



SERVICES INFRASTRUCTURE REPORT

47390_SIR_04 - 1-11 Loftus St, Concord

POWERED BY
neuron

Date 2025-07-21 - Revision 04.



AUTHORITY INTERFACE

EXEC SUMMARY

SITE OVERVIEW

BUILDING CONNECTIONS

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

REPORT INPUTS

Welcome

This report has been developed for Mainway for the development of 1-11 Loftus St, Concord into a new residential development.

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

POWER

The preliminary maximum demand is 2076 & 2048 amps respectively for each site. The site will require a new substation arrangement. Multiple options have been proposed. The nearest HV available for substation loop-in runs along Gipps Street, Loftus Street & Burton Street. Note some relocations and undergrounding of existing poles and overhead lines may be required. These costs are excluded from the budget estimate.

COMMUNICATION SYSTEMS

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

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

WATER

There is an existing 100mm and 125mm water main running down Gipps Street, Loftus Street, and Burton Street which may not be sufficient to serve this development. A new extension or amplification will be required, connecting to a larger main on Parramatta Road. 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 medium pressure gas mains running up around the existing site. There are existing Jemena gas service connections currently running into the site. This infrastructure will need to be decommissioned prior demolition and excavation. We do understand that gas will not be utilised in this development, meaning a gas connection and gas regulator set will not be required.

SEWER

Key Issue: There are multiple 150mm sewer mains running through the site serving the adjacent properties that will need to be diverted. A sewer peg out survey will be completed to accurately locate the main and a diversion strategy will be completed by the Sydney Water Coordinator and approved as part of the section 73 process. **Key Issue:** We note there is a risk of the local sewer network not having capacity to serve the site, both in terms of the size of the nearby mains, and the nearby pump station. Multiple connections, and amplifications of nearby mains will likely be required. **Key Issue:** We note there is a sewer vent shaft currently within the site boundary

BUDGET ESTIMATE

Refer to budget estimate assumptions and disclaimers within this report.

Connection type	Budget estimate (\$AUD)	Comment
Power	\$1,000,000 - \$1,300,000	
Comms carrier lead-ins	\$45,000 - \$160,000	
Water	Option 1: \$250,000-\$300,000 Option 2: \$250,000-\$300,000	Amplification/extension only. Fire Water costs excluded.
Sewer	To be developed	As noted in the Sewer Section, there will be a large variance in costs for both the diversion, and serving the site pending on negotiations with Sydney Water.
Gas	0	All Electric Assumed.
Total	\$1,295,000 - Unknown	Dependant on chosen connection options

Note: Estimates exclude:

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

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

SITE OVERVIEW

The existing site 1-11 Loftus Street, Concord NSW 2137, Australia

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 the document “2025-07-16 Drawings for Client Issue”. These drawings and area schedules were used as the basis of this preliminary analysis.





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ELECTRICAL INFRASTRUCTURE

PROPOSED ELECTRICAL SERVICES

The proposed substation arrangements for each development site is listed below, as well as the associated maximum demand, cost & area. For the total development impact, this area can then be multiplied by the associated cost/sqm of the lost car space area.

Site	AS3000 (A)	Diversified (kVA)
BTR	2076	1584
BTS	2014	1389
Combined Site	3720	2553

Substation Options		Substation Arrangement	Number of Transformers	Cost	Area (m ²)	Cost of Area (based on \$8,000 per sqm)	Total Cost
Individual Infrastructure (Option 1)	BTR	2 x 1000 kVA Kiosk	2	\$580,000	0	0	\$580,000
	BTS	2 x 1000 kVA Kiosk	2	\$580,000	0	0	\$580,000
	Total	4 x 1000 kVA Kiosk	4	\$1,160,000	0	0	\$1,160,000
Combined Infrastructure (Option 2a)		3 x 1500 kVA Chamber	3	\$1,240,000	118	\$590,000	\$2,184,000
Combined Infrastructure (Option 2b)*		3 x 1000 kVA Kiosk	3	\$870,000	0	0	\$870,000

*Note: We don't anticipate Option 2b to be viable, due to the load split of the development.

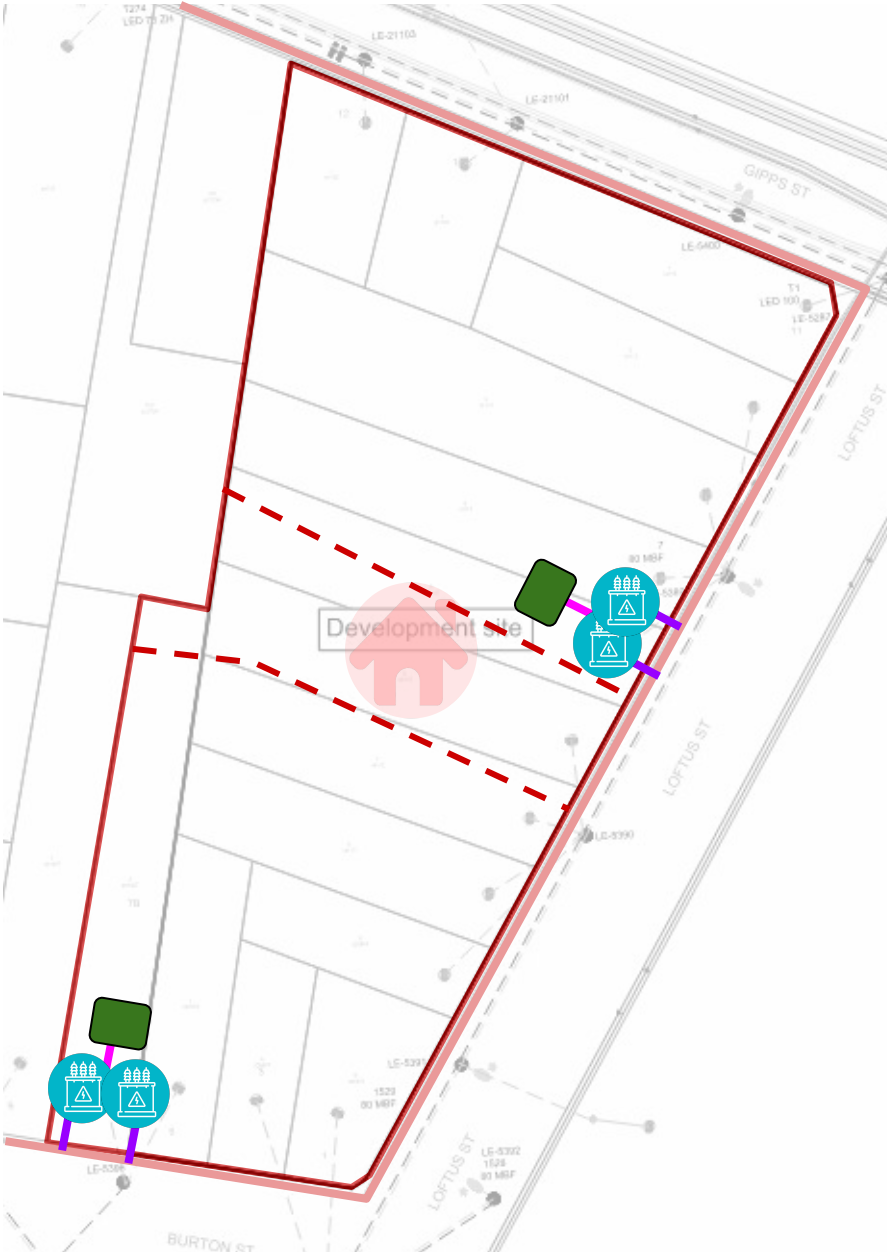
Costs exclude:

- Builders' works.
- Internal reticulation
- HV Feeder Upgrades

- > POWER
- > COMMS
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- > SEWER

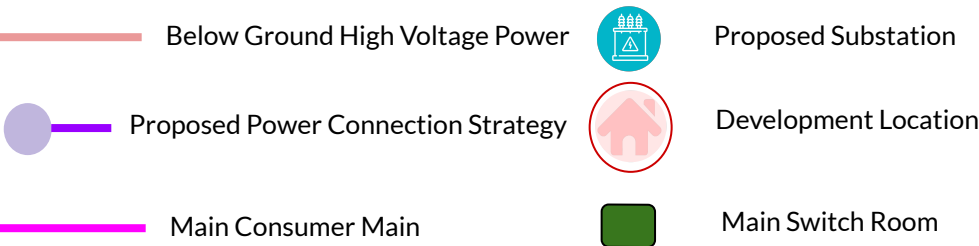
ELECTRICAL INFRASTRUCTURE

PROPOSED ELECTRICAL SERVICES - OPTION 1



Servicing Strategy		Substation Arrangement	Substation Area (m ²)	Substation Cost
Individual Infrastructure	BTR	2 x 1000 kVA Kiosk	0	\$580,000
	BTS	2 x 1000 kVA Kiosk	0	\$580,000
Total			0	\$1,160,000

