



SERVICES INFRASTRUCTURE REPORT

47359_SIR_03 - 461 Chapel Rd, Bankstown

POWERED BY
neuron

Date 2025-03-27 - Revision 03

Welcome

This report has been developed for Sustainable Development Group Ltd for the development of 461 Chapel Rd, Bankstown into a new residential development located at 461 Chapel Rd, Bankstown, NSW, 2164.

The intent of this report is to outline the existing public utility provisions and describe the likely services infrastructure requirements to support this new development. In particular, it investigates the power, communications, sewer, water and gas connection implications based on the design inputs as advised by the client.

This report is based on the following sources of information:

- Dial Before You Dig information
- Publicly available information

Note at the time of this report, no discussions with the various supply authority groups have occurred. The intent is that this report outlines the high-level risks and opportunities for the project stakeholders with formal applications occurring later in the design process by others.



Steven Cassells NER, RPEQ, CEng, MSc, BEng, MCIBSE, MIEAust.
Engineering Lead

EXECUTIVE SUMMARY

AUTHORITY INTERFACE

EXEC SUMMARY

SITE OVERVIEW

BUILDING CONNECTIONS

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

REPORT INPUTS

POWER

The preliminary maximum demand is 1,883 amps. The site will likely require a new kiosk or chamber substation. The nearest HV available for substation loop-in runs along French Avenue. Some assets may need to be relocated for development works, note these costs are excluded from the budget estimate.

COMMUNICATION SYSTEMS

There are communication providers within proximity of this site including NBN & Optus

There are no existing mobile base stations located on the site. There is a risk of some NBN carrier infrastructure running close to the site and we recommend investigating what works may be required. Refer to the comms section for details.

Key Issue: There is an existing comms pillar on site that will require surveying to determine if it needs to be removed or relocated, subject to negotiations with Telstra.

WATER

There is an existing 200 mm water main running down French Avenue which may be sufficient to serve this development. A Sydney Water Coordinator should be engaged to begin the detailed assessment and design work. A pressure and flow enquiry should be completed to assess fire infrastructure impact.

GAS

Jemena has existing low pressure gas mains running up around the existing site on French Avenue and Chapel Road. There appear to be no Jemena assets running through the existing site. Suggested connections points are illustrated in the report

SEWER

There is an existing 225mm sewer main running down Chapel Road which may be sufficient to serve this development. We strongly recommend that a Sydney Water Coordinator be engaged to begin preliminary investigations with Sydney Water in the form of a section 73 investigation.

BUDGET ESTIMATE

Refer to budget estimate assumptions and disclaimers within this report.

Connection type	Budget estimate (\$AUD)	Comment
Power	\$500,000	Incl. kiosk substation and associated connection works, not including asset relocations.
Comms carrier lead-ins	\$10,000	Via French Avenue
Water	\$25,000	Via Chapel Road
Sewer	\$50,000 - 70,000	Via Chapel Road. Depending on details of approved modification and water table implications.
Gas	Nil	Assumed all electric building. Gas available via French Avenue if required.
Total	\$585,000 - \$605,000	Dependant on chosen connection options, not including power connections.

Note: Estimates exclude:

- Council fees
- Traffic management costs
- Road remediation costs
- Stormwater. To be advised by the civil engineer
- Developer contribution costs
- Contractor preliminaries
- Contingencies
- Road pavement reconstruction.
- Authority fees and charges
- Escalation
- Contaminated soil

SITE OVERVIEW

The existing site is 461 Chapel Rd, Bankstown, NSW, 2164. The existing site is located at 461 Chapel Rd, Bankstown. The site is proposed to be redeveloped into a mixed-use development comprising social and affordable dwellings, a place of public worship and a variety of commercial and community spaces.

Refer to the report inputs section of this report for the specific details of the proposed development used as the basis of this infrastructure assessment.

This report is based on the documents received prior to 28/02/2025. These drawings and area schedules were used as the basis of this preliminary analysis.



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REPORT INPUTS

ELECTRICAL INFRASTRUCTURE

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REPORT INPUTS

EXISTING POWER INFRASTRUCTURE

Neurons' Level 3 Accredited Services Provider (ASP) sub-consultant Aaron Russell from *Projen*, carried out an initial investigation to understand the existing electrical infrastructure for this site. The intent of this investigation is to determine the preliminary risks, opportunities and implications to provide power to the proposed development. Note a formal application to Ausgrid will be required to confirm the power connection strategy and requirements for this development.

