

# Infrastructure Servicing Report

Prepared for Pentol Partners

Project: Rivere LLC Yarrawonga

16 October, 2023



## Introduction

Breese Pitt Dixon Pty Ltd was established in 1982 by Ken Breese, Evan Pitt and Brian Dixon to provide civil engineering, land surveying and estate planning consulting services to the development industry. Since inception, Breese Pitt Dixon (BPD) has gained a reputation for providing consultancy services of the highest quality.

Our quality output has been achieved through the hands-on approach of the Directors, our client relationships, long term highly dedicated professional staff members, and a focus on quality and project delivery.



# Site Description

The site is located on the East side of Brears Road immediately North of the Murray Valley Hwy which is around 3km West of the Yarrawonga CBD.

The proposed development site is made up of the existing Riverlands Caravan Park together with additional landholdings of various sizes, some of which have existing dwellings and sheds etc. The Northern boundary of the site directly fronts Crown land which is part of the Murray River system.

Scattered vegetation exists over the sites which have an overall fall to the NE. The Southern sites abutting Murray Valley Hwy are extremely flat, all proposed development areas are above the 100yr flood level from the Murray River.

## Property Details

Address	10, 22, 38 & 4/52 Brears Rd, Lots 4&5 Jacqueline Ct Yarrawonga 3750
Municipality	Moira Shire Council
Site Area	11.7ha approx.
Zoning	Low Density Residential Zone (LDRZ)
Overlays	Yes
Area of Aboriginal Heritage Sensitivity	Yes
Bushfire Prone Area	Yes
Growth Area Infrastructure Contribution	No
Melbourne Strategic Assessment Area	No



Fig 1: Site Location (see red outline) - Nearmap



Fig 2a: Brears Road (adjacent No.38 looking South)



Fig 2b: Brears Road / Murray Valley Hwy Int (looking NorthEast)

## Roads & Access

Primary access to this site will be via Brears Road and the Brears Rd / Murray Valley Hwy intersection. This intersection currently provides access to many LDRZ dwellings together with the Riverlands caravan park and also provides access to the Yarrawonga regional park. Accordingly, traffic volumes are currently highly seasonal with significant peaks over the summer months.

Subject to confirmation through the Traffic Impact Study it is assumed that the existing intersection with Murray Valley Hwy and Brears Rd will have sufficient capacity to support the proposed development. Department of Transport and Planning (DOTP) may however request that a protected RH turn lane be provided for Westbound traffic, there appears to be sufficient room within the existing road reserve to provide this storage and associated bypass through lane if needed.

A single access point to the project is proposed from Brears Road with a turnaround area to allow unauthorised vehicles to exit without needing to reverse. Internally within the development the road sections will be a combination of 10.5m width (5.5m pavement) for secondary roads and 12.0m (6.0m pavement) for primary / spine roads.

A single 1.5m pedestrian path is proposed along the primary roads whilst the secondary roads are assumed to be able to accommodate pedestrian movements given the lower order.

# Drainage

The Site currently sits immediately adjacent to Crown land which is expected to provide the legal point of discharge for the development. A 10m easement currently runs through the site which provides an outfall for Jacqueline Court and associated properties, this drainage outfall capacity will need to be maintained through any redevelopment of the site.

Provided the proposed development does not impact surrounding uses or environment we would not envisage resistance from the relevant authorities. In order to achieve this, we would need to consider the water quality impacts from the proposed use and any potential flood impacts. These issues are discussed at length in the SWMS prepared by Alluvium

Due to the very flat nature of the site a rough grading has been done of the spine drainage line that will collect minor flows from the vast majority of the site and connect them into the proposed water treatment area. This preliminary grading confirms that it is achievable to service all of the proposed development.

The existing drainage easements that run through the site will be re-aligned as part of the development permit for the site to accord with the proposed road network.

