

Sydney Metro

PITT STREET NORTH OVERSTATION DEVELOPMENT

S.2 Stormwater Management Plan

**State Significant Development,
Development Application (SSD DA)**

Prepared for **Pitt Street Developer North Pty Ltd**

09/07/2020

Revision C

Issue for DPIE

Document No: SMCSWSPS-CJA-OSN-CE-PLN-000001

CJ ARMS

Pitt Street North OSD

Stormwater Management Plan

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ACRONYMS

ARI – Average Recurrence Interval

ARR- Australian Rainfall & Runoff

DA-Development Application

DCP- Development Control Plan

LPod – Legal Point of Discharge

NSW DPIE- NSW Department of Planning, Industry and Environment

OSD – Over Station Development

SEARs- Secretary's Environmental Assessment Requirements

SMP – Stormwater Management Plan

SSD – State Significant Development

WSUD- Water Sensitive Urban Design

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Table 1 - SEARS Requirements

Item	Description of Requirement	Section Reference (this report)
12	a) Identify and address the existing capacity to service the development proposed and any augmentation requirements for utilities in consultation with relevant agencies. B) Identify any potential impacts of the proposed construction and operation on the existing utility infrastructure and service provider assets, and demonstrate how these will be protected, or impacts mitigated.	Sections 3-6

Table 2 - Concept approval of Conditions of Consent

Item	Description of Requirement	Section Reference (this report)
B22 - Flooding and Stormwater	Flood Impact Assessment addressing the conclusions and recommendations of the concept stage Flooding and Stormwater Management Plan dated August 2018 prepared by Cardno and providing the following: (a) Compliance with the City of Sydney's Interim Floodplain Management Policy including detailed reasoning for any non-compliances.	Refer to separate report: Aurecon Flood Impact Assessment - SMCSWSPS-AUR-OSN-CE-REP-000004
B22 - Flooding and Stormwater	(b) Detailed stormwater and drainage design documentation including overland flow assessment and maintenance.	Refer to Section 4 and Appendix A7 for preliminary stormwater plans relating to the OSD area. For overland flow refer CJA Site Infrastructure Report (SMCSWSPS-CJA-OSN-BS-REP-000002 and Aurecon Flood Impact Assessment - SMCSWSPS-AUR-OSN-CE-REP-000004

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Table 3 - Updates since previous submission

Type of Change	Description of Change	Section Reference
Updated information	Updated the Sydney Metro Description	Section 2.2 – Page 7
Updated information	Updated figure 2 – Sydney Metro Alignment Map to latest map.	Section 2.2 – Page 8

Pitt Street North OSD*Stormwater Management Plan*

1. EXECUTIVE SUMMARY

Planning approval is being sought from the DPIE for the Over-Station Development (OSD) of Pitt Street North, Sydney. This Stormwater Management Plan (SMP) report is presented as one part of the broader Development Application submission process. It has been commissioned by the Pitt Street North Developer to provide guidance and direction for a commercial and retail tower.

The SMP (Stormwater Management Plan) provides an outline of the stormwater conveyance, treatment, discharge and On-Site Detention design for the development. The report does **not** include treatment, discharge, storage and flooding of the Pitt Street Station development which forms part of a separate report.

The purpose of this Stormwater Management Plan is to provide advice on the proposed development as detailed in the Foster and Partners architectural drawings. The works described herein are subject to further approvals and cover works required to service the proposed development including stormwater quality and quantity measures and drainage.

To achieve stormwater quality best management guidelines for this development, CJ Arms recommends the use of the following treatment devices:

- Roofwater capture, which reuse for toilet flushing in public amenities and landscape irrigation.
- Banks of media filter cartridges (Ocean Protect Stormfilter™).

All relevant standards and guidelines are addressed in this report including criteria from:

- Plumbing and Drainage Code AS3500.3
- City of Sydney DCP 2013
- Australian Rainfall and Runoff Guideline (ARR)

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARS) Dated 25 October 2019. Specifically, this report has been prepared to respond to the SEARS requirements summarised in Table 1 above.

Pitt Street North OSD*Stormwater Management Plan*

2. INTRODUCTION

This report has been prepared to accompany a detailed State Significant Development (SSD) development application (DA) for a commercial Over Station Development (OSD) above the new Sydney Metro Pitt Street North Station. The detailed SSD DA is consistent with the Concept Approval (SSD 17_8875) granted for the maximum building envelope on the site, as proposed to be modified.

The Minister for Planning, or their delegate, is the consent authority for the SSD DA and this application is lodged with the NSW Department of Planning, Industry and Environment (NSW DPIE) for assessment.

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 25 October 2019.

The detailed SSD DA seeks development consent for:

- Construction of a new commercial tower of approximately 38 storeys
- The tower includes maximum GFA, excluding floor space approved in the CSSI.
- Integration with the approved CSSI proposal including though not limited to:
 - Structures, mechanical and electronic systems, and services; and
 - Vertical transfers.
- Use of spaces within the CSSI 'metro box' building envelope for the purposes of:
 - Retail tenancies;
 - Commercial lobby and commercial amenities;
 - Car parking spaces within the podium for the purposes of the commercial premises; and
 - Loading and services access.
- Utilities and services provision.
- Stratum subdivision (staged).

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2.1 THE SITE

The site is located within the Sydney CBD. It has three separate street frontages, Pitt Street to the west, Park Street to the south and Castlereagh Street to the east. The area surrounding the site consists of predominantly commercial high-density buildings and some residential buildings, with finer grain and heritage buildings dispersed throughout.

The site has an approximate area of 3,150.1sqm and is legally described as follows:

- 252 Pitt Street (Lot 20 in DP1255509)

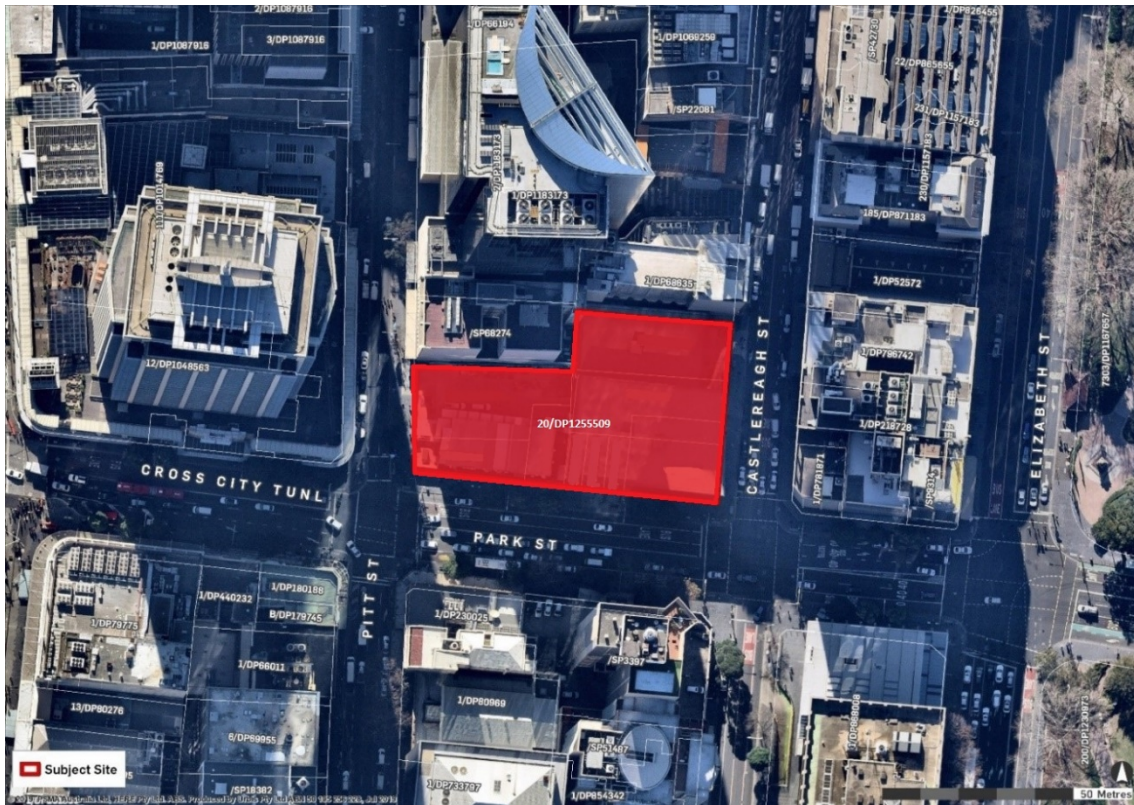


Figure 1 Location Plan

Pitt Street North OSD*Stormwater Management Plan***2.2 SYDNEY METRO DESCRIPTION**

Sydney Metro is Australia's biggest public transport program. A new standalone railway, this 21st century network will revolutionise the way Sydney travels.

There are four core components:

1. Sydney Metro Northwest (formerly the 36km North West Rail Link)

This project is now complete and passenger services commenced in May 2019 between Rouse Hill and Chatswood, with a metro train every four minutes in the peak. The project was delivered on time and \$1 billion under budget.

2. Sydney Metro City & Southwest

Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of Metro Northwest at Chatswood, under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the ultimate capacity to run a metro train every two minutes each way through the centre of Sydney.

Sydney Metro City & Southwest will deliver new metro stations at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street, Waterloo and new underground metro platforms at Central Station. In addition it will upgrade and convert all 11 stations between Sydenham and Bankstown to metro standards.

In 2024, customers will benefit from a new fully-air conditioned Sydney Metro train every four minutes in the peak in each direction with lifts, level platforms and platform screen doors for safety, accessibility and increased security.

3. Sydney Metro West

Sydney Metro West is a new underground railway connecting Greater Parramatta and the Sydney CBD. This once-in-a-century infrastructure investment will transform Sydney for generations to come, doubling rail capacity between these two areas, linking new communities to rail services and supporting employment growth and housing supply between the two CBDs.

The locations of seven proposed metro stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and The Bays.

The NSW Government is assessing an optional station at Pyrmont and further planning is underway to determine the location of a new metro station in the Sydney CBD.

4. Sydney Metro – Western Sydney Airport

Metro rail will also service Greater Western Sydney and the new Western Sydney International (Nancy Bird Walton) Airport. The new railway line will become the transport spine for the

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Western Parkland City's growth for generations to come, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe and easy metro service. The Australian and NSW governments are equal partners in the delivery of this new railway.

The Sydney Metro Project is illustrated in the figure below.

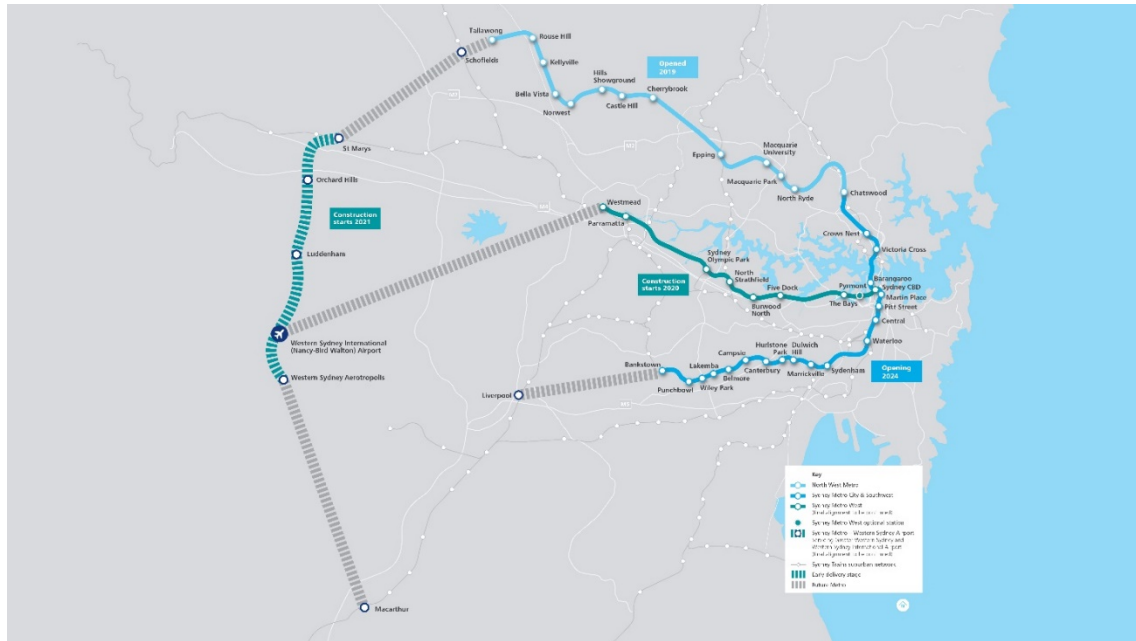


Figure 2 Sydney Metro Alignment Map

(Source: Sydney Metro)

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham project as a Critical State Significant Infrastructure project (reference SSI 15_7400) (CSSI Approval). The terms of the CSSI Approval includes all works required to construct the Sydney Metro Pitt Street Station, including the demolition of existing buildings and structures on both sites (north and south). The CSSI Approval also includes construction of below and above ground works within the metro station structure for appropriate integration with over station developments.

The CSSI Approval included Indicative Interface Drawings for the below and above ground works at Pitt Street North Metro Station site. The delineation between the approved Sydney Metro works, generally described as within the “metro box”, and the Over Station Development (OSD) elements are illustrated below. The delineation line between the CSSI Approved works and the OSD envelope is generally described below or above the transfer slab level respectively.

Pitt Street North OSD

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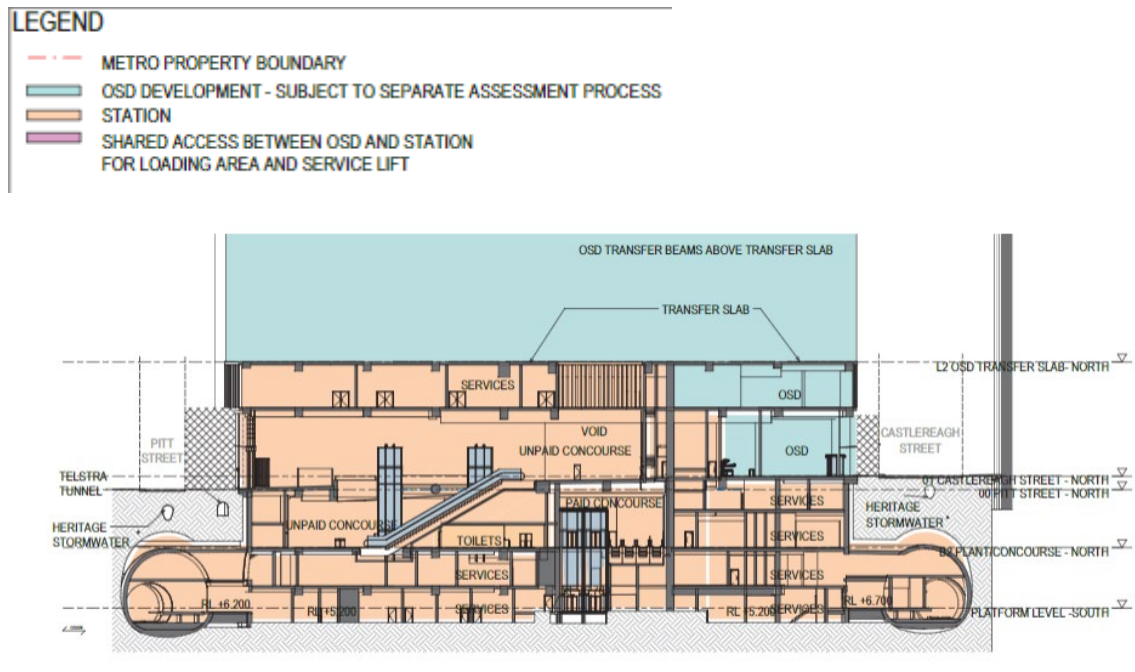


Figure 3 Pitt Street Station – North (East-West Section)

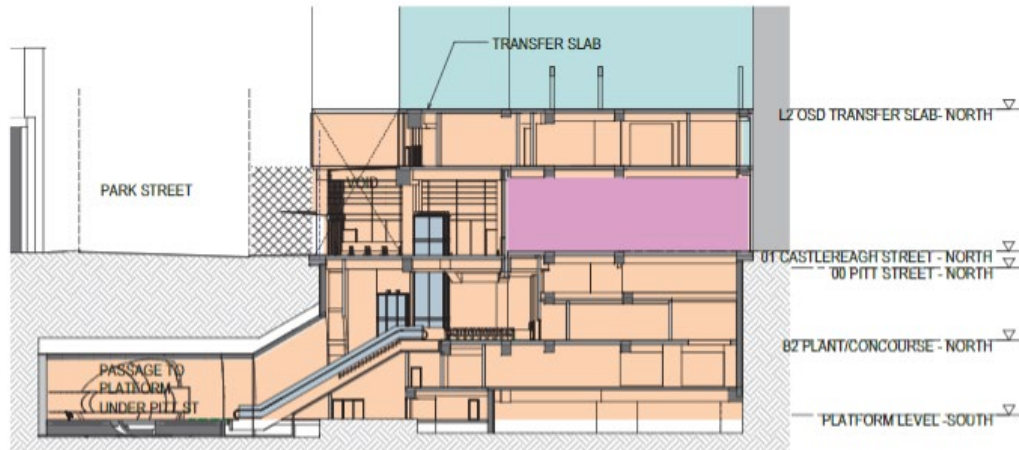


Figure 4 Pitt Street Station – North (North-South Section)

(Source: CSSI Preferred Infrastructure Report (TfNSW))

The Preferred Infrastructure Report (PIR) noted that the integration of the OSD elements and the metro station elements would be subject to the design resolution process, noting that the detailed design of the “metro box” may vary from the concept design assessed within the planning approval.

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As such in summary:

- The CSSI Approval provides consent for the construction of all structures within the approved “metro box” envelope for Pitt Street North.
- The CSSI Approval provides consent for the fit out and use of all areas within the approved “metro box” envelope that relate to the ongoing use and operation of the Sydney Metro.
- The CSSI Approval provides consent for the embellishment of the public domain, and the architectural design of the “metro box” envelope as it relates to the approved Sydney Metro and the approved Pitt Street North Station Design & Precinct Plan.
- Separate development consent however is required to be issued by the NSW DPIE for the use and fit-out of space within the “metro box” envelope for areas related to the OSD, and notably the construction and use of the OSD itself.

As per the requirements of clause 7.20 of the Sydney Local Environmental Plan 2012, as the OSD exceeds a height of 55 metres above ground level (among other triggers), development consent is first required to be issued in a Concept (formerly known as Stage 1) DA. This is described below.

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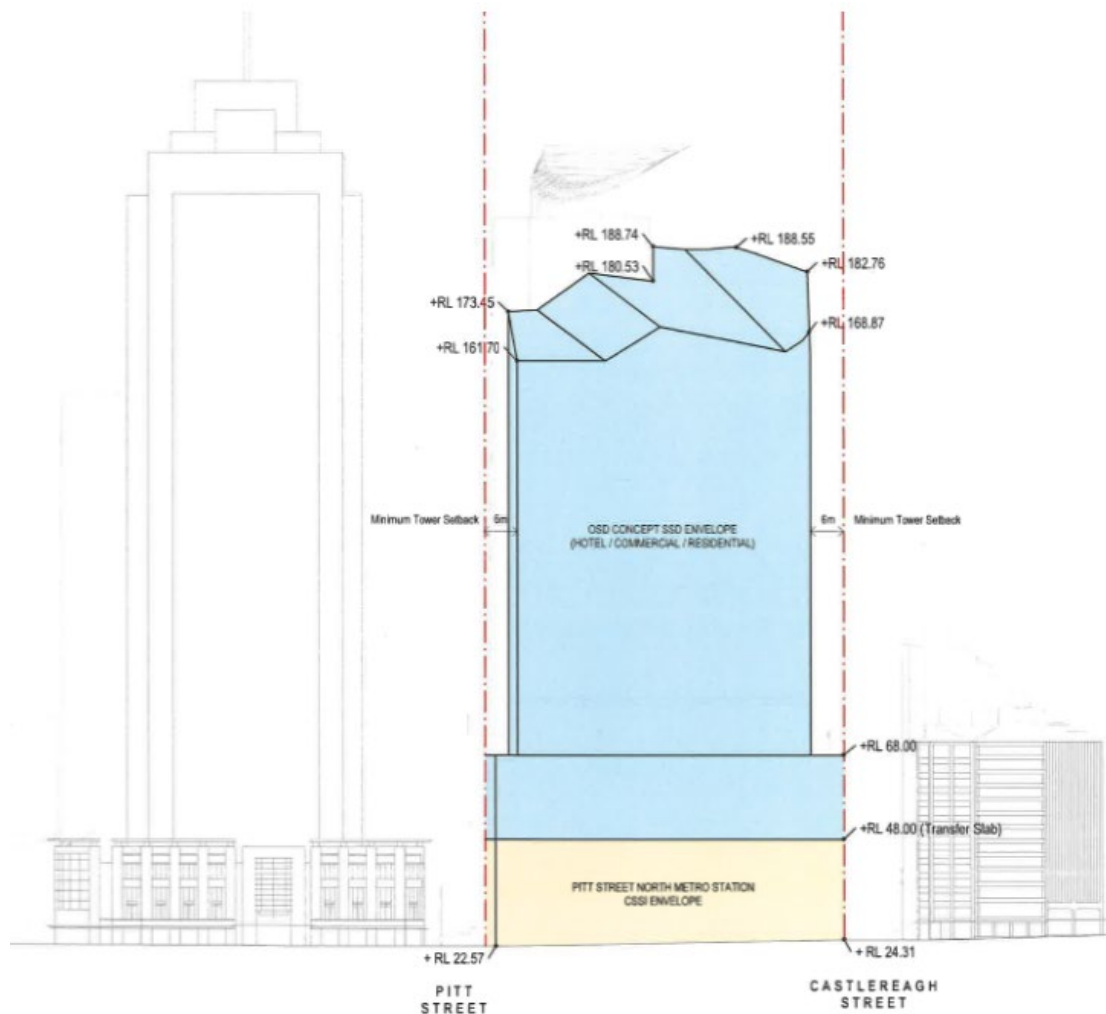


Figure 5 Pitt Street North Concept SSD DA – Envelope – South Elevation

(Source: SSD 8875 Concept Stamped Plans)