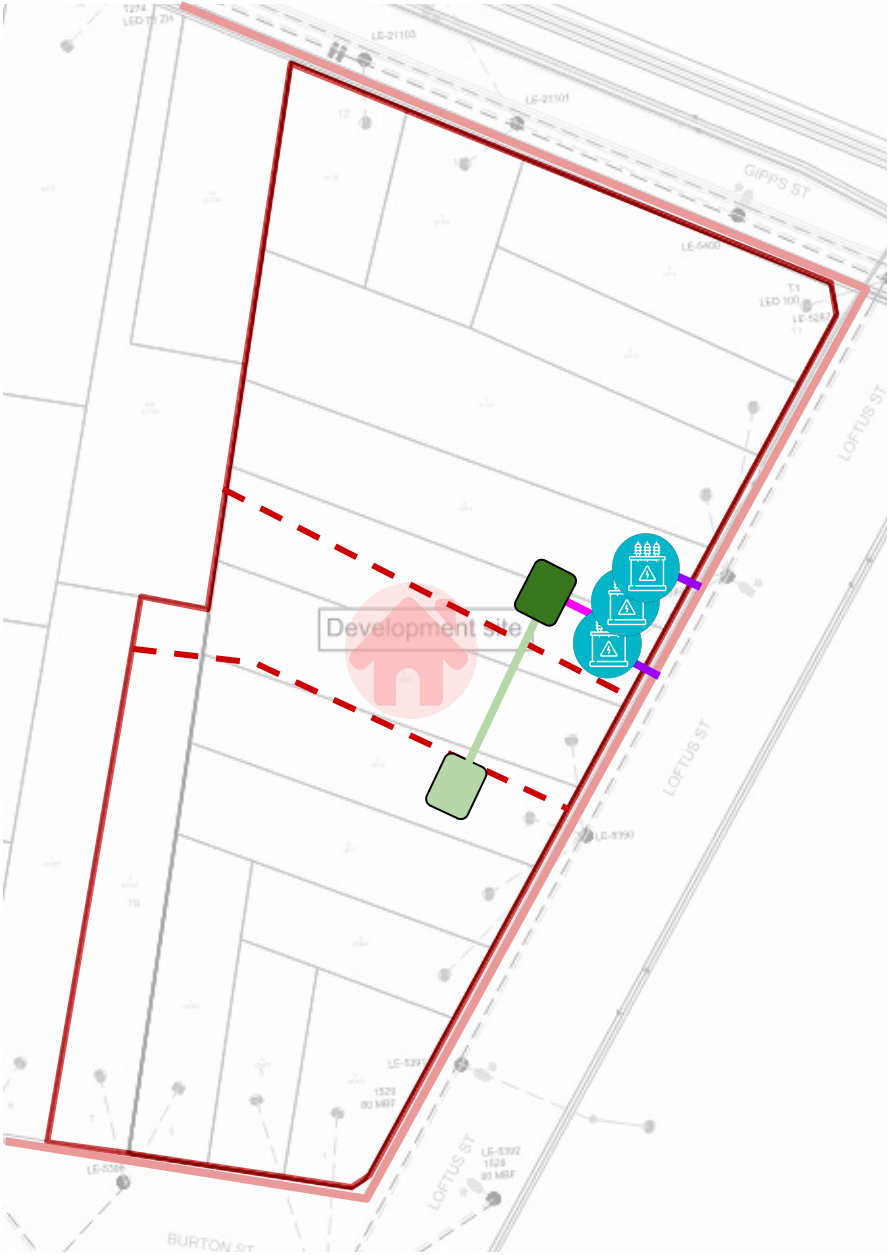
Power Infrastructure Map



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

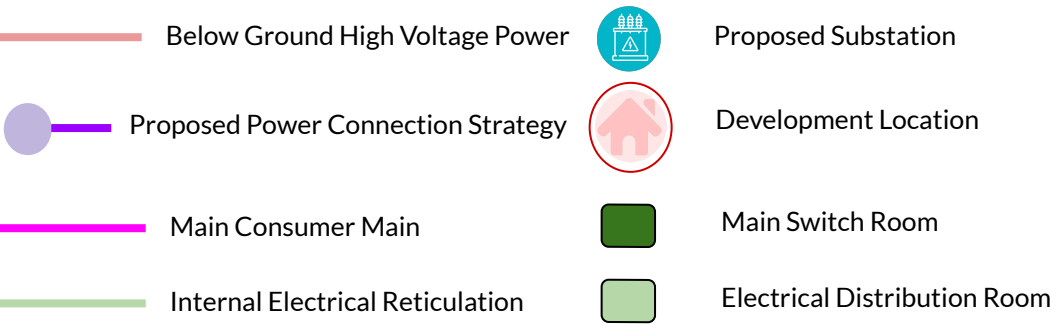
ELECTRICAL INFRASTRUCTURE

PROPOSED ELECTRICAL SERVICES - OPTION 2a



Servicing Strategy		Substation Arrangement	Substation Area (m ²)	Cost of Area (based on \$8,000 per sqm)	Substation Cost	Total Cost
Combined Infrastructure	BTR & BTS	3 x 1500 kVA Chamber	118	\$590,000	\$1,240,000	\$2,184,000
Total			118	\$590,000	\$1,240,000	\$2,184,000

