

Baptcare Affordable Housing – Lalor



SERVICES ENGINEERING
Hydraulic, Electrical & Fire

Town Planning Report

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2.0 REPORT SCOPE & INFORMATION

The following Due Diligence Report provides commentary on the proposed services infrastructure requirements for the development of the following types of housing;

- Single Bed Unit- Single Story unit – 18 dwellings
- Two Bed Unit- Single Story unit – 2 dwellings
- Three Bed Townhouse- Single Story Townhouse – 4 dwellings
- Single Bed Unit- Two Story unit – 20 dwellings
- Two Bed Unit- Two Story unit – 4 dwellings

The report covers the following Services Infrastructure;

- Electrical Services;
- Hydraulic Services.
- Fire Services.

The following report is based on our investigations and available Authority Services information available at that time.

This report excludes any site stormwater design/requirements.

3.0 ELECTRICAL SERVICES

3.1 Power Supply

Ausnet Services is the Electrical Authority responsible for power the network in the Lalor area.

Maximum demand calculation suggests that site would require approximately 280A – 3ph supply. Initial correspondence has indicated that they may be an opportunity to provide supply to the proposed development from the existing substation located on the adjacent RACF site, however initial design work and a review of the proposed development is yet to be completed.

Refer appendix A for maximum demand calculation.

From preliminary services advice from Ausnet Services, the site is proposed to be provided with a dedicated low voltage supply from an existing substation located to the north of the proposed development site. There is no requirement for a substation to be provided on the proposed development lot.

The low voltage Authority reticulation for the proposed development will incorporate and underground reticulation of cabling and services pits located at the title boundary to each lot. Generally, pits are located at corners of each lot, with the design and installation to be undertaken by a certified Ausnet Services designer as part of the public road reserve design.

Electrical meter panels 500x600x200 are proposed to be located on the frontage of each dwelling. Exact location of meter panels to be integrated with architectural design and detailed elevation.

Pole mounted street lighting is proposed to be provided for general lighting of the public road in accordance with the public road lighting requirements. Generally, 4 – 6m high poles are proposed for the public lighting.

Refer preliminary site services drawing (appendix B) for more information.

3.2 Communications

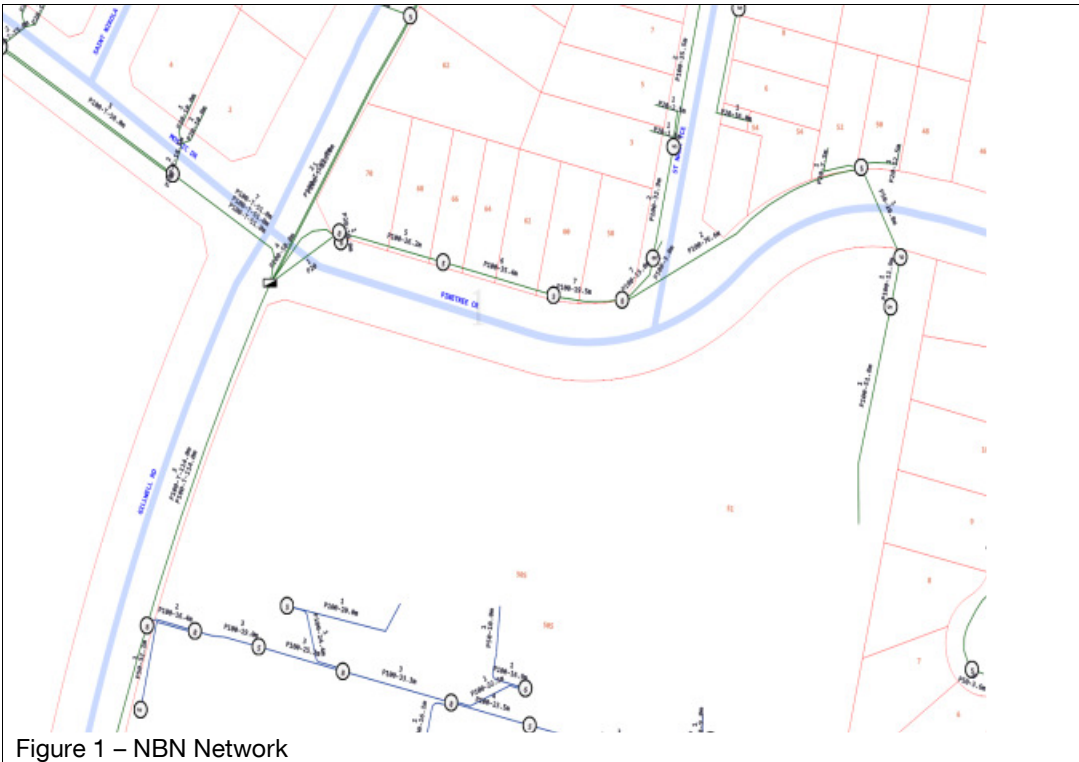
NBN provided services to this area and the technology that they use is Fibre to the premise (FTTP) technology.