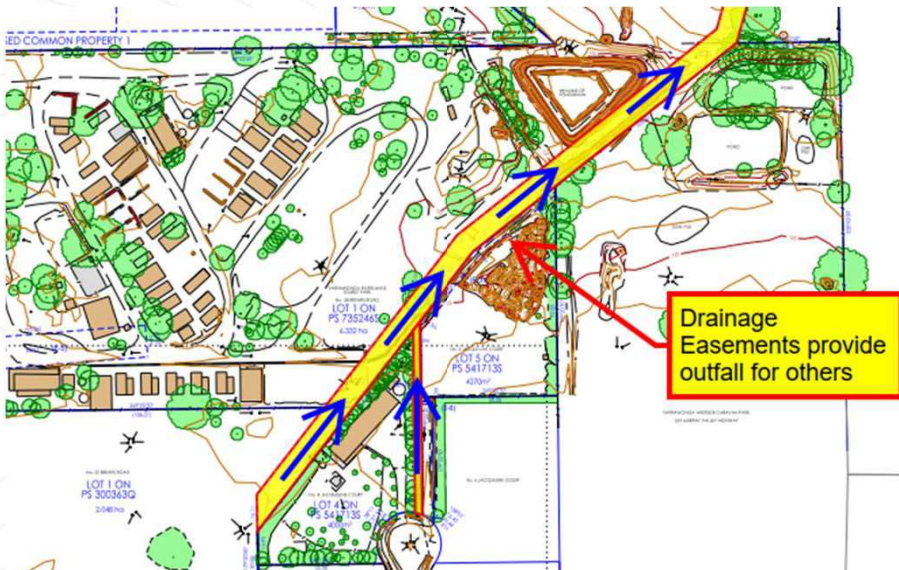


Fig 3a: Existing drainage easements to be re-aligned

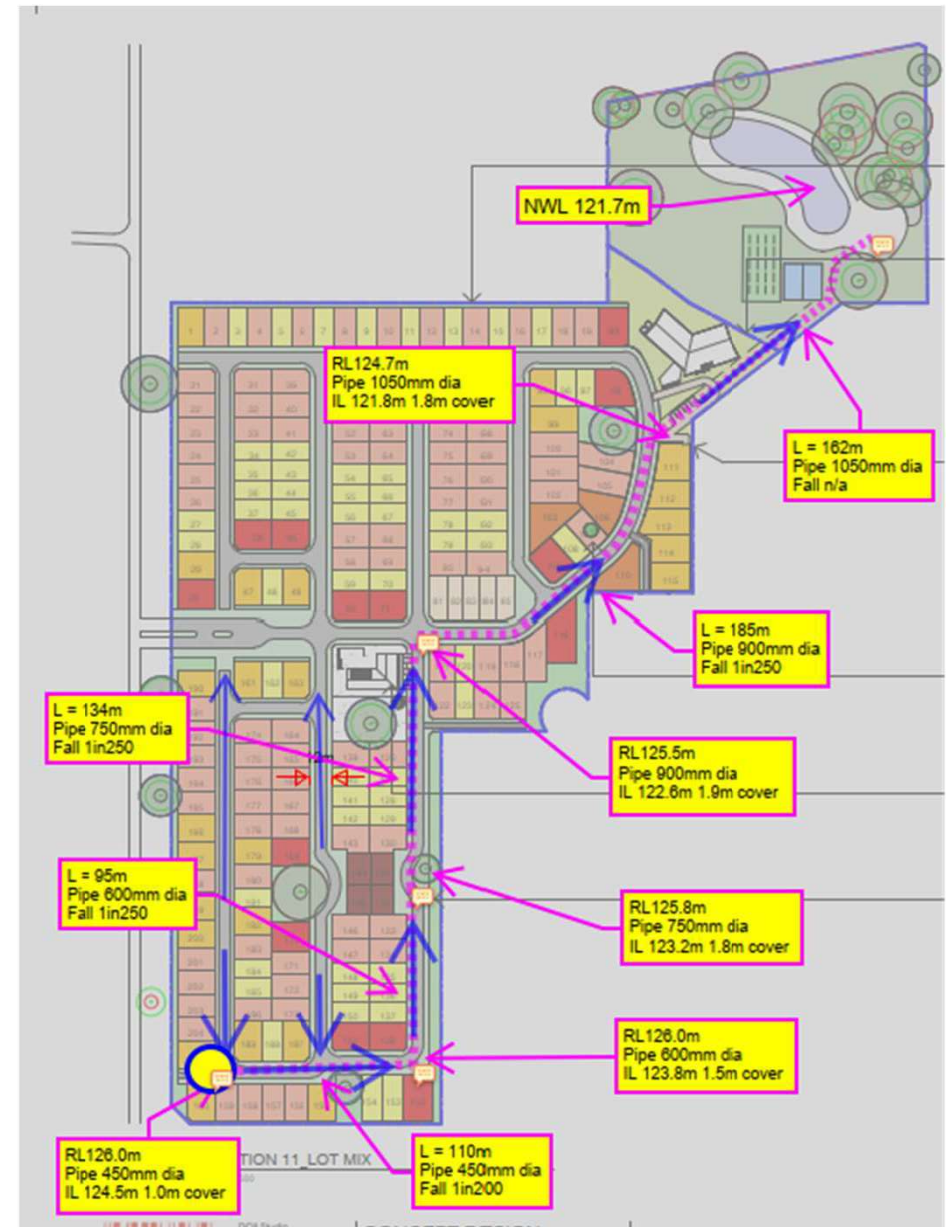


Fig 3b: Proposed U/G Spine drainage grading

# Sewerage

North East Water (NEW) are the responsible authority for the provision of sewer assets for this site.

Permits issued for a previous development proposal for this site required the delivery of a reticulated sewer system and removal of an old septic sewer system. In response a pressure system was constructed, and the external pressure main was taken over for future maintenance by NEW at the end of 2019. Accordingly, all existing dwellings on the site utilise this pressure sewer system which discharges in the order of 3km to the East.

It is expected that the new development proposed will require 4 sewer pump stations (SPS) which will utilise the existing 75mm dia pressure main external to the site. Internally a gravity system will connect the individual dwellings to the various SPS throughout the development. The exact location and capacity of each SPS will be subject to detailed design.