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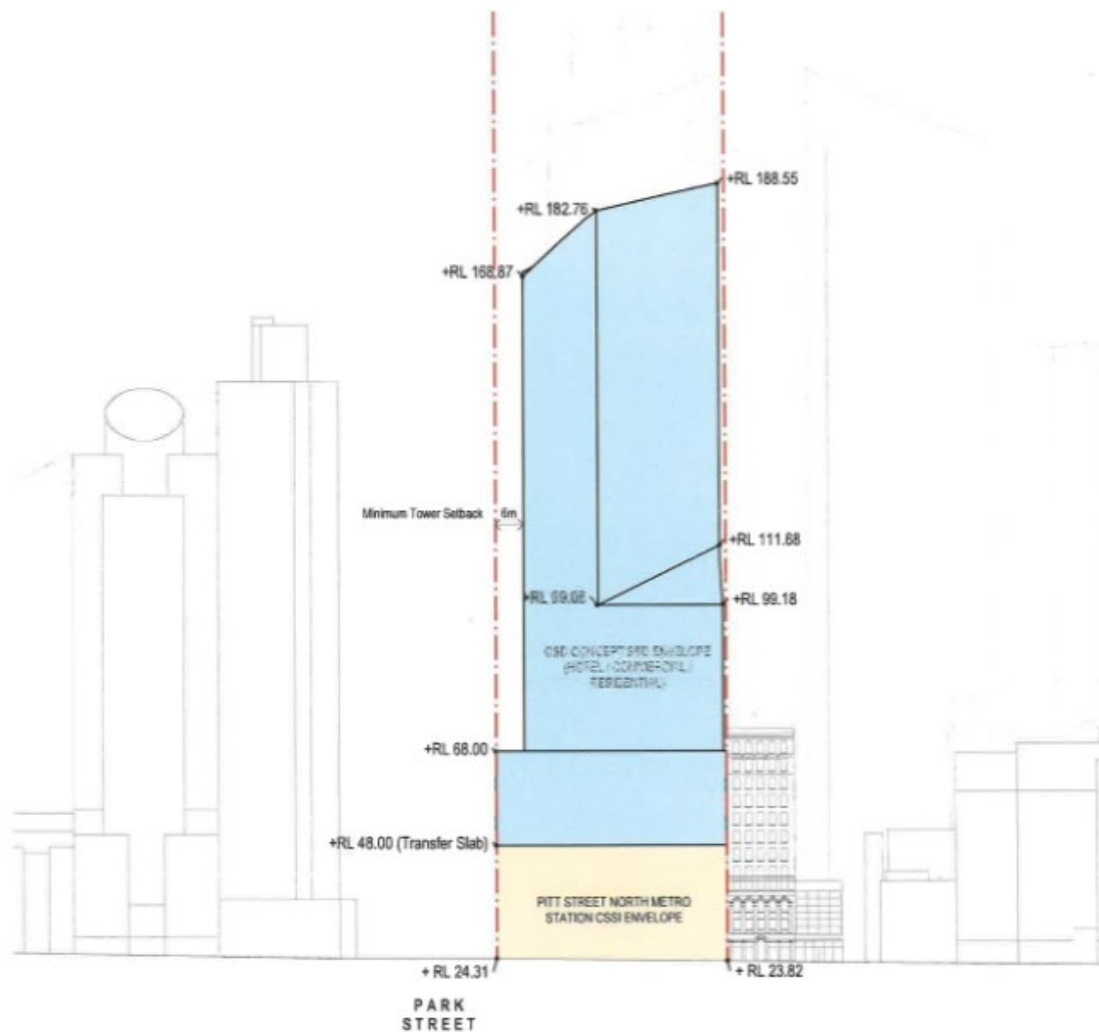
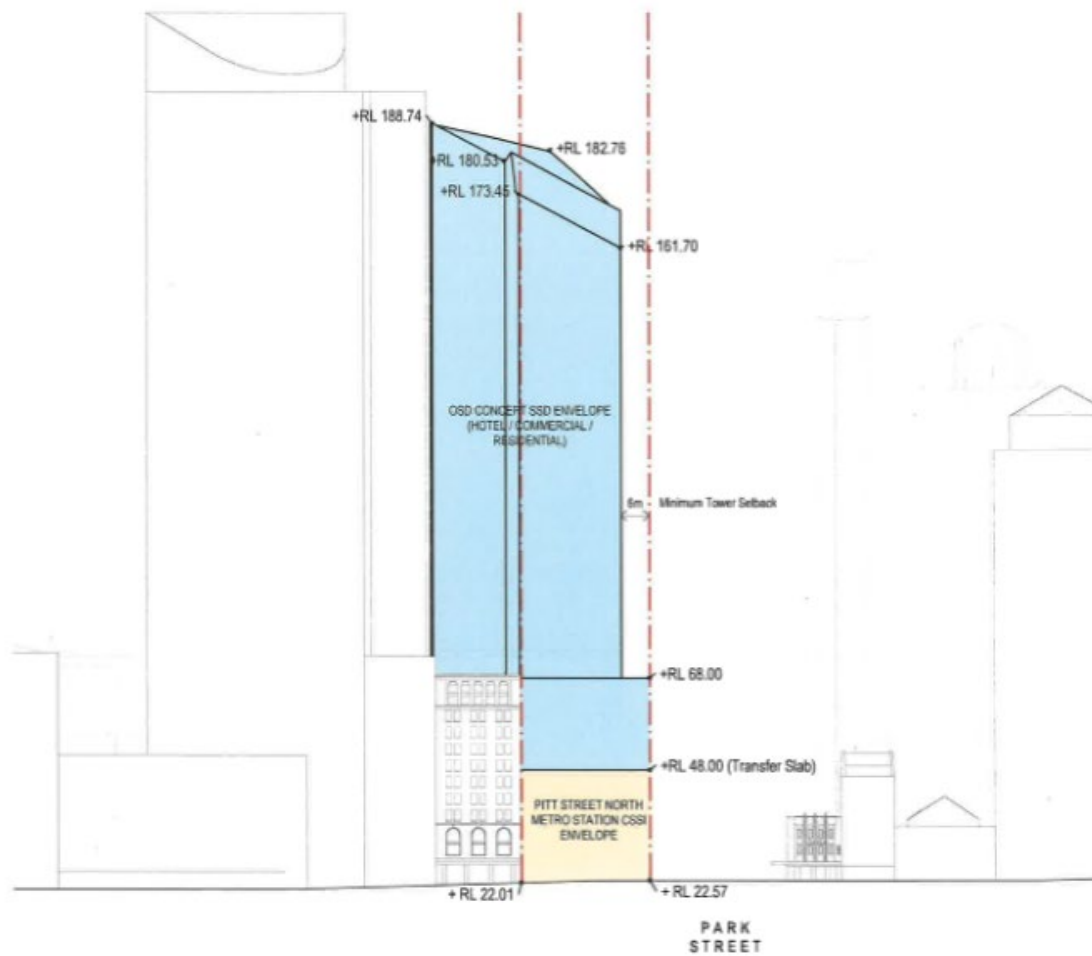


Figure 6 Pitt Street North Concept SSD DA – Envelope – East Elevation

(Source: SSD 8875 Concept Stamped Plans)

Pitt Street North OSD*Stormwater Management Plan***Figure 7 Pitt Street North Concept SSD DA – Envelope – West Elevation***(Source: SSD 8875 Concept Stamped Plans)*

Pitt Street North OSD*Stormwater Management Plan***3. EXISTING CONDITIONS**

The existing site (prior to station demolition works) consisted of commercial buildings. The existing site is considered fully hardstand ($C_r = 1$) for the purposes for the SMP.

The site is bound:

- Commercial buildings to the north of the site
- Pitt Street to the west, Park Street to the south, and Castlereagh Street to the east

The site falls to the west at a shallow grade.



Figure 8 Building Area

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4. STORMWATER INFRASTRUCTURE

4.1.1 Existing Infrastructure

Existing drainage for the properties consists of a series of kerb connections along Pitt Street, Park Street and Castlereagh Street for the existing sites. Stormwater from these kerb outlets then discharge into the nearest City of Sydney Council stormwater pit as per **Error! Reference source not found.**

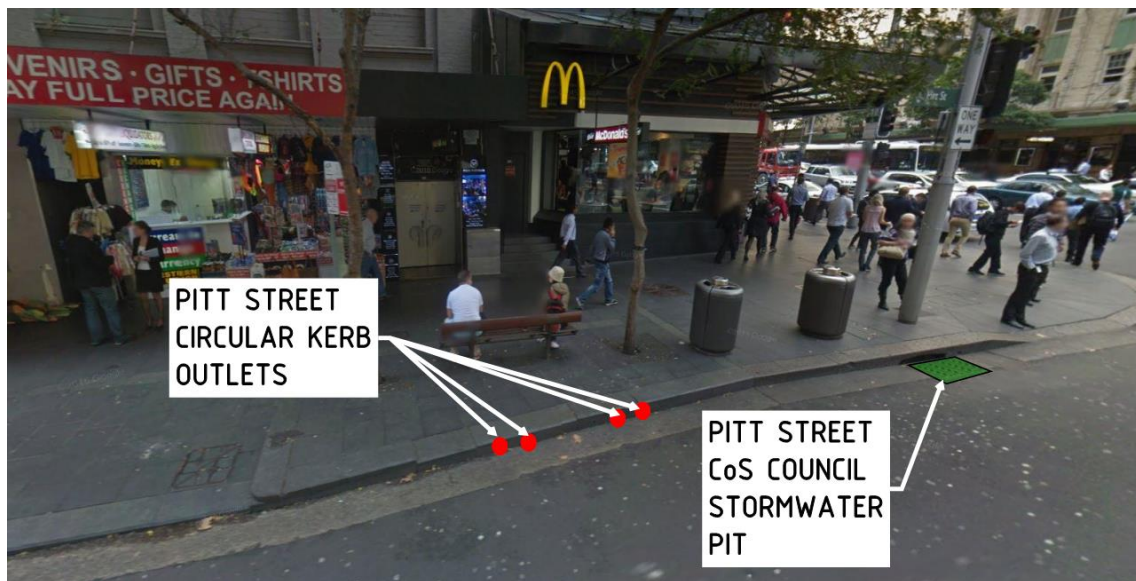


Figure 9 Pitt Street Kerb Outlets



Figure 10 Park Street Kerb Outlets

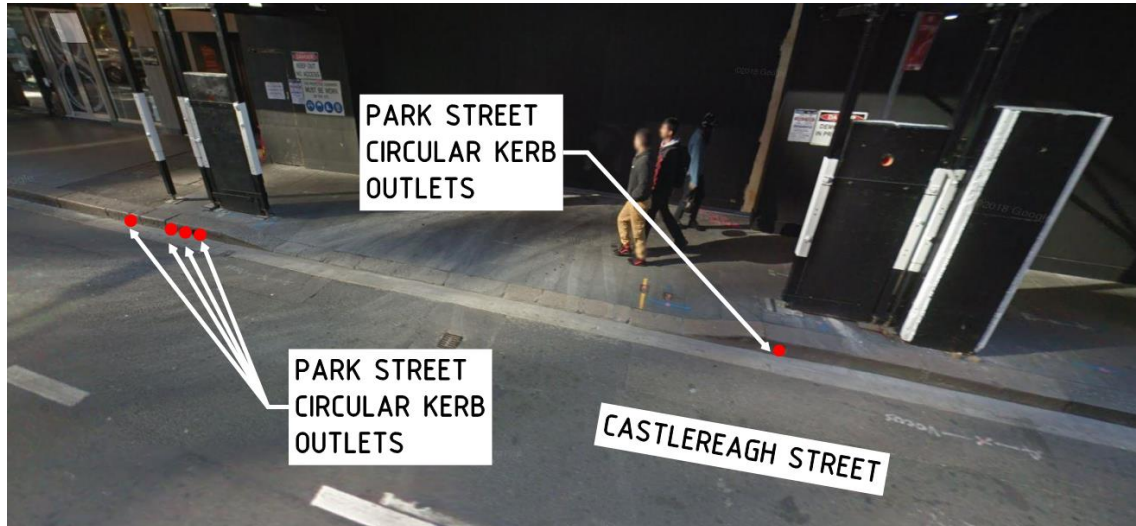
Pitt Street North OSD*Stormwater Management Plan*

Figure 11 Castlereagh Street Kerb Outlets

The nearest in-ground infrastructure is an existing 910 x 1370mm Sydney Water Heritage Culvert along Pitt Street to the west of the site which drains north towards Sydney Harbour. There is also a 710 x 1070mm Sydney Water Heritage Culvert to the east of the site.

There is also 2 no. existing council stormwater pits on the south west corner of the site, which drain into the Sydney Water heritage culvert.

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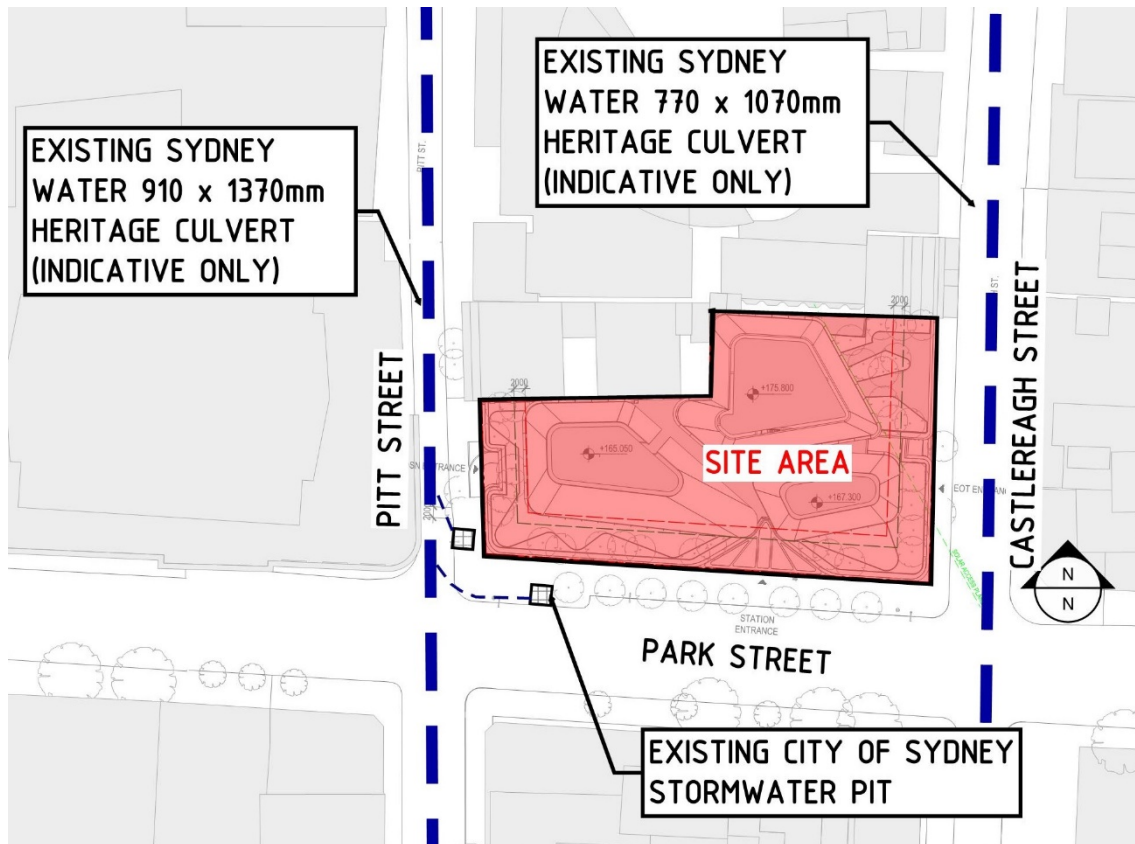


Figure 12 Inground Stormwater Infrastructure (adapted from DBYD plans 16/12/19)

4.1 LEGAL POINT OF DISCHARGE (LPD)

4.1.1 Existing LPD

The Legal Point of Discharge for the existing lots is via kerbs on Pitt, Park and Castlereagh Street. It is understood that each lot has its own kerb and gutter set of outlets. There are no direct connections to the Sydney Water Heritage Culverts west and east of the site. Refer **Error! Reference source not found.** for details.

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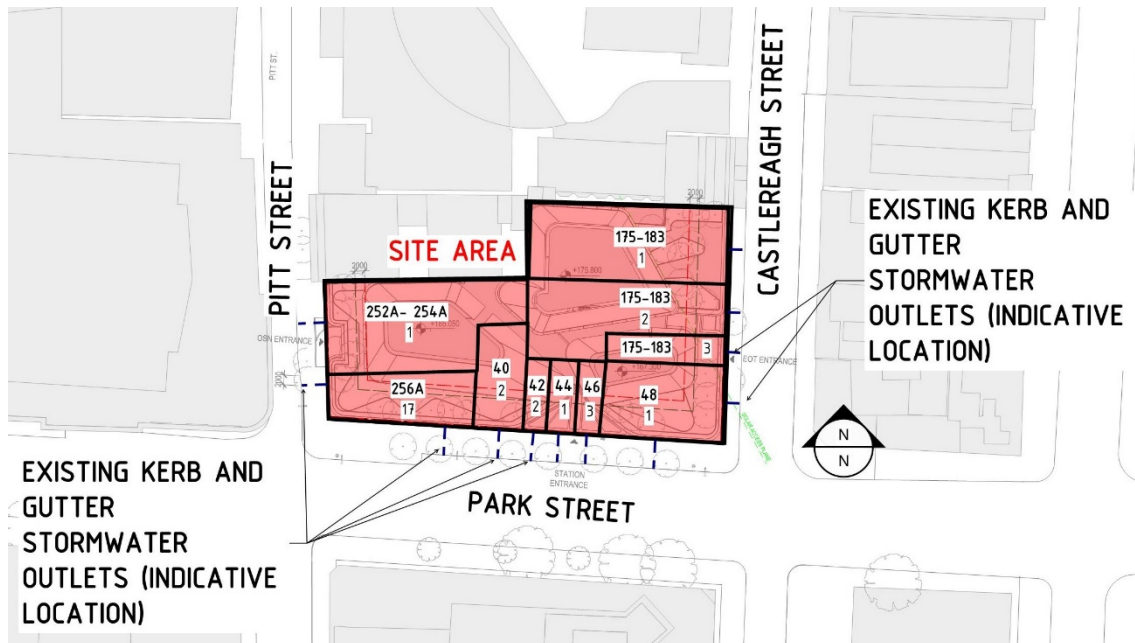


Figure 13 Existing Legal Point of Discharge Arrangement

4.1.1.1 Proposed LPoD

As part of the Over Station Development works, the new Legal Point of Discharge is to a new 900 x 900mm City of Sydney stormwater pit on Park Street, refer below. The new pit is to connect to an existing City of Sydney stormwater pit on the corner of Pitt Street and Park Street at a location yet to be finalised, and is to be designed to City of Sydney requirements and specifications. New connection is subject to detailed survey information. Refer **Error! Reference source not found.** for details.

All existing kerb and gutter connections serving the site are no longer being used and are to be made redundant once their associated drainage has been disconnected during the demolition process.

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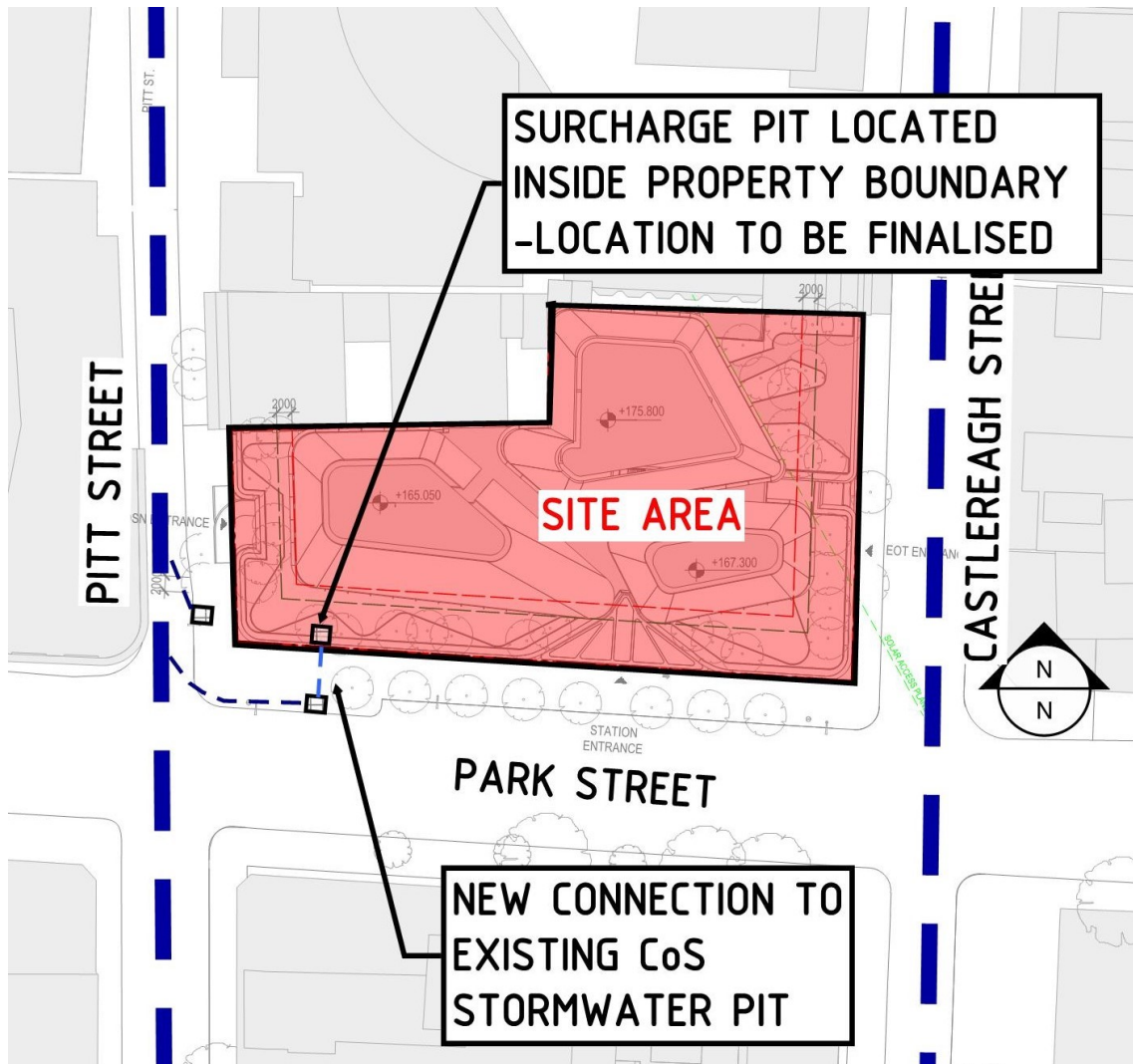


Figure 14 Proposed Legal Point of Discharge Arrangement

Pitt Street North OSD*Stormwater Management Plan***5. STORMWATER QUANTITY ASSESSMENT**

The aim of the stormwater quantity assessment is to ensure that the development shall impose no adverse effects on downstream properties or receiving water bodies and that the conveyance of flows will be in a safe manner with minimal risk of human endangerment as well as the following objectives:

- Address the need for stormwater quantity control measures.
- Ensure there is no increase in peak discharges from the subject site for events up to and including the 1 in 100 year ARI event.