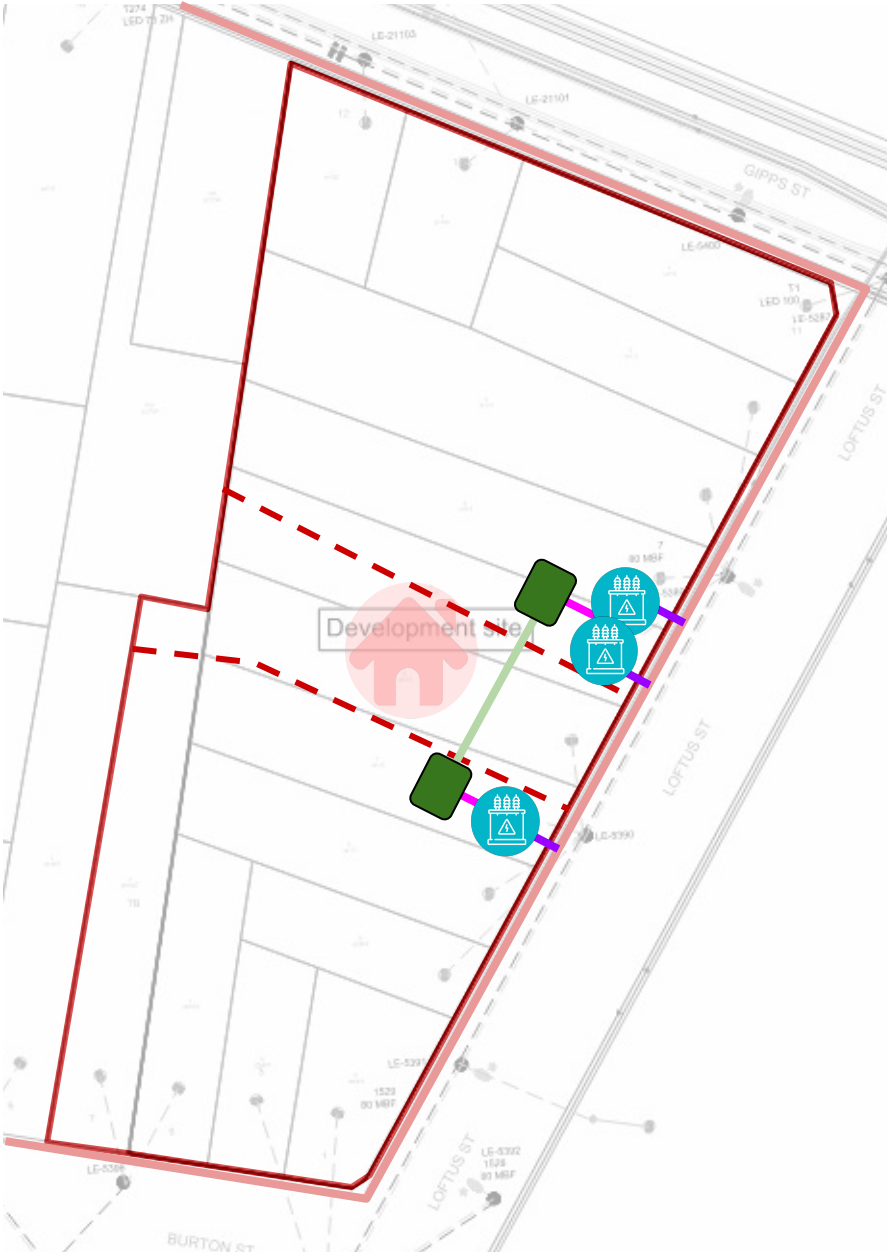
Power Infrastructure Map



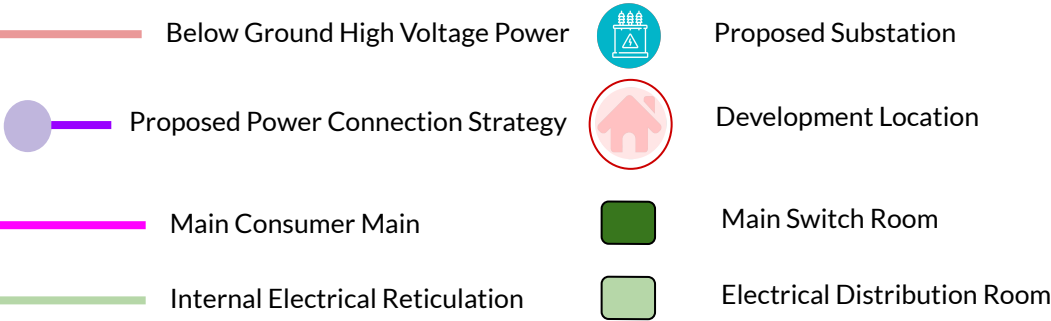
- > POWER
- > COMMS
- > WATER
- > GAS
- > SEWER

ELECTRICAL INFRASTRUCTURE

PROPOSED ELECTRICAL SERVICES - OPTION 2b



Power Infrastructure Map



Servicing Strategy		Substation Arrangement	Substation Area (m ²)	Substation Cost
Combined Infrastructure	BTR & BTS	3 x 1000 kVA Kiosk	0	\$870,000
Total			0	\$870,000

*Note: We don't anticipate Option 2b to be viable, due to the load split of the development.

- > POWER
- > COMMS
- > WATER
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COMMUNICATIONS INFRASTRUCTURE

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



Existing Mobile Base Station



Development Location

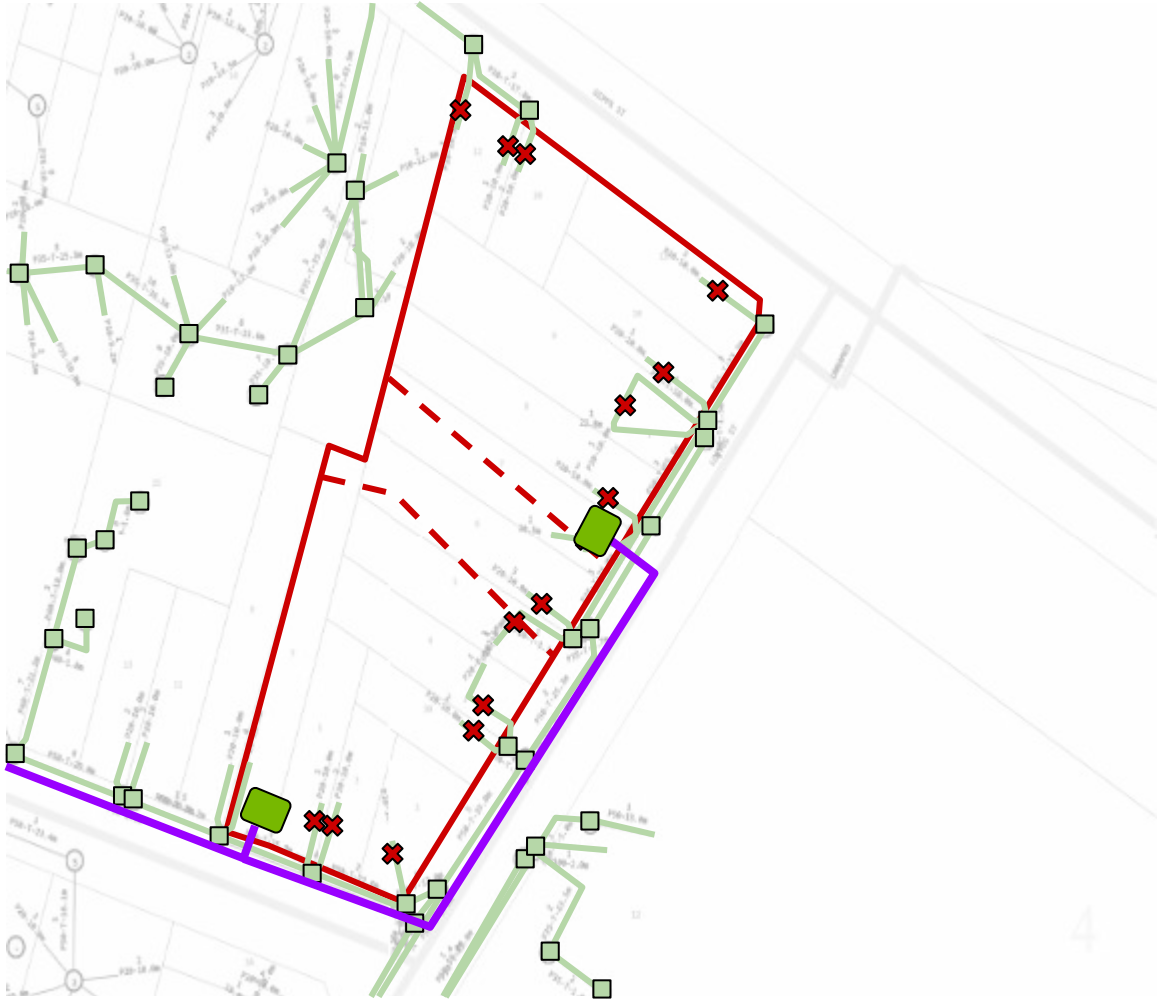
- > POWER
- > COMMS
- > WATER
- > GAS
- > SEWER

COMMUNICATIONS INFRASTRUCTURE

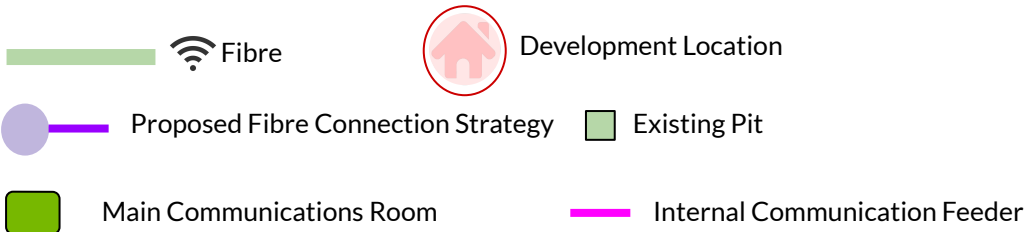
NBN

The existing NBN carrier service infrastructure is illustrated below. As shown, there is a connection opportunity available for this site. There is existing NBN infrastructure already running through the combined site area that will need to be removed prior to excavation. Careful coordination with NBN will be required to facilitate these modifications.

