



335 BARRABOOL ROAD, WANDANA HEIGHTS

Urban Infrastructure Servicing Report

**Ref: 13565E
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1. Introduction

This Urban Infrastructure Engineering Report for the land at 335 Barrabool Road, Wandana Heights has been prepared by St Quentin Consulting Pty Ltd at the request of Mesh Planning Robinson.

St Quentin Consulting provides property and land development consulting services including surveying services, town planning services, urban infrastructure design, contract administration and inspection services for residential, industrial and commercial development projects, having been an established consulting practice since 1984.

This Report is based on the Mesh Planning Preliminary Concept Plan dated 18 February 2014, that identifies the site as being bounded by Barrabool Road, The Geelong Ring Road, Cityview Drive and Sunderland Road with an area of 19.03 hectares.

This report provides servicing information and advice regarding the proposed re-zoning of the site to Residential 1 (R1Z). The following services information has been obtained from preliminary advice by the responsible municipal, service and statutory authorities and may be subject to variation upon finalisation of development plans and submission of formal applications.

The investigation included a review of the existing services within or surrounding the proposed development site and augmentations and upgrades necessary to service the ultimate development.

The following servicing authorities contacted were:

Gas	Tenix / Ausnet Services (formerly SP Ausnet)
Telecommunications	NBN Co / Telstra
Water Supply	Barwon Water
Sewerage	Barwon Water
Stormwater Drainage	City of Greater Geelong
Electricity	Powercor

2. Gas Supply

Tenix / Ausnet Services is the authority responsible for the supply of gas to the Wandana Heights area. Tenix has advised that existing gas mains are present on the west side of Cityview Drive abutting the proposed development. An extension of this main will be adequate to service the proposed residential development.

3. Telecommunications

This development will require design & installation of pit and pipe infrastructure that meets NBN Co's specifications. Under recent changes to Federal Government policy NBN Co will be the default telecommunications provider responsible for delivering infrastructure and services as the development will be greater than 100 lots.

This development will require design & installation of pit and pipe infrastructure that meets NBN Co's specifications. The developer can then negotiate with NBN Co or one of several other providers of "fibre to the home" such as Opticomm to deliver telecommunications fibre infrastructure.

Existing Telstra assets in Cityview Drive can readily be extended to service this proposed residential development.

Several telecommunications companies lease land in the Barwon Water reserve for telecommunications towers. Buffer zones around these towers will need to be maintained in any subsequent development of the site.

4. Water

Barwon Water is the authority responsible for the supply of potable water to this development. Barwon Water confirms that there is adequate capacity in their existing adjacent water supply infrastructure to cater for the development.

A reserve 10m wide will need to be provided to allow construction of a link to the existing water main north of Barrabool Road.

Barwon Water's records show a 150mm diameter DICL water main on the south side of Bluff Road abutting the proposed development. An extension from this main will be adequate to service the proposed development. The two existing water mains running from the high level supply tanks will need to be covered by 10m wide reserves or located within new road reserves. The location of these services will be plotted on the feature survey currently being prepared.

Barwon Water advise that they do not object to the existing road access into their reserve off Cityview Drive being utilised as part of the development however they would also consider alternative access into the reserve off new subdivision roads.

Barwon Water will upgrade the existing high level water storage in the future by construction of an existing tank, however they advise that as the existing site is larger than required to cater for this future expansion join with the rezoning application to integrate the excess land into the future development.

Barwon Water has engaged SMEC Urban to advise them on disposal of a number of their land holdings including the surplus portion of this tank site. While Barwon Water must sell any excess land under a competitive process, their preference is to develop and sell themselves, possibly in conjunction with the 2 developers of this site. At this stage, Barwon Water propose only to go as far as participating in the rezoning process on an agreed fee proposal presented to Barwon water from Mesh Planning consultant which takes into account the current process of rezoning/permit application process underway.

Payment of "New Customer Contributions" and offer acceptance and audit fees will be required by Barwon Water.

5. Sewerage

Barwon Water is the authority responsible for provision of sewerage facilities to the proposed development. Barwon Water confirms that while there is adequate capacity in the existing sewerage infrastructure to cater for the proposed development, a sewer pumping station will be required in the south and east portions of the site.

Payment of "New Customer Contributions" and offer acceptance and audit fees will be required by Barwon Water. The contributions will be subject of negotiation between the developer and Barwon Water.

6. Stormwater Drainage

The City of Greater Geelong is responsible for stormwater infrastructure for the proposed development.

Council advises that stormwater drainage into Kardinia Creek from Wandana Heights has historically been difficult, particularly the capacity of downstream drainage assets and overland flow paths. They advised that TGM has carried out an original Highton Flood Study for the area that considered overland flows from the proposed development site in its undeveloped state and identified some flood prone properties downstream from the development site. Council also advised that the existing retarding basin downstream of the site overflowed in a recent 100 year ARI rain event. BMTWBM has done more recent flood modelling and developed a RORB model that could be updated to analyse the impact of the proposed development.

Mesh Planning has engaged BMTWBM to prepare an upgraded flood study to consider both the increased volume of flows as well as the peak discharge rate. The report will present a range of mitigation options and will take into account that there is little or no downstream land available for mitigation works and that council may require more than just limiting flows to pre-development levels.

The updated flood study will be submitted to Council for approval.

Stormwater discharge to the west will be via a Vicroads culvert under the Geelong Ring Road. Approval from Vicroads to use or upgrade the existing culvert will be required and preliminary advice from Vicroads is that this will be satisfactory subject to approval of stormwater computations that will determine if a culvert upgrade is required.

7. Electricity Supply

Powercor is the sole electricity supplier to the development

There is an existing overhead electricity supply in Cityview Drive. Electrical supply can be drawn from this overhead supply to service the development.

Several kiosk sub-station sized at 5m x 3.3m and centrally located within the development will be required by Powercor to allow for the provision of adequate electricity supply to the proposed residential development.

A high voltage transmission line crosses the site. There are restrictions that govern works allowable in transmission line easements. These are outlined in SP AusNet's "Guide to Living with Transmission Line Easements". The following are allowable uses applicable to this development:

- Construction of roads
- Sewerage, drainage and water pipes constructed of non-metallic materials and no closer than 20m to transmission towers.
- Water storage dams (including detention basins / wetlands) subject to clearances from transmission towers
- Trees and shrubs with mature growth height less than 3metres.
- Landscaping subject to sufficient clearances to conductors and towers
- Playground equipment with a 1 metre height limit

Powercor advise that any undergrounding of overhead lines in Cityview Drive would be at developer's cost.

8. Summary

The investigations carried out confirm that the proposed 335 Barrabool Road development has availability and access for connection to all necessary infrastructure services. These services can accommodate the proposed re-zoning of the site to residential 1 (RZ1). The stormwater drainage mitigation options will be presented, reviewed and agreed to during the detailed design phase.

In our opinion the Barrabool Road property is suitable for residential development, following the stormwater drainage investigations, rezoning and issuing of relevant approvals and permits.