This section of the report should be read in conjunction with **Appendix A.3** which shows the values used to calculate the peak flow rate.

5.1 PROPOSED DEVELOPMENT AND ASSOCIATED ISSUES

The Permissible Site Discharge and On-Site Detention requirements have been determined by Sydney Water. These are the constraints that the stormwater design is governed by, and are seen in **Error! Reference source not found.**:

Table 4 - Pitt Street North Sydney Water Requirements

Site Area (sqm)	On-Site Detention Volume (cbm)	Permissible Site Discharge (PSD) (L/s)
3150	49	116

Subsequently, Council have advised that a kerb connection is allowable for all awning areas to take flows up to the Q20 event.

5.2 FLOW RATE METHODOLOGY**5.2.1 Design Storm Events**

Based on recommendations within AS/NZ 3500.3 and Council standards the major and minor storm events were selected as follows:

- Minor Event: 1 in 20 year ARI
 - Surface drainage infrastructure sized for a 1 in 20 year ARI through to point of discharge.
- Major Event: 1 in 100 year ARI
 - Roof water capture system is to capture all flows up to and including the 1 in 100 year ARI.
 - Surface drainage overflows in events up to and including the 1 in 100 year ARI will not present a hazard to people or cause significant damage to property.

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Pipe sizing will be performed during detailed design and increased as required to ensure a safe depth vs velocity is maintained at all times during the major event.

5.2.2 Rational Method for Peak Flow Rate

The peak flow rate for the site has been obtained using the Rational Method in accordance with ARR. Summaries of the hydrology calculations can be seen in **Error! Reference source not found.** and **Error! Reference source not found.** for the pre and post-development scenarios respectively.

$$Q = (2.78 \times 10^{-3}) C_r I_y A$$

Q = Peak flow rate (m³/s) for average recurrence interval

C_r = Co-efficient of runoff for ARI of y years (dimensionless)

A = Catchment area (ha)

I_y = Average rainfall intensity (mm/hr) for a design duration of t hours and an ARI of y years

5.2.3 Catchment Area (A)

Catchment areas were measured using AutoCAD 2020, contour surface data and known cadastral boundaries.

5.3 PRE-DEVELOPMENT HYDROLOGY

The hydrology of the pre-developed catchment has been assessed using the Rational Method. The theoretical calculated peak discharge for storm events ranging from the 1 in 1 year to 1 in 100 year ARIs have been calculated and a summary of the results is presented in **Appendix A3**.

The subject site has a total area of 3,150m² and currently comprises entirely of hardstand areas associated with the existing commercial buildings.

Table 5 - Pre-Development Hydrology

Catchment I.D	Area (m ²)	C ₂₀	C ₁₀₀	I ₂₀	Time of Concentration (tc)	I ₁₀₀	Q ₂₀ (m ³ /s)	Q ₁₀₀ (m ³ /s)
EX1	3,150	0.900	0.900	201	10	262	0.158	0.206
Total	3,150	0.900	0.900	201	10	262	0.158	0.206

Pitt Street North OSD*Stormwater Management Plan***5.4 POST-DEVELOPMENT HYDROLOGY**

The total land area considered for the post-development was 3,150m². A catchment plan for the post-developed site was determined based on preliminary architectural drawings. The roof area associated with the proposed development was not included in the post-development calculations as all roofwater (up to Q100 storm event) is intended to be captured within rainwater tanks via box gutters for potable uses as the site is not serviced by potable water reticulation.

Table 6 - Post-development Catchment Details

Catchment I.D	Area (m ²)	C ₂₀	C ₁₀₀	Time of Concentration (tc)	I ₂₀	I ₁₀₀	Q ₂₀ (m ³ /s)	Q ₁₀₀ (m ³ /s)
C1	3,150	0.900	0.900	10	201	262	0.158	0.206
Total	3,150	0.900	0.900	10	201	262	0.158	0.206

5.5 DETENTION ANALYSIS AND STRATEGY

Site stormwater storage is driven by Sydney Water requirements for Permissible Site Discharge to not exceed 116L/s for up to a 1 in 100 year event.

In order to meet this requirement, an On-Site Detention system is needed to capture, store and controllably discharge the difference between the Q100 flow (206L/s) and the Permissible Site Discharge (116L/s). Sydney Water has determined that the minimum detention volume is 49kL, which is located on Level 09 of the development.

All flows beyond the 1 in 100 year event is to be via a piped overflow to discharge to atmosphere at high level in loading dock, which drains onto Park Street and into the culvert to the west of the site on Pitt Street.

5.5.1 Recommendation

The On-site detention determined by Sydney Water ensures that City of Sydney's peak discharge requirements are not exceeded while ensuring there is no increase in peak discharges from the subject site for events up to and including the 1 in 100 year ARI event.

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6. STORMWATER QUALITY ASSESSMENT

6.1 TREATMENT OBJECTIVES

This assessment identifies issues relating to stormwater quality runoff and assesses possible methods of treatment if required. The aim of this section of the report is to determine practical approaches to achieving improvements in the quality of the stormwater run-off from the site that can be readily implemented.

City of Sydney Council DCP 2013 Section 3.7.3 specifies stormwater quality control measures that must be implemented for any new development. Section 3.7 of DCP states that the stormwater management system should be designed to:

- Ensure an integrated approach to water management across the City through the use of 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.

In line with the City of Sydney Development Control Plan (DCP), site stormwater management for the Pitt St North OSD incorporates a treatment train designed to meet the set treatment targets. Stormwater treatment targets are summarised as follows:

Table 7 - Objectives for Environmental Management of Stormwater

Total Suspended Solids (TSS)	Total Phosphorus (TP)	Total Nitrogen (TN)	Gross Pollutants >5mm
85% Reduction	65% Reduction	45% Reduction	90% Removal

6.2 SITE CONSIDERATIONS

The stormwater treatment train has been designed with consideration of the characteristics, constraints, and opportunities of the site and the development proposal. The entire site is primarily a building which presents an excellent opportunity for rainwater harvesting and reuse from the roof catchment. Therefore, roofwater capture, with nonpotable reuse, is maximised. Rainwater reuse is an excellent way of reducing the potable water demand of the development, while also being a valid means by which stormwater can be sustainably managed.

The site is spatially constrained in terms of both area (available space at ground level) and vertical height (given the Sydney Metro Station beneath). Given this, we have selected treatment devices for their relative compactness and efficiency.

The developed treatment train includes:

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- › Roofwater capture, which reuse for toilet flushing in public amenities and landscape irrigation.
- › Banks of media filter cartridges (Ocean Protect Stormfilter™).

6.2.1 MUSIC Model

Stormwater Quality was assessed for the development using MUSIC modelling to demonstrate compliance with the City of Sydney Development Control Plan, refer to figure over page.

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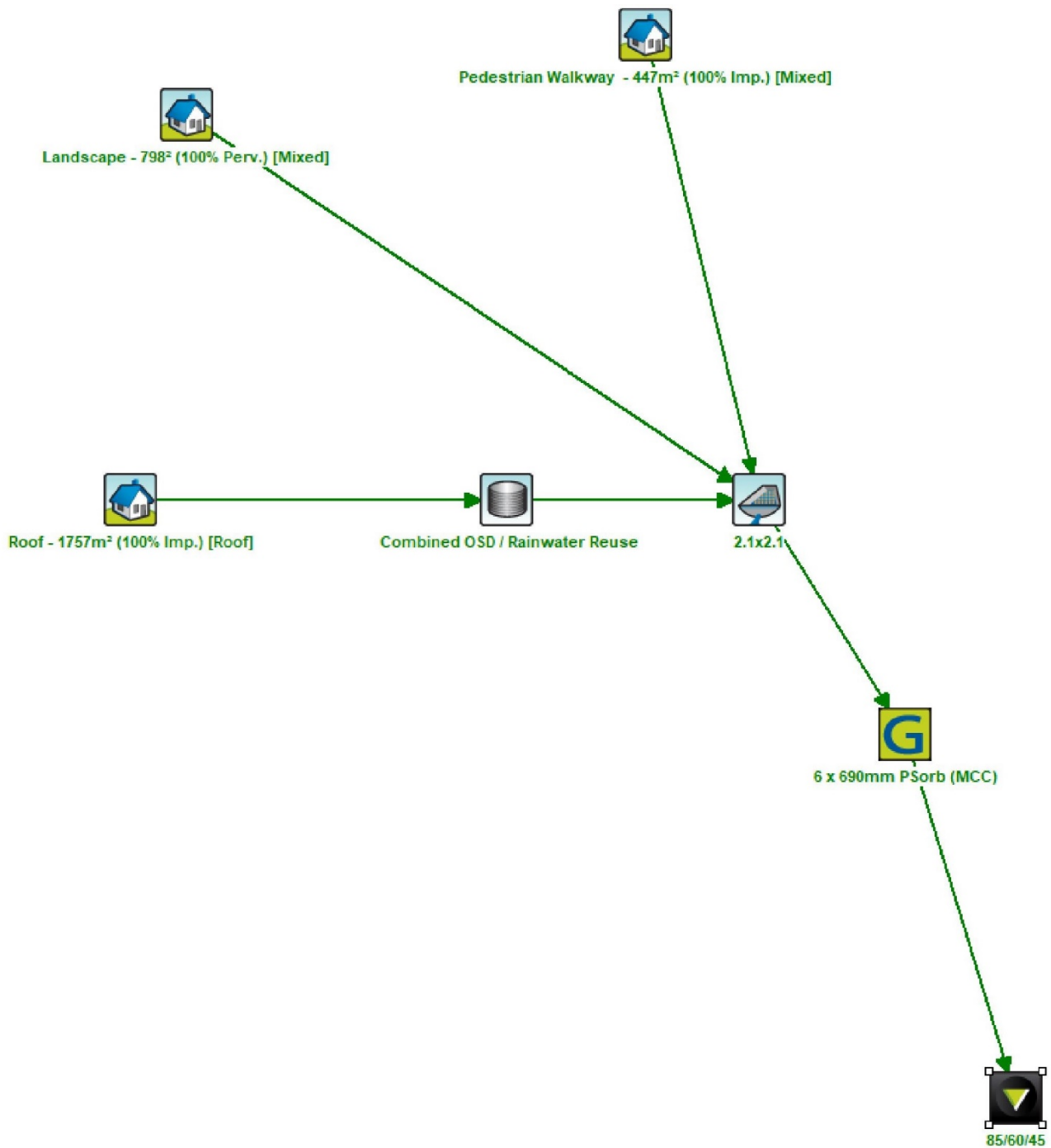
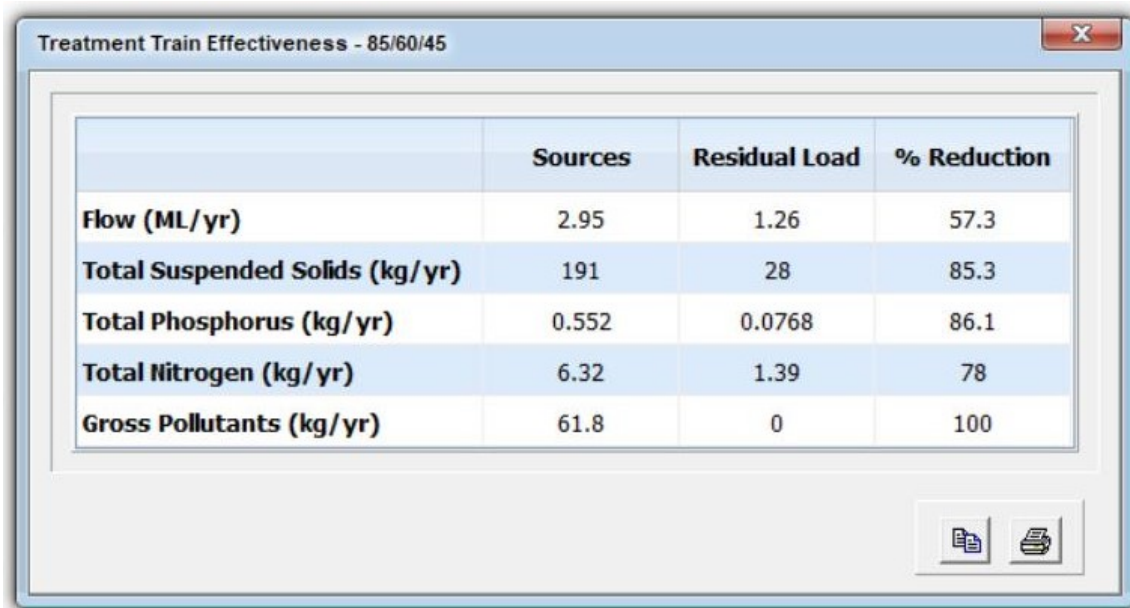


Figure 15 MUSIC Model Results

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The screenshot shows a software window titled "Treatment Train Effectiveness - 85/60/45". Inside the window is a table with four columns: an unlabeled column for pollutant types, "Sources", "Residual Load", and "% Reduction". The table contains five rows of data. At the bottom right of the window, there are icons for saving and printing.

	Sources	Residual Load	% Reduction
Flow (ML/yr)	2.95	1.26	57.3
Total Suspended Solids (kg/yr)	191	28	85.3
Total Phosphorus (kg/yr)	0.552	0.0768	86.1
Total Nitrogen (kg/yr)	6.32	1.39	78
Gross Pollutants (kg/yr)	61.8	0	100

Figure 16 Treatment Train Summary

6.3 MAINTENANCE

As part of the site's WSUD strategy, regular maintenance will need to be undertaken to ensure the systems continued operations.

7. CONCLUSION

As outlined in **Section 5** of this report, the proposed development results in a decrease to peak flows due to design on-site detention measures to controllably discharge up to the 1 in 100 year storm to the council pit located on Park Street

To achieve stormwater quality best management guidelines for this development, CJ Arms recommends the use of the following treatment devices:

- Roofwater capture
- Banks of media filter cartridges (Ocean Protect Stormfilter™).

Detailed engineering diagrams and management requirements for the proposed development are to be submitted to Council for approval prior to any relevant works commencing on site with design certification prepared by a qualified stormwater engineer or scientist.

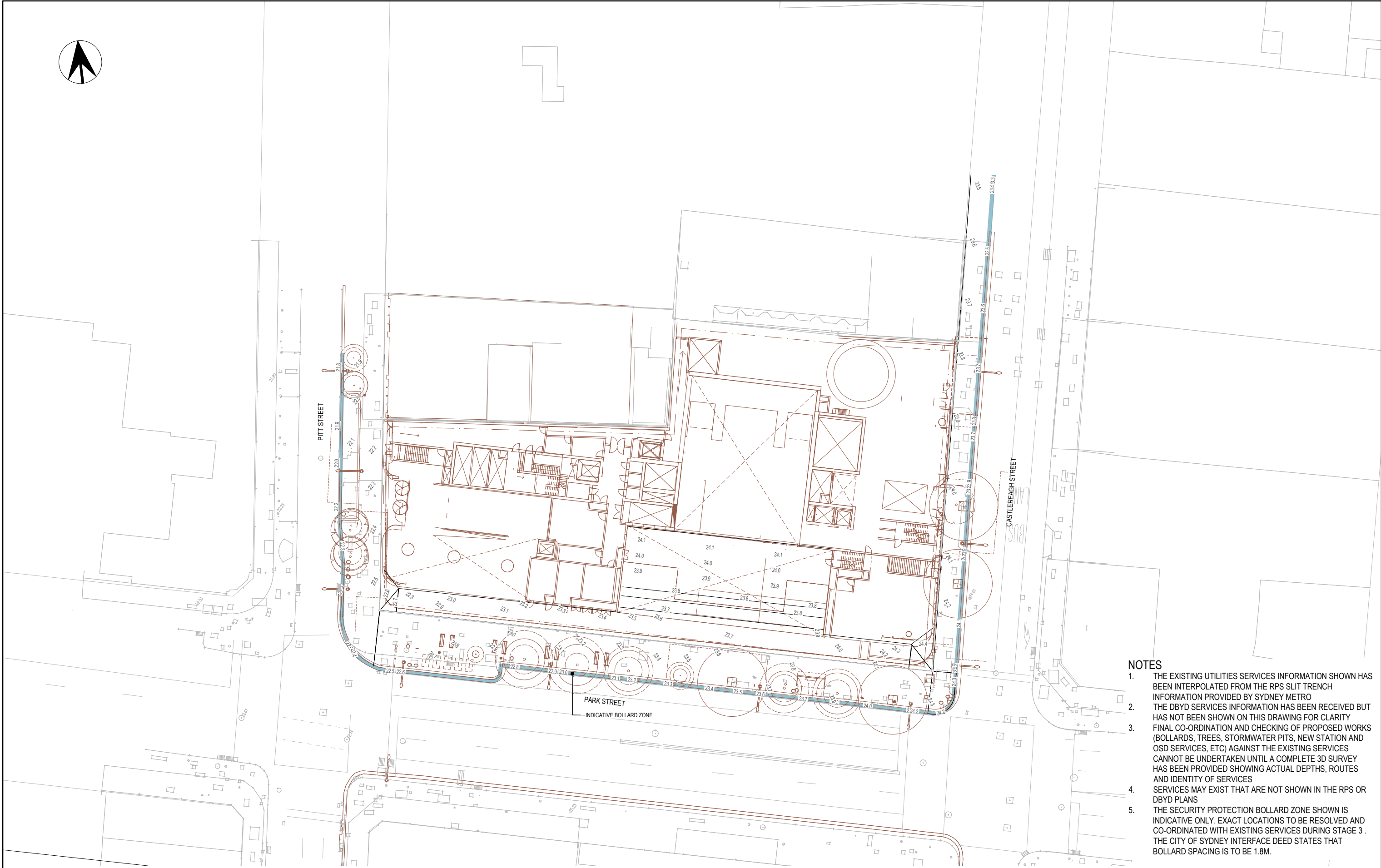
Pitt Street North OSD

Stormwater Management Plan

8. APPENDICIES

A.1. EXISTING CONDITIONS SURVEY PLANS

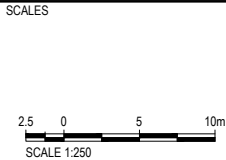
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Plot Date: 29/01/2020 5:20:09 PM
100mm AT FULL SIZE



- NOTES**
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DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

REV.	BY	DATE	DESCRIPTION	APPD.
A	A.S.	24.01.2020	STAGE 2	J.P.
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CCRN0

NOTE: Do not scale from this drawing.

ALT. DRG No.