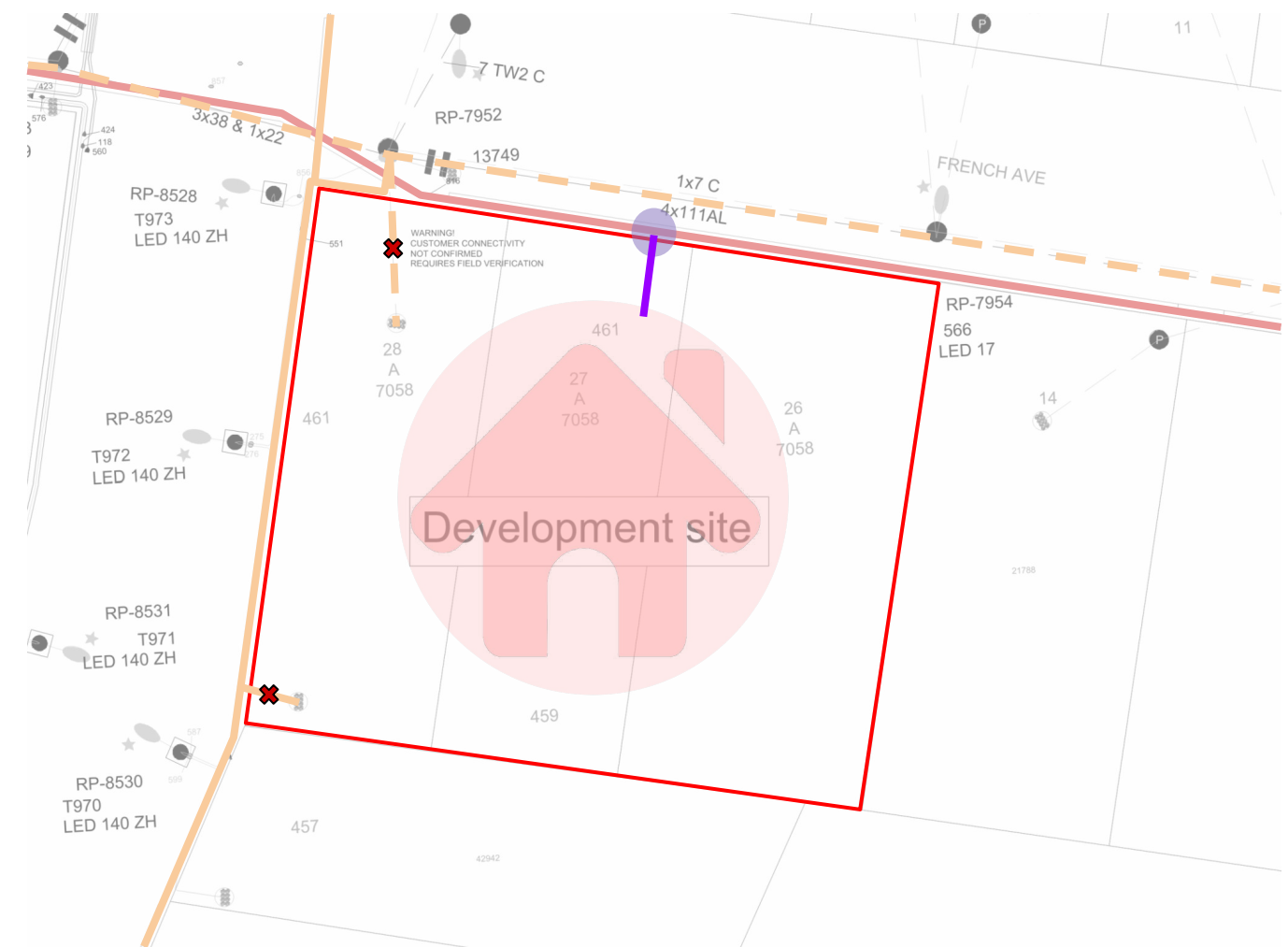
The Ausgrid network maps indicate that the nearest High Voltage available for substation loop-in is adjacent to the site with connection opportunities along French Avenue.

The site is currently served from underground and overhead service cables. These will need to be disconnected to allow for demolition works.

Existing overhead power lines and poles along French Avenue may clash with the development. Existing underground HV cables in French Ave may also require relocation if levels are changing. These have been illustrated in the adjacent image.

The cost of relocations is unknown until further detailed scope is defined.

An ASP Level 03 design will be required to fully flesh out the design requirements for this development.



Power Infrastructure Map

- Below Ground High Voltage Power
- - - Overhead High Voltage Power
- Below Ground Low Voltage Power
- - - Overhead Low Voltage Power
- Substation
- Development Location
- Proposed Power Connection Strategy

ELECTRICAL INFRASTRUCTURE

AUTHORITY INTERFACE

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REPORT INPUTS

PROPOSED ELECTRICAL SERVICES

The preliminary maximum demand for this site is 1,883 amps or 1,305kVA in accordance with AS3000. AS3000 has been found to be typically conservative in nature when compared to actual site metered loads. Based on this, we have compared the data of various measured loads on electric sites and the data suggests the maximum demand could be diversified to 1,679 amps (1,164kVA). The maximum demand will need to be monitored through detailed design to this diversified load.