NBN service is proposed to be extended from the existing pit in corner of Pinetree crescent and Gillwell road (rectangular box in figure 1).

Refer preliminary site services drawing (appendix B) for more information.

NBN services are proposed to be reticulated in in ground services pits and conduits in accordance with the NBNCo design requirements. A certified NBNCo system designer will be required to design and document the reticulation of services through the proposed public road reserve.

Refer below figure 1 for NBN network.



4.0 HYDRAULIC SERVICES

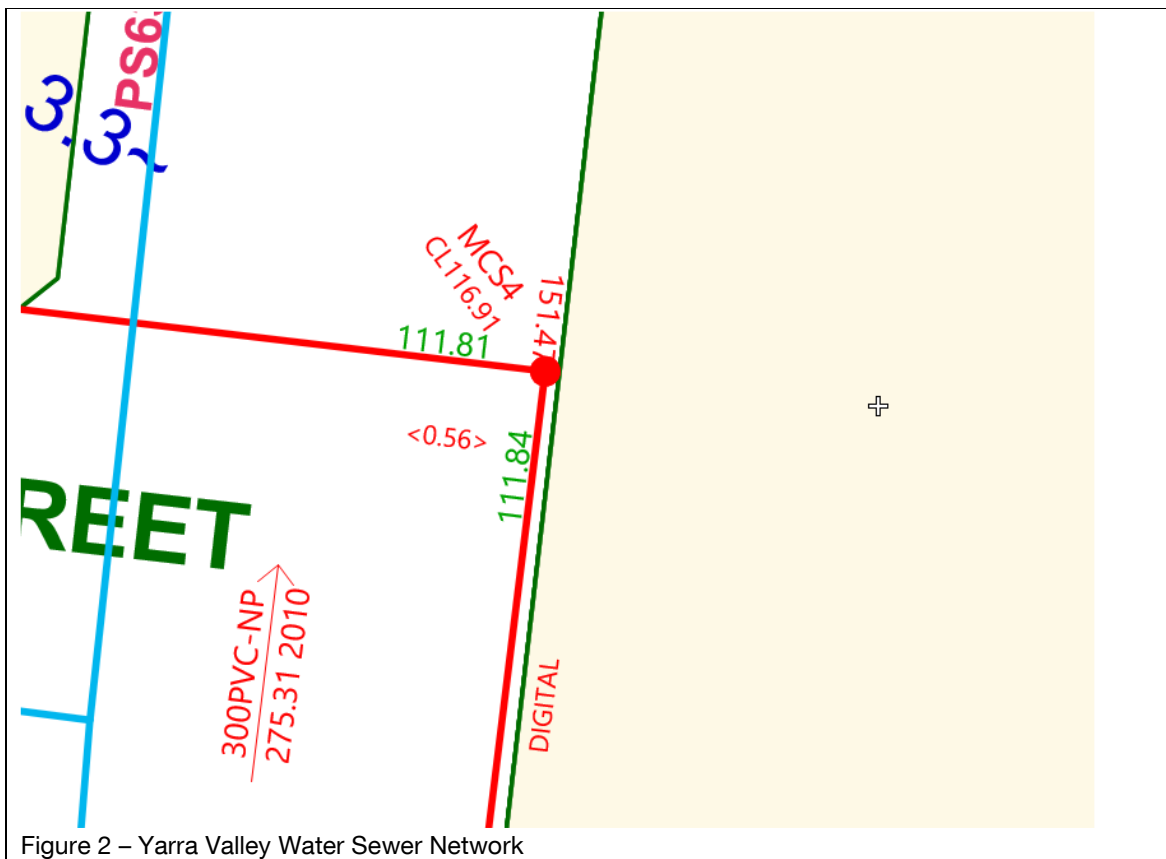
4.1 Sewer Reticulation

Yarra Valley Water is the network responsible for water and sewer in this area.

Development would require 150mm sewer connection with minimum fall of 1:60 to the authority sewer pit shown on preliminary site services drawing. The invert level of pit is 111.81. Refer below figure 2 for sewer invert level.

The current site is relatively flat land with surface level varies from 116m – 117m. Therefore, a gravity fed sewer system can be designed for the proposed development.

Refer preliminary site services drawing (appendix B) for more information.



4.2 Potable Water Services

There is a DN150mm potable water main running along Pinetree Crescent and dual tapping with divide valve would be required to site as per Yarra Valley requirements.

The site would require street hydrants to provide fire service coverage as part of the public road reserve water reticulation design.

Water meter assemblies 300x600x300 are proposed to be located on the property boundary of each dwelling title. Exact location of meter assemblies to be integrated with landscape design and in accordance with the Yarra Valley Water requirements.

4.3 Natural Gas Services

No gas reticulation is proposed to be extended to serve the development.

5.0 BUILDING SERVICES – DWELLINGS

5.1 Electrical Services

All individual townhouses and units are to be provided with local Authority electrical meters in accordance with the Victorian Installation Rules. Meters to be located accessible on the front of each dwelling or within common property.