CLIENT



ISDP



SERVICE PROVIDERS

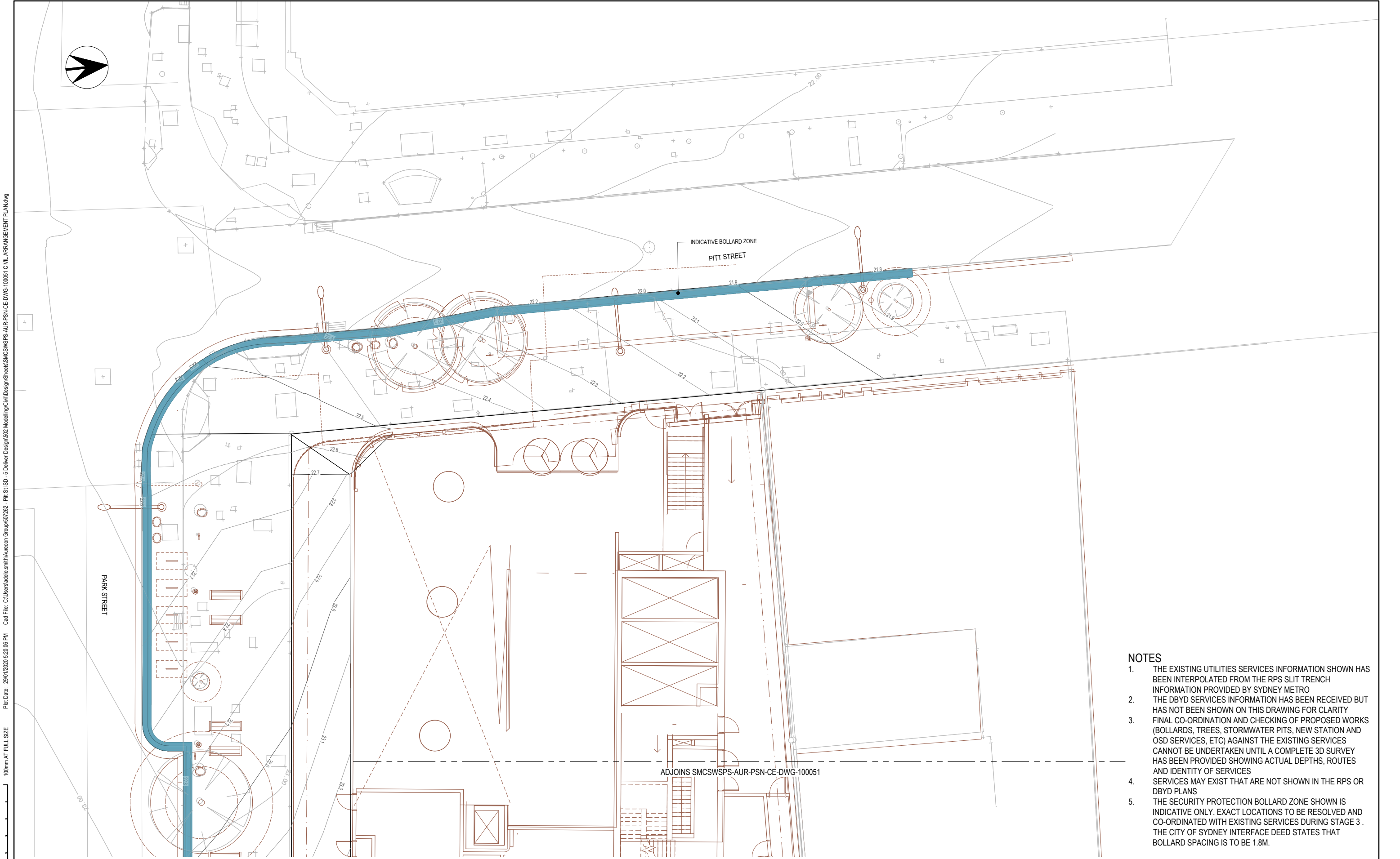


DRAWN: T. PILLAY 24.01.2020
DESIGNED: S. BLAKE 24.01.2020
DRG CHECK: A. SMITH 24.01.2020
DESIGN CHECK: A. SABA 24.01.2020
APPROVED: J. PEREIRA 24.01.2020

DRG No. SMCSWSPS-AUR-PSN-CE-DWG-100013











SYDNEY METRO CITY & SOUTHWEST
PIT STREET ISD
CIVIL SERVICES
CIVIL ARRANGEMENT PLAN
NORTH GROUND FLOOR PLAN ZONE 13

STATUS: SHEET 1 OF 1
METRO DRG No. REV. A



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<div><div>100mm AT FULL SIZE</div><div>Plot Date: 29/01/2020 5:20:06 PM</div><div>Cad File: C:\Users\adele.smith\Aurecon Group\507262 - PIT ST ISD - 5 Deliver Design\502 Modelling\Civil\DesignSheets\SMCSWSPS-AUR-PSN-CE-DWG-100051 CIVIL ARRANGEMENT PLAN.dwg</div></div>				<div>DRG No. SMCSWSPS-AUR-PSN-CE-DWG-100051</div> <div>SYDNEY METRO CITY & SOUTHWEST</div> <div>PIT STREET ISD</div> <div>CIVIL SERVICES</div> <div>CIVIL ARRANGEMENT PLAN</div> <div>NORTH GROUND FLOOR PLAN ZONE 51</div>										
<table><tr><td colspan="2">A1 Original</td><td>Co-ordinate System: MGA Zone 56</td><td>Height Datum: A.H.D.</td><td>This sheet may be prepared using colour and may be incomplete if copied</td></tr></table>				A1 Original		Co-ordinate System: MGA Zone 56	Height Datum: A.H.D.	This sheet may be prepared using colour and may be incomplete if copied	<div>NOTE: Do not scale from this drawing.</div> <div>ALT. DRG No.</div>		<div>CLIENT</div> <div><div>NSW GOVERNMENT</div><div>sydney METRO</div></div> <div>ISDP</div> <div><div>oxflorid</div><div>CPB CONTRACTORS</div></div>		<div>SERVICE PROVIDERS</div> <div><div>Foster + Partners</div><div>cox BATESSMART.</div><div>aurecon</div></div> <div><div>CJ ARMS</div><div>OLCI</div><div>TTW</div></div>	
A1 Original		Co-ordinate System: MGA Zone 56	Height Datum: A.H.D.	This sheet may be prepared using colour and may be incomplete if copied										

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DESIGNED S. BLAKE 24.01.2020

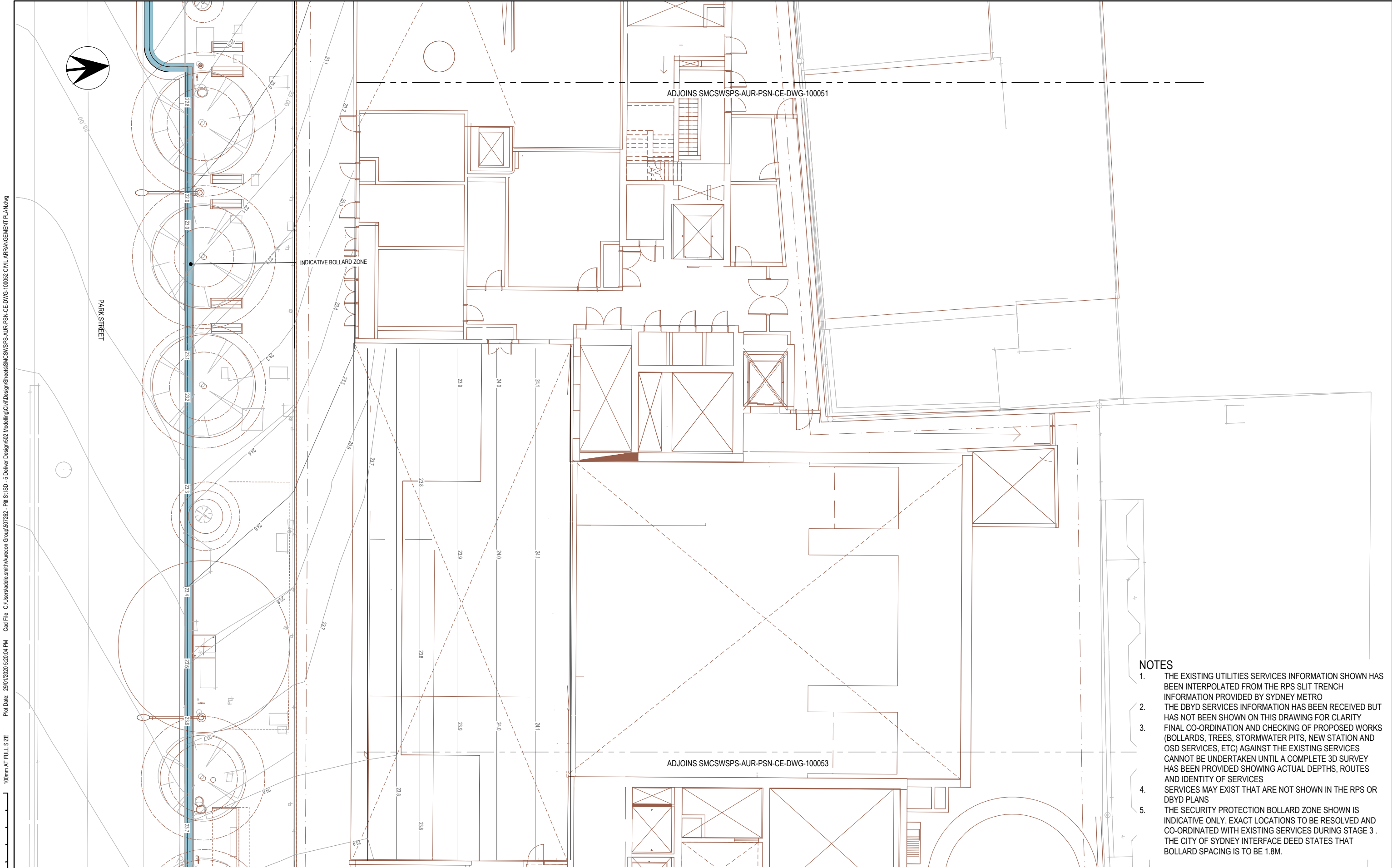
DRG CHECK A. SMITH 24.01.2020

DESIGN CHECK A. SABA 24.01.2020

APPROVED J. PEREIRA 24.01.2020

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100mm AT FULL SIZE

100mm AT FULL SIZE



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A	A.S.	24.01.2020	STAGE 2	J.P.	
REV.	BY	DATE	DESCRIPTION	APPD.	
A1	Original		Co-ordinate System: MGA Zone 56		Height Datum: A.H.D.

SCALES	
SCALE 1:100	

CCRN	NOTE: Do not scale from this drawing.	ALT. DRG No.
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cox **CJ ARMS** **BATESMART.** **LCI** **aurecon** **TTW**

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SYDNEY METRO CITY & SOUTHWEST

PIT STREET ISD

CIVIL SERVICES

CIVIL ARRANGEMENT PLAN

NORTH GROUND FLOOR PLAN ZONE 52

STATUS: SHEET 2 OF 3

METRO DRG No. REV. A



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SYDNEY METRO CITY & SOUTHWEST			
PIT STREET ISD			
CIVIL SERVICES			
CIVIL ARRANGEMENT PLAN			
NORTH GROUND FLOOR PLAN ZONE 53			
STATUS:			©
METRO DRG No.			REVISION
			A

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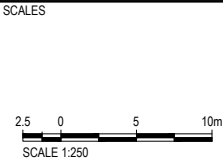
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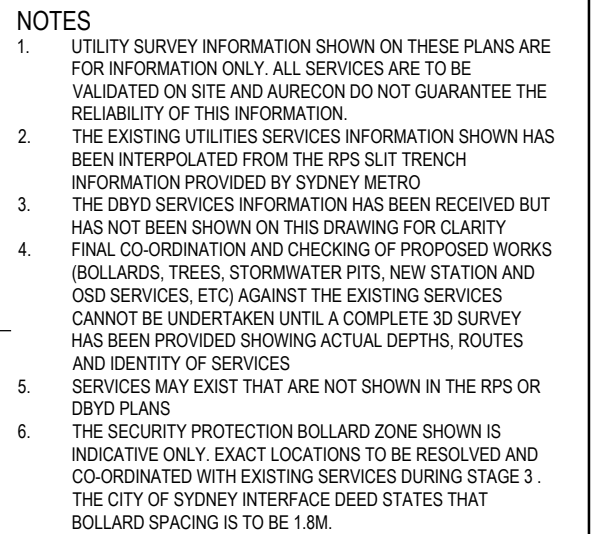
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DESIGN CHECK	J. FARROW	24.01.2020
APPROVED	J. PEREIRA	24.01.2020

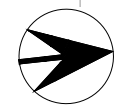
SYDNEY METRO CITY & SOUTHWEST
PIT STREET ISD
CIVIL SERVICES
UTILITIES ARRANGEMENT PLAN
NORTH GROUND FLOOR PLAN ZONE 13

STATUS:	SHEET 1 OF 1	©
METRO DRG No.	REV.	A



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PARK STREET

ADJOINS SMCSWSPS-AUR-PSN-CE-DWG-500051

- PROPOSED Ø 300 POTABLE SUPPLY
AND Ø 200 FIRE SUPPLY SYSTEM

PROPOSED Ø 65 POTABLE SUPPLY

INDICATIVE BOLLARD ZONE

CITY OF SYDNEY BENCH TYP.

- SPLIT TRENCH 4, REFER NOTE 2

— SW

NEW TREE PIT

- BUS SHELTER

ADJOINS SMCSWSPS-AUR-PSN-CE-DWG-500053

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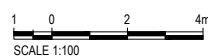
SYDNEY METRO CITY & SOUTHWEST

STATUS:
METRO DRG No.

SHEET 2 OF 3	©
REV.	A

A	A.S.	24.01.2020	STAGE 2						J.P.
REV.	BY	DATE	DESCRIPTION						APPD.
A1 Original		Co-ordinate System: MGA Zone 56				Height Datum: A.H.D.		This sheet may be prep	

SCALES



SCALE 1:100

CCRN₀

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BATESSMART. LCL
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Thomson

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STATUS:	SHEET 2 OF 3	©
METRO DRG No.	REV.	A

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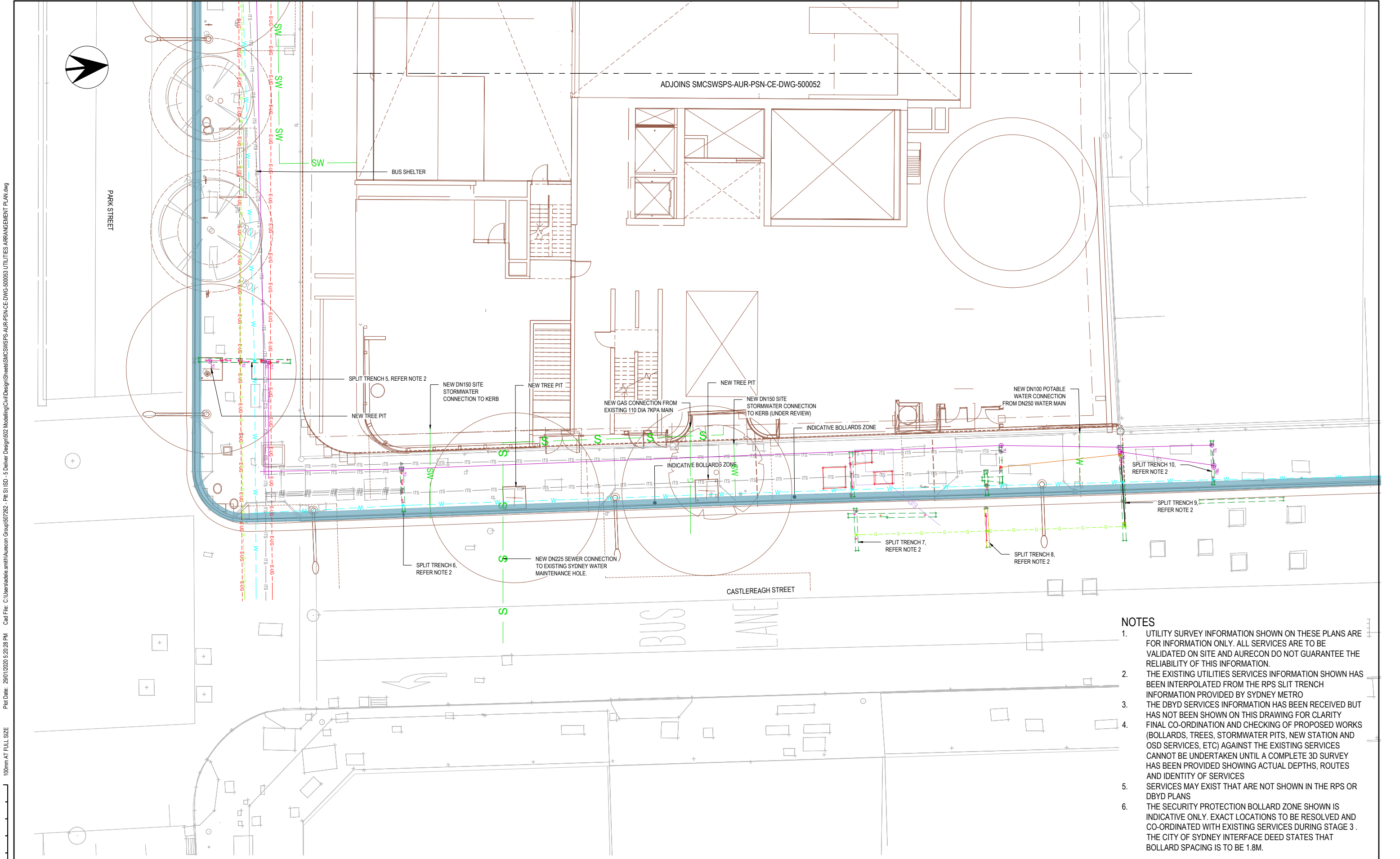
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ALT. DRG No.

CLIENT
 
ISDP
 

SERVICE PROVIDERS
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cox
BATESMART.
aurecon
CJ ARMS
OLCI
TTW
Raynor Thompson Whitting
DRAWN <u>T. PILLAY</u> 24.01.2020
DESIGNED <u>J. NISTAL</u> 24.01.2020
DRG CHECK <u>A. SMITH</u> 24.01.2020
DESIGN CHECK <u>J. FARROW</u> 24.01.2020
APPROVED <u>J. PEREIRA</u> 24.01.2020

DRG No. SMCSWSPS-AUR-PSN-CE-DWG-500053
SYDNEY METRO CITY & SOUTHWEST
PIT STREET ISD
CIVIL SERVICES
UTILITIES ARRANGEMENT PLAN
NORTH GROUND FLOOR PLAN ZONE 53
STATUS:
METRO DRG No.
SHEET 3 OF 3
REV. A



- NOTES**
- UTILITY SURVEY INFORMATION SHOWN ON THESE PLANS ARE FOR INFORMATION ONLY. ALL SERVICES ARE TO BE VALIDATED ON SITE AND AURECON DO NOT GUARANTEE THE RELIABILITY OF THIS INFORMATION.
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DIAGRAM 1
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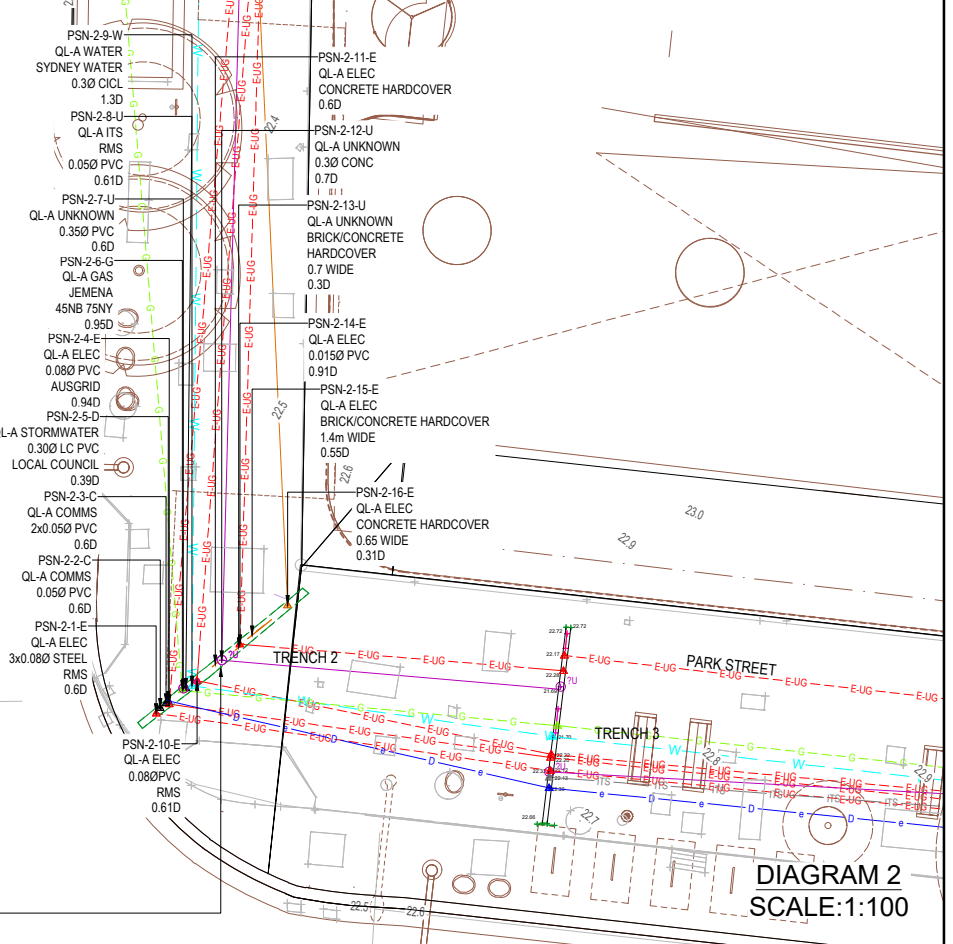
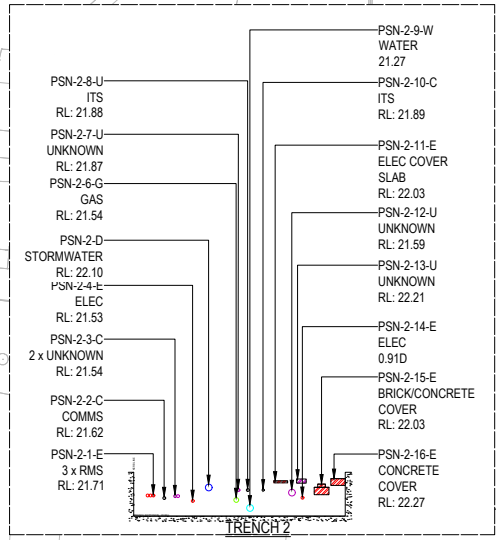
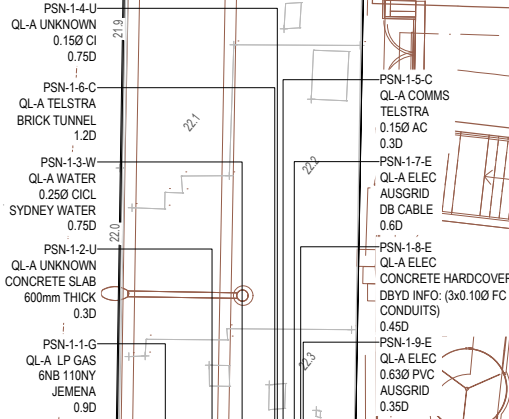
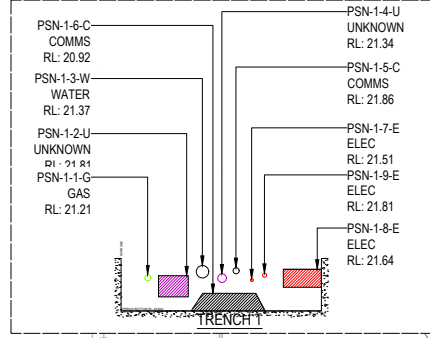


