



SERVICES INFRASTRUCTURE REPORT

47045_SIR_05 - 12-14 Mingara Drive, Tumby Umbi

POWERED BY
neuron

Date 2024-07-25 - Revision 5.



AUTHORITY INTERFACE

EXEC SUMMARY

SITE OVERVIEW

BUILDING CONNECTIONS

- > POWER
- > COMMS
- > WATER
- > GAS
- > SEWER

REPORT INPUTS

Welcome

Neuron has been commissioned by Mingara Leisure Group Pty Ltd to prepare this report in accordance with the technical requirements of the Secretary’s Environmental Assessment Requirements (SEARs), and in support of the State Significant Development Application (SSD-63475709) for the proposed.

This document has been prepared to address Issue 22 in the Planning Secretary’s Environmental Assessment Requirements. In particular, the following dot points:

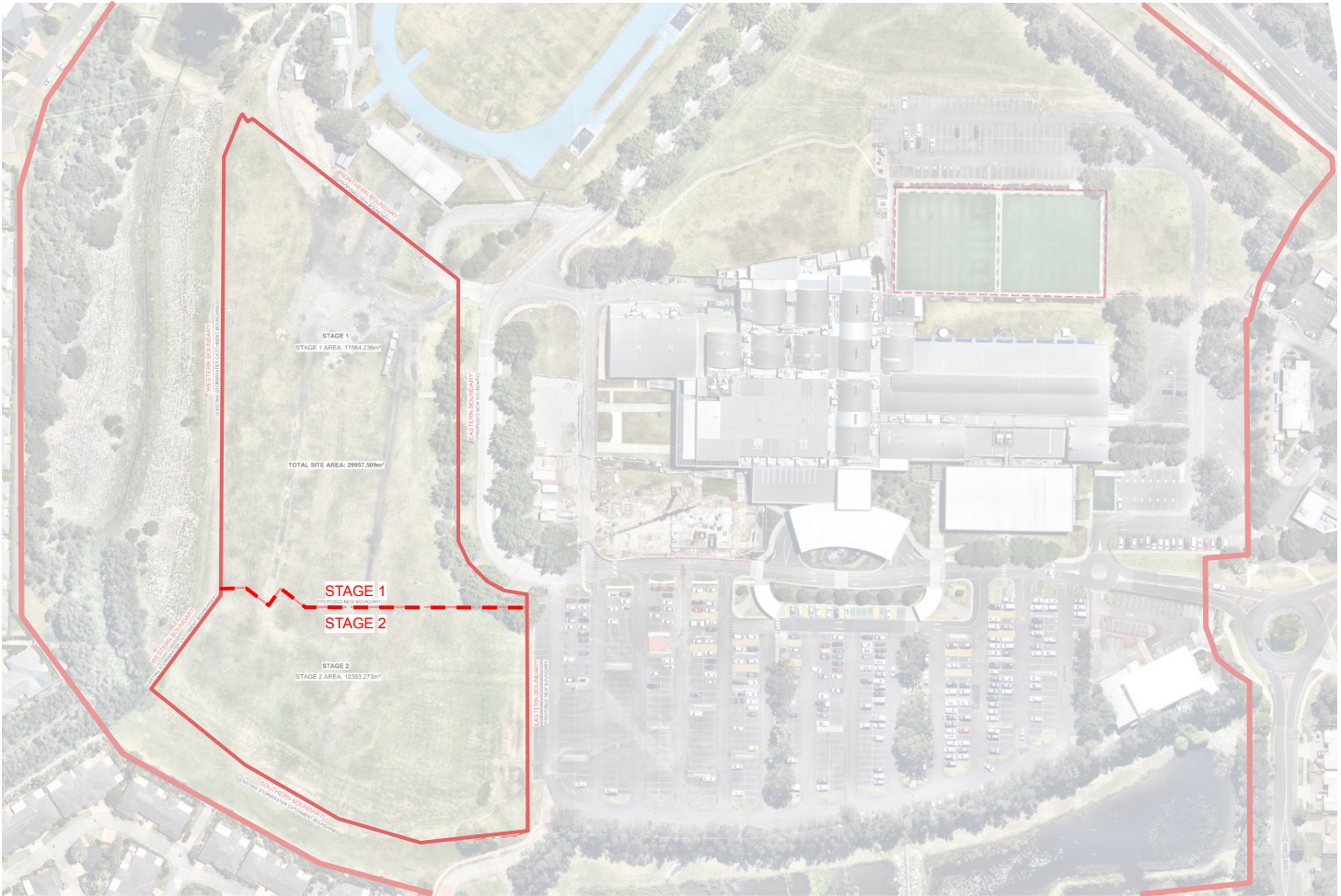
- Assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site.
- Identify any infrastructure upgrades required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained.
- Provide an infrastructure delivery staging plan. Including a description of how infrastructure would be coordinated, funded and delivered to facilitated the development.

The intent of this report is to assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site. In addition this report will identify any infrastructure upgrades required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained. In particular, it investigates the power, communications, sewer, water and gas connection implications based on the design inputs as advised by the client. Please note that information regarding stormwater will be reported on by Stantec.

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SITE OVERVIEW

The proposed development comprises subdivision of land and the construction and operation of a seniors housing development. The proposal includes thirteen villa buildings, three multi storey independent living unit (ILU) buildings and one mixed high care and ILU building housing communal facilities together with car parking, open space and associated works including site preparation works and landscaping.



STAGING IMPLICATIONS

The site will be developed in two stages. From a utilities connection perspective, the sites initial power, water, communications & sewer will be constructed as part of stage one, with further extensions included as part of stage two. This will include all relevant infrastructure, such as substation, meters, fire pumps and the like.

The proposed development has a staging strategy associated with the infrastructure utility works. This includes a programme for the development of the applications, design and construction as part of the next stage of the project. This will help to ensure that the overall development programme is met, in particular the completion of stage 1. The main categories of work within the staging strategy will include:

Decommissioning the existing utilities

Decommission of existing services on the site in preparation for excavation.

- Power: No work required
- Communications: No work required
- Gas: No work required
- Water: No work required
- Sewer: No work required

Early works utility modifications

To allow the early works of shoring and excavation the following scope is being considered;

- Power: HV Feeder extended to the site.
- Communications : Chosen fibre to be extended to the site.
- Gas: All electrical development, gas not required.
- Water Supply: Water main extended to the site boundary.
- Sewer: Sewer main amplification and modifications to bring sewer connection(s) to the site.