NBNCo services are proposed to terminate within network Termination Units (NTU's) within each dwelling in accordance with NBNCo requirements.

All internal and external lighting to be provided with energy efficient LED lighting.

Each dwelling is proposed to be provided with the infrastructure for the installation of electric vehicle charging stations in accordance with the 5 Star Greenstar requirements.

5.2 Hydraulic Services

All individual townhouses and units are to be provided with local Authority water Authority meters located on the title boundary of each individual dwelling title. Meter assemblies are to be installed in accordance with Greater Western Water requirements.

All fixtures are proposed to be water efficient fixtures in accordance with the 5 star Greenstar requirements

Domestic hot water is proposed to be provided with residential domestic hot water heat pumps.

5.3 Mechanical Services

All individual townhouses and units are to be provided with reverse cycle heating and cooling systems with condensing units to be located externally at ground level where practical.

Mechanical extract ventilation to be provided to all amenities areas.

6.0 CONCLUSION

In summary, the development is proposed to be provided with the nominated Authority services in accordance with all Australian Standards, Authority regulations and local council requirements.

All dwellings are proposed to be provided individual electricity, communications water and sewer connections and Authority metering in accordance with all Authority requirements.

The development is proposed to be provided with public lighting in accordance with all relevant Australian Standards and public lighting requirements.

Fire services are proposed to be provided to the proposed development in accordance with all planning regulations and Australian Standards.

7.0 APPENDIX A – MAXIMUM DEMAND CALCULATION

CALCULATION

AS3000 (2007) TABLE C1 - MAXIMUM DEMAND SINGLE & MULTIPLE DOMESTIC ELECTRICAL INSTALLATIONS

Job Number:	11126
Job Name:	Baptcare- Lalor
Engineer:	HK
Checked:	
Number Units Total	48
Units per Phase	16
Supply Efficiency	100%
Line Voltage	415
Power Factor	0.8

