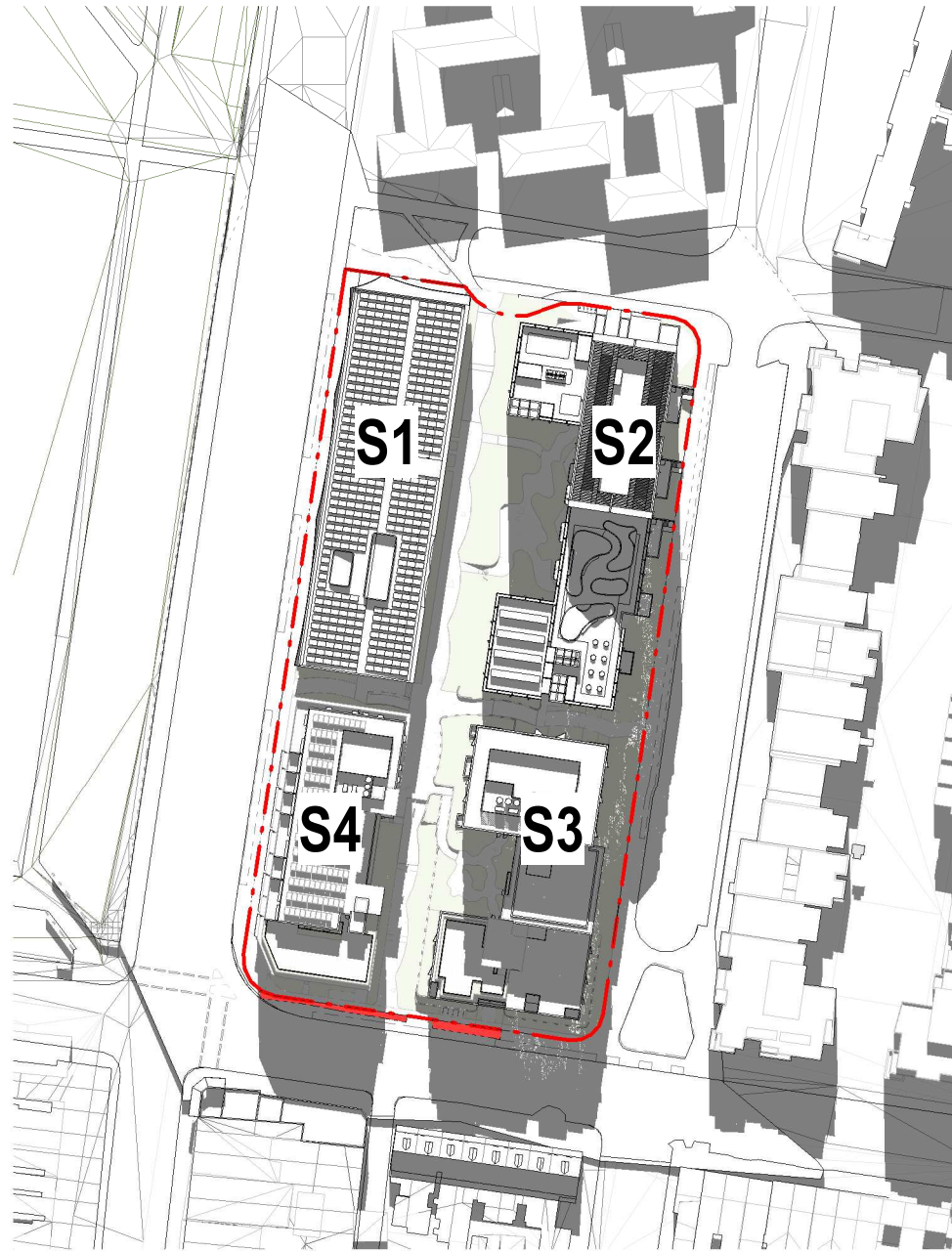
9 AM



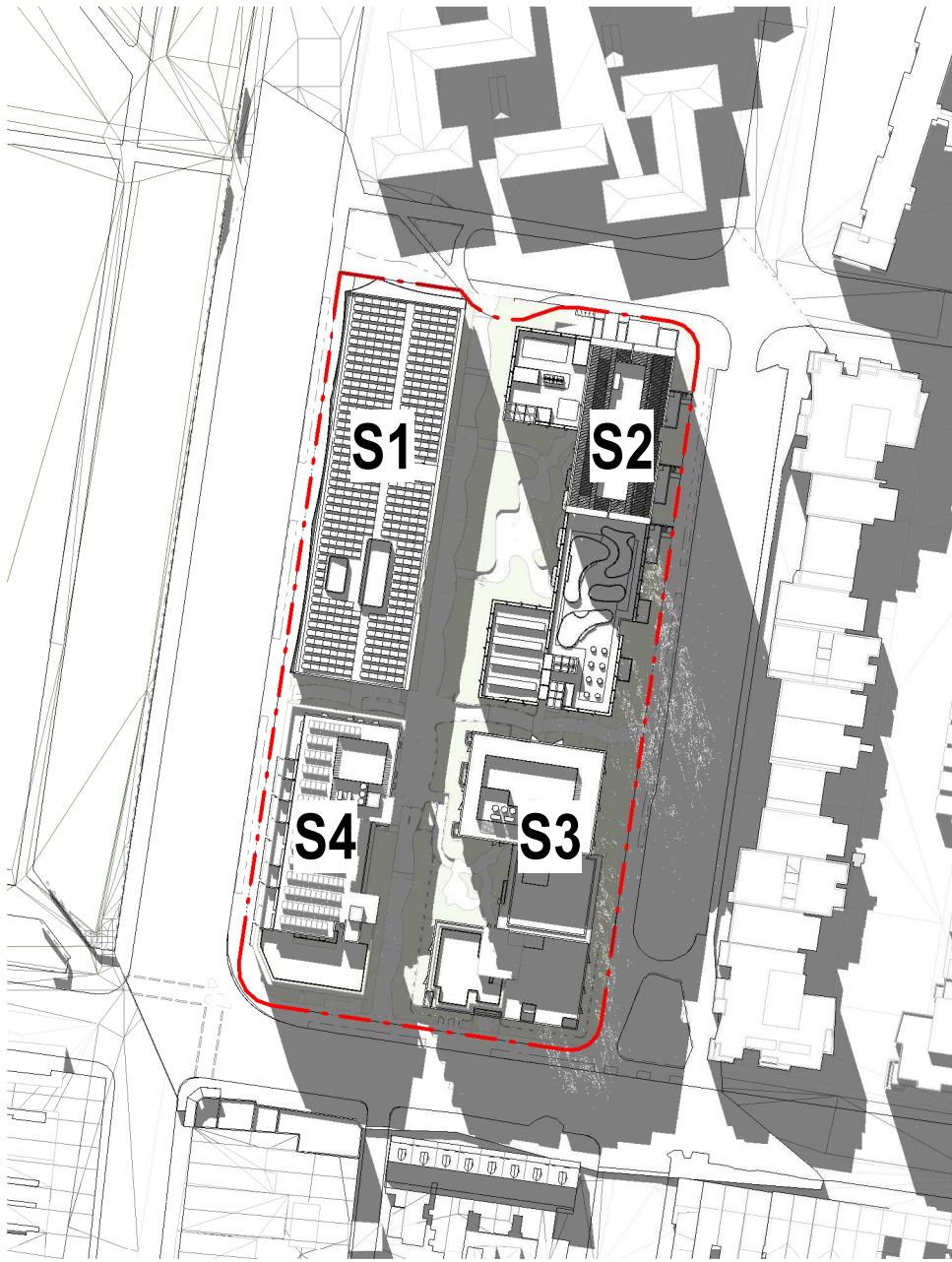
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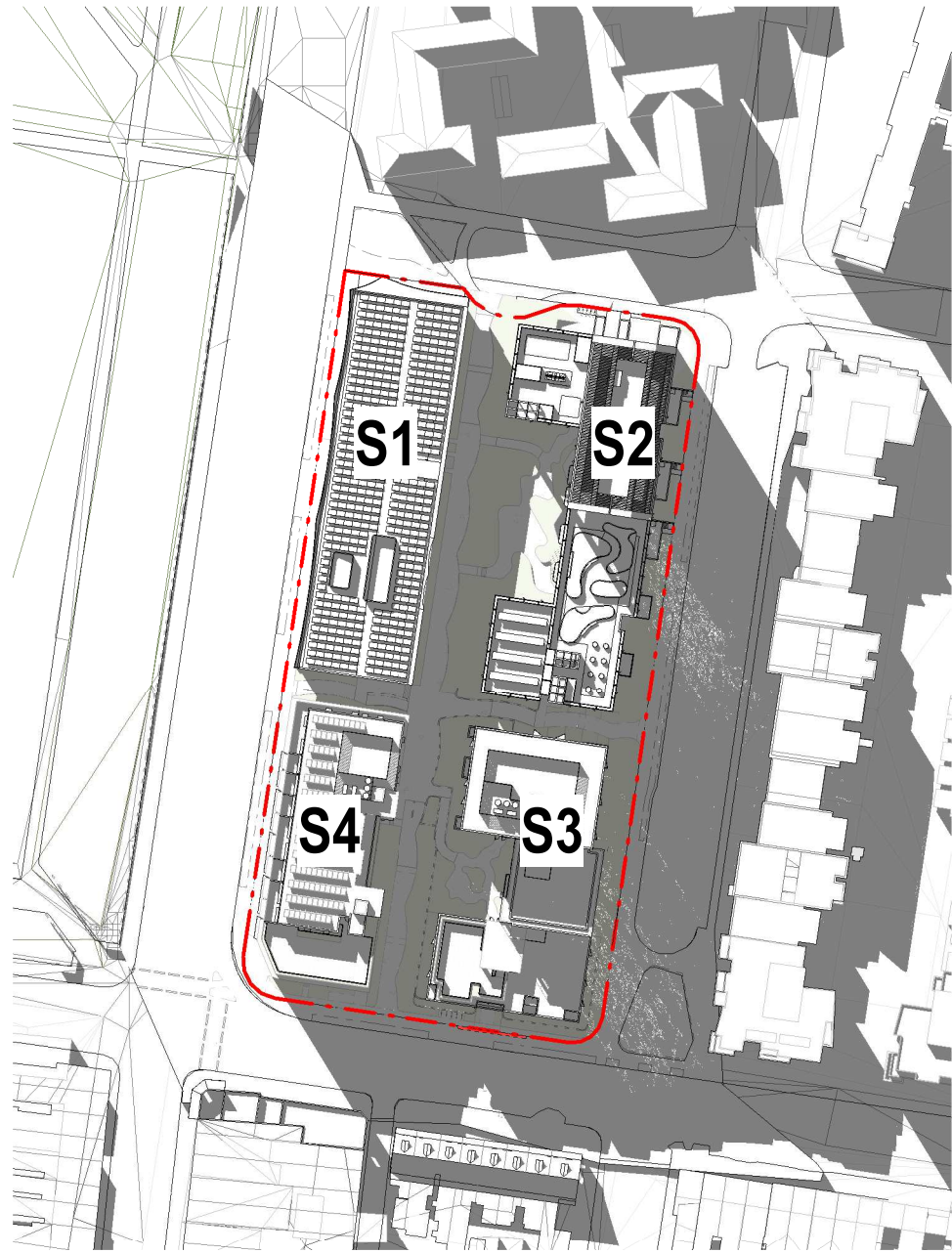
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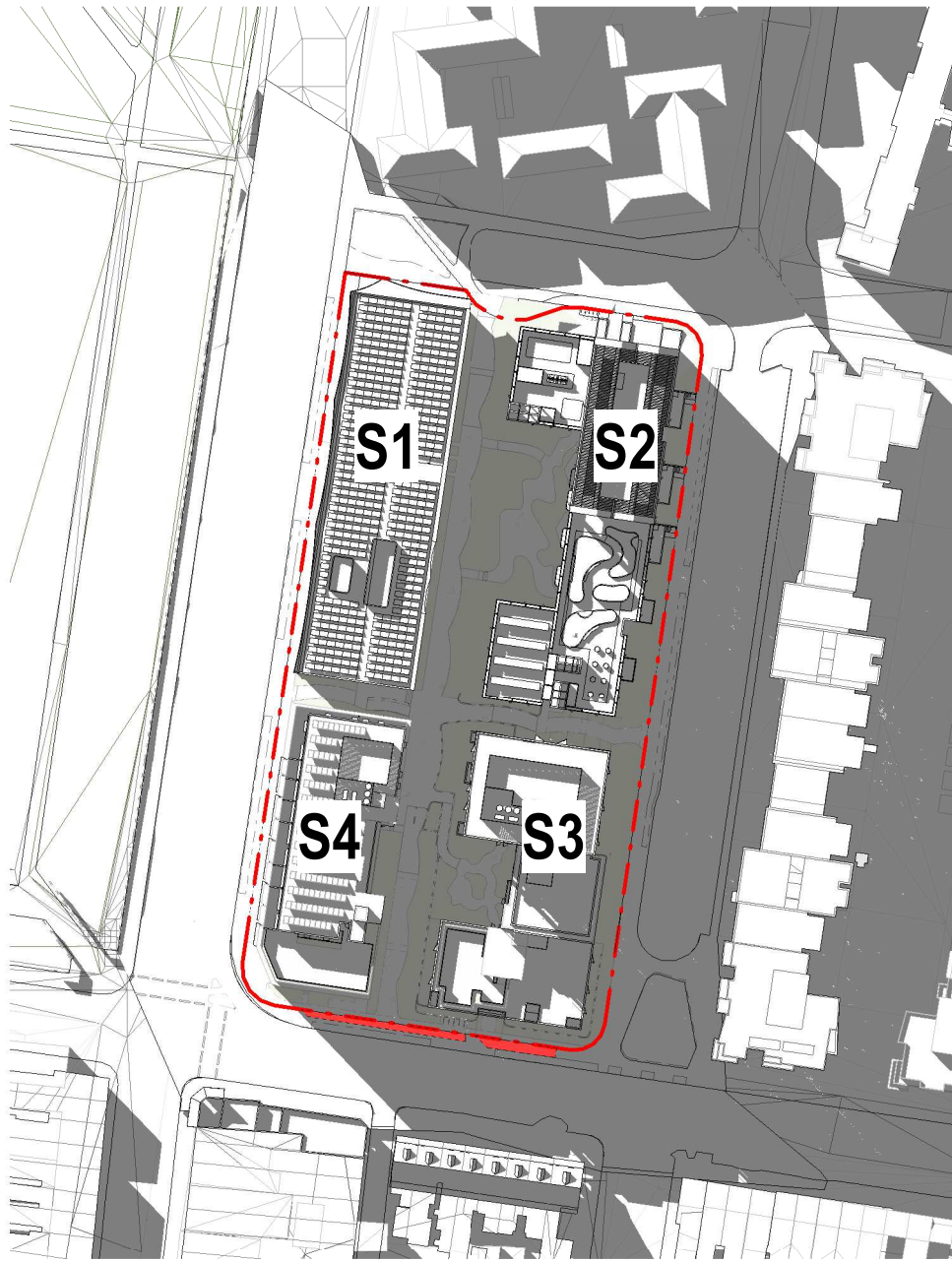
12 PM



1 PM



2 PM

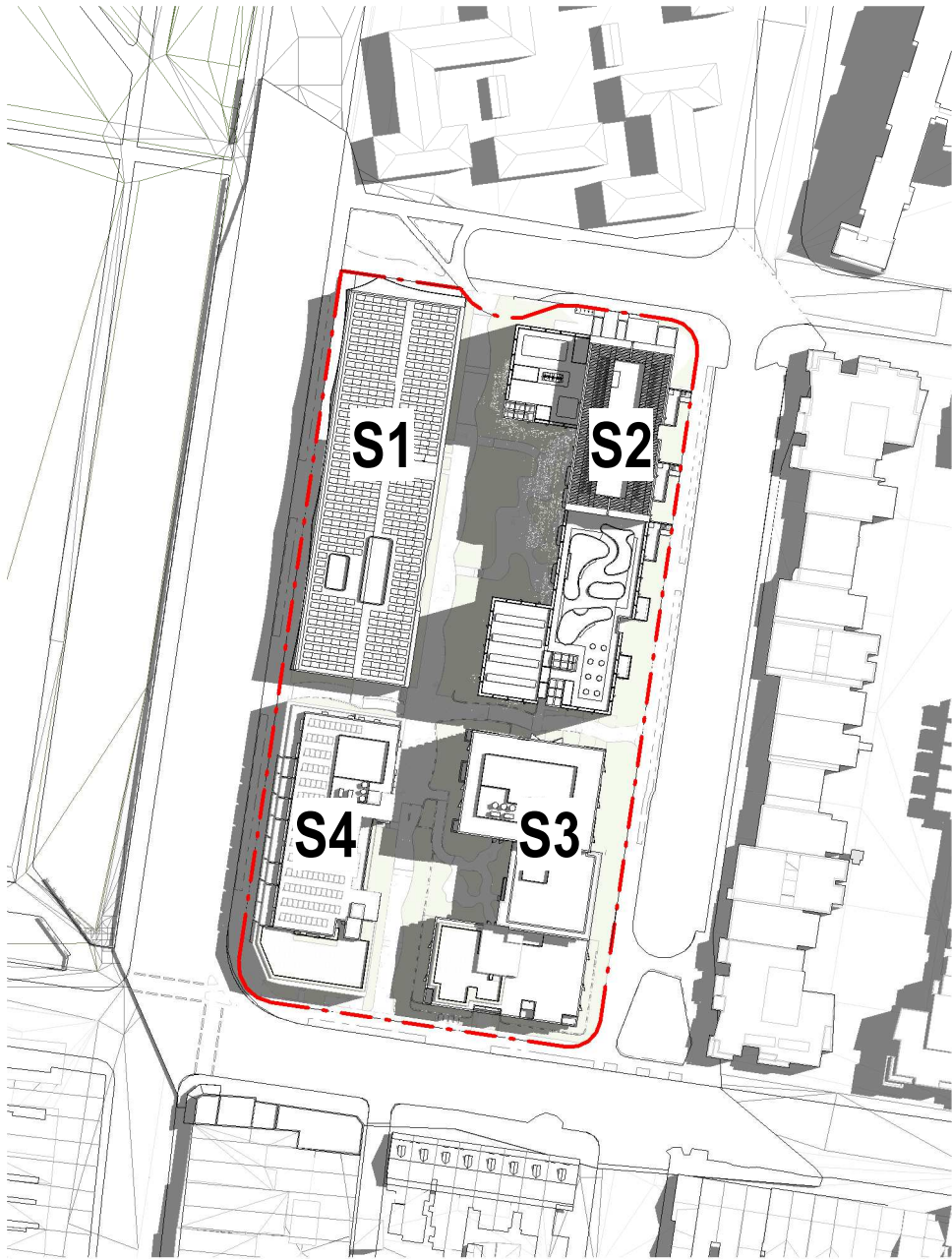


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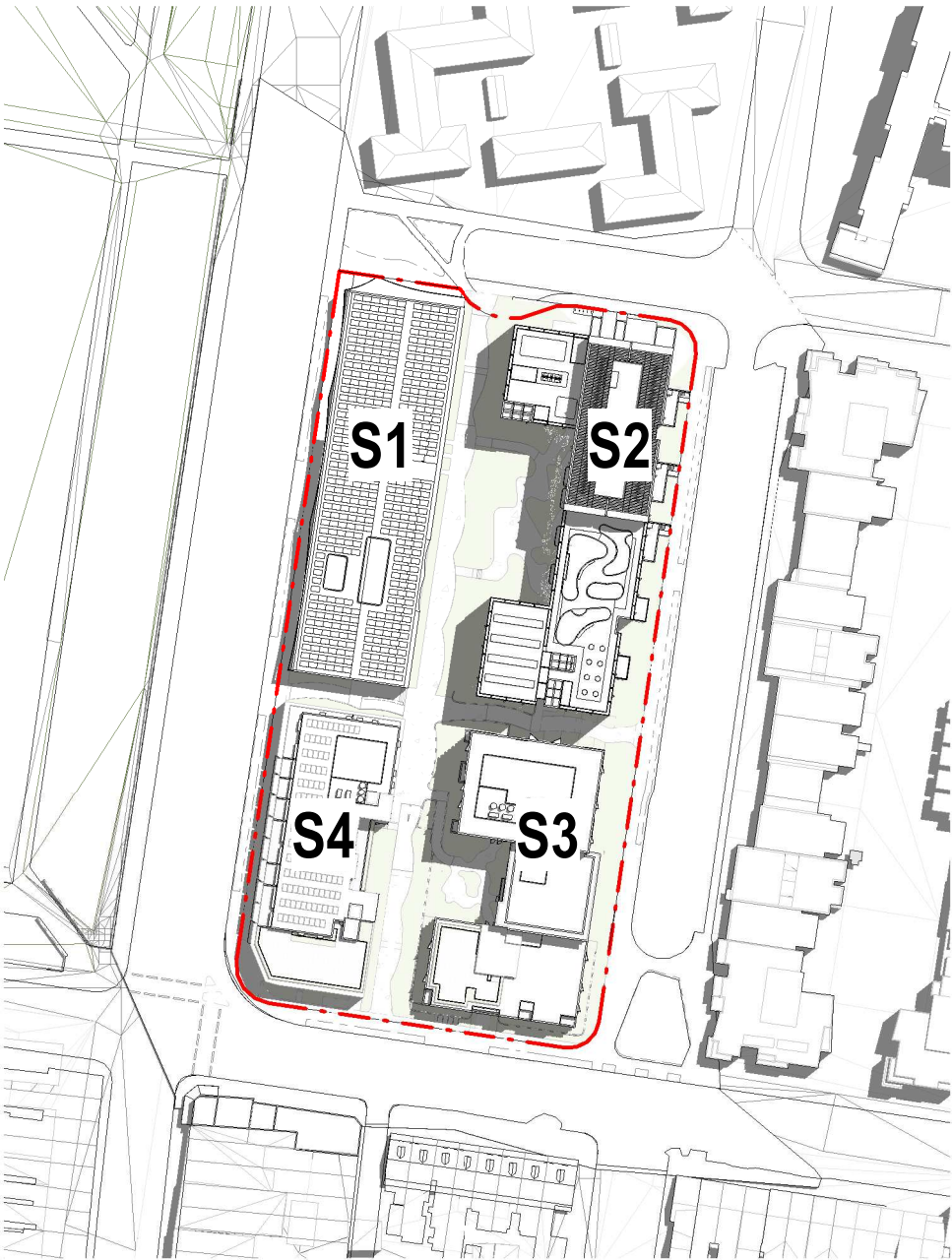
Existing site structure shadow over boundary



