



Wallan East Utility Services Assessment

Situational Analysis

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Contents

Statement of Limitations	1
1. Introduction	4
2. Methodology	7
3. Site Overview	8
4. Water and Sewer Supply	9
4.1 Current servicing arrangements.....	10
4.2 Constraints	10
4.3 Development opportunities	11
4.4 Current Yarra Valley Water Developer Fees and Charges.....	12
5. Electricity	14
5.1 Current servicing arrangements.....	14
5.2 Constraints	15
5.3 Development opportunities	15
6. Gas	17
6.1 Current servicing arrangements.....	17
6.2 APA formal advice	18
6.3 Development opportunities	19
6.4 Constraints	20
7. Telecommunications	21
7.1 NBN	21
7.2 ADSL	21
7.3 Telstra.....	22
7.4 NextGen.....	22
8. Stormwater Drainage	24
9. Governance	26
10. Guidelines and Standards	29
11. Conclusion and Recommendations	31
APPENDIX A - Servicing Layouts & Authority Communication	
A.1 Existing Utility Servicing Plans	33
A.2 Yarra Valley Water.....	33
A.3 Servicing Authority Communication Records.....	33

Statement of Limitations

The sole purpose of this report and the associated services performed by Jacobs is to prepare a High Level Servicing and Infrastructure Assessment (including sewerage, potable water, recycled water, electricity, gas, telecommunications and stormwater) in accordance with the scope of services set out in the contract between Jacobs and the Client. That scope of services, as described in this report, was developed with the Client.

In preparing this report, Jacobs has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by the Client and/or from other sources. Except as otherwise stated in the report, Jacobs has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

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This report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by Jacobs for use of any part of this report in any other context.

This report is limited to a high level servicing assessment of the utility services infrastructure and is based on verbal and written advice received from the Dial Before You Dig service and service providers prior to 30 December 2019. Access to information by service providers was limited during the assessment due to the preliminary status of the precinct.

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Executive Summary

Project Overview

Jacobs, on behalf of the Victorian Planning Authority, are to complete a Utility Servicing Assessment for the Wallan East Precinct Structure Plan (PSP) areas near Wallan, Victoria. For each utility service, undertake an assessment in the context of the existing and future development of the site identifying the relevant authority, existing servicing infrastructure, future servicing needs and relevant considerations for planning for the site.

This Utility Servicing Assessment will be presented as a “Situational Analysis Report” outlining methodology, outcome of investigations, services layout plans, cross sections at appropriate locations, utility services implications and recommendation.

Project Scope

This report identifies the high level opportunities and constraints to development with respect to water, sewerage, recycled water, electricity, gas and telecommunications services to inform the preparation of the Wallan East PSP. This PSP is located within the Northern Growth Corridor. The capacity of existing services and the likely future infrastructure requirements have been assessed in consultation with the relevant authorities and provided in this report.

The report has been developed in consultation with key utility service providers and agencies including Yarra Valley Water, AusNet Services (Electricity), APA Networks (Gas), Telstra and NBN Co, and Melbourne Water (Drainage) describes the preliminary high level authority advice provided by these providers in respect of the servicing requirements for the precinct.

Assessment

This assessment has identified the existing infrastructure within and adjacent to the PSP area, responsibility, constraints of existing services, anticipated future requirements, considerations and expectations of the utility service providers and agencies for the future draft urban master planning phase.

Staging

Staging information has been identified as a key a consideration by Yarra Valley Water. It would be reasonable to assume that each agency would expect the provision of a detailed master plan, staging and proposed timing of the precinct’s development be provided.

Potential Cost Implications

As a consequence of essential services legislation, in most cases, service authorities are required to bear the cost of trunk infrastructure provisions and typical development costs at an allotment level.

Costing information has been presented for Yarra Valley Water (New Customer Contributions) however the costing contributions required were not available from the other service providers.

Conclusion and Recommendations

From the assessment and discussions with servicing authorities the PSP development area appears to be suitable for further development. No other major constraints were identified.

Key recommendations for the Wallan East precinct are the development of a detailed masterplan for the precinct including staging options for submission to authorities to initiate formal discussions and the provision of detailed preliminary utility servicing advice.

1. Introduction

PSP Objective

The Victorian Planning Authority (VPA) is concurrently preparing a number of Precinct Structure Plans (PSPs) for precincts within the current growth corridors of Melbourne. The purpose of a PSP is to guide and facilitate development in the growth areas and to make sure that adequate and prompt planning is available to support future development within these precincts.

PSPs are master plans for whole communities which usually cater for between 10,000 to 30,000 people. Precinct structure planning is considered to be fundamental to making Victoria's growth areas great places to live, both today and for future generations. PSPs lay out roads, shopping centres, schools, parks, housing, employment and the connections to transport.

The development of greenfield sites, along with urban consolidation, is an important part of the Victorian State Government's strategy to address strong population growth and the housing and employment demands that flow from this.

One of the key aspects of the PSP process is the planning and provision of adequate utility servicing infrastructure for these developing precincts. New developments place additional load on existing services infrastructure which often necessitates augmentation of existing infrastructure to varying degrees.

The utility services authorities are responsible for planning, designing, constructing and maintaining trunk supply and distribution of utilities within the precinct. Authorities identified within the Wallan South precinct are:

- APA Networks – Gas distribution
- APA Group – Gas transmission
- AusNet Services – Electricity distribution
- Goulburn Valley Water – Sewer
- Melbourne Water – Main Scheme Drainage
- Mitchell Shire Council – Local Drainage
- NBN Co – Telecommunications
- Telstra – Telecommunications
- Yarra Valley Water – Sewer, water and recycled water

This report identifies the high level opportunities and constraints to development with respect to utility services infrastructure. The capacity of existing services and the likely future infrastructure requirements have been assessed in consultation with the relevant authorities and provided within this report.

Project Scope

JACOBS was commissioned by VPA to undertake a high-level utilities servicing assessment report for the Wallan South precinct and identify current services and utilities infrastructure capacity issues within the precinct, noting identified key opportunities and constraints for the provision of servicing and utility infrastructure to fully service the precinct into the future.

JACOBS consulted with the relevant service authorities identified by undertaking a site inspection and undertaking Dial Before You Dig inquiries, reviewing supplied infrastructure data to assess the capacity of existing services and identify future services, with the details discussed throughout the report.

Key Stakeholders

The Victoria Planning Authority (VPA) is the statutory authority responsible for overseeing the preparation of all PSPs in Melbourne's growth areas and advising the Minister for Planning on their approval. The VPA works in partnership with Growth Area Councils to complete the planning for Melbourne's Growth Areas.

The VPA is managing the preparation of the Wallan East PSP. As it is located within the Mitchell Shire Council, the Mitchell Shire Council is also a key stakeholder in the preparation and implementation of the PSP.

Yarra Valley Water participate in Department of Environment, Land, Water and Planning (DELWP) Integrated Water Management (IWM) forums in the, Dandenong, Maribyrnong, Werribee, Westernport and Yarra catchments. These bring key agencies – including planners and local councils – together to examine opportunities for shared value projects with liveability benefits. Yarra Valley Water's priority is to ensure that their water and wastewater services are resilient to climate change, drought and population growth.

Key Existing Features

Important existing features in the Wallan East PSP (existing and proposed under the Precinct Structure Plan) include:

- Wallan East Pt 2 PSP (Commencement not scheduled) (southern boundary)
- Kelby Lane to the North
- Epping – Kilmore Road to the east
- Wallan Whittlesea Road to the south
- North East Rail Line to the west
- Existing Wallan Station to the west (off Wallan-Whittlesea Rd)
- A predominantly residential precinct, with mixed business and future industrial precinct to the south of Wallan East PSP.
- An existing rural industry
- The Wallan Sewerage Treatment Plant, which is located east of the Hume Highway at the end of S Station Street outside Wallan South PSP area, and part of the new sewerage infrastructure that will ultimately connect Wallan and surrounds to Melbourne's metropolitan sewerage network. Under the current (future) growth predictions, the new infrastructure is scheduled for completion in 2021.

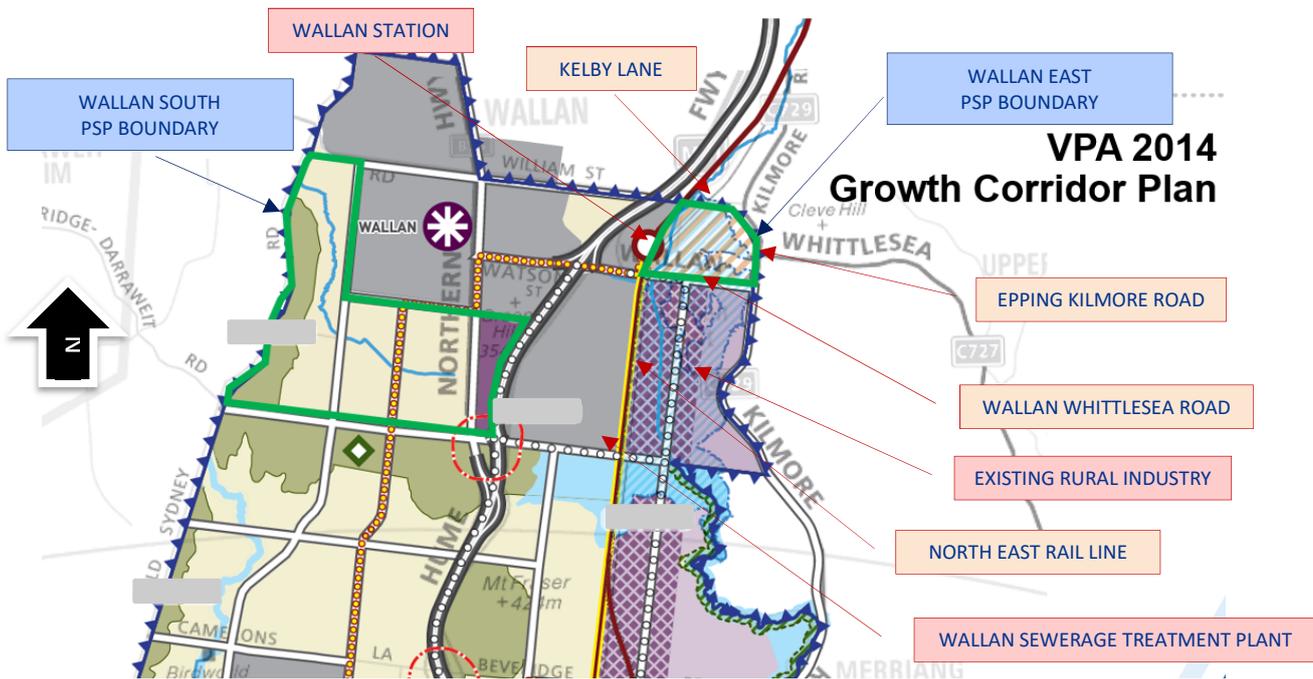


Figure 1.1: Wallan East PSP Key Features (Not To Scale)