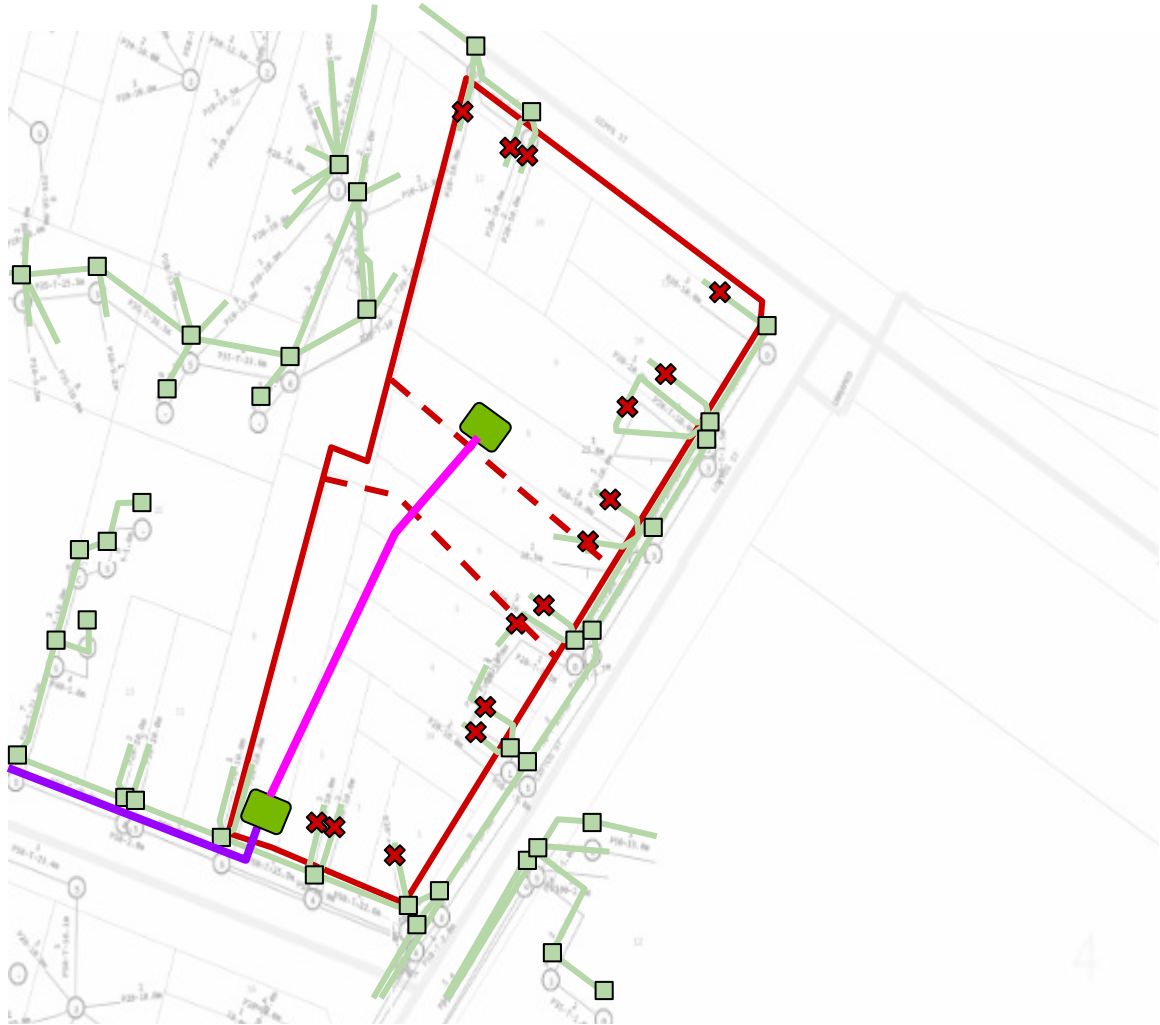
Option 1 - Separate Titles



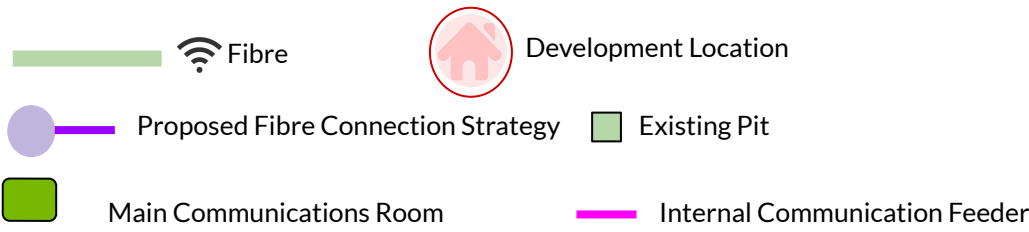
Fibre Infrastructure Map



Option 2 - Combined Title



Fibre Infrastructure Map



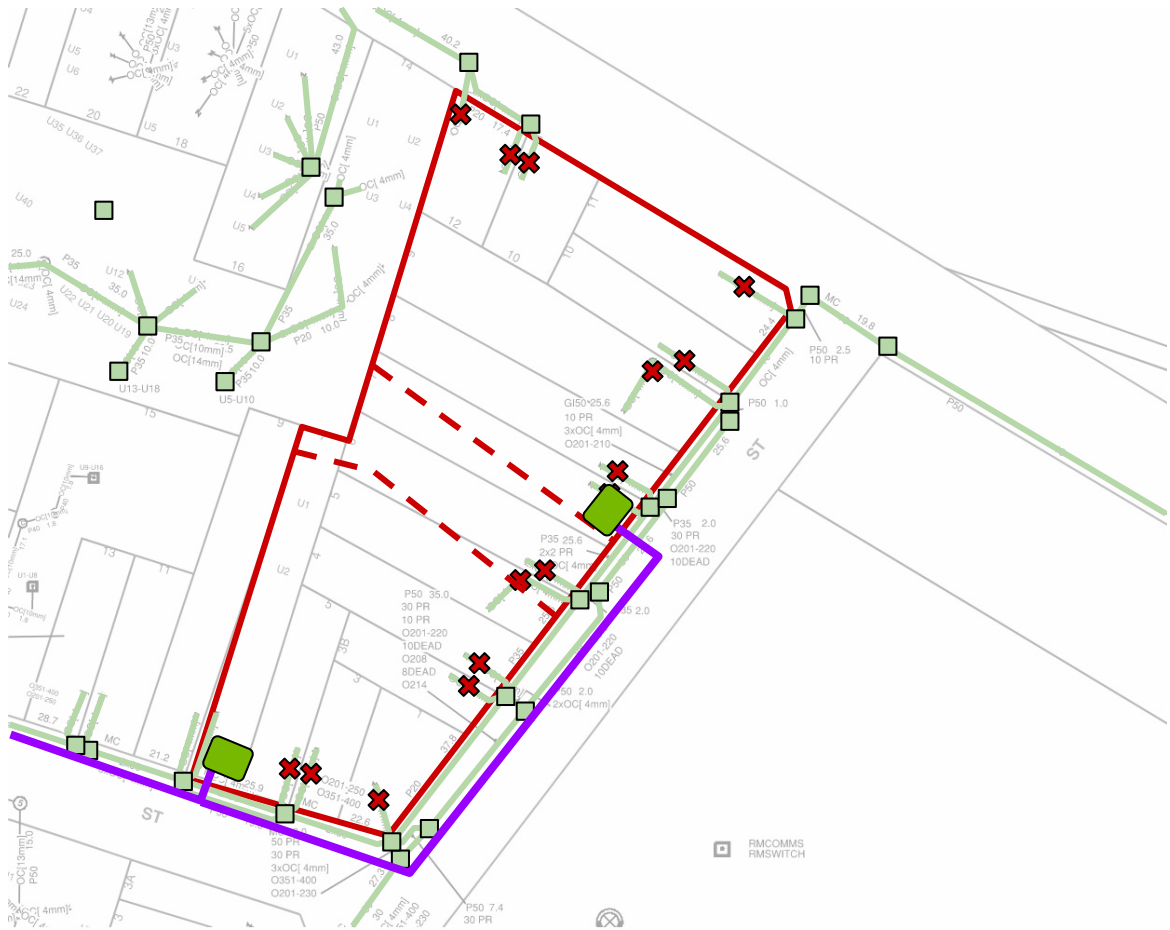
Servicing Strategy		NBN Connection Arrangement	Total Cost	
Individual Infrastructure	BTR	One fiber connection + Extension	\$90,000	\$180,000
	BTS	One fiber connection + Extension	\$90,000	
Combined Infrastructure		One fiber connection + Extension	\$90,000	

COMMUNICATIONS INFRASTRUCTURE

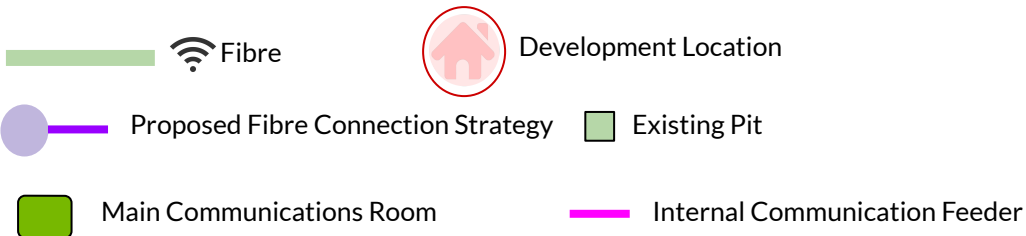
Telstra

The existing Telstra carrier service infrastructure is illustrated below. As shown, there is a connection opportunity available for this site. There is existing Telstra infrastructure already running through the combined site area that will need to be removed prior to excavation. Careful coordination with Telstra will be required to facilitate these modifications.