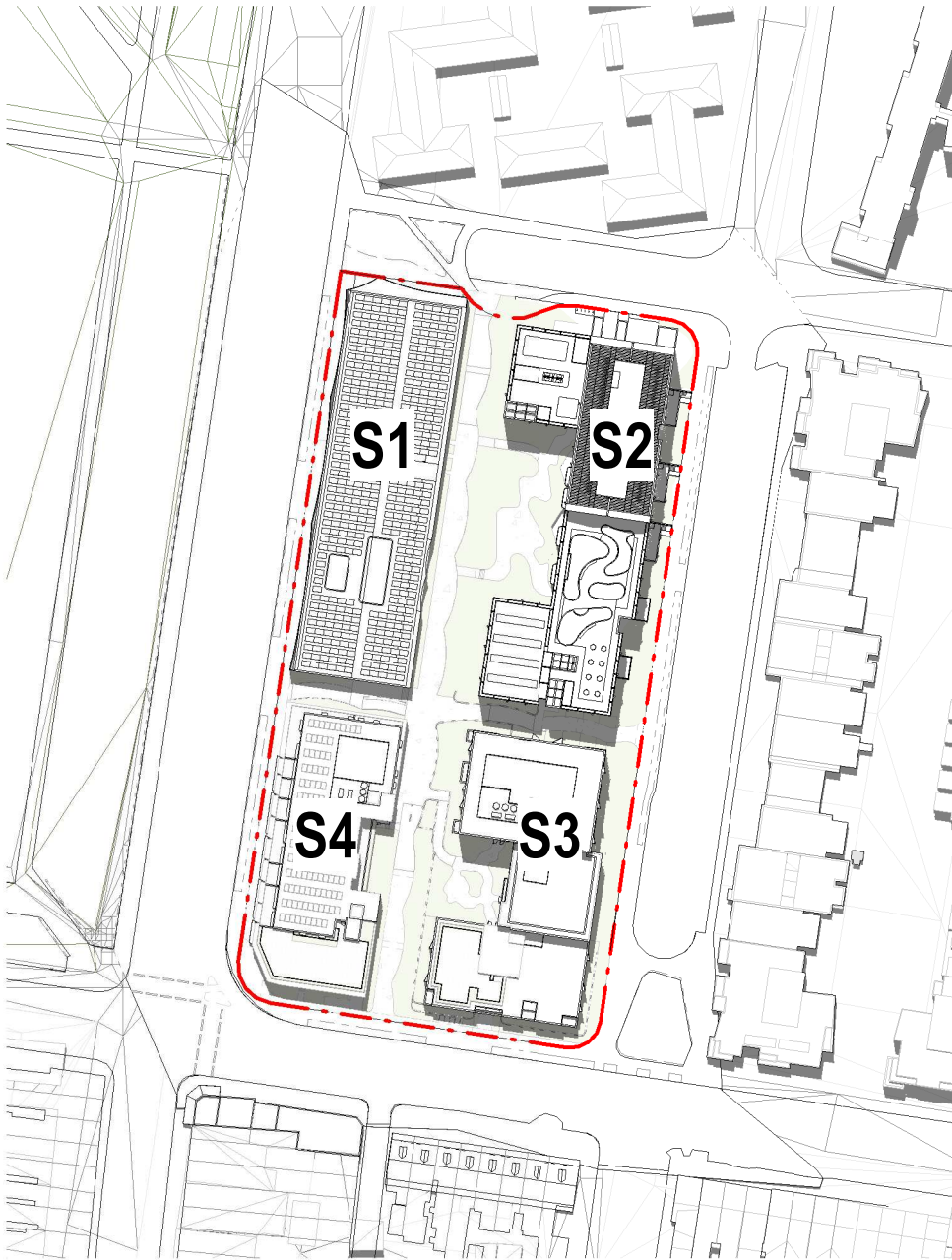
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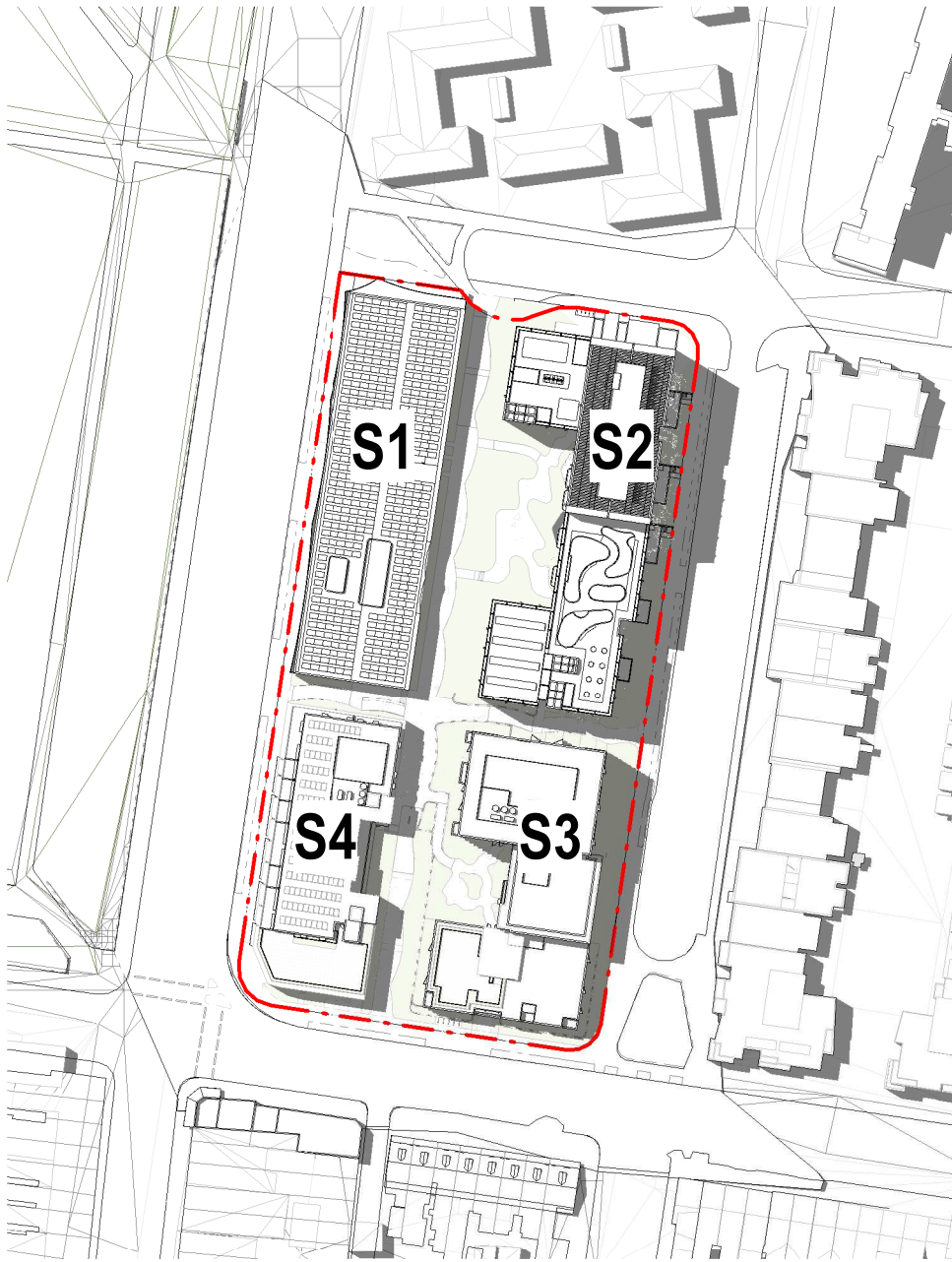
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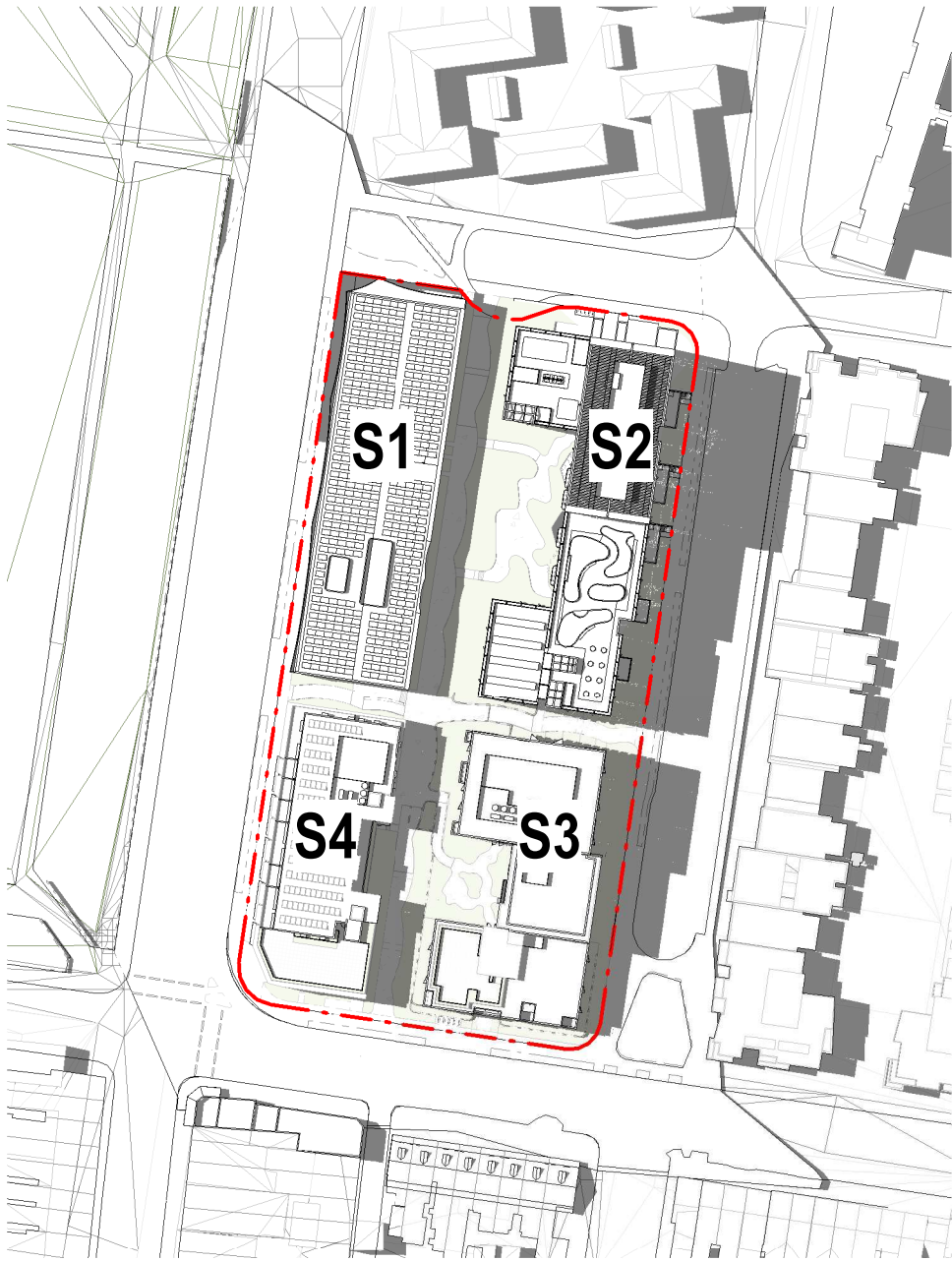
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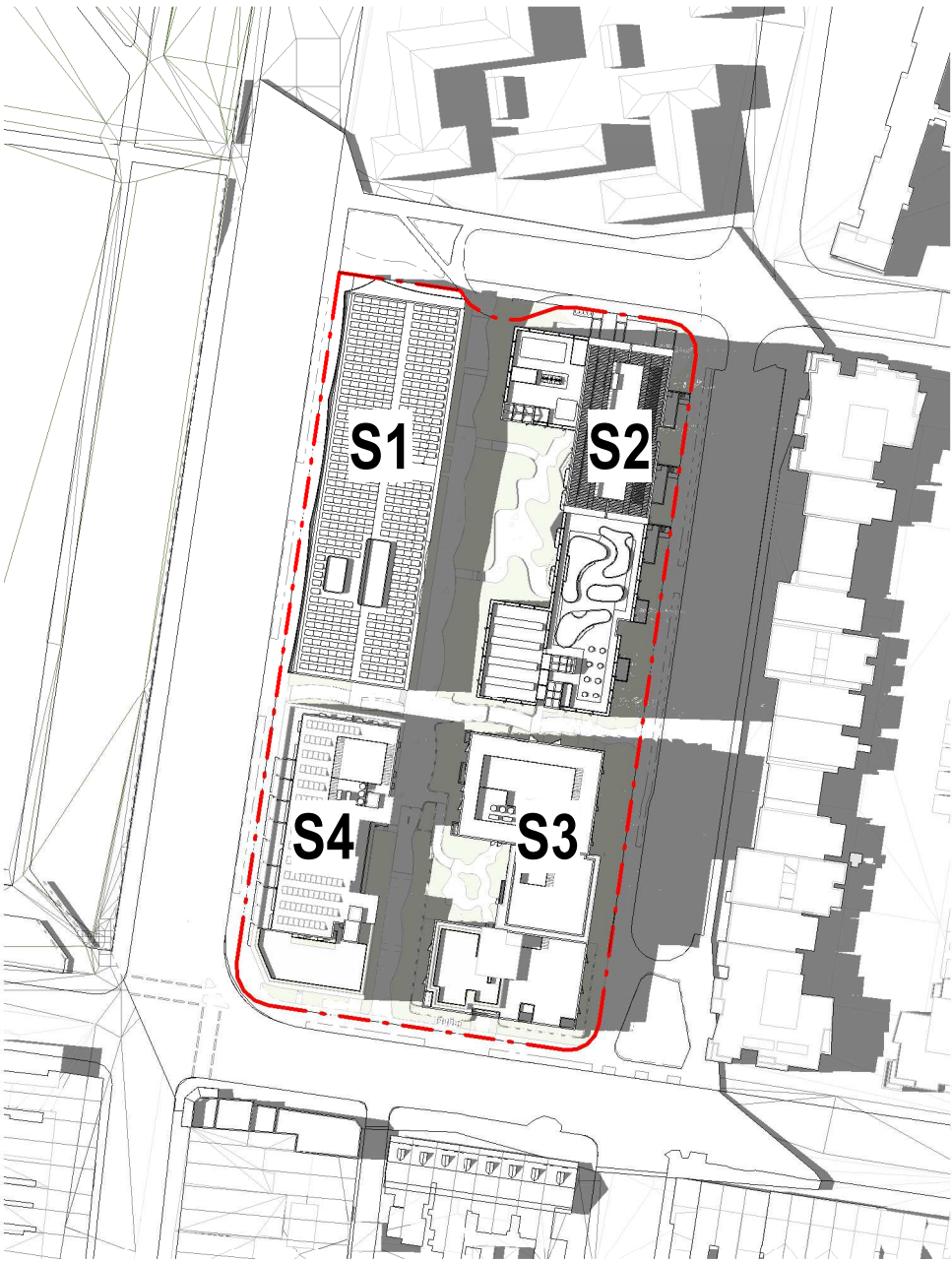
12 PM



1 PM

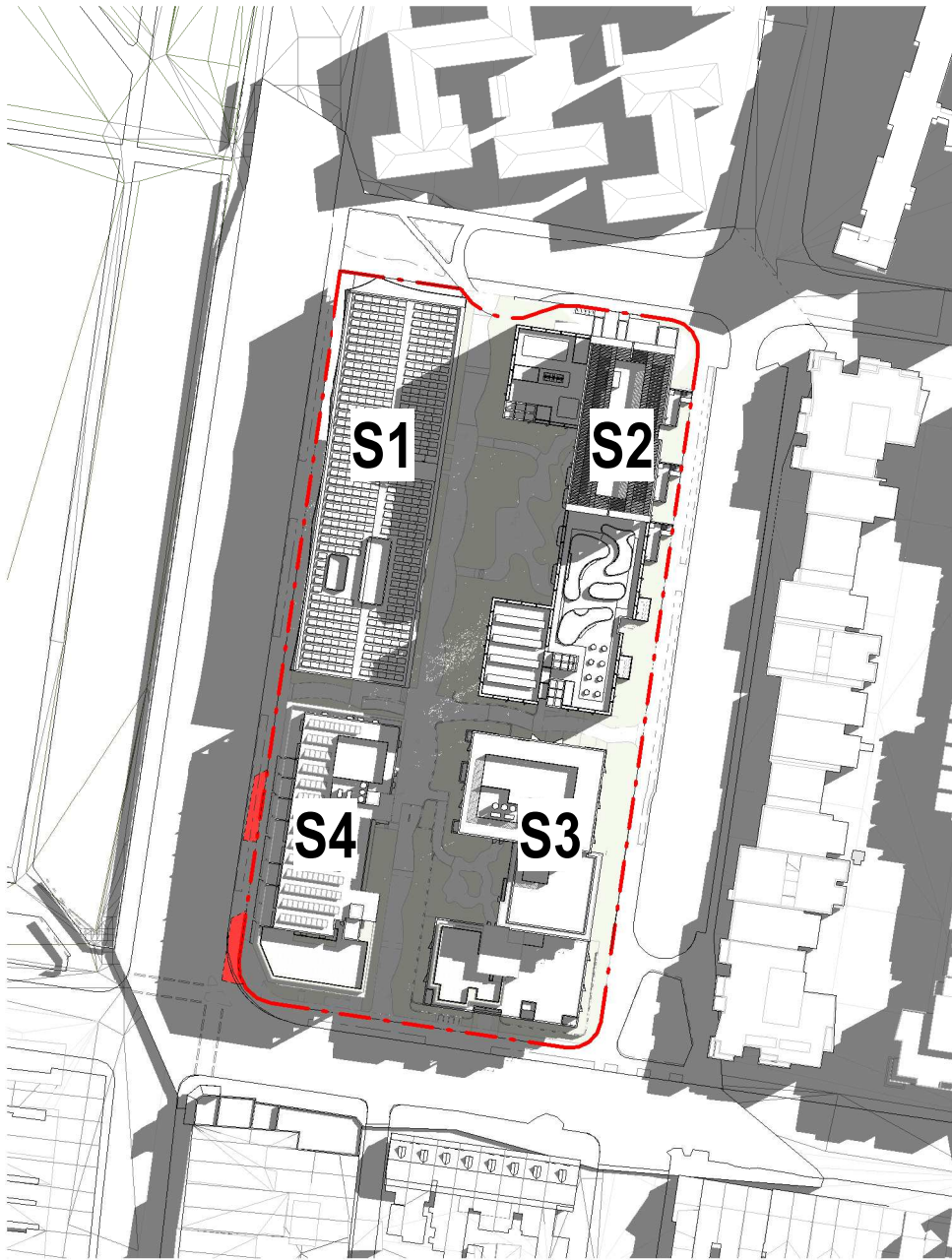


2 PM



3 PM

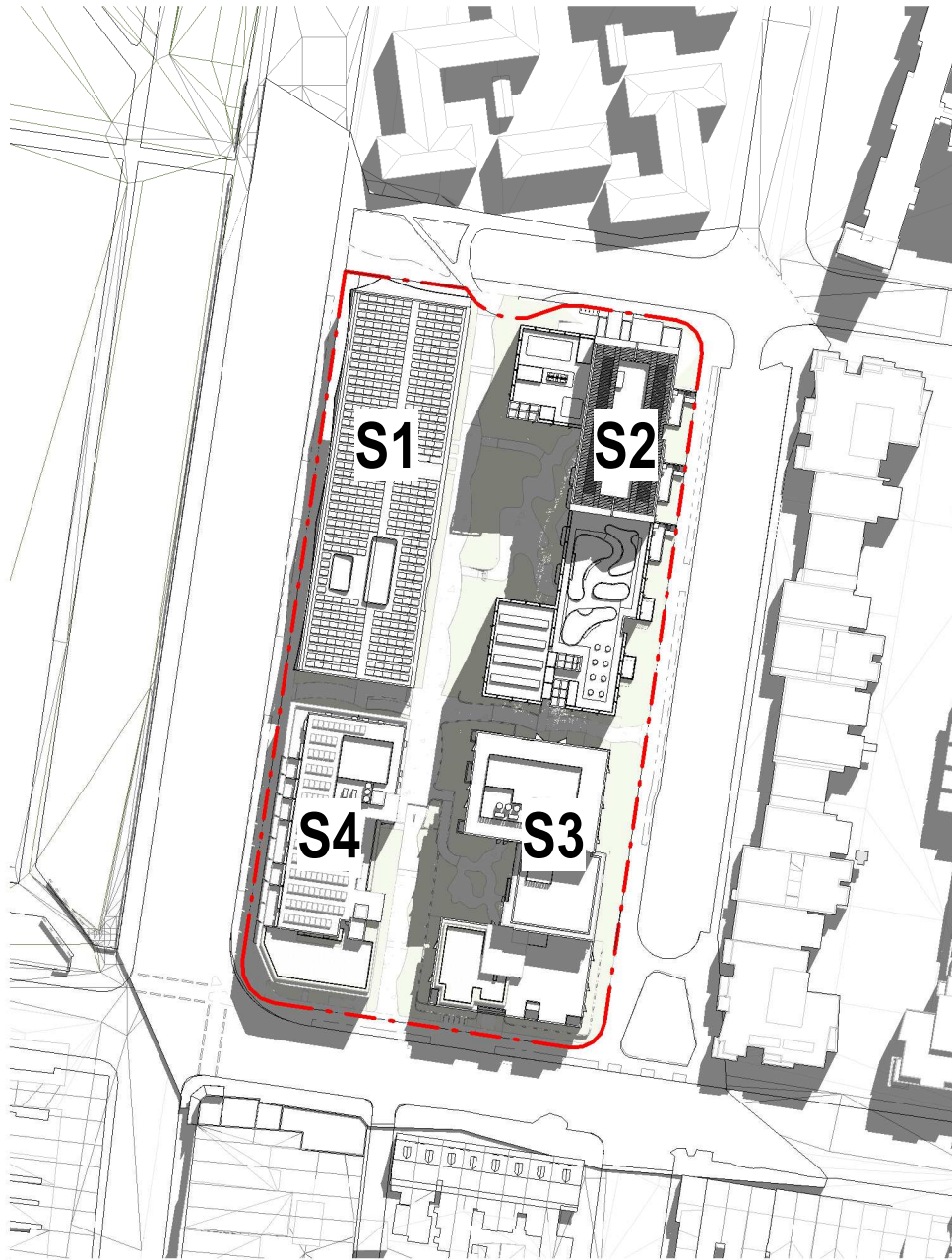
Existing site structure shadow over boundary



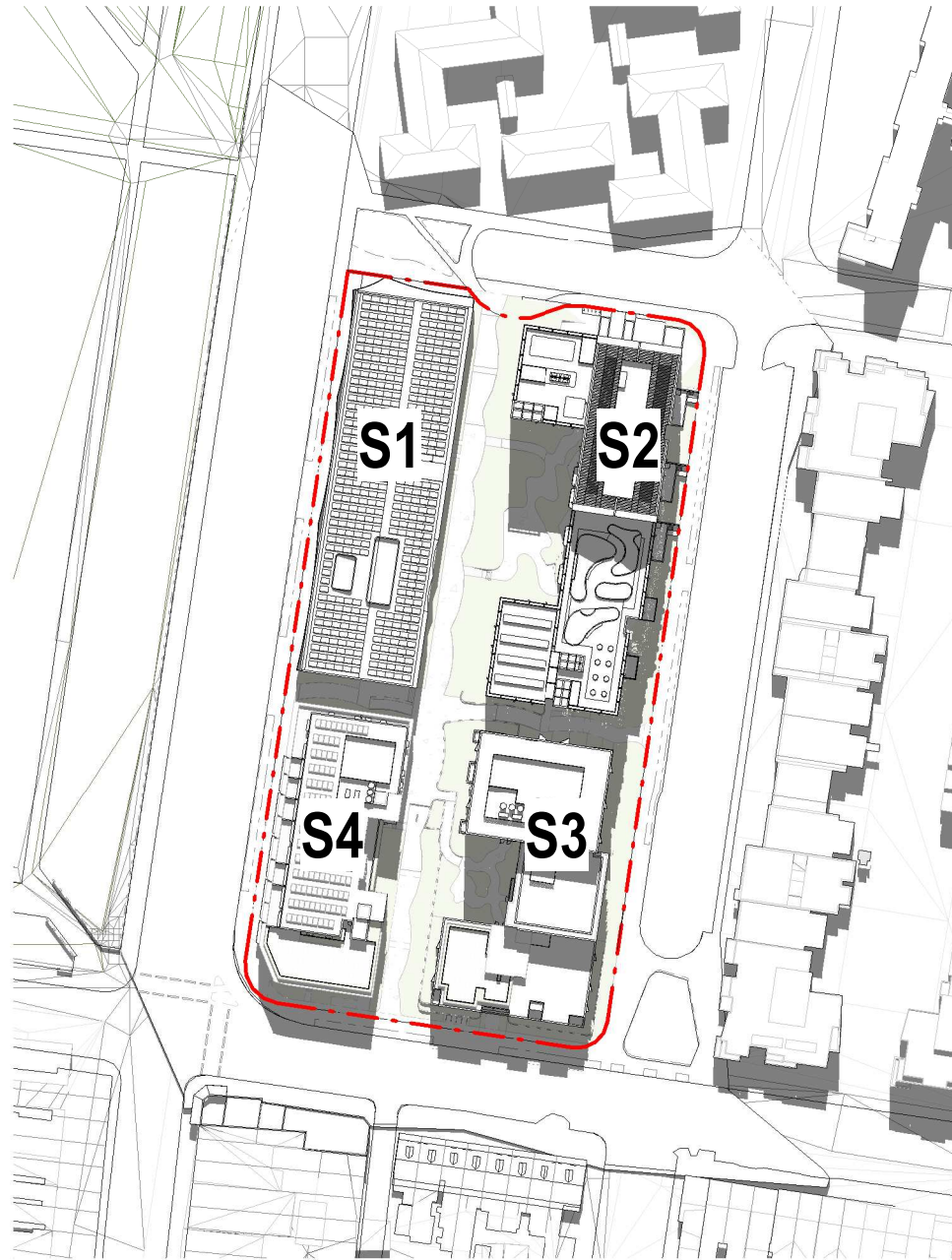
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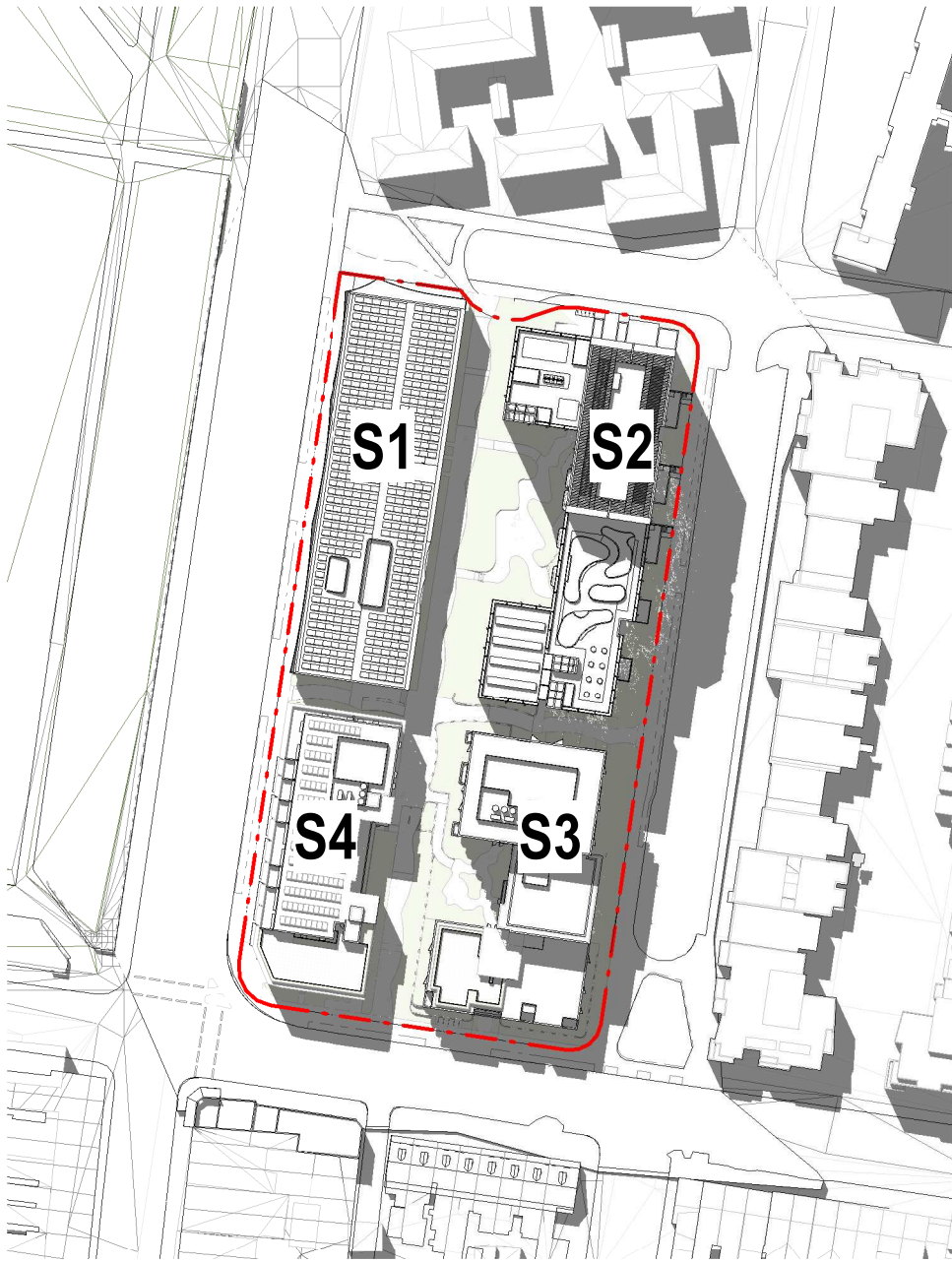
10 AM