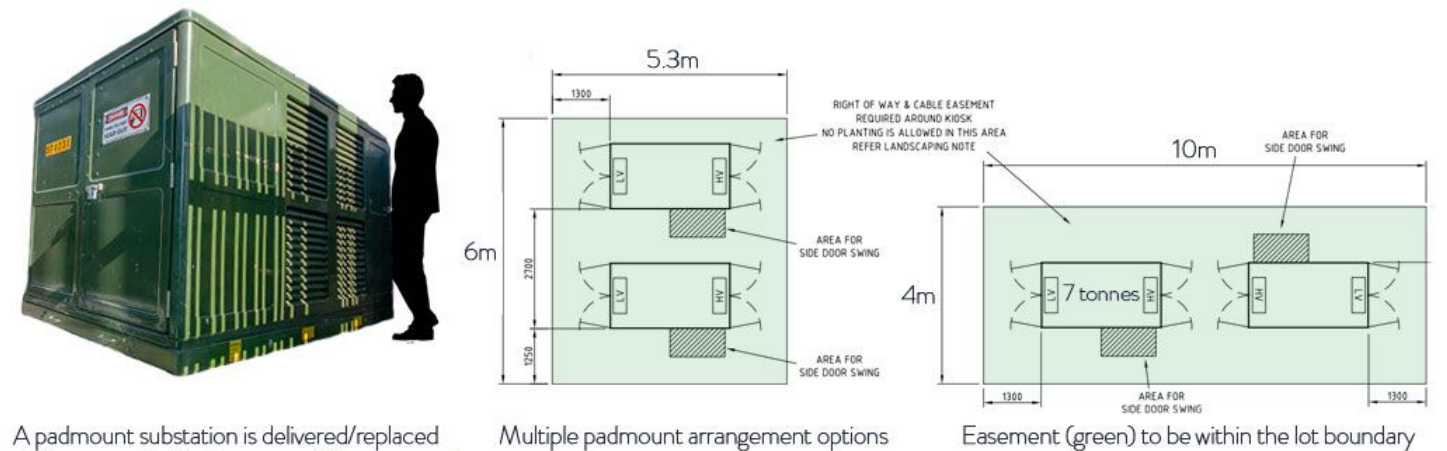
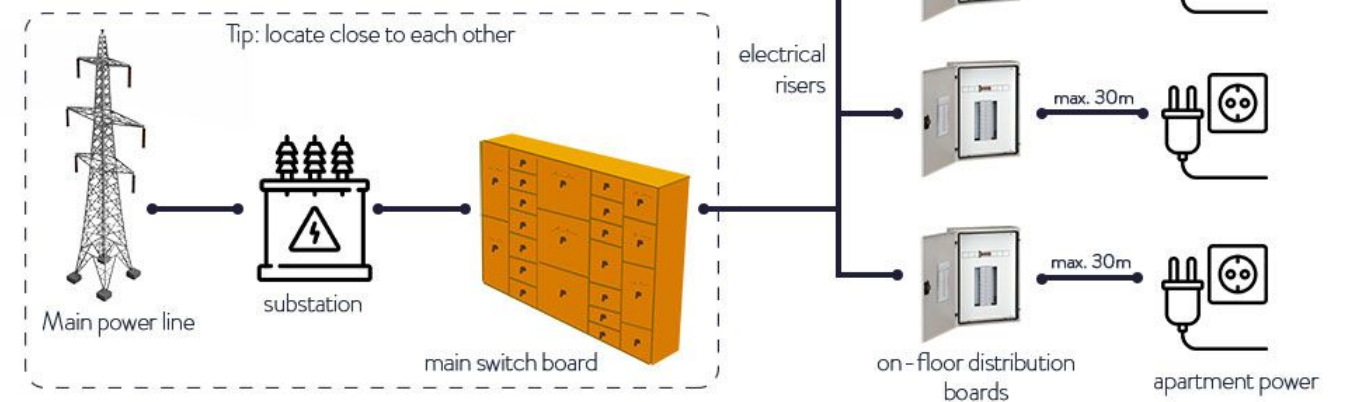
The site will likely require two new 1,000 kVA kiosk or mini chamber substations. A formal application to Ausgrid will be required to confirm.

The design guide outlines all of the major requirements for this substation.

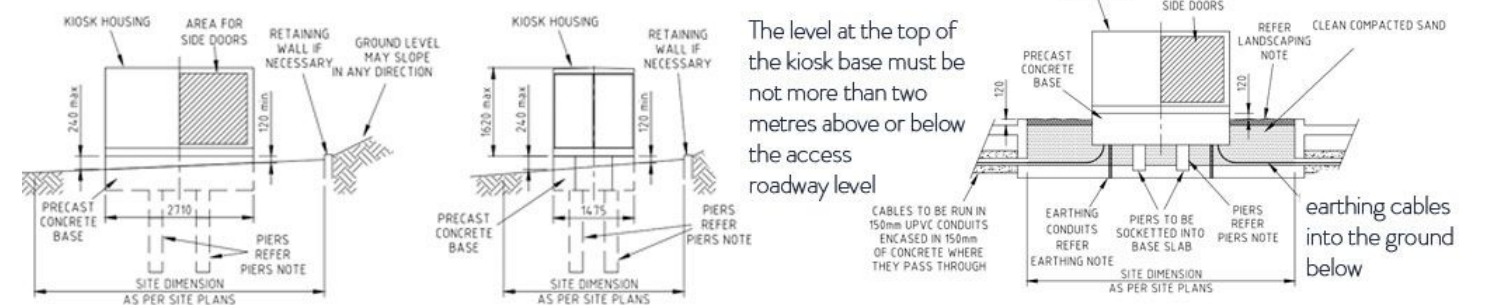
For further ASP L03 advice, you can contact Aaron Russell from Projen who can aid with the detailed ASP L03 design work if desired.