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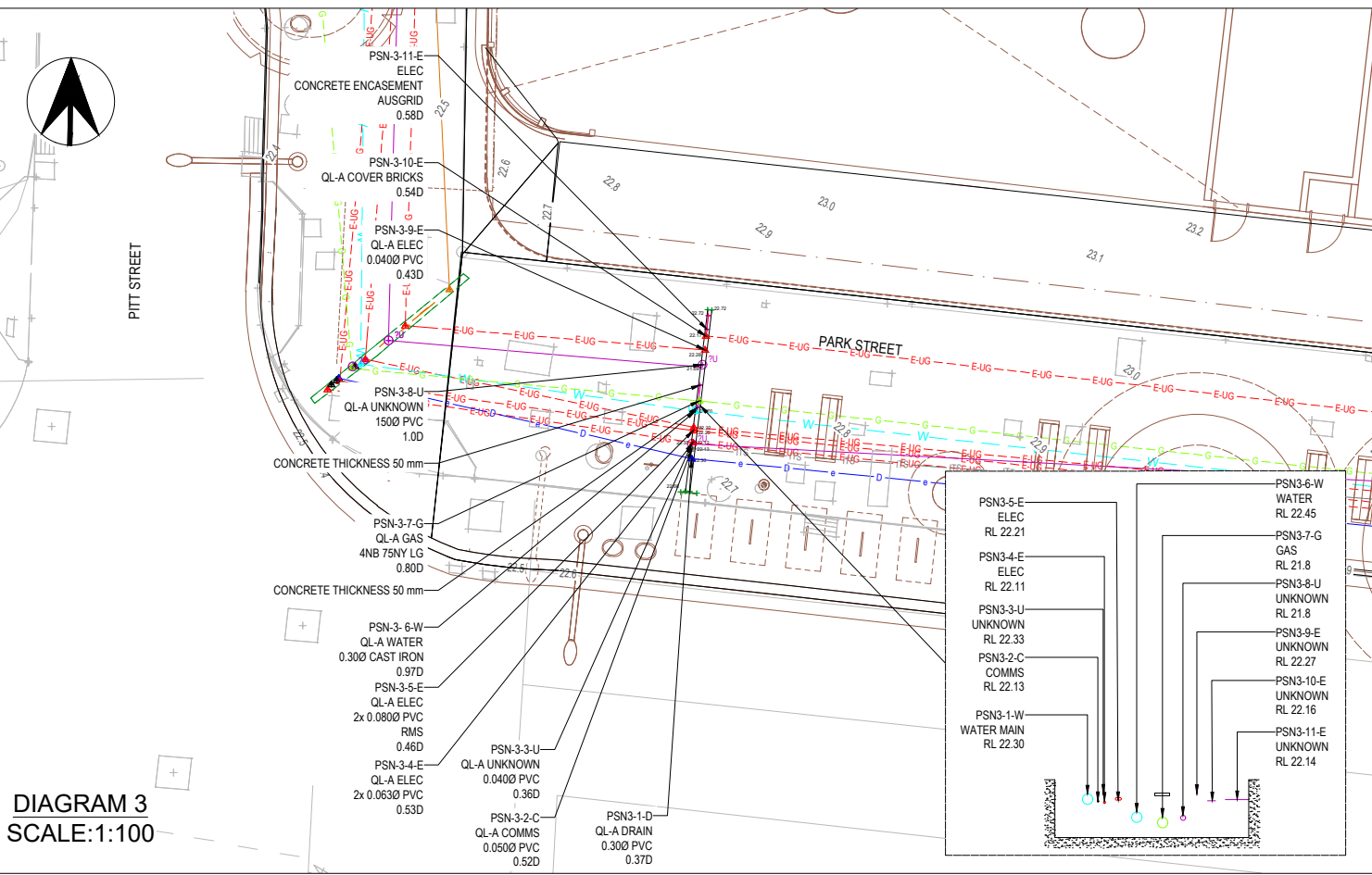


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SCALE:1:100

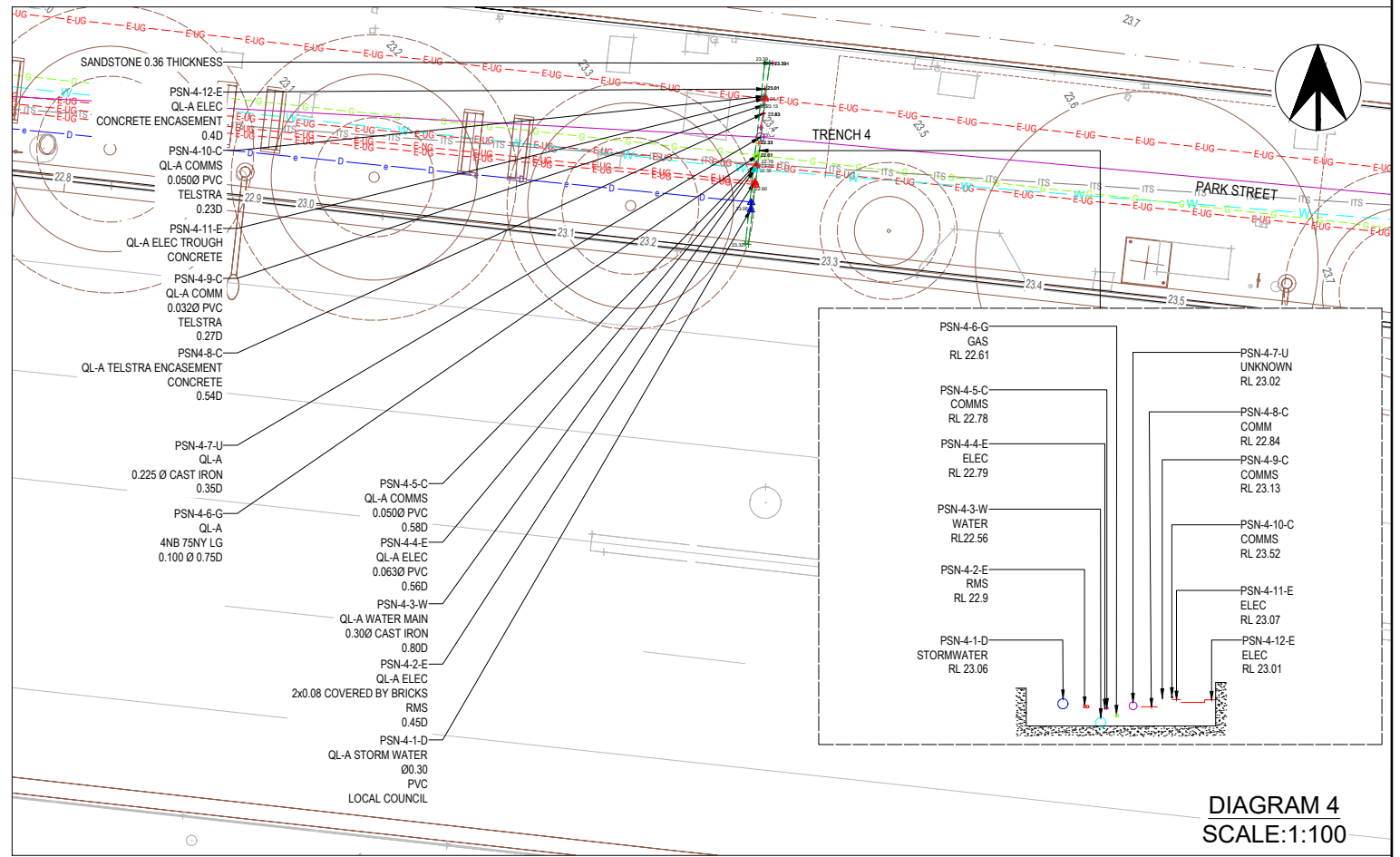
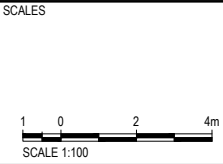


DIAGRAM 4
SCALE:1:100

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REV.	BY	DATE	DESCRIPTION	APPD.
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A1	Original		Co-ordinate System: MGA Zone 56	
			Height Datum: A.H.D.	
			This sheet may be prepared using colour and may be incomplete if copied	



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CLIENT

NSW GOVERNMENT

sydney METRO

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oix|fior|d

CPB CONTRACTORS

Service Providers

Foster + Partners

cox CJ ARMS

BATESMART. OLCI

aurecon

TTW

DRWN: T. PILLAY 24.01.2020

DESIGNED: J. NISTAL 24.01.2020

DRG CHECK: A. SMITH 24.01.2020

DESIGN CHECK: J. FARROW 24.01.2020

APPROVED: J. PEREIRA 24.01.2020

DRG No. SMCSWSPS-AUR-PSN-CE-DWG-500061

SYDNEY METRO CITY & SOUTHWEST

PIT STREET ISD

CIVIL SERVICES

UTILITIES POT HOLE DIAGRAM

NORTH GROUND FLOOR PLAN ZONE 53

STATUS: SHEET 1 OF 3

METRO DRG No. REV. A

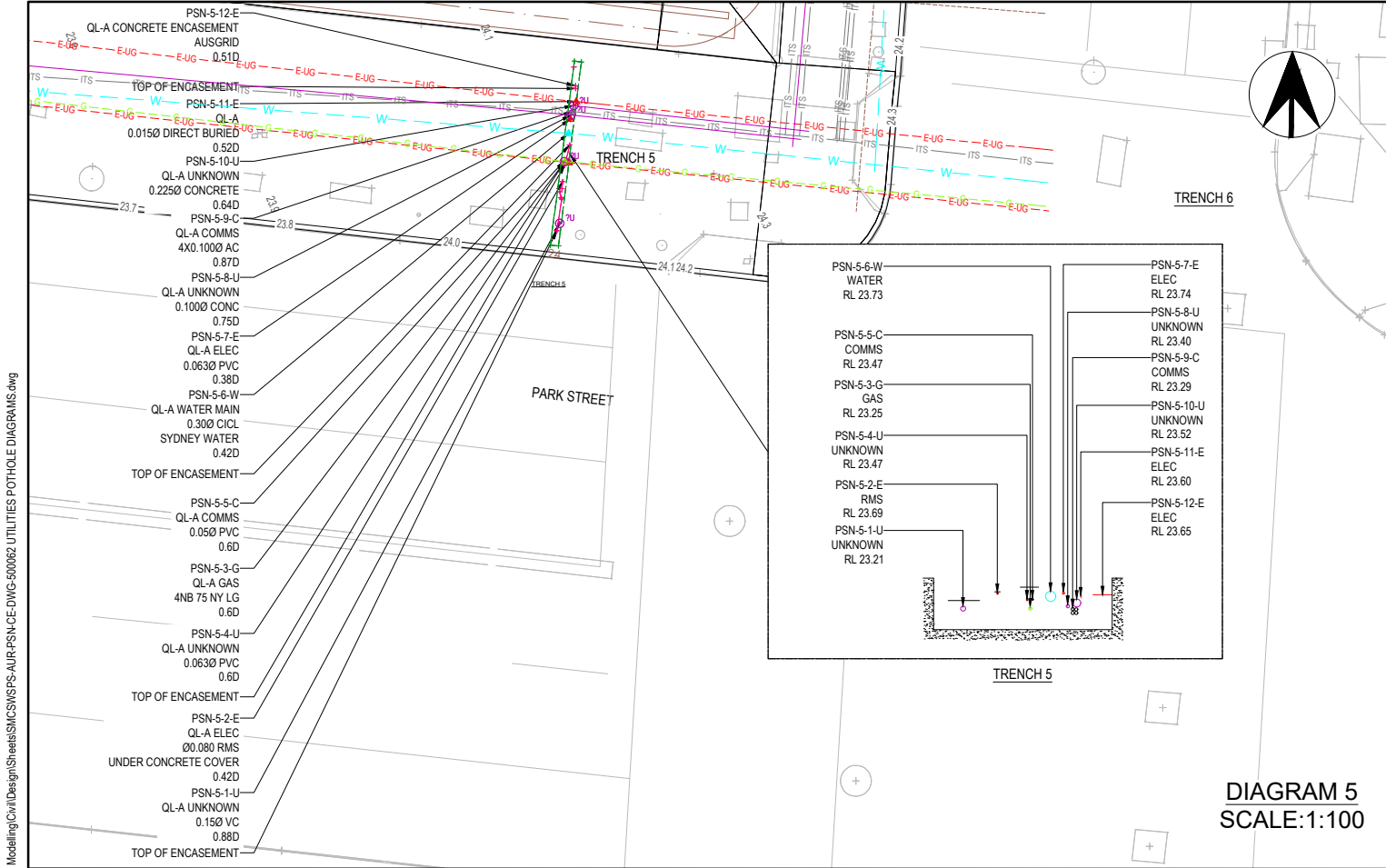


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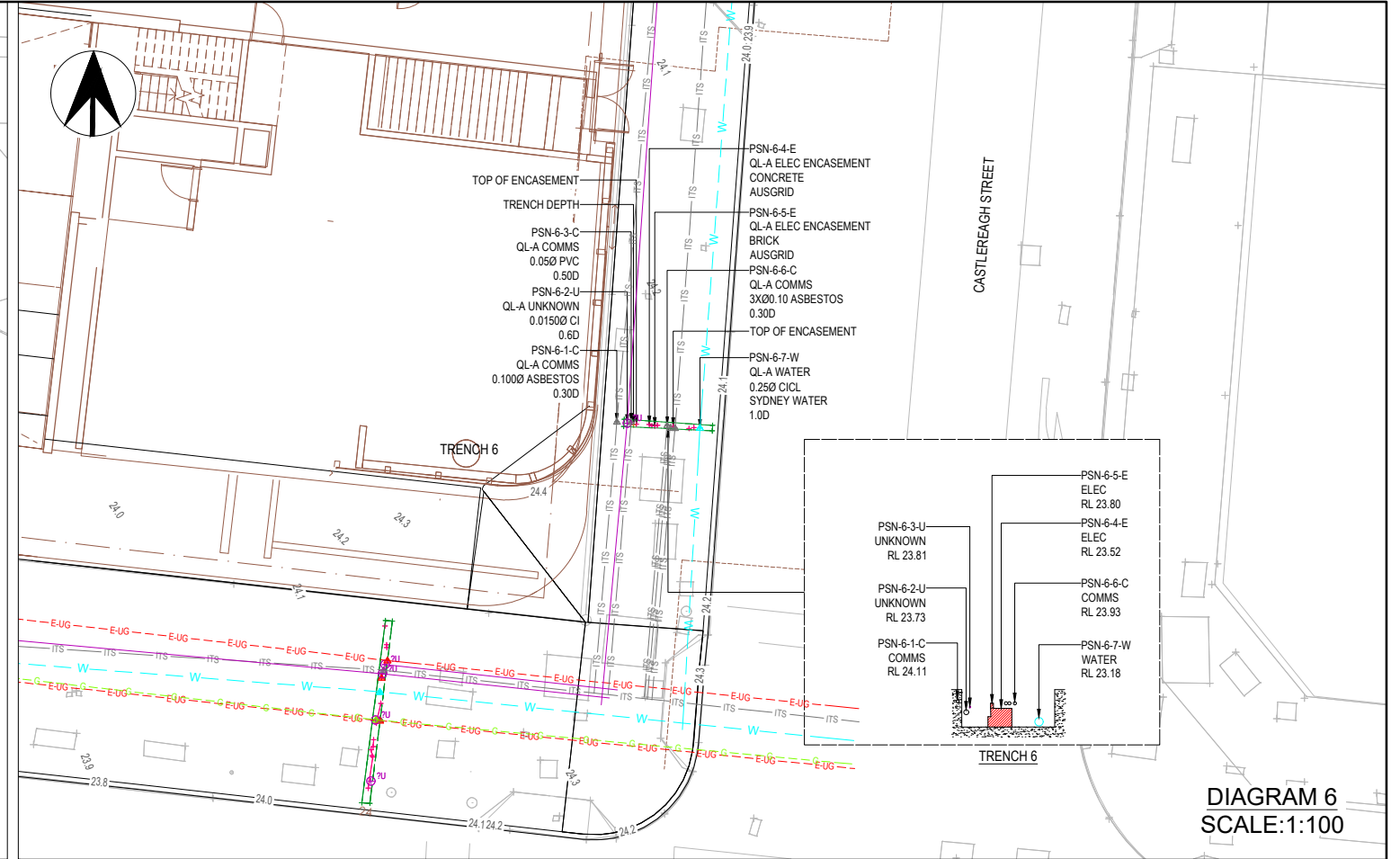


DIAGRAM 6
SCALE:1:100

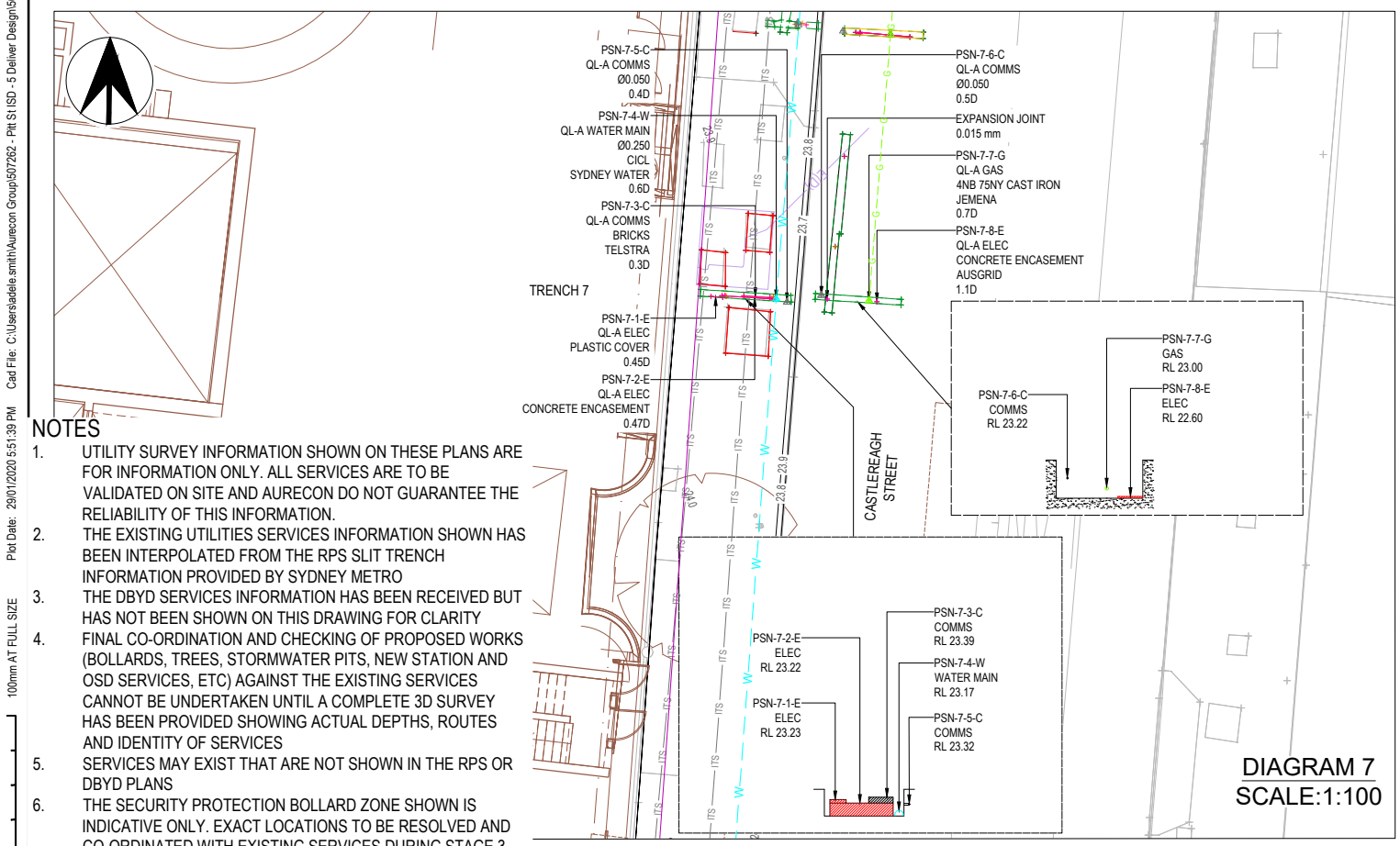


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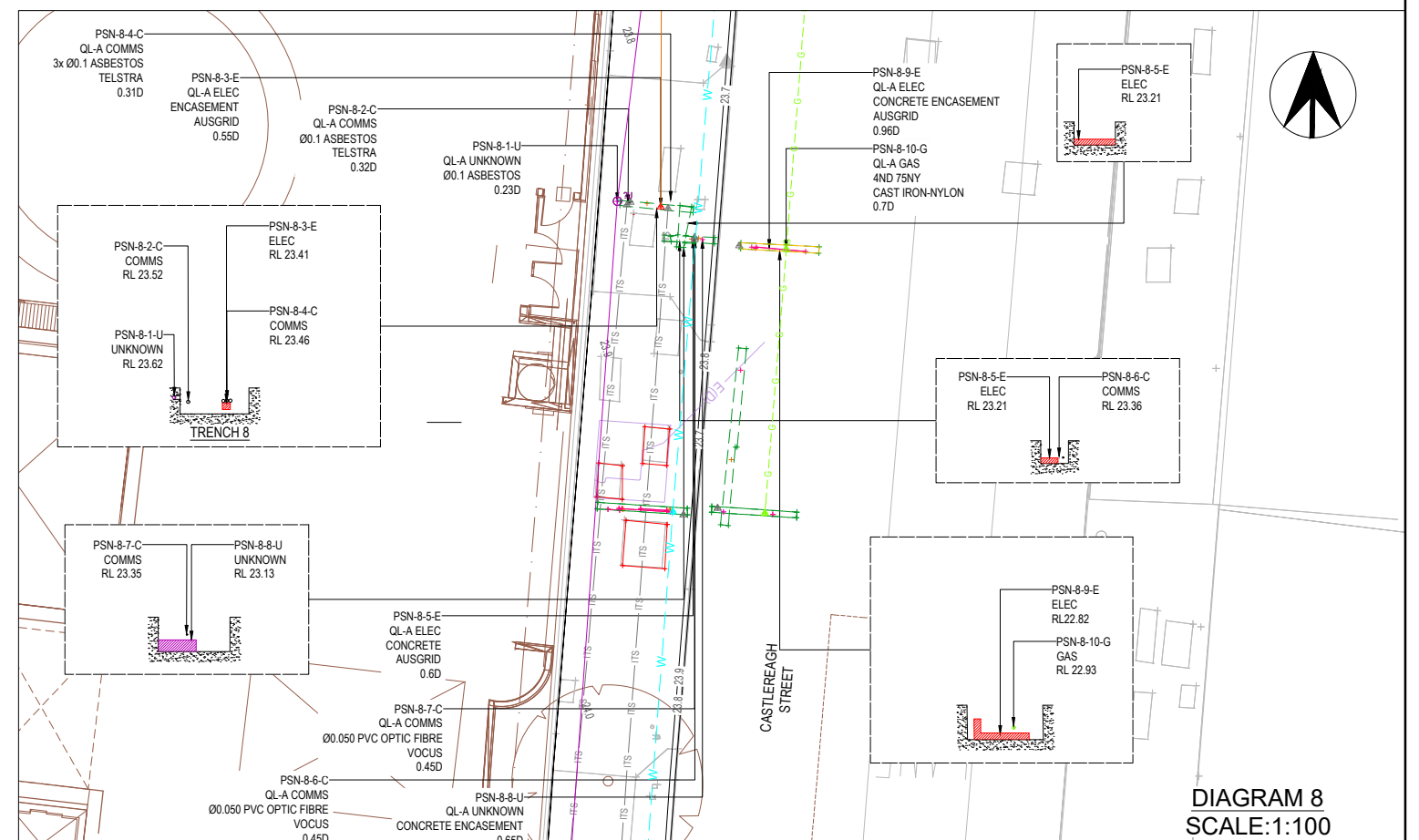