11 AM



12 PM



1 PM



2 PM



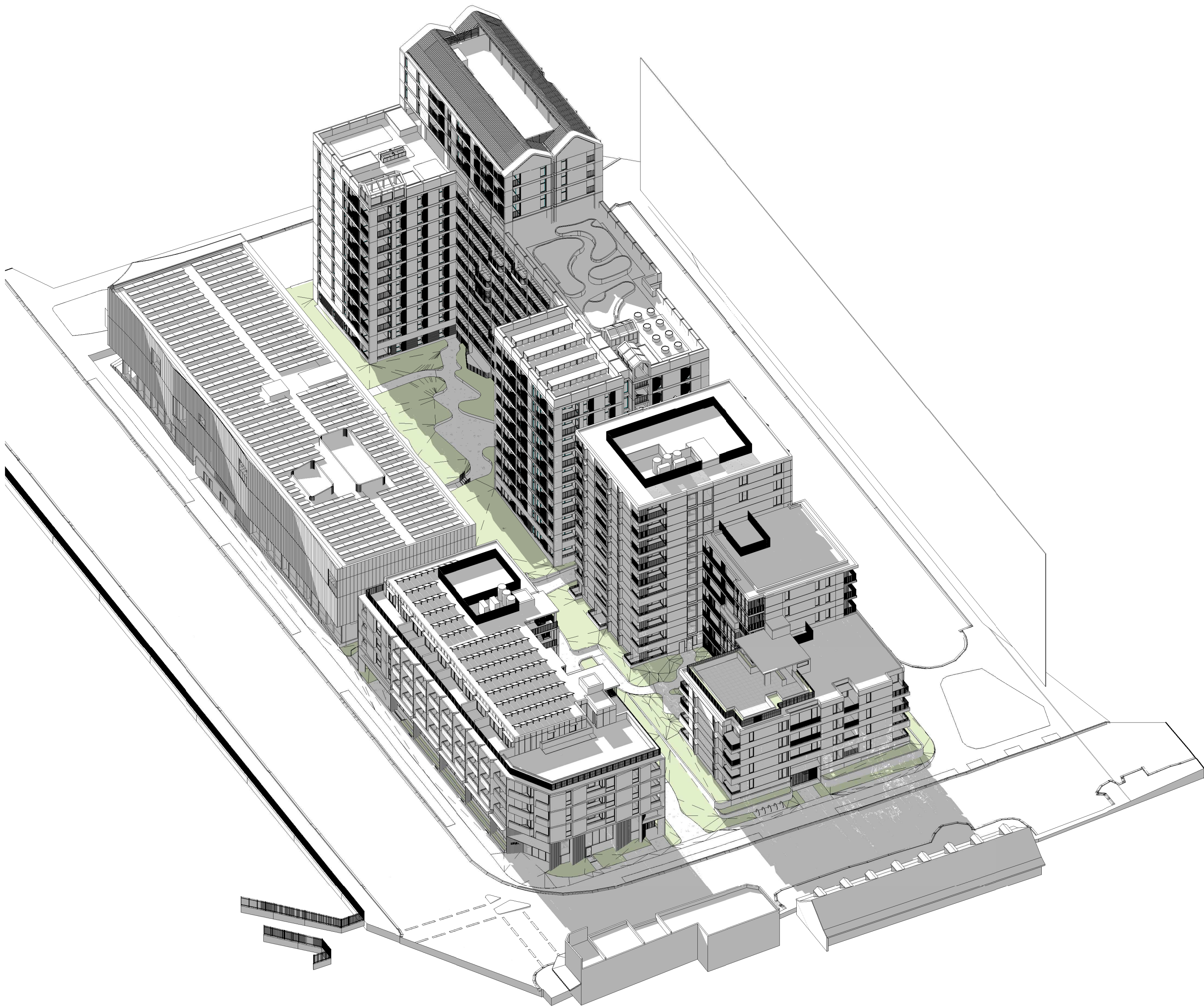
3 PM

Existing site structure shadow over boundary



SUN STUDY - REDFERN PARK - 9AM WINTER SOLSTICE

Draft Design Guide October 2023
3.7 (1)
Development must result in no additional overshadowing of Redfern Park, 51 Redfern Street, Redfern (Lot 1 DP 135313 and Lot 1 DP 724757) shown in **Figure 9: Redfern Park** from 9am- 3pm all year round.

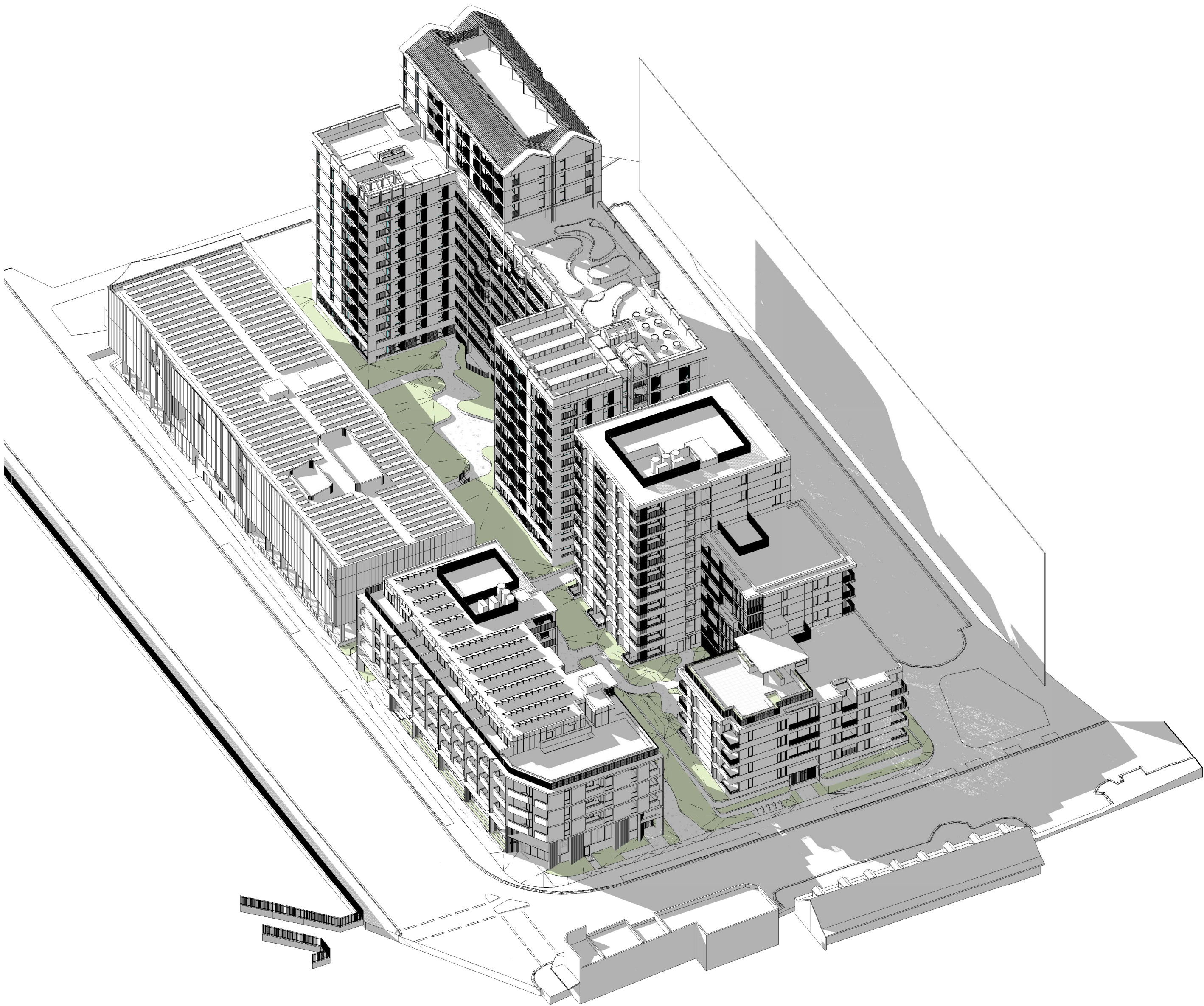


11:27 AM - COMPLIANT

CURRENT PROPOSAL = 71.1%

Draft Design Guide October 2023
3.7 (2)

Overshadowing of the land on the eastern side of Walker Street must ensure that at least 70% of the western face of a plane formed on the alignment of the western boundary of 57 Walker Street Redfern (Lot 100 DP 1168202) for its entire length between RL 32.7 and RL 59.6 receives 2 hours of sunlight on 21 June between 9am and 3pm.



1:27 PM - COMPLIANT

Project Title:

600-660 Elizabeth Street,
Redfern (Redfern Place)

Sheet drawn by:

hayball

Melbourne

Sydney

Brisbane

Canberra

Project Architectural Team:

Architecture AND

SILVESTER&JULI

hayball

— S1 Lead Architect

— S2 Lead Architect

— Precinct + S3 + S4 Lead Architect

Notes:

Drawn By

Checked By

Date Printed

Scale

JC

DT

19/06/2024 5:48:42 PM

@ A1

Rev

Date

Description

A

19/06/2024

SSDA

Status:

Drawing Title:

STATE SIGNIFICANT
DEVELOPMENT APPLICATION

SOLAR STUDIES - WALKER ST

Project No.

Drawing No.

2610

A40.07

Revision

A

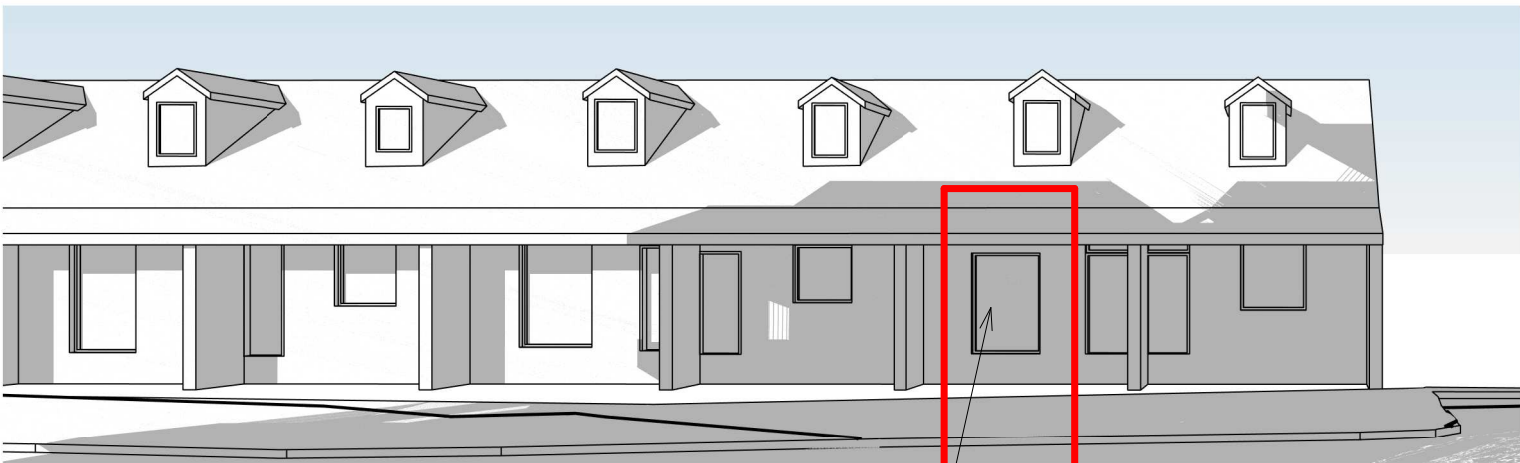
Verify all figured dimensions on site before undertaking any works. Do not scale dimensions off drawings.



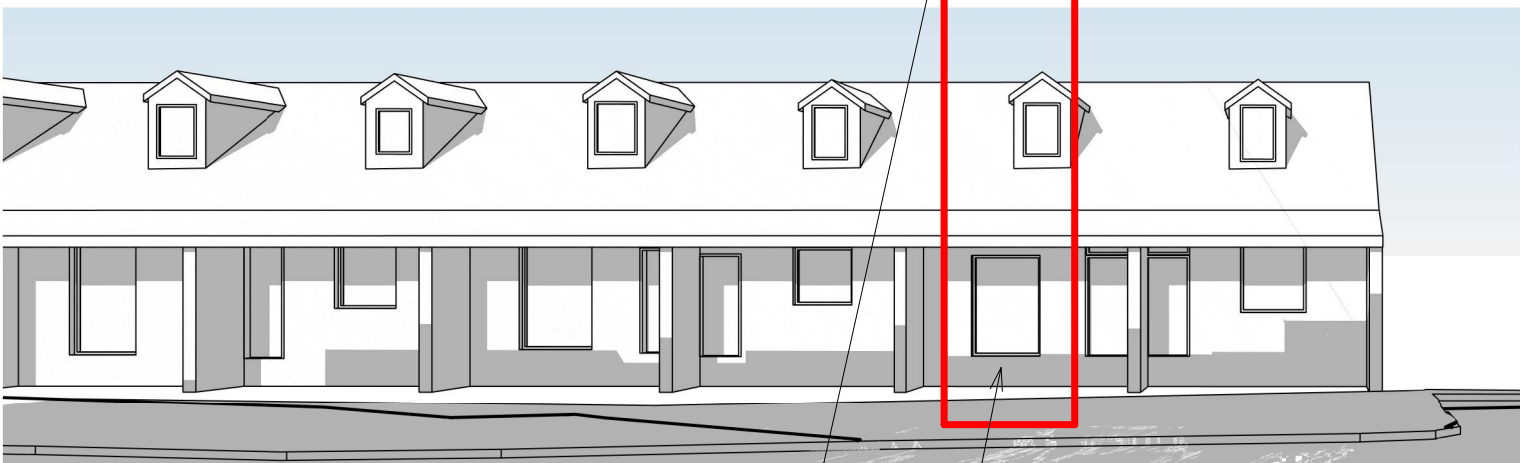
- Time where window receives 1m2 or more of light = 6 hours
- 20% of 6 hours = 72 minutes
- Minutes allowed to overshadow affected window = 72 minutes

Draft Design Guide October 2023

3.7 (3)
Sunlight received on 21 June between 9am and 3pm is not to be reduced by more than 20% of the time that the window receives at least 1sqm of sunlight for more than 15 minutes, for properties on the south side of Phillip Street, with windows to living spaces at the rear that face their principle private open space.



PHILLIP ST SHADOW STUDY - 9.00AM



PHILLIP ST SHADOW STUDY - 10.12AM

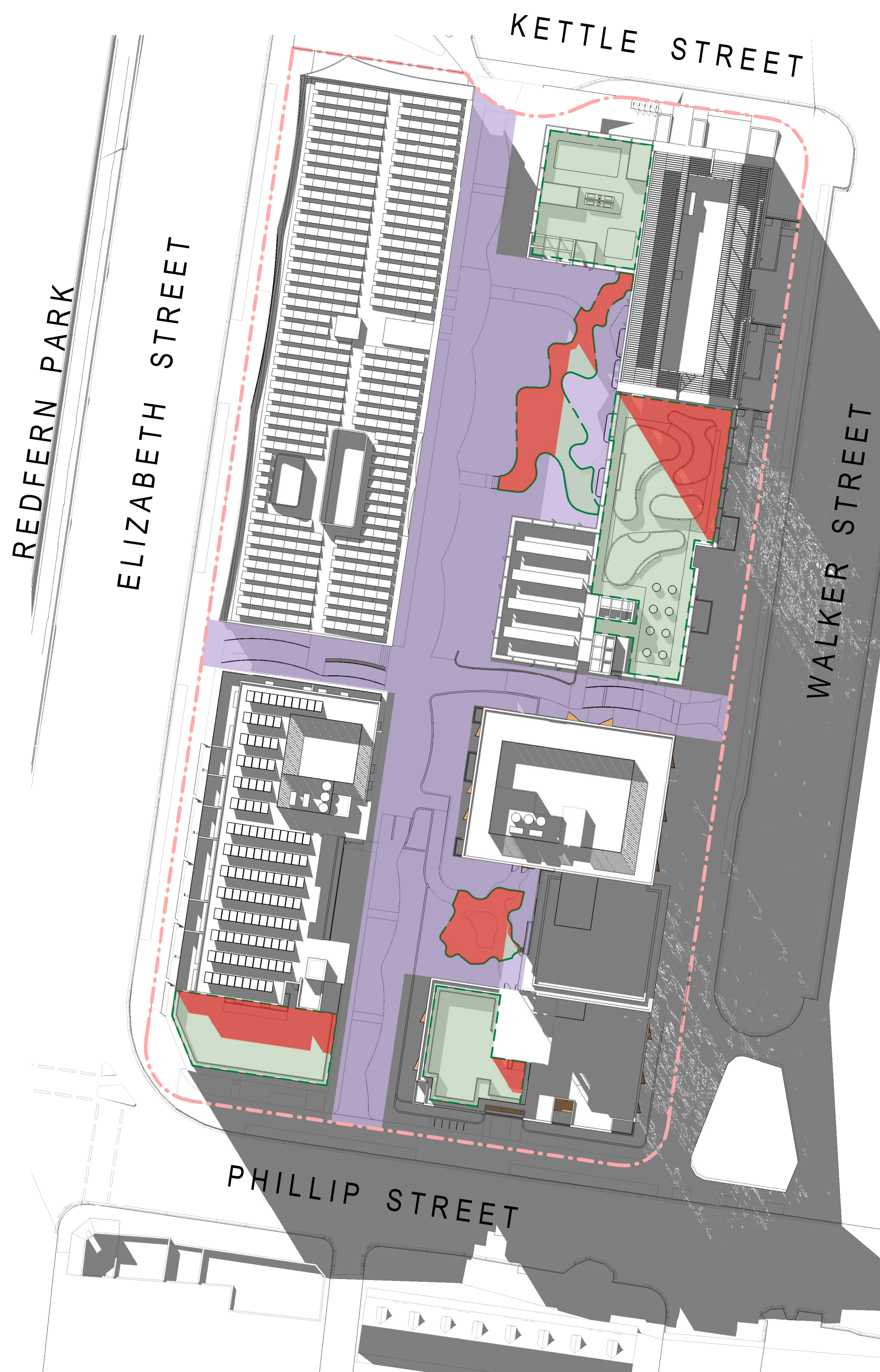
72 minutes shadow allowed

First minute of shadow
occurring on affected door

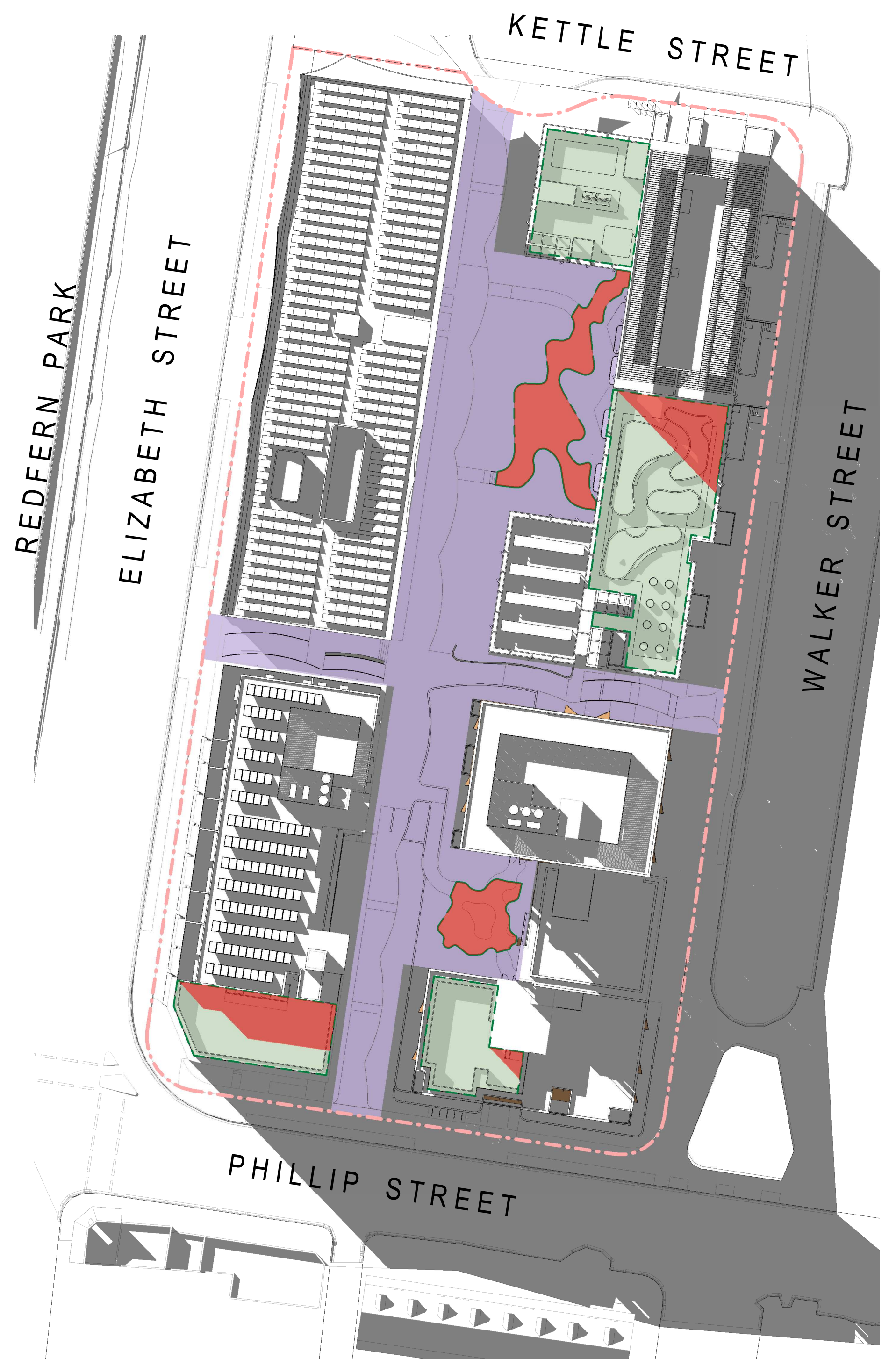
Shadow position 72
minutes later displaying no
shadow on affected door



COMMUNAL OPEN SPACE - 1PM - 70% DAYLIGHT



COMMUNAL OPEN SPACE - 2PM - 66% DAYLIGHT



COMMUNAL OPEN SPACE - 3PM - 65% DAYLIGHT

COMMUNAL OPEN SPACE

SITE AREA: 10,850m²
TOTAL C.O.S AREA: 3,792m² (34.9% OF SITE)
PRINCIPAL C.O.S AREA: 1,431m²
SHADOW AREA (21ST JUNE)

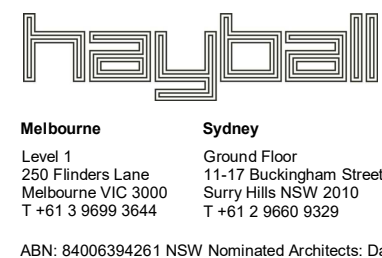
EQUITABLE PRINCIPAL C.O.S ACCESS

PRINCIPAL C.O.S IN GROUND COURTYARDS: 276m²

PRINCIPAL C.O.S ON ROOFTOP S2: 769m²
PRINCIPAL C.O.S ON ROOFTOP S3: 169m²
PRINCIPAL C.O.S ON ROOFTOP S4: 217m²

Project Title:
600-660 Elizabeth Street,
Redfern (Redfern Place)

