



PROPOSED RESIDENTIAL SUBDIVISION ANNE STREET KOROIIT ENGINEERING SERVICES REPORT



Author: George Swarbrick - B. Eng. (Civil) (Hons) MIEAust.
Project Number: 22-101
Date: 23rd July 2024
Client: St Joseph's Parish

Revision	Description	Date
-	ERS Submission	23/07/2024



CONTENTS		PAGE
1.	INTRODUCTION	3
2.	ROADWORKS	4
3.	DRAINAGE	6
4.	SEWERAGE	8
5.	WATER SUPPLY	10
6.	ELECTRICITY	11
7.	TELECOMMUNICATIONS	12
8.	GAS SUPPLY	13
9.	APPENDICES	14

1. INTRODUCTION

This report provides engineering infrastructure servicing advice for the proposed residential subdivision at Anne Street in Koroit.

Shown in the locality map below (*Figure 1*), the proposed development is situated on Anne Street. The northern boundary fronts the Queen Street road reserve, the eastern boundary fronts the Horne Street road reserve, the southern boundary fronts the Anne Street road reserve, and the western boundary fronts Anzac Avenue and two (2) general residential zoned (GRZ1) properties.



FIGURE 1: LOCALITY PLAN

2. ROADWORKS

This development site will contain one council managed two-way access road with crossovers at its access points onto Anne Street and Horne Street.

Anne Street is aligned east-west between Horne Street in the east and Anzac Avenue to the west. Whilst Horne Street is aligned north-south between Queen Street and Anne Street. Anne Street and Horne Street are access streets with a 30m road reserve and a 5.5m sealed width for Anne Street and 7.2m sealed width for Horne Street. There is an unposted speed limit of 50km/hr on both streets however due to the proximity to the nearby St Josephs Primary School there is a 40km/hr zone on Queen street.

An approval for Works Within Road Reserves will need to be provided from Moyne Shire Council for any works proposed in the road reserve.

Appendix A shows the internal road network and lot layout.

Photos below show Anne Street (Figure 2) and Horne Street (Figure 3) at the access points for the subdivision.



FIGURE 2: ANNE STREET ACCESS AREA FOR PROPOSED INTERNAL ROAD (LOOKING NORTH)



FIGURE 3: HORNE STREET ACCESS AREA FOR PROPOSED INTERNAL ROAD (LOOKING WEST)

3. DRAINAGE.

The Moyne Shire Council is the responsible authority for stormwater discharge. A Stormwater Management Plan for the site will be required as part of the Planning Permit conditions.

The subdivision falls 1.56% from the south-east to the north-west corner of the development. Hence drainage will be directed to the north-west corner of the development.

At the north west boundary, the stormwater runoff will be discharged at predevelopment flows into the neighbouring drainage tunnel in the west end of Queen Street. In order to convey the stormwater from the development site to the proposed discharge point an underground pipe network will be installed in the Queens Street road reserve.

Calculations on the pre-development and post-development flows for both the minor and major storm events will be given in the Stormwater Management Plan to detail the stormwater runoff as well as the volume of onsite storage required for the minor storm event. A treatment system will need to be installed to achieve best practice Water Sensitive Urban Design (WSUD) guidelines. The treatment system will include a sedimentation basin and retention pond.



FIGURE 4: OUTFALL LOCATION IN COMPARISON TO THE DEVELOPMENT SITE

3.1 MINOR STORM EVENTS (20% AEP).

A stormwater network will be designed to cater for the 20% AEP storm event. Sufficient capacity is required in the stormwater network to collect and convey the flows, preventing both stormwater damage to properties and reducing the quantity and frequency of surface water to an acceptable level.

This site will use a pit and pipe system sized to collect and convey the minor storm event through the development site.

To achieve WSUD as well as detain any excess stormwater, a stormwater sedimentation basin and retention pond will collect water from the roof of each dwelling along with collecting runoff from the road reserve, designed to treat the water onsite while releasing stormwater at the pre-development storm water flow rate.

3.2 MAJOR STORM EVENTS (1% AEP).

In accordance with the Moyne Shire Council design standards, all road design and construction for the development must ensure that the 1% AEP storm event can pass through the road reserve network without entering private property, ensuring privately owned assets are protected from inundation and flooding during and after the major storm event.

The 1% AEP storm flows will be conveyed through the road network, down to the development's low areas and discharged off site into existing stormwater infrastructure. Calculations and safety checks will be required for the 1% AEP storm event to ensure the water is conveyed offsite in an appropriate way for a fully developed site.



FIGURE 5: LOCATION OF OUTFALL COMPONENTS FOR PLANNED STORMWATER DISCHARGE

4. SEWERAGE

Wannon Water is the responsible authority for the provision of sewerage facilities to the site.

