City & Southwest

Services Infrastructure Assessment

Detailed State Significant Development Application
Site C, Crows Nest over station development

April 2021 | Version: 1

Contents

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1 Introduction

1.1 Purpose of the report

This Services Infrastructure Assessment supports a State Significant Development (SSD) Application for the detailed design, construction and use of over station development (OSD) on Site C of the Crows Nest Station precinct. It is submitted to the Department of Planning, Industry and Environment (DPIE) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The detailed SSD Application for Site C OSD is classified as SSD pursuant to Clause 12 of *State Environmental Planning Policy (State and Regional Developments) 2011* (SRD SEPP). Under Clause 12 of the SRD SEPP, any development application that is pursuant to a concept SSD Application is also classified as SSD whether or not that part of the development exceeds the minimum capital investment value specified in the relevant schedule of the SRD SEPP. In this regard, the proposed development on Site C is pursuant to the approved concept SSD Application and has not been delegated to Council under Section 4.37 of the EP&A Act. The proposed development is therefore, classified as SSD and is submitted to DPIE for assessment and determination.

1.2 Overview of Sydney Metro in its context

Sydney Metro is Australia's biggest public transport project (**Figure 1**). There are four core components:

- **Metro North West Line** (formerly the 36 kilometre North West Rail Link) - Services started in May 2019 in the city's North West 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.
- **Sydney Metro City & Southwest** – The Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of the Metro North West Line 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 Barangaroo, Crows Nest, Victoria Cross, 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.
- **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. Sydney Metro West stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and the Sydney CBD. Further planning is underway to determine the locations of the Pyrmont and Sydney CBD stations.
- **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 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. Six new stations will be delivered at St Marys, Orchard Hills, Luddenham, Airport Business Park, Airport Terminal and Western Sydney Aerotropolis. The Australian and NSW governments are partners in the delivery of this new railway.

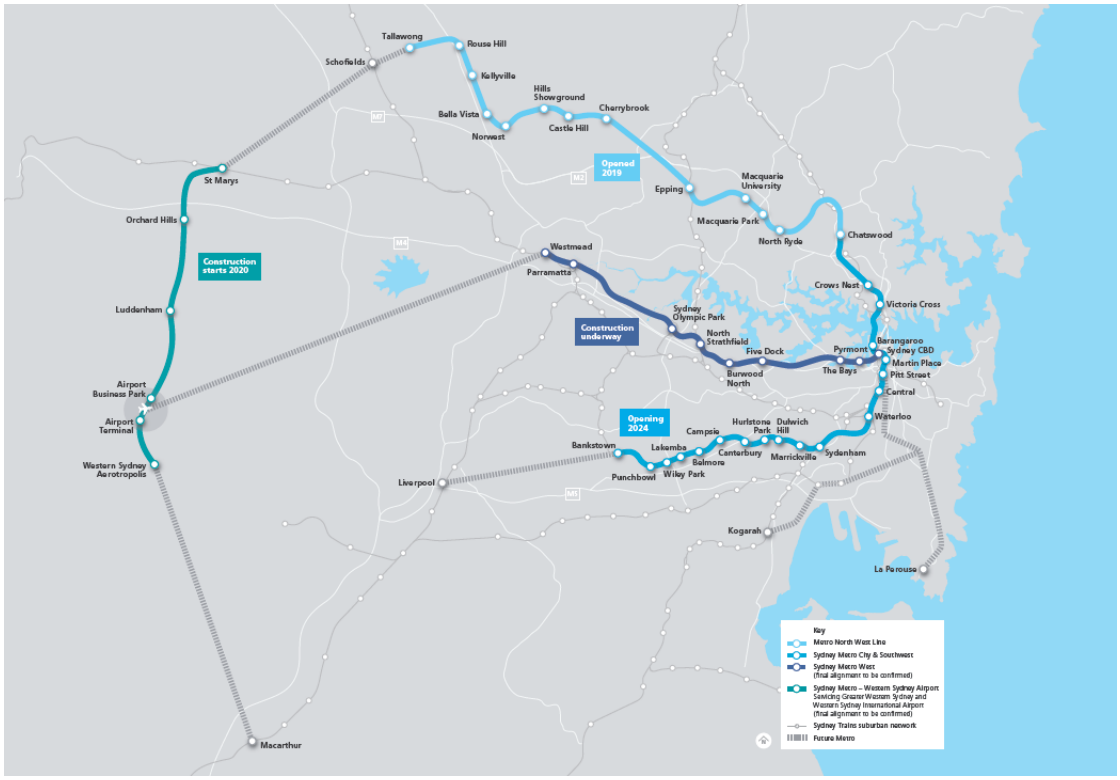


Figure 1: Sydney Metro network

1.3 Background

Sydney Metro is seeking to deliver OSD above the approved Crows Nest Station. On 23 December 2020, the Minister for Planning and Public Spaces granted consent to the concept proposal for OSD at the Crows Nest Station including building envelopes, development parameters and strategies for a future development above the approved Crows Nest Station, and the use of the OSD spaces approved within the station under the CSSI Approval.

Even though Crows Nest Station and the Site C OSD are being delivered under the same delivery contract, the planning pathways defined under the EP&A Act requires separate assessment for each component of the development. In this regard, the approved station works (CSSI Approval) are subject to the provisions of Part 5.1 of the EP&A Act (now referred to as Division 5.2) and the OSD component is subject to the provisions of Part 4 of the EP&A Act. This assessment assess connection for Site C only.

1.4 Site description

The Crows Nest Station precinct is located between the Pacific Highway and Clarke Street (eastern side of the Pacific Highway) and Oxley Street and south of Hume Street, Crows Nest. It is wholly located within the North Sydney local government area (LGA). It is also near the boundary of both the Willoughby and Lane Cove LGAs.

The Crows Nest Station OSD site comprises three sites (**Figure 2**). The following building envelopes and land uses were approved for each of the sites in the concept SSD Application:

- **Site A** (497-521 Pacific Highway, Crows Nest): 21 storey (RL 180m including a 4.4m rooftop building services zone) commercial office building with a maximum floor space of 40,300m^2
- **Site B** (477-495 Pacific Highway, Crows Nest): 17 storey (RL 155m) residential accommodation building with a maximum floor space of 13,000m^2
- **Site C** (14 Clarke Street, Crows Nest): 9 storey (maximum RL 132m including a 5m rooftop building services zone) commercial office building with a maximum floor space of 3,100m^2

This SSD Application relates only to the detailed design and delivery of Site C.

Figure 2: Aerial photograph of Site C within the greater Crows Nest Station precinct

Site C is located at the north-western corner of Hume Street and Clarke Street, and comprises one allotment with the address of 14 Clarke Street, Crows Nest. It is legally described as Lot 1 in DP1123850.

The site is roughly rectangular in shape, and being located within the Crows Nest village centre. Adjoining Site C is a seven storey residential building (known as 'Wyndel Apartments') at 22-26 Clarke Street and a five storey commercial building at 20 Clarke Street.

The existing buildings on the site have been demolished to facilitate the construction of Crows Nest Station under the CSSI Approval. The demolition works are now complete, and the site is vacant and surrounded by construction hoarding. Once the station is completed as per the CSSI Approval, the entry within Site C will provide connection to the east towards Willoughby Road.

1.5 Overview of the proposed development

This detailed SSD Application will seek consent for the construction of a commercial office building on the site. It will be highly integrated with the approved Crows Nest Station under construction below.

Specifically, consent is sought for the following works:

- Construction, use and fitout of a new commercial building with the following parameters:
  - A total gross floor area (GFA) of 3,100m^2
  - A maximum building height of RL 127m, with an additional 5m 'building services zone' to accommodate rooftop plant and equipment, lift overruns and services (RL 132m total)
  - Nine storeys, comprising:
    - Building entrance lobby on the ground level
    - Bicycle parking and end of trip facilities on level 1
    - Commercial offices on levels 2 – 8
    - An accessible garden on part of level 9 for use by tenants
    - Rooftop plant and service areas
- Associated building servicing and building landscaping elements.
- Signage zones for building / business identification.
- No vehicle parking will be provided on site.

The CSSI Approval for the metro station includes space provisioning on the ground level (building entrances) and level 1 (bicycle parking and EoT) for the Site C OSD. The use and fit-out of these OSD spaces requires approval under Part 4 while the actual station structure itself is approved as part of the Sydney Metro City & Southwest project.

1.6 Assessment requirements

DPIE has issued the Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an Environmental Impact Statement for the proposed development. This report has been prepared having regard to the SEARs as follows:

SEARs Requirement	Where addressed
Infrastructure and utilities:	
• *Consider the existing capacity of the site to service the proposed development*	Section 3
• *Identify any required utility augmentation to accommodate the proposed development*	Section 5
• *Address any requirements of the Infrastructure SEPP in relation to development on or adjacent to utilities and infrastructure*	Section 7

2 Services and Infrastructure

Initial utilities diversion for the site has been undertaken as part of the Crows Nest Metro Station works approved under the CSSI. Existing utilities have been refined from the original design provided thorough a review of the Dial Before You Dig (DBYD) information. However, further detailed survey at the next stage of design may be required to confirm horizontal geometry and vertical depths of utilities to ensure sufficient clearances and cover for all services.

Any utility services that are affected during construction will be temporarily supported and / or relocated and reinstated as “like for like” where possible or upgraded as reasonably required by the relevant utility service provider.

Consultation with North Sydney Council was carried out in as part of this assessment. Council raised the concern of stormwater management in being the Site C stormwater design shall meet North Sydney Council’s detention requirements with the maximum discharge from the site for all storms up to the 1 in 100 year storm event and should not exceed the discharge which would occur during 1 in 5 year storm for the existing site condition. Council’s longitudinal drainage systems are required to be sized for the 1 in 20 year storm event.

Figure 3 below shows the stormwater temporary diversion, electrical kiosk, temporary driveway locations and other interim work undertaken by the Station works.

3 Impact to Existing Utility Assets

Existing utilities diversion has been undertaken as part of TSE works. Figure 3 shows the existing stormwater temporary diversion, electrical kiosk, temporary driveway locations and other interim works undertaken by the TSE team.

From a review of above items, it was verified that there are no additional existing major utility assets that are impacted beyond those already identified in the design of Site C.

The general design approach is to identify existing utility infrastructure impacted by construction, and develop treatment measures to avoid, divert, protect, upgrade, or reinstate these utility assets to the satisfaction of utility authorities. Disruption to existing customers is prevented or minimised wherever possible.

The following treatment strategies have generally been considered as follows:

- **Avoid** - through refinement of the construction footprint such as maintaining separation from the asset, and to avoid it completely or incorporate it within the proposed design.
- **Protect** - through engineering temporary or permanent protection measures.
- **Relocate/Remove** - by diverting the utility to an alternative route, or disconnecting/removing abandoned or redundant infrastructure.

Only assets within the construction footprint of the proposed works and adjacent footpaths are considered here.

Major existing utility assets of relevance to Site C OSD works are summarised as follows.

3.1 Stormwater

Existing underground drainage infrastructure identified from DBYD and survey information include existing underground stormwater drainage assets located along the southern side of Oxley Street, the western side of Clarke Street and the southern side of Hume Street.

As per supplied survey information the Clarke Street and Oxley Street Intersection drainage lines are noted to be nominal 750mm diameter. The drainage line along Clark Street to the junction at Oxley Street is a nominal 375mm pipeline. The drainage lines in Hume Street are noted to range between 300, 375 and 525mm nominal pipe size.

Figure 3: Existing Trunk Stormwater Network (shown in blue).

3.2 Sewerage

Existing infrastructure based on DBYD information provided by Sydney Water and available survey information includes the existing SWC sewerage mains near the site. The asset is a 225mm vitrified clay (VC) sewerage main running along Clarke Lane, Oxley Street and Hume Street.

Based on the feasibility letter received from SWC (Case Number 179214), the 225mm VC sewerage main in Clarke Lane can service the proposed Site C OSD.

Figure 4: Existing Reticulated Sewerage Infrastructure (shown in orange)

3.3 Potable Water

The existing potable water infrastructure based on the DBYD and available survey information indicates several existing assets are located near the site including:

- A 100mm cast iron cement lined (CICL) potable water main running along the western side of Clarke Street and the northern side of Hume Street
- A 150mm cast iron cement lined (CICL) potable water main running along the northern side of the Pacific Highway
- A 200mm potable water main (material varies) running along the western side of Oxley Street.

Information received (under Case 179214) stipulates the existing DN150 on Pacific Highway will need to be upsized to a DN250 as the existing main does not have sufficient capacity and is appropriately sized in accordance with the WSA guidelines.