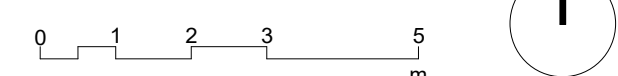
Sheet drawn by:



Project Architectural Team:
Architecture AND — S1 Lead Architect
SILVESTERÆJJUJ — S2 Lead Architect
hayball — Precinct + S3 + S4 Lead Architect

Notes:

Drawn By: JC
Checked By: DT
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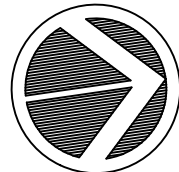
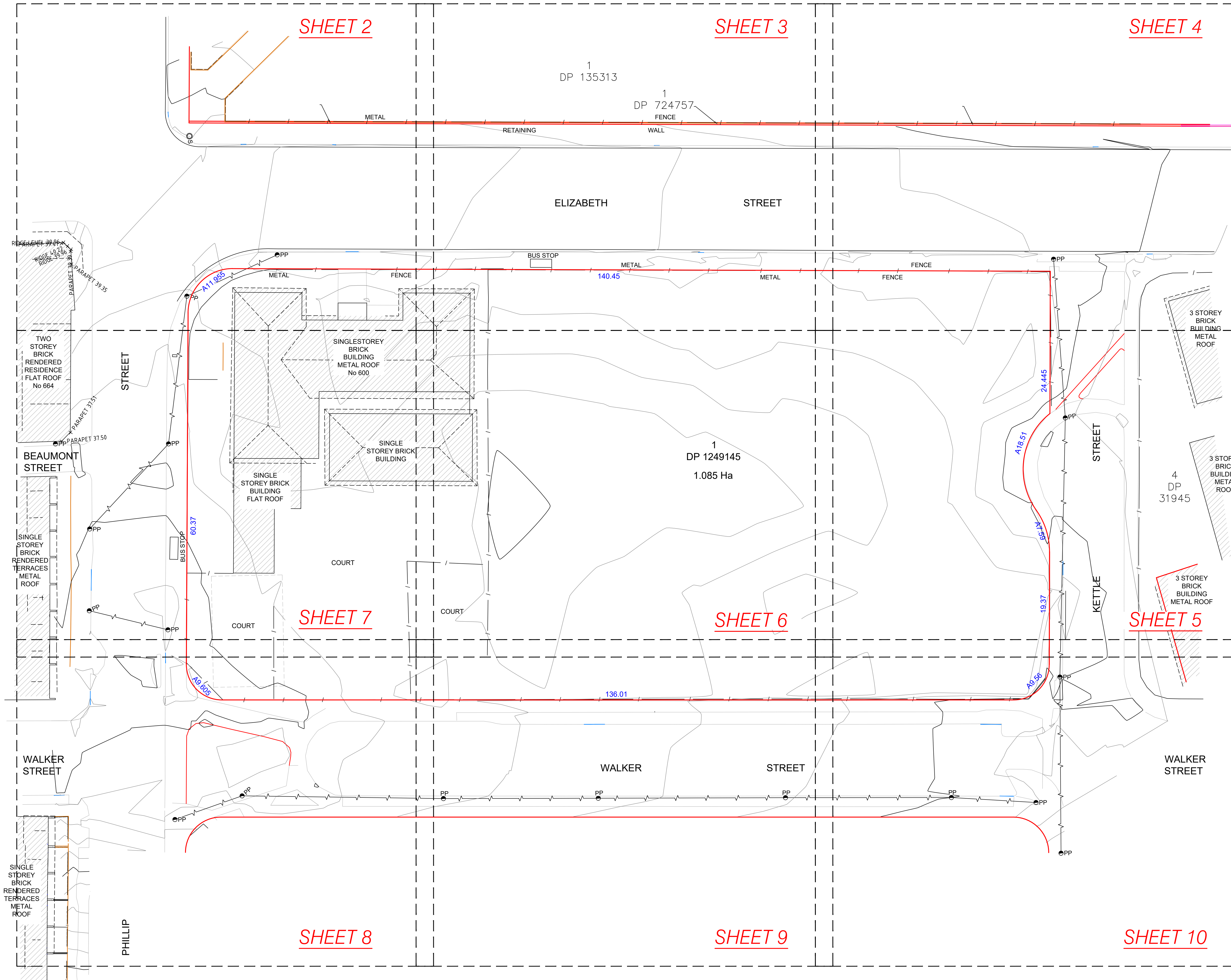
Rev	Date	Description
A	19/06/2024	SSDA

Status:
STATE SIGNIFICANT
DEVELOPMENT APPLICATION
Drawing Title:
SOLAR STUDIES - COMMUNAL OPEN
SPACE

Project No.
2610
Drawing No.
A40.09
Revision
A

Appendix B - Site Survey

Plot Date: 29 November 2023, 6:03 PM
C:\p1\125-DT-01\125-DT-01.dwg



NORTH

LEGEND

- BM BENCHMARK
- BOUNDARY
- BUILDING STRUCTURE
- CO EDGE OF CONCRETE
- CONTOUR (MAIN)
- CONTOUR (MINOR)
- GM GAS VALVE
- GP GULLY PIT
- OVERHEAD CABLES
- FFL FLOOR LEVEL
- HYD FIRE HYDRANT
- LP LIGHT POLE
- PC PEDESTRIAN CROSSING
- PP POWER POLE
- ROOF/RIDGE/AWNING
- RR RIDGE LEVEL
- SIGN SIGN POST
- MH MANHOLE
- TEL TELSTRA PIT
- TSP TRAFFIC SIGNAL POST
- TK TOP OF KERB
- TOG TOP OF GUTTER
- TREE (TRUNK DIAM, SPREAD, HEIGHT)
- TW TOP OF WALL
- VC VEHICLE CROSSING
- WALL STRUCTURE
- WM WATER METER
- WH WINDOW HEAD
- WS WINDOW SILL
- W WINDOW

ANTHONY KELLNER
SURVEYOR ID: SL1001359
SURVEYOR REGISTERED UNDER THE SURVEYING AND
MAPPING ACT, 2002 (NSW)

NOTES

- RELATIONSHIP OF IMPROVEMENTS TO BOUNDARIES IS DIAGRAMMATIC ONLY.
- BEARINGS AND DISTANCES OF BOUNDARIES ARE BY TITLE AND/OR DEED ONLY.
- CONSTRUCTION WORKS MUST BE RELATED TO THE BENCHMARK AND NOT LEVELS OF STRUCTURES SHOWN ON THE PLAN.
- LIMITED BOUNDARY SURVEY MADE. IF CONSTRUCTION OR DESIGN OF ANY NEW STRUCTURE IS INTENDED WITHIN PROXIMITY OF THE BOUNDARIES OR LOCAL GOVERNMENT REQUIREMENTS, A FURTHER SURVEY SHOULD BE REQUESTED TO MARK BOUNDARIES AND/OR DIMENSION WALL TO BOUNDARY DISTANCES.
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REV.	DATE	AMENDMENTS	INT.
F	28/11/2023	BOUNDARY LINES & DATA ADDED	GP
E	23/11/2023	WINDOW & WALL LABELS ADDED	GP
D	25/10/2023	TRIANGULATION DATA ADDED	GP
C	12/10/2023	BOUNDARY ADDED TO REDFERN PARK	KD
B	29/09/2023	ADDITIONAL SURVEY (FRONT FACADE-129-139 PHILLIP ST) (DOS 2023-09-20)	LG
A	28/08/2023	ISSUED FOR INFORMATION	LG

PREPARED BY:

geosurv.
with you from beginning to end

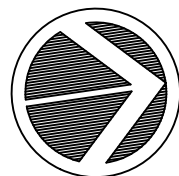
www.geosurv.com.au 1300 554 675

PREPARED FOR:

BRIDGE HOUSING LTD

PLAN SHOWING DETAIL
AND LEVEL SURVEY
No 600-660 ELIZABETH ST
REDFERN

ORIGINAL SIZE:	A1	SHEET 1 OF 10 SHEETS
SCALE:	1:300	CO-ORD: MGA2020
DATUM:	AHD	ORIG DATUM: PM 46923
SURVEY BY:	BW/BJM	DATE: 24/08/2023
DRAWN BY:	KD	DATE: 12/10/2023
CHECKED BY:	KD	DATE: 12/10/2023
APPROVED BY:	AK	DATE: 12/10/2023
DRAWING #:	230125-DT-01[F]	



NORTH

LEGEND

BM	BENCHMARK
—	BOUNDARY
▭	BUILDING STRUCTURE
CO	EDGE OF CONCRETE
—	CONTOUR (MAIN)
—	CONTOUR (MINOR)
GM	GAS VALVE
GP	GULLY PIT
—	OVERHEAD CABLES
FFL	FLOOR LEVEL
HYD	FIRE HYDRANT
LP	LIGHT POLE
PC	PEDESTRIAN CROSSING
PP	POWER POLE
—	ROOF/RIDGE/AWNING
RR	RIDGE LEVEL
SIGN	SIGN POST
MH	MANHOLE
TEL	TELSTRA PIT
TSP	TRAFFIC SIGNAL POST
TK	TOP OF KERB
TOG	TOP OF GUTTER
—	TREE
(2, 5, 7)	(TRUNK DIAM, SPREAD, HEIGHT)
TW	TOP OF WALL
VC	VEHICLE CROSSING
—	WALL STRUCTURE
WM	WATER METER
WH	WINDOW HEAD
WS	WINDOW SILL
W	WINDOW

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A	28/08/2023	ISSUED FOR INFORMATION	LG
REV.	DATE	AMENDMENTS	INT.

PREPARED BY:



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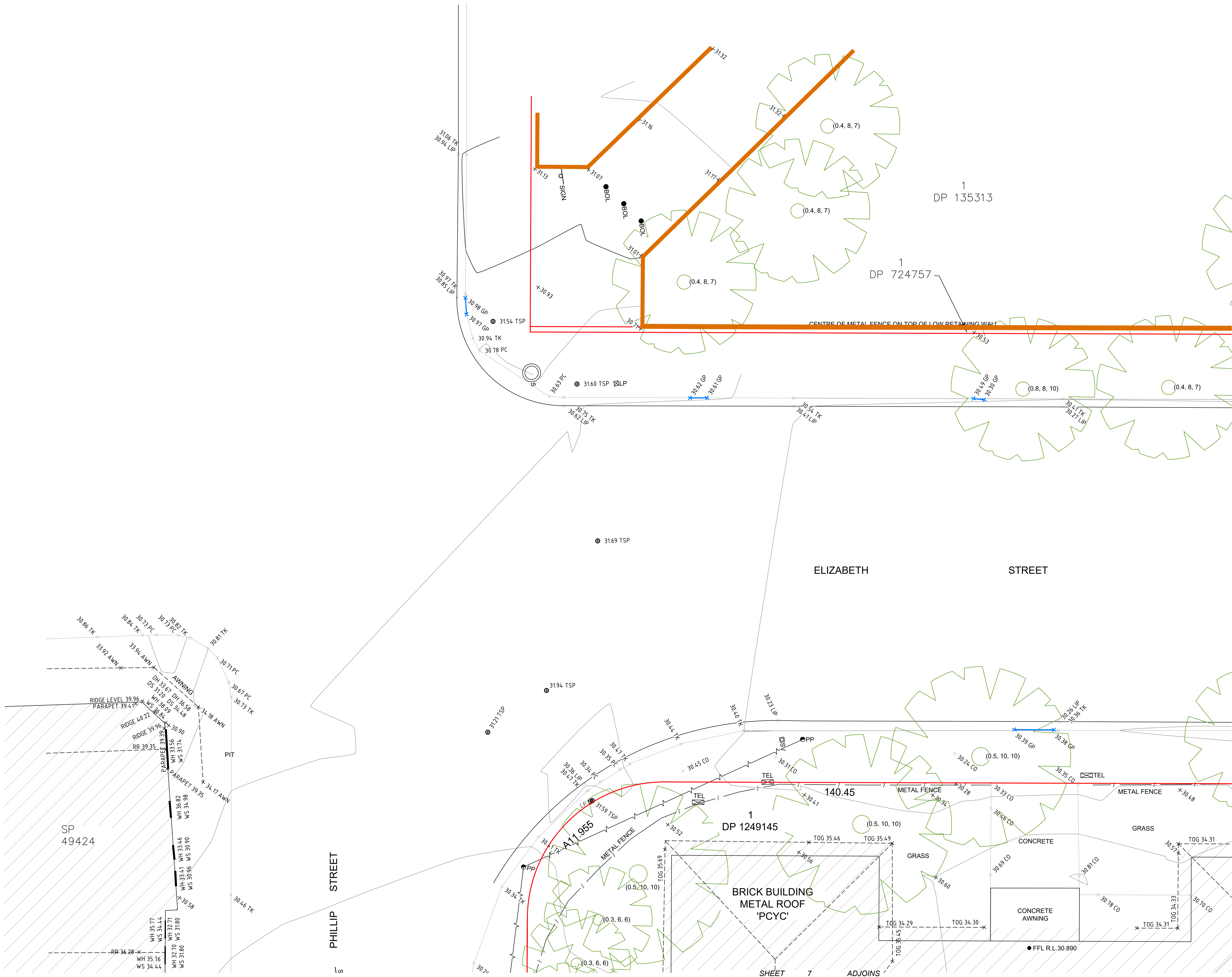
PREPARED FOR:

BRIDGE HOUSING LTD

PLAN SHOWING DETAIL
AND LEVEL SURVEY
No 600-660 ELIZABETH ST
REDFERN

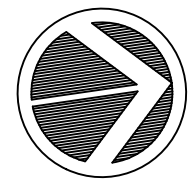
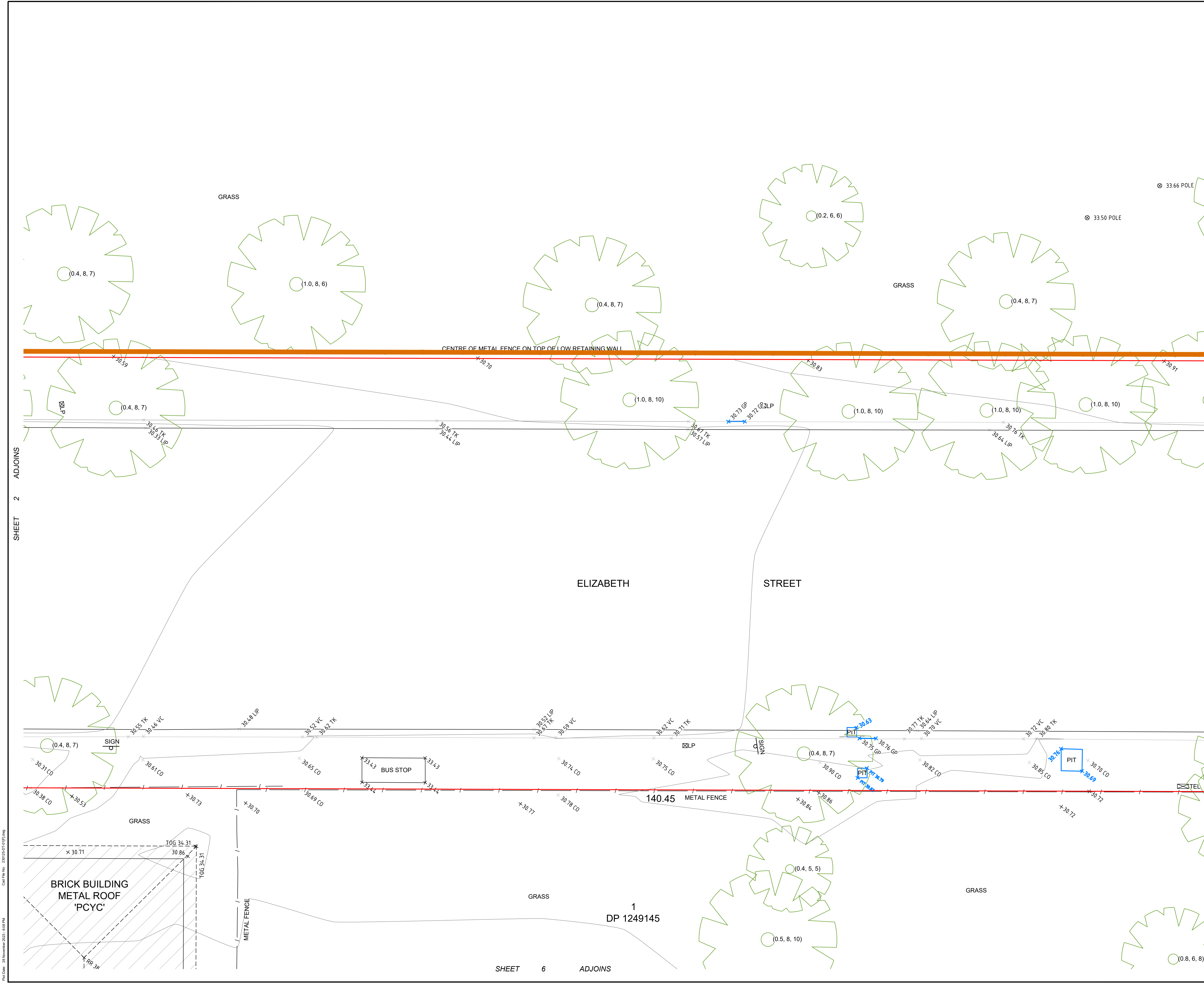
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SURVEY BY:	BWB/JM	DATE:	24/08/2023
DRAWN BY:	KD	DATE:	12/10/2023
CHECKED BY:	KD	DATE:	12/10/2023
APPROVED BY:	AK	DATE:	12/10/2023
DRAWING #:	230125-DT-01[F]		



SHEET 3 ADJOINS

SHEET 7 ADJOINS



NORTH

LEGEND

- BM BENCHMARK
- BOUNDARY
- CO BUILDING STRUCTURE
- EDGE OF CONCRETE
- CONTOUR (MAIN)
- CONTOUR (MINOR)
- GM GAS VALVE
- GP GULLY PIT
- OVERHEAD CABLES
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PREPARED BY:



with you from beginning to end



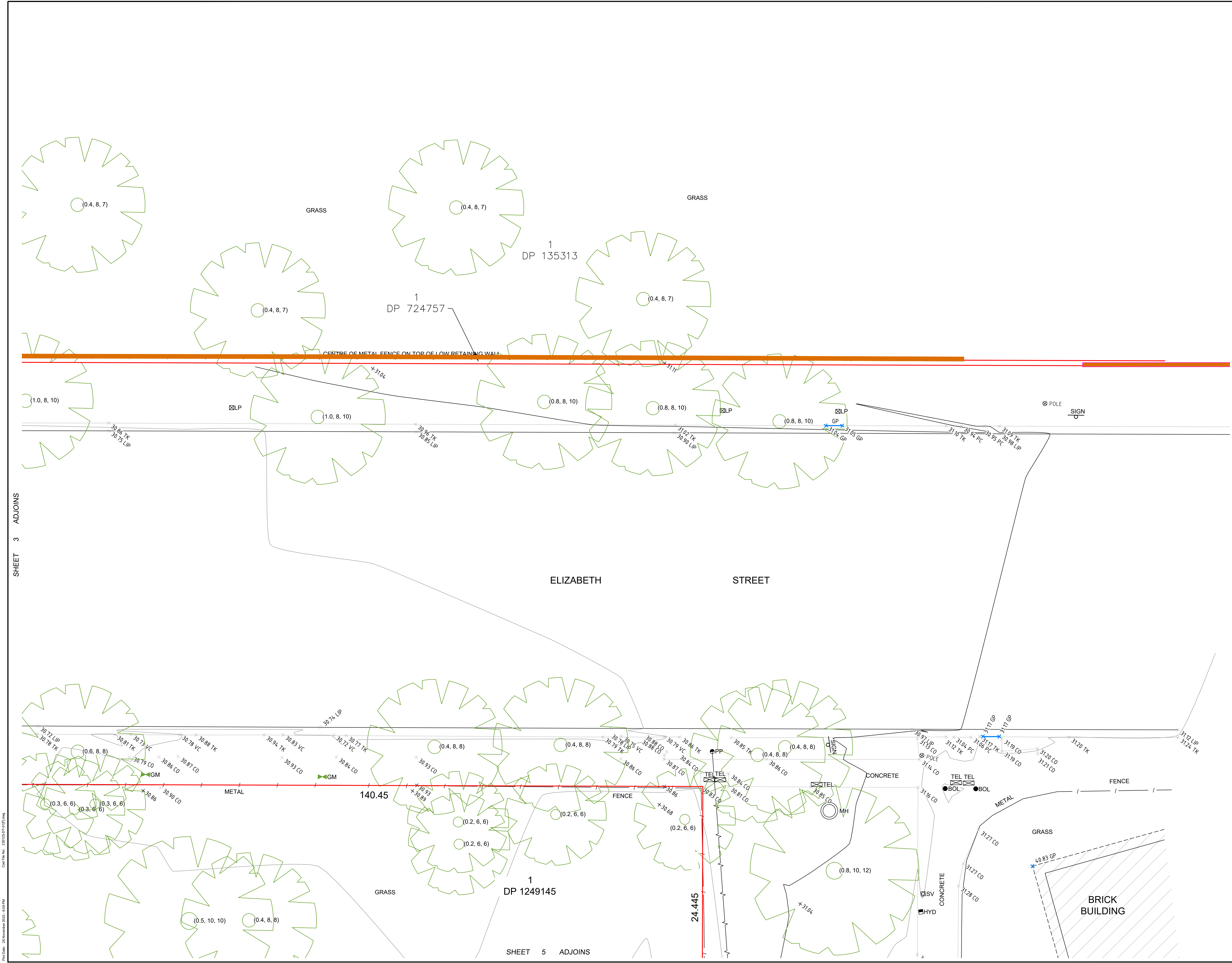
www.geosurv.com.au1300 554 675

PREPARED FOR:

BRIDGE HOUSING LTD

PLAN SHOWING DETAIL
AND LEVEL SURVEY
No 600-660 ELIZABETH ST
REDFERN

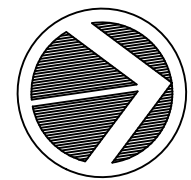
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DATUM:	AHD	ORIG DATUM:	PM 46923
SURVEY BY:	BW/BJM	DATE:	24/08/2023
DRAWN BY:	KD	DATE:	12/10/2023
CHECKED BY:	KD	DATE:	12/10/2023
APPROVED BY:	AK	DATE:	12/10/2023
DRAWING #:	230125-DT-01[F]		



SHEET 3 ADJOINS

Plot Date: 28 November 2023, 6:03 PM
Cell File No.: 230125-DT-01[1].ind

SHEET 5 ADJOINS



LEGEND	
BM ▲	BENCHMARK
—	BOUNDARY
▭	BUILDING STRUCTURE
CO	EDGE OF CONCRETE
—	CONTOUR (MAIN)
—	CONTOUR (MINOR)
GM	GAS VALVE
GP	GULLY PIT
—	OVERHEAD CABLES
HYD	FLOOR LEVEL
LP	FIRE HYDRANT
LP	LIGHT POLE
PC	PEDESTRIAN CROSSING
PP	POWER POLE
—	ROOF/RIDGE/AWNING
RR	RIDGE LEVEL
SIGN	SIGN POST
MH	MANHOLE
TEL	TELSTRA PIT
TSP	TRAFFIC SIGNAL POST
TK	TOP OF KERB
TOG	TOP OF GUTTER
(0.4, 8, 7)	TREE (TRUNK DIAM, SPREAD, HEIGHT)
TW	TOP OF WALL
VC	VEHICLE CROSSING
WM	WALL STRUCTURE
WM	WATER METER
WH	WINDOW HEAD
WS	WINDOW SILL
W	WINDOW

- NOTES:
- RELATIONSHIP OF IMPROVEMENTS TO BOUNDARIES IS DIAGRAMMATIC ONLY.
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REV.	DATE	AMENDMENTS	INT.
F	28/11/2023	BOUNDARY LINES & DATA ADDED	GP
E	23/11/2023	WINDOW & WALL LABELS ADDED	GP
D	25/10/2023	TRIANGULATION DATA ADDED	GP
C	12/10/2023	BOUNDARY ADDED TO REDFERN PARK	KD
B	29/09/2023	ADDITIONAL SURVEY (FRONT FACADE-129-139 PHILLIP ST) (DOS 2023-09-20)	LG
A	28/08/2023	ISSUED FOR INFORMATION	LG