Information Sources

The information within this report has been collated from the following sources:

- A Dial-Before-You-Dig enquiry to determine the extent of readily available services information and to assess the size and location of existing services.
- Publicly available aerial and street level photography and cadastral and contour information.
- Correspondence, meetings and phone conversations with personnel from the various utility service authorities who provided information about future servicing strategies and master planning.
- Websites of service authorities, industry associations and government departments to obtain further information about the capacities of existing assets, plans for future assets, policies, standards and legislation governing development.
- Excludes servicing strategies by land owners.

2. Methodology

In order to understand the extent of utilities, a desktop study was conducted for each of the site. Dial Before You Dig (DBYD) has been requested for the site and their immediate surrounds. The following companies responded to the request where required with information on the location of utility assets:

- APA Group (Gas)
- AusNet (Electricity)
- Melbourne Water (Drainage)
- NBN Co. (Communications)
- NextGen (Communication Distribution)
- Telstra (Communications)
- Yarra Valley Water (Sewerage, Water)

The information from each of these sources is 2 dimensional and indicative only, service proving will be required to determine exact location, depth and condition of the assets. The asset information has been consolidated on to a single drawing.

3. Site Overview

Wallan East is a 140 ha site, located 45 km north of Melbourne’s CBD. The study is within the Mitchell Shire Council and links to neighbouring PSP’s Wallan East Pt 2 (Commencement not scheduled) and the existing township of Wallan. It is bounded on the west by the North East rail line, to the south by Wallan-Whittlesea Rd, to the east by the Epping-Kilmore Rd and to the north by Kelby Ln.

The study area is currently used for low density residential and farming. Merri Creek also runs through the study area and is surrounded by shrub. The study area does not have any significant trees or vegetation. The topography of the study area is generally flat, with some gentle undulation. The potential development will be adjacent to the existing Wallan Railway Station and 3km from the town centre.



Figure 3.1: Wallan East & Wallan South PSPs (Not To Scale)



Figure 3.2: Study area for Wallan East (Not To Scale)

4. Water and Sewer Supply

Yarra Valley Water

Yarra Valley Water (YVW) is the responsible authority for the provision of sewerage, potable and recycled water services for the Wallan East Precinct.

YVW is continually monitoring interim and long-term servicing strategies for sewerage and water supply for the entire North (Hume Highway) Corridor of which Wallan East forms a part.

The timing of the construction of the various elements will be determined in part by development demand and part by YVW’s Water Plans that provide budgets and a programme of works. Current mapping indicates a strategy period from 2019 to 2035, with these time frames may alter depending on progression of development. Refer Section 4.3 and Appendix A.2.1, A.2.2 and A2.3 for YVW Servicing maps.

Major assets when constructed as part of ultimate servicing strategies are classified as “shared assets” and therefore YVW funded. Where a developer requires assets ahead of YVW Infrastructure Works Programme, Incremental Financing Costs (bring forward costs) will be charged and levied on the developer. Assets classified as being interim or temporary are typically expected to be funded by developers as required.

Full development of this and adjoining precincts will require extensive capital works by YVW, which will most likely be partly funded by developers. These works will require coordination with the YVW development program.

Goulburn Valley Water

Goulburn Valley Water (GVW) have assets within the Wallan East Precinct linking to the YVW ‘Wallan Treatment Plant’.

YVW have confirmed that the existing pressure pipeline from the north dissecting the site is a GVW sewer rising main from the Wandong/Heathcote Junction area.

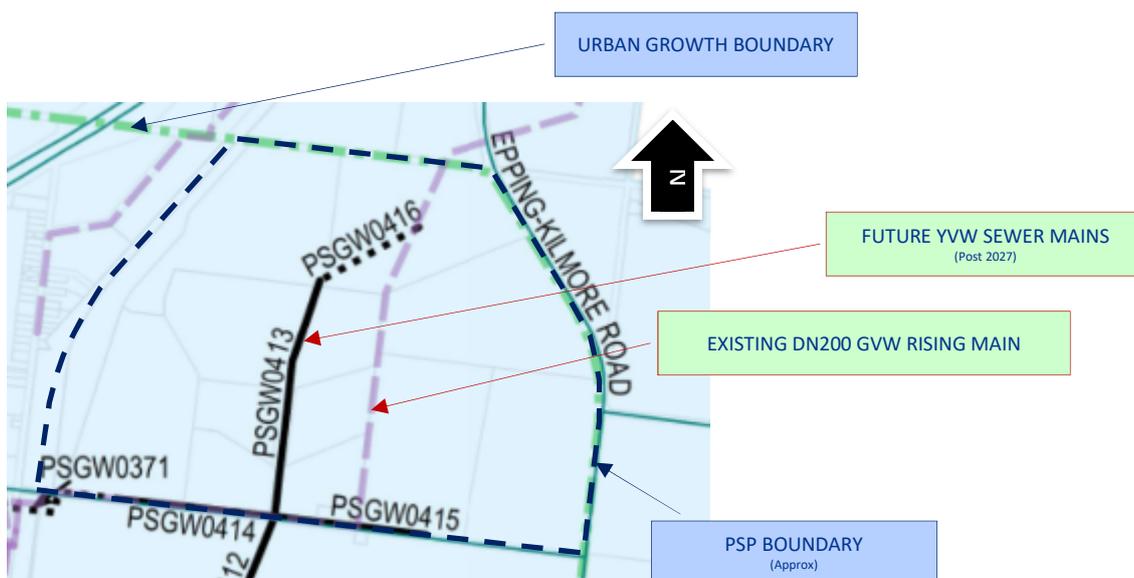


Figure 4.1: Existing GVW Sewer Rising main (Not To Scale)

4.1 Current servicing arrangements

Yarra Valley has provided preliminary high level advice for servicing the Wallan East precinct. Information provided identifies servicing within the Wallan East precinct and links to neighbouring PSP's Wallan East Pt 2 (Commencement not scheduled) and the existing township of Wallan.

Data has been sourced directly from YVW directly and from their Asset Map site.

https://webmap.yvw.com.au/yvw_ext/

4.1.1 Water

Water supply services for the precinct are provided by Yarra Valley Water

The YVW Asset Map, indicates the following existing water assets:

- DN150 (Asbestos Cement) water supply pipe along the southern alignment of Kelby Lane.
- DN300 (DACL) transfer main heading west across the railway line
- DN150 (DACL) cross connection between the DN150 (AC) and DN300 transfer main at the western end of Kelby Lane / precinct limit.
- There is no other existing water supply to the study area.

Refer Appendix A.2.1 - YVW 'Beveridge Wallan Planned Water Assets'

4.1.2 Non-Drinking Water

Non-Drinking Water services for the precinct will be provided by Yarra Valley Water.

From the YVW Asset Map, there are no existing non-drinking water supply mains within the study area.

Refer Appendix A.2.2 - YVW 'Beveridge Wallan Planned NDW Assets'

4.1.3 Sewer

Sewer services for the precinct will be provided by Yarra Valley Water.

Goulburn Valley Water DBYD data indicate they have an existing DN200 UPVC pressurised pipe dissecting the Wallan East Precinct.

According to the YVW data map, it appears there is no other existing sewer supply within the study area.

Refer Appendix A.2.3 – YVW 'Beveridge Wallan Planned Sewer Assets'

4.2 Constraints

Yarra Valley Water preliminary advice

Preliminary advice received from Yarra Valley Water indicated a number of constraints and are outlined as follows:

- Yarra Valley Water have no immediate works plans to support the Wallan East PSP, with regard to core water or non-drinking water core trunk services.
- Staging of development will be fundamental, and further investigation and discussion with YVW required.
 - At this time water infrastructure supply will likely be from the north (Kelby Lane)

- Non-drinking water supply is not within close proximity to the site or in identified current planning and would potentially be dependnt upon development progressing form the south.
- Sewer infrastructure supply will be from the south form Wallan Whitlesea Road and Hart Court
- Where developments proceed out of sequence, assets will be required to be constructed by the developer until permanent infrastructure is constructed and would be subject to bring forward costs.
- Yarra Valley Water is not expecting any development works within the PSP area to commence until post 2021.

4.3 Development opportunities

4.3.1 Water & Non-Drinking Water

Yarra Valley Water have no planned assets within the precinct.

Existing water assets are located within Kelby Lane (southern side) only.

Further discussions in the future will be required with Yarra Valley Water to determine planned works and timing.