Utility works for the Proposed development

Refer to the subsequent sections of this report for details.

- Power: Builders supply likely from one of the existing substations. The two new substations will be built as part of stage one and internal power reticulation network installed likely as part of the internal road civil works package.
- Communications: Internal fibre network developed and installed likely as part of the internal road civil works package.
- Gas: All electrical development, gas not required.
- Water supply: Connecting to adjacent extended water main. Internal water network developed and likely installed as part of the internal road civil works package. Stage one works will also include the installation of the site wide fire booster, fire pump room, hardstand and associated infrastructure.
- Sewer: Coordination with Central Coast Council to begin to agree on final sewer connection strategy. New internal reticulation network likely installed as part of the internal road civil works package.

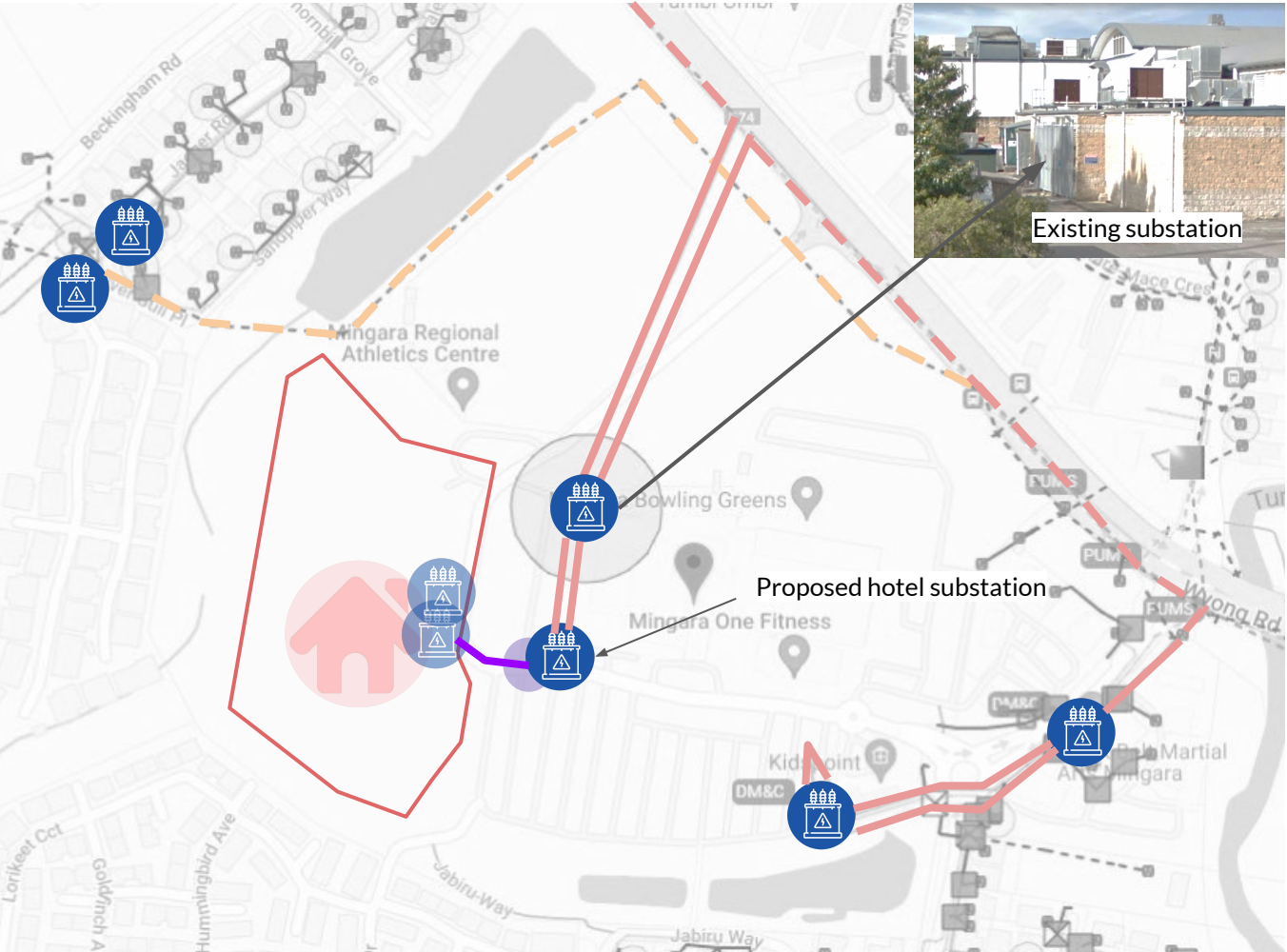
- > POWER
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ELECTRICAL INFRASTRUCTURE

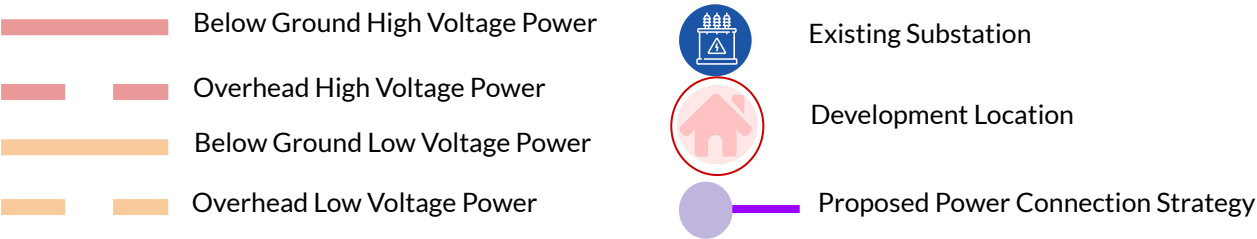
EXISTING POWER INFRASTRUCTURE

The Ausgrid network maps indicate that the nearest High Voltage available for substation loop-in is via the existing substation located within the adjacent the Mingara Recreation Centre. A minor feeder extension will be required.

It is planned for the new hotel project (under construction) on site to be served by new substations as illustrated in the adjacent image. The proposed HV power connection is planned to be connected to this new substation once it is installed and energised within the site.



