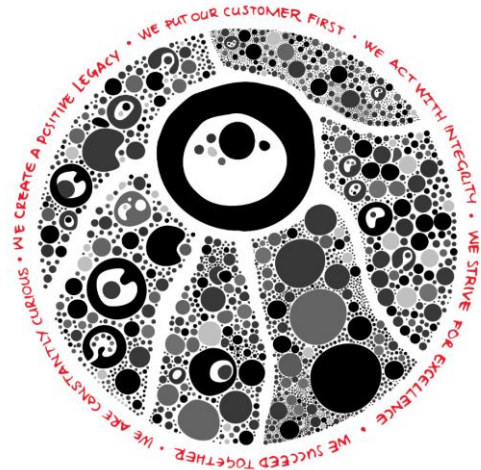


SCENTRE GROUP



**WESTFIELD PENRITH
E6915
ENGINEERING SERVICES
INFRASTRUCTURE AVAILABILITY
REPORT**

People Protecting People





DOCUMENT HISTORY

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1 THE PROJECT

1.1 INTRODUCTION

The site is located in NSW, within Greater Western Sydney, 55 kilometres west of the Sydney CBD, at 569-595 High Street, Penrith (Lot 1 DP1137699), though has additional addresses on High, Henry, Riley and Station Streets.

It is occupied by Westfield Penrith and is a major regional shopping Centre with approximately 310 specialty shops, plus major tenants (Myer, Big W, Target, Woolworths, Aldi, Apple and Hoyts Cinemas) with a Gross Lettable Area of 91,324m² over 2 retail levels. The Centre also includes Loading Docks, intermediate, mezzanine and roof top car parking levels with 3521 car spaces.

Westfield Penrith is bounded by street frontages being Jane Street to the north, Station Street to the east, High & Henry Streets, Penrith City Council to the west with Riley Street intersecting the site. The total site area is approximately 93,000m².

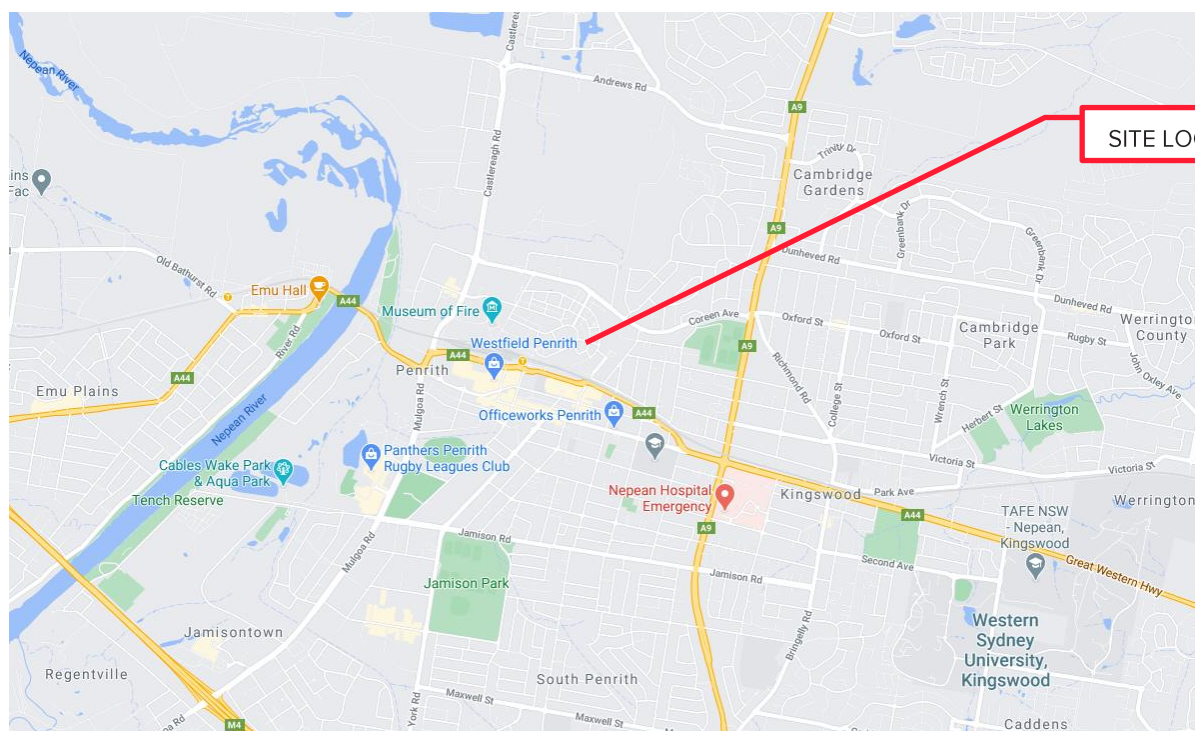


Figure 1: Locality Plan



1.2 PROPOSED DEVELOPMENT

Scentre Group and GPT, the Co-owners, intend to redevelop two portions of the site known as 'Borec House' and 'The Hub'. Currently both locations are located within the existing Lot; design consideration is to be given to allow subdivision in the future including dedicated Authority connections to minimise disruption in the future. The development will likely be constructed in a staged development including the following:

Borec House

The existing building currently known as Borec House is an existing commercial building of four levels including retail at ground level. The proposed development includes demolishing the existing structure and will comprise development of new retail stores at level 1 and 2 including F&B and commercial office space to a proposed level 10 in a staggered floor plate to avoid overshadowing on future city park.