Contact:
Aaron Russell
PROJEN
PROJECT ENGINEERING & POWER DESIGN
aaronrussell@projen.com.au

Electrical infrastructure overview



A padmount substation is delivered/replaced via heavy truck with 5m span vehicle mounted crane on all weather surface road.



Installing padmount substations on the ground

Installing padmount substations over a supporting structure

COMMUNICATIONS INFRASTRUCTURE

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REPORT INPUTS

The importance of connectivity to the digital world has never been more important to new developments than now. Your development will need a connection to one or more telecommunication providers within your area.

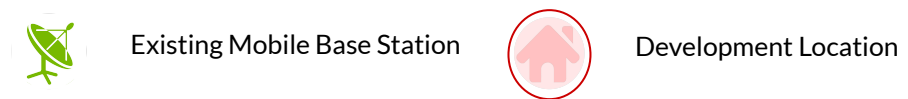
Connecting to NBN, Fibre to the Premises (FTTP) or similar is required to provide numerous phone and wifi capabilities to your building. The next step is to establish what are the available communication providers close to your site, what would be involved to connect up your proposed building physically, and if any communication infrastructure modifications are required to develop your building. This section outlines what available carrier services are in close proximity to your site. It also outlines any risks or costs associated with those connections.

Mobile base stations

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



Mobile Base Station Map



COMMUNICATIONS INFRASTRUCTURE

AUTHORITY INTERFACE

EXEC SUMMARY

SITE OVERVIEW

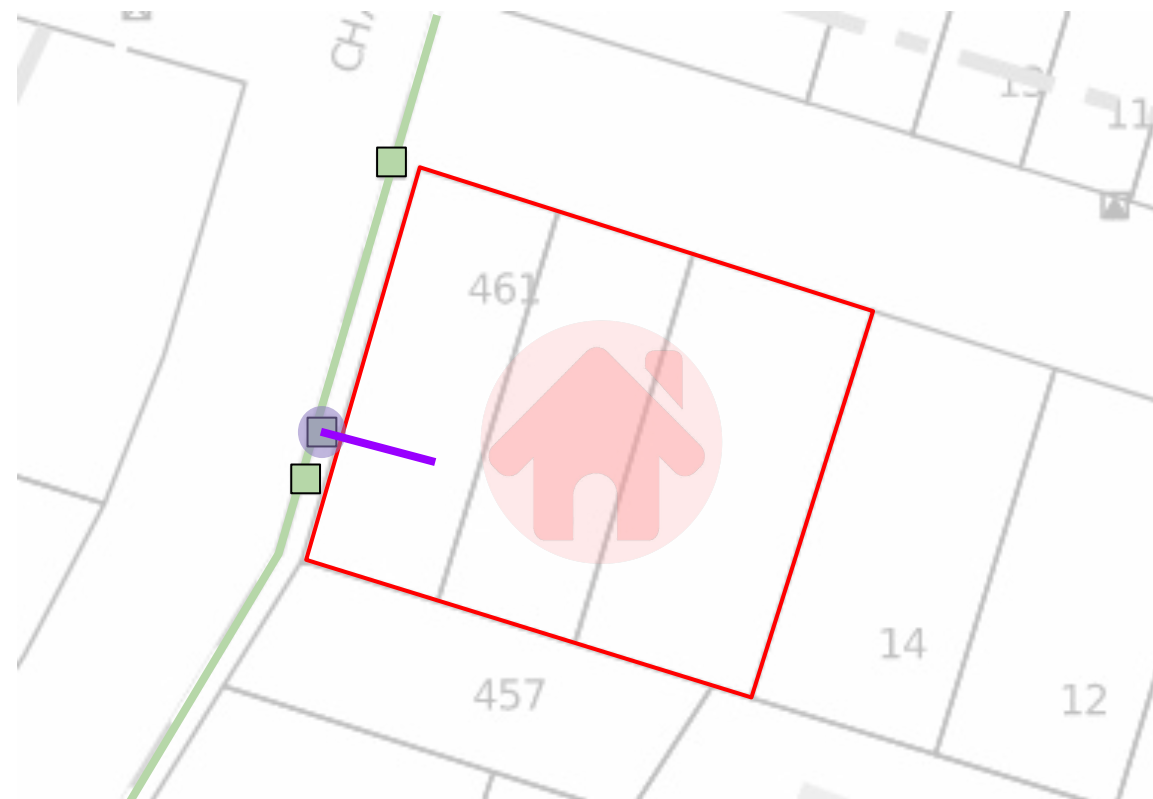
BUILDING CONNECTIONS

- > POWER
- > **COMMS**
- > WATER
- > GAS
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REPORT INPUTS

Ucomm

The existing Ucomm carrier service infrastructure is illustrated below. As shown, there are connection opportunities available for this site, but requires extending the Ucomm Fibre Network as shown.