Power Infrastructure Map



- > POWER
- > COMMS
- > WATER
- > GAS
- > SEWER

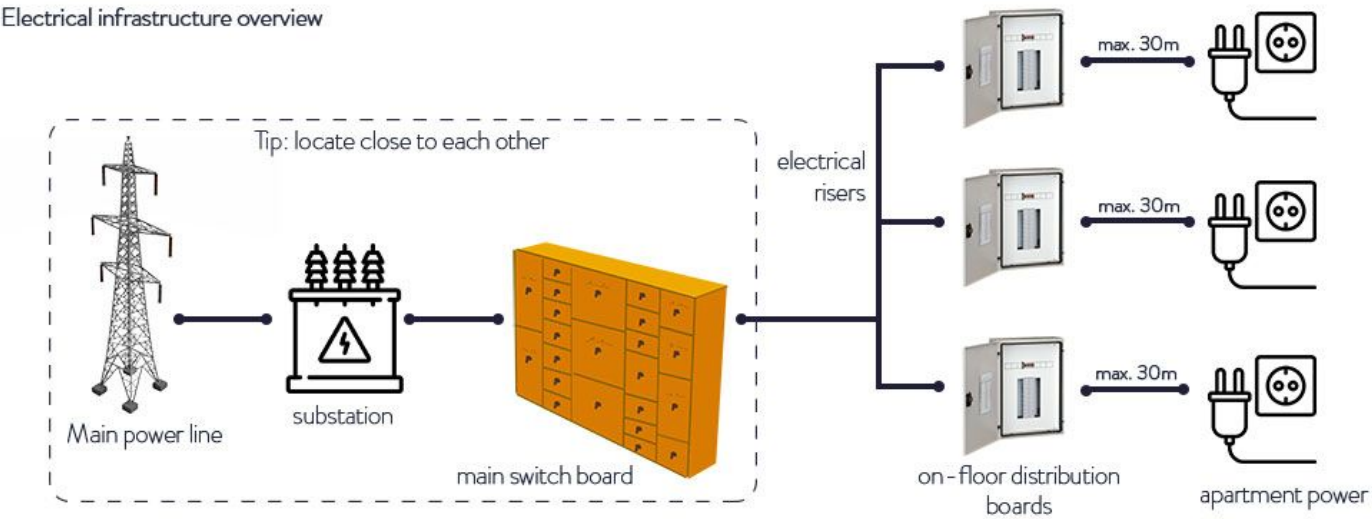
ELECTRICAL INFRASTRUCTURE

PROPOSED ELECTRICAL SERVICES

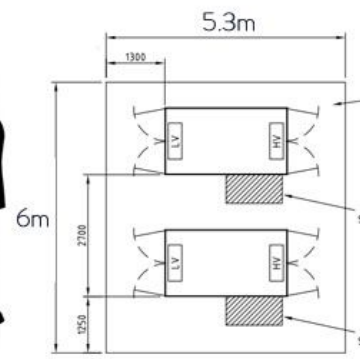
The preliminary maximum demand for this site is 2,243 amps. The site will likely require two new 1,000 kVA kiosk substations, located in stage one.

As part of the next phase of works, an ASP Level 03 will be engaged to begin the detailed design of this substation including consultation and approval from Ausgrid for the final arrangement.

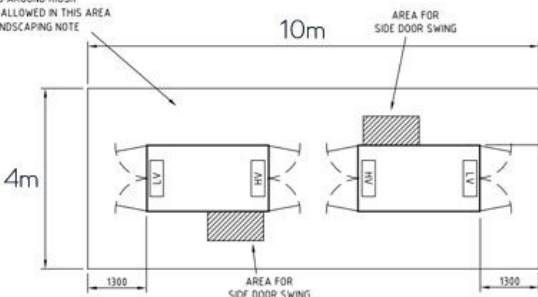
Electrical infrastructure overview



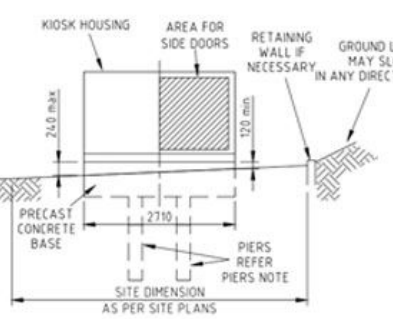
Kiosk substation image



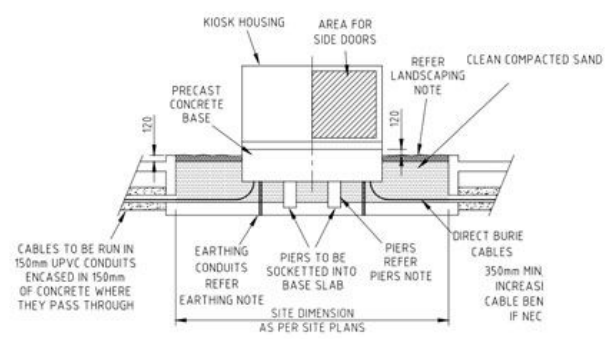
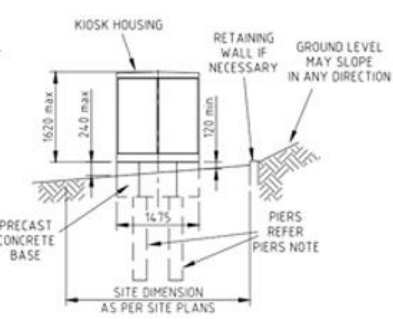
Multiple kiosks side by side