Option 1 - Separate Titles

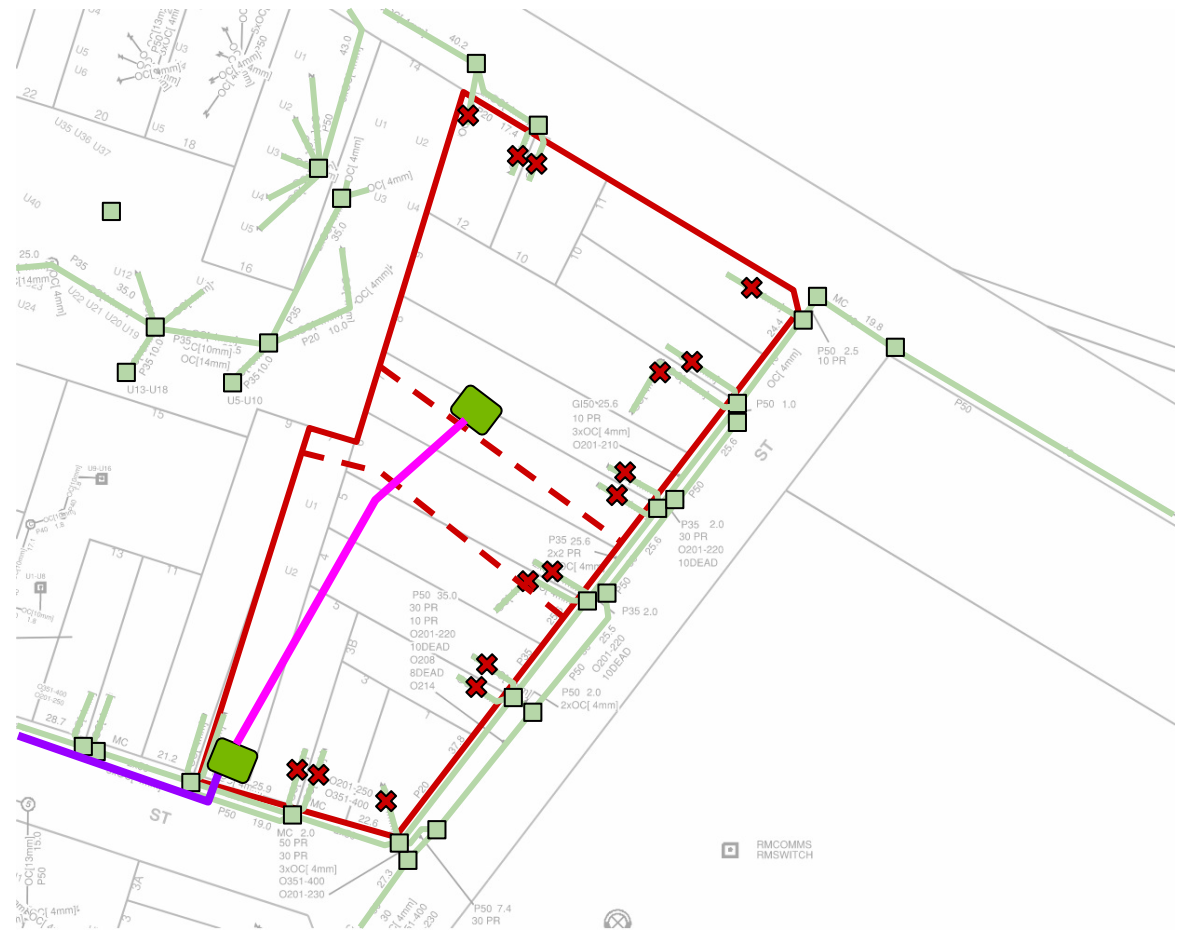


Fibre Infrastructure Map

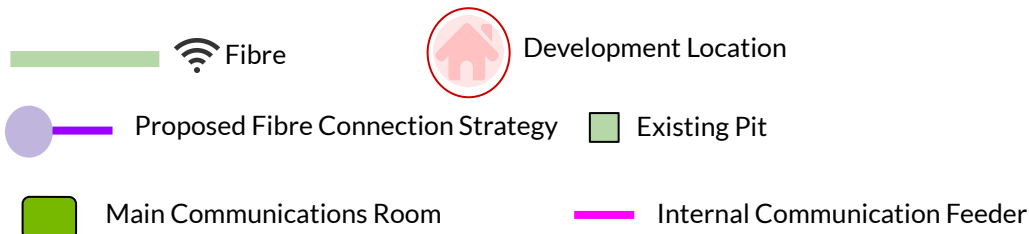


Servicing Strategy		Telstra Connection Arrangement	Total Cost	
Individual Infrastructure	BTR	One fiber connection + Extension	\$90,000	\$180,000
	BTS	One fiber connection + Extension	\$90,000	
Combined Infrastructure		One fiber connection + Extension	\$90,000	

Option 2 - Combined Title



Fibre Infrastructure Map



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

COMMUNICATIONS INFRASTRUCTURE

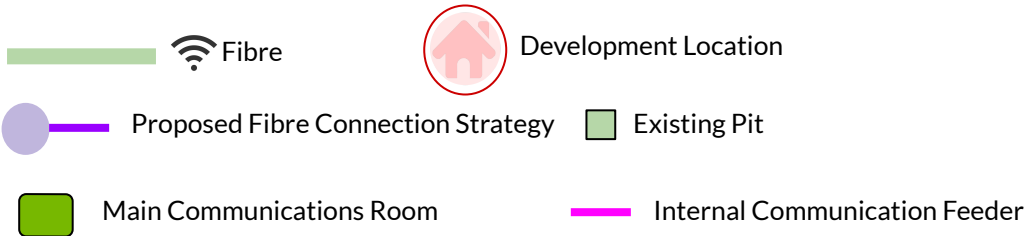
Optus

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

Option 1 - Separate Titles



Fibre Infrastructure Map

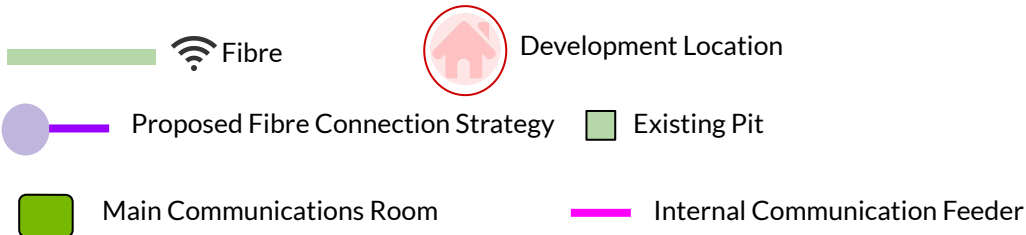


Servicing Strategy		Optus Connection Arrangement	Total Cost	
Individual Infrastructure	BTR	One fiber connection + Extension	\$45,000	\$160,000
	BTS	One fiber connection	\$115,000	
Combined Infrastructure		One fiber connection + Extension	\$45,000	

Option 2 - Combined Title



Fibre Infrastructure Map



WATER INFRASTRUCTURE

The proposed connection point and existing water mains are illustrated in the adjacent image. The site has an existing 100mm water mains running along Gipps Street and Loftus Street and an existing 125mm water main running along Burton Street.

Based on the preliminary calculations, this site is likely to require a new 250mm mains water connection. The existing water supply on the site frontages will likely not be sufficient to support this development. We propose the following strategies, as illustrated in adjacent image. Both options will require the existing infrastructure be amplified or extended back to water mains running along Parramatta Road.

- Options 1: Amplify the existing 100mm water main running along Loftus Street up to 200mm water main, connecting to the 600mm trunk main on Parramatta Road. We do note this option does come with an approval risk, as Sydney Water may not allow any modifications/connections to this large trunk main. Sydney Water will likely request this amplification be extended for the extent of your site frontage (up to Gipps Street)
- Option 2: If Sydney Water does not allow option 1, we propose to establish a new 200mm water main connecting off the existing 200mm main running along Parramatta Road up Loftus Street to serve the proposed development. Sydney Water will likely request this new main be extended for the extent of your site frontage (up to Gipps Street)

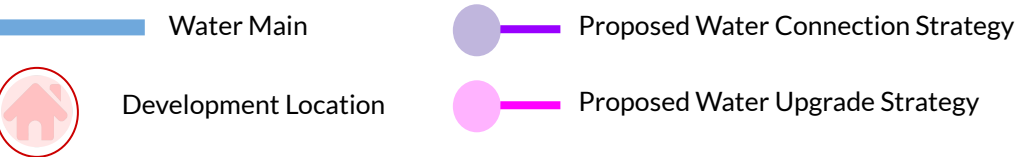
Please note the final water service strategy would subject to Sydney Water approval. Careful coordination with Sydney Water will be required. We note as this area is slated for heavy urbanisation, there may already be upgrades currently planned for general area. (these won't show up on the map until built). There may also be an opportunity to share infrastructure upgrade costs with neighbouring developments.

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.