The Hub

The existing location currently contains The Bavarian and Fratelli Famous restaurants plus speciality shops and loading dock at level 1 and the food court on level 2 as part of the existing centre. The proposed development includes utilising the existing levels while strengthening the structure and development of new food and beverage stores and retail stores at levels 1, 2 and including boutique F&B and commercial office space from level 4 to level 11. The proposal includes a hotel with a sky lobby at level 12 with hotel levels to level 20 with 152 keys proposed for the hotel.

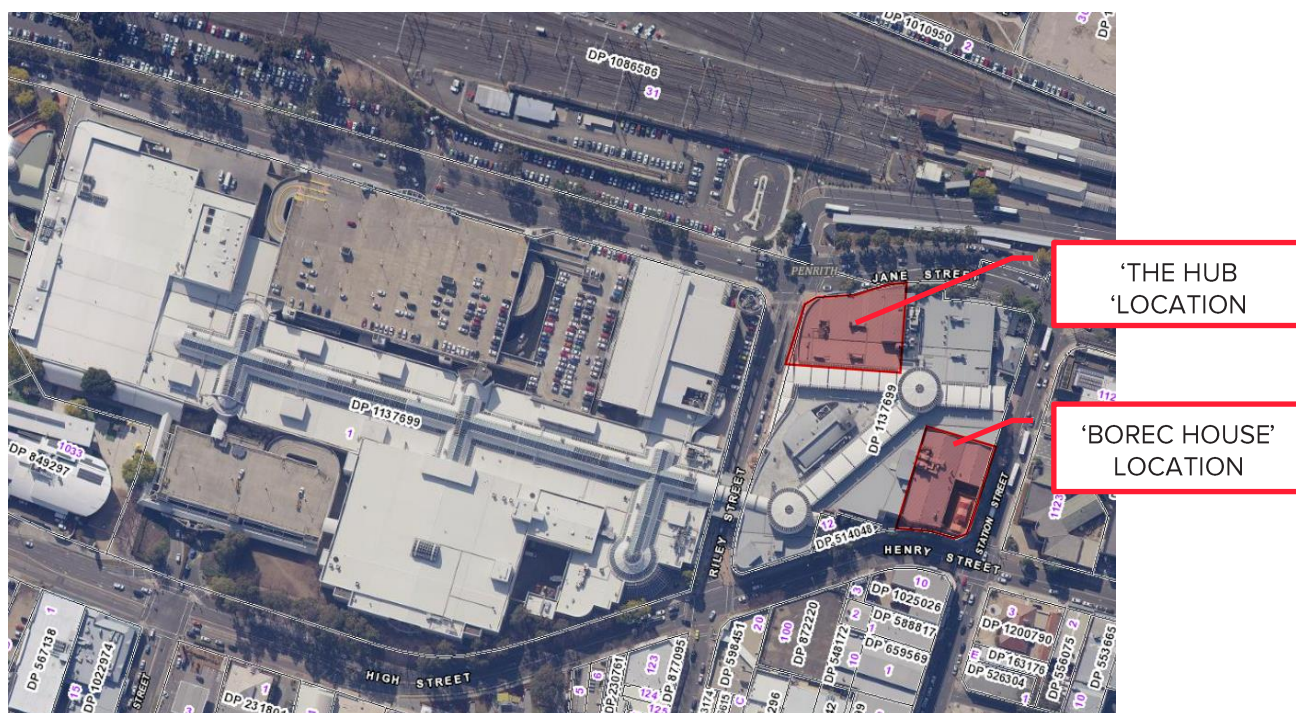


Figure 2: Site Plan



1.3 SCOPE

This Engineering Services Infrastructure Availability Report outlines the existing infrastructure available to the site, serving the site and any amplification or extension of Authority services that may be required to cater for the new development.

Based on the Dial Before You Dig (DBYD), the following Authorities have assets within the development envelope:

- Endeavour Energy
- Jemena
- NBN
- Penrith City Council
- Roads and Maritime
- Sydney Water
- Telstra
- TransGrid

This report will focus on the following major infrastructure services which will affect the viability of the project:

Service	Authority
• Sewer	Sydney Water
• Water	Sydney Water
• Stormwater	Penrith City Council
• Gas	Jemena
• Electrical (HV)	Endeavour Energy
• Electrical (HV)	TransGrid
• Communication	NBN

It should be noted that a site inspection has not been carried out and applications or enquires have not yet been submitted to the relevant Authorities in regard to the proposed development.



2 AUTHORITY INFRASTRUCTURE

2.1 SEWER DRAINAGE

Borec House

Borec House site is surrounded by the following sewerage infrastructure which appears to already serve the site with an existing connection:

- S1 – 525mm Vitrified Clay (VC) gravity sewer in Henry Street with 225mm Sydney Water side arm to the property.