Multiple kiosks length ways



Installing kiosk substations on the ground



Installing kiosk substations over a supporting structure

ELECTRICAL INFRASTRUCTURE

AUTHORITY
INTERFACE

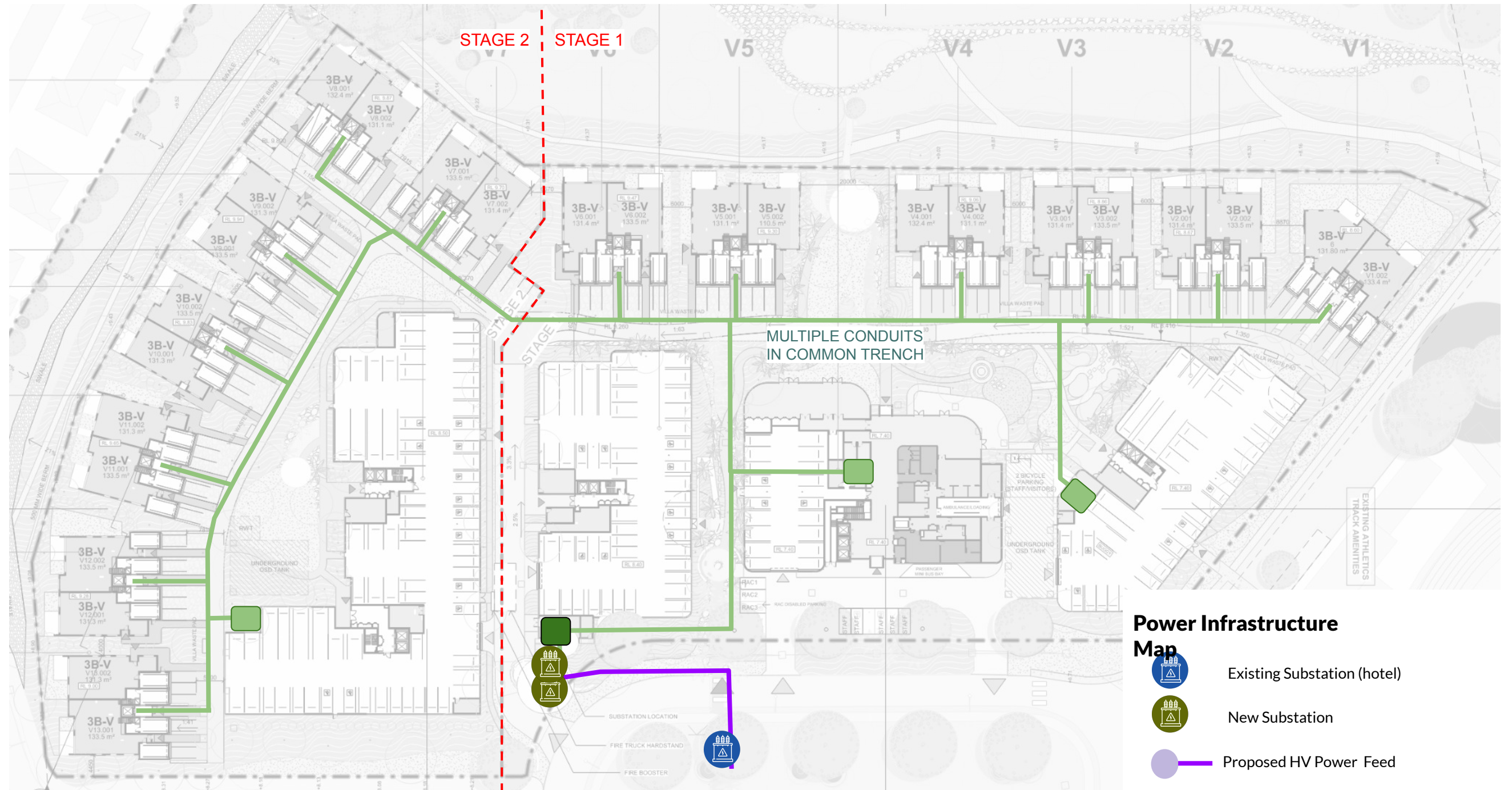
EXEC SUMMARY

SITE OVERVIEW

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CONNECTIONS

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Power Infrastructure Map

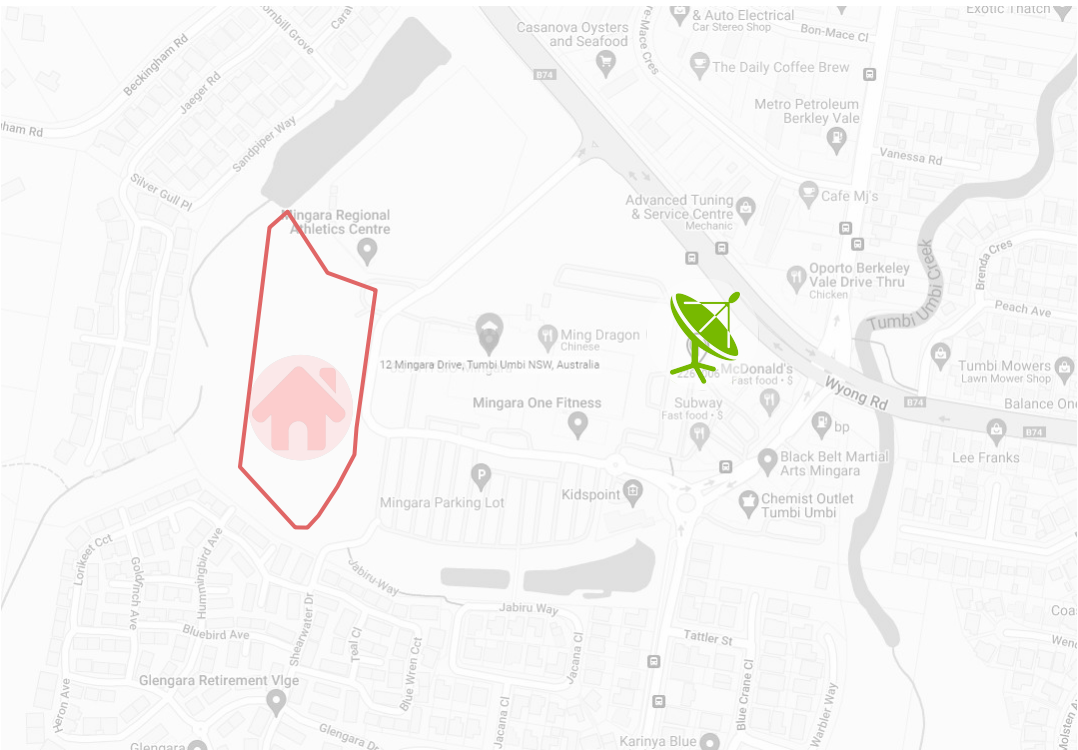
-  Existing Substation (hotel)
-  New Substation
-  Proposed HV Power Feed
-  Main switch room
-  Electrical distribution rooms
-  Sub-main cables on cable trays or in conduits

- > POWER
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COMMUNICATIONS INFRASTRUCTURE

Mobile base stations

There are no carrier mobile base stations located on this site.