Currently there is a sewer reticulation network situated along Anzac Avenue that can service the site. New sewer mains will have to be constructed throughout the development where house connections can be joined directly into. These new mains will connect into the existing sewer mains located in Anzac Avenue on the corner of Anzac Avenue and Queen Street. The majority of the development (lots 5-37) will feed into this new manhole however there will be a section of the development (lots 1-4) will feed into the existing manhole to be further south along Anzac Avenue. Both sewer outfall locations are indicated below (Figure 6-to Figure 8). For lot layout refer to Appendix A.

The entire development site falls by gravity to the north-west corner of the site connecting onto Anzac Avenue. It is feasible to connect the entire development site to the existing reticulation sewer network. Engagement between Wannon Water and the design engineering consultant will be required to determine the outcome of the development’s growth to the existing sewer reticulation network. This is outside the scope of this report.

Supply would be subject to normal supply policy and a development agreement with Wannon Water.



FIGURE 6: POSSIBLE SEWER RETICULATION CONNECTION POINTS

PROPOSED SEWER
CUT IN LOCATION



FIGURE 7: POSSIBLE SEWER RETICULATION CONNECTION POINTS

EX SEWER MANHOLE
LOCATION TO SERVE LOTS 1-4



FIGURE 8: POSSIBLE SEWER RETICULATION CONNECTION POINTS

5. WATER SUPPLY

Wannon Water is the responsible authority for the provision of water supply facilities to the development.

Currently there is water supply in the area to service the site. The development can be supplied from either of the surrounding streets. Queen Street, Horne Street, Anne Street and Anzac Avenue all have water mains in their road reserve with all having the potential to service different areas of the development. As shown in figure below (Figure 9). The lots fronting the existing roads can be serviced from the existing mains. Whilst the lots that front the new internal road will be serviced from a new main running through the development. This new main will have connections to either Horne Street or Anne Street or both depending on Wannon Waters requirements.

The selected connection location is subject to further authority approval with engagement between the design engineering consultant and Wannon Water required to detail the connection point for water supply to the development.

Supply would be subject to normal supply policy and a development agreement with Wannon Water.



FIGURE 9: CURRENT WANNON WATER WATERMAIN ASSETS

6. ELECTRICITY

PowerCor is the responsible authority for the provision of electrical supply to service this development.

There is currently overhead electricity in all surrounding streets including Anne Street, Horne Street, Queen Street and Anzac Avenue. Electricity supply can be provided to the site from the existing overhead low voltage power supply. This will need to be brought into the development by an underground service extension from either Anne Street or Horne Street.

A substation or power kiosk may require installation in order to serve the proposed development. The installation of substations would be included as part of the subdivisional works completed during the civil construction phase of the development.

There is also an existing power substation on Anzac Avenue that Powercor may request the development to utilise. In this case power would be required to be brought from this pole underground and into the development. The location of the existing substation is demonstrated below (Figure 10).

Supply would be subject to normal supply policy and a development agreement with PowerCor.



FIGURE 10: POWER CONNECTION POINTS

7. TELECOMMUNICATIONS

National Broadband Network Company (NBNCo) is the responsible authority for the provision and management of new telecommunication facilities to service the proposed development.

There is a Telstra / NBNCo line that runs along Anne Street and Horne Street which could be used to connect the development into. (Figure 11)

Supply would be subject to normal supply policy and a development agreement with NBNCo.