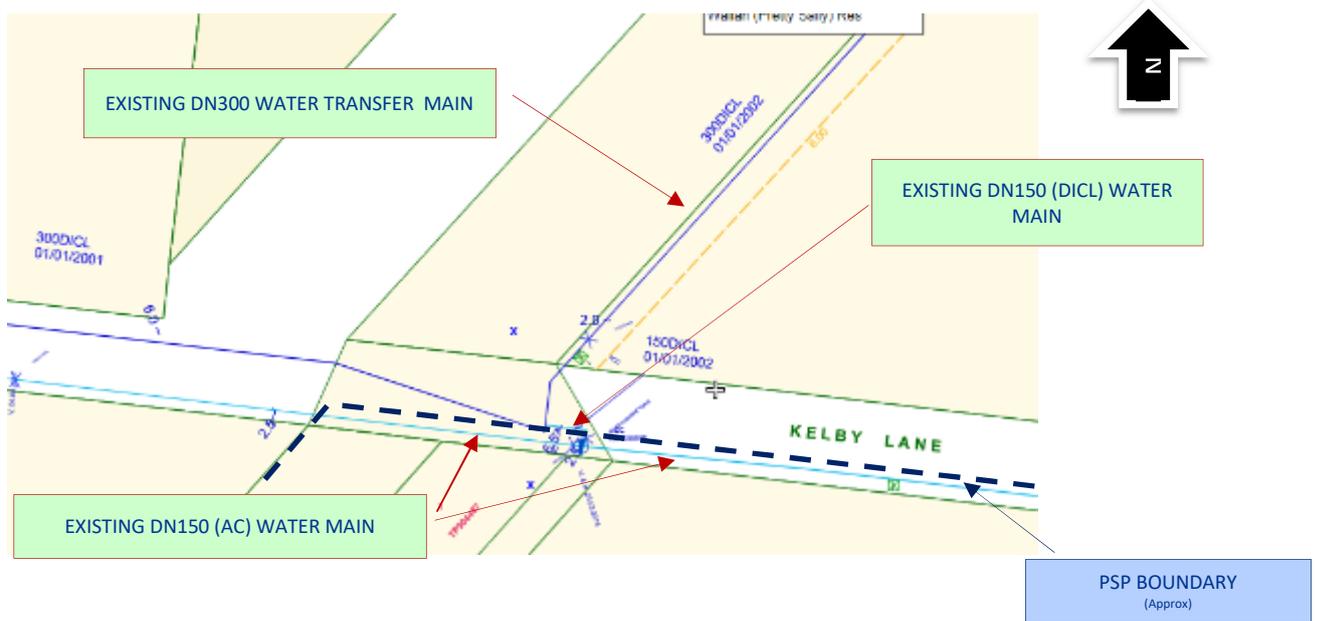


Figure 4.3: Existing YVW Water main assets (Not To Scale)

4.3.2 Sewer

Yarra Valley Water has indicated the following future trunk infrastructure services within the precinct.

All Works currently planned for Post 2030

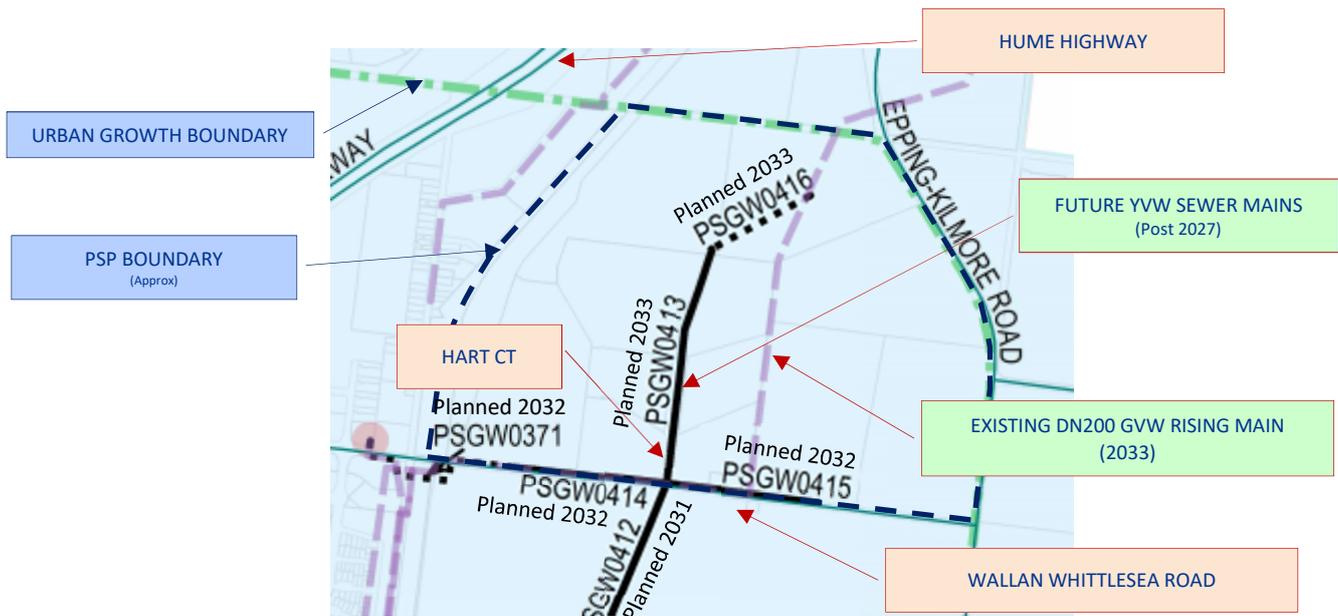


Figure 4.2: Proposed DN200 Sewer Rising Main Diversion (Refer Appendix A.2.1. & A.2.3) (Not To Scale)

Note: Data itemised below, has been extracted from YVW secure planning data base, and in many instances electronic data differs from the data shown on maps provided by YVW as appended. YVW advised that the data base is updated regularly and reflect YVW current development plans.

- DN600 Wallan Whittlesea Road Branch Sewer Stage 3 (PSGW0412) – 2031
- DN375 Wallan East Branch Sewer Stage 4 (PSGW0413) – 2033
- DN300 Wallan Whittlesea Road Branch Sewer Stage 1 (PSGW0414) – 2032
- DN300 Wallan Whittlesea Road Branch Sewer Stage 2 (PSGW0415) – 2032
- DN200 Wandong Rising Main Diversion (PSGW0416) – 2033
- DN200 Diversion SPS 702 Rising Main Discharge (PSGW0371) - 2032
- DN600 Wallan Whittlesea Road Branch Sewer Stage 3 (PSGW0413) – 2031

4.4 Current Yarra Valley Water Developer Fees and Charges

The Essential Services Commission (ESC) sets the standard rates for New Customer Contribution (NCC) charges. Yarra Valley Water uses these NCCs to provide the shared water, recycled water and sewerage services required to service urban growth.

The contributions for potable water, recycled water and sewerage supplies are determined on the area of development. Areas can be determined on Yarra Valley Water's Asset Map.

Yarra Valley Water:

- applies a scheduled charge on any connection of a new customer that is separately titled or is, or can be, individually metered, or
- calculates the financing cost of providing assets for a development when the assets are required ahead of when programmed by Yarra Valley Water.
- can apply a scheduled charge on any developments requiring an upsize to the existing water service for water use.

Developers may be charged for up to 3 services – water, recycled water and sewerage. All developments within Yarra Valley Water's licensed area are subject to NCC charges.

Refer Yarra Valley Water website (<https://www.yvw.com.au/help-advice/develop-build/developers/new-customer-contributions>) for details and current fees and charges.

Region	Service	2018/19 Prices	2019/20 Prices
Standard	Water	\$704.41	\$713.79
	Sewer	\$704.41	\$713.79
	Recycled Water	\$704.41	\$713.79
New Urban Growth Area	Water	\$2,020.43	\$2,223.41
	Sewer	\$2,020.43	\$2,223.41
	Recycled Water	\$704.41	\$713.79
Greenvale/Mickleham	Water	\$2,020.43	\$2,223.41
	Sewer	\$2,020.43	\$2,223.41
	Recycled Water	\$704.41	\$713.79
Epping North	Water	\$1,028.23	\$1,041.92
	Sewer	\$1,028.23	\$1,041.92
	Recycled Water	\$704.41	\$713.79

Figure 4.3 : Yarra Valley Water Current Developer Contribution charges table 2019/20

5. Electricity

5.1 Current servicing arrangements

Electricity distribution for the precinct are provided by AusNet. Based off the dial before you dig data, there are both overhead and underground lines in the area. Note all overhead lines are either 22kV or 66kV HV.

There are high voltage lines and service properties west of the North East Rail Line.

Epping Killmore Road

- 22kV Overhead powerlines along the southern road alignment, connecting to 66kV pole in Woodlands Place. The 22kV overhead line continues south to Wallan-Whittlesea Road.

Wallan Whittlesea Road

- 22kV Overhead powerlines along the southern road alignment.
- AusNet DBYD data indicates short section of underground LV supply at various sections along the roadway.

Kelby Lane

- 22kV Overhead powerlines along the southern road alignment, connecting to Epping Kilmore and heading west across / over the railway line to N Station Road.

Hart Court

- LV underground powerlines exist along the eastern alignment connecting to overhead supply in Wallan-Whittlesea Road.



Figure 5.1 : AusNet existing overhead and underground supply (Not To Scale)

5.2 Constraints

Ausnet Services have been contacted to provide advice on development constraints, and have provided the following advice:

- Augmentation of our network within the development area will be timed to match development.
- The developer can choose to underground some if not all of the lines outside the development area to suit the aesthetics of the new development. Within the development area, underground power is compulsory up to 22kV. Asset Alteration costs will be a developers responsibility.
- AusNet to confirm supply limitation from existing infrastructure and any further augment of their assets after that. Feeder augmentations can take up to 2 years.
- These lead times need to be factored into the overall development of the area.
- AusNet has a 66kV line on the eastern side in Epping – Kilmore Road heading north into Woodlands Place.
- The site would most likely bring on a new feeder from AusNets KLO zone substation (Intersection of Hume Highway, Donnybrook and Polaris Roads Kalkallo) north towards Wallan, this being one step below establishment of a new zone substation.