Mobile Base Station Map



Existing Mobile Base Station



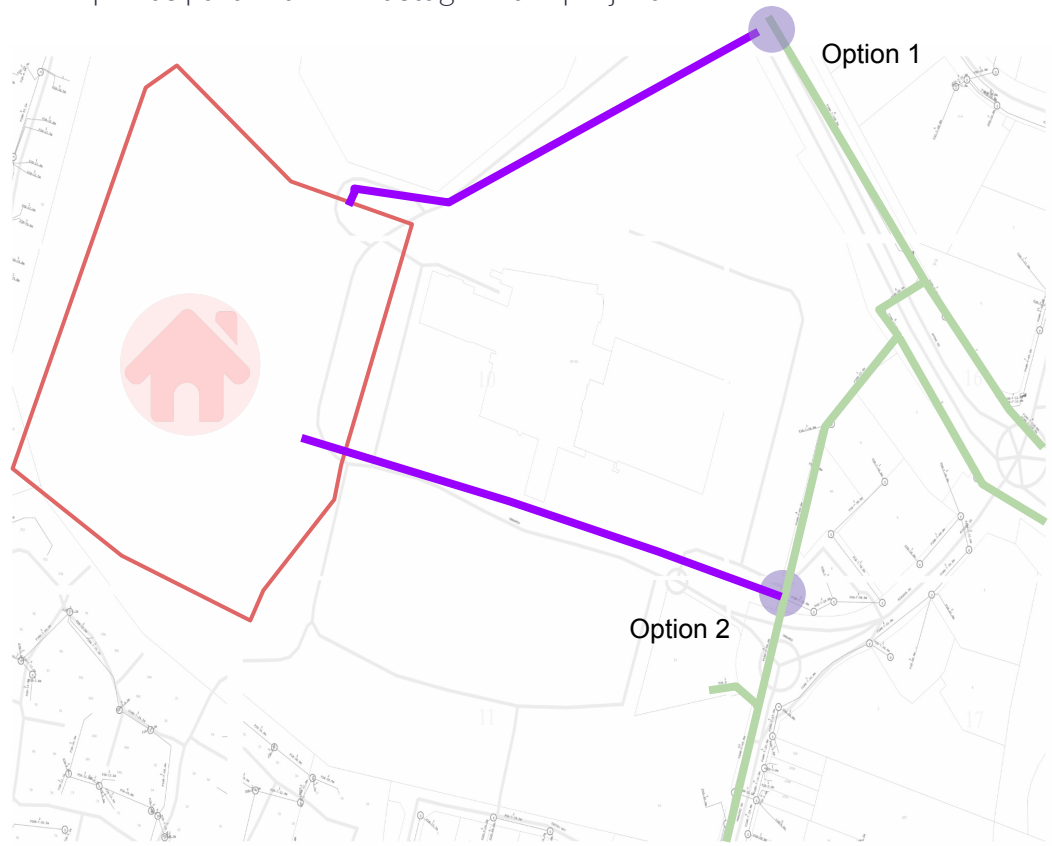
Development Location

- > POWER
- > COMMS
- > WATER
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COMMUNICATIONS INFRASTRUCTURE

NBN

The existing NBN carrier service infrastructure is illustrated below. As shown, there are new street connection opportunities available for this site. Consultation with NBN will be undertaken during the next stage of the project to coordinate the required works. There will also likely be an opportunity to connect to existing fibre infrastructure within the site that is not shown on these diagrams. Details will be developed as part of the next stage of the project.

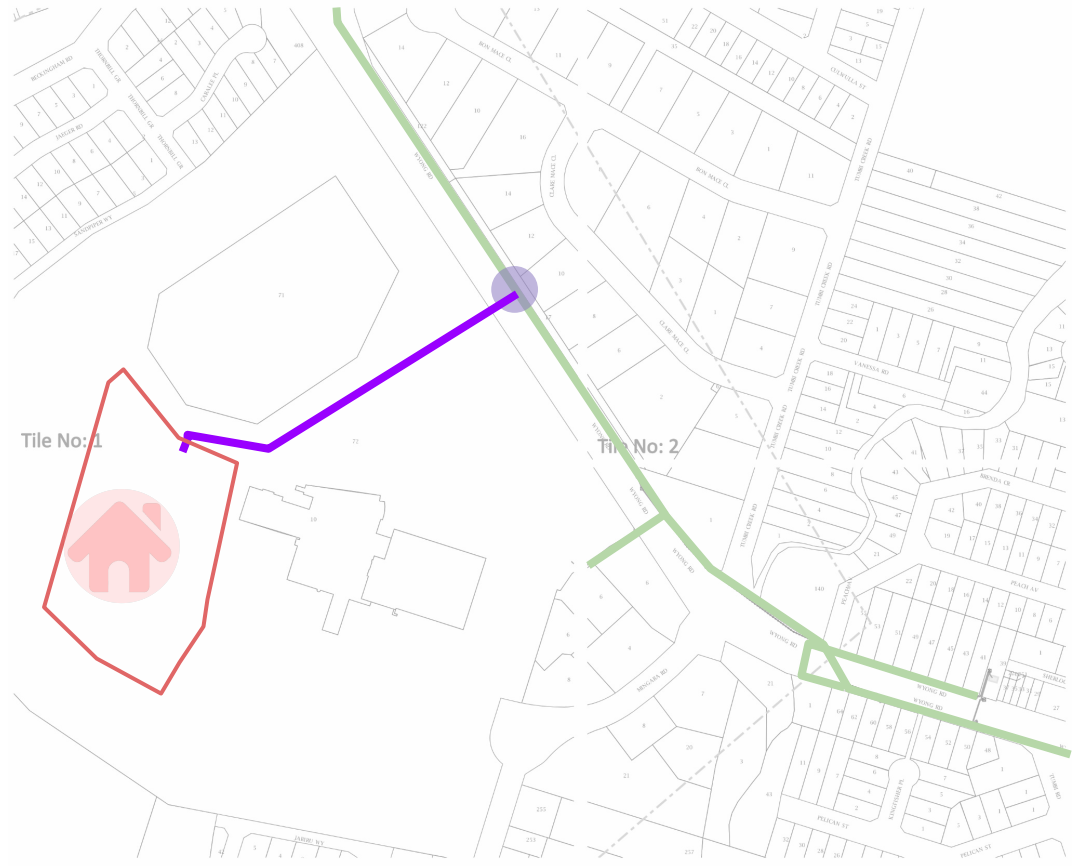


Fibre Infrastructure Map

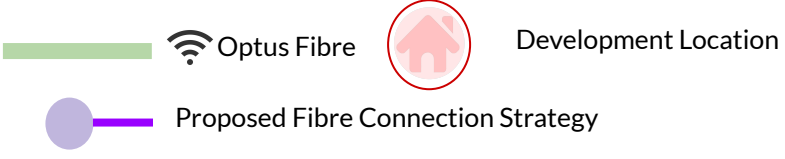


Optus

The existing Optus carrier service infrastructure is illustrated below. As shown, there are street connection opportunities available for this site. Consultation with Optus will be undertaken during the next stage of the project to coordinate the required works. There will also likely be an opportunity to connect to existing fibre infrastructure within the site that is not shown on these diagrams. Details will be developed as part of the next stage of the project.