Borec House will require a new sewer connection and a Sydney Water side line as part of the proposed works as per Sydney Water's current requirements.

The 525mm VC main should have sufficient capacity to cater for the proposed development.

The Hub

The Hub location does not currently front any sewer drainage infrastructure. The nearest infrastructure locations are as follows:

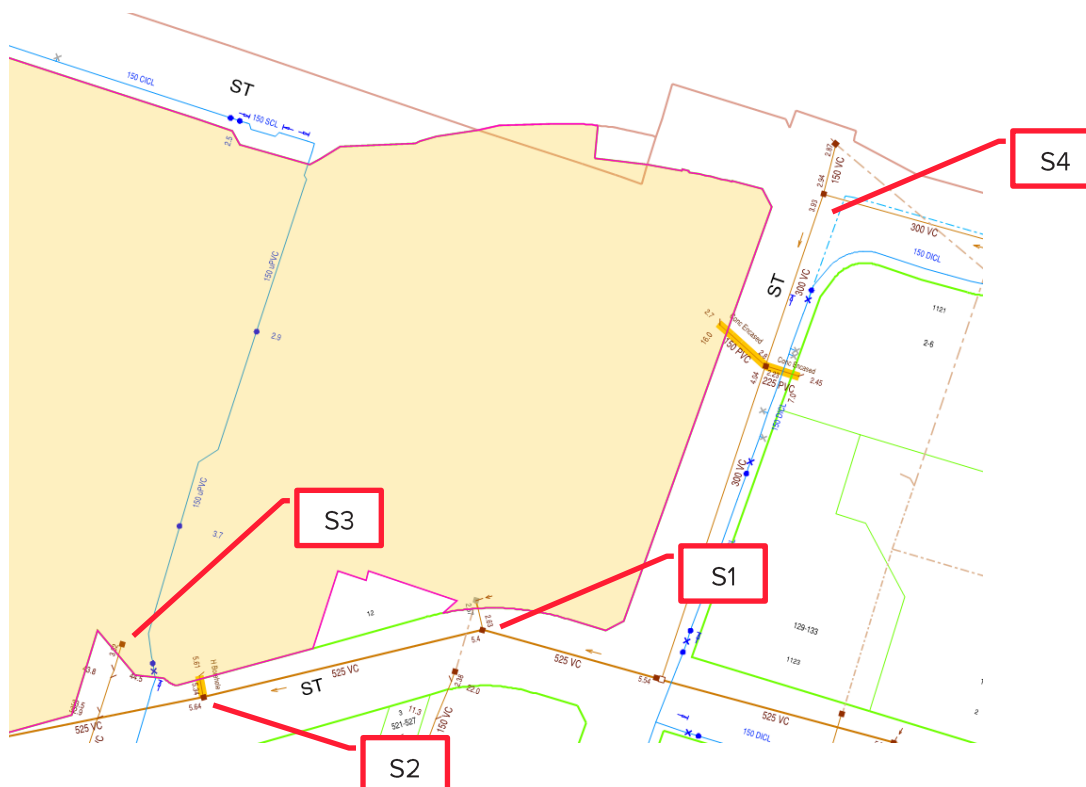
- S2 – 525mm VC gravity sewer, corner of Riley and Henry Street
- S3 – 150mm VC gravity sewer, corner of Riley and Henry Street
- S4 – 300mm VC gravity sewer, corner of Station and Jane Street

The site also has existing private connections at these locations though based on the intention to provide provision of future sub-division, a new connection will be required.

The 525mm (S2) and 300mm (S4) VC mains should have sufficient capacity to cater for the proposed development.

The Hub will require an extension of the Sydney Water main and a new sewer connection and Sydney Water side line as part of the proposed works as per Sydney Water's current requirements.

The image below illustrates the surrounding Authority sewer mains.





2.2 WATER SERVICES – POTABLE

Borec House

Borec House site currently fronts the following water main infrastructure:

- W1 – 150mm Ductile Iron Cement Lined (DICL) potable water main in Station Street

The proposal to extend the building to 10 levels will likely require an amplification of the Sydney Water water main as per WSAA code which requires a 200mm diameter water main for buildings over 8 levels.

The site will require a new water connection as part of the upgraded water main works.

Based on DBYD information, the nearest 200mmØ_≥ is located at High and Station Streets (WM1), approximately 160m from the development location.

The Hub

The Hub site currently fronts the following water main infrastructure:

- W2 – 150mm unplasticized polyvinyl chloride (uPVC) potable water main in Riley Street

There is currently no existing connection to the Authority system in this location as it is part of the existing Centre. Based on the direction of future provision for sub-division, a dedicated Authority connection should be sought.

The proposal to extend the building to 20 levels will likely require an amplification of the Sydney Water water main as per WSAA code which requires a 200mm diameter water main for buildings over 8 levels.

Based on DBYD information, the nearest 200mmØ_≥ is located at High and Riley Streets (WM2), approximately 230m from the development location.