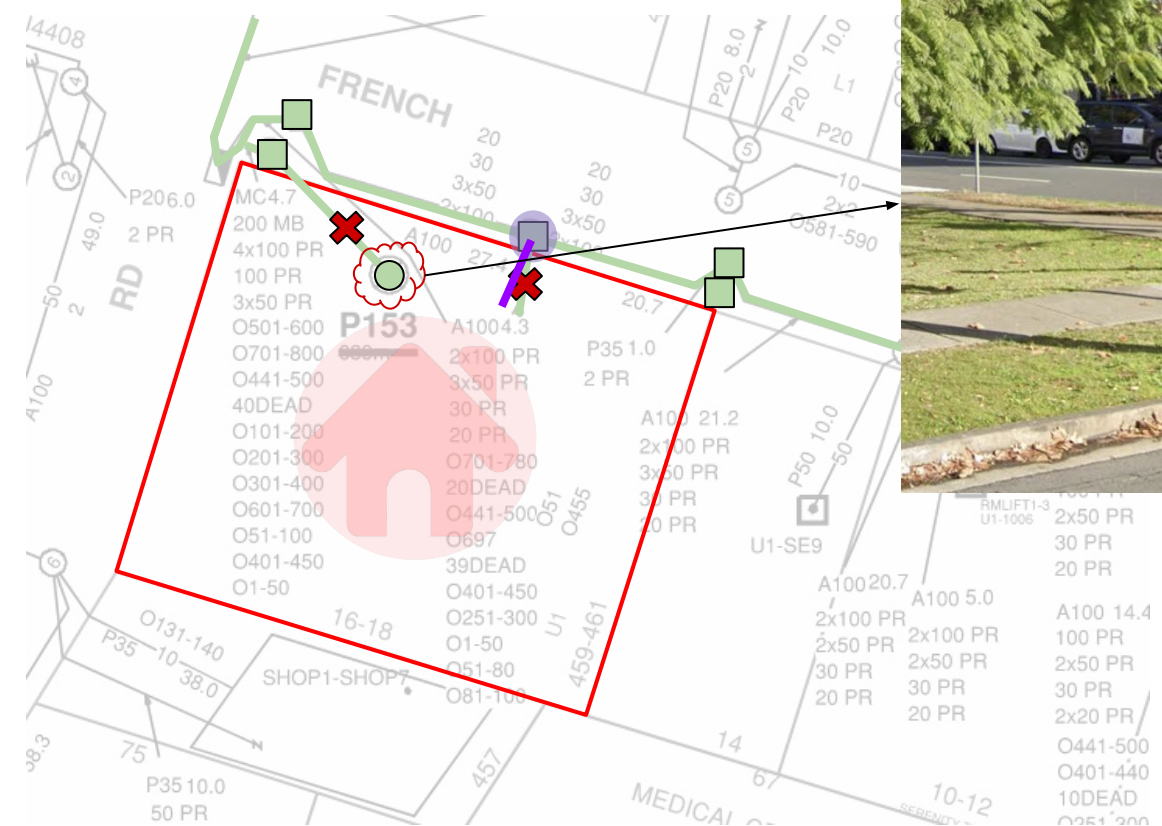
Fibre Infrastructure Map



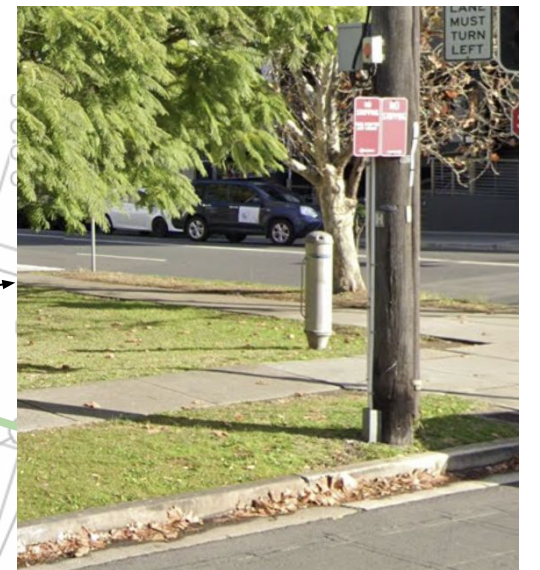
Telstra

The existing Telstra carrier service infrastructure is illustrated below. As shown, there are connection opportunities available for this site, but requires extending the Telstra Fibre Network as shown.

Key Issue: There is an existing comms pillar on site. We recommend surveying the site to determine if it needs to be removed or relocated, subject to negotiations with Telstra.



Fibre Infrastructure Map



WATER INFRASTRUCTURE

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SITE OVERVIEW

BUILDING CONNECTIONS

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

REPORT INPUTS

The proposed connection point and existing water mains are illustrated in the adjacent image. The site has an existing 150mm and 200mm water mains running along Chapel Road. There is also a 200mm water mains running along French Ave.