Figure 5.2 : AusNet Kalkallo (KLO) zone substation (Not To Scale)

5.3 Development opportunities

AusNet Services have been contacted to provide advice on development opportunities, and have provided the following advice:

- Installation of backbone electrical infrastructure will need to be considered when determining the staging of the development as our infrastructure is most likely not located where the initial staging will take place.
- There are no special additional requirements within the development area.
- New estates will be supplied from underground 22kV cables supplying kiosk substations within the development area. Kiosk reserves on title will be required.

- On average, one kiosk will be required for every 125 lots.
- Important to Note
 - Lot density per kiosk is under review as we adjust our network requirements to cater for solar.
 - Contrary to what may be expected, AusNet will need additional kiosks to cater for increased solar penetration.

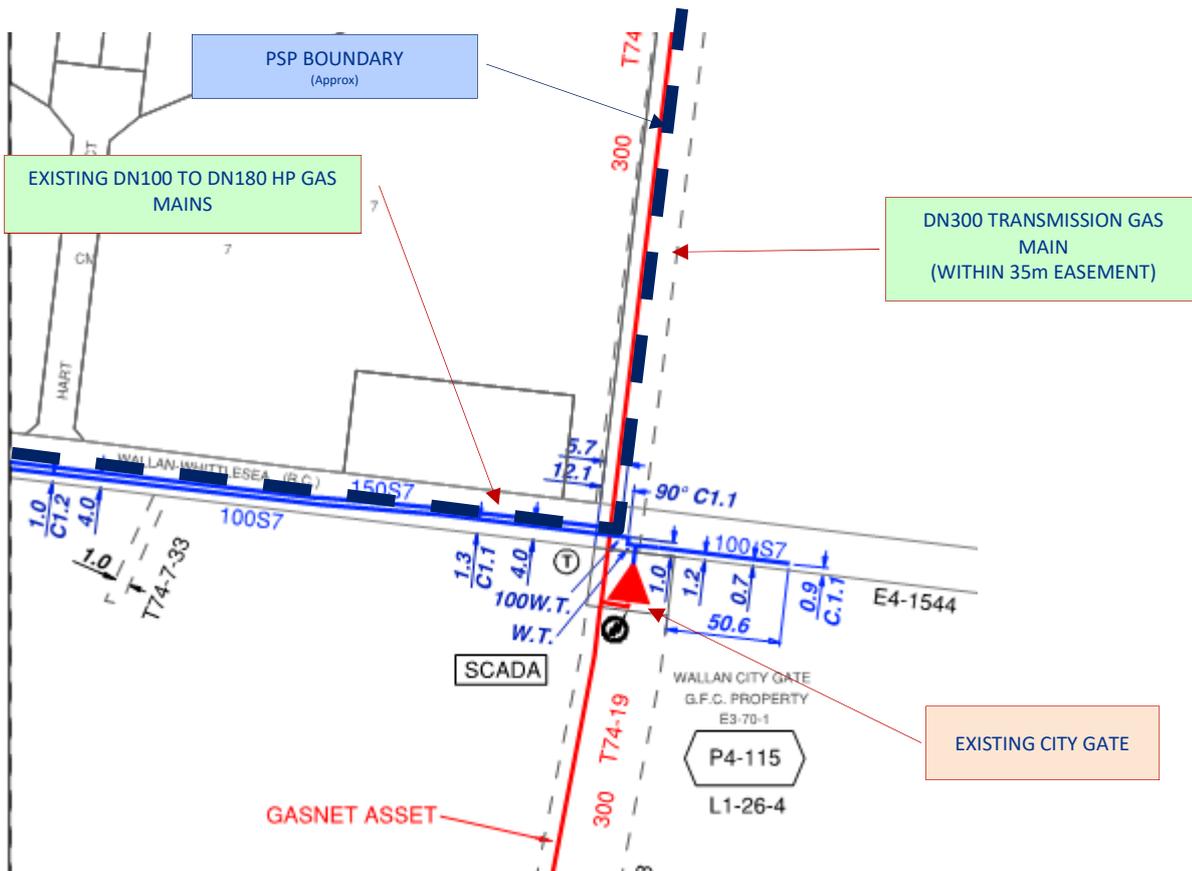


Figure 6.2 : APA Easement & Asset locations (Not To Scale)



Figure 6.3 : APA City Gate (Not To Scale)

6.2 APA formal advice

Following a meeting with VPA and APA the following advice was provided:

- There are two different gas pipes within the easement in Wallan east (Figure 6.3), the older thinner pipe (Wollert to Wodonga) has measurement length of ~340m, the newer pipe (Victorian Northern Interconnect -VNIE) has technically a measurement length of ~500m however is thicker and at a

higher standard and therefore the notification area for this pipeline and (likely impact area) is likely to be in the order of ~590m.

- It is therefore more likely the SMS will not allow sensitive uses i.e schools within the ~370m measurement length, rather than the greater measurement length.
- Density within the measurement length of greater than 50 dwellings a hectare is also likely to be an issue (less than is not an issue).
- APA suggests that the VPA appoints a facilitator to develop the SMS at a point in the project where land uses are generally known and can be tested/discussed in the SMS. APA have a list of facilitators that have been used before that usually cost in the order of \$15,000.

6.2.1 Measurement Length

For clarification, the Measurement Length (ML) is the heat radiation zone associated with a full-bore pipeline rupture. APA is mandated to consider community safety in the ML (under Australian Standard AS 2885) due to the high consequences of pipeline rupture to life, property and the economy.

The ML is determined by taking account of a number of factors including the design criteria of the pipe (driven by the environment within which it was designed for at the time of construction) and the Maximum Allowable Operating Pressure (MAOP) of the pipe. APA must consider any changes of land uses within the ML area to determine the effect of a new use on the risk profile of the pipeline.

The Measurement of the pipelines in question is;

- Victorian Northern Interconnect (VNIE) pipeline is 590m either side of the pipeline.
- Wollert – Wodonga pipeline is 340m either side of the pipeline (this is still a live pipeline)

Note both pipelines are in the same linear corridor so the ML's overlap.

The measurement length of the pipelines does not change given it is a calculation based upon the pressure and size of the pipeline.

6.2.2 Safety Management Study (SMS)

These protective measures can be identified by a Safety Management Study (SMS).

The purpose of an SMS is to assess the risk associated with a change in land use, including both construction risks and ongoing land use risks. The SMS will also develop appropriate controls to reduce risks to 'as low as reasonably practicable' (ALARP). The cost of undertaking an SMS is to be borne by the proponent as the 'agent of change'. APA has developed a list of preferred SMS facilitators. This ensures facilitators are both independent and satisfactorily qualified to undertake this assessment. This list is available from APA on request.

6.3 Development opportunities

Based upon the potential future lot numbers of between 10,000 to 15,000 lots for the Wallan South and East PSP's, APA have advised the following opportunities:

With the township of Beveridge to the south of Wallan, over the longer term, supply would extend from the south to provide a secondary means of servicing Wallan South and the precinct(s) between Wallan and Beveridge. APA Networks would require access to a publicly gazetted road to lay this asset at a suitable offset. Timing would be dependent upon the rate of growth and also procurement of any third-party approvals in order to extend their network.

6.4 Constraints

APA provided the following advice in relation to Wallan East, that based on the current rate of property connections, the City Gate (gas distribution point), located in Wallan-Whittlesea Road opposite Hart Court (Wallan East), would require an upgrade in approximately 8-10 years (2028-2030), however this would be managed as part of Business As Usual programming.