Unit Load group		Input Value (Number Off/Watts)				Max Demand (A/phase)
A (i)	Lighting except (ii) and load group H below ^{a,e}	25				9.0
A (ii)	Outdoor lighting exceeding a total of 1000 W ^{f,g}	100				0.0
B (i)	Socket-outlets not exceeding 10A ^{e,h}	20				75.0
B (ii)	Where the electrical installation includes one or more 15 A socket-outlets, other than socket-outlets provided to supply electrical equipment set out in groups C, D, E, F, G and L ^{h,i}	0				0.0
B (iii)	Where the electrical installation includes one or more 20 A socket-outlets, other than socket-outlets provided to supply electrical equipment set out in groups C, D, E, F, G and L ^{h,i}	0				0.0
C	Ranges, cooking appliances, laundry equipment or socket-outlets rated at more than 10 A for the connection thereof ^h	Yes	18000			44.8
D	Fixed space heating or airconditioning equipment, saunas or socket-outlets rated at more than 10 A for the connection thereof ^h	Yes	1500			44.8
E	Instantaneous water heaters ^j	No	0			0.0
F	Storage water heaters ^m	Yes	3600			96.0
G	Spa and swimming pool heaters	No	0			0.0
Communal Load group						
H	Communal lighting ^{f,g}	2500				10.4
I	Socket-outs not included in groups J and M below ^{h,j,n} Permanently connected electrical equipment not exceeding 10 A	0				0.0
J	Appliances rated at more than 10 A and socket-outlets for the connection thereof -	0				0.0
	(i) Clothesdryers, water heaters, self-heating washing machines, wash boilers ^h	0				0.0
	(ii) Fixed space heating, airconditioning equipment, saunas ^k	0				0.0
	(iii) Spa and swimming pool heaters	No	0	0	0	0.0
K	Lifts	No	0	0	0	0.0
L	Motors	No	0	0	0	0.0
M	Appliances, including socket-outlets other than those set out in groups A to L above, e.g. pottery kilns, welding machines, radio	No	0			0.0
						0.0
		Total Current (A) per Phase (Units)				269.6
		Total Current (A) per Phase (Communal)				10.4
		Total Current (A) per Phase				280.0
		Total Power (kW) per Phase				161.0
		Total Power (kVA) per Phase				201.3
*Excludes Commercial Tenancies & Carports						

*Excludes Commercial Tenancies & Carports

8.0 APPENDIX B – PRELIMINARY SERVICES DRAWINGS

SYMBOLS LEGEND

	COMMUNICATIONS/DATA DISTRIBUTION - NEW
	COMMUNICATIONS/DATA DISTRIBUTION - EXISTING TO REMAIN
	ELECTRICAL METER - NEW
	SINGLE PIT - NEW
	E-ELECTRICAL C=COMMUNICATIONS
	E-ELECTRICAL C=COMMUNICATIONS
	ELECTRICAL SUBSTATION - NEW (KIOSK TYPE)
	ELECTRICAL SUBSTATION - EXISTING TO REMAIN (KIOSK TYPE)
	AUTHORITY TELECOMMUNICATIONS PIT - NEW
	AUTHORITY TELECOMMUNICATIONS PIT - EXISTING TO REMAIN
	POLE MOUNTED LIGHT - NEW
	REFER SCHEDULE OF LIGHT FITTINGS
	COLD WATER METER - NEW
	FIRE HYDRANT (SINGLE) - NEW
	A=ATTACK F=FEED I=INTERNAL
	INSPECTION CHAMBER - NEW

NOTE : DETAILS SHOWN ON THE DRAWING
SUBJECTED TO AUTHORITY CONSENT/APPROVAL.



- Notes
- THIS DRAWING IS STRICTLY COPYRIGHT AND SHALL NOT BE COPIED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF THE CONSULTING ENGINEERS.
 - CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING ANY WORK OR PREPARING ANY SHOP DRAWINGS.
 - CONTRACTOR TO REFER TO ARCHITECTS REFLECTED CEILING PLAN AND DETAIL DRAWING FOR EXACT LOCATION OF FITTINGS AND EQUIPMENT. WHERE A CONFLICT EXISTS THEN THIS SHALL BE REFERRED TO THE SUPERINTENDENT FOR CLARIFICATION.
 - WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.

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Project
BAPTCARE AFFORDABLE HOUSING
50S GILLWELL ROAD
LALOR

Title
BUILDING SERVICES
LALOR SITE PLAN
HYDRAULIC SITE SERVICES

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