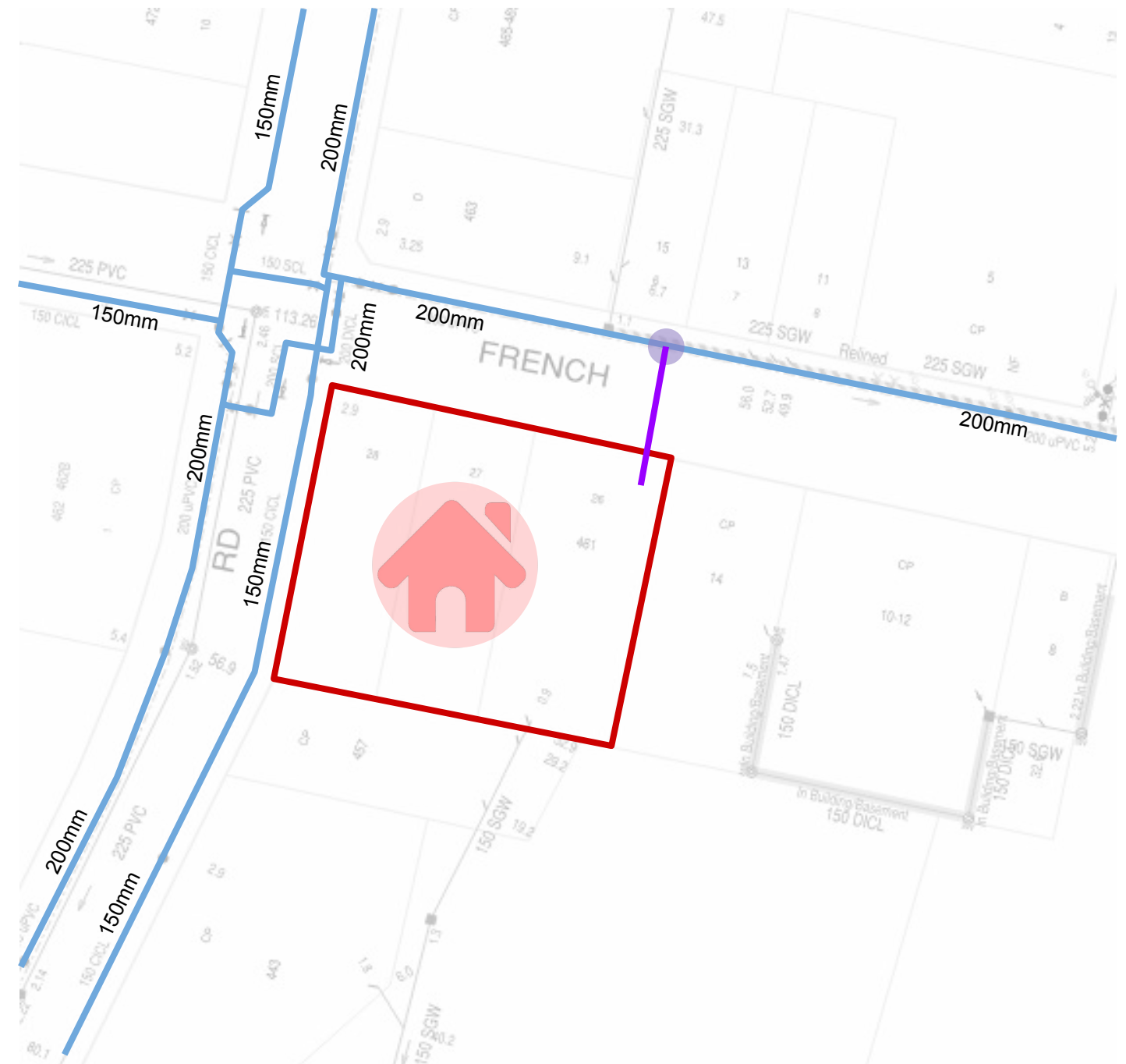
Based on the preliminary calculations, the proposed development is likely to require a new 200mm mains water connection. We recommend a new 200mm water main connection to the French Ave connection point as illustrated in the adjacent image. Careful coordination with Sydney water will be required.

The connection location may need to be coordinated with the proposed fire booster location.

A pressure and flow enquiry was carried out on the 200mm on French Avenue which showed sufficient flow to serve the site.

When you are ready to start your development, you must apply for a Section 73 Compliance Certificate. This certificate proves you meet Sydney waters requirements. We recommend engaging an accredited Sydney Water Coordinator early to help scope and manage these works. We recommend *Rose Atkins Rimmer (Infrastructure) Pty Ltd* or similar.

No other water-related infrastructure appears to run through this site.



Water Infrastructure Map

- Water Main
- Recycled Water Main
- Development Location
- Proposed Water Connection Strategy