The existing main would need to be upsized from Oxley Street to Willoughby Road. The existing DN250 main on Willoughby Road would be the supply point for the OSD.

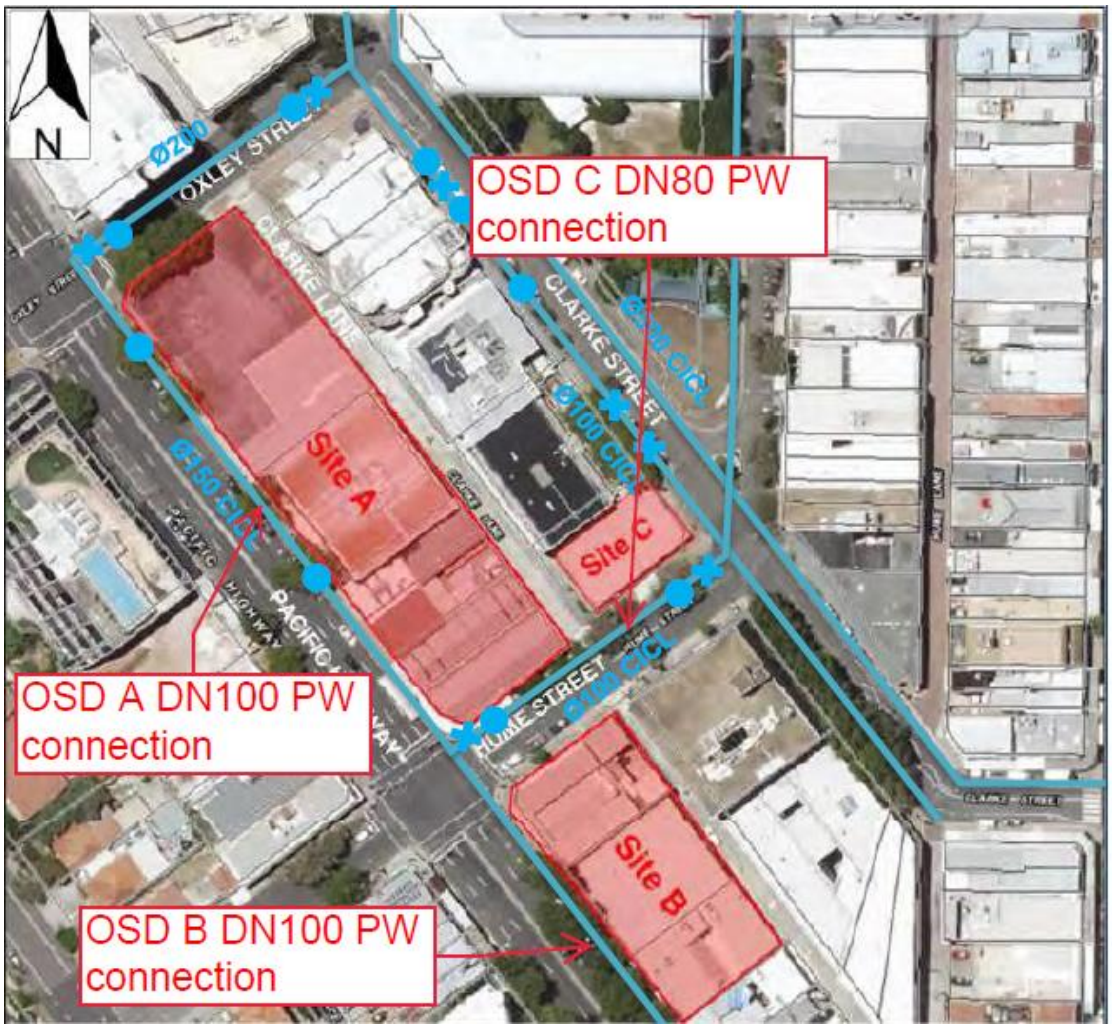


Figure 5: Proposed Cold Water connections (shown in blue)

3.4 Gas

Based on DBYD and survey information, several gas assets are located in the vicinity of the site, which include:

- 50mm Nylon Line (210kPa) along the eastern side of Clarke Street, the northern side of Hume Street, the western side of Pacific Highway and the eastern side of the Pacific Highway starting.

Figure 6 Existing Reticulated Gas Infrastructure (shown in purple)

3.5 Telecommunications

There are several existing telecommunications carriers surrounding the site. Based on the DBYD information these include, Telstra, Optus, Nextgen and Verizon assets. All services are located along Hume Street, Pacific Hwy and Oxley Street.

In addition, according to the NBN, NBN services are available in the planned zone, as this is a major development, a dedicated fibre system will be required to service the site.

3.6 Electrical

Site C is located within the Ausgrid electricity supply network. Design and provision for the indicative OSD Design connections occurred under the CSSI approval. The substation and connections are part of the OSD Design works.

There are multiple existing Ausgrid substations identified on the Ausgrid DBYD plans within and nearby the site. The substations appear to supply low voltage to several properties adjacent to the site and associated street lighting. An existing substation located onsite was decommissioned as part of the CSSI approved works.

Formal discussions were undertaken with utility authorities regarding impacts on the existing infrastructure during the reference design. Crows Nest Design Consortium

have continued stakeholder engagement with utility authorities throughout the design process for the Cross Nest Station and over station development.

Any redundant service are assumed to have been removed from site and disconnected and/or capped in accordance with authority requirements by the enabling works contractor.

4 Existing Capacity Assessment

A capacity check was undertaken to assess the existing utilities supply to the site as follows.

4.1 Stormwater

Reference should be made to the *Sydney Metro City & South West - Crows Nest Over Station Development – Services and Utilities Infrastructure Report* (Appendix L; July 2020) for details on the proposed indicative OSD design stormwater management strategy and associated drainage calculations. Refer to Appendix H for proposed utilities information plan.

It is proposed to connect a 300mm diameter pipe from the Site C OSD to the council system. This would carry primary discharge from the detention tank.

Technical requirements for on-site detention include on-site detention tanks discharging to specific points along the Council stormwater system. Each of the OSD sites will require their own flow control devices and on-site detention tanks.

Detention has been sized to comply with North Sydney Council's Stormwater Management Policy and Permissible Site Discharge (PSD) for the 100-year Average Recurrence Interval (ARI):

It should be noted that these figures are based on the OSD design. The performance criteria for On Site Detention stated for Site C:

- Maximum PSD of 24 L/S for Site C.

4.2 Sewage

A feasibility letter for the station and OSD was submitted under Case 179214, with the feasibility advice letter from Sydney Water received on 27 September 2019. A high-level flow estimation was completed using Sydney Water's – 'Average daily water use' and applying a discharge factor of 0.8 to estimate the potential discharge of sewerage.

Discharge for Site C is as follows:

- OSD C - 9kL/day with a maximum permissible simultaneous discharge (PSD) of 4.5L/S.

The connection locations of Site C can be made to the existing DN225 vitrified clay sewer along Clarke Lane, which has sufficient capacity to serve the over station development as per the feasibility study.

4.3 Potable water

A feasibility letter for the station and OSD precincts was submitted under Case 179214, with the feasibility advice letter from Sydney Water received on 27 September 2019. A high-level flow estimation was completed using Sydney Water's - 'Average daily water use'. Proposed water consumption rates are as follows:

- OSD C - 11.5kL/day with a maximum peak flow of 6L/S.

4.4 Gas

Gas demand for Site C includes:

- 3,300 hydraulic gas demand

- 7,500 mechanical gas demand
- 10,800 total gas load.

The assessment was based on past experience load demand for one potential retail tenancy to be part of the OSD loads.

4.5 Telecommunications

No new external connections, or upgrades to existing feeds, are required.

4.6 Electrical

Electrical demand for Site C is maximum demand of 1,322kVa. Note: the maximum demand is based on AS/NZS3000 Table C3 and also NS109 Table B including:

- No diversity
- 140VA/m2 of commercial
- 120VA/m2 of retail
- 100VA/m2 for residential space
- 15VA/m2 for plant/carpark and BOH areas
- 5000VA/apartment (gas cooktop and centralised gas hot water)
- 10 percent spare for future design flexibility.

The substation for Site C will be located in Clarke Lane, adjunct to Site A.

5 Proposed Connection to Existing Utility Assets

5.1 Stormwater

As discussed above it is proposed to connect a 300mm diameter pipe from the OSD to the council system. This will carry primary discharge from the detention tank.

Following an assessment of the technical requirements for on-site detention the requirements include on-site detention tanks discharging to specific points along the Council stormwater system. Each of the OSD sites will require their own flow control devices and on-site detention tanks.

Detention has been sized to comply with North Sydney Council's Stormwater Management Policy and Permissible Site Discharge (PSD) for the 100-year Average Recurrence Interval (ARI):

It should be noted that these figures are indicative only, based on the indicative OSD design and may be subject to change with further design development. The performance criteria for On Site Detention is stated as being maximum PSD of 24 L/S.

5.2 Sewage

It is proposed for Site C OSD to connect to the authority's 225mm sewerage main in Clarke Lane. The sewer will extend and terminate at the site's boundary adjacent to the sewer boundary trap riser location for Site C OSD Building.

Spatial allocations have been coordinated to facilitate the installation of the sewerage drainage extending from the civil capped service to the OSD spatial zone above Ground Floor and would be require a minimum 150mm sewerage pipe connection. A section 73 certificate would be applied for post development consent.

5.3 Potable water

The OSD potable water connections are distinct from the Sydney Metro Station's potable water supply and will be undertaken as part of the CSSI Approval process including extension from the existing SWC infrastructure to the allocated OSD water meter spatial zone for each site.

The water connections strategy proposed for Site C is connection from a new DN300 PEDN100 CICL potable water main along Hume Street that is installed under the station CSSI approval. A section 73 certificate would be applied for post development consent.

5.4 Gas

The OSD gas connections are distinct from the Sydney Metro Stations system with spatial allowance outside of the Station's box and will be undertaken as part of the CSSI Approval process including extension from the existing Jemena gas infrastructure to the allocated OSD gas meter room spatial zone for each site.

The proposed Site C connection would be serviced off the Ø50 NY main along Pacific Highway and Hume Street respectively.

5.5 Telecommunications

The OSD telecommunication connections are distinct from the Sydney Metro Station's telecommunication systems and will be undertaken as part of the CSSI

Approval process including extension from the existing external infrastructure to the allocated OSD spatial zones above Ground Floor.

Building Distributor Rooms (BDR) shall be provided for each of the development's buildings to facilitate the NBN Co lead-in equipment as well as the Commercial and Retail tenancies arranged telecommunications infrastructure.

Building entry lead-in conduits are to interface with existing carrier infrastructure (Telstra, Optus, Verizon, NEXTGEN and future NBN services). Cabling within each building shall be provided by the NBN Co. Each OSD will need a communications room or equivalent to ensure a distribution frame (MDF or equivalent) can be installed as per authority requirements.

Existing NBN infrastructure will require extension from Oxley Street through Pacific Highway to ensure future provisions for connectivity. NBN will be extended through Hume Street to ensure future provisions to Site C.

Existing overhead Optus cables need to be buried as part of the precinct scope. The OSD will have a frontage to Optus cables/conduits as part of the futureproofing requirements from the CNDC project.

5.6 Electrical

The OSD HV connections are distinct from the Station's telecommunication systems and will be undertaken as part of the CSSI Approval process including extension from the existing external infrastructure to the allocated OSD spatial zones above Ground Floor.

The proposed supply to the development shall be from underground high voltage cables leading in from Clarke Lane to a substation room located inside the building. This scheme is subject to final approval from Ausgrid. Please note that further coordination is required with the ASP3 designer and the Station design.

The HV cabling will be installed in a three hours fire rated concrete encasement until it enters the substations subfloors. The chamber substations will be a two hours fire rated enclosure. The earthing and bonding strategy was designed to account for an integrated Sydney Metro station structure with an over station development

6 Safety in Design

Safety is a fundamental consideration to all elements of the Over Station Development including Site C. Designers have a responsibility under the *WHS Act & Regulations 2011*. Under health and safety duties it's a requirement of duty holders to consider all risks associated with the project.

7 Design Criteria

The proposed utilities design works comply with the applicable requirements of the below listed Standards and Design Guidelines that are relevant to the scope of the design.

The hierarchy of the codes and standards will be as follows:

(i) Acts and secondary legislation

(ii) TfNSW and other NSW Government agencies' documents and standards as listed in this below. These include ASA, RMS, NSW EPA, Sydney Buses, etc.

(iii) Australian Standards and Guidelines (AS, AS/NZS, Austroads, Engineers Australia, ISCA, etc.)