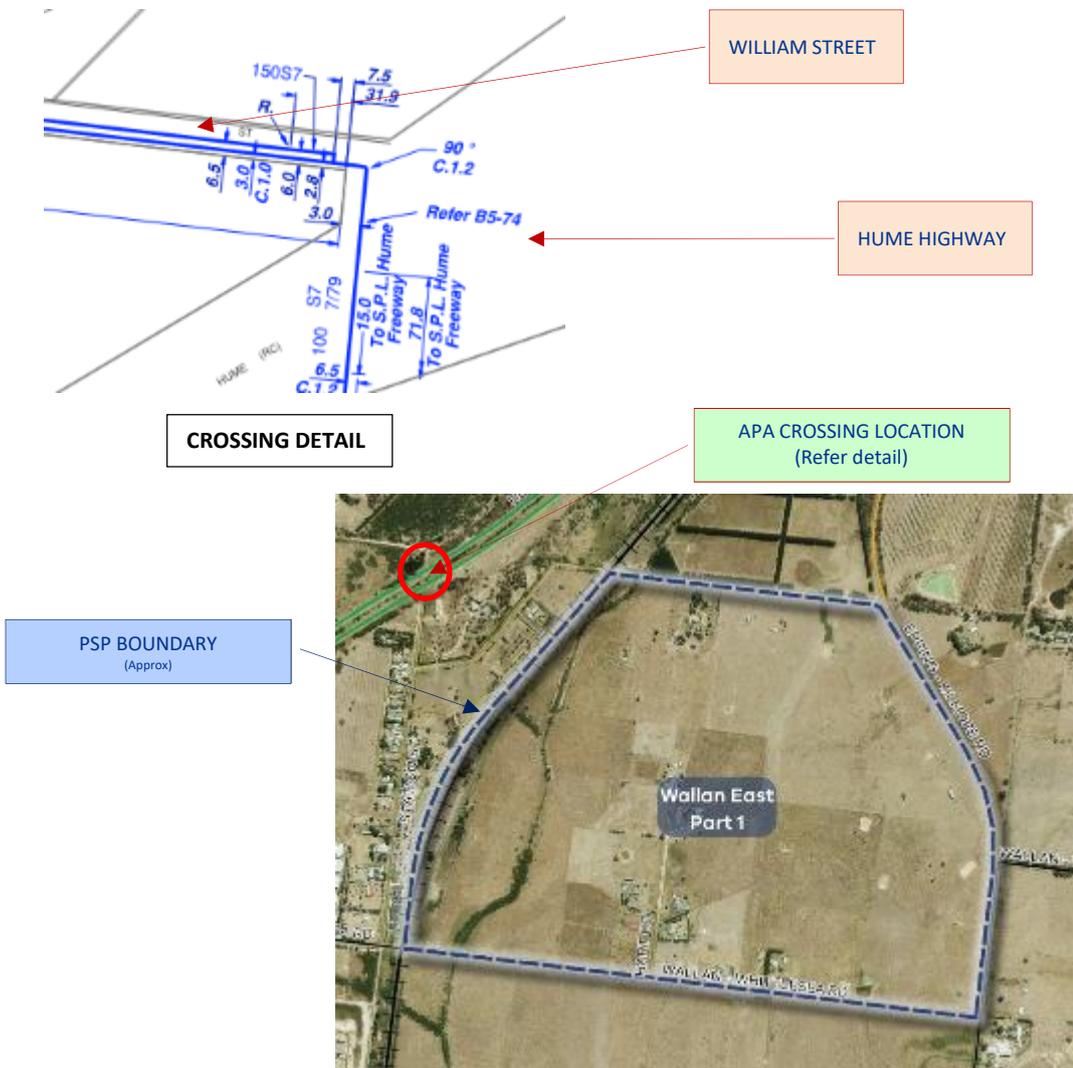


Figure 6.4 : APA William Street & Hume Highway existing crossing location (Not To Scale)

7. Telecommunications

7.1 NBN

NBN co. are the responsible authority for provision and installation of National Broadband Network infrastructure. From the figure below, the NBN has begun the build on some of the Study Area, however this only considers current dwellings at the time of the build.

The Wallan township currently has access to NBN.

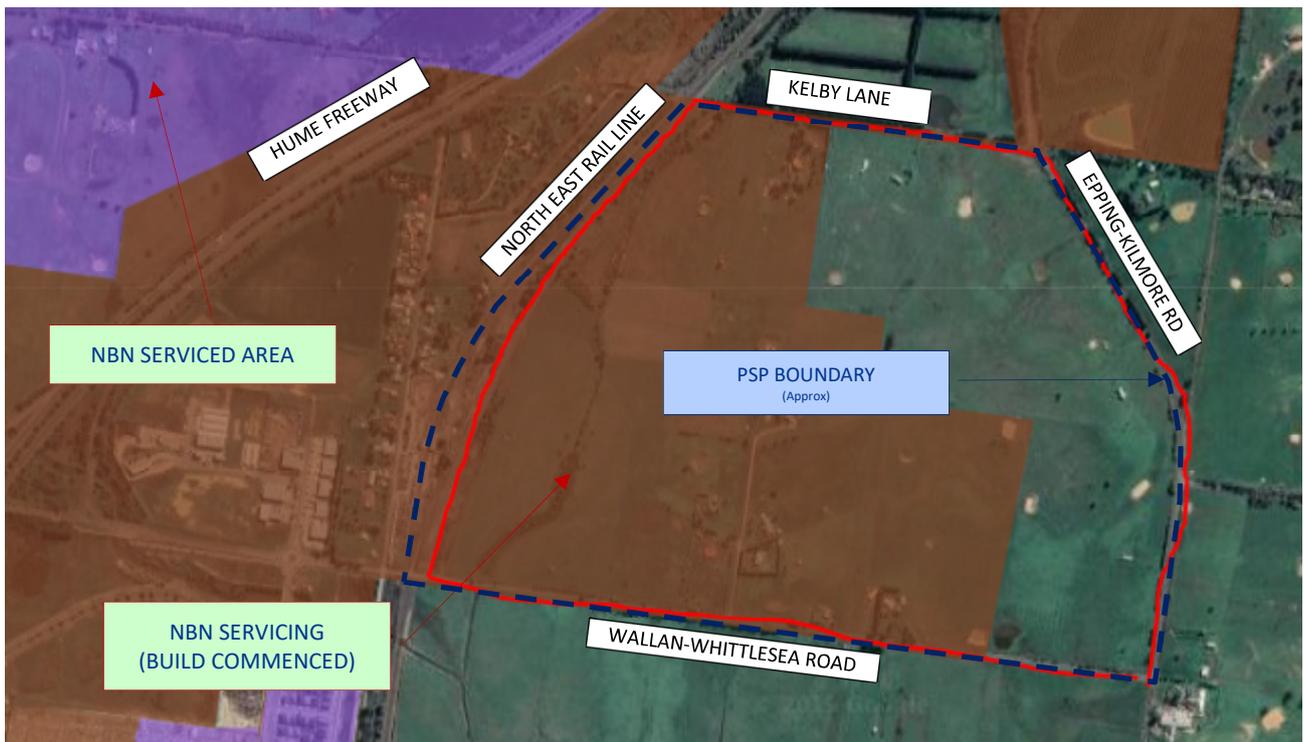


Figure 7.1 NBN rollout map (Not To Scale)

According to DBYD, there is a P100 cable running along the western side of the Epping-Kilmore Rd road reserve and turns down Kelby Ln along the southern side of the road reserve, running up until the rail line. Despite the area not currently being connected to NBN, the cabling appears to be laid in anticipation of connection. Typically, smaller cables connect to P100 conduits to supply homes and businesses.

Advice to developers is to submit an online application for assessment to NBN co, pay relevant charges, design and build to NBN's standards and submit as built design and Notice of Practical Completion if needed. It is advised that 6 months should be given from the preparation of the application to occupation.

7.2 ADSL

Communications cable ducts owned by TPG/AAPT and NextGen run along the eastern boundary of the site, adjacent to the VicTrack boundary. Due to NBN being rolled out in the area, the ADSL cables will likely be made obsolete for residential and commercial use. Refer 7.4 for NextGen details.

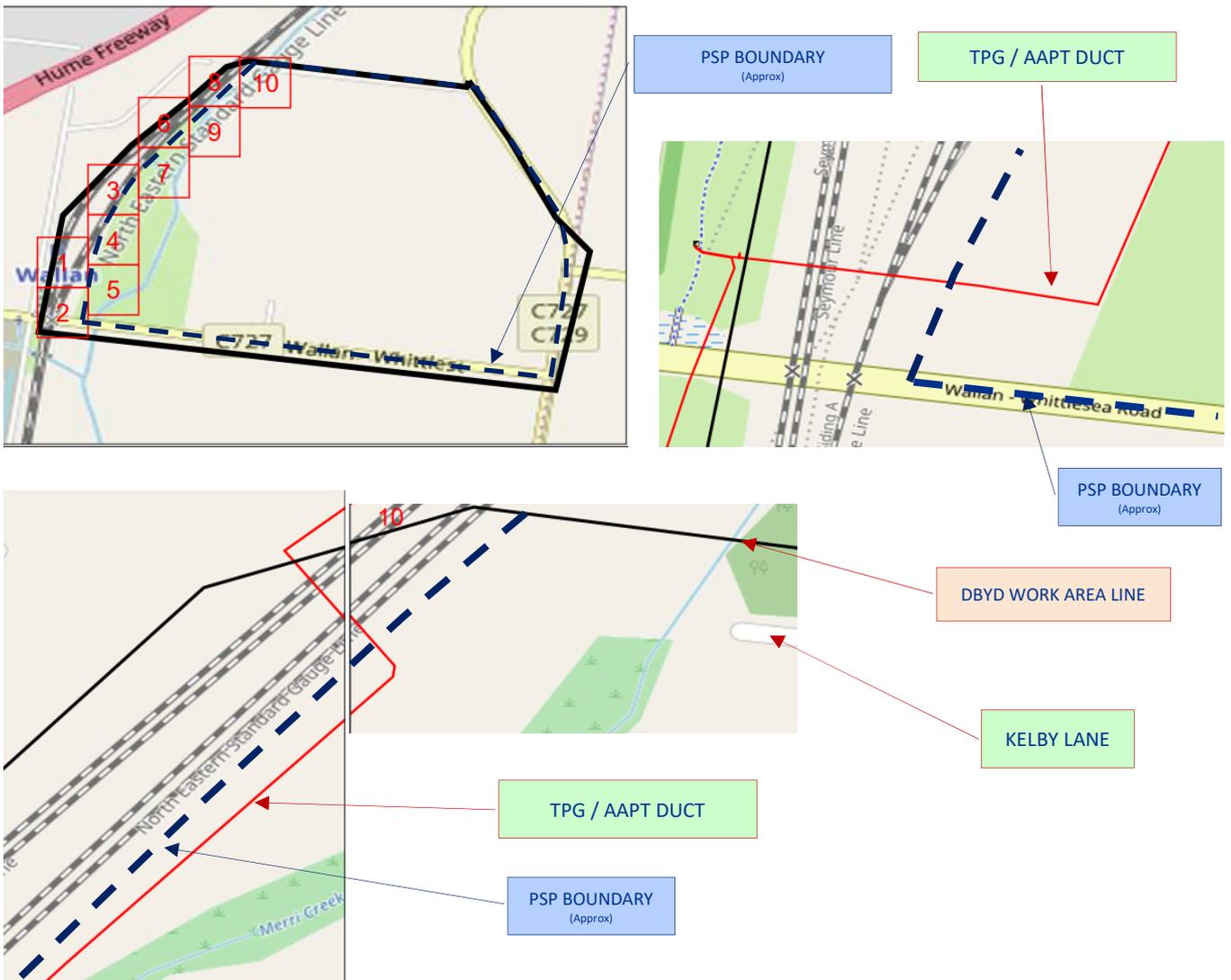


Figure 7.2 TPG Telecom / AAPT overview & Alignment Extracts (DBYD) (Not To Scale)

7.3 Telstra

Telstra are the responsible authority for the provision of telecommunication cabling and supply. Telstra infrastructure is prominent around the site and appears to supply all the properties within the study area and runs nearby and under all roads bounding the site as well as Harts Ct.