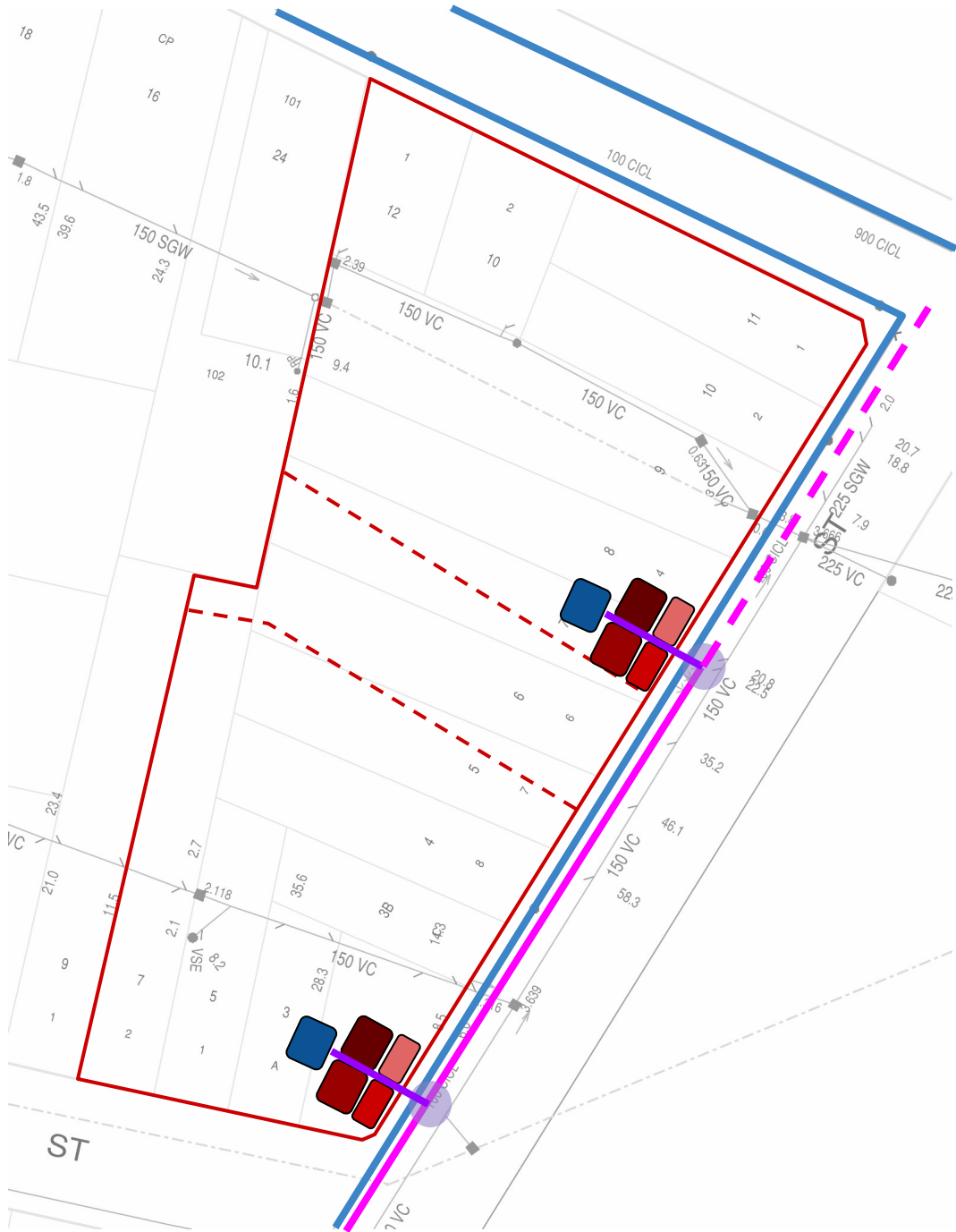


Water Infrastructure Map



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

WATER INFRASTRUCTURE

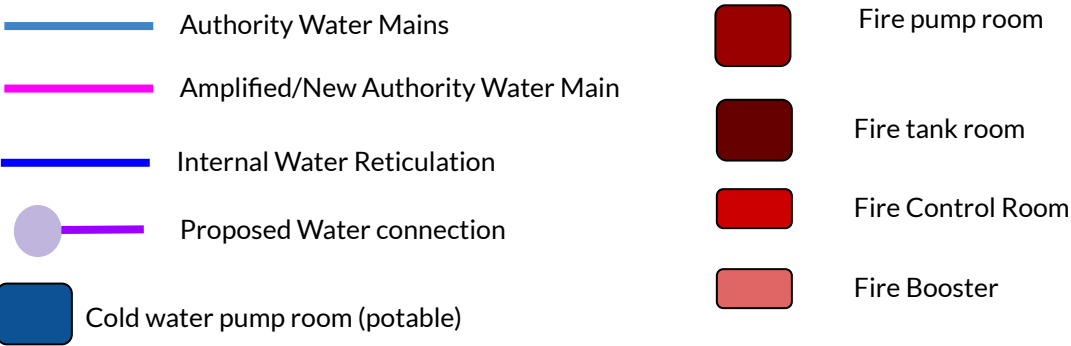


Servicing Strategy		Fire Pump Room Area (m ²)	Fire Tank Area (m ²)	Fire Control Room	Total Area (m ²)		Cost of Area (based on \$8000 per sqm)	
Individual Infrastructure	BTR	35	60	10	105	210	\$840,000	\$1,680,000
	BTS	35	60	10	105		\$840,000	

Servicing Strategy		Fire Pump Room Cost (\$)	Fire Tank Cost (\$)	Fire Control Room Cost (\$)	Fire Booster Cost (\$)	Total Cost	
Individual Infrastructure	BTR	175,000	\$77,000	\$80,000	\$30,000	\$362,000	\$724,000
	BTS	175,000	\$77,000	\$80,000	\$30,000	\$362,000	

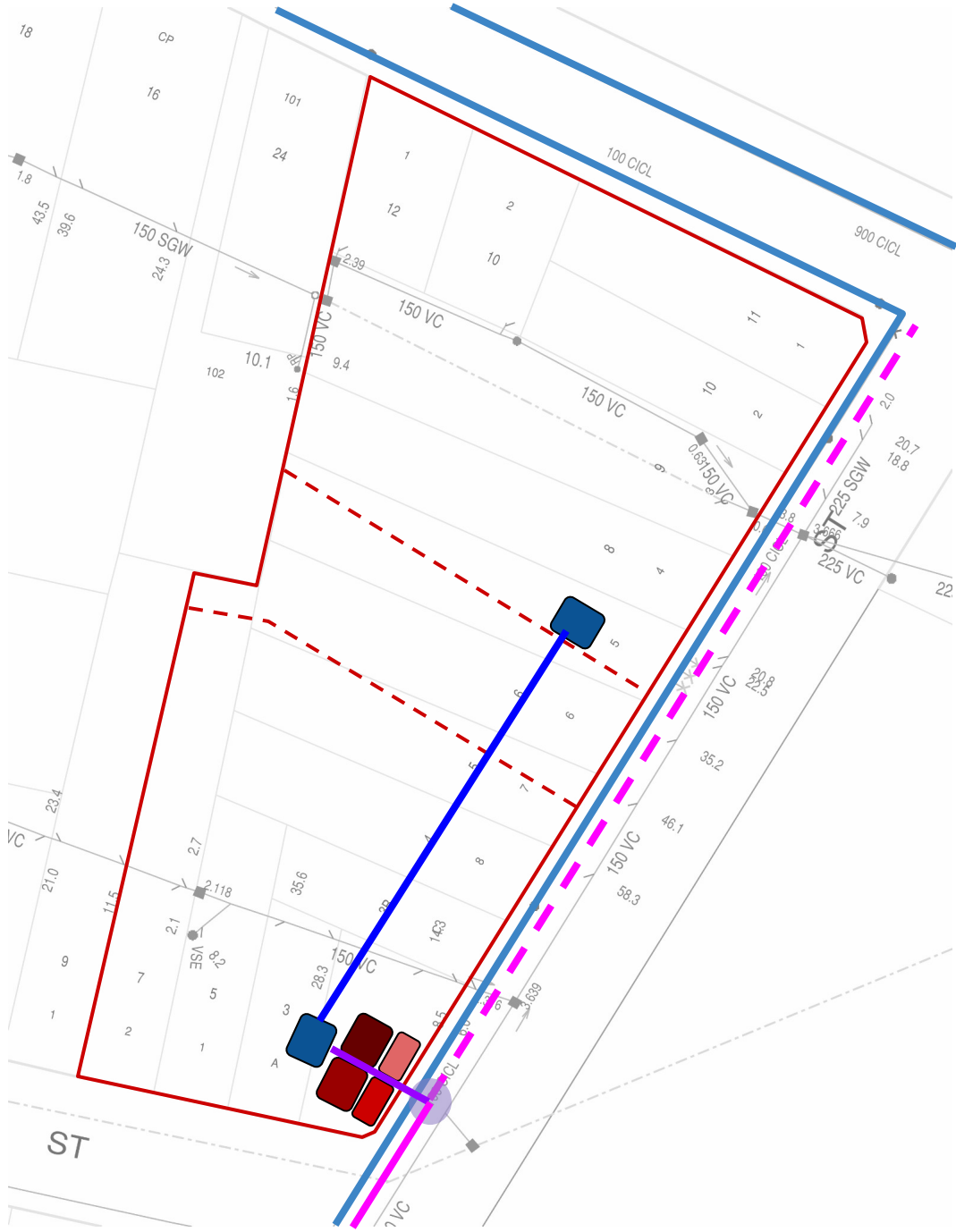
Site	Fire Infrastructure Cost	Fire Infrastructure Area (m ²)	Cost of Area	Total Cost
BTR	\$362,000	105	\$840,000	\$1,202,000
BTS	\$362,000	105	\$840,000	\$1,202,000
Total	\$724,000	210	\$1,680,000	\$2,404,000