(iv) International Standards (ISO, IEC, IEEE, CENELEC, ITU, etc.)

(v) European Norms (EN, TSI)

(vi) Other relevant International standards, which must be reviewed by Sydney Metro and approved by the Independent Certifier prior to use.

Australian Standards and Authority Guidelines:

- NCC (BCA) National Construction Code (Building Code of Australia)
- AS 1345 Identification of contents of pipes, conduits and ducts
- AS/NZS 1477 - 2006-PVC Pipes and Fitting for Pressure Application
- AS 1342 - Precast Concrete Drainage Pipes
- AS 1345 - Identification of the Contents of Piping, Conduits and Ducts
- AS 1631 - Cast Iron Non-Pressure Pipes and Pipe Fittings
- AS 2032 Code of Practice for installation of UPVC Pipe Systems
- AS 2033 Installation of polyethylene pipe systems
- AS/NZS 2033 - 2008 -Installation of Polyethylene Pipe Systems
- AS 2200 - 2006 - Design Charts for Water Supply and Sewerage
- AS/NZS 2053.1 - Conduits and fittings for electrical installations - General requirements
- AS/NZS 2053.2 - Conduits and fittings for electrical installations - Rigid plain conduits and fittings of insulating material
- AS/NZS 2053.8 - Conduits and fittings for electrical installations - Flexible conduits and fittings of metal or composite material
- AS 2566.1 - 1998-Buried Flexible Pipelines – Structural Design
- AS/NZS 2638 - 2011-Gate Valves for Waterworks Purposes
- AS 2941 - 2013-Fixed Pump set installations
- AS/NZS 3000 - Electrical installations - Buildings, structures and premises (known as the Wiring Rules)
- AS/NZS 3500 - 2015-Plumbing and Drainage
- AS 3725 - 2007-Design for Installation of Buried Concrete Pipes
- AS/NZS 4129 - 2008-Fittings for Polyethylene Pipes for Pressure Purposes

- AS/NZS 4130 - 2009-Polyethylene Pipes for Pressure Purposes
- AS 5200.000 - 2006-Plumbing and Drainage Products
- AS 5601 - Gas Installation Code
- BCA 2016 - Building Code of Australia
- WSA 02 - 2014-Gravity Sewerage Code of Australia
- WSA 03 - 2011-Water Supply Code of Australia

Guidelines:

- Australian Rainfall & Runoff.

RMS Specifications

- RMS 3051 RMS Specification D&C 3051 - Granular Base and Subbase Materials for Surfaced Road Pavements
- RMS 3552 Subsurface Drainage Pipe (Corrugated Perforated and Non-Perforated Plastic)
- RMS D&C 3557 - Flexible Strip Filter Drains
- RMS D&C 3058 - Aggregate Filter Materials for Subsurface Drainage
- RMS B341 RMS QA Specification B341 - Demolition of Existing Structure
- RMS Pub 13.184 Traffic Modelling Guidelines. (Issued Feb 2013)
- RMS Q6 RMS Specification D&C Q6 - Quality Management System
- RMS D&C R11 - Stormwater Drainage
- RMS D&C R83 - Jointed Concrete Base
- RMS D&C R132 - Safety Barrier Systems
- RMS D&C R44 - Earthworks
- RMS D&C R58 - Construction of Reinforced Soil Walls (Contractor's Design).

Council Standards

- North Sydney Council standards
- North Sydney Development Control Plan 2013- Complete
- North Sydney Council, Performance Guide for Engineering & Construction
- North Sydney Council, Infrastructure specification for roadworks, drainage, and miscellaneous works 2016/2017
- Development Control plan 2002 and Area Character Statements.

The site is serviced by a full range of utilities and services, including stormwater drainage, sewerage, potable water, telecommunications, gas and electrical infrastructure. Appropriate utility and service will be provided under the CSSI Approval to meet the servicing requirements of the Crows Nest Station and Site C OSD.

8 Conclusion

This report outlines the Services Infrastructure Assessment that has been undertaken for Site C OSD. The Crows Nest OSD utility service design is an integrated solution that serves the OSD.

Based on the Crows Nest Stations OSD services infrastructure design and preliminary consultation with relevant utility services providers, it is considered that there is insufficient capacity in existing infrastructure. Upgrade works to the existing infrastructure are being delivered under the CSSI station approval. There are requirements to accommodate the proposed Site C OSD Design. Further consultation will be required with utility providers to confirm the needs of service upgrades.

Appendix A

Sydney Water Corporation correspondence

Case Number: 179213

27 September 2019

Sydney Metro
c/- SMEC AUSTRALIA PTY LTD

LETTER of CONDITIONS
For
ADJUSTMENT/ DEVIATION/ EXTENSION OF A SYDNEY WATER ASSET

Applicant: **Sydney Metro**
Your reference: **30012631-Stage1**
Property location: **521 Pacific Highway, Crows Nest**
Your application date: **3 September 2019**

Note: **Level 1 water restrictions are now in place,** which limits how and when water can be used outdoors. This can impact you and your contractors in the activities relating to this proposal.
Using water to suppress dust is not restricted, but this does mean that you/your contractors will need to apply for an exemption permit to use water for most outdoor uses including:

- Cleaning equipment
- Drilling and boring, and
- Batching concrete on-site

Fines for deliberate breaches of restriction rules apply from 1 September 2019.
For more information on the restrictions and for applying for an exemption, visit our web site at http://www.sydneywater.com.au/SW/water-the-environment/what-we-re-doing/water-restrictions/index.htm
The more water everyone saves, the longer we can stave off the progression to stricter restrictions or emergency measures.
Please provide this information to your contractors and delivery partners to inform them of their obligations.

Dear Applicant

Sydney Water has received your application and the concept design to undertake work at the above location.

The proposal has been reviewed and you are required to do the following things:

- Amplify the DN 100 CICL Main from Oxley Street and Hume Street to DN150
- Install a hydrant either side of the dividing valve on the corner of Pacific Highway and Oxley Street
- When the DN150 main is reinstated it is to be amplified to a DN250 from Oxley Street to Willoughby Road (this will be a requirement of the Section 73 for the final Over Station Development)
- Undertake investigation as part of the design process to determine the full extent of any adjustments based on your final works design.

The asset adjustment and protection manual will detail and assist you in your review and the process that is required to be followed to complete all works.
The manual can be found on the following link: www.sydneywater.com.au/SW/SearchResults/index.htm?sUserText=asset+aDJUSTMENT+And+protection+manual

The Water Servicing Coordinator generally will be the single point of contact between you and Sydney Water. They can answer most questions you might have about our process and charges.

Consideration of the following minimum activities, listed in the manual, should also be undertaken:

1. Case Information Sheet: In completing and returning the attached case sheet, you acknowledge that this application is part of the Sydney Metro Project and is subject to the Sydney Metro Program – Sydney Water Interface Deed.

2. Design Package: A design package prepared by an appropriately listed designer must be lodged with Sydney Water, based on the relevant codes, standards and any requirement by Sydney Water. The designer prepares this design for the Water Servicing Coordinator to submit to Sydney Water together with any supporting documents and forms they need to support the design. Supporting documentation is listed in the manual.
   We will work with the designer to determine the best result for all parties, as during the design phase the adjustment of our services may affect your project design and vice versa. Once we complete the review, we will send the coordinator a Job Specific Schedule letter telling them this.

3. Permission to Enter: If you need to enter a neighbouring property, you must have the written permission of the relevant property owners and tenants. You must use Sydney Water's **Permission to Enter** form(s) for this. You can get copies of these forms from your Water Servicing Coordinator. Your Coordinator can also negotiate on your behalf. You will be responsible for all costs of mediation involved in resolving any disputes. Please allow enough time for entry issues to be resolved.

4. Construction Costs: Construction of the determined works will require you to pay project management, survey, design and construction costs directly to your Providers. **Additional costs payable to Sydney Water may include:**

- water main shutdown and disinfection;
- connection of new water mains to Sydney Water system(s);
- design and construction audit/inspection fees;
- contract administration, Operations Area Charge & Customer Redress prior to project finalisation;
- creation or alteration of easements including any compensation that may applicable;
- water usage charges where water has been supplied for building activity purposes prior to disinfection of a newly constructed water main.
- **Where Sydney Water has engaged or will engage specialist consultants to review your proposal, we will pass that direct cost back to you as part of the Contract Administration costs. E.g. Costs incurred from our Engineering Panel**

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

Your Coordinator can tell you about these costs.

5. Variations: Any variation submitted to Sydney Water for approval during the design and/ or construction stages of the works must include the associated cost and details of the variation. Sydney Water will review the variation and advise of the outcome.

As soon as a variation occurs, Sydney Water is required to be notified in writing within 5 days of a variation being identified if reimbursement of costs will be required; it will detail the estimated cost of the variation, nature of variation and description on events and history.

All variations, where there is a contribution by Sydney Water must follow the Sydney Water (Urban Growth) Procurement Guidelines.

If any work on our assets is carried out without final Sydney Water approval, Sydney Water will take action to have work on the site stopped. We will apply the provisions of Section 45 of the Sydney Water Act 1994.

END

Appendix B

Optus correspondence

16 September 2019

Avishall Chandra
Level 5, 20 Berry Street, North Sydney NSW 2060

Re: Aerial to Underground Relocation Core

Dear Avishall:

We refer to your request to do Aerial to Underground Relocation Core at Oxley ST, CROWS NEST.

As you may be aware, the infrastructure at this location was originally deployed by Optus as authorised under the Telecommunications Act 1991 and its continued existence is authorised by the Telecommunications Act 1997. With regard to your request to relocate the infrastructure, Optus will undertake the Project Work once you have formally agreed to the terms specified in our quotation.

Attached is a quotation for the Project Work. We highly recommend that you take time to read the quotation terms.

If you would like Optus to carry out the Project Work, please sign and email the Acceptance Quotation form to **NFODamages&RelocationsDropbox@optus.com.au**. By signing the Acceptance Quotation Form, you agree to Optus providing the Project Work under the terms and conditions set out in the quotation. You will be responsible for the cost of the Project Work.

Please note that once you have made payment, the quotation will be a tax invoice for GST purposes (please refer to the last page of the quotation for a copy of your tax invoice).

If you have any questions about the quotation, please do not hesitate to contact me.

Yours sincerely,

SNasalo

for

Alex Todorovic
Group Leader| ICM-1 / DART | National Field Operations | FNE
Optus Networks Pty Limited

Quotation
Terms and Conditions

16 September 2019

This quote will remain valid for 30 Days from the date hereon. Afterward, you may ask Optus to prepare another quote.

This Quotation (Q22438) is prepared for:

Level 5, 20 Berry Street, North Sydney NSW 2060
ABN: 47065475149

Site address	Oxley ST, CROWS NEST
Contact person:	Avishall Chandra
Contact details (phone, email):	0299255555, avishaal.chandra@smec.com
Project Work:	Aerial to Underground Relocation Core
Total cost (including GST):	$62,641.09

This quotation includes (check relevant box):

☒ Labour
☒ Materials including delivery to site
☒ Travel costs
☒ Excavation
☐ Excavation in rock
☒ Equipment
☒ Traffic Management
☒ Co-ordination with other adjoining service owners
☒ Commissioning
☐ Any specific approvals and permissions (please specify below)

Others (please specify below):

This quotation excludes (check relevant box):

☒ Physically relocating any pole
☒ Moving any other pole mounted services
☒ Work outside of normal working hours
☐ Excavation
☒ Excavation in rock
☒ Other carriers or authorities lease, inspection, establishment or consulting costs
☒ Remobilization costs
☒ Legal costs
☒ Search fees
☐ Surveying fees
☒ Any work that is unforeseeable from visual inspection of the site, any additional work as encountered during excavation or any
☒ Any specific approvals and permissions (please specify below)

Others (please specify below):

In the event that costs to be incurred in relation to any of the items referred to above as being excluded, Optus will submit a further Quotation, which needs to be paid prior to such costs being incurred by Optus.

1. Work Schedule:

(a) Optus will not commence work until:
  (i) you return to Optus the Quotation Acceptance Form signed by you; and
  (ii) full payment for the work is received from you.

(b) The Optus Project Engineer will contact you to discuss a start date for the work. There will be a minimum notice period of 3 Weeks from the date Optus receives the Quotation Acceptance form and full payment from you before work commences.