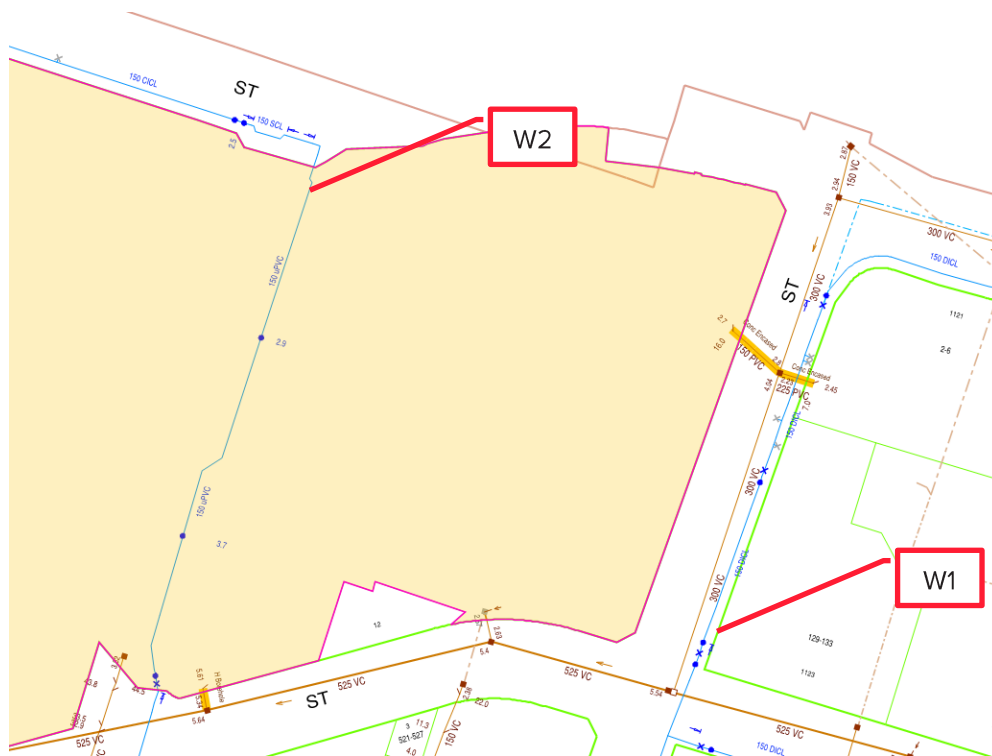


Figure: Water main frontages

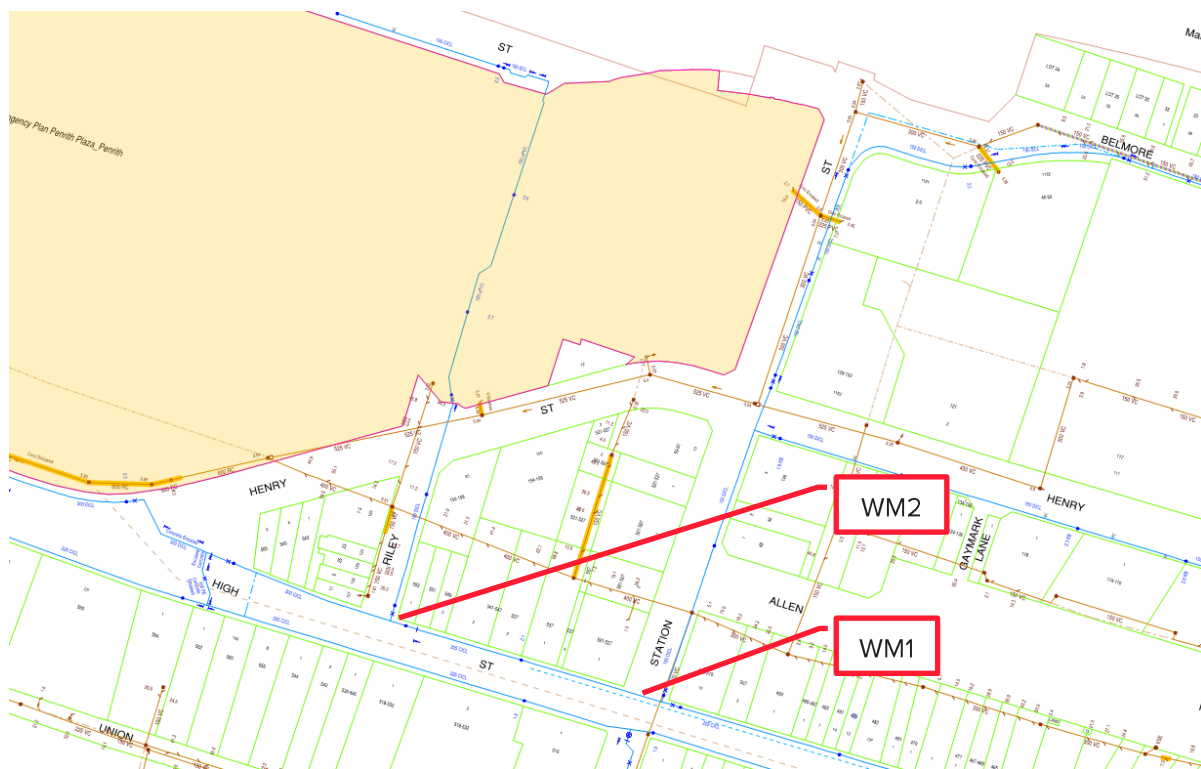


Figure: Water main possible extension locations

2.3 WATER SERVICES – NON-POTABLE

Borec House

There is currently no non-potable reticulated supply to this area

The Hub

There is currently no non-potable reticulated supply to this area



2.4 STORMWATER SERVICES

Penrith City Council's Stormwater Drainage Guidelines for Building Developments ES002 June 2020, states that OSD is not required as the site is located out of the area and as it is a "Change of use where there is no increase of impervious area".