GAS INFRASTRUCTURE

AUTHORITY INTERFACE

EXEC SUMMARY

SITE OVERVIEW

BUILDING CONNECTIONS

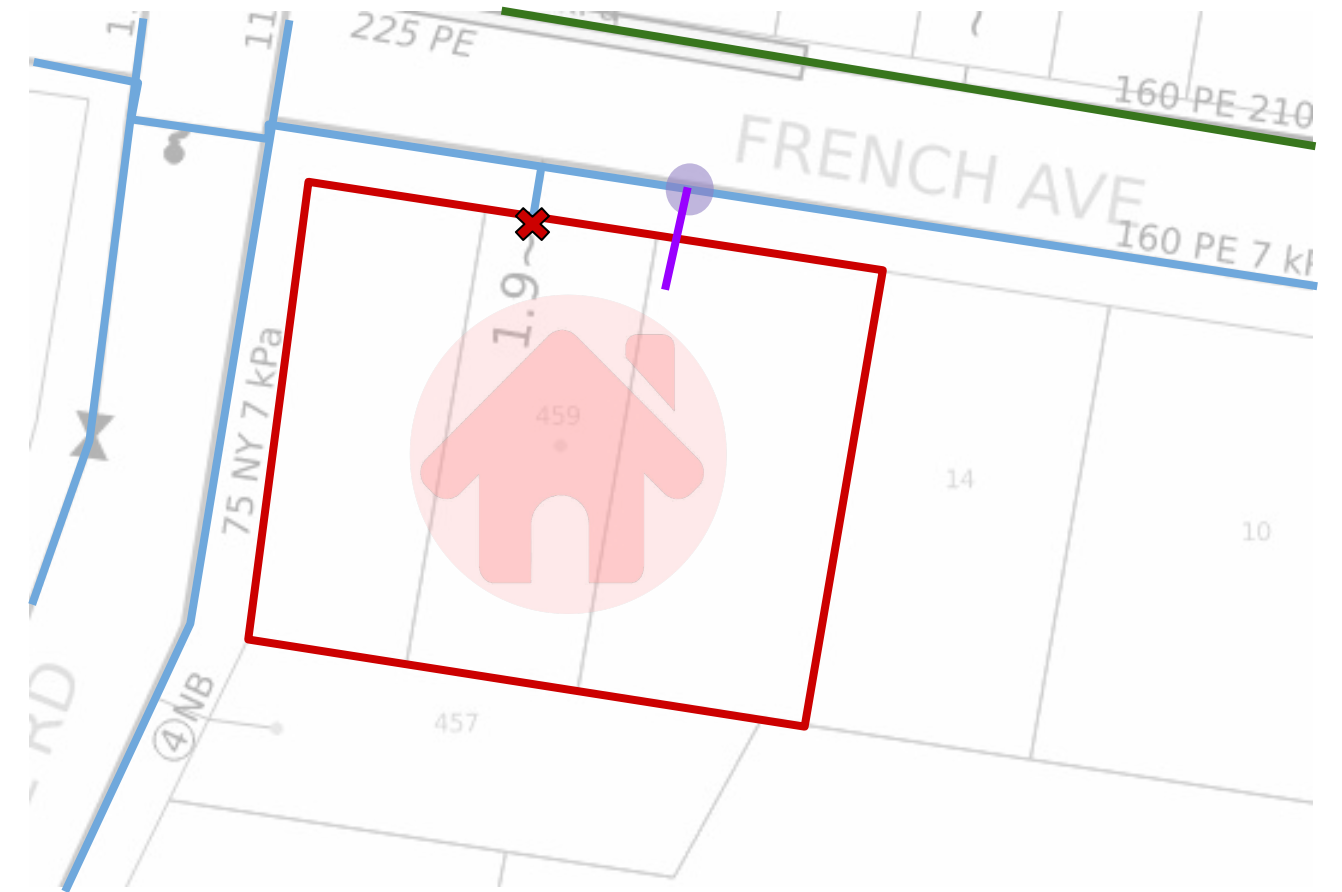
- > POWER
- > COMMS
- > WATER
- > GAS
- > SEWER

REPORT INPUTS

There is a low pressure 7 kPa gas main running adjacent to the proposed site on French Avenue as illustrated in the adjacent image.

We understand that gas will not be utilised in this development, meaning a gas connection and gas regulator set will not be required.

There is an existing gas service connection and a gas regulator set on site at the French Avenue frontage. This infrastructure will need to be removed.



Gas Infrastructure Map

- Low Pressure Gas Main
- Medium Pressure Gas Main
- Development Location
- Proposed Gas Connection Strategy