PREPARED BY:



with you from beginning to end

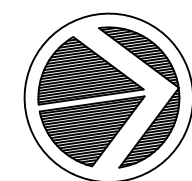


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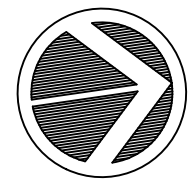
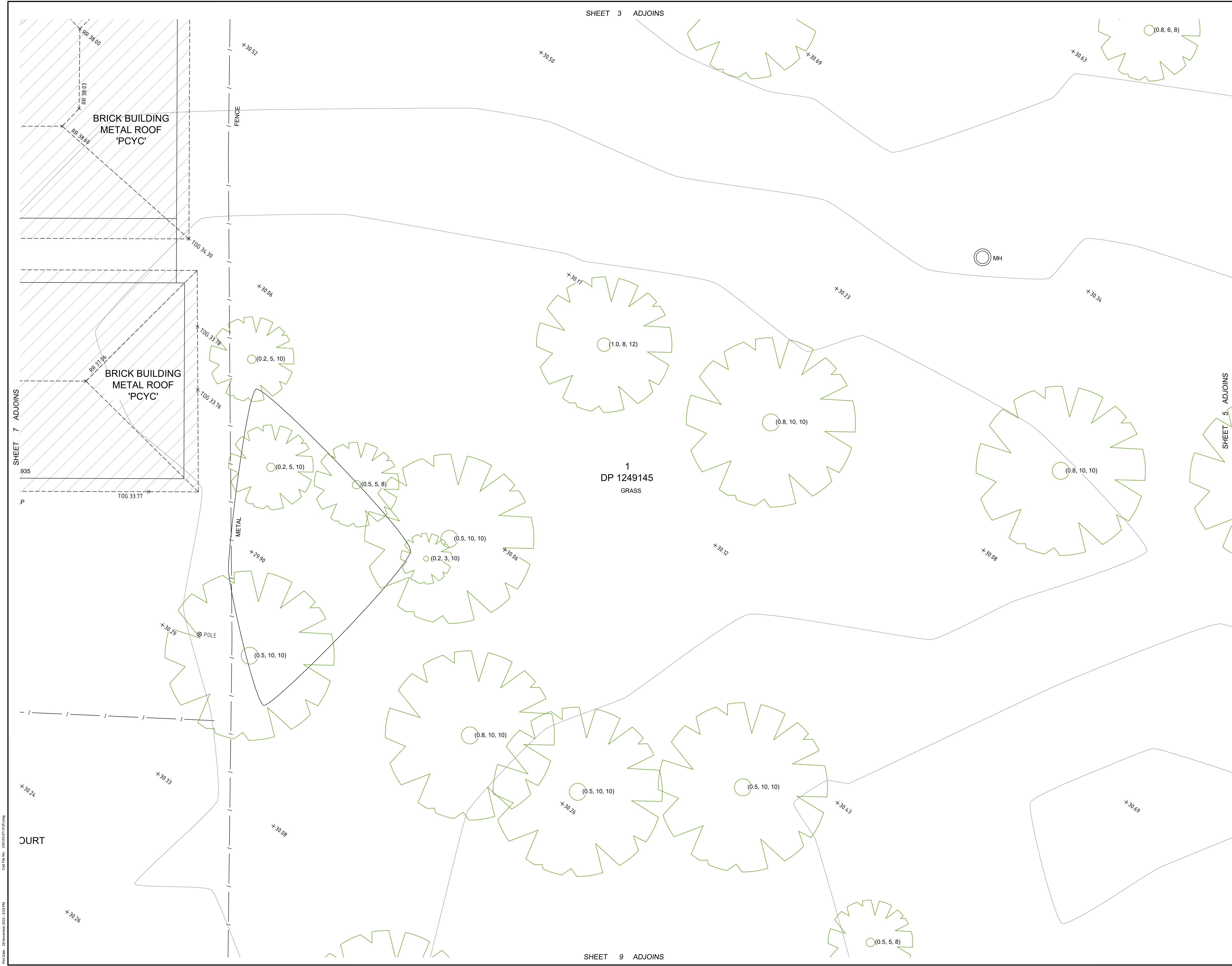
PREPARED FOR:

BRIDGE HOUSING LTD

PLAN SHOWING DETAIL AND LEVEL SURVEY No 600-660 ELIZABETH ST REDFERN			
ORIGINAL SIZE: A1		SHEET 4 OF 10 SHEETS	
SCALE:	1:100	CO-ORD:	MGA2020
DATUM:	AHD	ORIG DATUM:	PM 46923
SURVEY BY:	BW/BJM	DATE:	24/08/2023
DRAWN BY:	KD	DATE:	12/10/2023
CHECKED BY:	KD	DATE:	12/10/2023
APPROVED BY:	AK	DATE:	12/10/2023
DRAWING #:	230125-DT-01[F]		



DRAWING #: 230125 DT 01[E]



NORTH

LEGEND

- BM BENCHMARK
- BOUNDARY
- BUILDING STRUCTURE
- CO EDGE OF CONCRETE
- CONTOUR (MAIN)
- CONTOUR (MINOR)
- GM GAS VALVE
- GP GULLY PIT
- OVERHEAD CABLES
- FFL FLOOR LEVEL
- HYD FIRE HYDRANT
- LP LIGHT POLE
- PC PEDESTRIAN CROSSING
- PP POWER POLE
- ROOF/RIDGE/AWNING
- RR RIDGE LEVEL
- SIGN SIGN POST
- MH MANHOLE
- TEL TELSTRA PIT
- TSP TRAFFIC SIGNAL POST
- TK TOP OF KERB
- TOG TOP OF GUTTER
- TREE (TRUNK DIAM, SPREAD, HEIGHT)
- TW TOP OF WALL
- VC VEHICLE CROSSING
- WALL STRUCTURE
- WM WATER METER
- WH WINDOW HEAD
- WS WINDOW SILL
- W WINDOW

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D	25/10/2023	TRIANGULATION DATA ADDED	GP
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A	28/08/2023	ISSUED FOR INFORMATION	LG
REV.	DATE	AMENDMENTS	INT.

PREPARED BY:



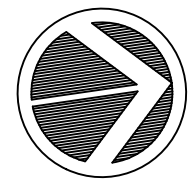
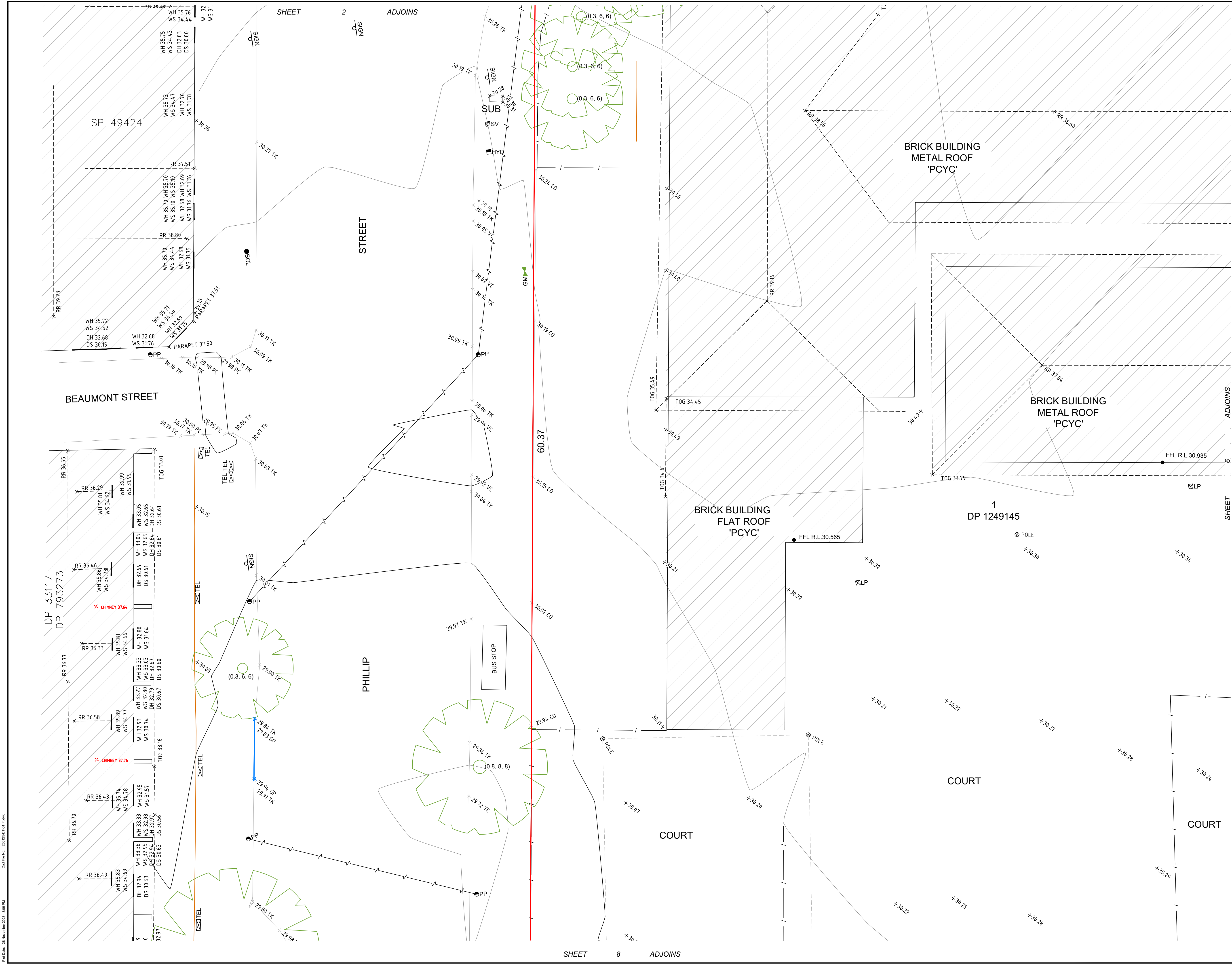
www.geosurv.com.au 1300 554 675

PREPARED FOR:

BRIDGE HOUSING LTD

PLAN SHOWING DETAIL AND LEVEL SURVEY
No 600-660 ELIZABETH ST
REDFERN

ORIGINAL SIZE: A1		SHEET 6 OF 10 SHEETS	
SCALE:	AHD	CO-ORD:	MGA2020
DATUM:	AHD	ORIG DATUM:	PM 46923
SURVEY BY:	BW/BJM	DATE:	24/08/2023
DRAWN BY:	KD	DATE:	12/10/2023
CHECKED BY:	KD	DATE:	12/10/2023
APPROVED BY:	AK	DATE:	12/10/2023
DRAWING #:	230125-DT-01[F]		



NORTH

LEGEND

- BM BENCHMARK
- BOUNDARY
- BUILDING STRUCTURE
- CO EDGE OF CONCRETE
- CONTOUR (MAIN)
- CONTOUR (MINOR)
- GM GAS VALVE
- GP GULLY PIT
- OVERHEAD CABLES
- FFL FLOOR LEVEL
- HYD FIRE HYDRANT
- LP LIGHT POLE
- PC PEDESTRIAN CROSSING
- PP POWER POLE
- ROOF/RIDGE/AWNING
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- SIGN SIGN POST
- MH MANHOLE
- TEL TELSTRA PIT
- TSP TRAFFIC SIGNAL POST
- TK TOP OF KERB
- TOG TOP OF GUTTER
- TREE TREE
(2, 5, 7)
- TW TOP OF WALL
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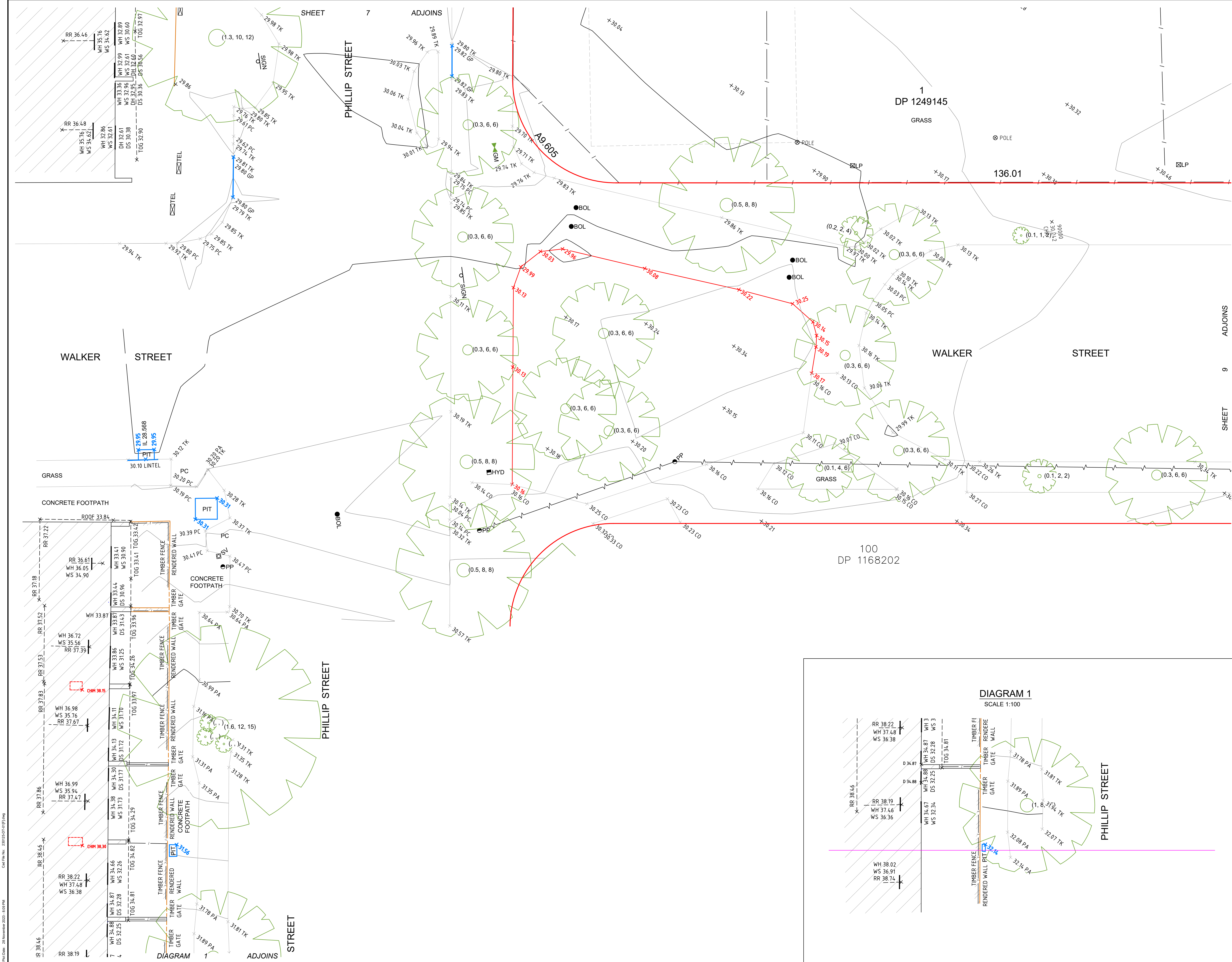
www.geosurv.com.au 1300 554 675

PREPARED FOR:

BRIDGE HOUSING LTD

PLAN SHOWING DETAIL
AND LEVEL SURVEY
No 600-660 ELIZABETH ST
REDFERN

ORIGINAL SIZE:	A1	SHEET	7 OF 10 SHEETS
SCALE:	1:100	CO-ORD:	MGA2020
DATUM:	AHD	ORIG DATUM:	PM 46923
SURVEY BY:	BW/BJM	DATE:	24/08/2023
DRAWN BY:	KD	DATE:	12/10/2023
CHECKED BY:	KD	DATE:	12/10/2023
APPROVED BY:	AK	DATE:	12/10/2023
DRAWING #:	230125-DT-01[F]		



NORTH

LEGEND

BM

▲

BOUNDARY

CO

GM

GP

HYD

LP

PC

PP

RR

SIGN

MH

TEL

TSP

TK

TOG

(2, 5, 7)

TW

VC

WM

WH

WS

W

BENCHMARK

BUILDING STRUCTURE

EDGE OF CONCRETE

CONTOUR (MAIN)

CONTOUR (MINOR)

GAS VALVE

GULLY PIT

OVERHEAD CABLES

FLOOR LEVEL

FIRE HYDRANT

LIGHT POLE

PEDESTRIAN CROSSING

POWER POLE

ROOF/RIDGE/AWNING

RIDGE LEVEL

SIGN POST

MANHOLE

TELSTRA PIT

TRAFFIC SIGNAL POST

TOP OF KERB

TOP OF GUTTER

TREE
(TRUNK DIAM, SPREAD, HEIGHT)

TOP OF WALL

VEHICLE CROSSING

WALL STRUCTURE

WATER METER

WINDOW HEAD

WINDOW SILL

WINDOW

NOTES:

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A	28/08/2023	ISSUED FOR INFORMATION	LG
REV.	DATE	AMENDMENTS	INT.

PREPARED BY:

with you from beginning to end

www.geosurv.com.au1300 554 675

PREPARED FOR:

BRIDGE HOUSING LTD

PLAN SHOWING DETAIL
AND LEVEL SURVEY
No 600-660 ELIZABETH ST
REDFERN

ORIGINAL SIZE: A1

SHEET 8 OF 10 SHEETS

SCALE: 1:100

CO-ORD: MGA2020

DATUM: AHD

ORIG DATUM: PM 46923

SURVEY BY: BW/BJM

DATE: 24/08/2023

DRAWN BY: KD

DATE: 12/10/2023

CHECKED BY: KD

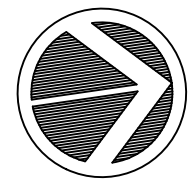
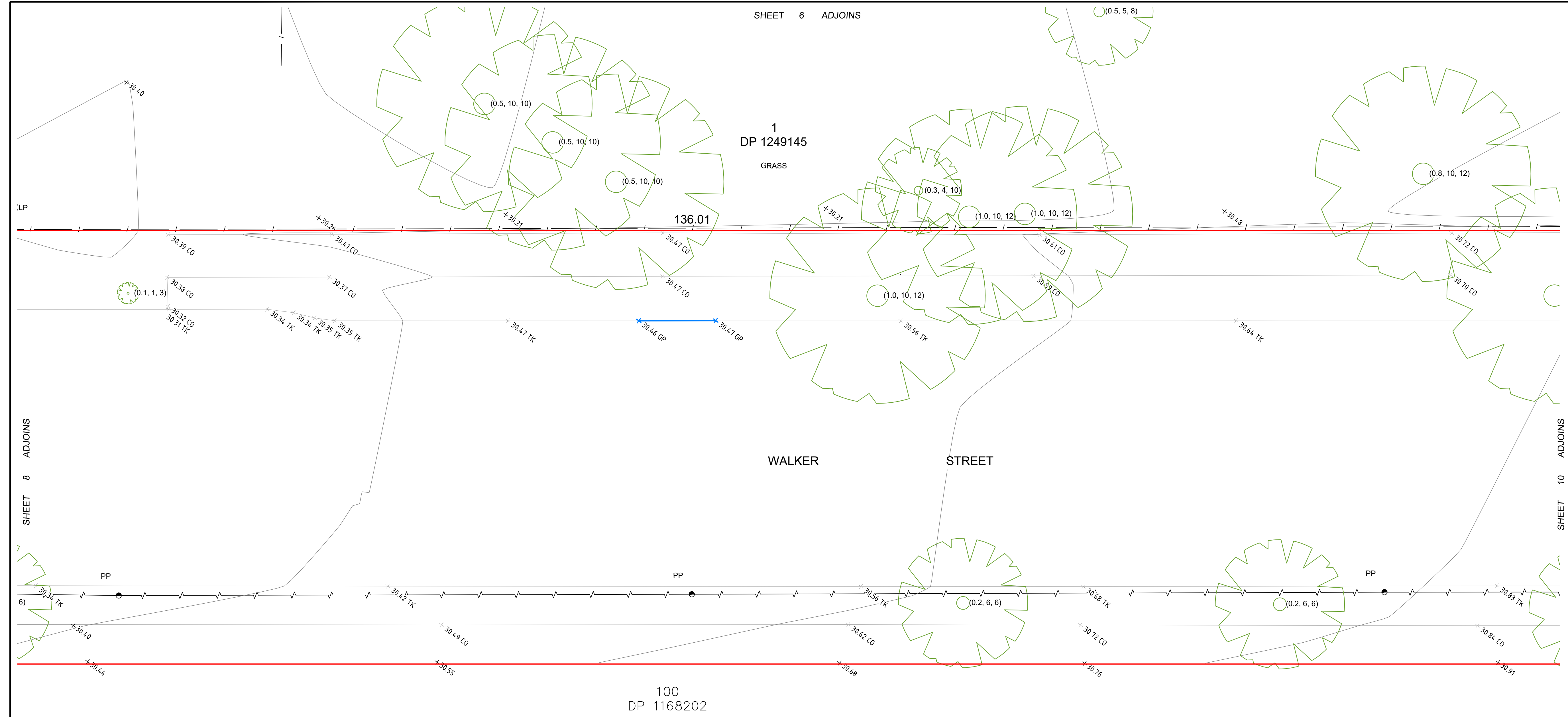
DATE: 12/10/2023

APPROVED BY: AK

DATE: 12/10/2023

DRAWING #:

230125-DT-01[F]



LEGEND	
BM	BENCHMARK
—	BOUNDARY
—	BUILDING STRUCTURE
CO	EDGE OF CONCRETE
—	CONTOUR (MAIN)
—	CONTOUR (MINOR)
GM	GAS VALVE
GP	GULLY PIT
—	OVERHEAD CABLES
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A	28/08/2023	ISSUED FOR INFORMATION	LG
REV.	DATE	AMENDMENTS	INT.

PREPARED BY:



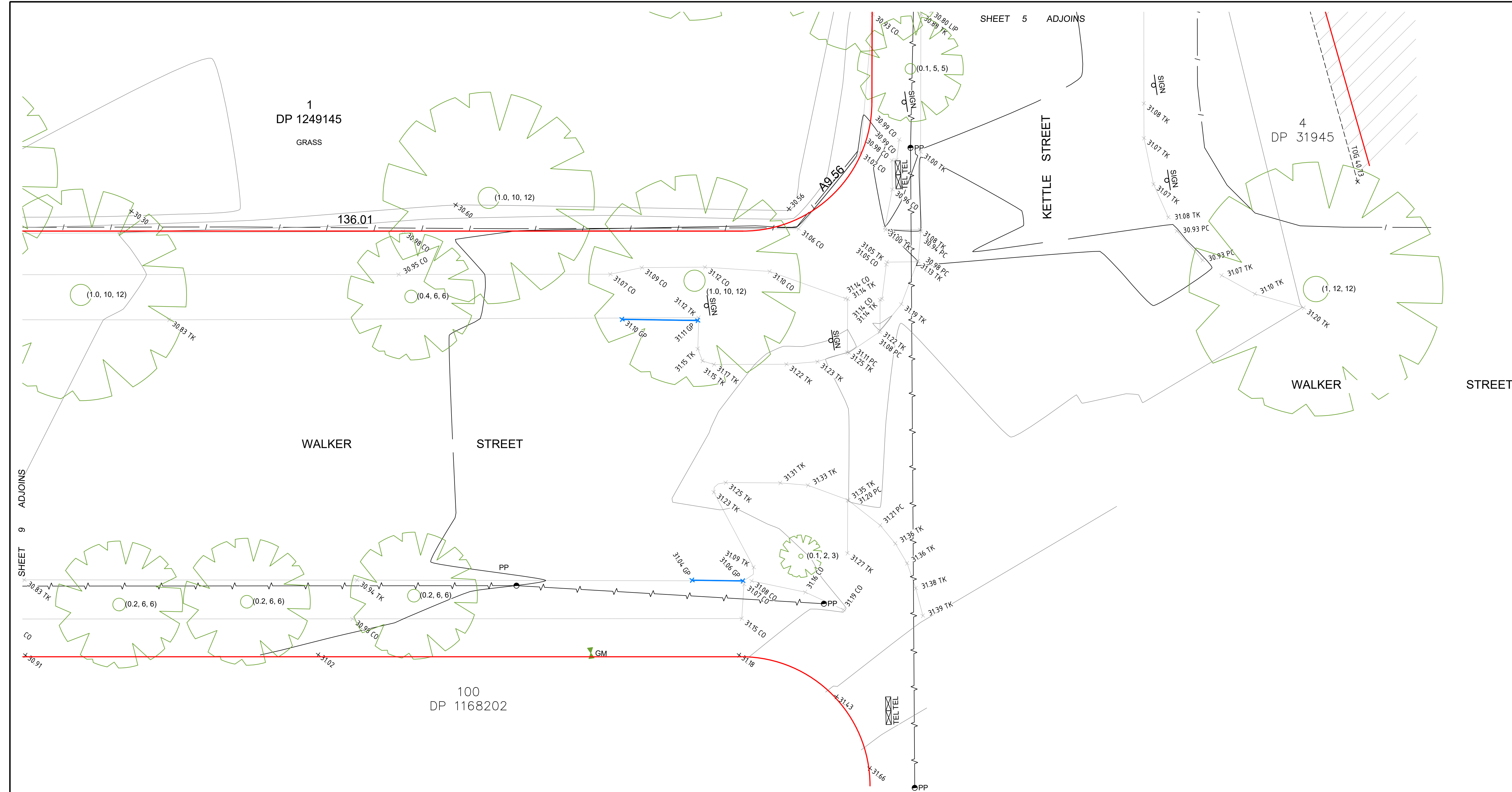
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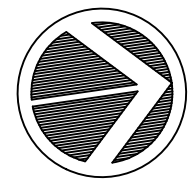
PREPARED FOR:

BRIDGE HOUSING LTD

PLAN SHOWING DETAIL
AND LEVEL SURVEY
No 600-660 ELIZABETH ST
REDFERN

ORIGINAL SIZE:	A1	SHEET 9 OF 10 SHEETS
SCALE:	1:100	CO-ORD: MGA2020
DATUM:	AHD	ORIG DATUM: PM 46923
SURVEY BY:	BW/BJM	DATE: 24/08/2023
DRAWN BY:	KD	DATE: 12/10/2023
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NORTH

LEGEND

BM	BENCHMARK
—	BOUNDARY
▭	BUILDING STRUCTURE
CO	EDGE OF CONCRETE
—	CONTOUR (MAIN)
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GM	GAS VALVE
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REV.	DATE	AMENDMENTS	INT.