Penrith City Council's Waste Water Urban Design (WSUD) EH003 December 2017, indicates that WSUD may not be required though through good design principles, it should be incorporated as part of ESD initiatives.

These policies are regularly reviewed, and requirements will need to be confirmed during project commencement.

Borec House

The Borec House site does not appear to front any existing infrastructure. Further, no as-built documentation is available for Borec House.

Borec House will require a new stormwater connection as part of the proposed works which will include an extension of the Authority infrastructure.

The Hub

The Hub site currently fronts the following stormwater infrastructure in Jane Street:

- SW – 2400mm x 1500mm Trunk main
- SW – Ø1950mm Trunk main
- SW – Ø375 RCP

The roof catchment from the centre (syphonic) appears to discharge within the proposed Hub location footprint and as such will require coordination with the proposed development.



2.5 GAS SERVICES

Jemena policy is to allow only one (1) connection per site. Based on the proposal to sub-divide in the future, confirmation will need to be sought from Jemena to permit new site connections.

Borec House

Borec House site currently fronts the following gas main infrastructure:

- G1 – 50mm Nylon (NY) 210kPa gas main in Station Street
- G2 – 50mm Nylon (NY) 210kPa gas main in Henry Street

The gas meter assembly and connection will require upgrading due to the increase in demand.

Based on preliminary information, the 50mm (G1) and 50mm (G2) gas mains both should have sufficient capacity to cater for the proposed development.

The Hub

The Hub does not currently front any Authority gas main infrastructure. The nearest infrastructure locations are as follows:

- G3 – 50mm Nylon (NY) 210kPa gas main in Station Street
- G4 – 50mm Nylon (NY) 210kPa gas main in Henry Street

There is currently no existing connection to the Authority system in this location as it is part of the existing Centre. Based on the direction of future sub-division, a dedicated Authority connection should be sought.

Based on previous experience, the 50mm (G3) and 50mm (G4) gas mains are expected to have sufficient capacity to cater for the proposed development.

An extension of the Authority gas main will be required for a new dedicated connection.

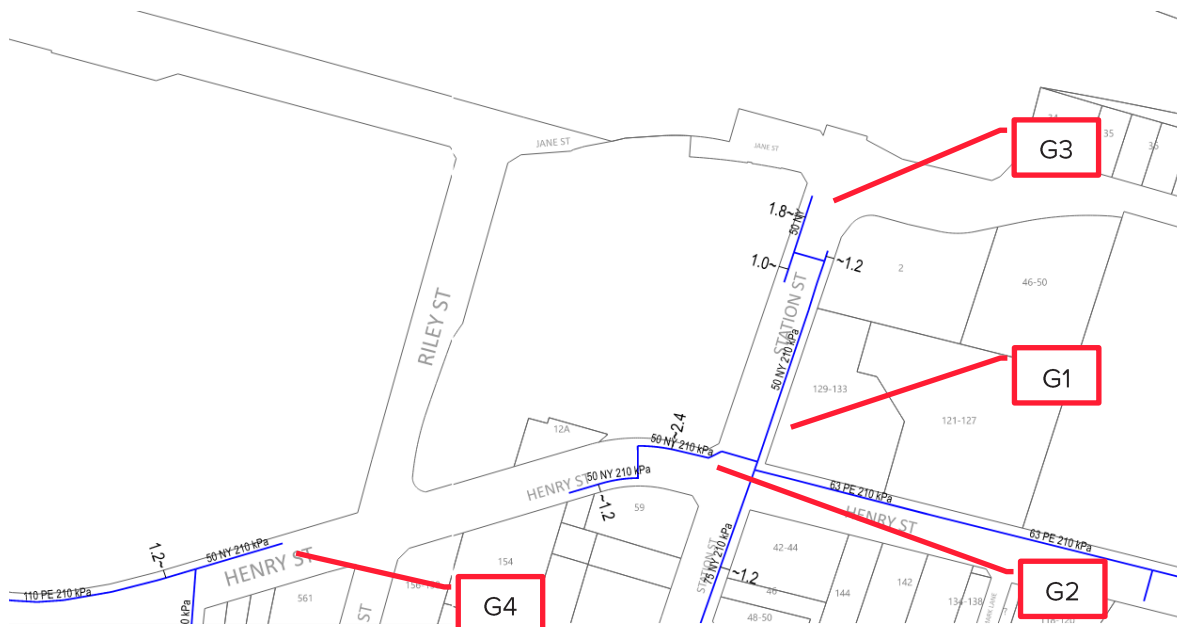


Figure: Water main possible extension locations



2.6 HIGH VOLTAGE INFRASTRUCTURE

The site is surrounded by existing high voltage assets of which the majority of which are operated by Endeavour Energy.