2. Payment Options:

(a) Payment for the work may be made through the following methods:

(i) **EFT** (electronic funds transfer) quoting the **Quotation#** on this document as your payment reference:

Bank: **ANZ**
Account Name: **Optus Billing Services**
BSB & Account: **012-052 775387028**
Reference Quotation: **Q22438**

(ii) **Cheque** (along with a copy of the signed Quotation Acceptance form) payable and sent to:

Optus Billing Services Pty Ltd
Attention: Shuping Yang
Level 3 Building C
1 Lyonpark Road, Macquarie Park NSW 2113

(b) Due to the volume of payments Optus receives, **it is important that you quote the correct reference (Quotation number)** in your payment and email the payment details to: **NFODamages&RelocationsDropbox@optus.com.au**

3. Assumptions

(a) The charges quoted is based on the following assumptions :

(i) Optus has unfettered rights of access to carry out the work;

(ii) you have obtained all necessary permissions, authorisations and licences (for example from utility companies, local authorities including environmental agencies, land owners or any interested third parties who may object to the work) to enable Optus to carry out the work;

(iii) the materials required for the work are freely available at the time the quotation is accepted by you and there is no time delay in procuring the materials;

(iv) there is no obstruction underground, contamination in the soil or other problems with the soil which prevents Optus from carrying out the works; and

(v) (and where applicable)
(A) to the extent that Optus undertakes inspection, maintenance or installation (as those terms are defined under the Telecommunications Act 1997 (Cth)(Act), the owner and any occupier agree that they do not require Optus to give notice of that activity under clause 17(1) of Schedule 3 of the Telecommunications Act 1997 (Cth); and
(B) the owner(s) and occupiers of the property in which the proposed work is to be carried out and the party to this agreement other than Optus will not seek compensation under clause 42 of Schedule 3 of the Telecommunications Act 1997 (Cth).

(b) In the event that any assumption above does not apply, Optus in its sole discretion and without any liability to you, may withdraw the quotation, amend the quotation or terminate this agreement.

4. Your Obligations

(a) You must:

(i) ensure that Optus personnel have full and safe access to the site / each site for the purpose of performing the work;

(ii) ensure that where and to the extent that Optus personnel are required to deploy to and /or work within the site(s), you must comply with Work and Health Safety Laws;

(iii) confirm with Optus which third party consents, including but not limited to permissions, authorisations and licences (for example from utility companies, local authorities including environmental agencies, land owners or any interested third parties who may object to the work) you will obtain to ensure Optus has unfettered access to perform the work, and which permissions, authorisations and licences Optus is to obtain directly. You must provide copies of all such consents to Optus before on or before Optus commences work; and

(iv) provide Optus with reasonable advance notification of any changes, projects or strategic direction that may impact the performance or scope of the work.

5. Termination

(a) You may cancel the work to be performed under the agreement by giving written notice to Optus. Upon receiving your notice, Optus will refund to you any up-front payment made by you for the work, less:

(i) any expenses Optus has incurred;

(ii) any unavoidable expenses; and

(iii) a percentage representing Optus' loss of profit.

(b) If Optus has already commenced work, it will stop performing the work when it receives your notice.

(c) Processing of the refund may take up to 15 business days.

6. Indemnity and Limitation of Liability

(a) You indemnify and will keep Optus indemnified against any Loss suffered or incurred by Optus in connection with a third party claim (including a claim based in negligence) in any way related to Optus' performance of the work under the agreement.

(b) Optus is only liable to you to the extent provided under this agreement. Optus is not liable to you for Consequential Loss in connection with the provision of the work or the agreement.

(c) Optus excludes all conditions and warranties implied into this agreement. If the law implies terms into this agreement and Optus breaches them, then Optus is liable to you. In those circumstances Optus is only liable for repairing or replacing the relevant goods, resupplying the relevant or equivalent services, or paying you the cost of doing so, and only as long as the goods or services are of a kind not ordinarily acquired for personal, domestic or household use or consumption.

(d) Optus will be liable for your Loss (but excluding any Consequential Loss) where it arises from:
   (i) the acts or omissions of Optus' subcontractors; or
   (ii) damage to your property; or
   (iii) personal injury or death to you or your personnel, ut only to the extent that it's caused or contributed to by Optus' negligent act or omission or the negligent act or omission of Optus' subcontractors, in connection with the agreement.

(e) Optus' liability for your Loss is reduced to the extent that your acts or omissions, or your equipment (or the acts, omissions or equipment of a third person but not Optus' subcontractor) cause or contribute to that Loss.

(f) To the extent Optus is liable to you in connection with this agreement, Optus' liability is limited to the lesser of the following:
   (i) the fees paid by you to Optus for the work to be performed under this agreement; or
   (ii) $500,000 in aggregate.

7. This agreement is governed by the laws of New South Wales, and all parties submit to the non-exclusive jurisdiction of the courts of New South Wales.

Definitions:

Consequential Loss means expenses incurred, loss of revenue, loss of profits, loss of anticipated savings or business, pure economic loss, loss of data, loss of goodwill, loss of value of equipment (other than cost of repair), loss of opportunity or expectation loss, and any forms of special, indirect, punitive or exemplary loss or damages, and any penalties or fines imposed by a Regulator, (even if such loss arises directly, naturally or in the usual course of things from any breach, action or inaction in question).

Loss means any loss, cost, liability or damage, including reasonable legal costs on a solicitor/client basis and includes Consequential Loss.

Quotation Acceptance/ Tax Invoice

Optus Billing Services Pty Limited ABN 95 088 011 536 as billing agent for Optus Networks Pty Limited 92 008 570 330 ("Optus")

Quote Date:	16 September 2019
Quotation/ Invoice Number:	Q22438
Project Number:	P1058137
Work to be done:	Aerial to Underground Relocation Core
Site address:	Oxley ST, CROWS NEST
Quote amount incl GST:	$62,641.09
GST included:	$5,694.64

This Quotation is being accepted by:

ABN: 47065475149

Contact name and Job title: Avishall Chandra,

(person authorised to sign this form on behalf of the above company)

Optus will not commence such works until this Quotation Acceptance form has been signed and full payment has been received.

By signing this Quotation Acceptance form, you warrant that you are authorised to sign this form and agree to the terms and conditions of the Quotation, including the cost for the work.

This document will be a TAX INVOICE for GST purposes once you make payment.

Bank:	**ANZ**
Account Name:	**Optus Billing Services**
BSB & Account:	**012-052 775387028**
Reference:	**Q22438**

---------- ----------

Signature Date

_____

Please email the signed Quotation Acceptance, together with the remittance advice or proof of your payment to NFODamages&RelocationsDropbox@optus.com.au, quoting Q22438 as your reference.

Appendix C

Cable plan

Cable Plan

Stage 1: Works to commence immediately
Stage 2: Works to commence 2022

Section in blue has NBN cabling in the Telstra duct. Telstra will propose to remove pits and split pipe conduit. Trench and install new P100 conduit from M/hole Corner Oxley st and Pacific Hwy to 6 pit Corner of Hume st and pacific Hwy

Stage 1: Property service lines and connections not to reinstated as they are no longer required.

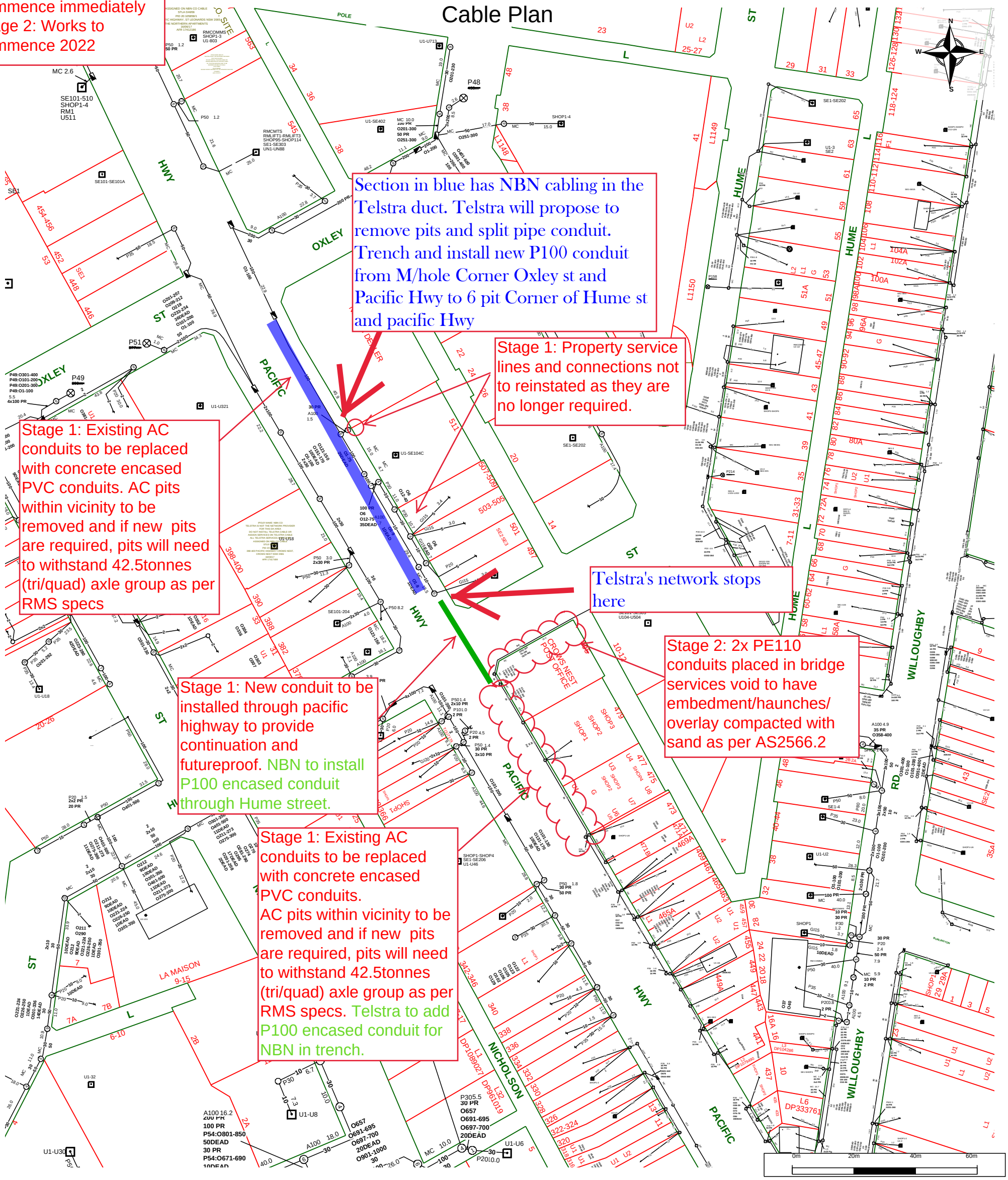
Stage 1: Existing AC conduits to be replaced with concrete encased PVC conduits. AC pits within vicinity to be removed and if new pits are required, pits will need to withstand 42.5tonnes (tri/quad) axle group as per RMS specs

Telstra's network stops here

Stage 2: 2x PE110 conduits placed in bridge services void to have embedment/haunches/ overlay compacted with sand as per AS2566.2

Stage 1: New conduit to be installed through pacific highway to provide continuation and futureproof. NBN to install P100 encased conduit through Hume street.

Stage 1: Existing AC conduits to be replaced with concrete encased PVC conduits.
AC pits within vicinity to be removed and if new pits are required, pits will need to withstand 42.5tonnes (tri/quad) axle group as per RMS specs. Telstra to add P100 encased conduit for NBN in trench.



