



Electrical Services:

Estimated Maximum Demand (EMD):

A preliminary EMD calculation based on known information indicates that the project will require a total of 1390Amps, 3 Phase Power. EMD for each building/element shown below:

Building/Element	Breakdown	EMD
Recreation Centre	Reception Café Changerooms Basketball Courts Gym Studio 1 Studio 2 Gymnastics Ancillary Rooms Multi-use Space Storage Expansion Space	650A
Childcare	Indoor Outdoor Carpark	130A
Site Activites/Other	Outdoor Recreation Uses Nature Walk Carparking	100A
Future Retail	Medical centre, etc	410A
Landlord		100A
Total		1390A

SA Power Networks Infrastructure Requirements:

The site has been proposed to be supplied by a new 1.5MVA pad mount transformer. The area currently has high voltage overhead lines running along Armstrong Rd, as well as on George Main Rd. Data provided on LocationSAMapViewer indicates there are no high voltage underground cable along Armstrong Road, and Ewen Terrace/George Main Road.



Refer to below mark up, proposing two supply options for the site.



Option 1:

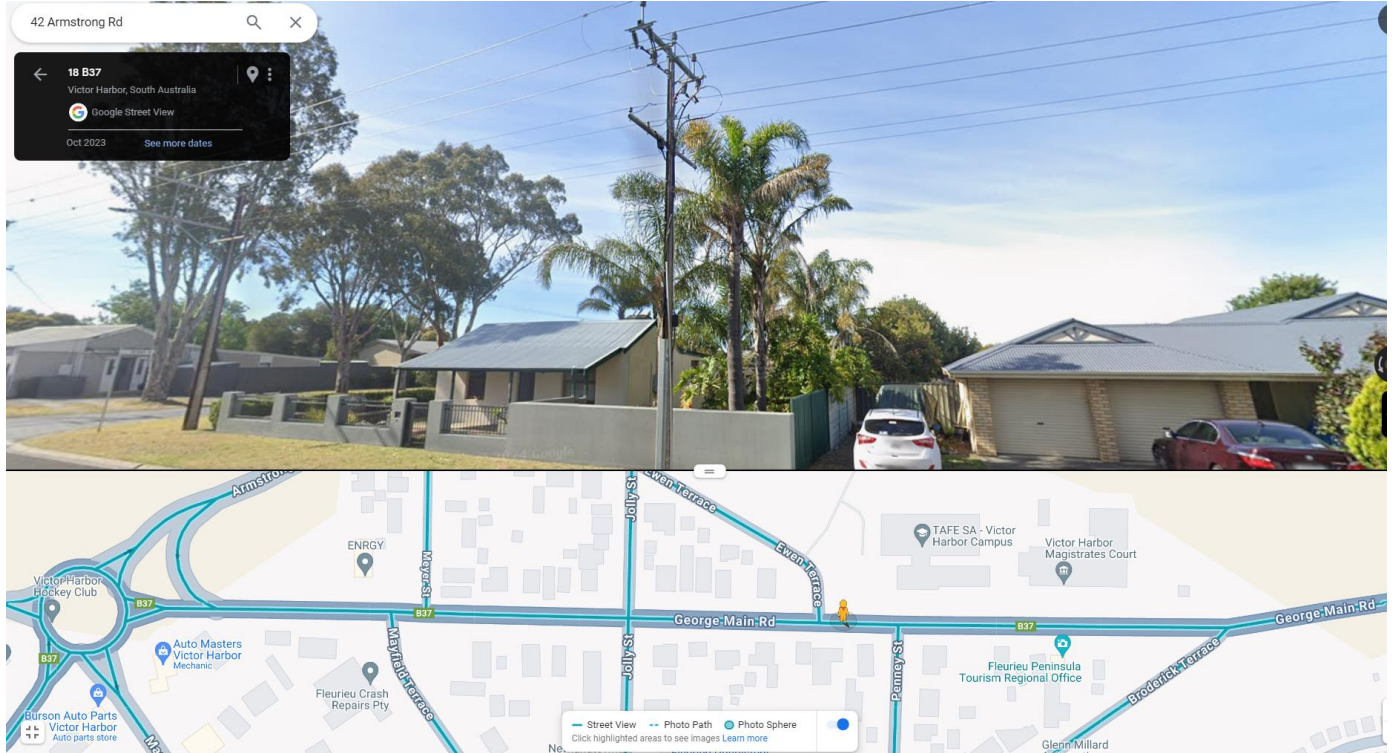
Option 1 will connect to the high voltage overhead lines running along Armstrong Road, through an over and under connection. Early discussions suggest this will be the cheapest option for supply however, SAPN speculates the high voltage lines on Armstrong Road may be nearing capacity and will require further investigation to confirm.