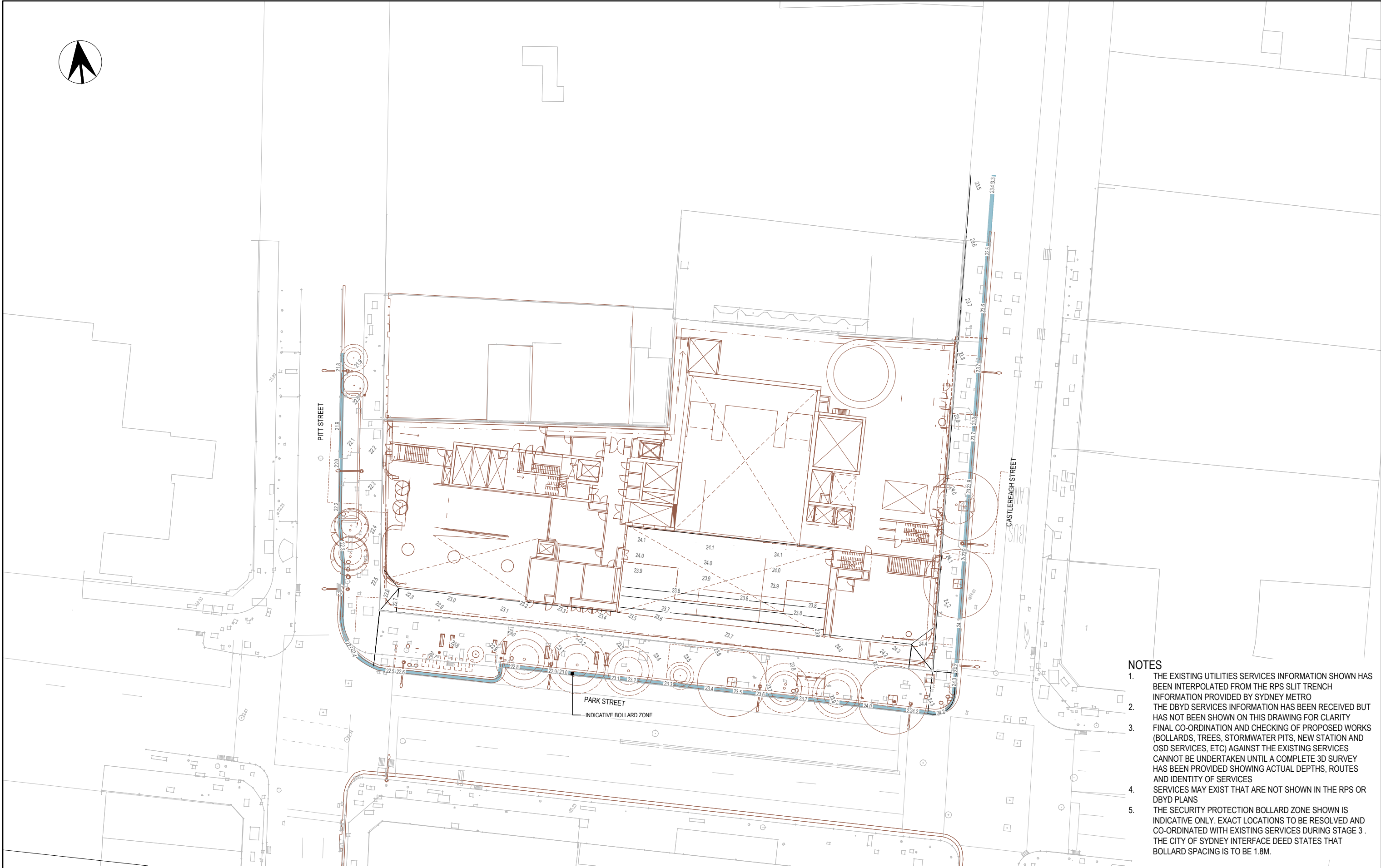
DIAGRAM 8
SCALE:1:100

NOTES

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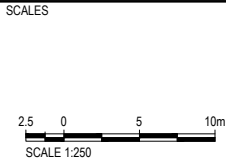
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A	A.S.	24.01.2020	STAGE 2	J.P.	
REV.	BY	DATE	DESCRIPTION	APPD.	
A1	Original		Co-ordinate System: MGA Zone 56	Height Datum: A.H.D.	This sheet may be prepared using colour and may be incomplete if copied



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Foster + Partners

cox **CJ ARMS** **BATESMART.** **OLCI** **aurecon** **TTW**

DRAWN: T. PILLAY 24.01.2020
DESIGNED: S. BLAKE 24.01.2020
DRG CHECK: A. SMITH 24.01.2020
DESIGN CHECK: A. SABA 24.01.2020
APPROVED: J. PEREIRA 24.01.2020

DRG No. SMCSWSPS-AUR-PSN-CE-DWG-100013

SYDNEY METRO CITY & SOUTHWEST

PIT STREET ISD
CIVIL SERVICES
CIVIL ARRANGEMENT PLAN
NORTH GROUND FLOOR PLAN ZONE 13

STATUS: SHEET 1 OF 1 ©

METRO DRG No. REV. A



1. THE EXISTING UTILITIES SERVICES INFORMATION SHOWN HAS BEEN INTERPOLATED FROM THE RPS SLIT TRENCH INFORMATION PROVIDED BY SYDNEY METRO
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					SCALES				CLIENT		<div>The information shown on this drawing is for the purposes of the Sydney Metro Project only. No warranty is given or implied as to its suitability for any other purpose. The Service Providers accept no liability arising from the use of this drawing and the information shown thereon for any purpose other than the Sydney Metro Project.</div> <div>SERVICE PROVIDERS</div> <div><div><div><div><div></div><div>NSW</div><div>GOVERNMENT</div></div><div><div></div><div>sydney</div><div>METRO</div></div></div><div><div>oxford</div><div>CPB</div><div>CONTRACTORS</div></div><div><div><div><div></div><div>BATESSMART.</div><div>arecon</div></div><div><div></div><div>LCI</div><div>TTW</div></div><div><div></div><div>Thomson</div><div>Thomson</div></div></div><div><div></div><div>THOMSON</div><div>Thomson</div></div></div><div>DRG CHECK A. SMITH 24.01.2020</div><div>DESIGN CHECK A. SABA 24.01.2020</div><div>APPROVED J. PEREIRA 24.01.2020</div></div><div><div>DRAWN T. PILLAY 24.01.2020</div><div>DESIGNED S. BLAKE 24.01.2020</div></div></div> <div>SYDNEY METRO CITY & SOUTHWEST</div> <div>PIT STREET ISD</div> <div>CIVIL SERVICES</div> <div>CIVIL ARRANGEMENT PLAN</div> <div>NORTH GROUND FLOOR PLAN ZONE 51</div>	
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A	A.S.	24.01.2020	STAGE 2	J.P.			CCRNo					
REV.	BY	DATE	DESCRIPTION		APPD.							
A1 Original		Co-ordinate System: MGA Zone 56		Height Datum: A.H.D.	This sheet may be prepared using colour and may be incomplete if copied			NOTE: Do not scale from this drawing.		ALT. DRG No.		



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SCALE 1:100

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Thomson

DRAWN	T. PILLAY	24.01.2020
DESIGNED	S. BLAKE	24.01.2020
DRG CHECK	A. SMITH	24.01.2020
DESIGN CHECK	A. SABA	24.01.2020
APPROVED	J. PEREIRA	24.01.2020

DRG No. SMCSWSPS-AUR-PSN-CE-DWG-100052

SYDNEY METRO CITY & SOUTHWEST
PIT STREET ISD
CIVIL SERVICES
CIVIL ARRANGEMENT PLAN
NORTH GROUND FLOOR PLAN ZONE 52

STATUS:	
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SHEET 2 OF 2

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1. THE EXISTING UTILITIES SERVICES INFORMATION SHOWN HAS BEEN INTERPOLATED FROM THE RPS SLIT TRENCH INFORMATION PROVIDED BY SYDNEY METRO
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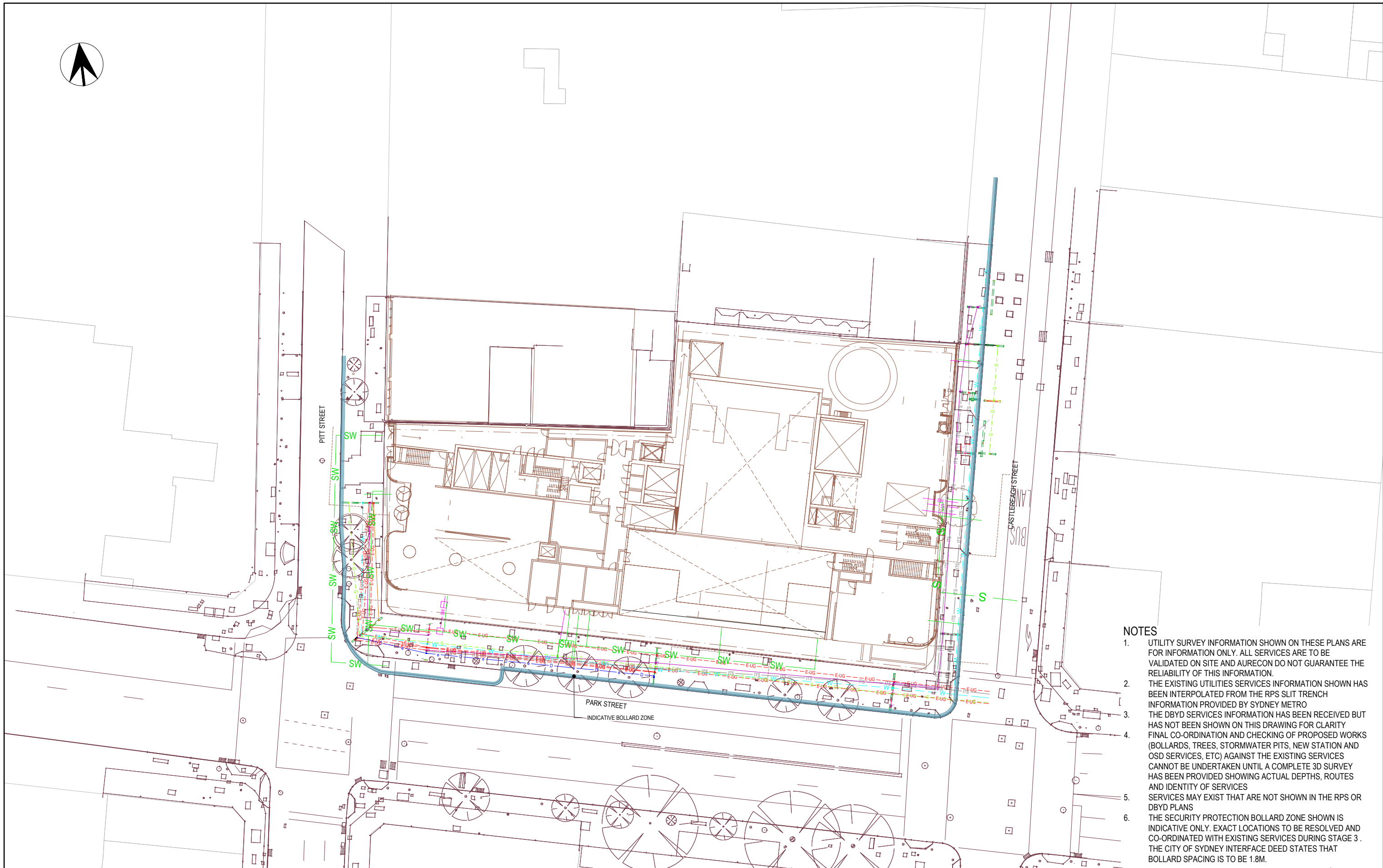
 

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BATTESSMART.	DESIGN CHECK: A. SABA	24.01.2020
LCI	APPROVED: J. PEREIRA	24.01.2020
aurecon		
TTW Taylor Thompson Whittington		

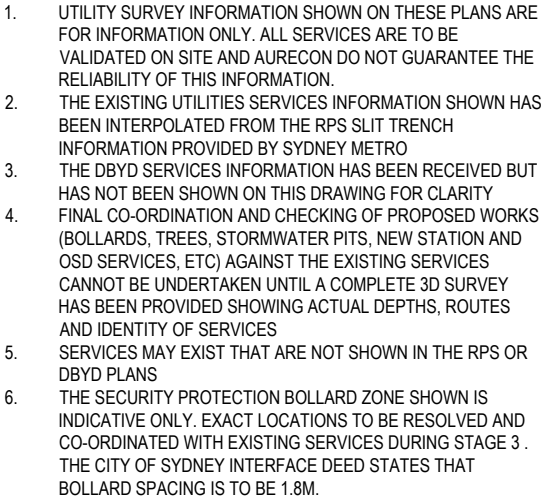
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SYDNEY METRO CITY & SOUTHWEST		
PIT STREET ISD		
CIVIL SERVICES		
CIVIL ARRANGEMENT PLAN		
NORTH GROUND FLOOR PLAN ZONE 53		
STATUS:	SHEET 3 OF 3	©
METRO DRG No.	REV.	A



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ADJOINS SMCSWSPS-AUR-PSN-CE-DWG-500051

ADJOINS SMCSWSPS-AUR-PSN-CE-DWG-500053

NOTES

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DRG No. SMCSWSPS-AUR-PSN-CE-DWG-500052

SYDNEY METRO CITY & SOUTHWEST
PIT STREET ISD
CIVIL SERVICES
UTILITIES ARRANGEMENT PLAN
NORTH GROUND FLOOR PLAN ZONE 13

STATUS:	SHEET 2 OF 3	©
METRO DRG No.	REV.	A

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[illegible]

CCRN₀

NOTE: Do not scale from this drawing.

ALT. DRG No.	
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Foster + Partners	DRAWN _____ T. PILLAY	24.01.2020
cox	DESIGNED _____ J. NISTAL	24.01.2020
CJ ARMS	DRG CHECK _____ A. SMITH	24.01.2020
BATESSMART.	DESIGN CHECK _____ J. FARROW	24.01.2020
OLCI	APPROVED _____ J. PEREIRA	24.01.2020
surecon		
TTW		

Cad File: C:\Users\adele.smith\Aurecon Group\507262 - Pit St ISD - 5 Deliver Design\502 Modelling\Civil\DesignSheets\SMCSWSPS-AUR-PSN-CE-DWG-500053 UTILITIES ARRANGEMENT PLAN.dwg
Plot Date: 29/01/2020 5:20:28 PM
100mm AT FULL SIZE

100mm AT FULL SIZE

REV.	BY	DATE	DESCRIPTION	APPD.
A	A.S.	24.01.2020	STAGE 2	J.P.
A1	Original		Co-ordinate System: MGA Zone 56 Height Datum: A.H.D.	

SCALES	
1	0 2 4m
SCALE 1:100	

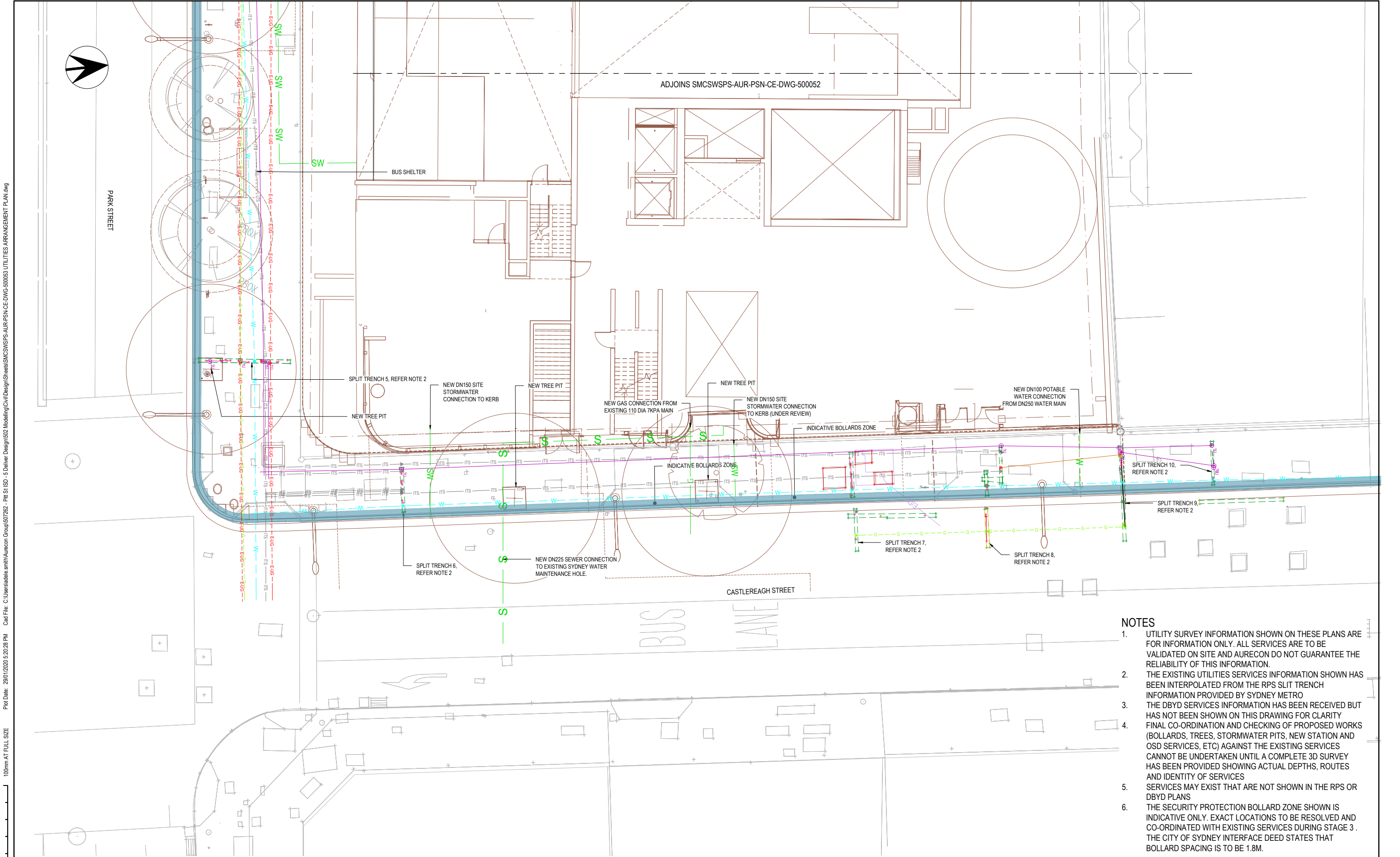
CCRN0	NOTE: Do not scale from this drawing.
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ALT. DRG No.

CLIENT
NSW GOVERNMENT
sydney METRO
ISDP
oix ford
CPB CONTRACTORS

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SERVICE PROVIDERS	
Foster + Partners	
cox CJ ARMS	
BATESSMART. OLCI	
aurecon	
TTW	
DRAWN	T. PILLAY 24.01.2020
DESIGNED	J. NISTAL 24.01.2020
DRG CHECK	A. SMITH 24.01.2020
DESIGN CHECK	J. FARROW 24.01.2020
APPROVED	J. PEREIRA 24.01.2020

DRG No. SMCSWSPS-AUR-PSN-CE-DWG-500053	
SYDNEY METRO CITY & SOUTHWEST	
PIT STREET ISD	
CIVIL SERVICES	
UTILITIES ARRANGEMENT PLAN	
NORTH GROUND FLOOR PLAN ZONE 53	
STATUS:	SHEET 3 OF 3
METRO DRG No.	REV. A



- NOTES**
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DIAGRAM 1
SCALE:1:100

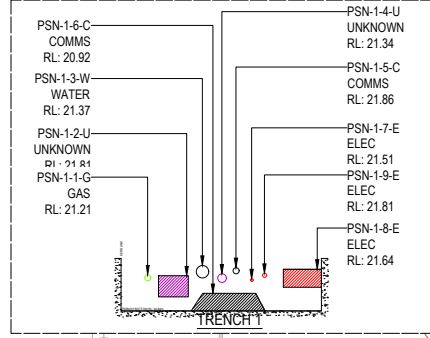
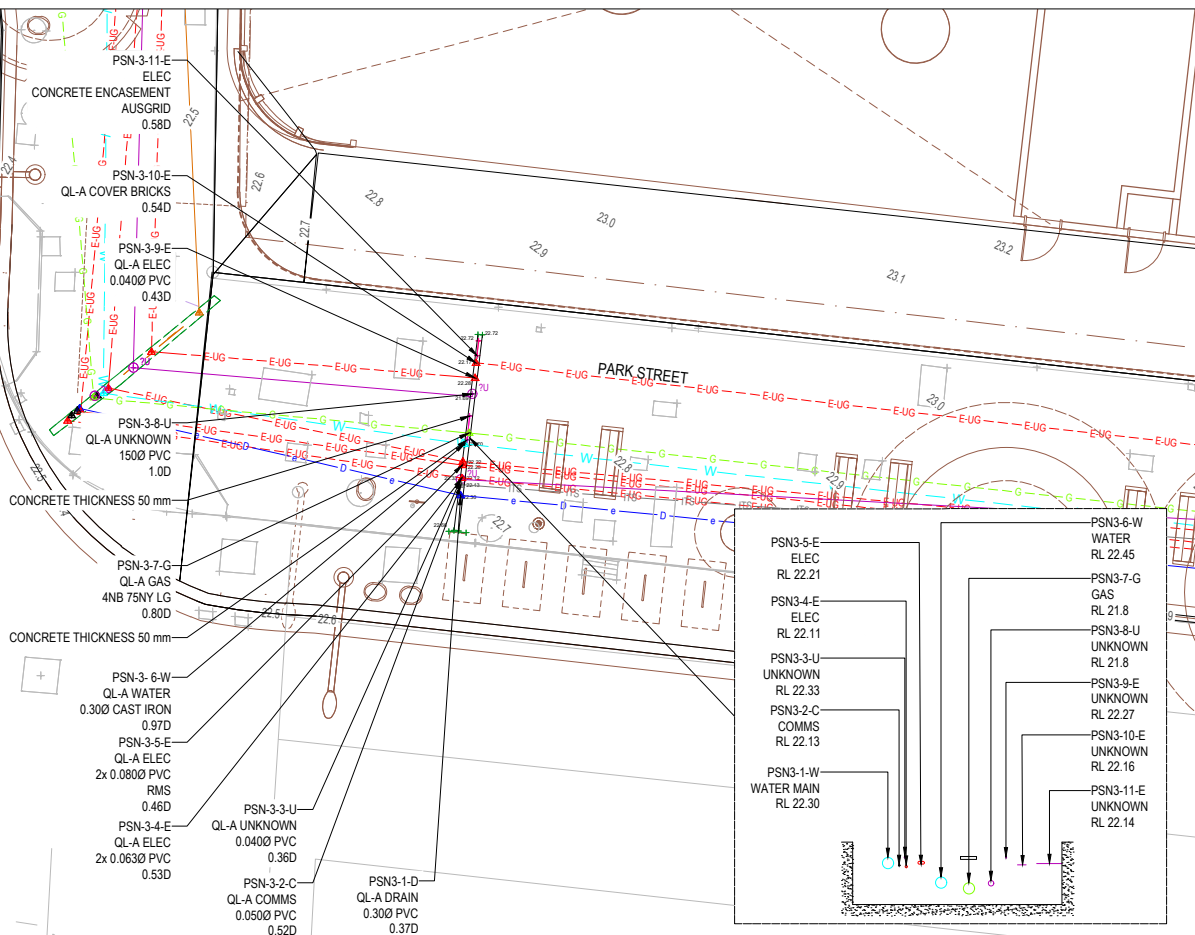


DIAGRAM 3
SCALE:1:100



REV.	BY	DATE	DESCRIPTION	APPD.
A	A.S.	24.01.2020	STAGE 2	J.P.
A1	Original		Co-ordinate System: MGA Zone 56	
			Height Datum: A.H.D.	
			This sheet may be prepared using colour and may be incomplete if copied	

SCALES
1 0 2 4m
SCALE 1:100

CCRN0

NOTE: Do not scale from this drawing.