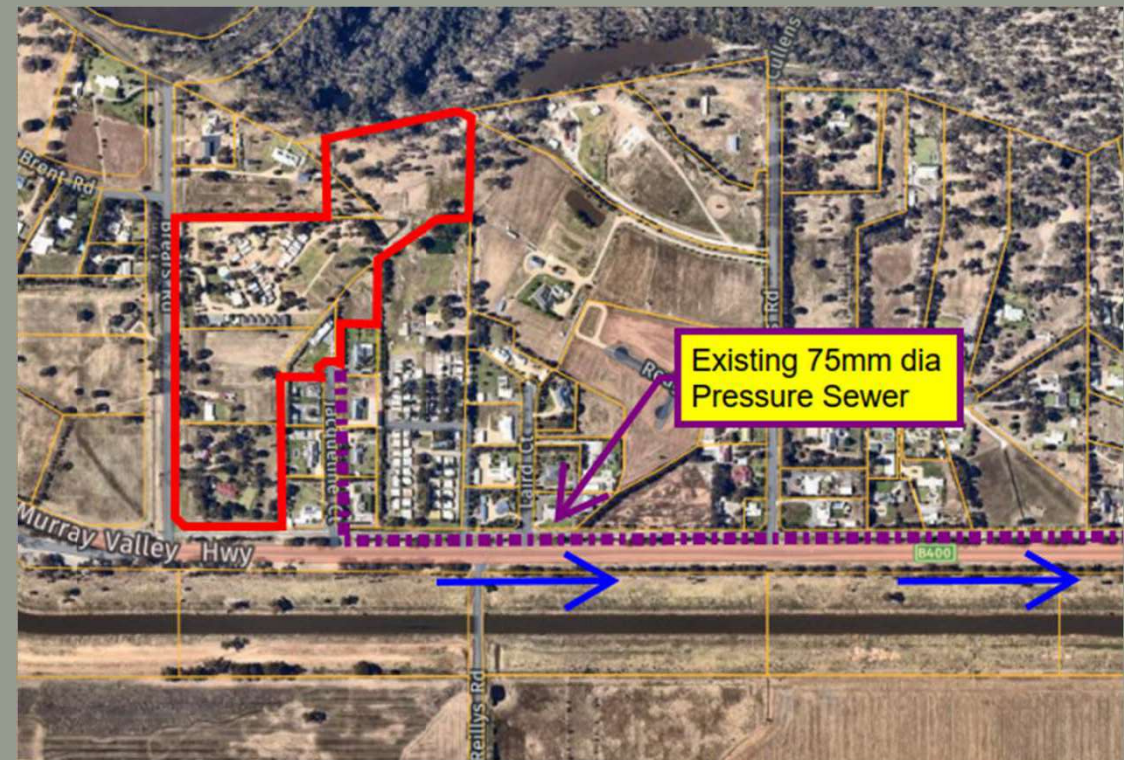
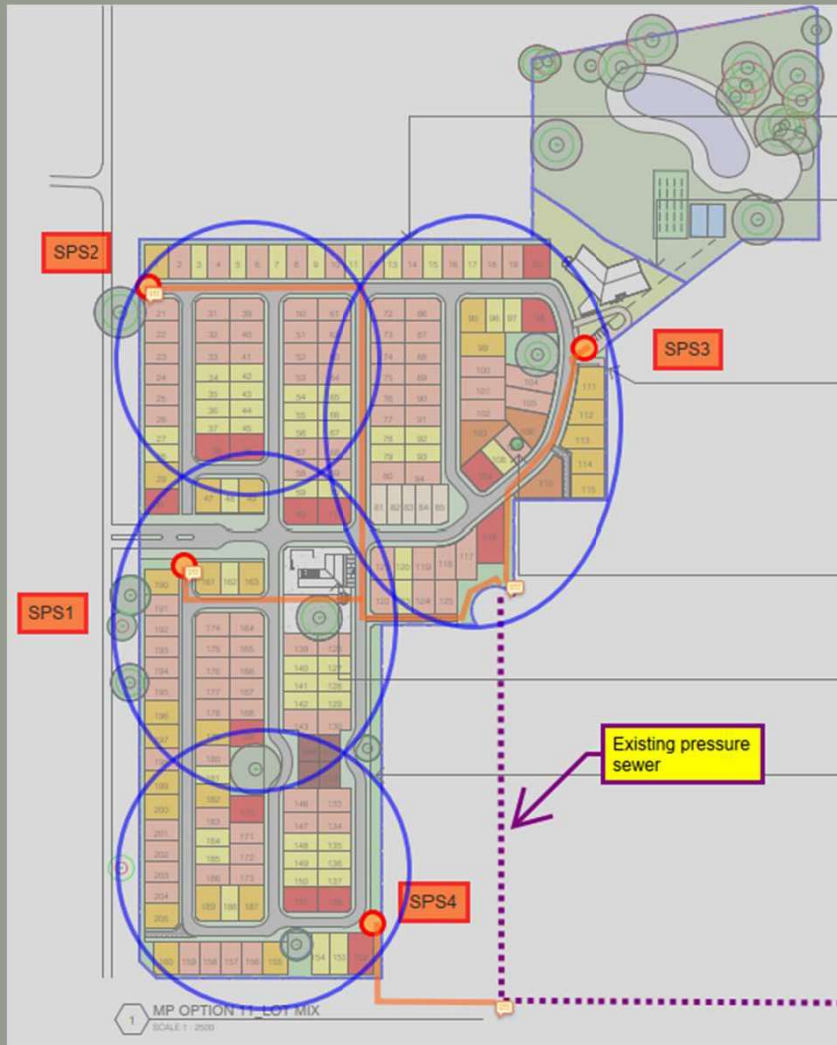


Fig 4a: Potential SPS locations

Fig 4b: Existing Pressure Sewer (External)

# Water Reticulation

North East Water (NEW) are the responsible authority for the provision of water supply to this site. The nearest suitable watermain to service this site is a 150mm dia watermain within Brears Road, this main is fed from a 200mm dia main that is extended from the township approximately 3km to the East.

In order to service the proposed development it is expected that a series of 40, 50 and 63mm dia mains would be reticulated throughout the project, detailed design will however have to consider alternatives to provide sufficient fire services capability throughout the project, this may require a spine main, booster pumping or fire reels at regular spacing. Detailed design will determine the best alternative once pressure and flow information is available.