An Australian Government Department of Broadband Communications and the Digital Economy statement advises that “Telstra would not have infrastructure responsibilities but would be retail provider of last resort” and that “all new developments will be assumed to be in NBN Co’s long-term fibre footprint”. Much of the Telstra infrastructure may be made obsolete as NBN compliant fibre will be required for the new development.

7.4 NextGen

NextGen cable exists within the precinct as shown below. The cable may require relocation to accommodate any future development use, further discussions will be required with the team to assist with further servicing advice.

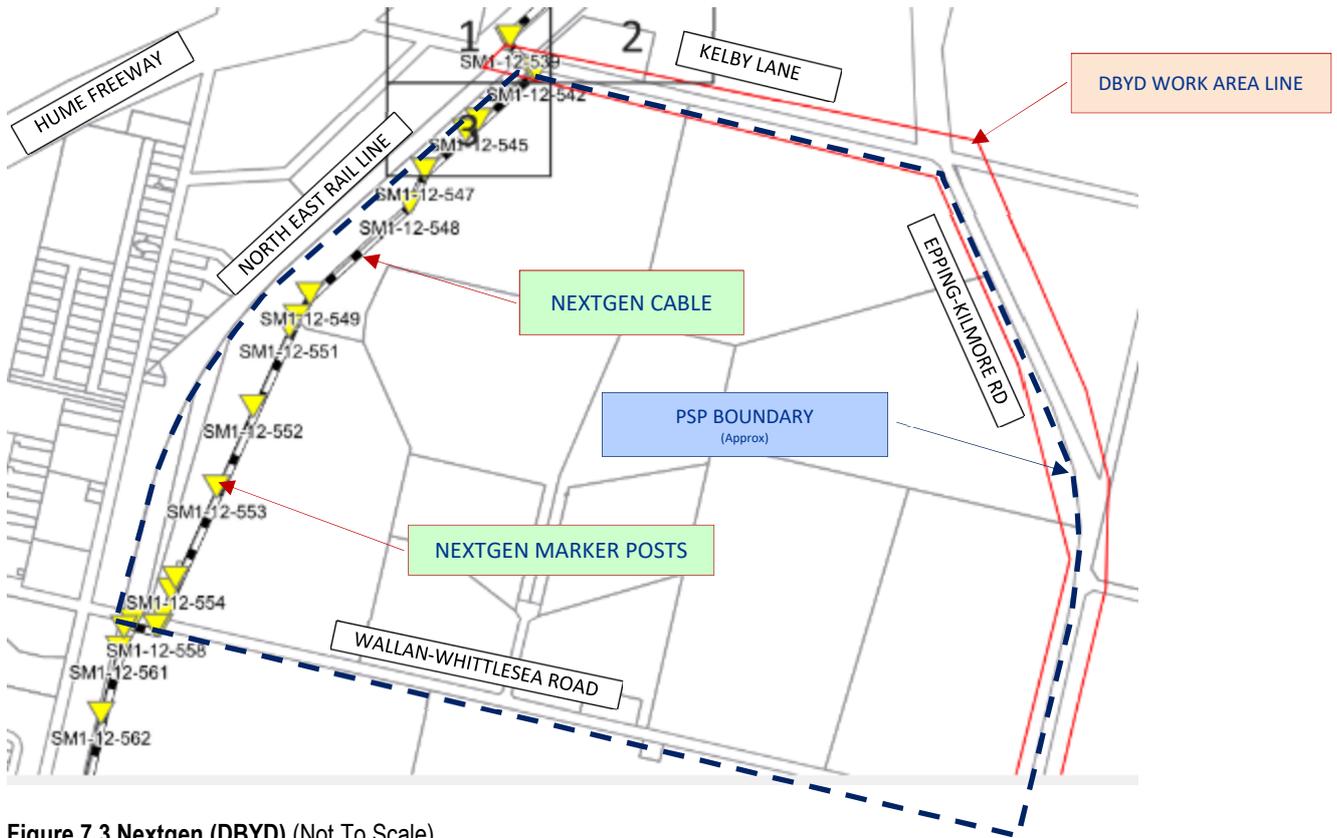


Figure 7.3 Nextgen (DBYD) (Not To Scale)

8. Stormwater Drainage

Melbourne water is the responsible authority for waterways and major drainage infrastructure, however, the study area does not fall within a drainage scheme. It is adjacent to the Wallan Street Drains DSS 6535, which lies to the west of the rail line and the Wallan Airfield DSS 6350, which is to the south-west.

Merri Creek runs through the study area, note that there is no property easement for the creek. There are drainage culvers at the road crossings of Merri Creek at the North and South of the site with size of culverts is to be determined.

The flood extents indicate that most of the precinct is flooded which will require the planning of future services to allow for this.

Mitchell Shire Council is responsible for drainage on local streets in the Study Area.

Property developers would be responsible for the installation local drainage to councils requirements.

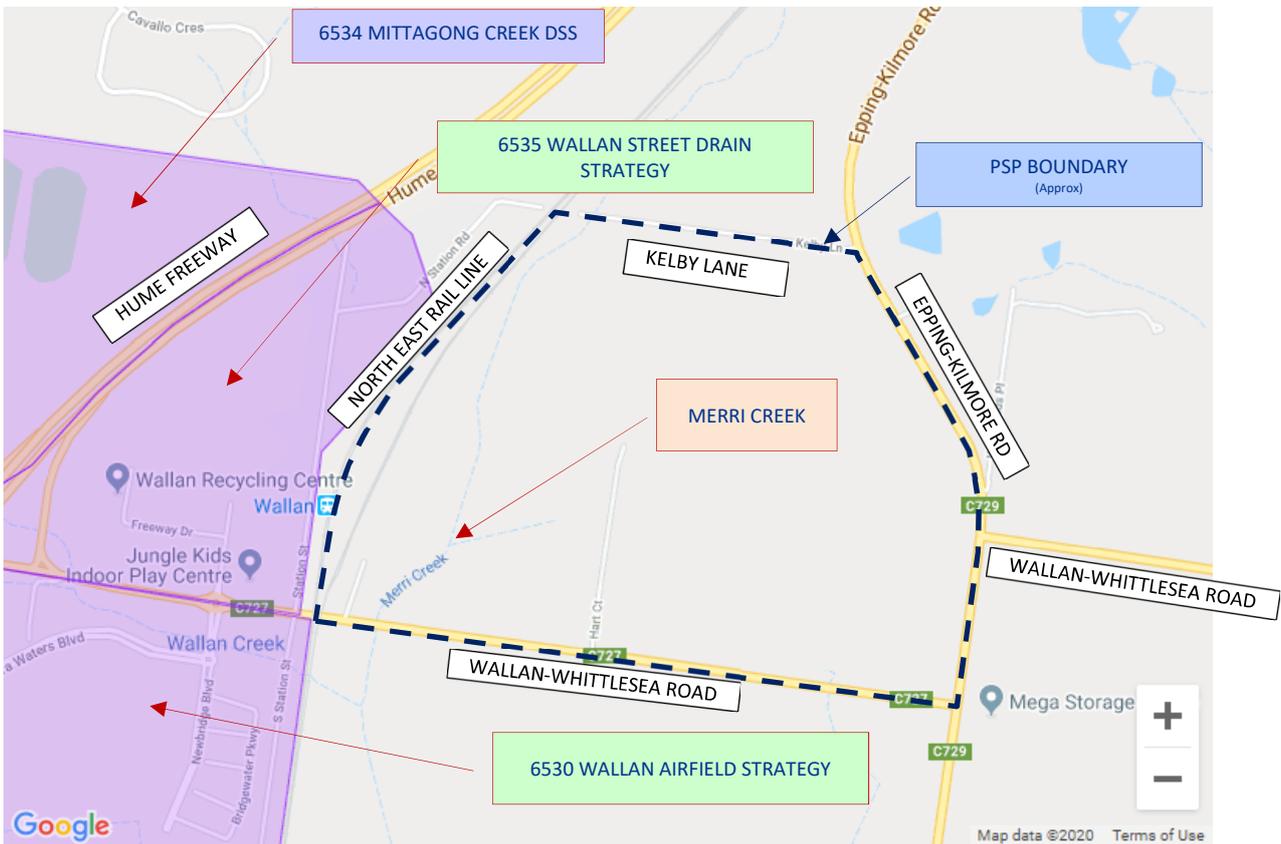
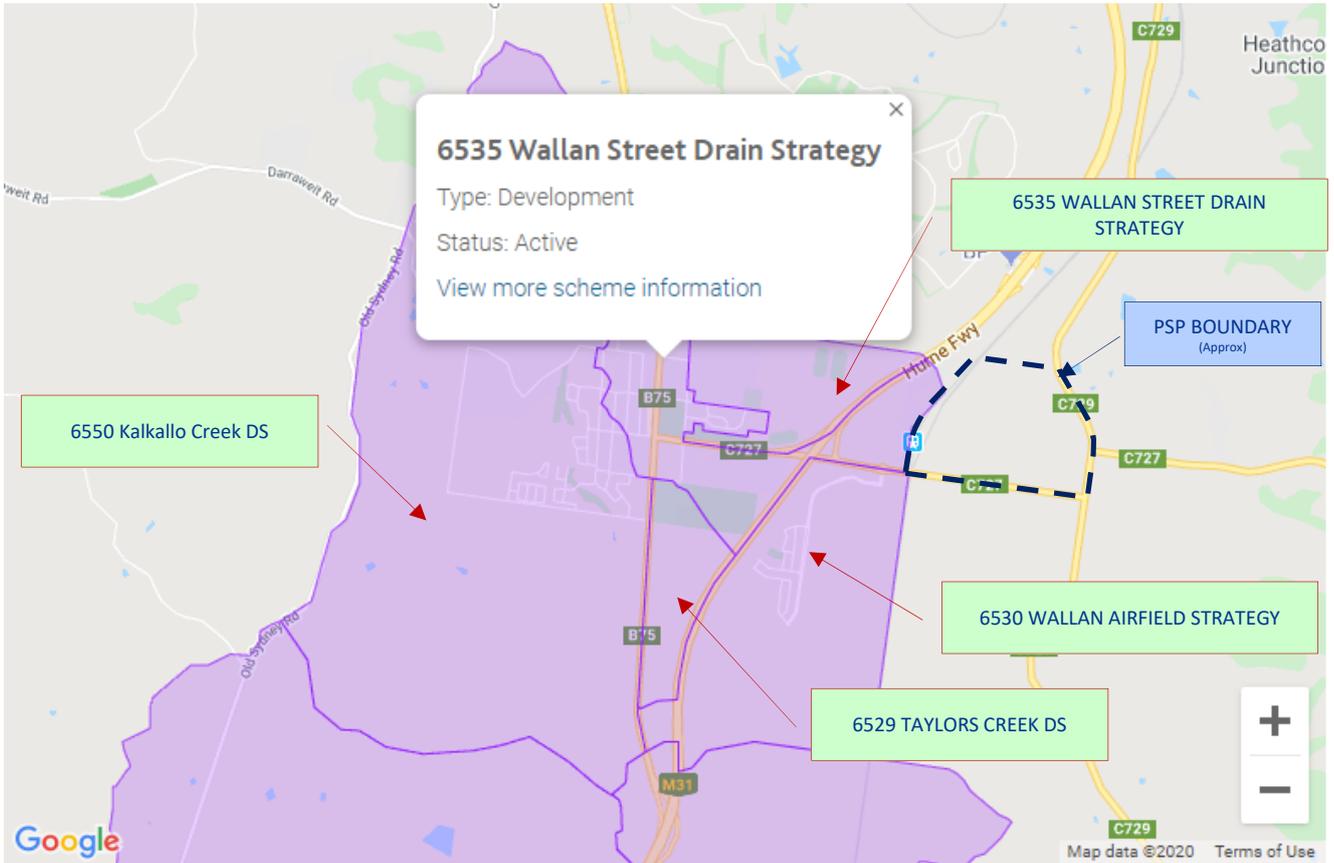