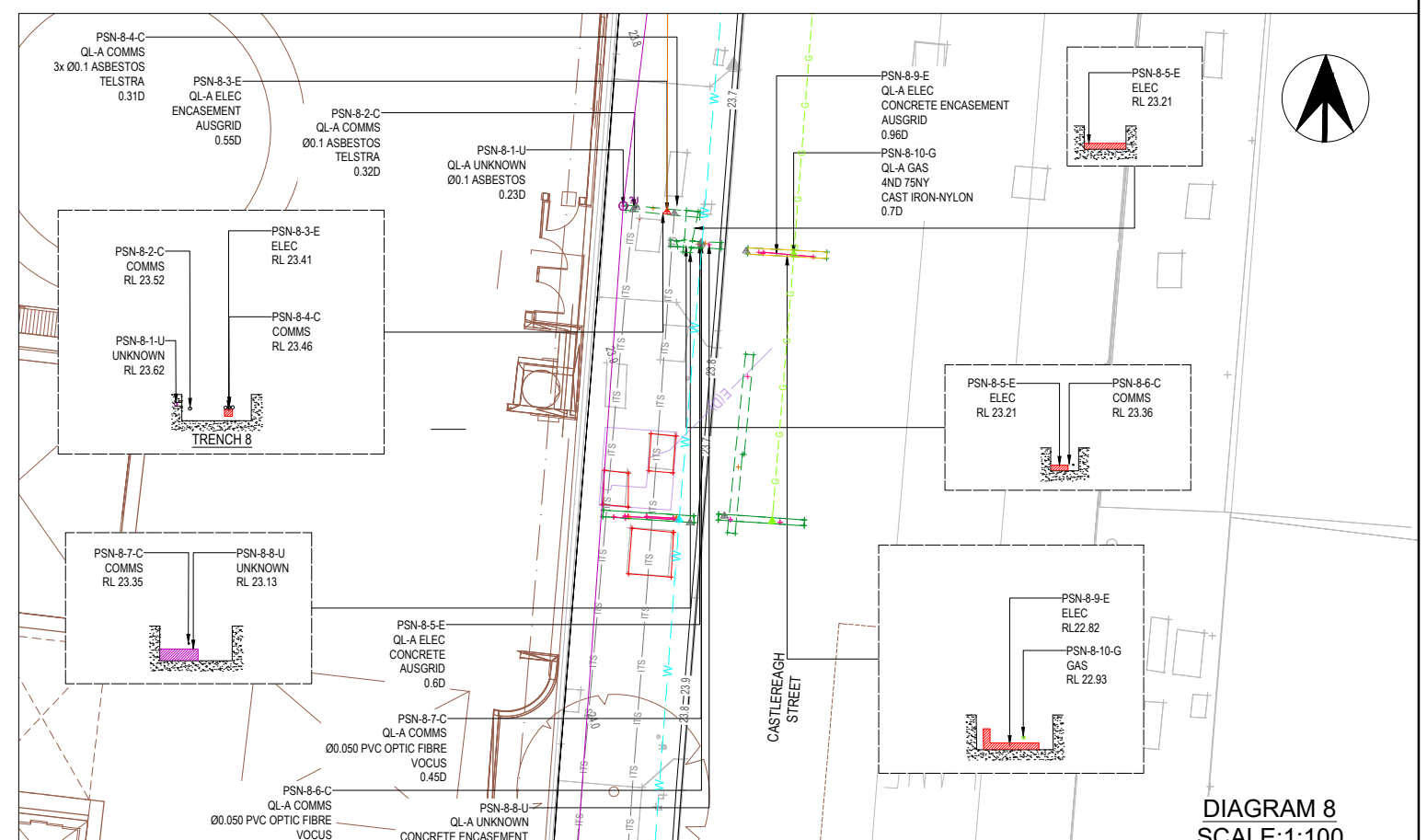
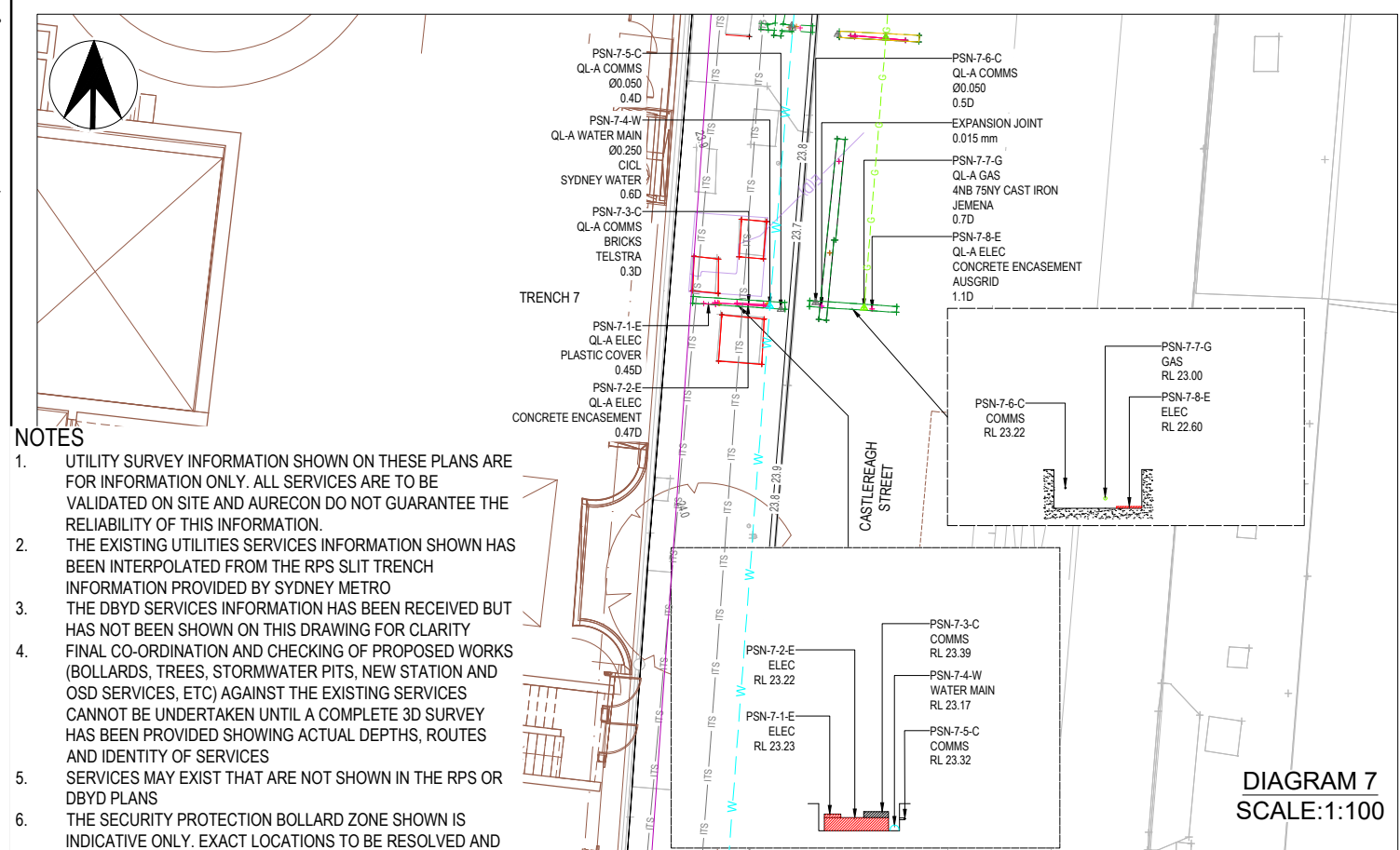
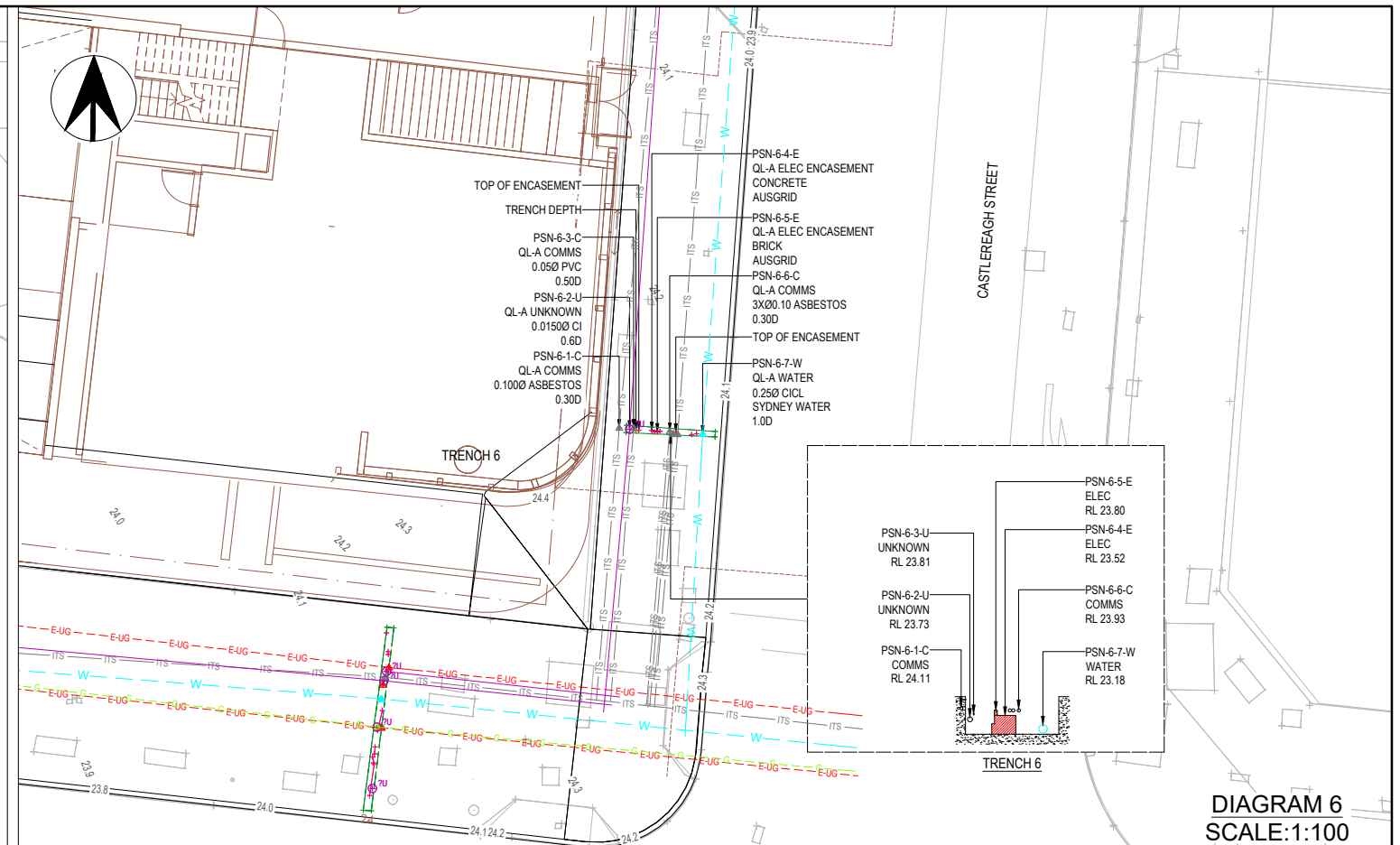
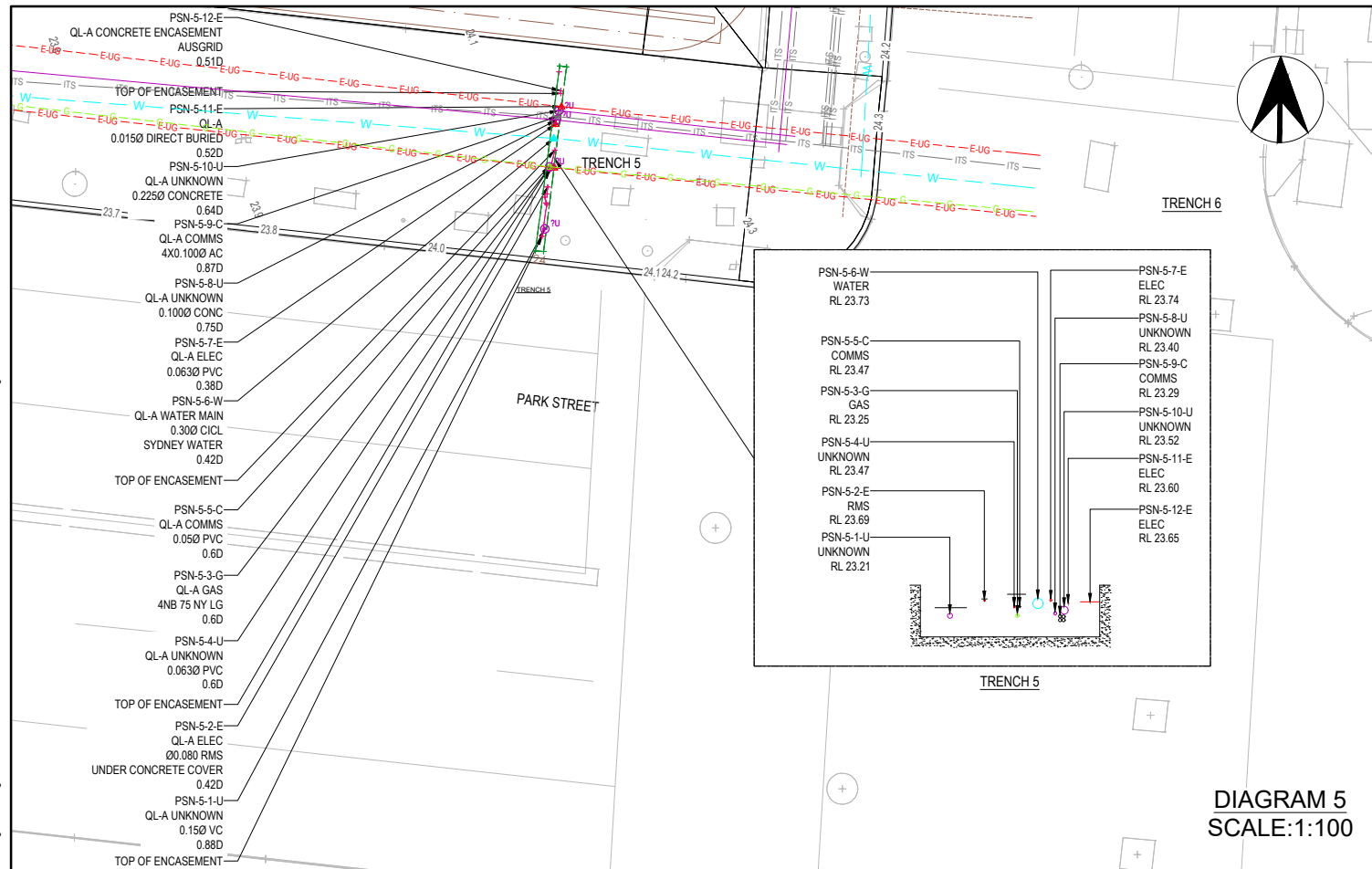
ALT. DRG No.

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SERVICE PROVIDERS	Foster + Partners
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DRG CHECK	A. SMITH
DESIGN CHECK	J. FARROW
APPROVED	J. PEREIRA

DRG No. SMCSWSPS-AUR-PSN-CE-DWG-500061	SYDNEY METRO CITY & SOUTHWEST
PIT STREET ISD	CIVIL SERVICES
UTILITIES POT HOLE DIAGRAMS	NORTH GROUND FLOOR PLAN ZONE 53
STATUS:	SHEET 1 OF 3
METRO DRG No.	REV. A



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DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

A	A.S.	24.01.2020	STAGE 2			J.P.
REV.	BY	DATE	DESCRIPTION			APPD.
A1 Original			Co-ordinate System: MGA Zone 56	Height Datum: A.H.D.	This sheet may be pre	

1 0 2 4m
SCALE 1:100

CCRN₀

NOTE: Do not scale from this drawing.

ALT. DRG No.	
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DESIGNED	J. NISTAL	24.01.2020
DRG CHECK	A. SMITH	24.01.2020
DESIGN CHECK	J. FARROW	24.01.2020
APPROVED	J. PEREIRA	24.01.2020

DRG No. SMCSWSPS-AUR-PSN-CE-DWG-500062

SYDNEY METRO CITY & SOUTHWEST

STATUS:	
METRO DRG No.	

SHEET 2 OF 3		©
REV.		A

Pitt Street North OSD

Stormwater Management Plan

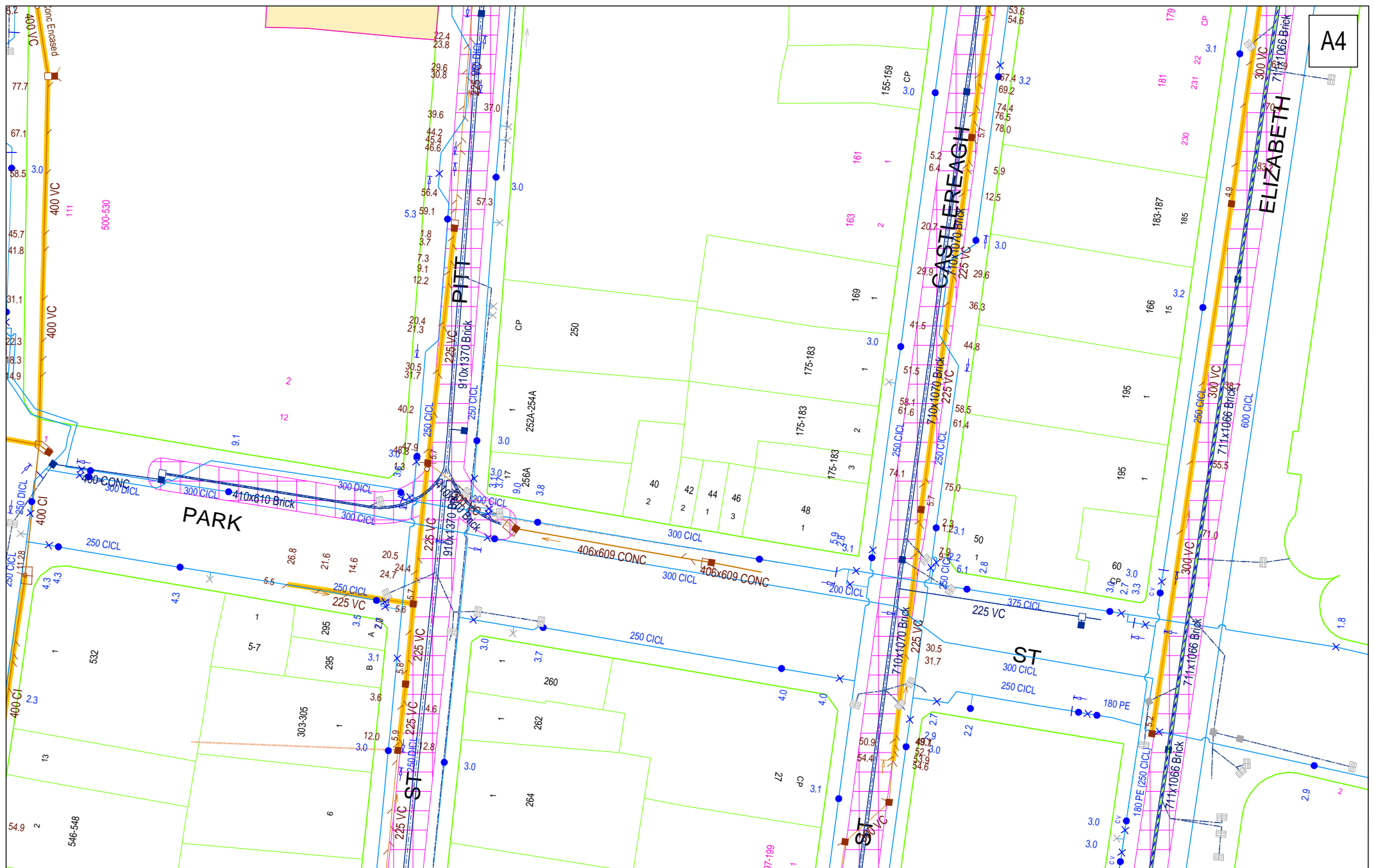
A.2. PRELIMINARY SSDA DRAWINGS

Document No	Title	Revision	Created By	Revision Date
SMCSWSPS-FOS-OSN-AT-DWG-000000	Cover Sheet	00	Foster + Partners	01/11/2019
SMCSWSPS-FOS-OSN-AT-DWG-000020	Drawing list, Story board & Checking register	00	Foster + Partners	01/11/2019
SMCSWSPS-FOS-OSN-AT-DWG-000021	Diagram, Level All Project Symbols	00	Foster + Partners	01/11/2019
SMCSWSPS-FOS-OSN-AT-DWG-010001	Masterplan	00	Foster + Partners	01/11/2019
SMCSWSPS-FOS-OSN-AT-DWG-030013	Ground Level	P7	Foster + Partners	24/01/2020
SMCSWSPS-FOS-OSN-AT-DWG-030113	Level 01	P7	Foster + Partners	24/01/2020
SMCSWSPS-FOS-OSN-AT-DWG-030213	Level 02 - Commercial Lobby	P7	Foster + Partners	24/01/2020
SMCSWSPS-FOS-OSN-AT-DWG-030313	Level 03 - Commercial Lobby	P7	Foster + Partners	24/01/2020
SMCSWSPS-FOS-OSN-AT-DWG-030413	Level 04 - Station Plantroom	P7	Foster + Partners	24/01/2020
SMCSWSPS-FOS-OSN-AT-DWG-030513	Level 05 - Level 08 - Podium	P7	Foster + Partners	24/01/2020
SMCSWSPS-FOS-OSN-AT-DWG-030913	Level 09 - OSN Plantroom	P7	Foster + Partners	24/01/2020

Pitt Street North OSD

Stormwater Management Plan

A.4. DBYD INFORMATION



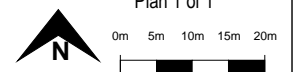
A4

DBYD Address:
n/a Pitt Street
Sydney NSW 2000

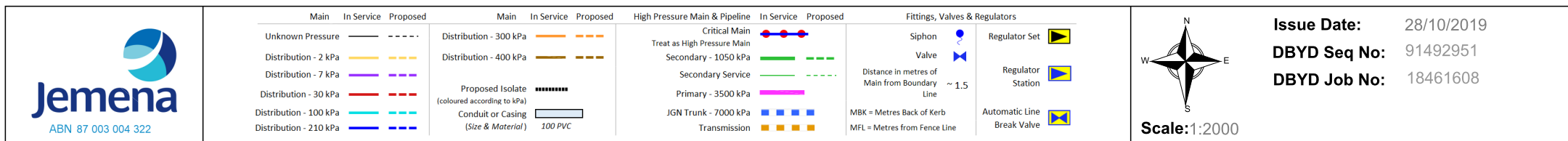
DBYD Job No: 18461608
DBYD Sequence No: 91492952

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SYDNEY WATER CORPORATION

Scale: 1:1000
Date of Production: 28/10/2019



Plan 1 of 1



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.