PREPARED BY:



with you from beginning to end



www.geosurv.com.au 1300 554 675

PREPARED FOR:

BRIDGE HOUSING LTD

PLAN SHOWING DETAIL
AND LEVEL SURVEY
No 600-660 ELIZABETH ST
REDFERN

ORIGINAL SIZE:	A1	SHEET 10 OF 10 SHEETS
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DATUM:	AHD	ORIG DATUM: PM 46923
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APPROVED BY:	AK	DATE: 12/10/2023
DRAWING #:	230125-DT-01[F]	

Appendix C - BG&E Civil Drawings

The logo for BG & E, featuring the letters 'BG' stacked above '&E' in a large, bold, black serif font.

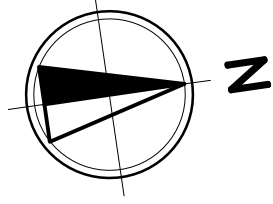
LGA: CITY OF SYDNEY
FOR INFORMATION



LOCALITY PLAN
SCALE 1:2000

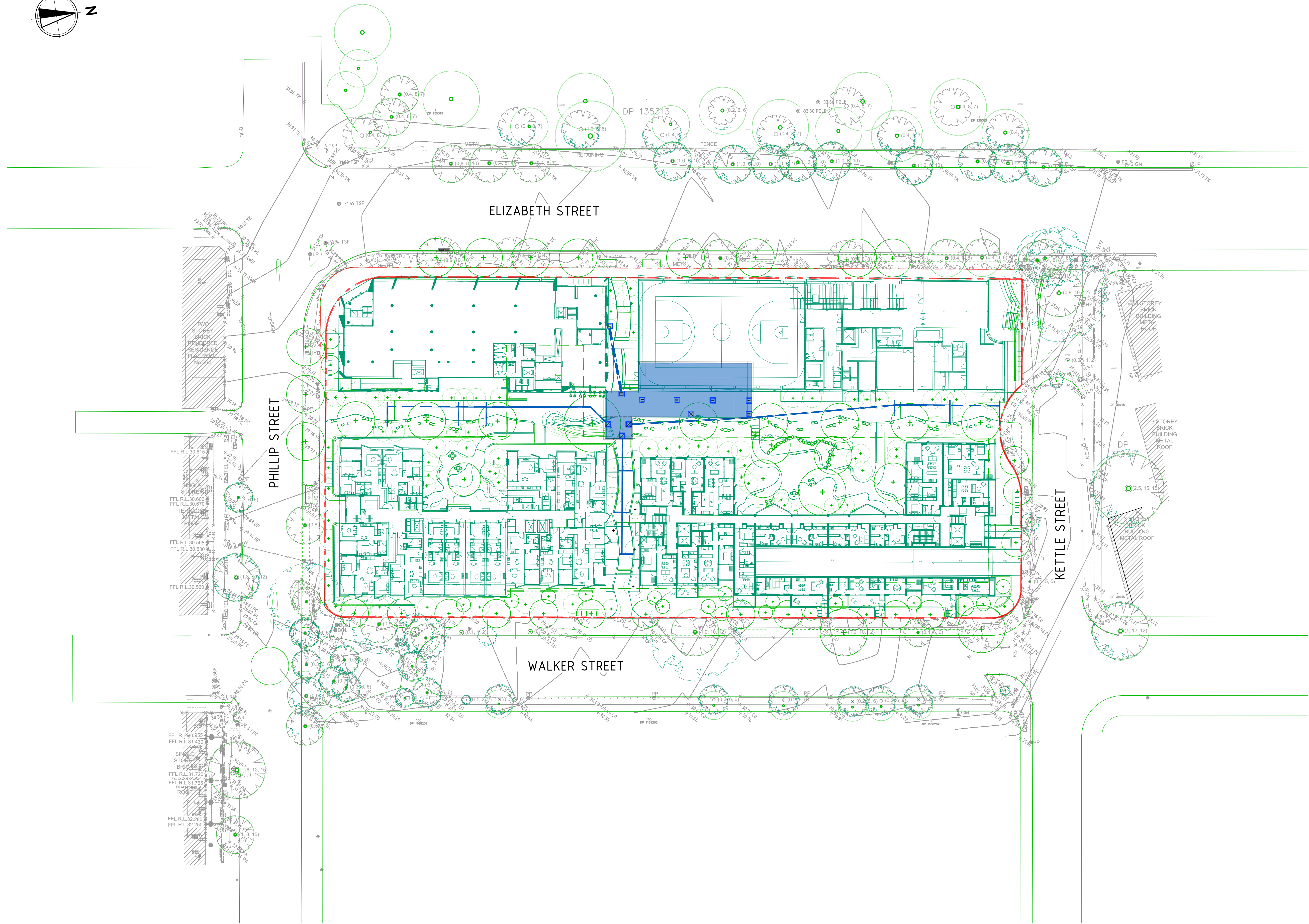
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DRAWING No.	DESCRIPTION
C-0000	COVER SHEET, LOCALITY PLAN AND DRAWING INDEX
C-0010	GENERAL ARRANGEMENT PLAN
C-0120	EARTHWORKS DEPTH RANGE PLAN
C-0200	SITEWORKS & DRAINAGE PLAN GROUND FLOOR
C-0201	SITEWORKS & DRAINAGE PLAN BASEMENT
C-0300	DRAINAGE CATCHMENT PLAN
C-0340	DRAINAGE DETAILS
C-0350	OSD ROOF PLAN
C-0351	OSD BASE PLAN
C-0355	OSD SECTIONS AND DETAILS
C-0700	EROSION AND SEDIMENT CONTROL PLAN
C-0710	EROSION AND SEDIMENT CONTROL DETAILS

[illegible]



LEGEND

- NEW SITE BOUNDARY
- OLD SITE BOUNDARY
- SURVEY
- ARCHITECTURAL
- LANDSCAPE
- PROPOSED STORMWATER
- PROPOSED GRATED INLET PIT/
PROPOSED KERB INLET PIT
- PROPOSED JUNCTION PIT
- EXISTING GRATED INLET PIT/
EXISTING KERB INLET PIT
- PROPOSED OSD TANK



PLAN
SCALE 1:400

0 4 8 12 16 20 24m
SCALE 1:400 AT A1 SIZE

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION
B	27.06.24	ISSUED FOR INFORMATION	SH		
A	20.05.24	ISSUED FOR INFORMATION	SH		
REV	DATE	DESCRIPTION	RVD	REV	DATE
REVISIONS			REVISIONS		

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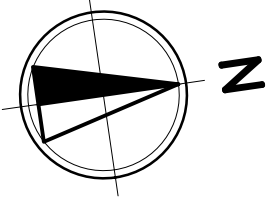
BG & E

PROJECT

REDFERN PLACE
600-660 ELIZABETH ST, REDFERN, NSW 2016

STATUS			
ISSUED FOR INFORMATION NOT TO BE USED FOR CONSTRUCTION			
DRAWN	DESIGNED	CHECKED	APPROVED
JC	AM	SH	
DATUM	GRID	SCALE	
AHD	MGA-56	1:400	

TITLE		
GENERAL ARRANGEMENT PLAN		
PROJECT No.	DRAWING No.	REV
S23123	C-0010	B



LEGEND

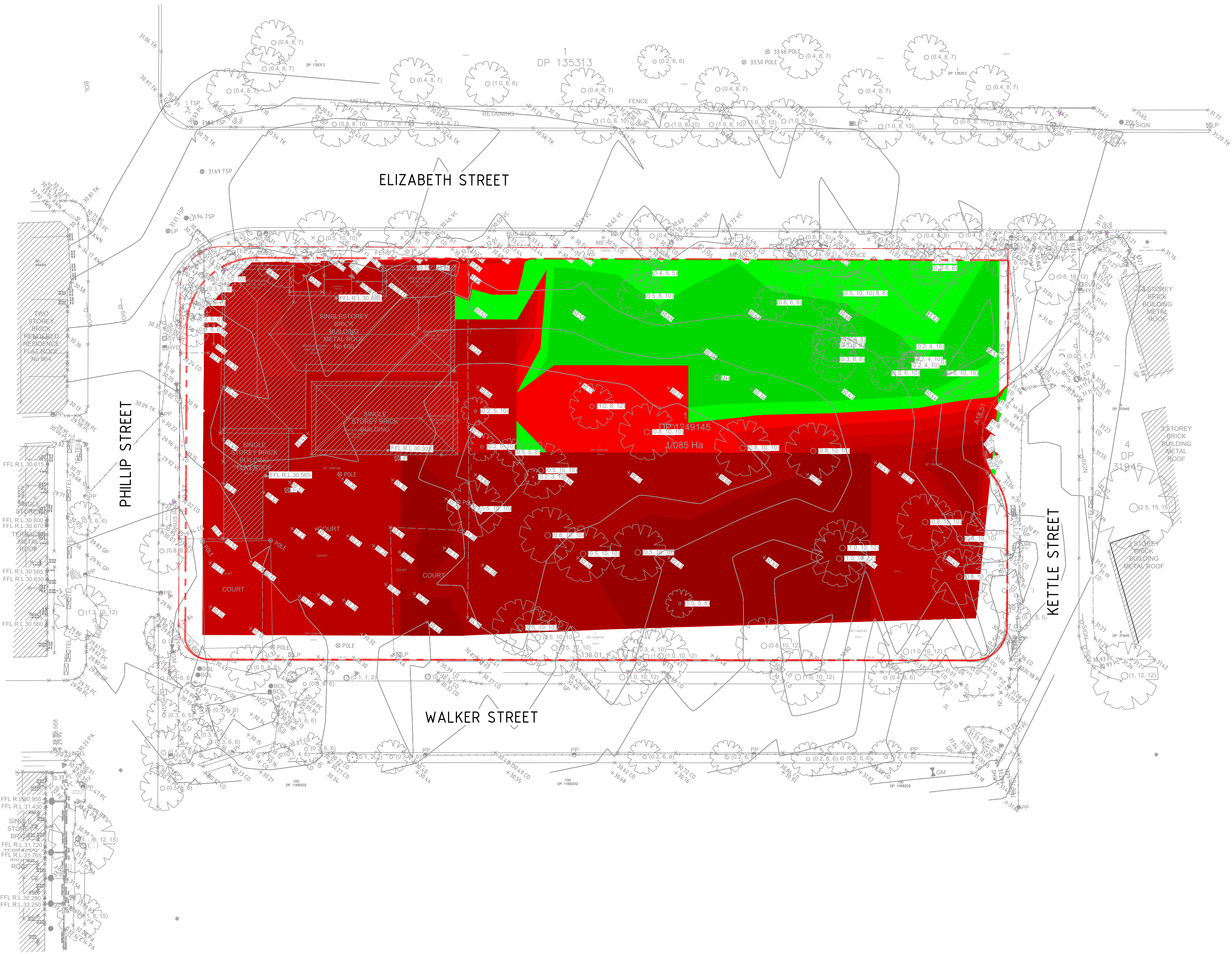
- NEW SITE BOUNDARY
OLD SITE BOUNDARY
SURVEY

BULK EARTHWORKS VOLUME RANGE		
LOWER VALUE	UPPER VALUE	COLOUR
-4.0 to	-3.5 m	
-3.5 to	-3.0 m	
-3.0 to	-2.5 m	
-2.5 to	-2.0 m	
-2.0 to	-1.5 m	
-1.5 to	-1.0 m	
-1.0 to	-0.5 m	
-0.5 to	0 m	
0 to	0.5 m	
0.5 to	1.0 m	
1.0 to	1.5 m	
1.5 to	2.0 m	
2.0 to	2.5 m	
2.5 to	3.0 m	
3.0 to	3.5 m	
3.5 to	4.0 m	
4.0 to	4.5 m	
4.5 to	5.0 m	

NOTES:

TOTAL CUT -12732.897 m³
TOTAL FILL 1208.947 m³
TOTAL BALANCE -11523.950 m³

- NO BOXING ALLOWANCE FOR ANY PAVEMENTS OR STRUCTURAL DETAILING
- NO STRIPPING ALLOWANCE



PLAN
SCALE 1:400



REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
A	27.06.24	ISSUED FOR INFORMATION	SH				
REVISIONS				REVISIONS			

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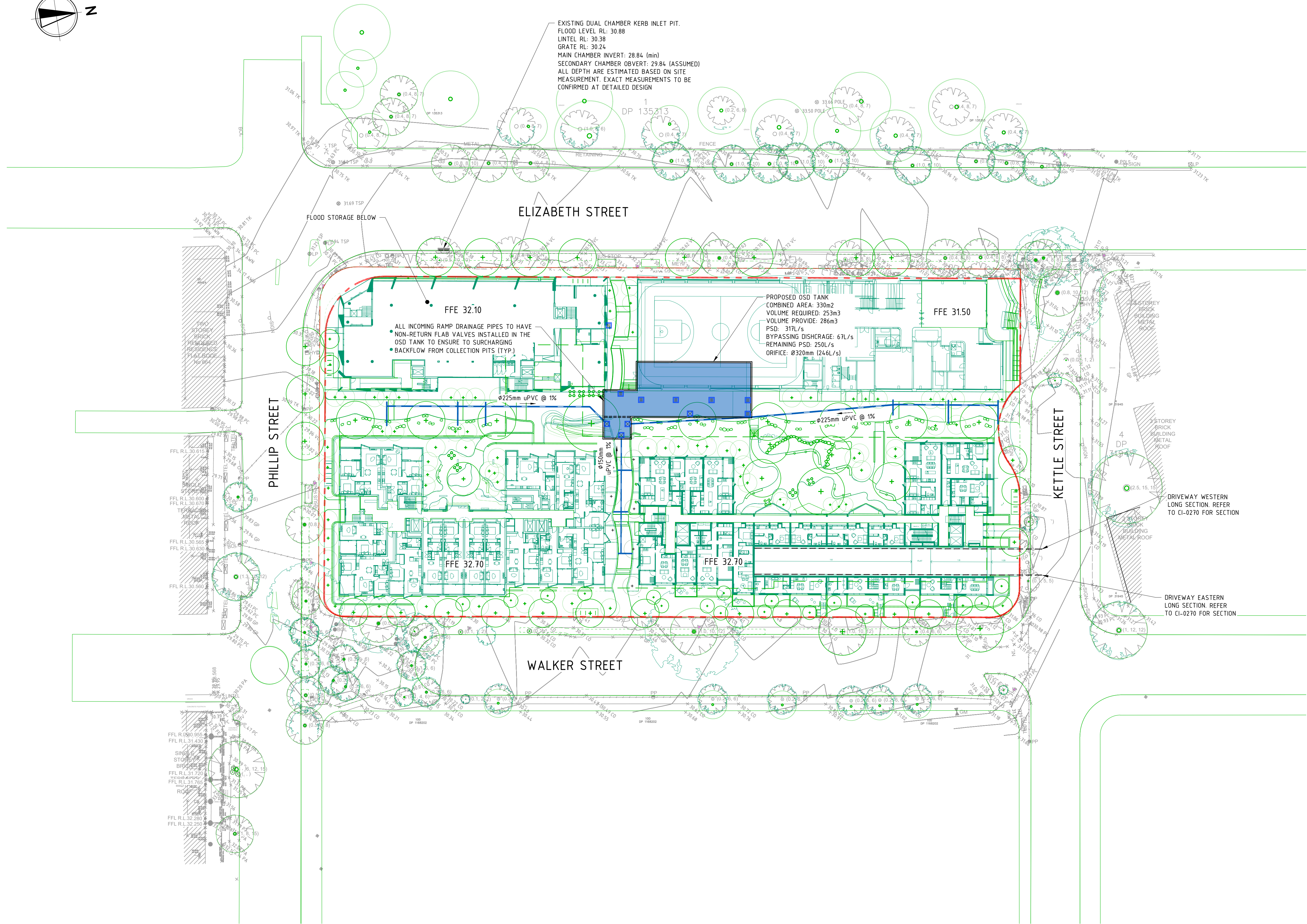
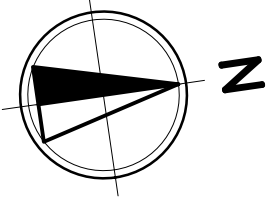
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PROJECT
REDFERN PLACE
600-660 ELIZABETH ST, REDFERN, NSW 2016

STATUS ISSUED FOR INFORMATION NOT TO BE USED FOR CONSTRUCTION			
DRAWN JC	DESIGNED AM	CHECKED SH	APPROVED
DATUM AHD	GRID MGA-56	SCALE 1:400	AT A1 SIZE

TITLE EARTHWORKS DEPTH RANGE PLAN		
PROJECT No. S23123	DRAWING No. C-0120	REV A



LEGEND

- NEW SITE BOUNDARY
- OLD SITE BOUNDARY
- SURVEY
- ARCHITECTURAL
- LANDSCAPE
- PROPOSED STORMWATER
- PROPOSED GRATED INLET PIT/
PROPOSED KERB INLET PIT
- PROPOSED JUNCTION PIT
- EXISTING GRATED INLET PIT/
EXISTING KERB INLET PIT
- PROPOSED OSD TANK

NOTES

- GRATED TRENCH DRAINS TO BE 100(W) x 100(D) IN ALL PEDESTRIAN AREAS AND 200(W) x 200(D) IN ALL VEHICLE AREAS.
- PATHS ON PODIUM TO FALL TOWARDS LANDSCAPING.

PLAN
SCALE 1:400



REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
B	27.06.24	ISSUED FOR INFORMATION	SH				
A	20.05.24	ISSUED FOR INFORMATION	SH				
REVISIONS							

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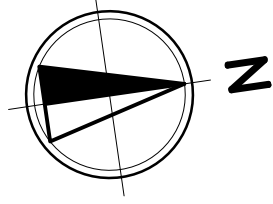
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PROJECT

REDFERN PLACE
600-660 ELIZABETH ST, REDFERN, NSW 2016

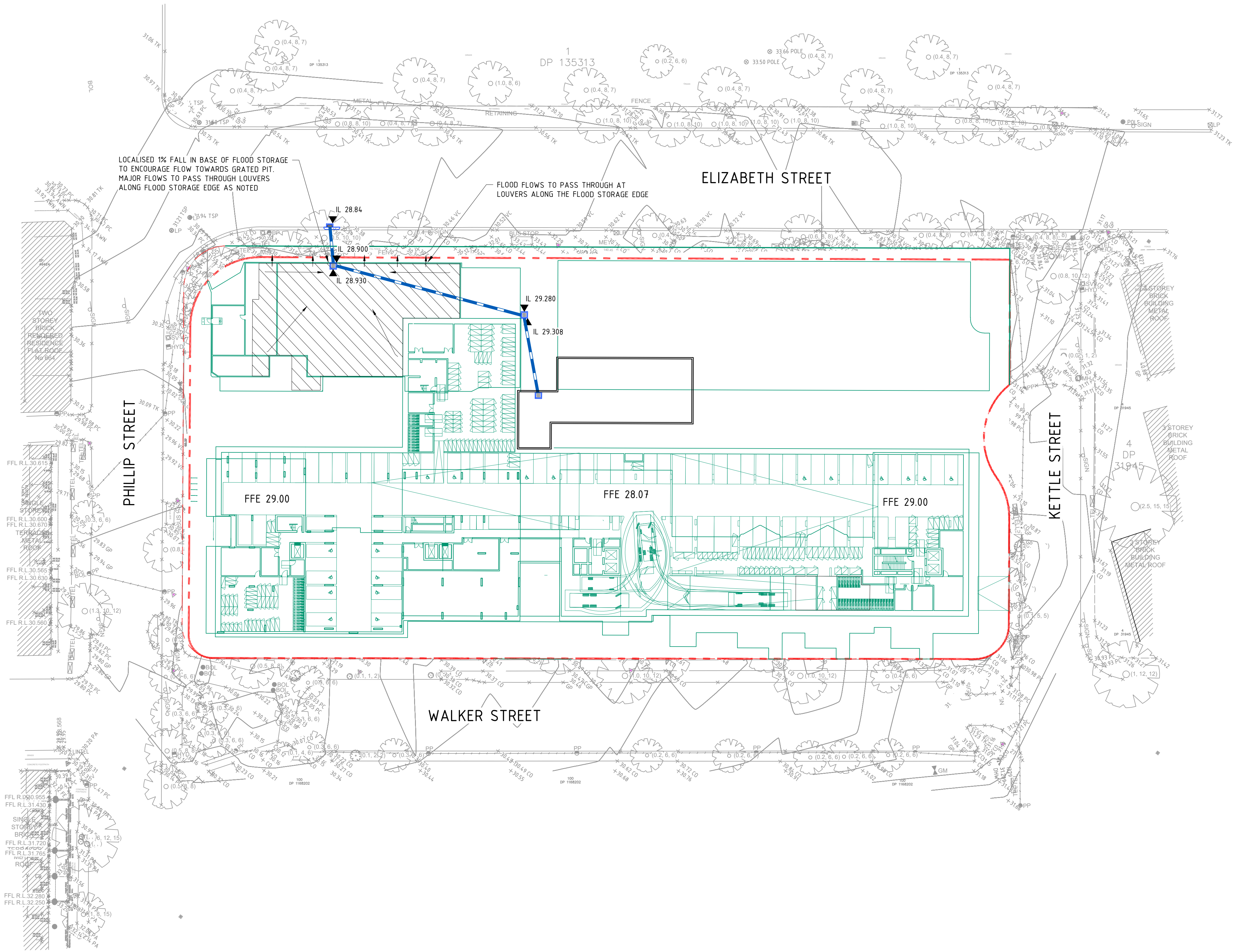
STATUS			
ISSUED FOR INFORMATION NOT TO BE USED FOR CONSTRUCTION			
DRAWN	DESIGNED	CHECKED	APPROVED
JC	AM	SH	
DATUM	GRID	SCALE	
AHD	MGA-56	1:400	

TITLE		
SITWORKS & DRAINAGE PLAN GROUND FLOOR		
PROJECT No.	DRAWING No.	REV
S23123	C-0200	B

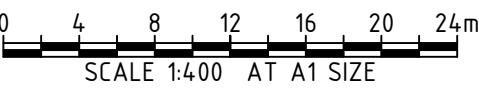


LEGEND

- NEW SITE BOUNDARY
- OLD SITE BOUNDARY
- SURVEY
- ARCHITECTURAL
- LANDSCAPE
- PROPOSED STORMWATER
- PROPOSED GRATED INLET PIT/
PROPOSED KERB INLET PIT
- PROPOSED JUNCTION PIT
- EXISTING GRATED INLET PIT/
EXISTING KERB INLET PIT
- PROPOSED OSD TANK
- FLOOD STORAGE



PLAN
SCALE 1:400



REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
B	27.06.24	ISSUED FOR INFORMATION	SH				
A	20.05.24	ISSUED FOR INFORMATION	SH				
REVISIONS				REVISIONS			

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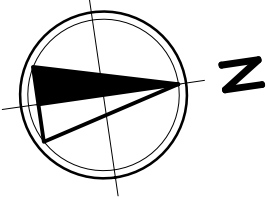
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PROJECT
REDFERN PLACE
600-660 ELIZABETH ST, REDFERN, NSW 2016

STATUS ISSUED FOR INFORMATION NOT TO BE USED FOR CONSTRUCTION			
DRAWN	DESIGNED	CHECKED	APPROVED
JC	AM	SH	
DATUM	GRID	SCALE	
AHD	MGA-56	1:400	

TITLE SITEWORKS & DRAINAGE PLAN BASEMENT		
PROJECT No.	DRAWING No.	REV
S23123	C-0201	B



LEGEND

- NEW SITE BOUNDARY
- OLD SITE BOUNDARY
- SURVEY
- ARCHITECTURAL
- LANDSCAPE
- ROOF AREA 6567 m²
- TREATED PAVED AREA 1123 m²
- UNTREATED PAVED AREA 183 m²
- DRIVEWAY AREA 31 m²
- TREATED LANDSCAPE AREA 1417 m²
- UNTREATED LANDSCAPE AREA 1760 m²
- TOTAL SITE AREA 11081 m²

WATER QUALITY

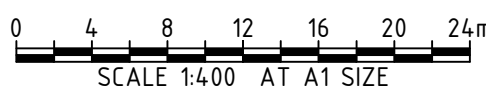
- WATER QUALITY CHAMBER WITH 28 OCEAN PROTECT 690 PSORB (MCC) STORMFILTER CARTRIDGES.
- 7 x OCEANGUARD.
- LANDSCAPED SWALE TO RUN ALONG EASTERN AND SOUTHERN BOUNDARY.

TREATMENT STANDARDS

POLLUTANT	POST	REDUCTION (%)	COUNCIL REQUIREMENTS (%)
GRASS POLLUTANT	0	100	90
TOTAL SUSPENDED SOLIDS	108	85	85
TOTAL PHOSPHORUS	0.528	74.2	65
TOTAL NITROGEN	10.7	55.2	45

STORMWATER DRAINAGE HAVE BEEN CALCULATED IN ACCORDANCE WITH CITY OF SYDNEY WATER QUALITY REQUIREMENTS AND MUSIC LINK.