In addition to the potable supply it is understood that a raw water main is located within the property, this will need to be confirmed and possibly relocated to be clear of the proposed dwelling footprints



Fig 5a GWW Service Maps (extract)

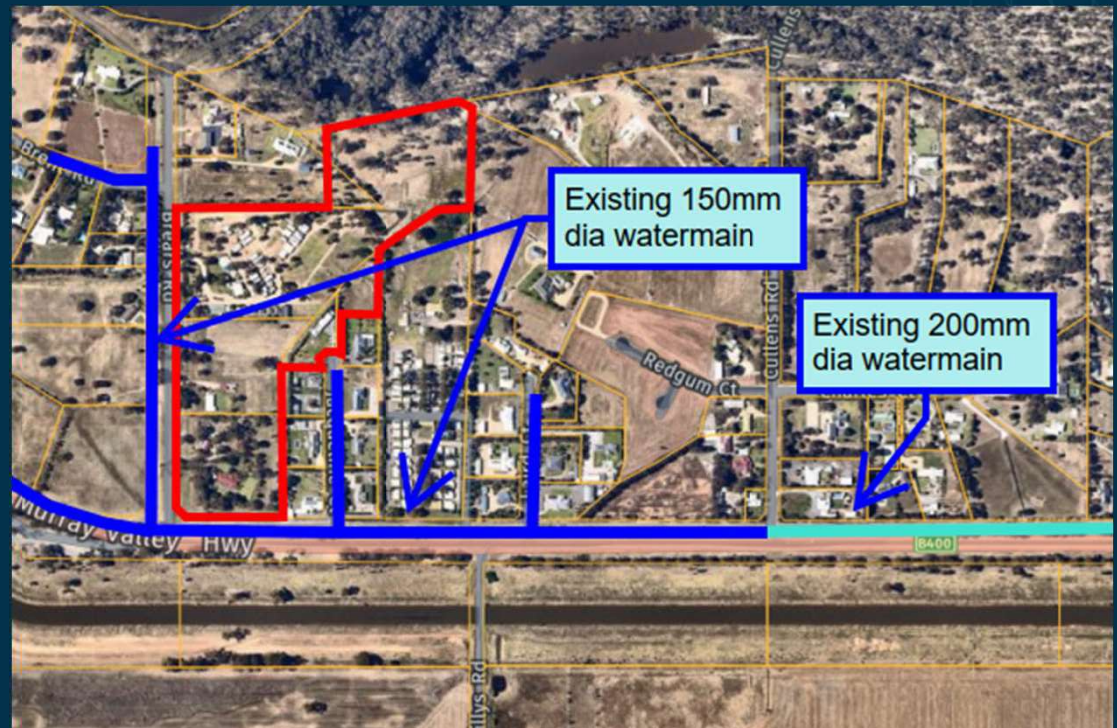


Fig 5b Existing potable watermains (External)

# Telecommunications

NBN Services appear to be remote from the site and may require significant backhaul (approx. 1.2km) in order to provide a suitable supply to the site. Other options to provide suitable high-speed internet and other communication solutions may be 5G or LoRaWAN/IoT solutions.

Whatever option is selected we seem no issues in the delivery of communication services to the development.

# Electrical

Powercor are the responsible authority for the area and manage the existing overhead assets within Brears Road.

A single source of supply will be provided to the development with a kiosk located centrally within the project and to be delivered as part of the first stage. Options such as an embedded network, inclusion of solar and batteries will all be available through the design phase of the projects.

Any augmentations required external to the site are expected to be minimal and will be confirmed once the strategy and associated masterplan has been completed..

# Gas

APA are the responsible authority for the area with regard to gas services.

No assets are currently within the immediate vicinity and accordingly we would recommend that any facilities delivered are done on the basis of electric only. Given new rules regarding the provision of gas within new developments, an all electric strategy would seem appropriate.

# Conclusion

The proposed development is considered to be able to be serviced with extensions detailed in this report and typical for this type of development.

Assessment of existing vegetation will be critical to the detailed design of various components of the project including the water treatment areas in the NE corner of the site.



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