Pitt Street North OSD

Stormwater Management Plan

A.5. SYDNEY WATER CORRESPONDENCE

B.1-Sydney Water Requirements

Shafqat Hossain

From: JEYADEVAN, JEYA <JEYA.JEYADEVAN@sydneywater.com.au>
Sent: Wednesday, 14 June 2017 10:51 AM
To: Shafqat Hossain
Cc: Greg Ives; Rhys Harvey
Subject: RE: Sydney Water/City of Sydney OSD Requirements

Follow Up Flag: Follow up
Flag Status: Flagged

Shafqat,

Followings are the On Site Detention requirements for the different sites associated with the Metro Rail

Cnr Pitt & Bathurst Street, Sydney (Site Area 1710 square meter)

- On Site Detention 27 Cubic meter
- Permissible Site Discharge 63 L/s

Cnr Pitt Street and Park Road, Sydney (Site Area 3150 square meter)

- On Site Detention 49 Cubic meter
- Permissible Site Discharge 116 L/s

Cnr Martin Place and Castlereagh Street, Sydney (Site Area 1900 square meter)

- On Site Detention 30 Cubic meter
- Permissible Site Discharge 70 L/s

Cnr Castlereagh Street and Hunter Street, Sydney (Site Area 2820 square meter)

- On Site Detention 44 Cubic meter
- Permissible Site Discharge 103 L/s

Best Regards



Jeya Jeyadevan | Senior Capability Assessor

Customer Delivery | Sydney Water
Level 7, 1 Smith St Parramatta NSW 2150
PO Box 399 Parramatta NSW 2124
T 8849 6118 | Mobile 0409 318 827 | Email jeya.jeyadevan@sydneywater.com.au
sydneywater.com.au

From: Shafqat Hossain [mailto:Shafqat.Hossain@arcadis.com]
Sent: Wednesday, 14 June 2017 10:14 AM
To: JEYADEVAN, JEYA <JEYA.JEYADEVAN@sydneywater.com.au>

Cc: Greg Ives <Greg.Ives@arcadis.com>; Rhys Harvey <Rhys.Harvey@arcadis.com>
Subject: RE: Sydney Water/City of Sydney OSD Requirements

Hi Jeya,

I just wanted to touch base with you regarding the email below to see how you were tracking.

Do you require anything further from us? Are we able to receive a response COB tomorrow?

Thank you.

Kind regards,

Shafqat Hossain | Metron Civil Engineer | BEng(Hons)/BComm MIEAust |
shafqat.hossain@arcadis.com

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T. + 61 2 8907 8215 | M. + 61 4 31 745 578
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From: Shafqat Hossain

Sent: Friday, 9 June 2017 1:40 PM

To: 'JEYADEVAN, JEYA' <JEYA.JEYADEVAN@sydneywater.com.au>

Cc: Greg Ives <Greg.Ives@arcadis.com>; Rhys Harvey <Rhys.Harvey@arcadis.com>

Subject: RE: Sydney Water/City of Sydney OSD Requirements

Hi Jeya,

Following the meeting with Sydney Water, I just wanted to touch base with you regarding the assessment of OSD requirements for the Sydney city stations and Marrickville stabling yards.

Please advise if you require anything further.

Kind regards,

Shafqat Hossain | Metron Civil Engineer | BEng(Hons)/BComm MIEAust |
shafqat.hossain@arcadis.com

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From: JEYADEVAN, JEYA [<mailto:JEYA.JEYADEVAN@sydneywater.com.au>]

Sent: Monday, 5 June 2017 12:41 PM

To: Shafqat Hossain <Shafqat.Hossain@arcadis.com>

Cc: Greg Ives <Greg.Ives@arcadis.com>

Subject: RE: Sydney Water/City of Sydney OSD Requirements

Shafqat,

I spoke to Greg Ives about this, few minutes ago. Greg will discuss this matter further with the Sydney Water's representative for this Sydney Metro Project.

Best Regards



Jeya Jeyadevan | Senior Capability Assessor

Customer Delivery | Sydney Water

Level 7, 1 Smith St Parramatta NSW 2150

PO Box 399 Parramatta NSW 2124

T 8849 6118 | **Mobile** 0409 318 827 | **Email** jeya.jeyadevan@sydneywater.com.au
sydneywater.com.au

From: Shafqat Hossain [<mailto:Shafqat.Hossain@arcadis.com>]

Sent: Wednesday, 31 May 2017 2:03 PM

To: JEYADEVAN, JEYA <JEYA.JEYADEVAN@sydneywater.com.au>

Cc: Greg Ives <Greg.Ives@arcadis.com>

Subject: Sydney Water/City of Sydney OSD Requirements

Hi Jeya,

I am currently working with Greg Ives on the Sydney Metro project and we would like some clarification regarding Sydney Water requirements around stormwater drainage.

Please find attached two PDFs for Pitt Street and Martin Place station footprints and proposed over station developments. The information we are essentially seeking is OSD volume and PSD advise as per the attached email. Are we able to receive this information by COB Friday 02-06-17?

If you require anything further please do not hesitate to contact me.

Thank you.

Kind regards,

Shafqat Hossain | Metron Civil Engineer | BEng(Hons)/BComm MIEAust |

shafqat.hossain@arcadis.com

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Pitt Street North OSD

Stormwater Management Plan

A.6. CITY OF SYDNEY CORRESPONDENCE

	<p>Total 1 in 20yr flow rate from all kerb connections must not exceed 25L/s.</p> <ul style="list-style-type: none"> Note flow rate restriction to kerb does not impact discharge rate to Council asset as per 1.d) <p>f) CJA/Aurecon/CPB to provide combined markup detailing drainage proposal for CoS (ST) review.</p>	WB/NB/ BP	
2.	<p><u>Pitt St South</u></p> <p>a) CoS (ST) advised drainage connection feasible to Council asset DRA9978 (existing KI).</p> <p>b) CoS (ST) advised existing KI to be replaced in accordance with Council standards</p> <p>c) CoS (ST) advised existing outlet pipe from KI will not need to be upsized provided discharge flow rates do not exceed pipe capacity.</p> <ul style="list-style-type: none"> CPB to provide survey of existing pipe to verify location and size CJA to review and confirm Pipe may require replacement if non-compliant with CoS standards (ST) <p>d) Surcharge pit required within site boundary to discharge difference between 1 in 100yr storm and nominated PSD (refer 1.d)</p> <p>e) CoS (ST) advised street awnings can connect directly to road kerb. Maximum 3 no. connections per site frontage. Total 1 in 20yr flow rate from all kerb connections must not exceed 25L/s.</p> <ul style="list-style-type: none"> Maximum 3 no. awning connections to Council kerb on Pitt St frontage Maximum 3 no. awning connections to Council kerb on Bathurst St frontage Council recommendation to minimise awning connections where feasible 	<p>Note</p> <p>Note</p> <p>Note</p> <p>NB</p> <p>WB Note</p> <p>WB/NB</p> <p>BP</p>	
3.	<p><u>Pitt St North</u></p> <p>a) CoS (ST) advised drainage connection feasible to Council asset DRA9250 (existing KI)</p> <p>b) CoS (ST) advised existing KI to be replaced in accordance with Council standards</p> <p>c) CoS (ST) advised pipe from existing pit to Sydney Water asset owned by CoS. Subsequently no works proposed involving existing Sydney Water asset</p> <p>d) Surcharge pit required within site boundary to discharge difference between 1 in 100yr storm and nominated PSD (refer 1.d)</p>	<p>Note</p> <p>Note</p> <p>Note</p>	

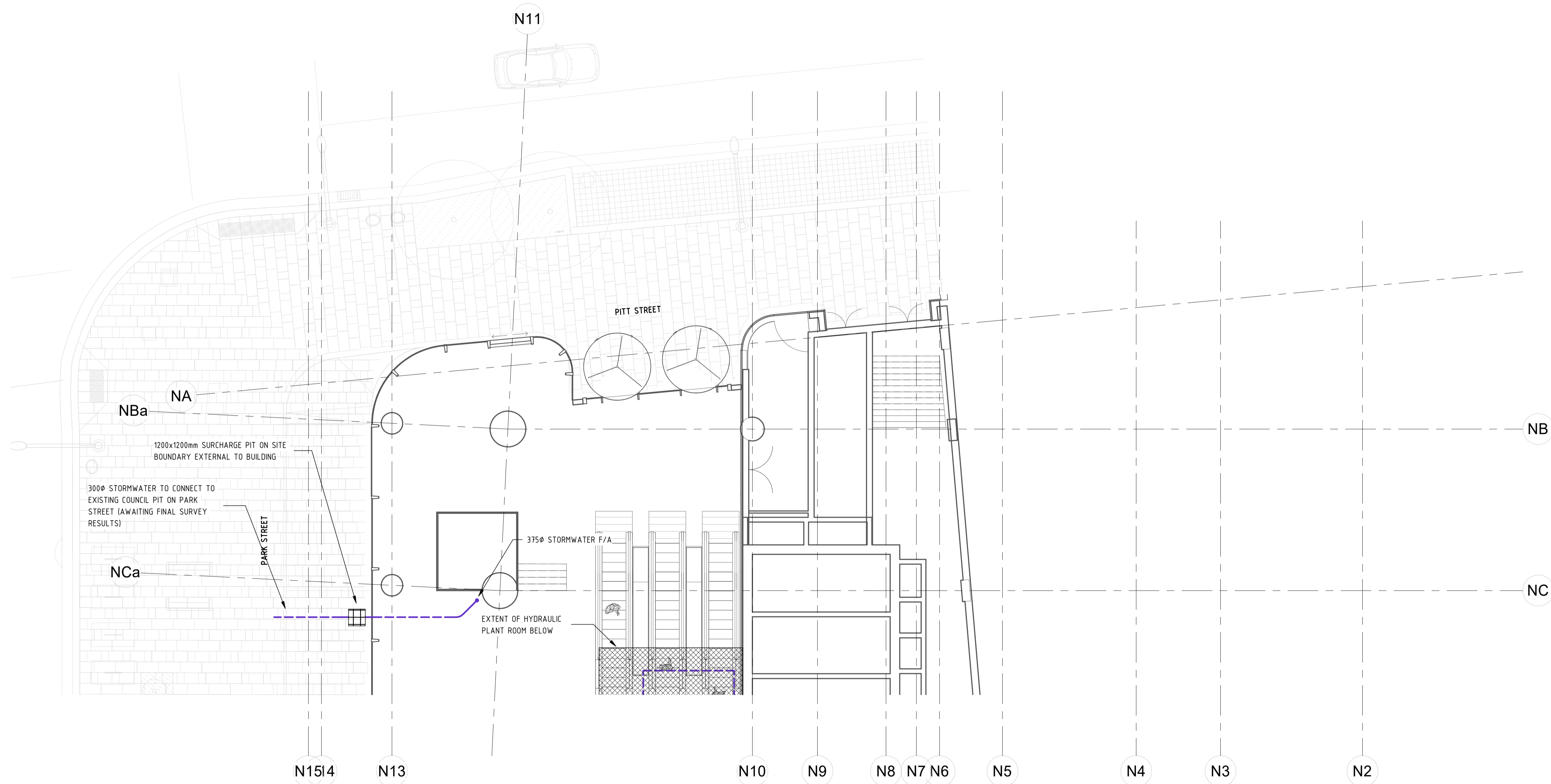
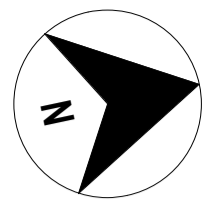
	<p>e) CoS (ST) advised street awnings can connect directly to road kerb. Maximum 3 no. connections per site frontage. Total 1 in 20yr flow rate from all kerb connections must not exceed 25L/s.</p> <ul style="list-style-type: none"> • Maximum 3 no. awning connections to Council kerb on Pitt St frontage • Maximum 3 no. awning connections to Council kerb on Park St frontage • Maximum 3 no. awning connections to Council kerb on Castlereagh St frontage • Council recommendation to minimise awning connections where feasible 	<p>NB/WB</p> <p>BP</p>	
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Next meeting – Not proposed

Pitt Street North OSD

Stormwater Management Plan

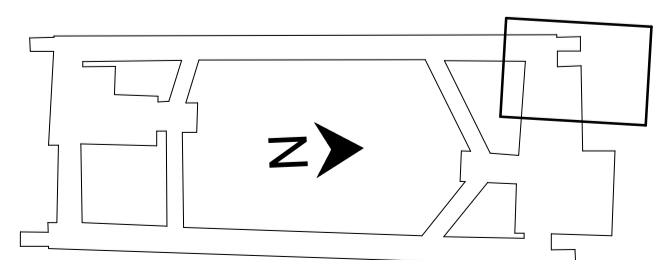
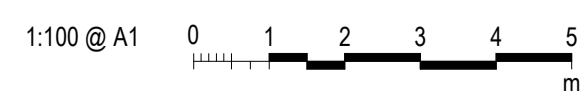
A.7. STORMWATER SCHEMATICS/PLAN



FOR INFORMATION

100mm A1 FULL SIZE Plot Date & Time 05/02/2020 18:11:08

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A	WB	05/02/2020	30% DESIGN DEVELOPMENT	
A1 Original			Co-ordinate System: MGA Zone 56	
			Height Datum: A.H.D.	
			This sheet may be prepared using colour and may be incomplete if copied	



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DESIGNED _ _ _ WB _ _ _ _ _

DRG CHECK _ _ _ WB _ _ _ _ _

DESIGN CHECK _ _ _ WB _ _ _ _ _

APPROVED _ _ _ WB _ _ _ _ _

DRG No. SMCSWSPS-CJA-OSN-BS-DWG-200100			
SYDNEY METRO CITY & SOUTHWEST			
LEVEL 00 SEWER & ROOF DRAINAGE TILE 51			
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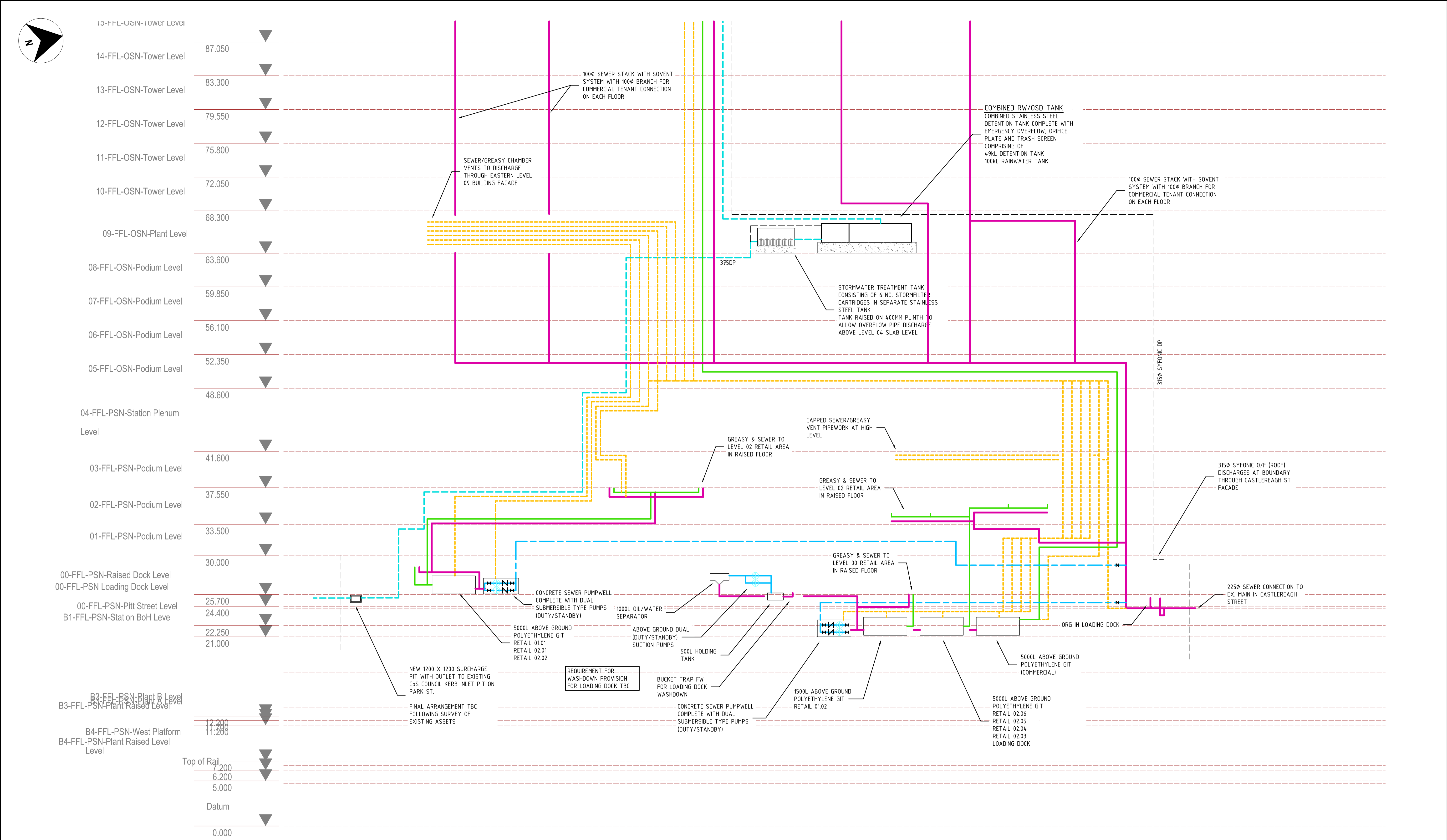
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DRG CHECK _____ WB _____
DESIGN CHECK _____ WE _____
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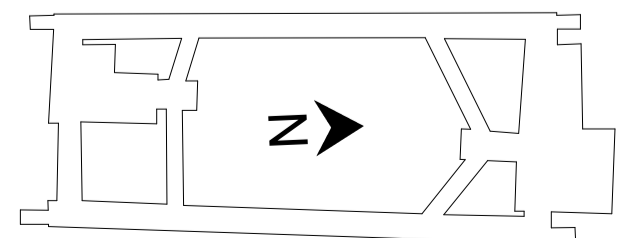
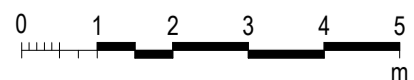
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FOR INFORMATION

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A1	Original		Co-ordinate System: MGA Zone 56	
			Height Datum: A.H.D.	
			This sheet may be prepared using colour and may be incomplete if copied	

1:100 @ A1



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C O X

CJ ARMS

BATESSMART

LCI

aurecon

TW

DESIGNED WB

DRG CHECK WB

DESIGN CHECK WB

APPROVED WB

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SCHEMATICS - SEWER AND ROOF DRAINAGE PAGE 01

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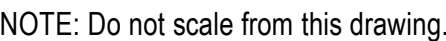
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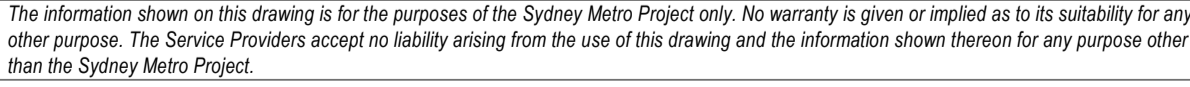
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