PLAN
SCALE 1:400



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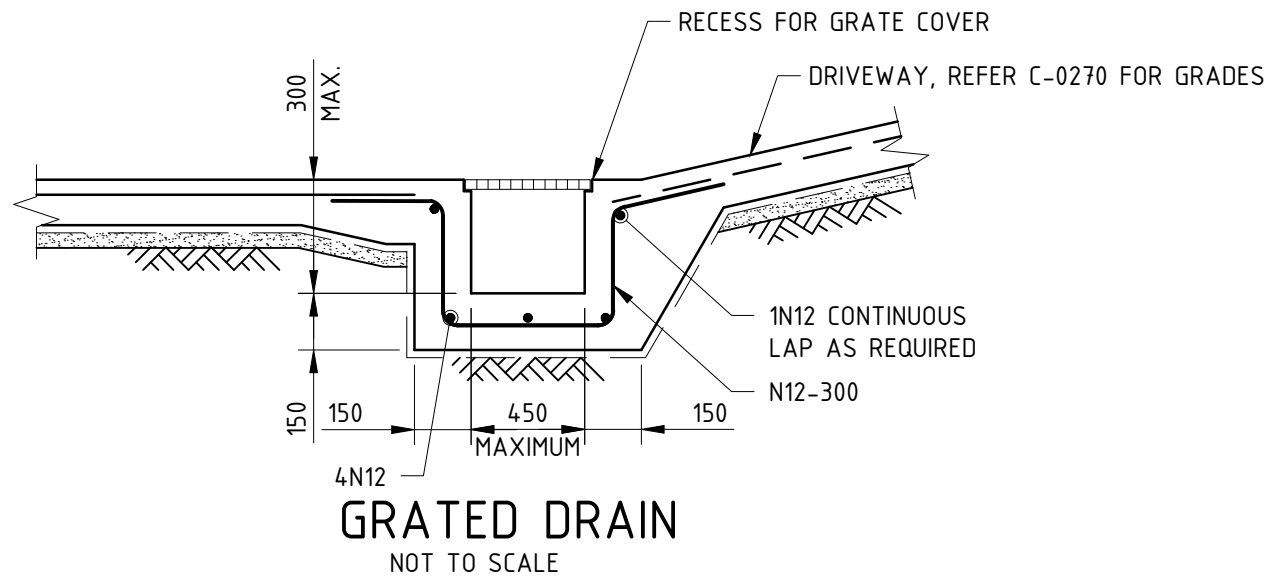
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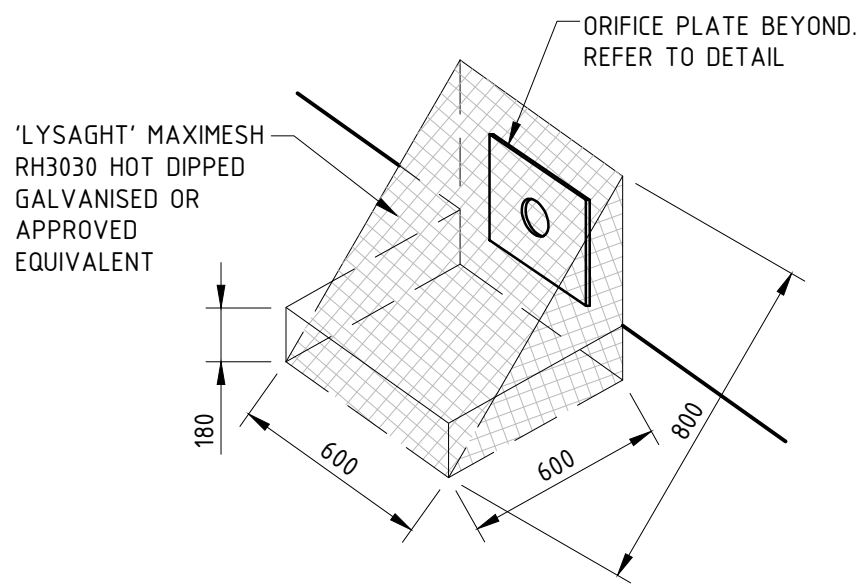
PROJECT
REDFERN PLACE
600-660 ELIZABETH ST, REDFERN, NSW 2016

STATUS ISSUED FOR INFORMATION NOT TO BE USED FOR CONSTRUCTION			
DRAWN JC	DESIGNED AM	CHECKED SH	APPROVED
DATUM AHD	GRID MGA-56	SCALE 1:400	AT A1 SIZE

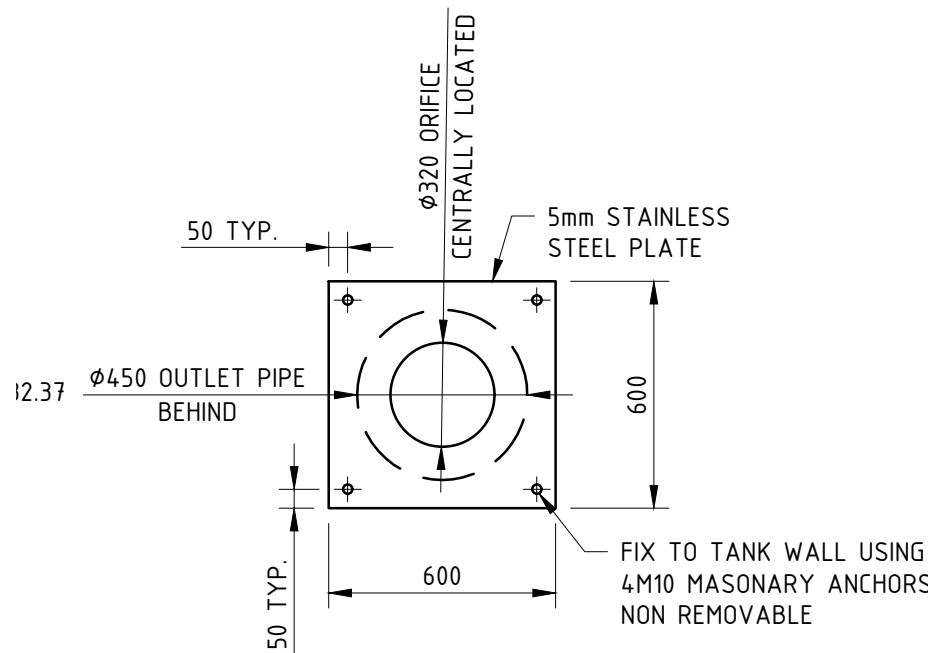
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PROJECT No. S23123	DRAWING No. C-0300	REV B



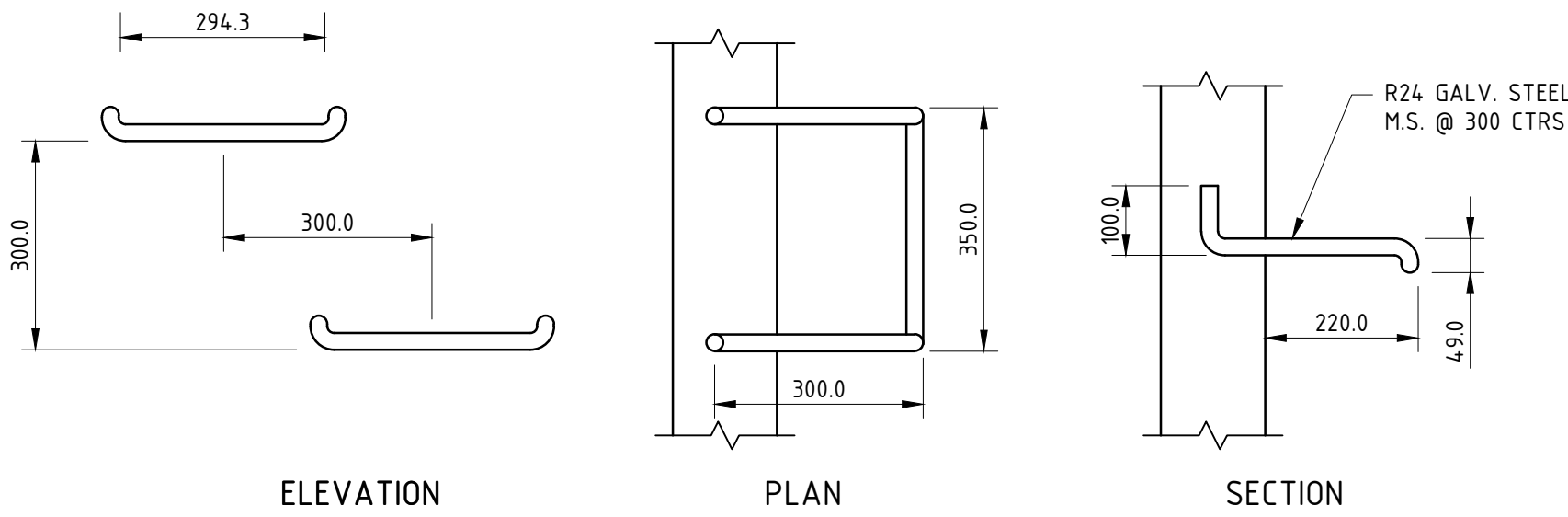
GRATED DRAIN
NOT TO SCALE



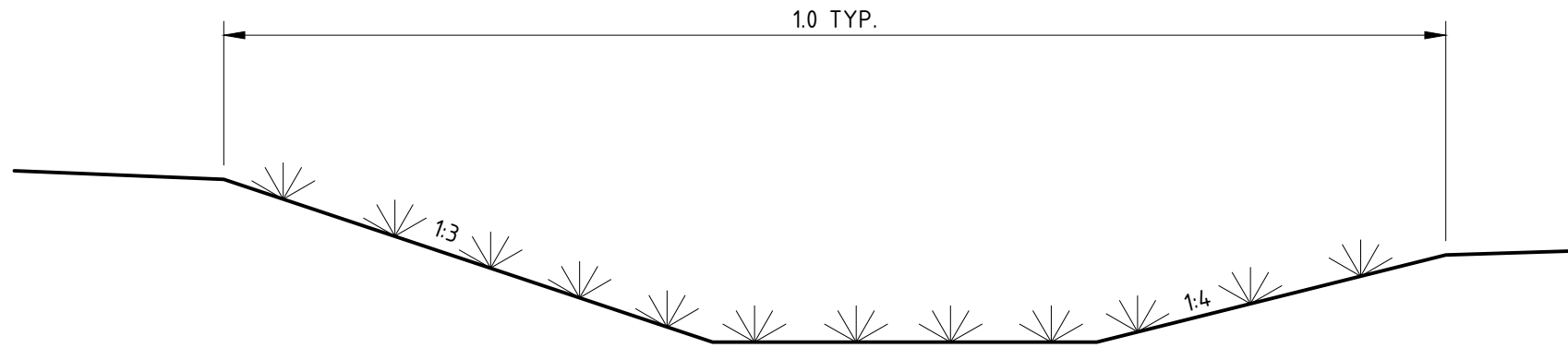
TRASH SCREEN DETAIL
N.T.S



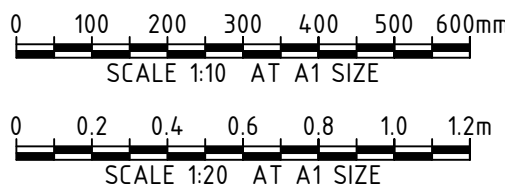
Ø320 ORIFICE PLATE DETAIL
SCALE N.T.S



TYPICAL STEP IRON DETAILS
SCALE 1:10



LANDSCAPED SWALE DETAIL
SCALE 1:20



REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION
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REVISIONS			REVISIONS		

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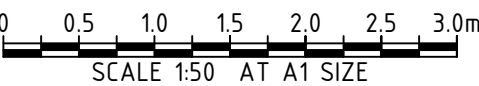
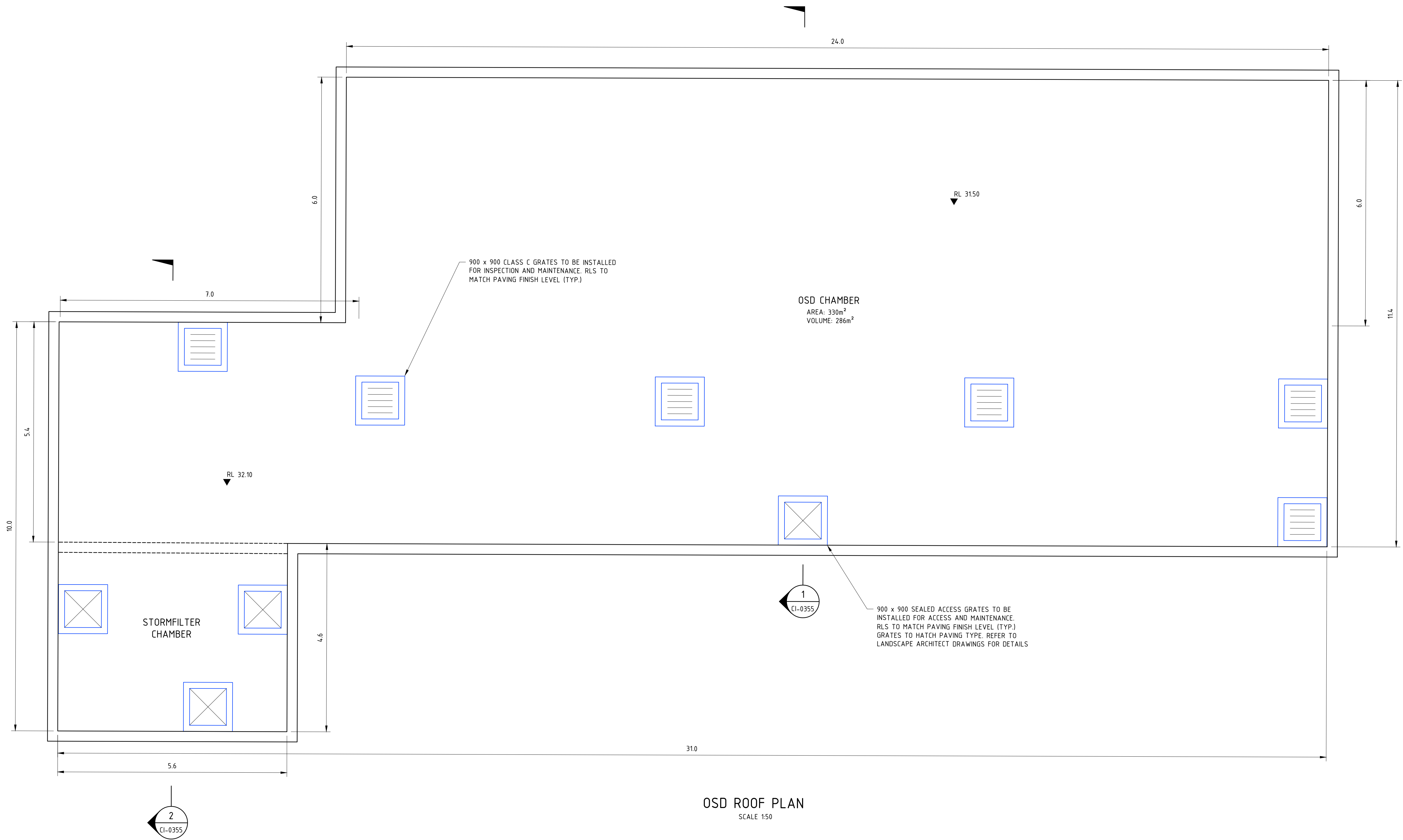
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PROJECT
REDFERN PLACE
600-660 ELIZABETH ST, REDFERN, NSW 2016

STATUS			
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DRAWN	DESIGNED	CHECKED	APPROVED
JC	AM	SH	
DATUM	GRID	SCALE	
AHD	MGA-56	AS SHOWN	

TITLE		
DRAINAGE DETAILS		
PROJECT No.	DRAWING No.	REV.
S23123	C-0340	B



REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
B	27.06.24	ISSUED FOR INFORMATION	SH				
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REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
REVISIONS				REVISIONS			

CLIENT

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PROJECT

REDFERN PLACE
600-660 ELIZABETH ST, REDFERN, NSW 2016

STATUS

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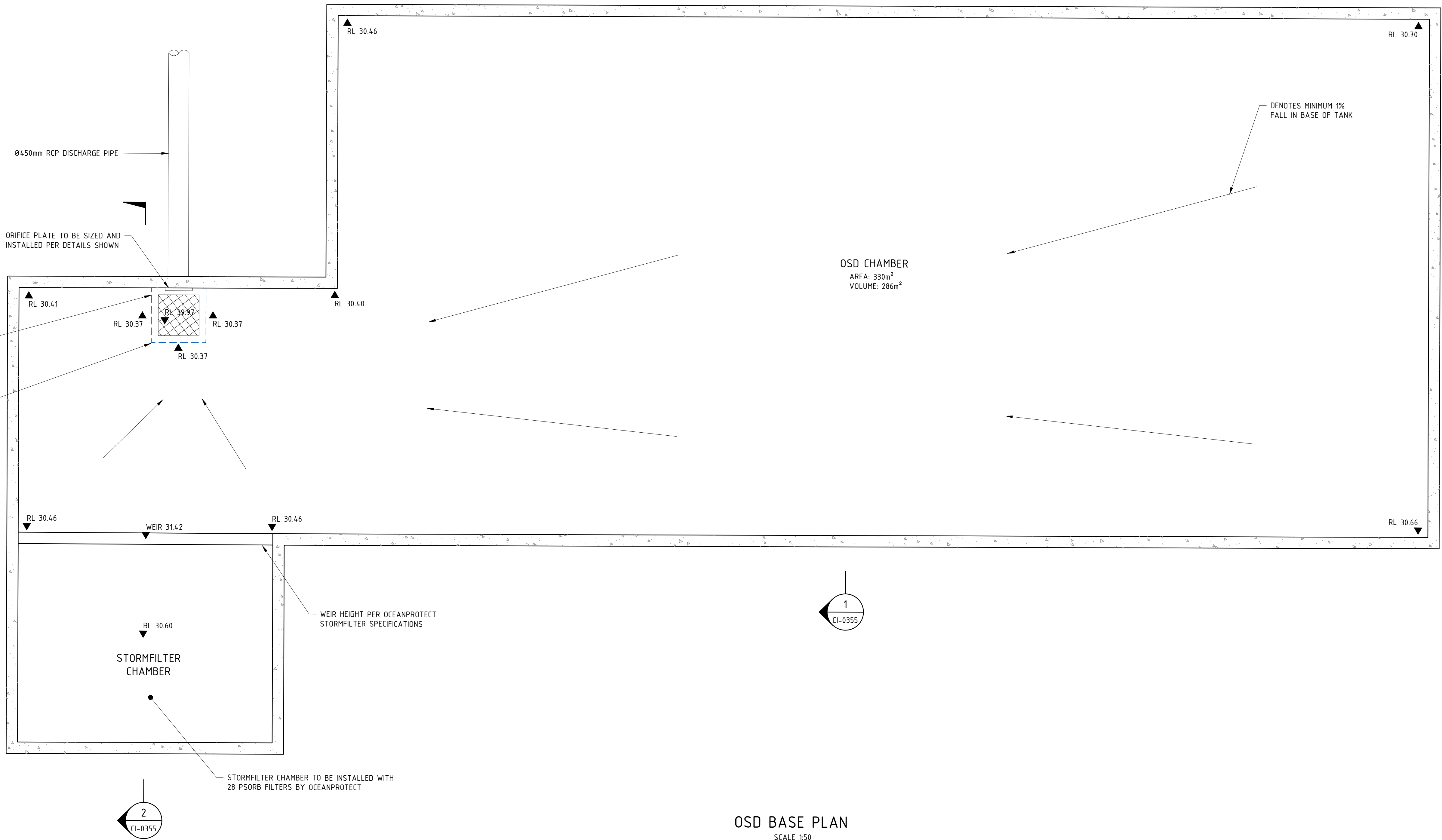
DRAWN	DESIGNED	CHECKED	APPROVED
JC	AM	SH	
DATUM	GRID	SCALE	
AHD	MGA-56	AS SHOWN	

AT A1 SIZE

TITLE

OSD ROOF PLAN

PROJECT No.	DRAWING No.	REV.
S23123	C-0350	B



OSD BASE PLAN
SCALE 1:50

REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
B	27.06.24	ISSUED FOR INFORMATION	SH				
A	20.05.24	ISSUED FOR INFORMATION	SH				
REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
REVISIONS				REVISIONS			

CLIENT

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PROJECT

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PROJECT

REDFERN PLACE
600-660 ELIZABETH ST, REDFERN, NSW 2016

STATUS

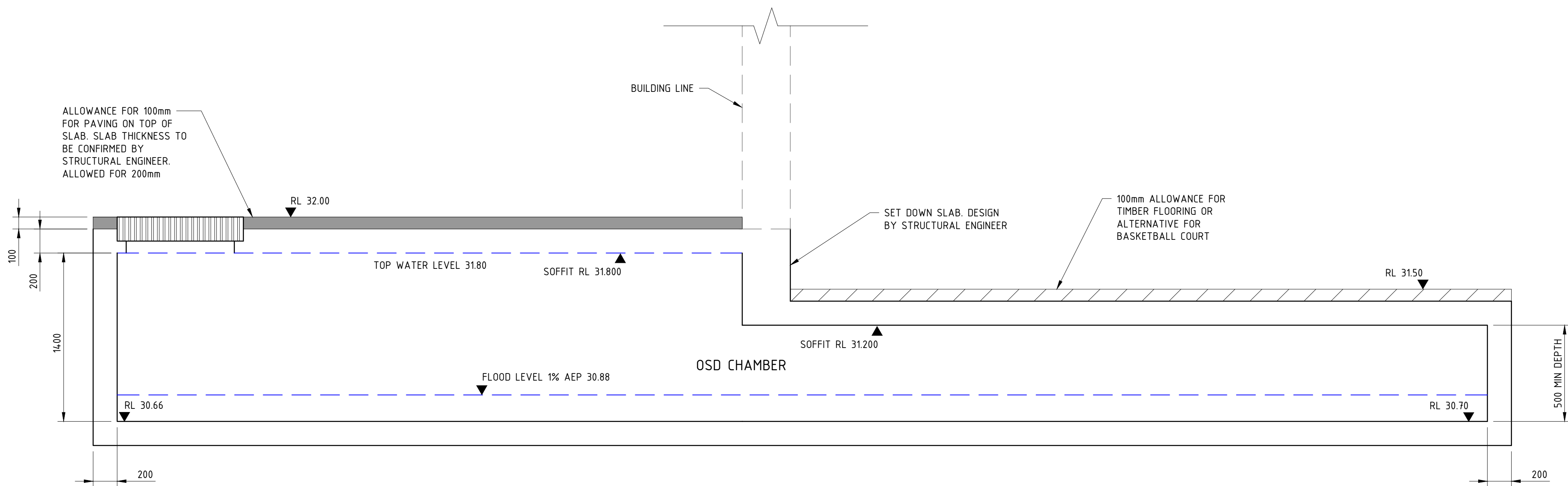
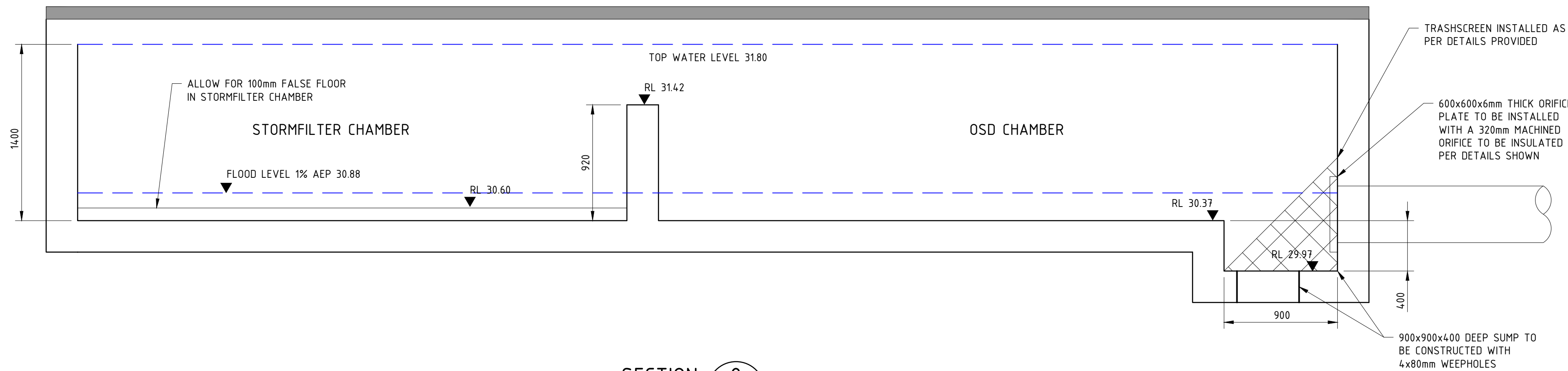
ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

DRAWN	DESIGNED	CHECKED	APPROVED
JC	AM	SH	
DATUM	GRID	SCALE	
AHD	MGA-56	AS SHOWN	

TITLE

OSD BASE PLAN

PROJECT No.	DRAWING No.	REV.
S23123	C-0351	B



REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
B	27.06.24	ISSUED FOR INFORMATION	SH				
A	20.05.24	ISSUED FOR INFORMATION	SH				
REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
REVISIONS				REVISIONS			

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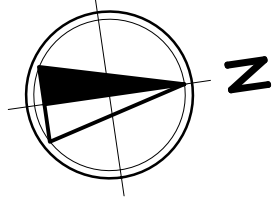
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PROJECT
REDFERN PLACE
600-660 ELIZABETH ST, REDFERN, NSW 2016

STATUS			
ISSUED FOR INFORMATION NOT TO BE USED FOR CONSTRUCTION			
DRAWN	DESIGNED	CHECKED	APPROVED
JC	AM	SH	
DATUM	GRID	SCALE	
AHD	MGA-56	AS SHOWN	