Figure 8.1 MWC Scheme Map (Adjacent Schemes only) (Map Not To Scale)



No.	Greenfield scheme name	Current base rate (standard residential) (\$/ha)				Rate changes		
		Hydraulic	Water quality	Includes scheme WQ works	Calculator	Effective date	Hydraulic	Water quality
6535	Wallan Street Drain Strategy	\$0	\$0	No	Calculator			

Figure 8.2 MWC Scheme Map (Adjacent Schemes only- extended) (Map Not To Scale)

9. Governance

Essential Services Commission Act 2001 and related Codes & Guidelines

The Essential Services Commission's (ESC) general regulatory powers are set out in the *Essential Services Commission Act 2001* and are applied to the Victorian electricity industry by the *Electricity Industry Act 2000*. This Act sets out the Commission's powers in respect to licensing and service regulation.

The objective under the *Essential Services Commission Act 2001* is to promote the long term interests of Victorian consumers with regard to the price, quality and reliability of essential services.

The ESC also has objectives under the *Electricity Industry Act 2000*:

To promote a consistent regulatory approach between the electricity industry and the gas industry, to the extent that it is efficient and practicable to do so to promote the development of full retail competition.

The ESC also has regulatory responsibilities prescribed by the *National Electricity (Victoria) Act 1997* and the National Electricity Code, which establishes the National Electricity Market in Victoria.

In addition to complying with the requirements of Victorian licences, codes and guidelines, electricity companies must also comply with the National Electricity Law and Rules.

Electricity Industry (Victoria) Act 2000

The main purpose of this Act is to regulate the electricity supply industry.

Energy Safe Victoria (ESV)

- Electricity Safety Act 1998 and subsequent amendments
- Electricity Safety (Electric Line Clearance) Regulations 2010

Gas Industry

Energy Safe Victoria (ESV)

- Pipelines Act 2005 - Pipelines Regulations 2007
- Gas Safety Act 1997

Subdivision Act 1988

This Act sets out the procedure for the subdivision and consolidation of land and regulates the management of and dealings with common property and the constitution and operation of bodies corporate. The Minister for Environment and Climate Change is responsible for administering this Act insofar as it relates to the management of the Officer of the Registrar-General and the Land Titles Officer. The Act is otherwise administered by the Minister for Consumer Affairs and the Minister for Planning.

Department of Transport

DoT are the Victorian government agency with a unified approach to transport planning providing a singular, integrated focus, from improving buses in growing suburbs to making it easier to walk and cycle places and embracing new technology.

Department of Environment, Land, Water and Planning

DELWP are the Victorian government agency and responsible for creating a liveable, inclusive and sustainable Victoria with thriving natural environments, they bring together Victoria's climate change, energy, environment, water, forests, planning, local government and emergency management functions into a single department to maximise connections between the environment, community, industry and economy.

Local Government Act 1989¹

The act provides a framework for the establishment and operation of councils and is the main legislative instrument for Victoria's councils.

Changes to the Act in 2003 included the insertion of a Local Government Charter outlining the purpose of local government is to provide a system under which Councils perform the functions and exercise the powers conferred by or under this Act and any other Act for the peace, order and good government of their municipal districts.

Planning and Environment Act 1987²

The Planning and Environment Act 1987, the Planning and Environment Regulations 2005 and the Planning and Environment (Fees) Regulations 2000 establish the legal framework for the planning system in Victoria.

The purpose of the Act is to establish a framework for planning the use, development and protection of land in Victoria in the present and long-term interest of all Victorians.

Environment Protection Authority Regulations

The Environment Protection Authority (EPA) is the responsible authority for the administration of a number of Acts³

Environment Protection Act 1970

The purpose of this Act is to create a legislative framework for the protection of the environment in Victoria having regard to the principles of environment protection.

Climate Change and Environment Protection Amendment Act 2012

Amends the Environment Protection Act 1970 to improve community amenity and reduce business costs. These amendments came into operation on 13 February 2013.

Pollution of Waters by Oils and Noxious Substances Act 1986

The purpose is to protect the sea and other waters from pollution by oil and noxious substances.

National Environment Protection Council (Victoria) Act 1995

The National Environment Protection Council (Victoria) Act 1995 is complementary legislation to the other states and the Commonwealth. The Act establishes the National Environment Protection Council (NEPC), which comprises a Minister from the Commonwealth and each state and territory.

¹ [DPCD - Local Government Acts and Regulations - Local Government Act](#)

² [DPCD - Planning Legislation](#)

³ [Acts administered by EPA](#)

The objective of NEPC is to ensure people are equally protected from air, water and soil pollution and from noise, no matter where they live in Australia. By eliminating differences between participating states in the adoption or implementation of major environment protection measures, distortion of decisions made by the business community and potential fragmentation of markets will be prevented.

Water Industry Act 1994

(Water - Sewer - Recycled Water)

The Water Industry Act 1994 establishes the framework under which the three Melbourne water retailers are licensed and regulated by the Commission, together with the statutory functions, powers and obligations of the licensees.

Water Act 1989

The Water Act 1989 provides the framework for the allocation and management of the State's water resources, including a bulk water entitlement regime and sets out the functions, rights and obligations and governance arrangements of regional urban water authorities and rural water authorities.

Telecommunications

- Telecommunications Act 1997
- Telecommunications Regulations 2001
- Telecommunications (Low-impact Facilities) Determination 1997
- Telecommunications (Consumer Protection and Service Standards) Act 1999
- Australian Communications & Media Authority Act 2005
- Emergency Services Telecommunications Authority Act 2004

10. Guidelines and Standards

The following is a summary outlining some of the guidelines and standards that apply to the precinct. The summary is not an exhaustive list and is provided as a guide only.

Water and Sewer Supply

- Melbourne Retail Water Agencies (MRWA) Specifications and Standards
 - MRWA Specification No. 04-02 - Water Quality Compliance
 - MRWA Specification No. 04-03.1 - Backfill Specification
 - WITS Survey Manual
 - MRWA Water Metering & Servicing Guidelines
 - Water Calculators
 - WSAW Water & Sewer Minimum Clearances
 - MRWA Standards (Click on sewer tab for sewer standard drawings)
- Yarra Valley Water specifications and standards
 - Water Supply Design Principles
 - Sewerage Design Principles
 - Standard Construction Specification
 - Water Quality Probe Installation in New Developments
 - Private Pump Station Policy
 - Application for Complex Planned Water Supply Asset Outage
 - Recycled Water (Victorian Government Mandated Area)
 - Land Development Manual

Electricity

- AS 3000 - Electrical installations (Australian/New Zealand Wiring Rules)
- AS 3175 – Approval and test specification – Residual current-operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – General rules
- Electricity Distribution Code for Victoria, Energy Safe Australia

Gas

- AS2885-2008 Pipelines—Gas and liquid petroleum General Requirements
- AS1432-2004 Copper tubes for plumbing, gas fitting and drainage applications

Telecommunication

- AS/NZS 3084:2003 Telecommunications installations – Telecommunications pathways and spaces for commercial buildings
- ACA TS 102-1998 Telecommunications Technical Standard (Customer Equipment and Customer Cabling)

Typical Services Location

The VPAs Engineering Design & Construction Manual provides specific road cross sections requirements to suit road types as nominated within the detailed PSP. This includes services allocation and offsets within road reserves, which are to be in accordance with the VPA EDCM and associated appendices along with relevant authority guidelines and offset criteria.