SEWER INFRASTRUCTURE

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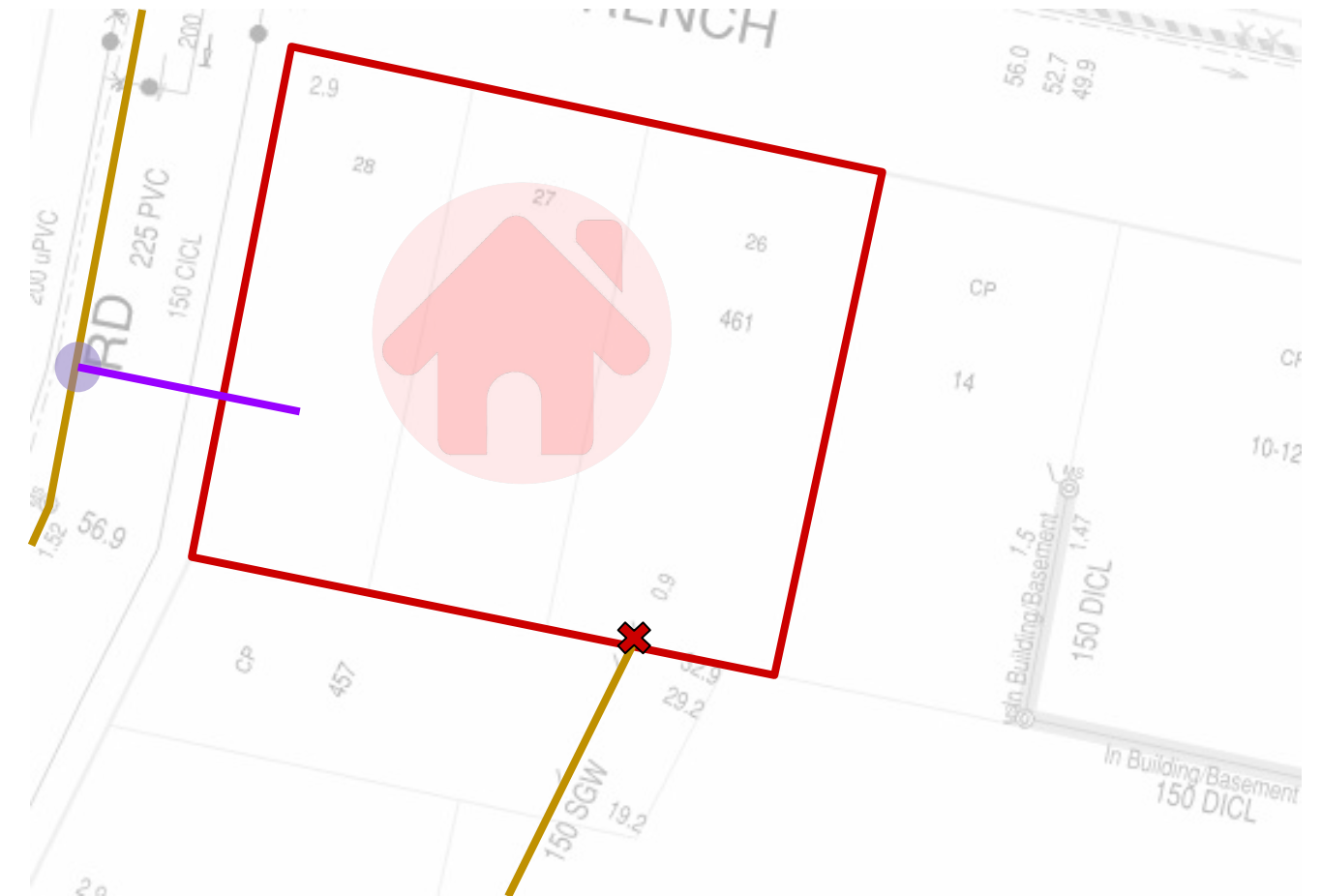
REPORT INPUTS

There is a 225mm sewer main located on Chapel Road, as shown in the adjacent image. There is also a 150mm sewer mains serving the existing developments located on the southern boundary of the site.

Based on the preliminary calculations, this site is likely to require a new 225mm mains sewer connection. The existing sewer main on Chapel Road is a 225mm sewer main which may have capacity to serve this development. The connection point(s) are illustrated in the adjacent image.

The existing sewer connection at the rear of the site will need to be capped off and removed from the proposed site as illustrated in the adjacent image.

We recommend engaging a Sydney Water Coordinator. Should the DA be lodged soon, you can submit a section 73 application to receive feedback from Sydney Water as to the preferred connection strategy. This application cannot be finalised without development consent or a complying development certificate. Therefore, if the DA submission is some time away, a preliminary Section 73 assessment can be completed to mitigate this project risk. An accredited Sydney Water Coordinator can help with this task if desired, such as Rose Atkins Rimmer (Infrastructure) Pty Ltd or similar.



Sewer Infrastructure Map

- Sewer Main
- Development Location
- Proposed Sewer Connection Strategy

DESIGN INPUTS

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REPORT INPUTS

Question	Answer	Question	Answer
Number of rooms	185	Total area of underground parking spaces	2163
Total building area	16287	Total number of underground car parking?	60
Number of levels (above ground)	23	Number of basement stairwells	2
Total number of levels in the building (incl. any underground levels)	24	Does your carpark have a loading dock that is more than 10m deep / from an external opening?	Yes
What is the buildings total effective height? (m)	74.2	Are there mixed-use tenancies in your development?	Yes
Maximum number of rooms per level	11	Overall area of all mixed-use	2168
Number of stairwells above ground?	2		
Type of development?	Mid-range		
Is an external kiosk substation acceptable (recommended if possible)	Yes		
Are 1.9m high rooftop plant acceptable on this development?	No		
Is centralised domestic hot water plant acceptable? (recommended)	No		
Do you want natural gas in your development	No		
Are air-conditioning condensers acceptable on balconies?	Yes		
Air conditioning to both bedrooms and living areas?	Both bedrooms and living areas		
Preferred air-conditioning indoor unit type?	Fully ducted AC		
How many electric car charging points are preferred	5		
Does your building have an underground carpark?	Yes		
Number of levels of underground car parking	2		



DESIGN INPUTS

Refer to the design guide for the full list of standards and codes used to establish the preliminary loads for this development.

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