Telstra	For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)
TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	
Generated On 11/03/2019 13:59:41	Sequence Number: 81080274
	CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

Appendix D

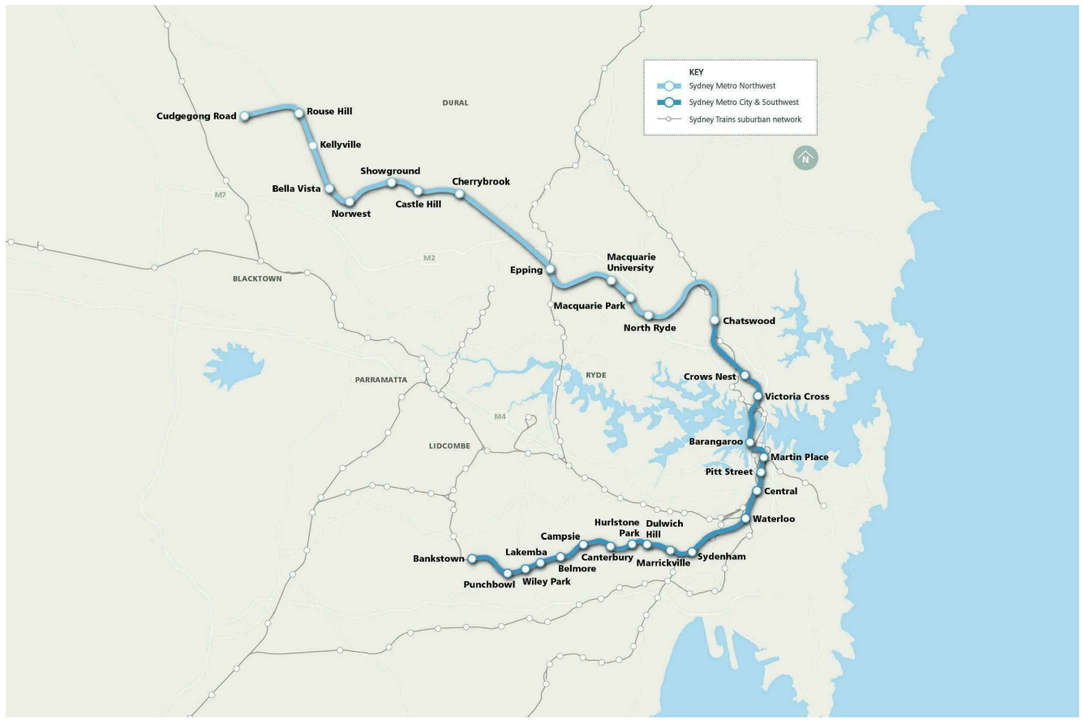
Utility plan

SYDNEY METRO

CITY & SOUTHWEST

CROWS NEST STATION

UTILITIES DESIGN - COVER SHEET



FOR INFORMATION ONLY

REV.	BY	DATE	DESCRIPTION	APPD.
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SCALES

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BACKDRAFTED/CORRECTED		
CONFIRMED		

CLIENT

NSW GOVERNMENT | sydney METRO

SERVICE PROVIDERS

CNDC Crows Nest Design Consortium

DRAWN MICHAEL TARRANT
DESIGNED PULITH VIDANAPATHIRANA
DRG CHECK MICHAEL TARRANT
DESIGN CHECK
APPROVED

SYDNEY METRO
CROWS NEST STATION
UTILITY DESIGN
COVER SHEET

STATUS: FOR INFORMATION | SHEET 1 OF 1 | ©

DRG No SMCSWSCN-SMC-SCN-UT-DWG-000001 | REV. A

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 [Alt. Drg. No.]

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SYDNEY METRO

CITY & SOUTHWEST

CROWS NEST STATION

UTILITIES DESIGN - DRAWING INDEX

DRAWING INDEX

SMCSWSCN-SMC-SCN-UT-DWG-000001	COVER SHEET
SMCSWSCN-SMC-SCN-UT-DWG-000002	DRAWING INDEX
SMCSWSCN-SMC-SCN-UT-DWG-000005	GENERAL NOTES
SMCSWSCN-SMC-SCN-UT-DWG-207001	UTILITIES OVERALL SITE PLAN
SMCSWSCN-SMC-SCN-UT-DWG-217011	EXISTING UTILITIES PLAN - SHEET 1
SMCSWSCN-SMC-SCN-UT-DWG-217012	EXISTING UTILITIES PLAN - SHEET 2
SMCSWSCN-SMC-SCN-UT-DWG-217013	EXISTING UTILITIES PLAN - SHEET 3
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SMCSWSCN-SMC-SCN-UT-DWG-227012	PROPOSED UTILITIES PLAN - SHEET 2
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SMCSWSCN-SMC-SCN-UT-DWG-227021	PROPOSED WATER PLAN - SHEET 1
SMCSWSCN-SMC-SCN-UT-DWG-227031	PROPOSED GAS PLAN - SHEET 1
SMCSWSCN-SMC-SCN-UT-DWG-227041	PROPOSED COMMUNICATIONS PLAN - SHEET 1
SMCSWSCN-SMC-SCN-UT-DWG-227051	PROPOSED ELECTRICAL PLAN - SHEET 1

FOR INFORMATION ONLY

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CLIENT: NSW GOVERNMENT | sydney METRO

SERVICE PROVIDERS: CNDC Crows Nest Design Consortium

DRAWN: MICHAEL TARRANT
DESIGNED: PULITH VIDANAPATHIRANA
DRG CHECK: MICHAEL TARRANT
DESIGN CHECK:
APPROVED:

SYDNEY METRO
CROWS NEST STATION
UTILITY DESIGN
DRAWING INDEX

STATUS: FOR INFORMATION | SHEET 1 OF 1 | ©

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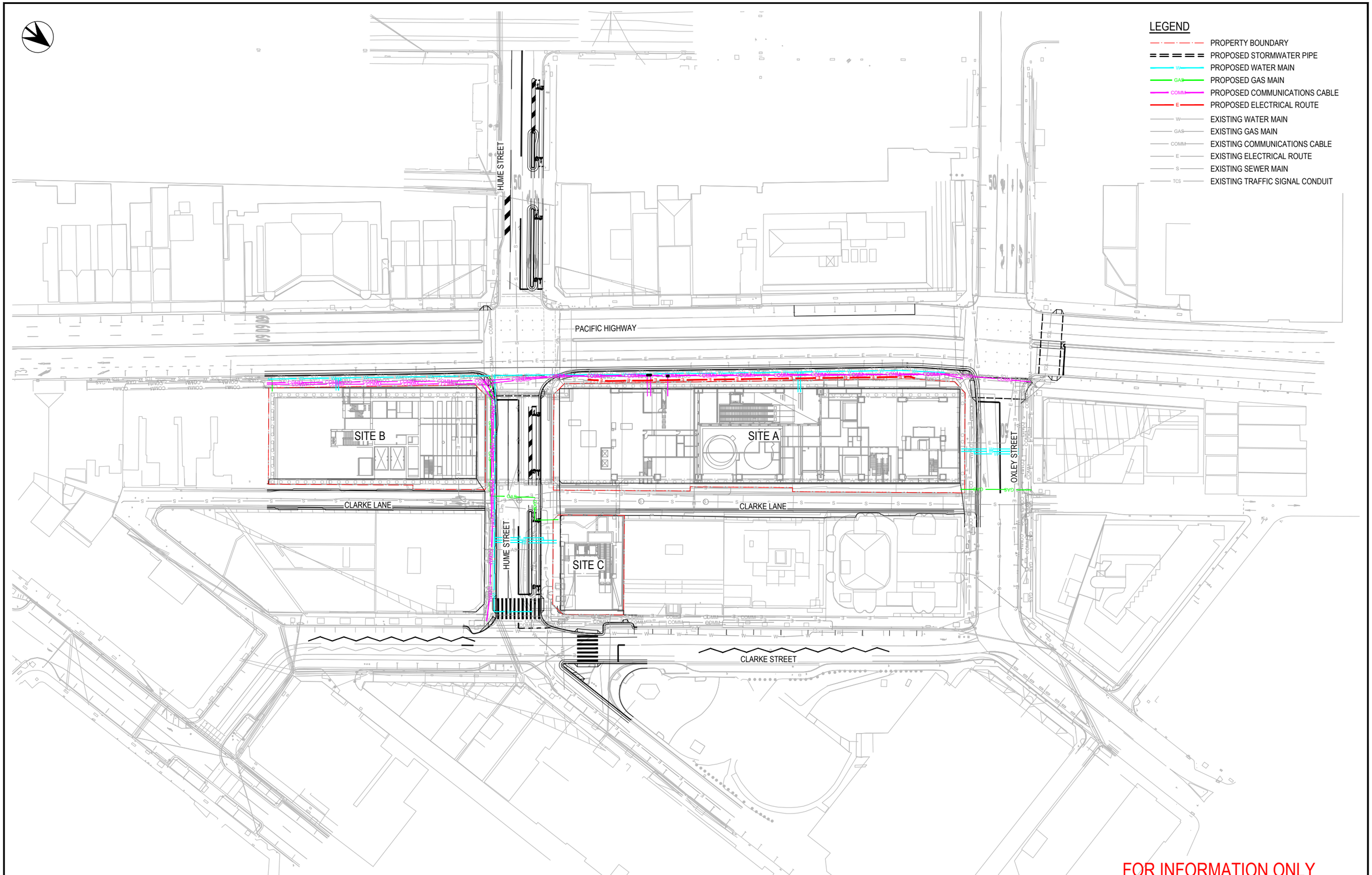

FOR INFORMATION ONLY

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CONFIRMED		

CLIENT

NSW GOVERNMENT | sydney METRO

SERVICE PROVIDERS

CNDC Crows Nest Design Consortium

DRAWN MICHAEL TARRANT

DESIGNED PULITH VIDANAPATHIRANA

DRG CHECK MICHAEL TARRANT

DESIGN CHECK

APPROVED

SYDNEY METRO
CROWS NEST STATION
UTILITY DESIGN
OVERALL SITE
PLAN

STATUS: FOR INFORMATION | SHEET 1 OF 1 | ©

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NOTE: Do not scale from this drawing.

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PACIFIC HIGHWAY

BUS ZONE

ELEC-AG/RMS-01 LIGHT POLES AND LV ABC

SW_WM_01

GAS_MP_02

TEL_TEL_08

TEL_TEL_09

SW_WW_01

GAS_MP_01

TEL_TEL_07

TEL_OPT_01

ELEC_AG_03

SITE B

SITE A

SW_MH_02

SW_WW_02

SW_MH_01

SW_WW_03

CLARKE LANE

TEL_TEL_06

SW_WM_02

SW_WM_02

HUME STREET

SITE C

ELEC_AG_02

ELEC_AG_01

SW_WW_04

SW_MH_03

SW_WM_03

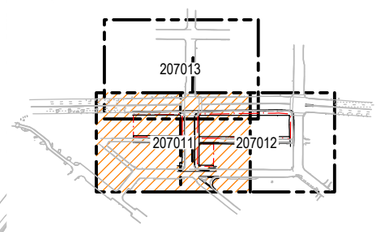
TEL_TEL_05

CLARKE STREET

LEGEND

- PROPERTY BOUNDARY
- W — EXISTING WATER MAIN
- GAS — EXISTING GAS MAIN
- COMM — EXISTING COMMUNICATIONS CABLE
- E — EXISTING ELECTRICAL ROUTE
- S — EXISTING SEWER MAIN
- TCS — EXISTING TRAFFIC SIGNAL CONDUIT

KEY PLAN



FOR INFORMATION ONLY

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DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