Endeavour Energy owns and operates the high voltage distribution network within the Westfield Penrith area. Our shopping centre takes a low voltage electricity supply from the Endeavour Energy substations at the boundary of the site. Note that the DBYD below shows there is a number of abandoned high voltage cables running across the proposed site, and it is assumed that these ducts/cables are no longer available for use.

Borec House

There is existing Endeavour Energy high voltage assets along Henry & Station Streets which surround the proposed site, however no substations are in the vicinity.

The existing Borec House area take supply from Substation 24487 on the corner of Jane & Riley Street. There would not be enough spare capacity at this substation to serve the new proposed development.

It is anticipated that a new substation will be required along Henry & Station Streets to serve the proposed development which would be a minimum of a 1 x 1500kVA substation. This is an estimate only based on the high-level information provided to date and would need to be confirmed with Endeavour Energy to understand if the high voltage feeder cables along the street have capacity to cater to the additional loads/substation. If not, the risk would be to run a new high voltage feeder from the nearest Zone substation which could 1-2km away.

The Hub

The Hub is currently within the vicinity of an existing substation which is dedicated to Westfield Penrith. This Substation 24487 is on the corner of Jane & Riley Street and is made up of 3 x 1500kVA transformers (TX 17, 18 and 19).

It should be noted that existing Westfield Penrith shopping centre in Zone 'G' (between Riley, Station, Henry & Jane Street) is served by this Substation and there would be very limited capacity available to serve the proposed development utilising this Substation (including the hotel and commercial office space).

It is anticipated that a new substation will be required along Jane & Riley Street to serve the proposed development which would be a minimum of a 2 x 1500kVA substation. This is an estimate only based on the high-level information provided to date and would need to be confirmed with Endeavour Energy to understand if the high voltage feeder cables along the street have capacity to cater to the additional loads/substation. If not, the risk would be to run a new high voltage feeder from the nearest Zone substation which could 1-2km away.