Fibre Infrastructure Map



COMMUNICATION INFRASTRUCTURE

AUTHORITY
INTERFACE

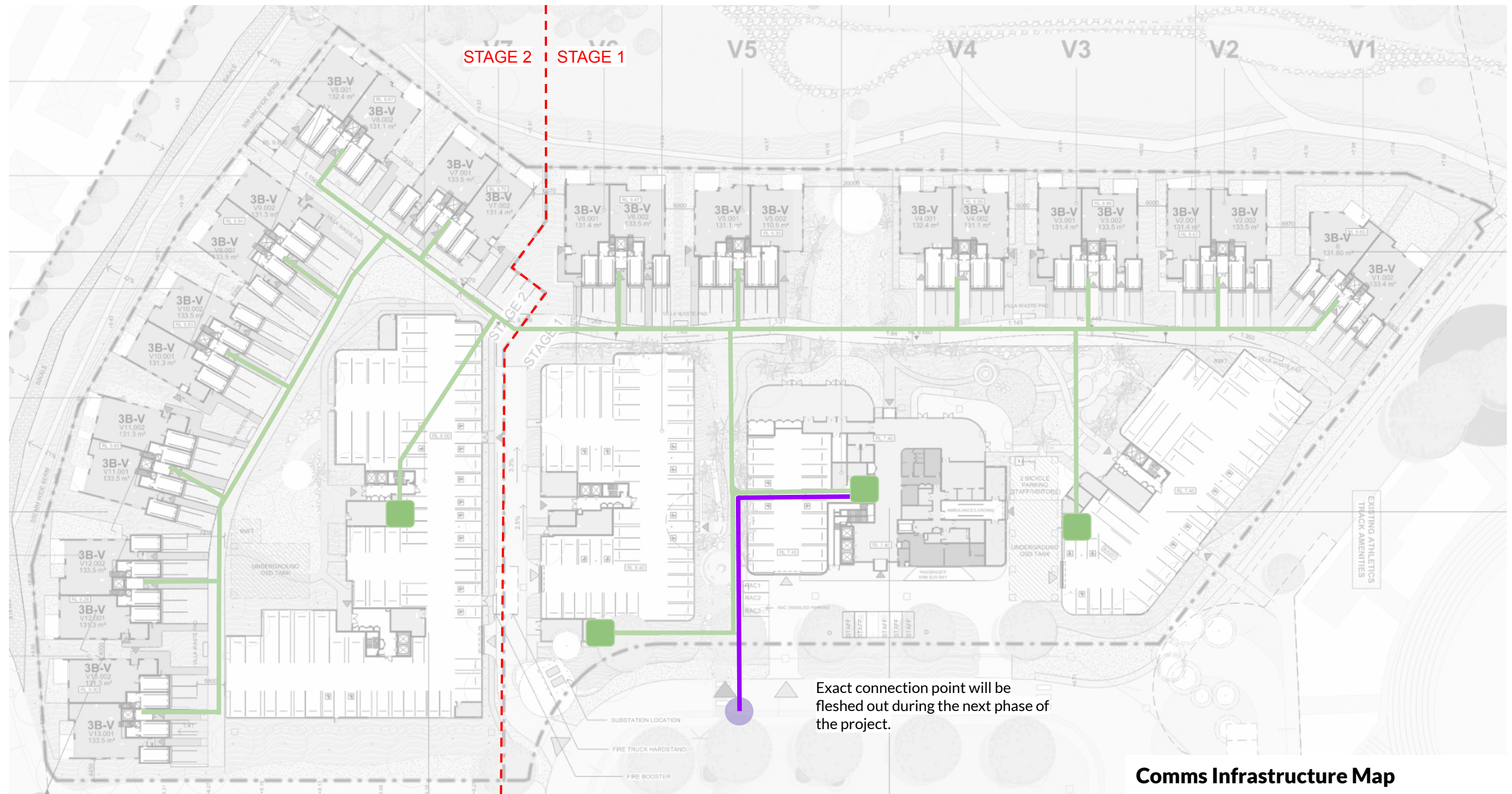
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Comms Infrastructure Map

-  Proposed Fibre Connection
-  Main Communication Rooms
-  Internal fibre reticulation