CLIENT: NSW GOVERNMENT | sydney METRO

SERVICE PROVIDERS: CNDC Crows Nest Design Consortium

DRAWN MICHAEL TARRANT

DESIGNED PULITH VIDANAPATHIRANA

DRG CHECK MICHAEL TARRANT

DESIGN CHECK

APPROVED

SYDNEY METRO

CROWS NEST STATION
UTILITY DESIGN
EXISTING UTILITIES
PLAN

STATUS: FOR INFORMATION | SHEET 1 OF 3 | ©

DRG No SMCSWSCN-SMC-SCN-UT-DWG-217011 | REV. A

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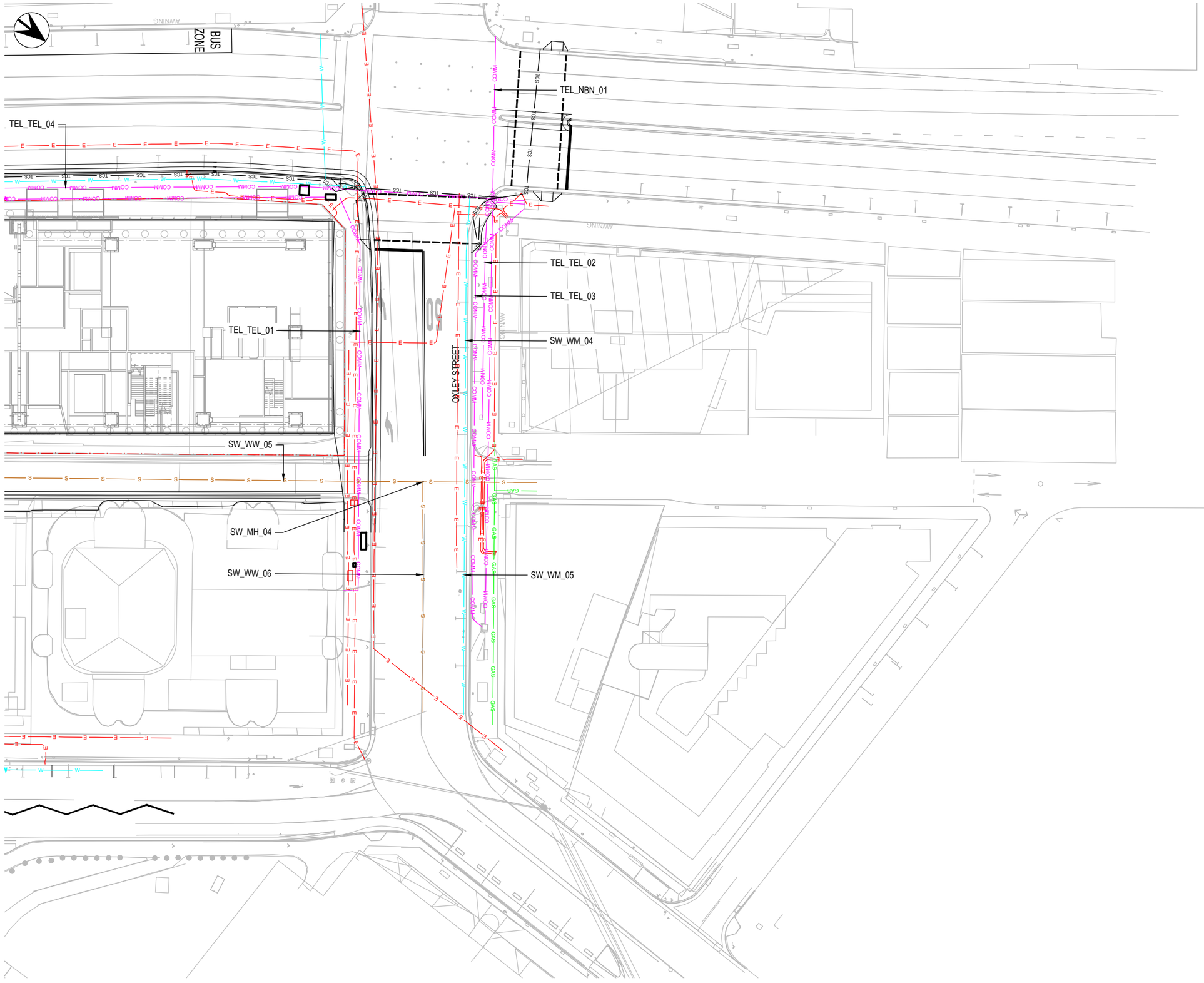

LEGEND

- PROPERTY BOUNDARY
- W — EXISTING WATER MAIN
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- COMM — EXISTING COMMUNICATIONS CABLE
- E — EXISTING ELECTRICAL ROUTE
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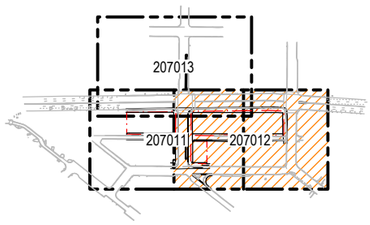
KEY PLAN



FOR INFORMATION ONLY

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SCALES
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CHECK PRINT — PRELIM. ☐ FINAL ☐

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CONFIRMED		

CLIENT: NSW GOVERNMENT | sydney METRO

SERVICE PROVIDERS: CNDC Crows Nest Design Consortium

DRAWN MICHAEL TARRANT
DESIGNED PULITH VIDANAPATHIRANA
DRG CHECK MICHAEL TARRANT
DESIGN CHECK
APPROVED

SYDNEY METRO
CROWS NEST STATION
UTILITY DESIGN
EXISTING UTILITIES
PLAN

STATUS: FOR INFORMATION | SHEET 2 OF 3 | ©

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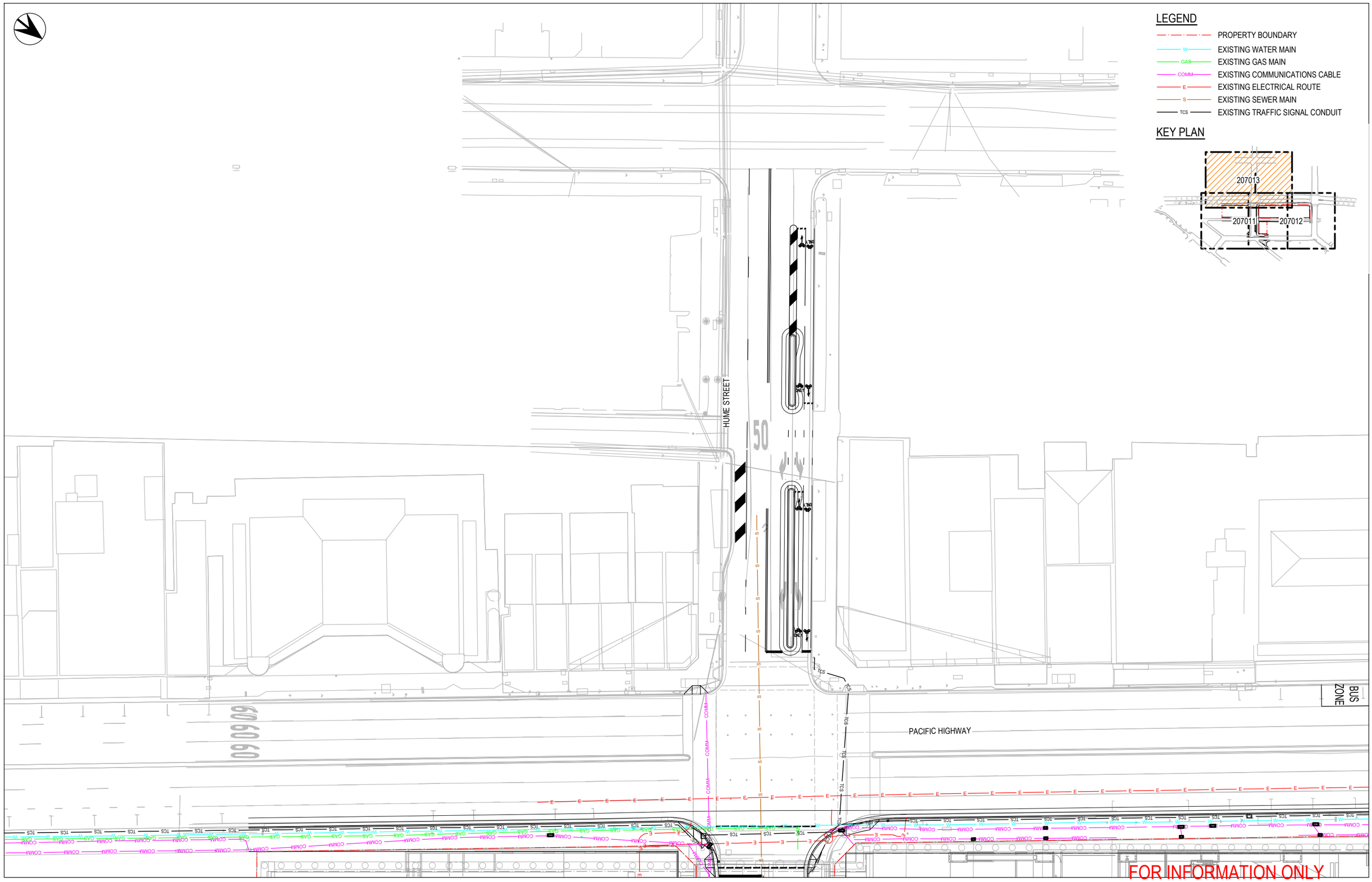

LEGEND

- PROPERTY BOUNDARY
- W — EXISTING WATER MAIN
- GAS — EXISTING GAS MAIN
- COMM — EXISTING COMMUNICATIONS CABLE
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- TCS — EXISTING TRAFFIC SIGNAL CONDUIT

KEY PLAN

FOR INFORMATION ONLY

WORK IN PROGRESS

REV.	BY	DATE	DESCRIPTION	APPD.
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SCALES
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CONFIRMED		

CLIENT: NSW GOVERNMENT | sydney METRO

SERVICE PROVIDERS: CNDC Crows Nest Design Consortium

DRAWN MICHAEL TARRANT
DESIGNED PULITH VIDANAPATHIRANA
DRG CHECK MICHAEL TARRANT
DESIGN CHECK
APPROVED

SYDNEY METRO
CROWS NEST STATION
UTILITY DESIGN
EXISTING UTILITIES
PLAN

STATUS: FOR INFORMATION | SHEET 3 OF 3 | ©

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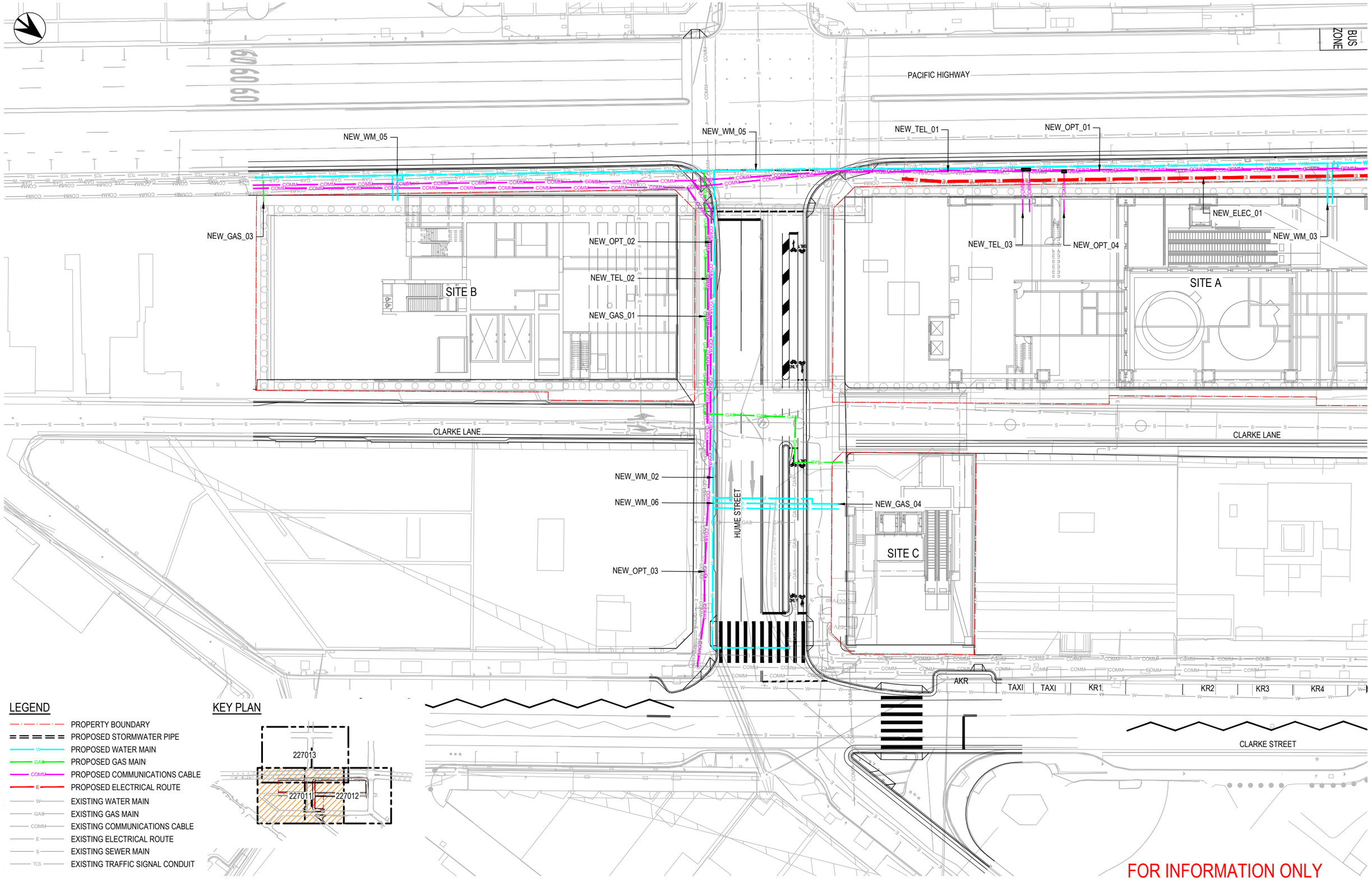

LEGEND

- PROPERTY BOUNDARY
- PROPOSED STORMWATER PIPE
- PROPOSED WATER MAIN
- PROPOSED GAS MAIN
- PROPOSED COMMUNICATIONS CABLE
- PROPOSED ELECTRICAL ROUTE
- EXISTING WATER MAIN
- EXISTING GAS MAIN
- EXISTING COMMUNICATIONS CABLE
- EXISTING ELECTRICAL ROUTE
- EXISTING SEWER MAIN
- EXISTING TRAFFIC SIGNAL CONDUIT

KEY PLAN

FOR INFORMATION ONLY

REV.	BY	DATE	DESCRIPTION	APPD.
A	MT		WORK IN PROGRESS	M.S

SCALES: 2.5 0 2.5 5 7.5m — 1:250 FULL SIZE A1

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CONFIRMED		

CLIENT: NSW GOVERNMENT | sydney METRO

SERVICE PROVIDERS: CNDC Crows Nest Design Consortium

DRAWN: MICHAEL TARRANT
DESIGNED: PULITH VIDANAPATHIRANA
DRG CHECK: MICHAEL TARRANT
DESIGN CHECK:
APPROVED:

SYDNEY METRO
CROWS NEST STATION
UTILITY DESIGN
PROPOSED UTILITIES
PLAN

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DRG No SMCSWSCN-SMC-SCN-UT-DWG-227011 | REV. A

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 [Alt. Drg. No.]