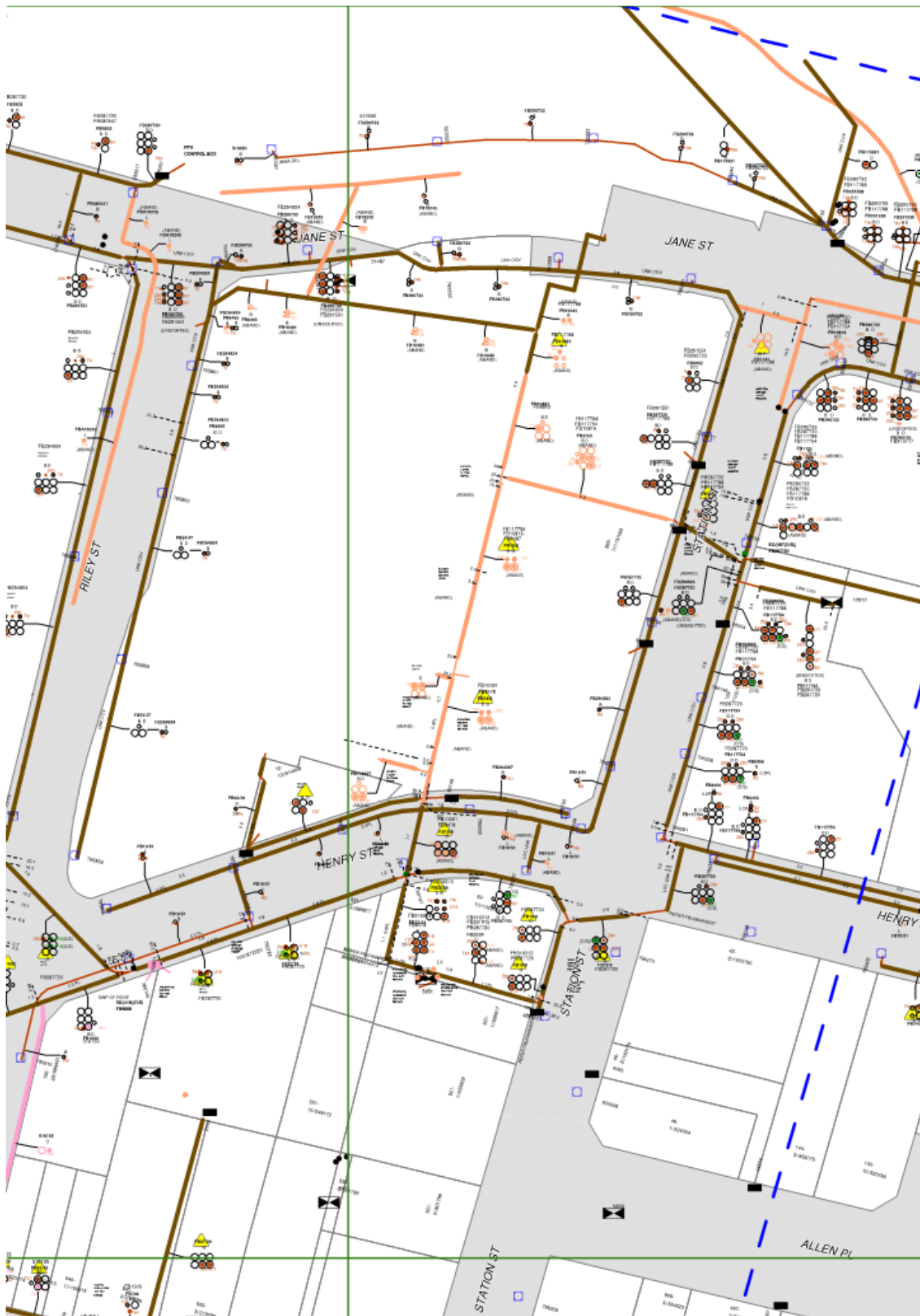


Figure: Endeavour Energy Infrastructure



TransGrid is the owner and operator of the high voltage electricity transmission network within the area (effectively Endeavour Energy takes their high voltage supply from the TransGrid network). There is only a small amount of TransGrid infrastructure along Henry Street which will not be impacted with the proposed development.



Figure: TrasGrid Infrastructure

2.7 LOW VOLTAGE SYSTEMS

There is an existing MSB room in Zone 'G' (between Riley, Station, Henry & Jane Street) that is served by Substation 24487 (refer figure below). MSB 17, 18 and 19 are all located in this room are not part of an embedded network. New Main Switchboards will be required for both 'The Hub' and 'Borec House' proposed developments, and these would need to be fed from new dedicated Endeavour Energy Substations.

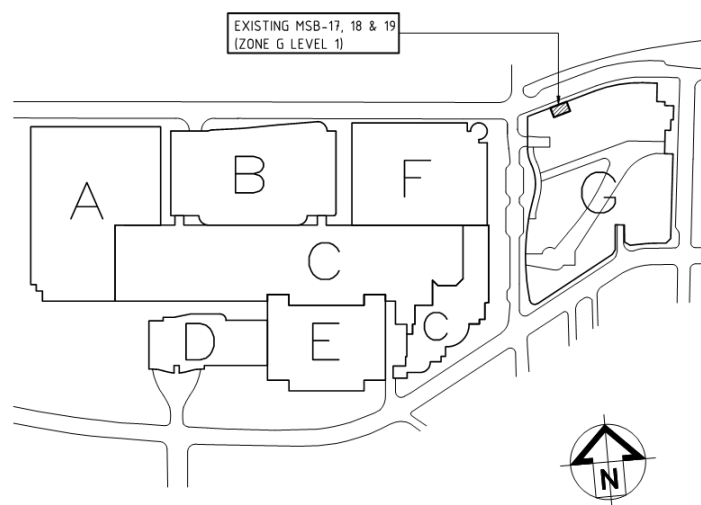


Figure: Existing MSBs



2.8 TELECOMMUNICATIONS INFRASTRUCTURE

Assumption for the two proposed new buildings is for each to have separate telecommunication lead-ins independent from the shopping centre.

Borec House

Unsure what telecommunication lead-ins currently exist in Borec House site.

There are existing carrier pits in front of Borec House so expect there is no issue to bring a new lead-in (e.g. NBN) into the new proposed building.

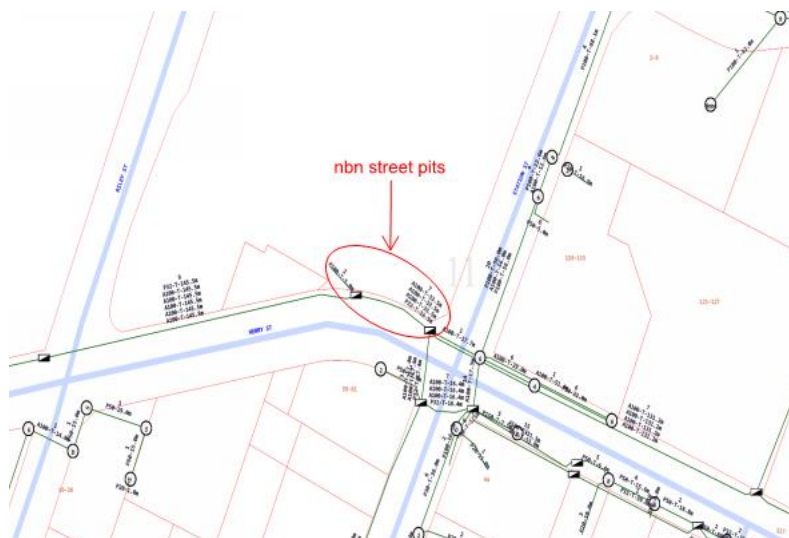


Figure: NBN DBYD around Borec House

The Hub

There are no telecommunication pits around proposed location for The Hub.

The nearest pits are the ones located in front of Borec House.

- Proposed approach is to utilise existing pits and route lead-in through the shopping centre
- Alternate approach is to request NBN to create a new pit in front of The Hub. However, that may or may not be accepted by NBN and also will involve more work and cost.