- > POWER
- > COMMS
- > **WATER**
- > GAS
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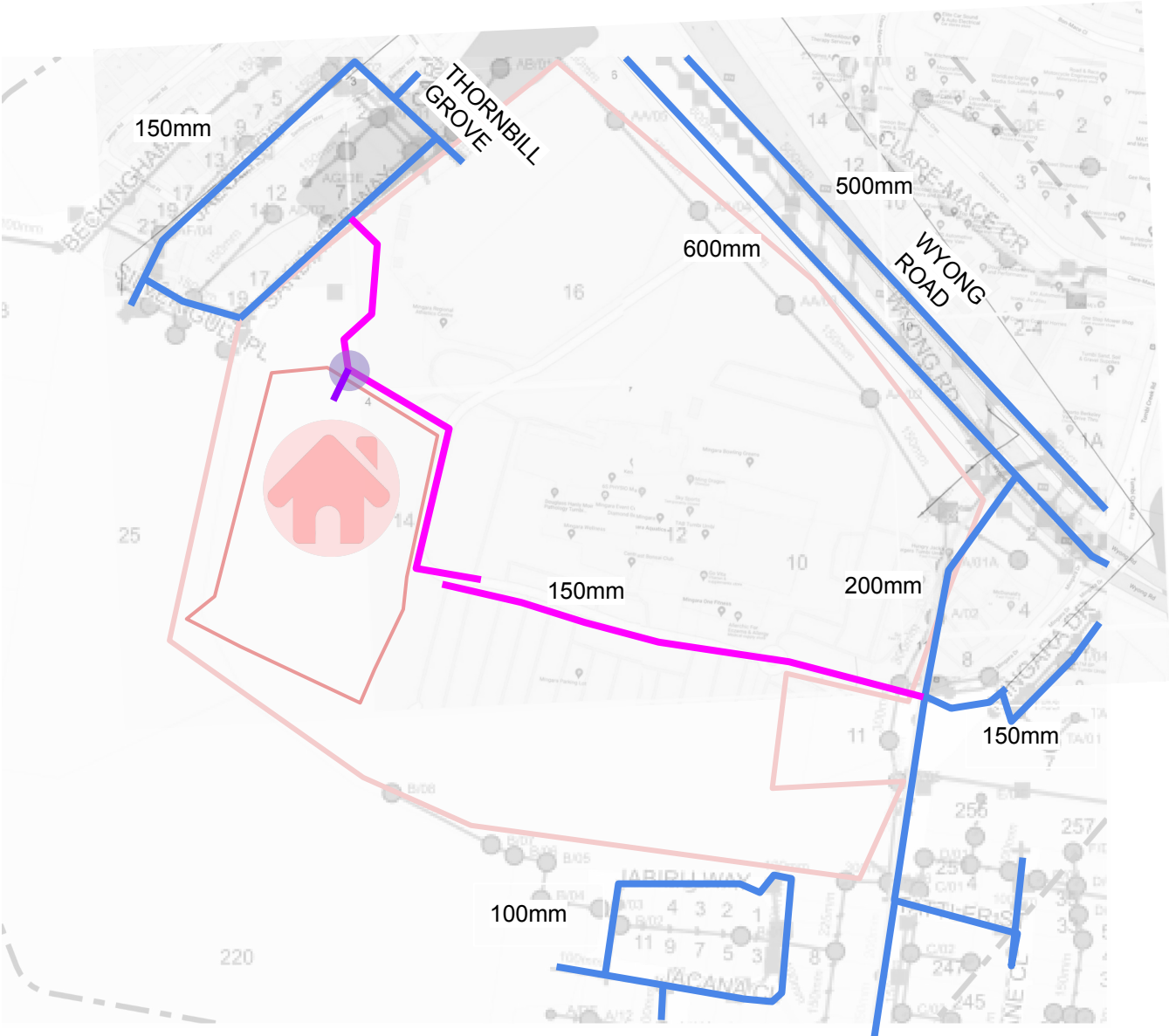
WATER INFRASTRUCTURE

The proposed connection point and existing water mains are illustrated in the adjacent image. The existing water mains are being extended as part of the hotel works which are ongoing. Specifically the hotel is proposing to connect to the existing 150mm water mains running along Thornbill Grove. There is also a 500mm and 600mm trunk water mains along Wyong Road.

Based on the preliminary calculations, this site is likely to require a new 150mm mains water connection. Stantec completed the design for the water infrastructure and propose utilising the new hotel water main running adjacent to the site which comes from the Thornbill Grove source. The connection point is illustrated in the adjacent image, also shown in more detail in the next page.

The proposed water infrastructure (both potable and fire water) will be built as part of stage one.

A Section 307 Compliance Certificate will be required as part of the next stage of the project as part of the consultation with Central Coast Council.



Water Infrastructure Map

-  Water Main
-  Development Location
-  In Construction Hotel Water Main
-  Proposed Water Connection Strategy
-  Water Main

WATER INFRASTRUCTURE

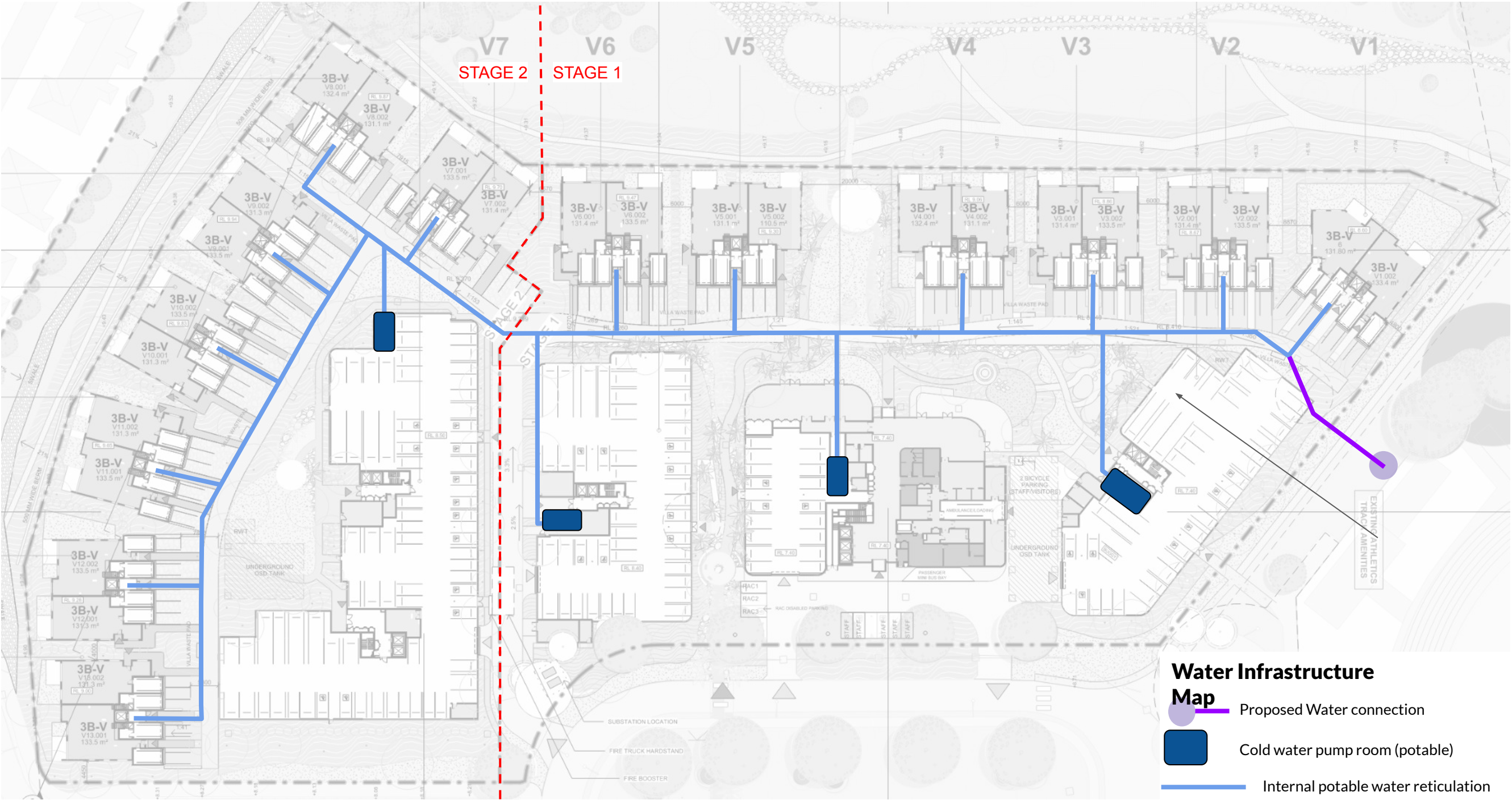
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GAS INFRASTRUCTURE