TITLE			
OSD SECTIONS AND DETAILS			
PROJECT No.	DRAWING No.	REV	
S23123	C-0355	B	

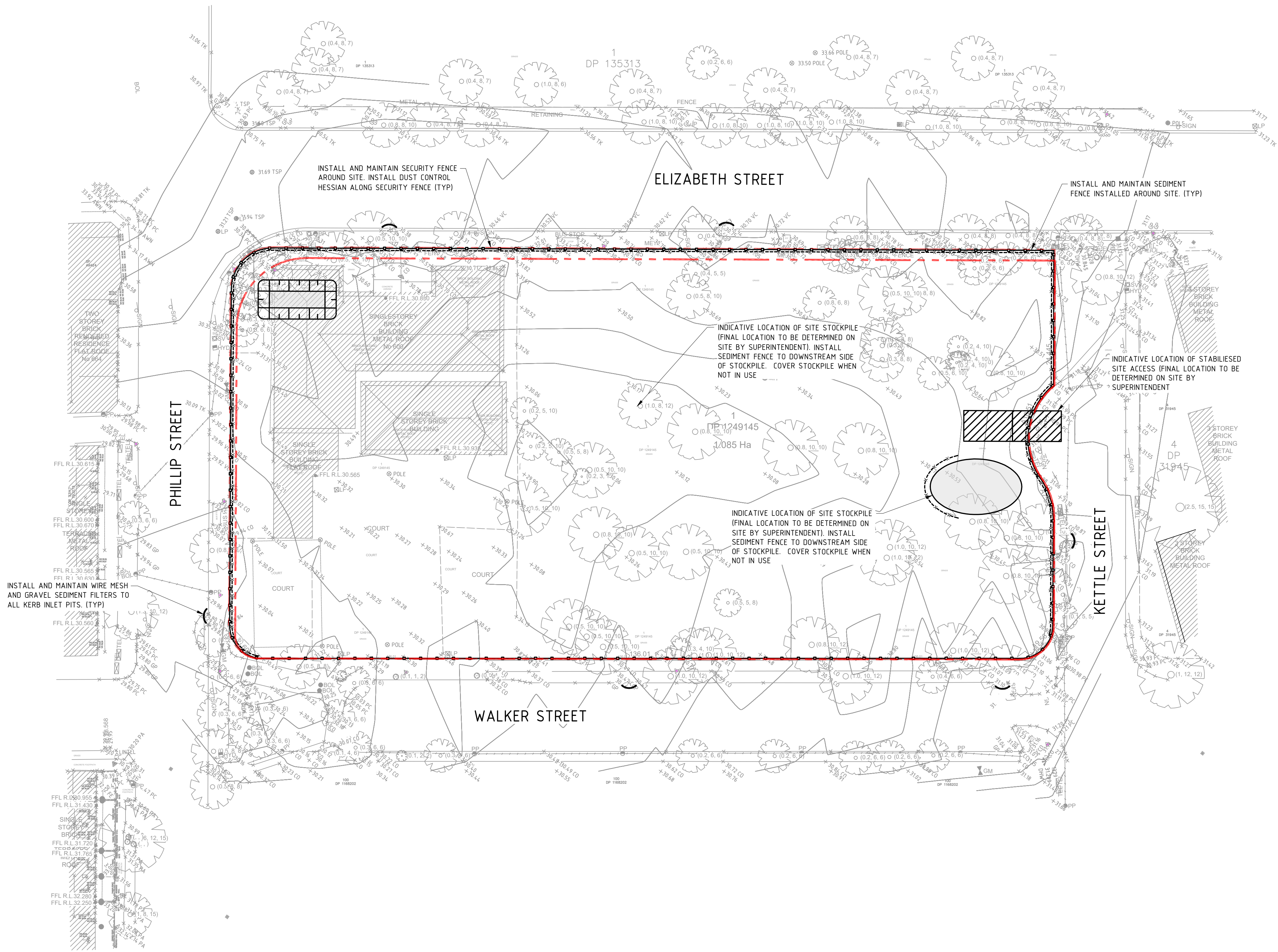


LEGEND

- NEW SITE BOUNDARY
- OLD SITE BOUNDARY
- SURVEY
- ARCHITECTURAL
- LANDSCAPE
- PROPOSED GRATED INLET PIT/
PROPOSED KERB INLET PIT
- PROPOSED JUNCTION PIT
- MESH & GRAVEL INLET FILTER
- SEDIMENT FENCE
- SECURITY FENCE
- SITE ACCESS
- STOCKPILE

NOTES

- REFER DRAWING CI-0710 FOR EROSION AND SEDIMENT CONTROL DETAILS.
- CONTRACTOR TO ENSURE SITE DRAINAGE IS NOT ADVERSELY IMPACTED DURING CONSTRUCTION.
- CONTRACTOR TO PROVIDE 'SANDBAG SEDIMENT TRAP' TO ALL PAVED / ROAD AREAS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.
- CONTRACTOR TO PROVIDE 'GEOTEXTILE INLET FILTER TRAPS' TO ALL STORMWATER DRAINAGE INLETS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.
- INSTALL AND MAINTAIN SANDBAG FILTERS ACROSS ALL PAVEMENT INTERFACES.



PLAN
SCALE 1:400



REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION
B	27.06.24	ISSUED FOR INFORMATION	SH		
A	20.05.24	ISSUED FOR INFORMATION	SH		
REV	DATE	DESCRIPTION	RVD	REV	DATE
REVISIONS			REVISIONS		

CLIENT

hickory

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BGE

PROJECT

REDFERN PLACE
600-660 ELIZABETH ST, REDFERN, NSW 2016

STATUS

ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

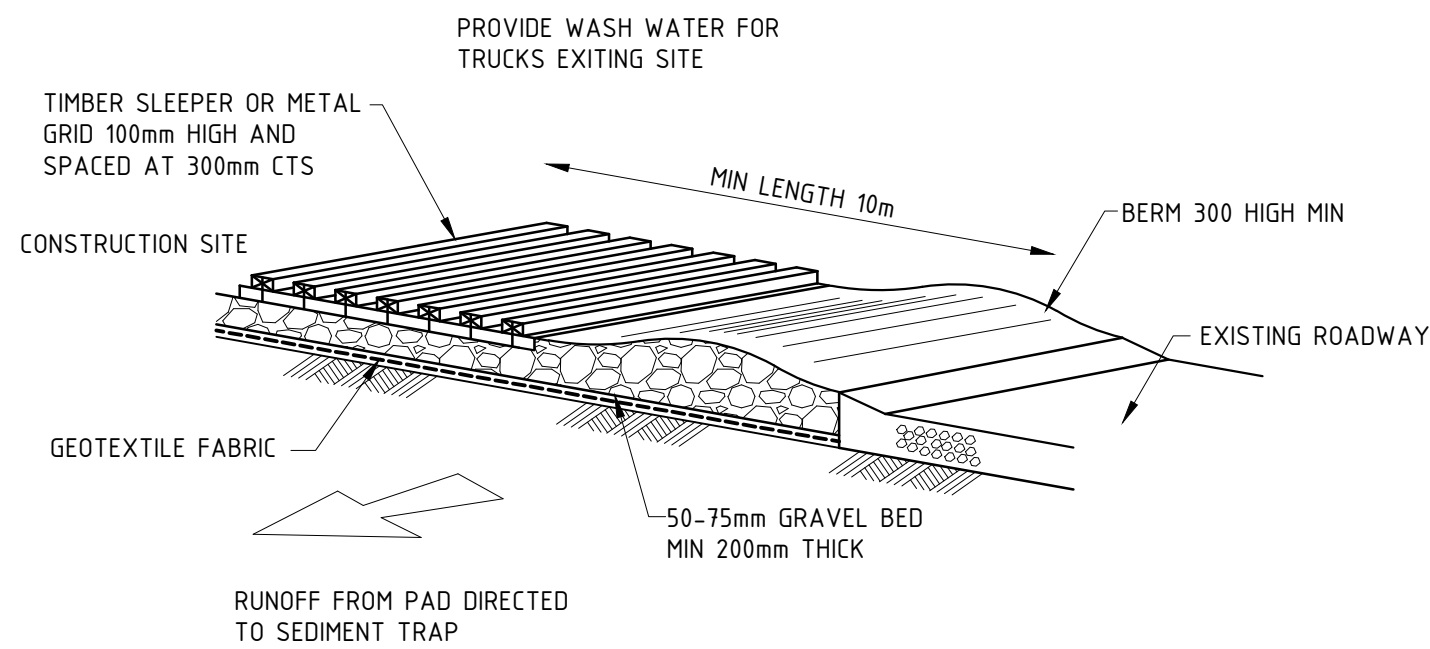
DRAWN	DESIGNED	CHECKED	APPROVED
JC	AM	SH	
DATUM	GRID	SCALE	
AHD	MGA-56	1:400	

AT A1 SIZE

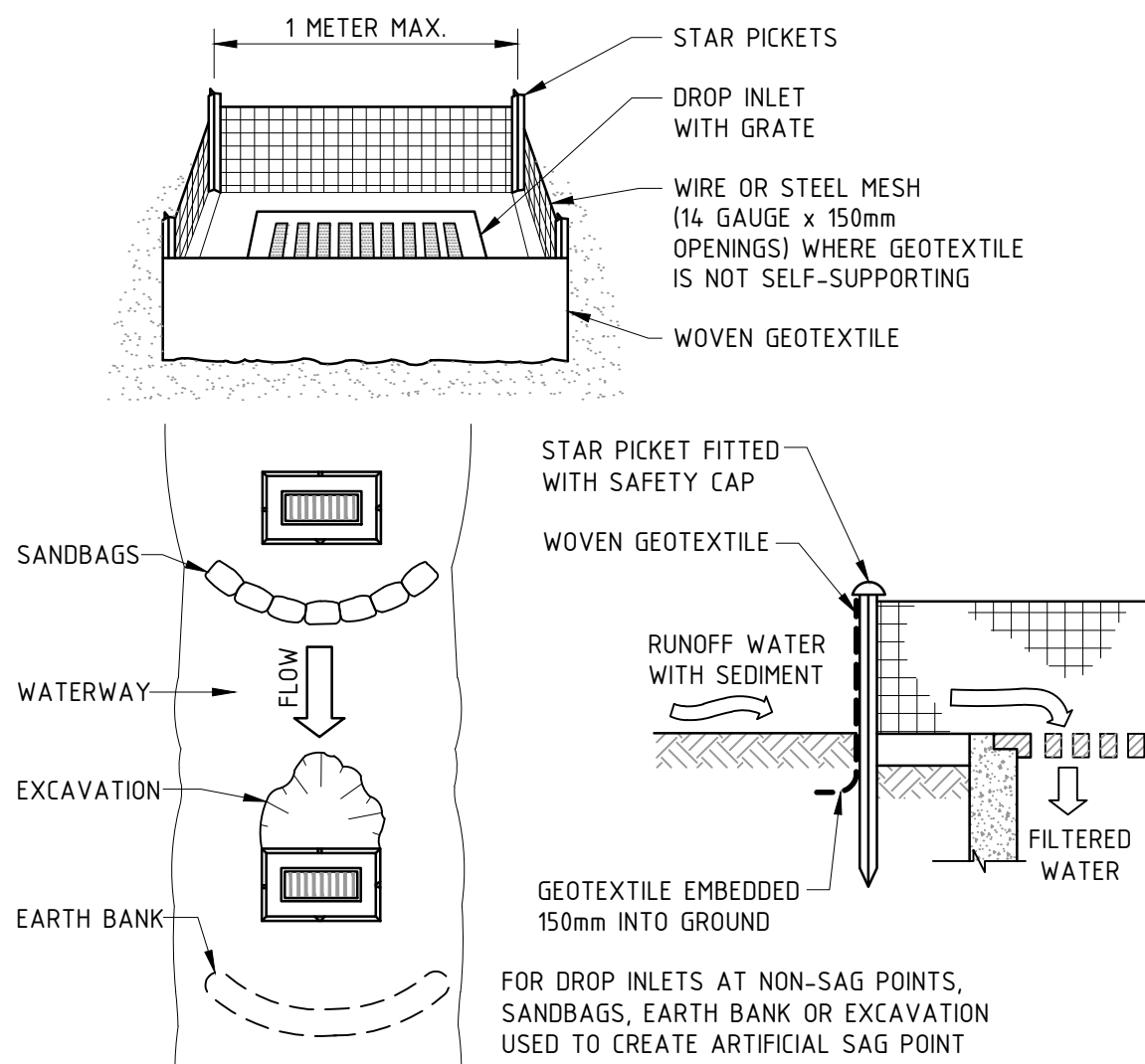
TITLE

EROSION AND SEDIMENT CONTROL PLAN

PROJECT No.	DRAWING No.	REV
S23123	C-0700	B



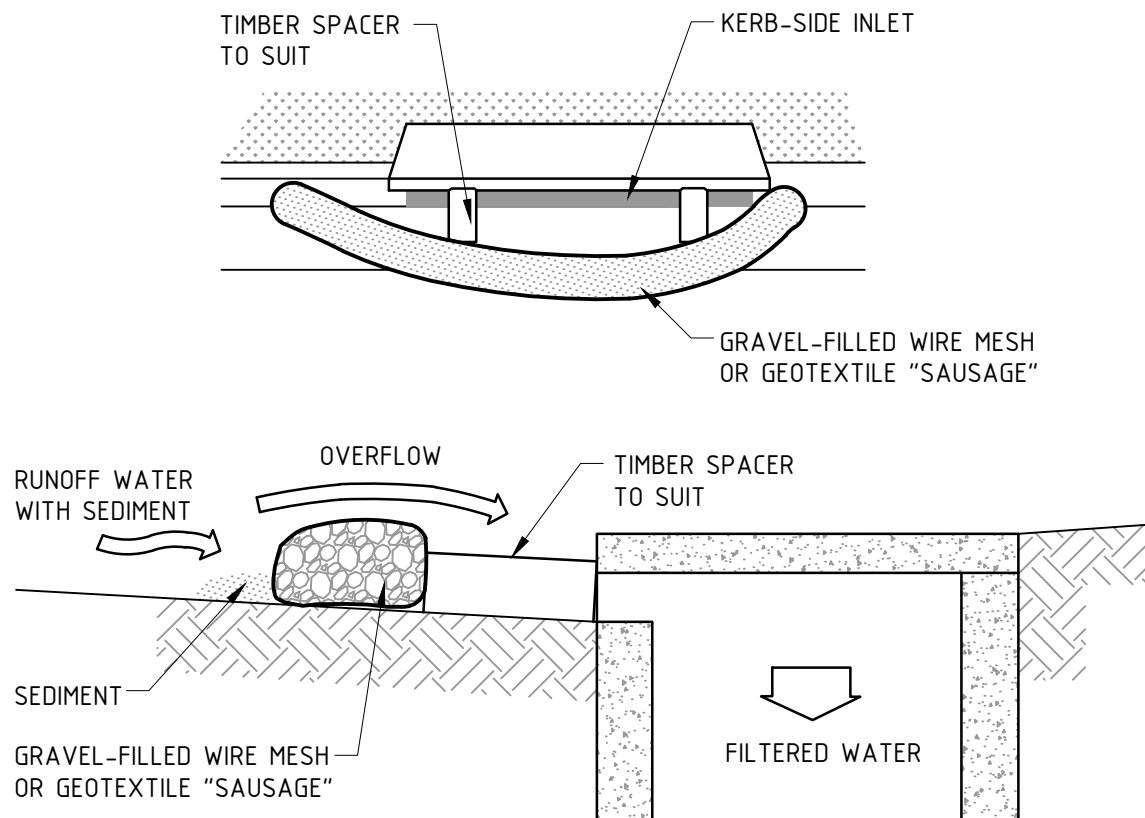
TEMPORARY CONSTRUCTION VEHICLE EXIT
NTS



GEOTEXTILE INLET FILTER CONSTRUCTION NOTES:

- FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
- PICKET SPACING TO BE A MAXIMUM 1.0m CENTRES.
- IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
- DO NOT COVER THE INLET WITH GEOTEXTILES UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

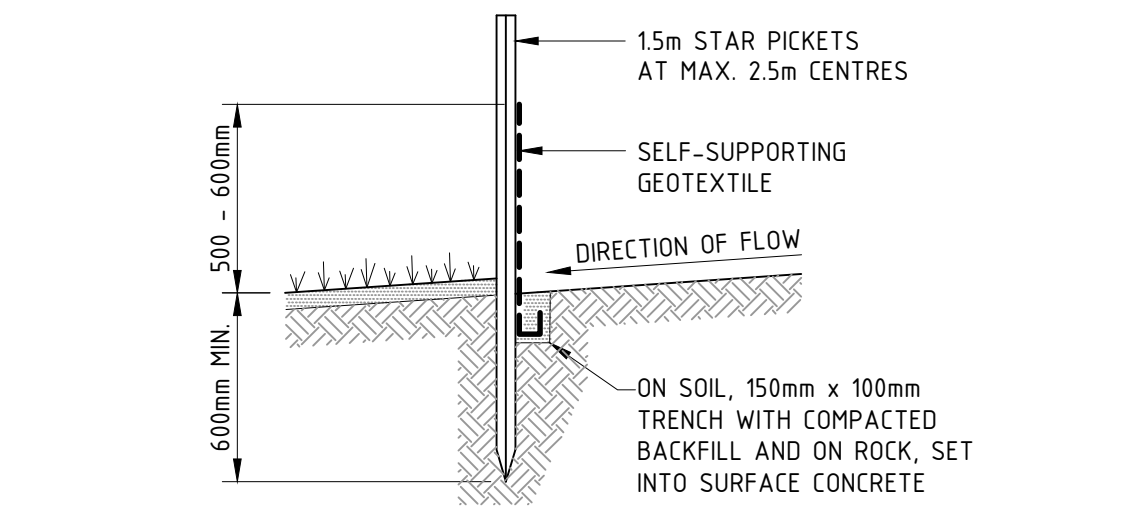
GEOTEXTILE INLET FILTER
SCALE N.T.S



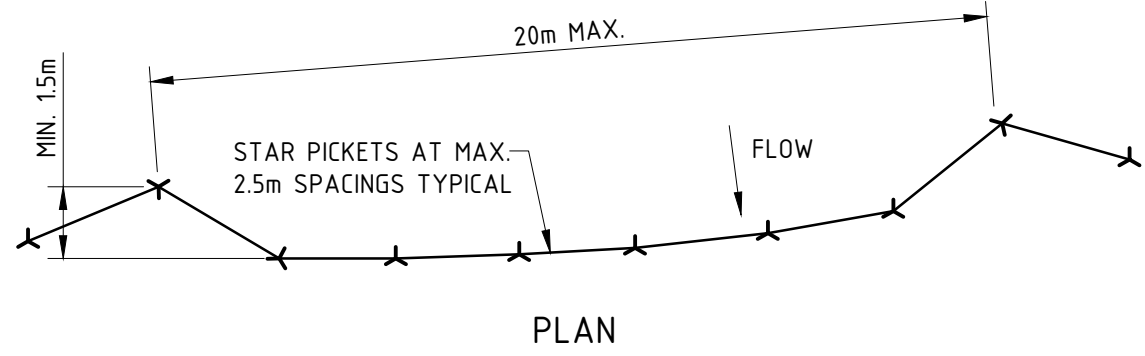
MESH & GRAVEL INLET FILTER CONSTRUCTION NOTES:

- INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
- FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
- FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
- PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
- FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
- SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY CAN FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

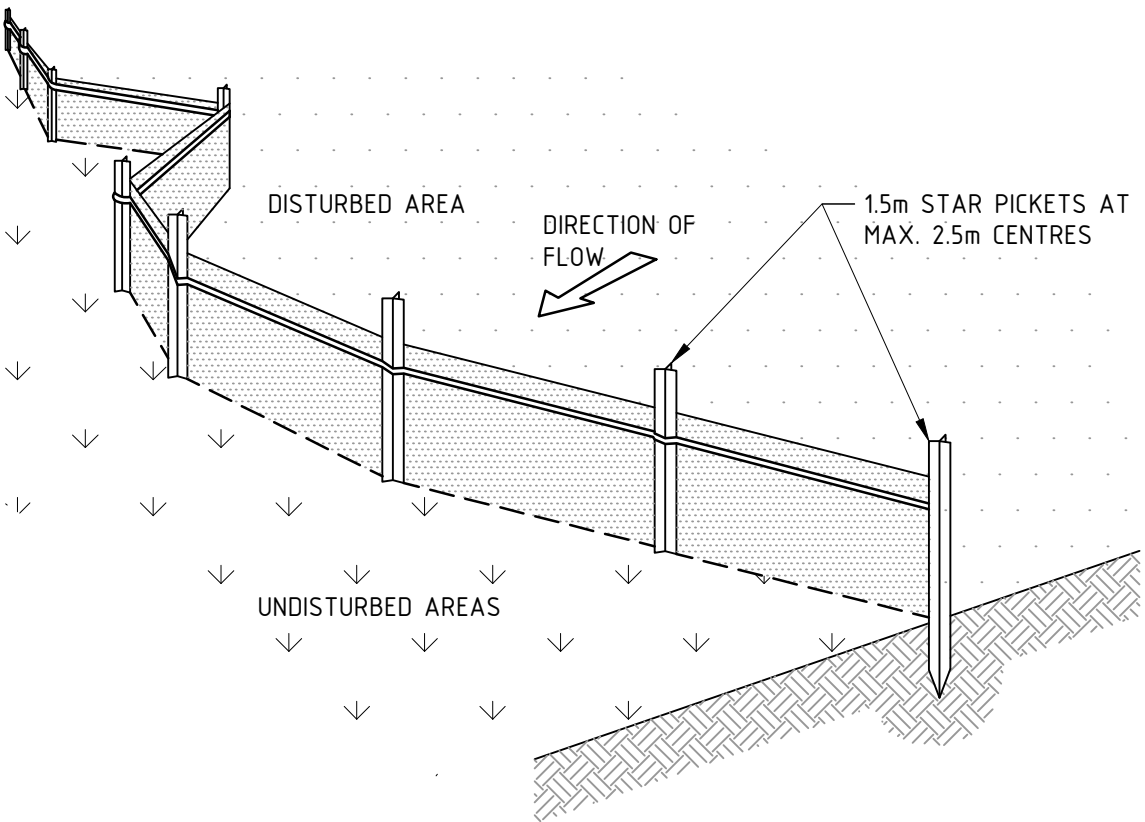
MESH & GRAVEL INLET FILTER
SCALE N.T.S



SECTION DETAIL



PLAN



SEDIMENT FENCE CONSTRUCTION NOTES:

- CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
- CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- DRIVE 1.5m LONG STAR PICKETS INTO GROUND AT 2.5m INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
- FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
- JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE
SCALE N.T.S

REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
B	27.06.24	ISSUED FOR INFORMATION	SH				
A	20.05.24	ISSUED FOR INFORMATION	SH				
REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
REVISIONS				REVISIONS			

CLIENT	
hickory	

PROJECT	
Redfern Place	

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PROJECT	Redfern Place 600-660 Elizabeth St, Redfern, NSW 2016
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STATUS	ISSUED FOR INFORMATION NOT TO BE USED FOR CONSTRUCTION
DRAWN	JC
DESIGNED	AM
CHECKED	SH
APPROVED	
DATUM	AHD
GRID	MGA-56
SCALE	NTS
AT	A1 SIZE

TITLE	EROSION AND SEDIMENT CONTROL DETAILS
PROJECT No.	S23123
DRAWING No.	C-0710
REV	B

Appendix D Sydney Water OSD Tank Email

Naomi Honan

From: Abrar Mohammed
Sent: Wednesday, 26 June 2024 11:39 AM
To: Naomi Honan
Subject: Fwd: [External] 600-660 Elizabeth Street, Redfern - OSD Storage and Discharge Requirements.

From: Stormwater <Stormwater@sydneywater.com.au>
Sent: Friday, October 20, 2023 12:38:55 pm
To: Abrar Mohammed <abrar.mohammed@bgeeng.com>
Subject: RE: [External] 600-660 Elizabeth Street, Redfern - OSD Storage and Discharge Requirements.

CAUTION: This message was sent from outside of BG&E. Please do not click links or open attachments unless you recognise the source of this email and know the content is safe. Please report all suspicious emails to cybersecurity@bgeeng.com.

Abrar,

The On Site Detention requirements for the 11,000 square meters site at 600-660 Elizabeth Street, Redfern, are as follows:

- On Site Detention 253 cubic meters
- Permissible Site Discharge 317 L/s

The approval for the On Site Detention would only be given as part of the Section 73 application for this development. The On Site Detention is to be designed according to the above values and submitted to Sydney Water for approval with the Section 73 application. The following details are to be included in your submission for On Site Detention approval:

- Location of the On Site Detention in relation to the development
- Location of the On Site Detention in relation to overall stormwater network of the property
- Plan and Elevation of the On Site Detention tank with all dimensions
- Orifice plate calculation

Best Regards

Planning and Technical

Business Development

Sydney Water, Level 13, 1 Smith Street, Parramatta NSW 2150

Sydney
WATER

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Our teams in Australia, New Zealand, South East Asia, the United Kingdom and the Middle East, design and deliver engineering solutions for clients in the Property, Transport, Ports and Marine, Water, Defence, Renewables and Resources sectors.

We collaborate with leading contractors, developers, architects, planners, financiers and government agencies, to create projects for today and future generations.

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