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Plot Date: 09/10/19 - 11:31
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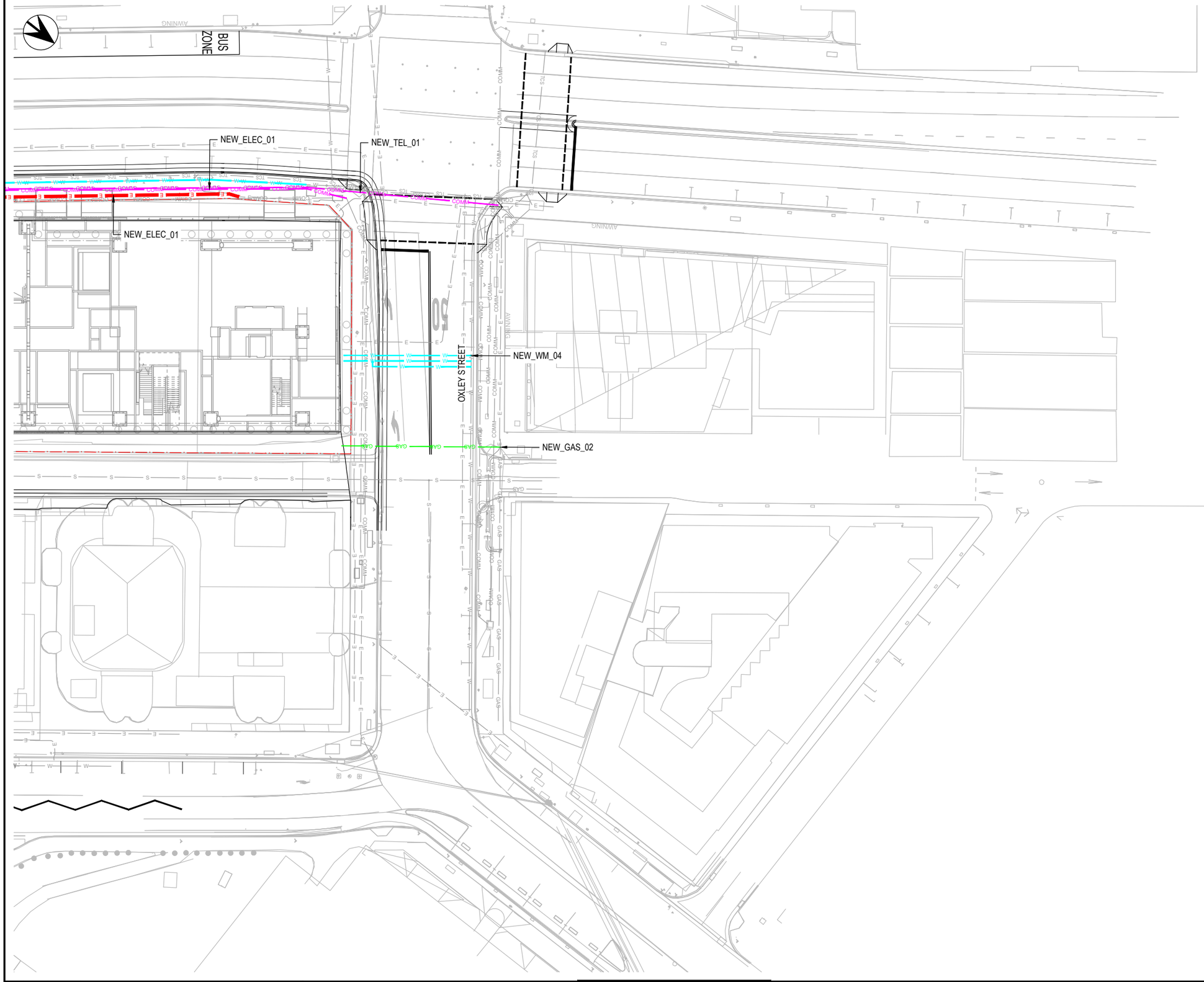
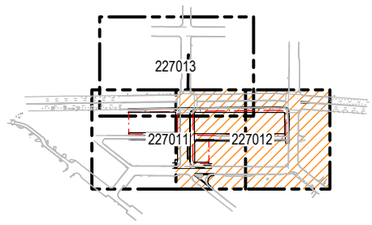


LEGEND

- PROPERTY BOUNDARY
- PROPOSED STORMWATER PIPE
- PROPOSED WATER MAIN
- PROPOSED GAS MAIN
- PROPOSED COMMUNICATIONS CABLE
- PROPOSED ELECTRICAL ROUTE
- EXISTING WATER MAIN
- EXISTING GAS MAIN
- EXISTING COMMUNICATIONS CABLE
- EXISTING ELECTRICAL ROUTE
- EXISTING SEWER MAIN
- EXISTING TRAFFIC SIGNAL CONDUIT

KEY PLAN



FOR INFORMATION ONLY

REV.	BY	DATE	DESCRIPTION	APPD.
A	MT		WORK IN PROGRESS	M.S

SCALES
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1:250 FULL SIZE A1

CHECK PRINT — PRELIM. ☐ FINAL ☐

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DISCIPLINE		
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SERVICE PROVIDERS: CNDC Crows Nest Design Consortium

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DESIGNED PULITH VIDANAPATHIRANA
DRG CHECK MICHAEL TARRANT
DESIGN CHECK
APPROVED

SYDNEY METRO
CROWS NEST STATION
UTILITY DESIGN
PROPOSED UTILITIES PLAN

STATUS: FOR INFORMATION | SHEET 2 OF 3 | ©

DRG No SMCSWSCN-SMC-SCN-UT-DWG-227012 | REV. A

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 [Alt. Drg. No.]

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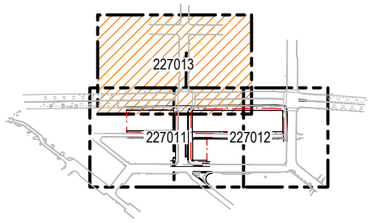
Plot Date: 09/10/19 - 11:34
100mm A1 FULL SIZE

LEGEND

- PROPERTY BOUNDARY
- PROPOSED STORMWATER PIPE
- PROPOSED WATER MAIN
- PROPOSED GAS MAIN
- PROPOSED COMMUNICATIONS CABLE
- PROPOSED ELECTRICAL ROUTE
- EXISTING WATER MAIN
- EXISTING GAS MAIN
- EXISTING COMMUNICATIONS CABLE
- EXISTING ELECTRICAL ROUTE
- EXISTING SEWER MAIN
- EXISTING TRAFFIC SIGNAL CONDUIT

KEY PLAN



HUME STREET

50

PACIFIC HIGHWAY

BUS ZONE

FOR INFORMATION ONLY

WORK IN PROGRESS

REV.	BY	DATE	DESCRIPTION	APPD.
A	MT			M.S

SCALES

2.5 0 2.5 5 7.5m

1:250 FULL SIZE A1

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
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UTILITY DESIGN
PROPOSED UTILITIES
PLAN

STATUS: FOR INFORMATION | SHEET 3 OF 3 | ©

DRG No SMCSWSCN-SMC-SCN-UT-DWG-227013 | REV. A

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 [Alt. Drg. No.]

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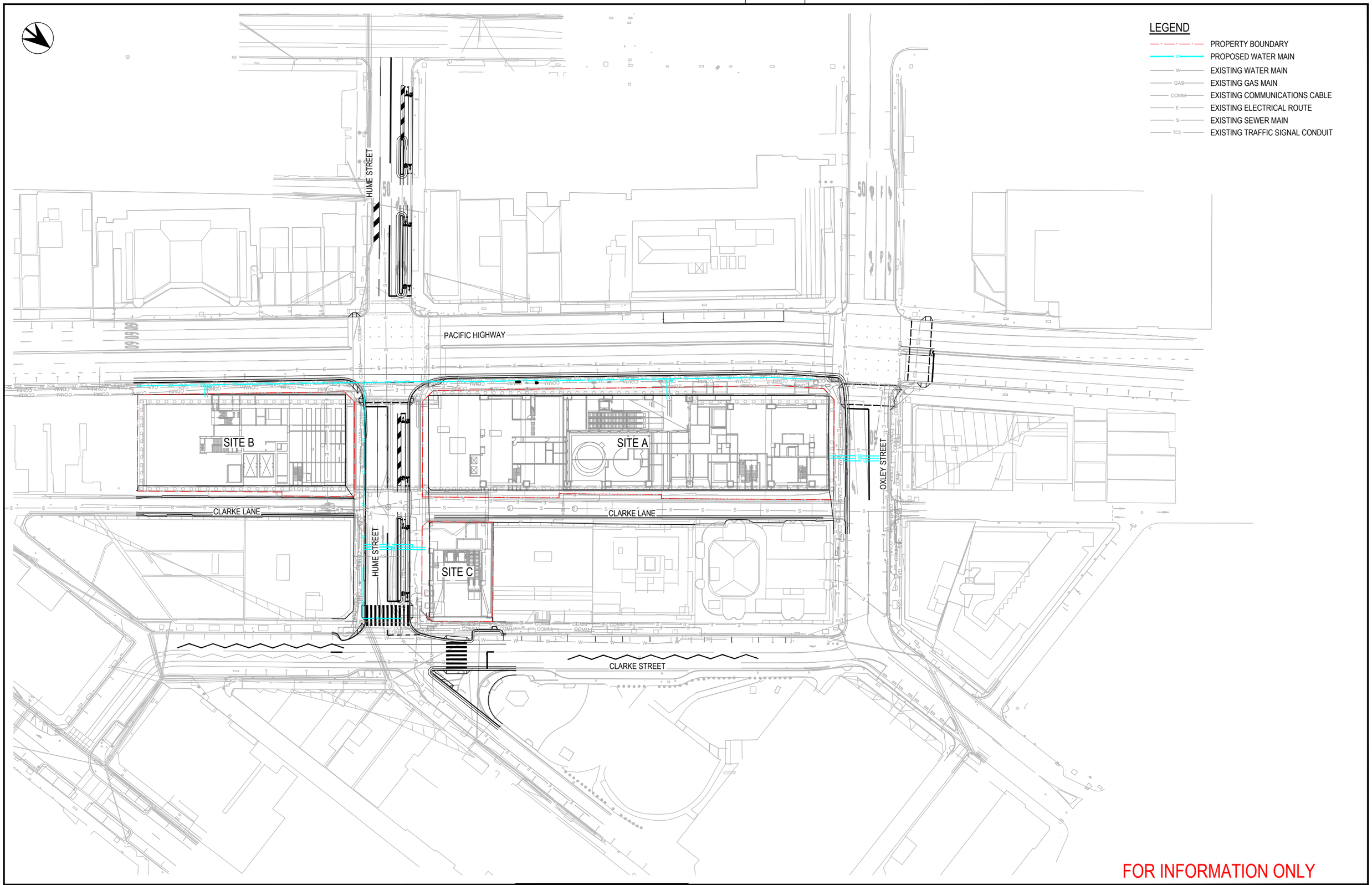

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WORK IN PROGRESS

REV.	BY	DATE	DESCRIPTION	APPD.
A	MT			M.S

SCALES
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1:500 FULL SIZE A1

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	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
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UTILITY DESIGN
PROPOSED WATER
PLAN