Fire & Potable Water Infrastructure Map



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

WATER INFRASTRUCTURE

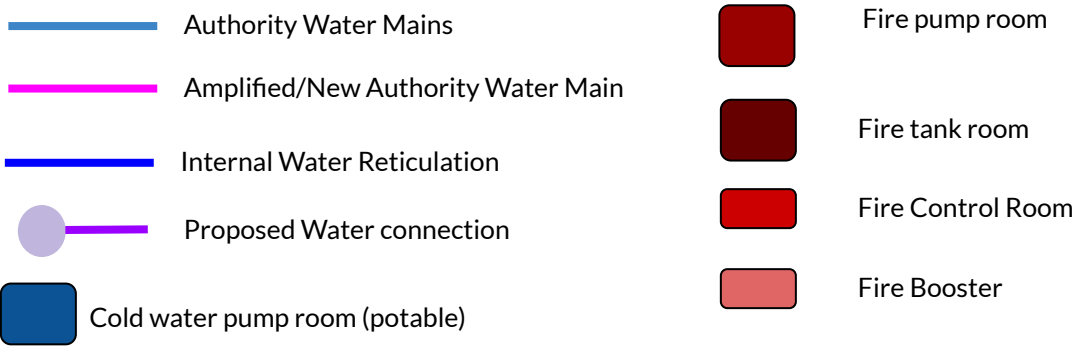


Servicing Strategy		Fire Pump Room Area (m ²)	Fire Tank Area (m ²)	Fire Control Room	Total Area (m ²)	Cost of Area (based on \$8000 per sqm)
Combined Infrastructure	BTR & BTS	35	60	11	106	\$848,000

Servicing Strategy		Fire Pump Room Cost (\$)	Fire Tank Cost (\$)	Fire Control Room Cost (\$)	Fire Booster Cost (\$)	Total Cost
Combined Infrastructure	BTR & BTS	175,000	\$77,000	\$80,000	\$30,000	\$362,000

Site	Fire Infrastructure Cost	Fire Infrastructure Area (m ²)	Cost of Area	Total Cost
BTR & BTS	\$362,000	106	\$848,000	\$1,202,000

Fire & Potable Water Infrastructure Map



GAS INFRASTRUCTURE

AUTHORITY INTERFACE

EXEC SUMMARY

SITE OVERVIEW

BUILDING CONNECTIONS

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

REPORT INPUTS

There is a medium pressure 210kPa gas main running adjacent to the proposed site on Loftus Street, Burton Street, and Gipps Street as illustrated in the adjacent image.

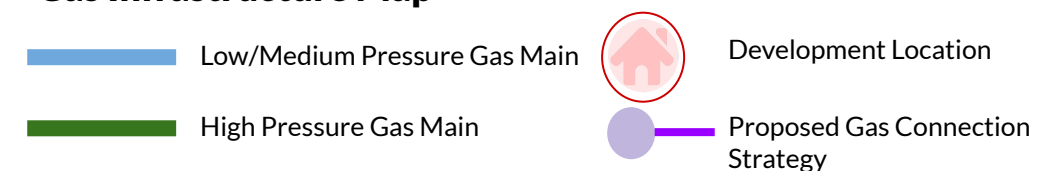
There are existing Jemena gas service connections currently running into the site. This infrastructure will need to be decommissioned prior demolition and excavation. Careful coordination with Jemena is required to facilitate any modifications.

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

If gas is envisioned for the site, there is readily available supply adjacent to the site.



Gas Infrastructure Map



SEWER INFRASTRUCTURE

AUTHORITY INTERFACE

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BUILDING CONNECTIONS

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REPORT INPUTS

EXISTING SEWER INFRASTRUCTURE

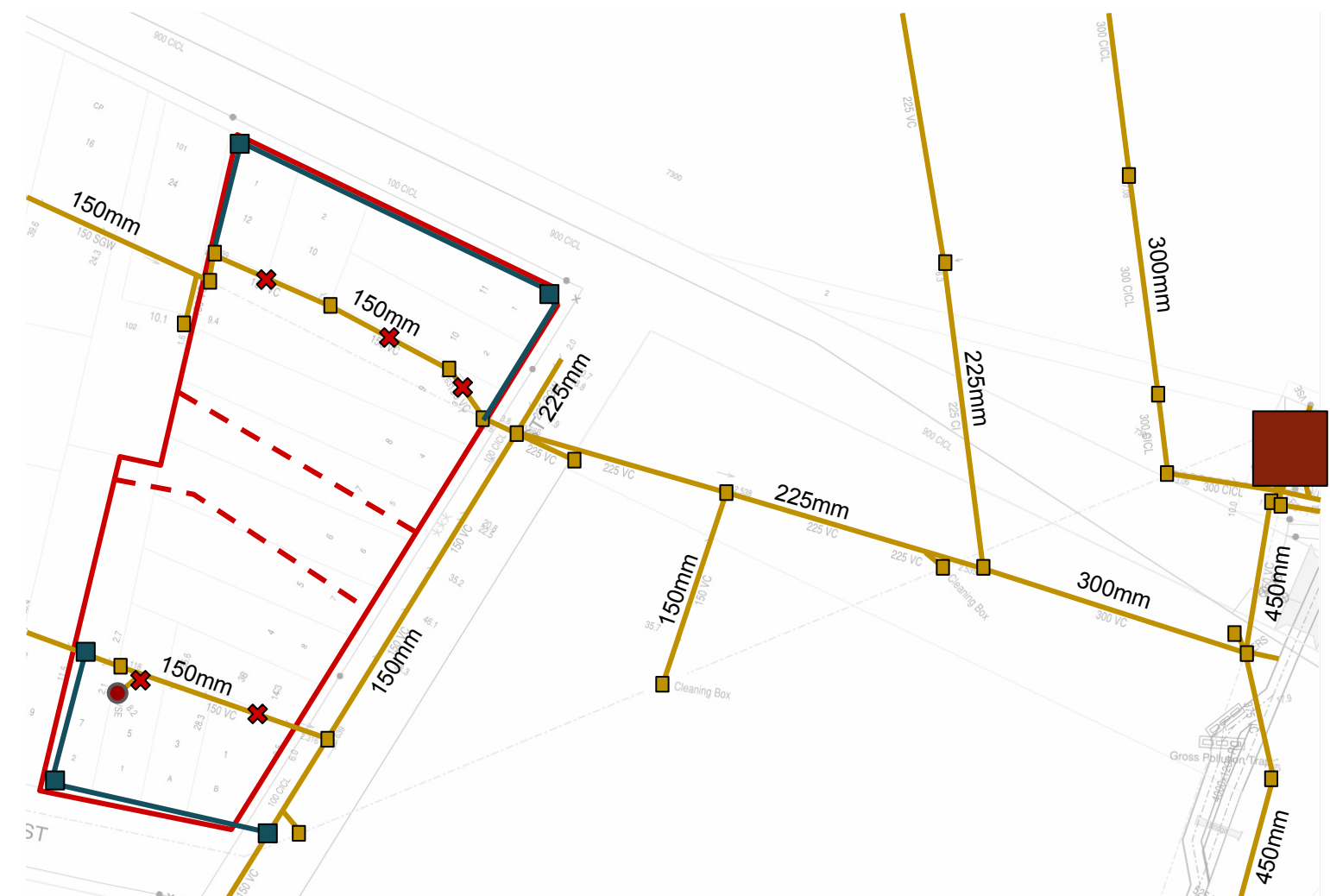
Key Issue: There are two 150mm sewer mains that run through the middle of the development, serving properties to the west. These connections will need to be retained. A detailed survey and invert level study (sewer peg out) will be undertaken during the next stage of the project to confirm its exact location. This sewer mains will need to be diverted prior to enable the excavation to commence. A diversion strategy will be agreed between the Water Servicing Coordinator and Sydney Water as part of the Section 73 application process however, A concept diversion strategy has been included showing the likely option available to the project which will ultimately depend on the invert levels of the main and the outcome of the Section 73 application process.