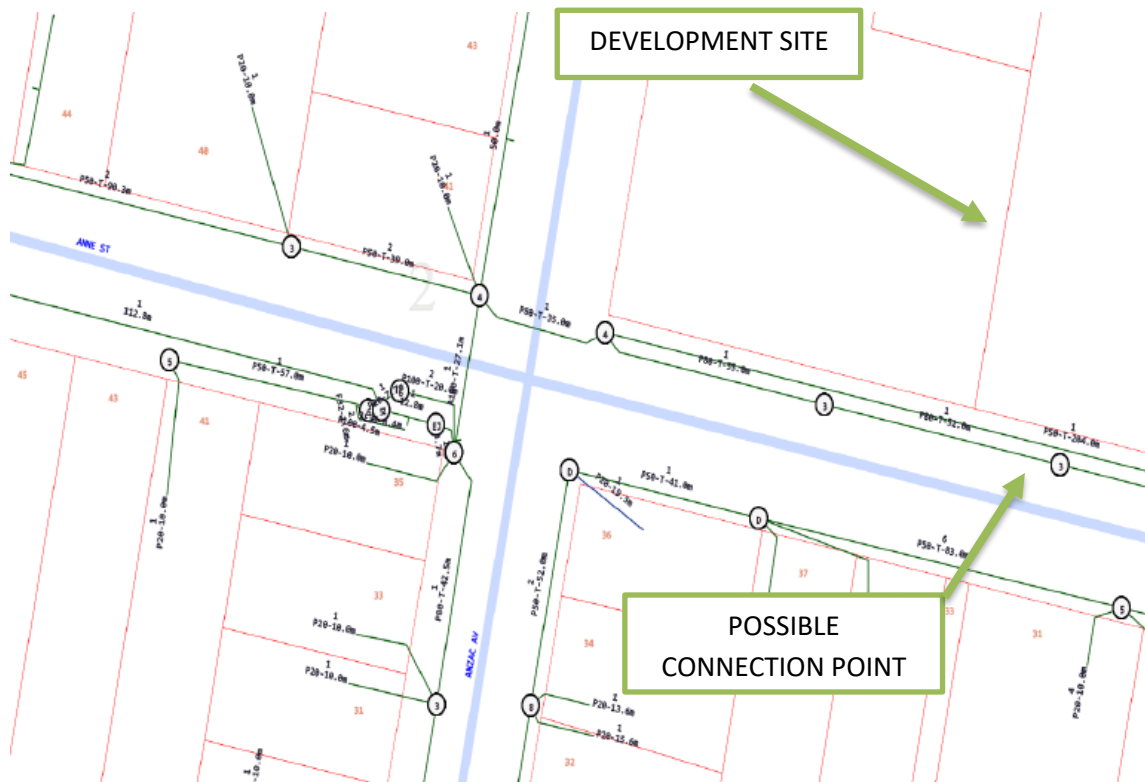


FIGURE 11: POSSIBLE COMMUNICATIONS CONNECTION POINT

8. GAS SUPPLY

Ausnet Services is the principal provider of natural gas to the Koroit region.

There are currently 50mm diameter gas mains located along Queen Street, Horne Street and Anzac Avenue, along with a 63mm diameter gas main located along Anne Street. It is anticipated that the development would be connected to the 63mm gas main in Anne Street.

Gas supply is no longer a requirement for new residential subdivisions hence this will be up to the developer if gas is to be supplied or not.

Supply would be subject to normal supply policy and a development agreement with Ausnet.

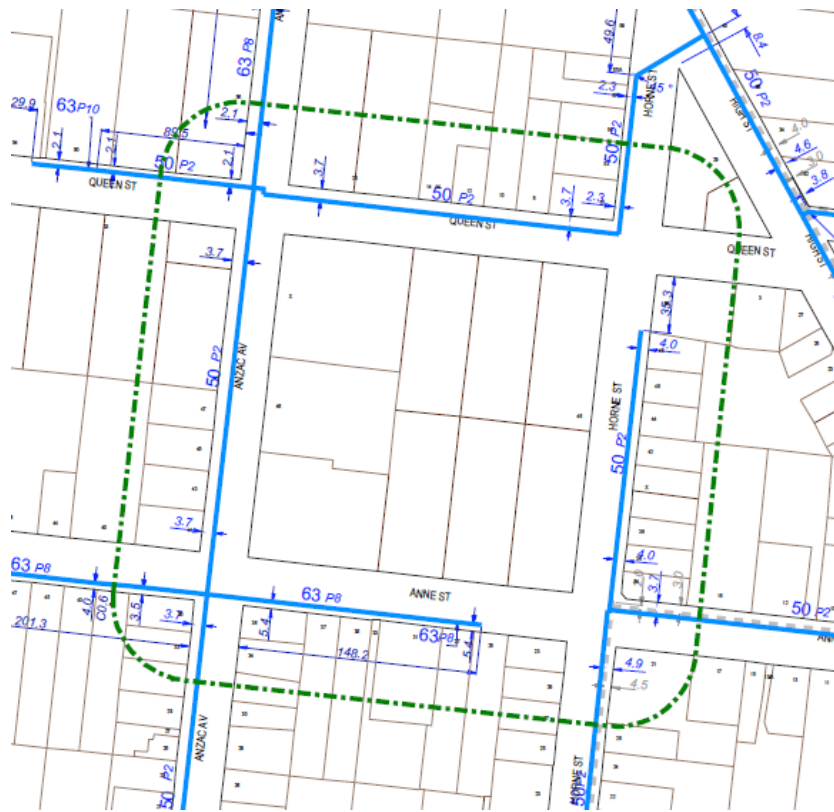


FIGURE 12: POSSIBLE SEWER RETICULATION CONNECTION POINTS

George Swarbrick
B. Eng. (Civil) (Hons) MIEAust.

23rd July 2024

REF: 22-101 – ESR.doc

9. APPENDIX A

Feature and Level Survey