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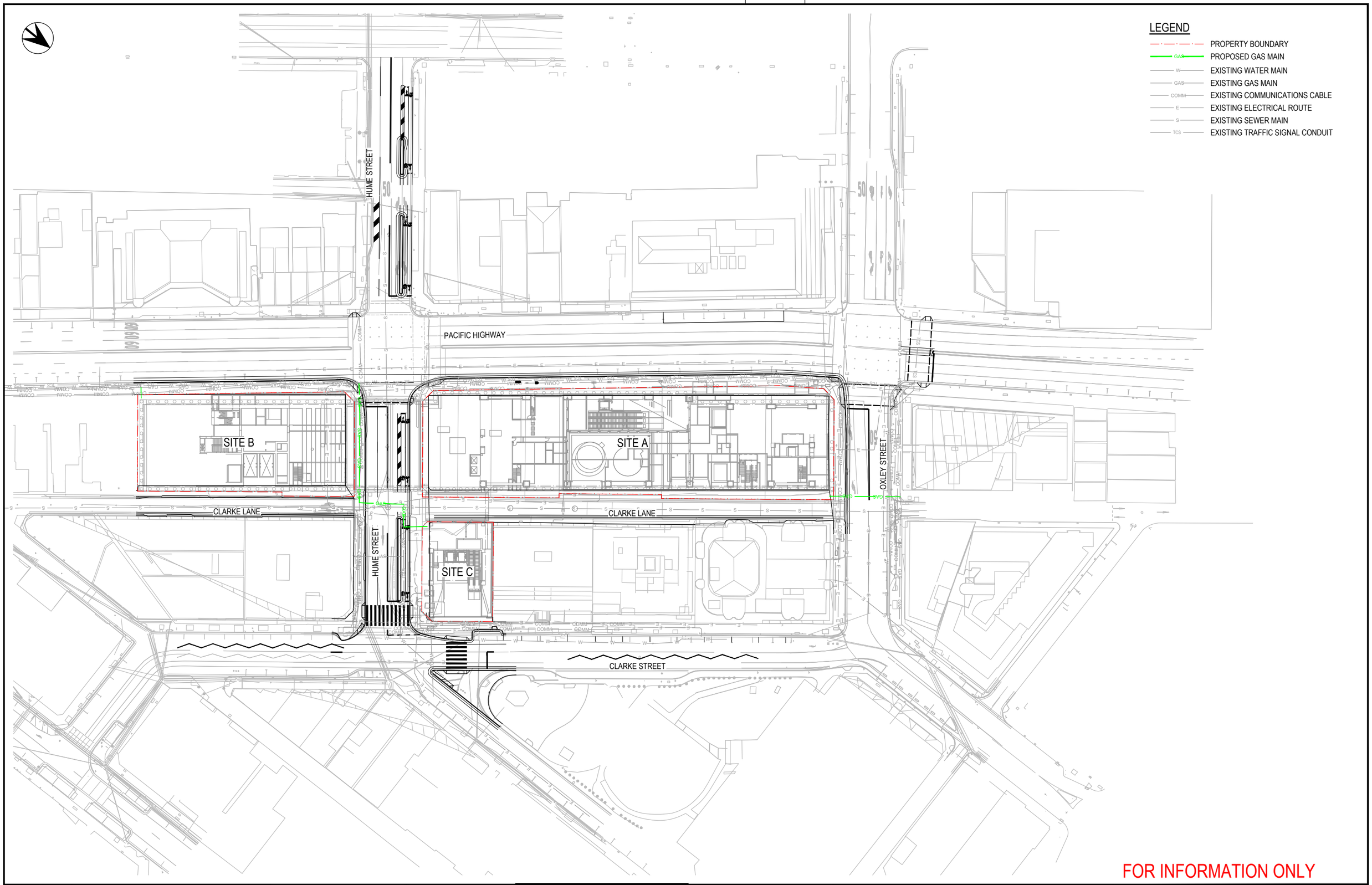
DRG No SMCSWSCN-SMC-SCN-UT-DWG-227021 | REV. A

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 [Alt. Drg. No.]



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WORK IN PROGRESS

REV.	BY	DATE	DESCRIPTION	APPD.
A	MT			M.S

SCALES

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1:500 FULL SIZE A1

CHECK PRINT

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DISCIPLINE		
DISCIPLINE		
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CONFIRMED		

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CROWS NEST STATION

UTILITY DESIGN

PROPOSED GAS

PLAN

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DRG No SMCSWSCN-SMC-SCN-UT-DWG-227031 | REV. A

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 [Alt. Drg. No.]

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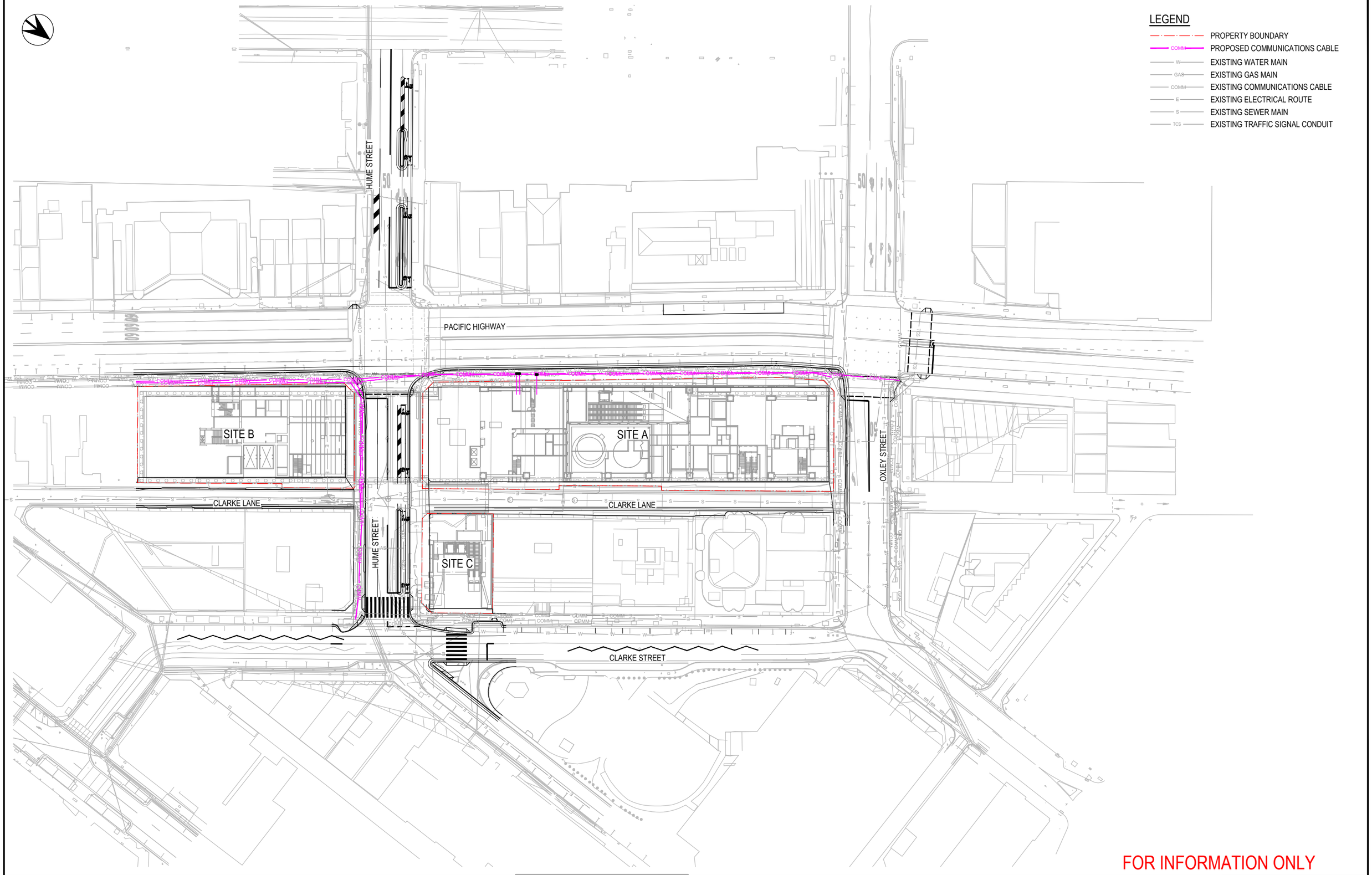
Plot Date: 09/10/19 - 11:51

100mm AT FULL SIZE



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REV.	BY	DATE	DESCRIPTION	APPD.
A	MT			M.S

WORK IN PROGRESS

SCALES
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1:500 FULL SIZE A1

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
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DISCIPLINE		
DISCIPLINE		
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CROWS NEST STATION
UTILITY DESIGN
PROPOSED COMMUNICATIONS
PLAN

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DRG No SMCSWSCN-SMC-SCN-UT-DWG-227041 | REV. A

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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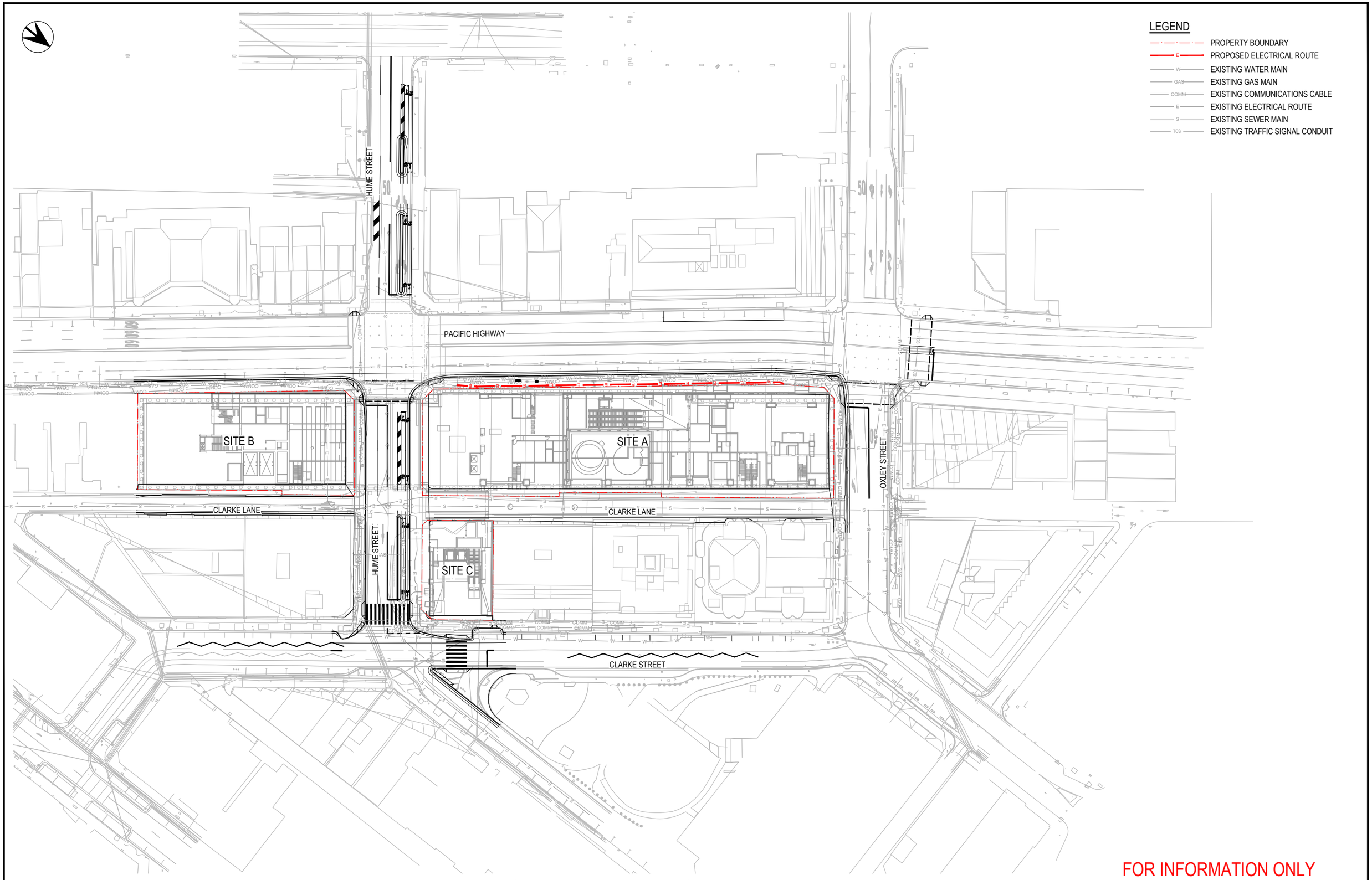

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A	MT			M.S

WORK IN PROGRESS

SCALES
5 0 5 10 15m
1:500 FULL SIZE A1

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UTILITY DESIGN
PROPOSED ELECTRICAL PLAN

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DRG No SMCSWSCN-SMC-SCN-UT-DWG-227051 | REV. A

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.

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