Subject to the falls and the topography, the shown diversion intends to divert the mains along the site boundary to minimise the impact on the basement. These diversions will require at least five new manholes. These new mains will exert a zone of influence, and will need to be considered structurally in the design of the basement and a basement setback may be required.

We note if there are further development plans west of the site (up to Burwood Road), these sewer diversions may not be required.

Key issue: We note it appears there is a Sydney Water Sewer Vent Shaft in the current development boundary. It may be possible to leave this as it is, or may need to be relocated elsewhere within the site boundary, or taken to the roof in a riser.

We recommend a Water Services Coordinator be engaged immediately.



Sewer Infrastructure Map

- Sewer Main
- Proposed Sewer Diversion
- Sewer Pump Station
- 🏠 Development Location
- Proposed Sewer Manhole
- Sewer Manhole
- Sewer VentShaft

SEWER INFRASTRUCTURE

PROPOSED SEWER INFRASTRUCTURE

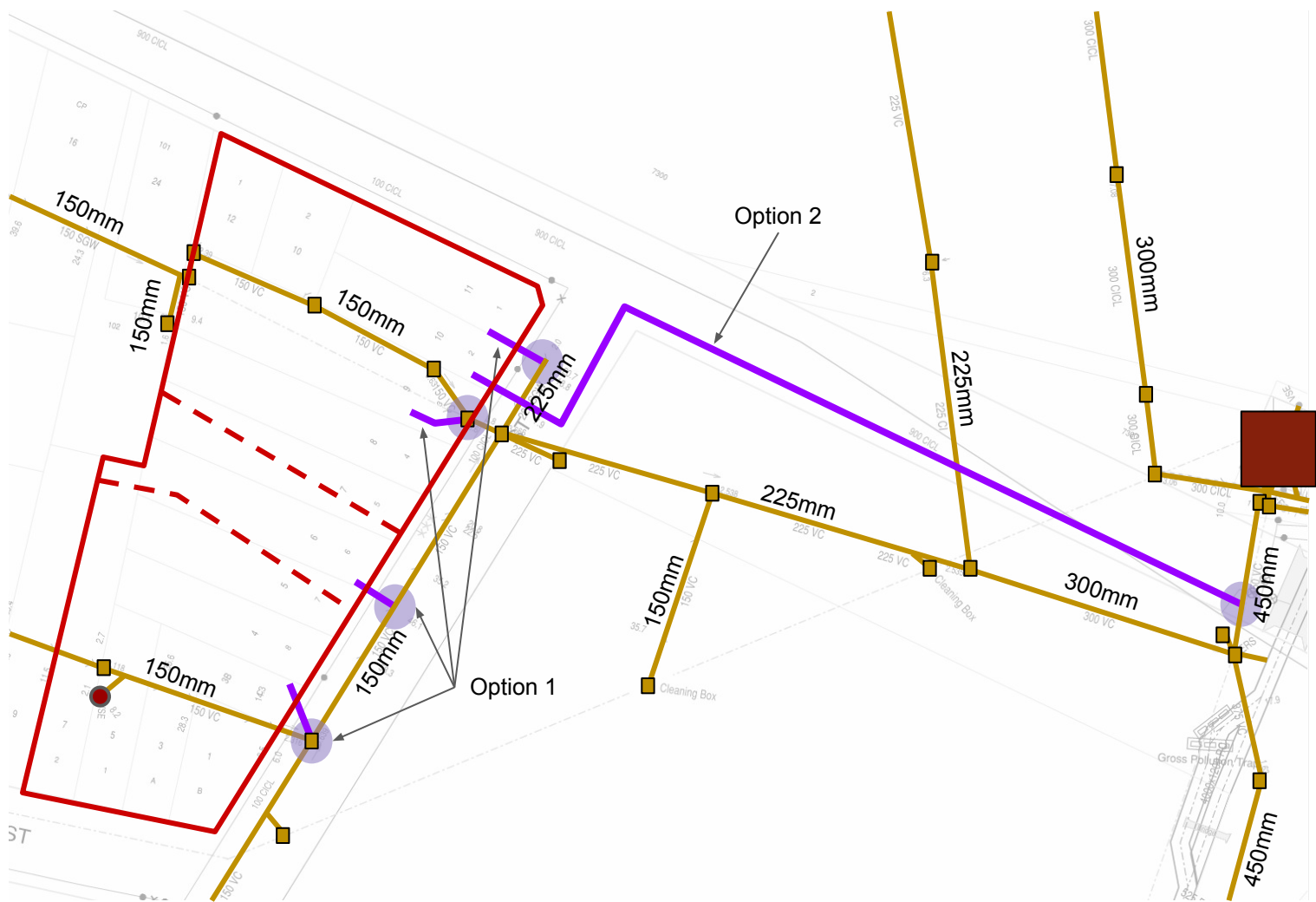
Based on the preliminary calculations, this site is likely to require a new 300mm mains sewer connection. However due to the size of the site, multiple smaller connections can be used in lieu of a single large connection. We note the connection strategy utilised will ultimately be subject to Sydney Water approval.

Key Issue: The general area only has small sewer mains adjacent to the site. There is a risk that Sydney Water will require a new main be brought to the site. Additionally we also note there is a risk of the Concord Pumping Station being at capacity, with insufficient on site storage. Coordination with Sydney Water will be required.

- Option 1: We propose to make up the limited capacity in the nearby mains by utilising multiple connections to these smaller mains. Two connections to the 150mm portion of the main & two connections to the 225mm main.
- Option 2: A new 300mm main brought to the site, connecting to the 450mm main that crosses Gipps Street. This main could then be supplemented with the existing 150/225mm mains. The existing 225/300mm main the site currently utilises cannot be amplified, as it lies under an existing building.

We note as this area is slated for heavy urbanisation, there may already be upgrades currently planned for general area. (these won't show up on the map until built). There may also be an opportunity to share infrastructure upgrade costs with neighbouring developments.

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





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REPORT INPUTS

DESIGN INPUTS

BTR		
Question		Answer
Number of rooms	323	
Total building area	19132	
Number of levels (above ground)	32	
Total number of levels in the building (incl. any underground levels)	33	
What is the buildings total effective height? (m)	99.2	
Number of 1 Bed 1 Bath rooms	193	
Number of 2 Bed 1 Bath rooms	0	
Number of 2 Bed 2 Bath rooms	115	
Number of 3 Bed 2 Bath rooms	15	
Maximum number of rooms per level	13	
Number of stairwells above ground?	2	
Is an external kiosk substation acceptable (recommended if possible)	Yes	
Are 1.9m high rooftop plant acceptable on this development?	Yes	
Is centralised domestic hot water plant acceptable? (recommended)	Yes	
Do you want natural gas in your development	No	
Are air-conditioning condensers acceptable on balconies?	No	
Are air conditioning condensers acceptable on the roof?	Yes	
How many electric car charging points are preferred	0	
Does your building have an underground carpark?	Yes	
Number of levels of underground car parking	1	
Total area of underground parking spaces	2100	
Total number of underground car parking?	72	
Does your carpark have a loading dock that is more than 10m deep / from an external opening?	Yes	
If so, how many vehicles does the loading dock hold?	1	
Are there retail tenancies in your development?	No	

BTS		
Question		Answer
Number of rooms	256	
Total building area	24462.9	
Number of levels (above ground)	32	
Total number of levels in the building (incl. any underground levels)	33	
What is the buildings total effective height? (m)	99.2	
Number of 1 Bed 1 Bath rooms	66	
Number of 2 Bed 1 Bath rooms	0	
Number of 2 Bed 2 Bath rooms	97	
Number of 3 Bed 2 Bath rooms	93	
Maximum number of rooms per level	8	
Number of stairwells above ground?	2	
Is an external kiosk substation acceptable (recommended if possible)	Yes	
Are 1.9m high rooftop plant acceptable on this development?	Yes	
Is centralised domestic hot water plant acceptable? (recommended)	Yes	
Do you want natural gas in your development	No	
Are air-conditioning condensers acceptable on balconies?	No	
Are air conditioning condensers acceptable on the roof?	Yes	
How many electric car charging points are preferred	0	
Does your building have an underground carpark?	Yes	
Number of levels of underground car parking	1	
Total area of underground parking spaces	3235.53	
Total number of underground car parking?	90	
Does your carpark have a loading dock that is more than 10m deep / from an external opening?	Yes	
If so, how many vehicles does the loading dock hold?	1	
Are there retail tenancies in your development?	No	