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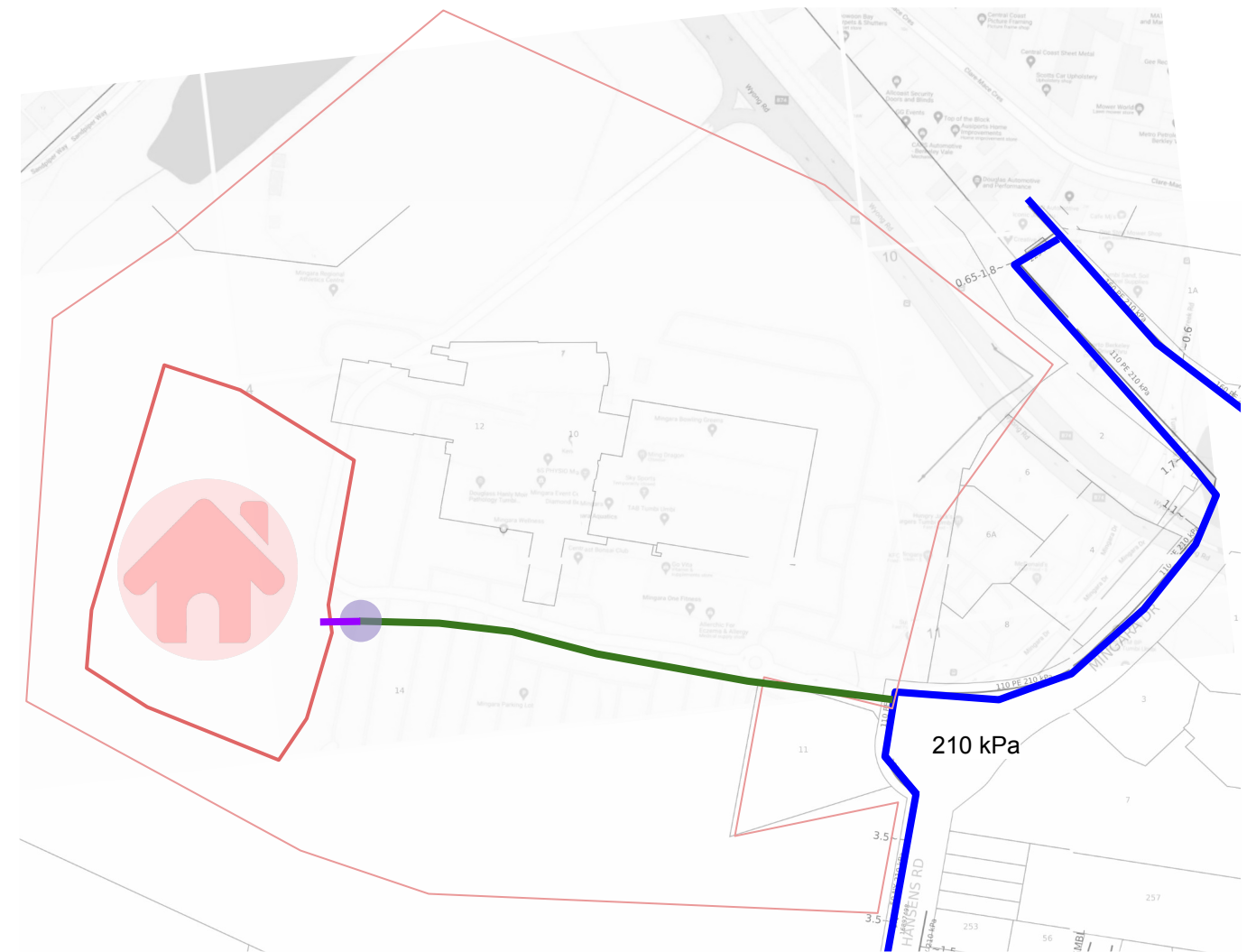
SITE OVERVIEW

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There is a medium pressure 210 kPa gas main running along Mingara Drive as illustrated in the adjacent image. We also understand a new main is being proposed for the adjacent hotel, connecting to this main.

The details of any gas requirements for this development will be further developed as part of the next stage of development. This development will be all electric, no gas connection is required.



Gas Infrastructure Map

- Low/Medium Pressure Gas Main
- In Construction Hotel Gas Main
-  Development Location
-  Proposed Gas Connection Strategy

- > POWER
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SEWER INFRASTRUCTURE

There is a 300mm sewer main serving the existing development located near Mingara Drive, as shown in the adjacent image. There is also a 225mm sewer main at the very south of the development boundary. There is an existing 100mm private main connecting from the Wyong Rd side of the site. It is intended for this main to be upgraded to a 150mm main to serve the new development.

Based on the preliminary calculations, this site is likely to require a new 300mm or multiple smaller mains sewer connections. Stantec completed the design for the sewer infrastructure and propose three connections to the 150mm sewer main on Wyong Road, and two connections to the existing main on the southern side of the site. The connection point(s) are illustrated in the adjacent image, also shown in more detail in the next page.

A Section 307 Compliance Certificate will be required as part of the next stage of the project as part of the consultation with Central Coast Council.

Refer to detailed markup overleaf.



Sewer Infrastructure Map

-  Sewer Main
-  Development Location
-  Proposed Sewer Connection Strategy

