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## PREDEVELOPMENT INFRASTRUCTURE REPORT

21 CANTERBURY ROAD / 921 PUNCHBOWL ROAD

JULY 2025

Project No: ES\_019\_25



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## 1. EXECUTIVE SUMMARY

CT Architects engaged Engineering Services Pty Limited to assess the existing utility infrastructure at 21 Canterbury Road / 921 Punchbowl Road, Punchbowl, and its capacity to support the proposed mixed-use development, comprising a club, commercial spaces, and residential apartments over basement carparking.

The assessment reviewed the availability and adequacy of water, sewer, stormwater, electricity, gas, and communications services. Investigations indicate the site is generally well serviced by existing infrastructure on both Canterbury Road and Punchbowl Road. The surrounding networks appear capable of supporting the proposed development, provided final loads are confirmed with authorities and minor upgrades are incorporated into the design. Key considerations include ensuring sufficient electrical transformer capacity to meet demand, potential augmentation of the local sewer branch, and confirmation of available gas main capacity.

No significant servicing constraints have been identified that would prevent the development from proceeding. Ongoing engagement with service authorities during detailed design is recommended to finalise connection points, confirm capacities, and secure necessary approvals.

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## 2. INTRODUCTION

CT Architects engaged Engineering Services to advise on the existing site services and their capacity to support the proposed development. This report assesses the availability, condition, and adequacy of the surrounding infrastructure, including water, sewer, stormwater, electricity, and communications services, in the context of the proposed design.

A review of available authority records and preliminary authority enquiries was undertaken. Each key service has been assessed for its ability to meet the anticipated demand, and potential constraints or required upgrades have been identified. Where capacity shortfalls or infrastructure limitations are evident, preliminary recommendations have been provided to guide design development and further consultation with relevant service providers.

In summary, the existing services appear capable of supporting the proposed development, subject to confirmation of final load requirements and authority approvals. Certain upgrades or augmentations may be necessary to comply with authority standards and accommodate increased demand. These are outlined in detail within the report, along with recommended next steps to progress approvals and mitigate potential delivery risks.

## 3. PURPOSE

To assess the current site and surrounding utility services, determine their capacity and availability to support the proposed development, and identify any constraints, risks, or upgrade requirements to inform the design and approval process.

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## 4. GENERAL SITE INFORMATION

The site is 21 Canterbury Road / 921 Canterbury Road, Punchbowl.

The proposed development consists of a mixed-use development with a club / commercial development and an apartment located above several basement carparking levels.

## 5. DETAILED INVESTIGATIONS

The site is generally located at the intersection of Canterbury Road and Punchbowl Road.

The location on such a significant intersection provides the site with ample services for connection.

Electrical.

Electrical and Services Review — Key Points

Electrical Load and Transformers

Punchbowl is within the Ausgrid network, which limits supply to approximately 1 MVA per transformer.

The residential component (300 units) equates to approximately 1470 A, which already exceeds a single transformer.

The car park (300 spaces) adds approximately 652 A, plus 400 A for house services. Therefore, the residential portion alone will require two transformers.

The club/venue component, including its air conditioning, will require a separate 1 MVA transformer.

Substations should be located as close as practicable to the respective load centres, with a dedicated main switch room for the residential component and a separate switch room for the venue.

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## Gas vs. All-Electric

If an all-electric solution is adopted, the design should favour heat pumps over instantaneous electric hot water units to align with the installation's capacity constraints.

Without gas, the apartments may need to include a three-phase electrical supply to accommodate increased demand.

Please confirm whether the design intends to use gas cooktops and gas hot water units (or a central hot water plant).

## Standby Generator

It is essential to determine whether a standby generator is required on site.

If a generator is provided, we need clarity on whether it is intended to serve both the venue and the residential building, or only the venue.

This decision impacts the supply strategy for all fire and life safety systems, including stair pressurisation fans, fire pumps, high-rise lifts, and other essential services.

The developer will need to allocate part of the generator capacity to emergency services at their own cost, noting that power outages are rare.

The generator should be sized to cover the venue and all required life safety systems — assumed to be approximately 1 MVA, either as a permanently installed generator or via a mobile generator link box.

It appears there is a substation supplying the site at 21 Canterbury Rd.

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Image of electrical infrastructure from Dial Before You Dig

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## Gas:

The image shows a site plan highlighting the subject property boundary in green, located at the corner of Canterbury Road and Punchbowl Road.

The plan indicates the presence of existing gas infrastructure in the surrounding streets. Specifically:

Along Canterbury Road, adjacent to the southern boundary of the property, there is a medium-pressure gas main identified as 32 NY 210 kPa. This main appears to run parallel to the property and provides an accessible connection point for gas services.

Along Punchbowl Road, adjacent to the eastern boundary of the property, there is another medium-pressure gas main, also identified as 32 NY 210 kPa, which continues north along the road frontage.