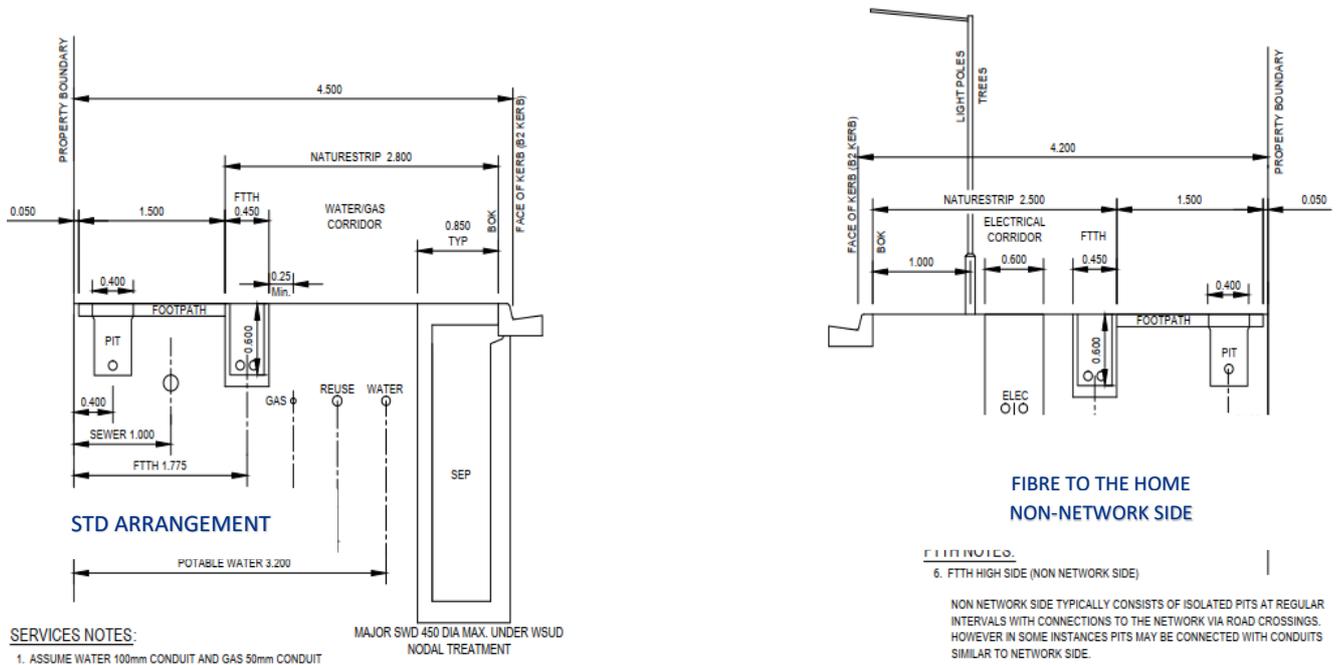


Figure 10.1 : EDCM Service Locations – Cross Sections for Access Street Appendix D – Figure 003 (Sections Not To Scale)

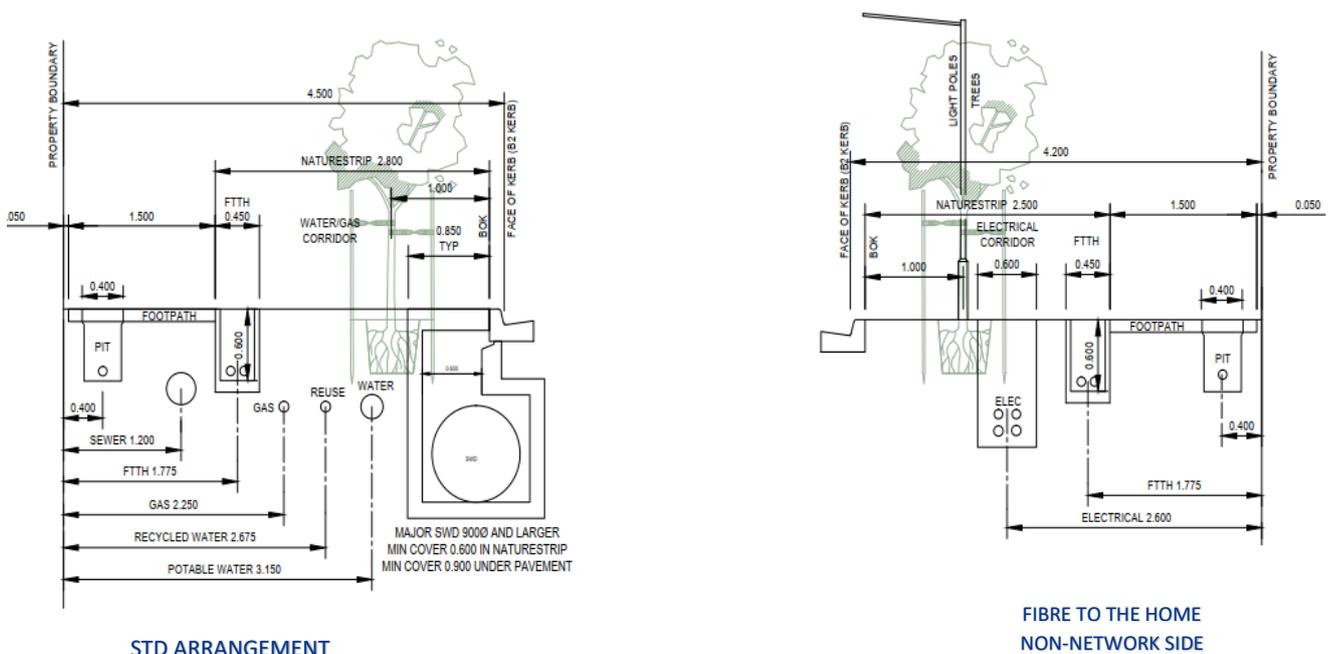


Figure 10.2 : EDCM Service Locations – Cross Sections for Trunk Services Appendix D – Figure 004 (Sections Not To Scale)

11. Conclusion and Recommendations

Based on discussions with authorities responsible for servicing the precinct, the following summary of assessment findings and recommendations will assist in facilitating the planning and implementation of adequate infrastructure servicing for the precinct.

It is also noted that the recommendations will require further detailed assessments to be undertaken by the stakeholders and are presented here for the benefit of VPA, to assist with future draft urban master plan and associated actions.

Timely awareness of development staging within a precinct enables service authorities to be proactive in the planning and delivery of critical infrastructure within the precinct. It also allows accurate budget forecasting and suitable resource allocation to occur.

As PSP documentation is a reference point for developers, it is recommended that early engagement with service authorities by developers be emphasised within the PSP. Service authorities appreciate knowing in advance the zoning and forecast timing of developments within precincts and it is recommended that timelines for development be provided.

From the assessment and discussions with servicing authorities the development area appears to be suitable for further development, with no major constraints identified.

The following outlines key infrastructure findings and recommendations.

Water and Non-Drinking Water

- Yarra Valley Water is the responsible authority for water and non-drinking water services.
- There are existing water supply mains adjacent the precinct.
- Yarra Valley Water have limited data on future works within the precinct.
- Further discussions with YVW and sequencing of development within the precinct is to be considered as part of the master planning process.

Sewer

- Yarra Valley Water is the responsible authority for sewer services.
- There are no existing domestic reticulated services within the precinct.
- Goulburn Valley Water have a sewer risings main dissecting the site.
- Yarra Valley Water have indicated future sewer supply mains within the precinct and currently programmed to be delivered post 2030.
- Further discussions with YVW and sequencing of development within the precinct is to be considered as part of the master planning process.

Electricity

- Ausnet Services
 - Ausnet is the responsible authority for electricity distribution.
 - AusNet have both overhead and underground assets around the perimeter and within the PSP
 - A formal application is to be submitted with SP AusNet along with a detailed Master Plan through the SP AusNet website.

Gas

- APA Network
 - APA is the responsible authority for gas supply
 - There are no existing domestic reticulated services within the precinct.
 - The city gate (Wallan-Whittlesea Road) will need to be upgraded in the next 8-10 years
 - 100mm crossing duplication of the existing 150mm single crossing of the Hume Highway near William Street is required.
 - APA recommend Energy Safe Victoria (ESV) to be consulted as part of the change of use process
 - APA are to be consulted regarding access and maintenance relating to the DN300 Transmission gas main sitting within a 35m Easment dissecting the site

Telecommunications

- NBN
 - NBN Co website indicates that the service is unavailable at this time.
 - NBN services in surrounding residential areas is either available or construction commenced.
 - NBN Co planning and design team require registration along with the submission of the new Master Plan through the NBN Co website.
- Telstra have assets within and adjacent to the precinct
- NextGen have a major distributon cable within the precinct

Drainage

- Melbourne Water
 - There are no MWC drainage schemes available for the PSP
 - The Wallan Street Drain Strategy (6535) and Wallan Airfield Stretagy (6530) are existing adjacent Melbourne Water drainage strategies
 - Further discussions with Melbourne Water are required

Appendix A. Servicing Layouts & Authority Communication

A.1 Existing Utility Servicing Plans

A.1.1 Wallan East PSP Utility Servicing Plan

A.2 Yarra Valley Water

A.2.1 YVW Beveridge Wallan Planned Water Assets

A.2.2 YVW Beveridge Wallan Planned NDW Assets

A.2.3 YVW Beveridge Wallan Planned Sewer Assets

A.3 Servicing Authority Communication Records

A.3.1 APA Communication Records (East)

A.3.2 AusNet Communication Records

A.3.3 YVW Communication Records