OPTION 1: ARMSTRONG ROAD - POLE LOCATION

Option 2:

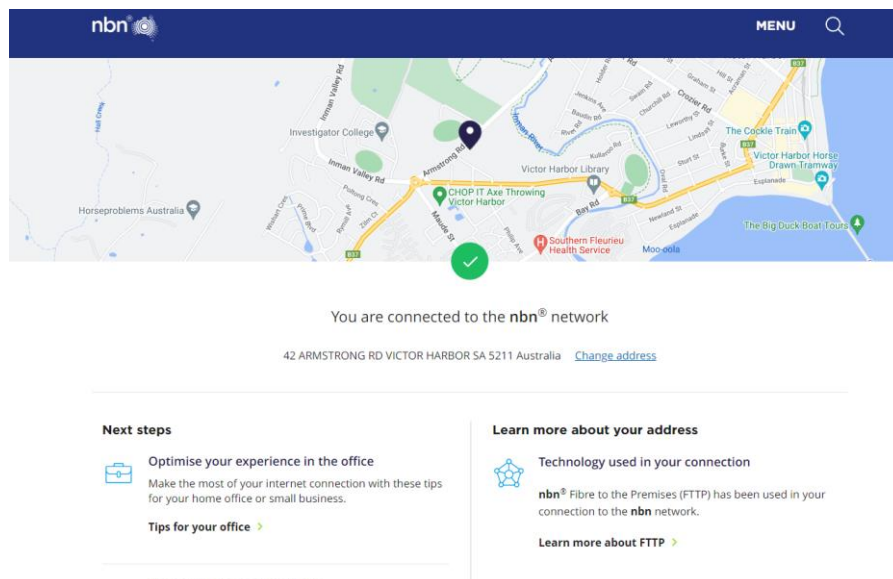
Option 2 will connect to high voltage overhead lines running along George Main Road, through an over and under connection. As the overhead lines are more distant from the proposed site, the associated works will be a more costly exercise due to requiring directional boring over a greater distance.



OPTION 2: GEORGE MAIN ROAD - POLE LOCATION

Communications:

The NBN infrastructure in this area is Fibre to the Premise (FTTP). This is the recommended network connection, which will utilise a fibre optic line running to the premises from the nearest available fibre node.



NBN Website Investigation

Hydraulic Services:

Water:

The site is not currently serviced by any SA Water water meters.

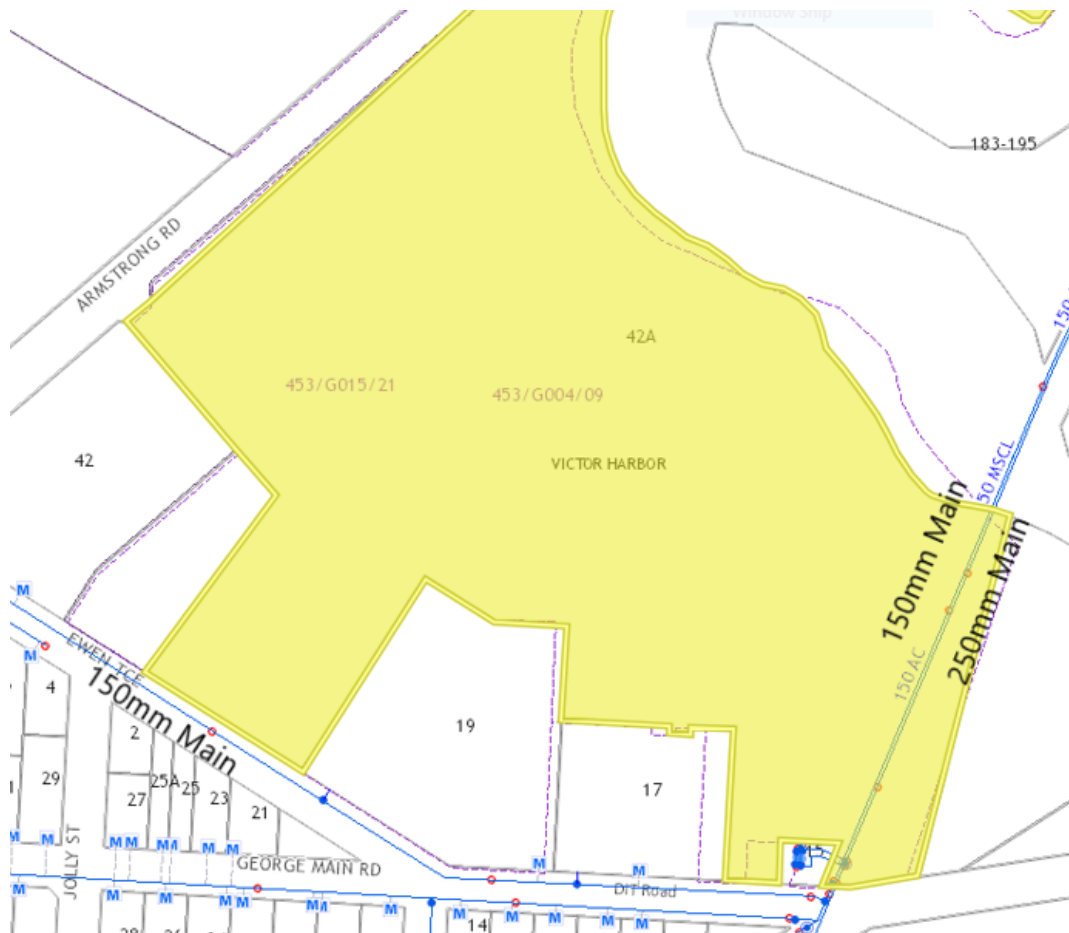
There are currently three water mains reticulating adjacent to the site:

- 150mm reticulating along Ewen Terrace.
- 150mm reticulating through an easement along the eastern side of the site.
- 250mm reticulating through an easement along the eastern side of the site.

Based on the number of proposed tenancies, a 50mm water meter (with private metering by a strata body or similar) is recommended for the site. This meter is proposed to come off Ewen Terrace.

Fire:

Due to the size of the proposed buildings, multiple onsite fire hydrants (with fire booster) will be required. Final flow rates and booster requirements to be determined during design phase.



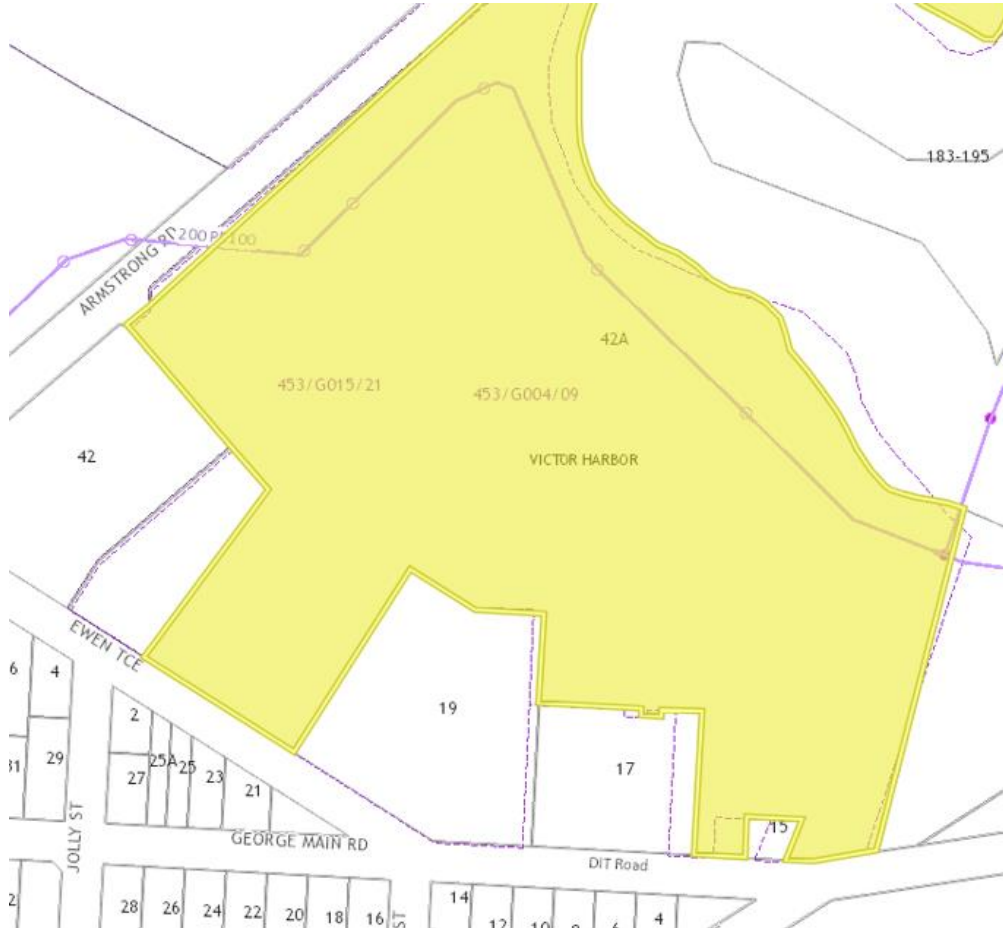
Water Reticulation (Source: SA Water Aquamaps)



Reclaimed Water:

There is a 200mm SA Water reclaimed water main reticulating throughout the property.