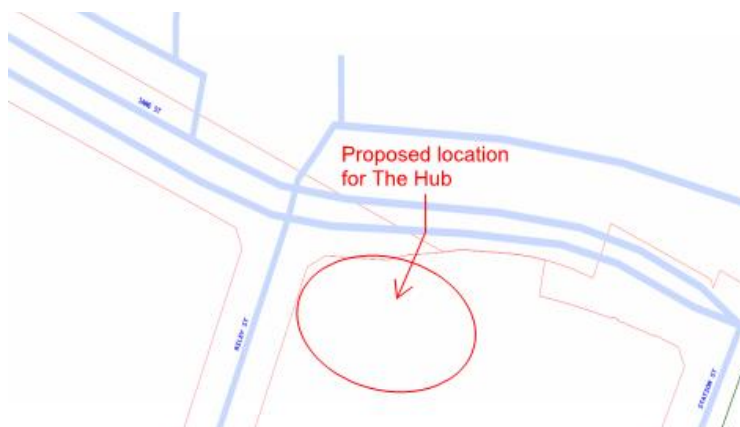
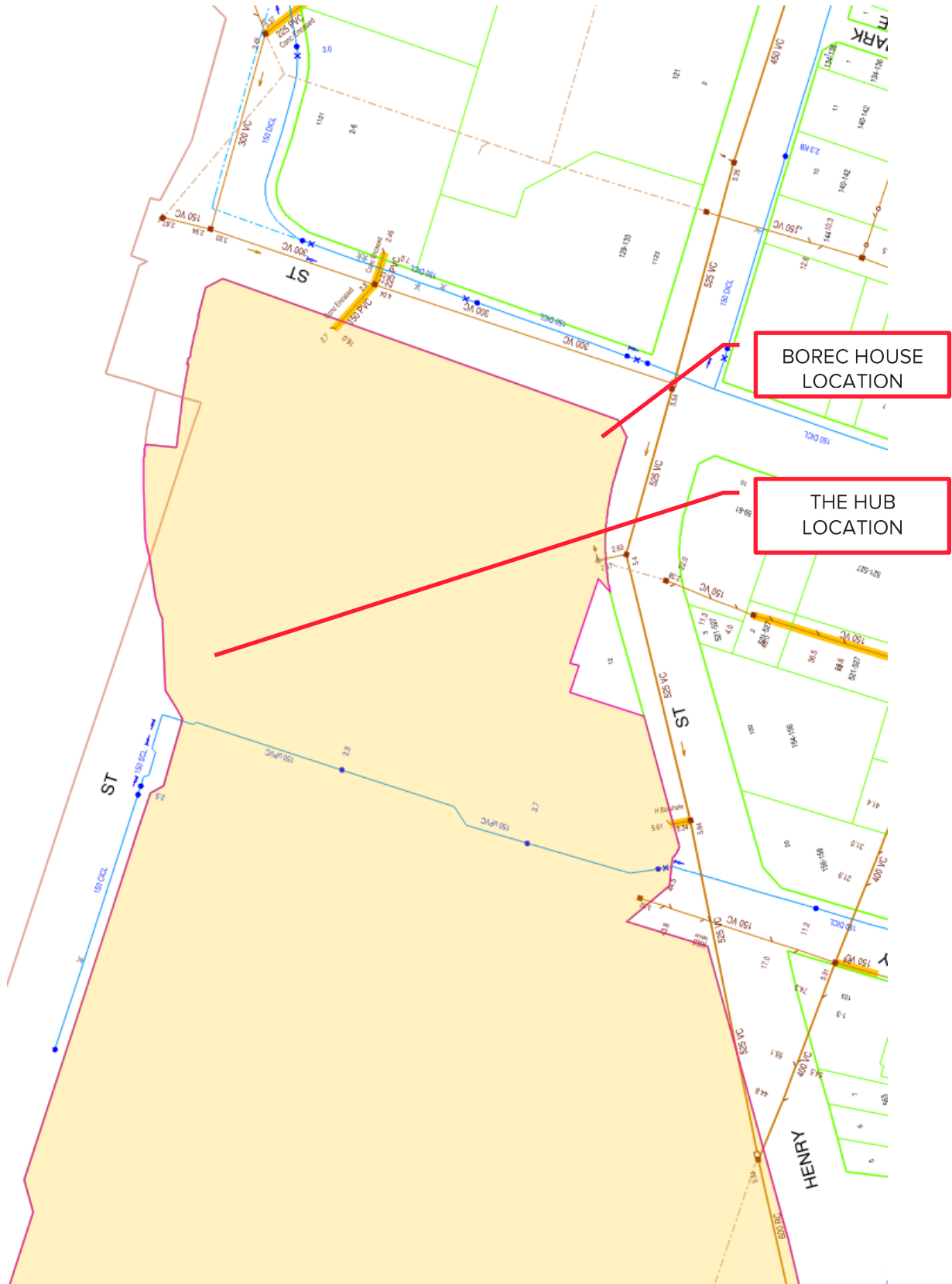
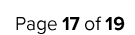


Figure: NBN DBYD around the Hub



3 APPENDIX A – SYDNEY WATER DBYD









4 APPENDIX B – JEMENA DBYD