The presence of these mains suggests that the site has good access to reticulated gas supply from two separate street frontages, providing flexibility for connection locations. The mains are identified as medium pressure, which is generally suitable for residential and mixed-use developments of the scale proposed, subject to authority confirmation of available capacity; however, there may need to be an upgrade of the gas infrastructure to interconnect the ends of the 32 NY 210kPa

It is recommended that early engagement with the gas authority be undertaken to confirm available capacity in the mains and any augmentation requirements. The location of the mains along Canterbury Road and Punchbowl Road will also allow the design to minimise service runs within the site by positioning gas meters close to these frontages.

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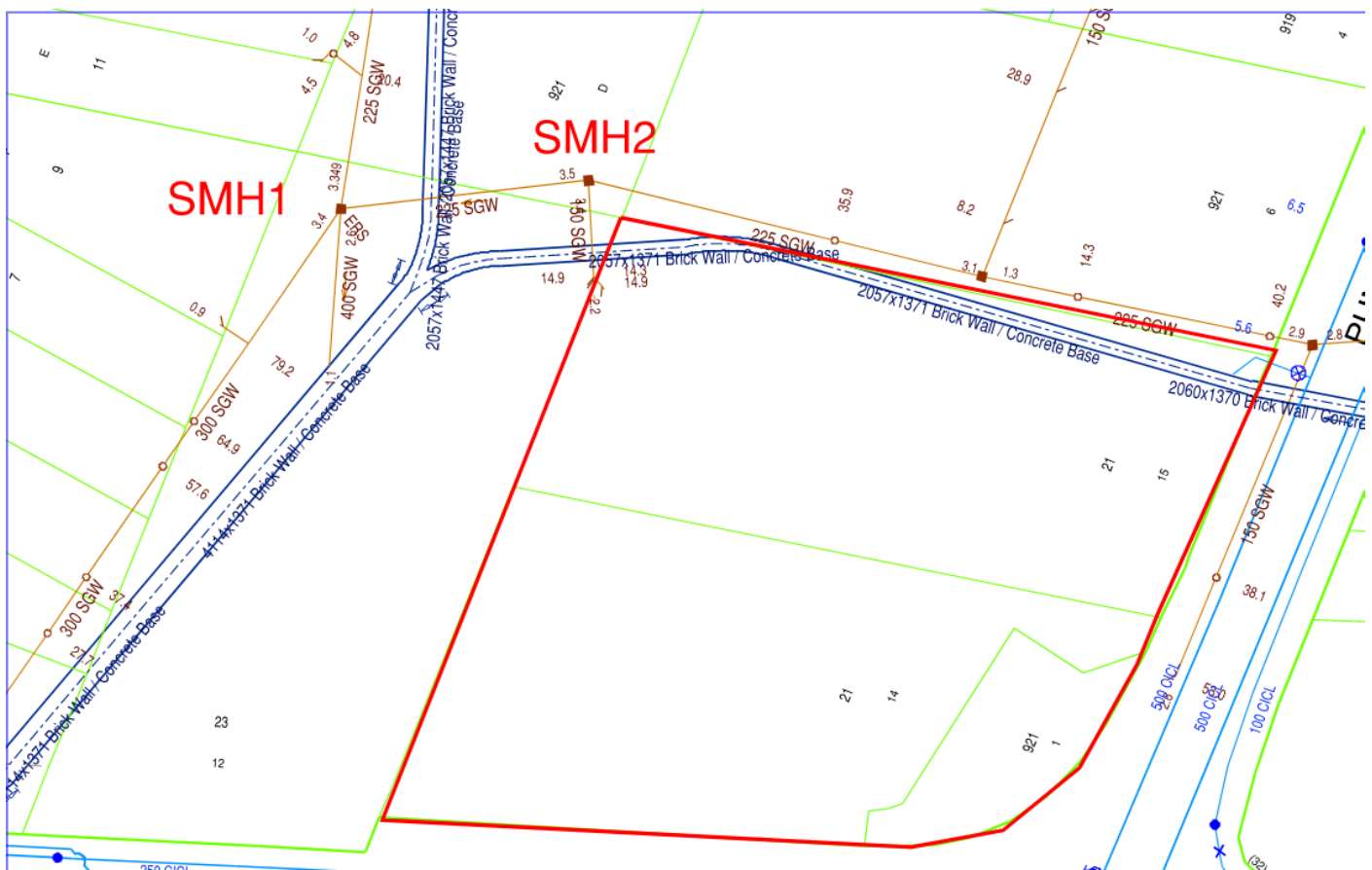
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## Sewer:

The image from DBYD shows the availability of a single point of connection to the sewer infrastructure.

This is via a single 150 Salt Glassed Ware (SGW), this branch line connects to the main sewer line at a manhole and has a downstream size of Ø225. Generally, this should be enough to connect to the site; however, there may need to be an extension to the branch line to serve the site closer towards Canterbury Road.

There may also need to be an upgrade of the 225 SGW between SMH1 AND SMH2



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## 6. SUMMARY

The site is well serviced by existing utility infrastructure, with reticulated water, gas, and electricity available along both primary frontages. Preliminary assessments indicate that the surrounding networks can support the proposed development, subject to confirmation of final loads and authority approvals. Only minimal upgrades to the existing infrastructure are anticipated to be required. On this basis, the development could proceed without significant servicing constraints.

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