As there is reclaimed water in the area, SA Water will require non-potable water (ie. irrigation), to be taken via this main. Final water meter size to be confirmed by landscape consultant (if required).

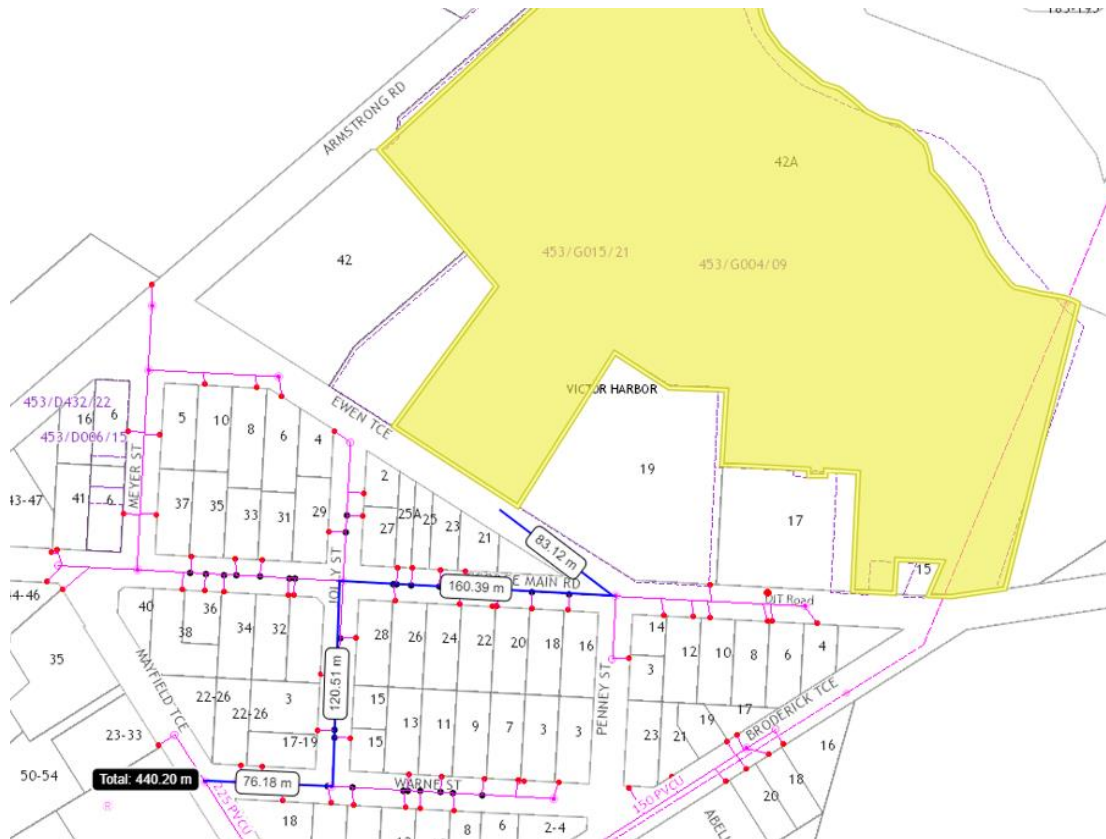


Reclaimed Water Reticulation (Source: SA Water Aquamaps)

Sewer:

There is no sewer infrastructure along Ewen Terrace in front of the site.

Due to the proposed buildings and expected number of fixtures, it is anticipated that a 150mm sewer connection will be required to service the site. As per SA Water's requirements all commercial sites are to be serviced by a 150mm sewer connection via a 225mm sewer main. This will involve a 440m long sewer mains upgrade back to the corner of Mayfield Terrace and Warne Street (subject to SA Water approval).



Sewer Reticulation (Source: SA Water Aquamaps)

Gas:

There is currently no APA gas infrastructure adjacent to the site.

If gas is required on the site, it will need to be via either individual gas bottles (supplied by tenants) or a larger central LPG gas tank.



Gas Reticulation (Source: APA DBYD)

For and on behalf of
TMK Consulting Engineers