

# Water & Wastewater Servicing Feasibility Report

The Farm Broulee – 207 Broulee Rd, Broulee

**Prepared for:** Brightlands Living

**Client Address:** Level 1, 822 George Street, Chippendale, NSW, 2008

**Project Address:** 207 Broulee Rd, Broulee, NSW

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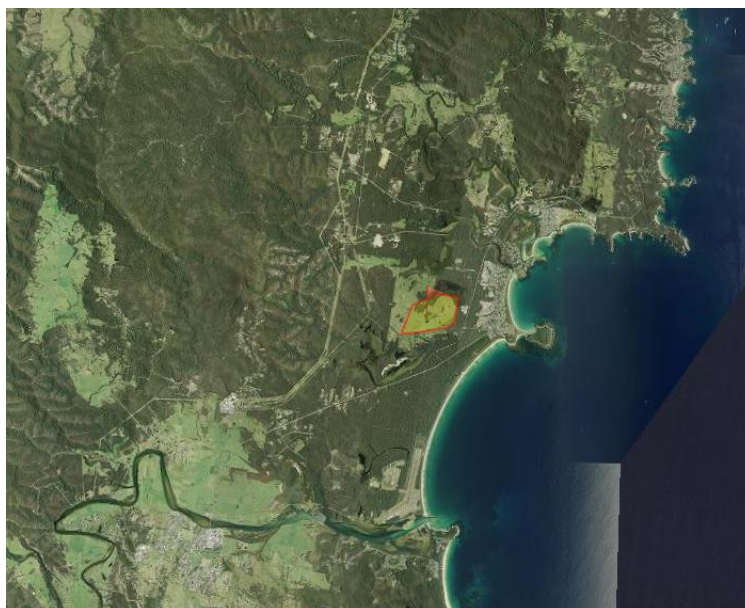


Image Source: Six Maps (2022)

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## Revisions

Revision	Description	Date	Prepared by	Approved by
A	First Draft	24/11/2022	Matthew Russell	Daryl Vizgirda
B	Final	16/12/2022	Matthew Russell	Daryl Vizgirda

## Review Panel

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# 1 Introduction

ACOR Consultants have been engaged to investigate potential water and wastewater servicing options to enable development and services for “The Farm Broulee” concept development in support of the planning proposal for submission to Eurobodalla Shire Council.

Please note, this report provides a high-level assessment only of the potential for servicing the proposed development regarding the existing water and wastewater network. A developer funded water and wastewater strategy will be required in the future should the development progress.

## 1.1 Client

Brightlands Living, C/ Rhys George  
Level 1, 822 George Street  
Chippendale NSW 2008

## 1.2 Purpose and Scope of Report

The aim of this report is to identify opportunities and constraints relating to servicing of “The Farm Broulee” development with water and wastewater assets with respect to existing Council owned water and wastewater infrastructure and assets.

# 2 Study Site

The proposed development of “The Farm Broulee” is located at:

- Lot 1 DP 1256287, 207 Broulee Rd, Broulee NSW 2537
- The development is within the Eurobodalla Shire Council area of operations.

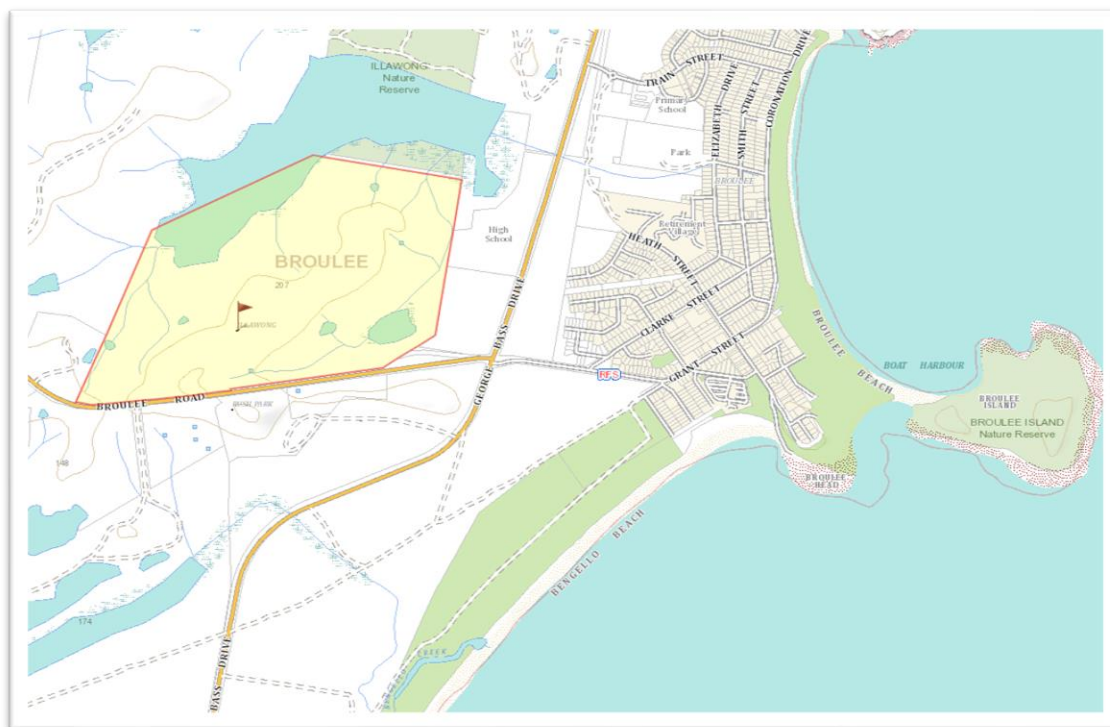


Figure 1: Locality Plan (Source: Six Maps)

## 3 Development Description

### 3.1 Existing Land Use Within Study Area

The existing lot as defined in clause 2.1 is made up of approximately 126 hectares of existing farm and wetland, zoned C2, Environmental Conservation & RU1, Primary Production. The lot is fronted by Broulee Rd to the south, Illawong Nature Reserve to the north, environmental conservation land and Carroll College to the east and existing RU1 primary production land to the west of site. The lot is located within a Class 2 acid sulphate soil mapped area.

### 3.2 Proposed Development Within Study Area

The proposed development “The Farm Broulee” is located approximately 1200m from the Broulee township. The development consists of a range of housing types and needs for the community including but not limited to:

- Affordable housing
- Downsizer hamlets
- Family hamlets
- Community areas & facilities
- Communal & market gardens
- Eco tourism



Figure 2: The Farm Broulee Masterplan



## 4 Existing Eurobodalla Shire Council Assets & Available Capacity

### 4.1 Study Area of Existing Assets

The study area extends from adjacent to the proposed development, to the township of Broulee, and approximately 6.5 km's north through Mossy Point and ultimately to Tomakin where the Tomakin Wastewater Treatment Plant is located.

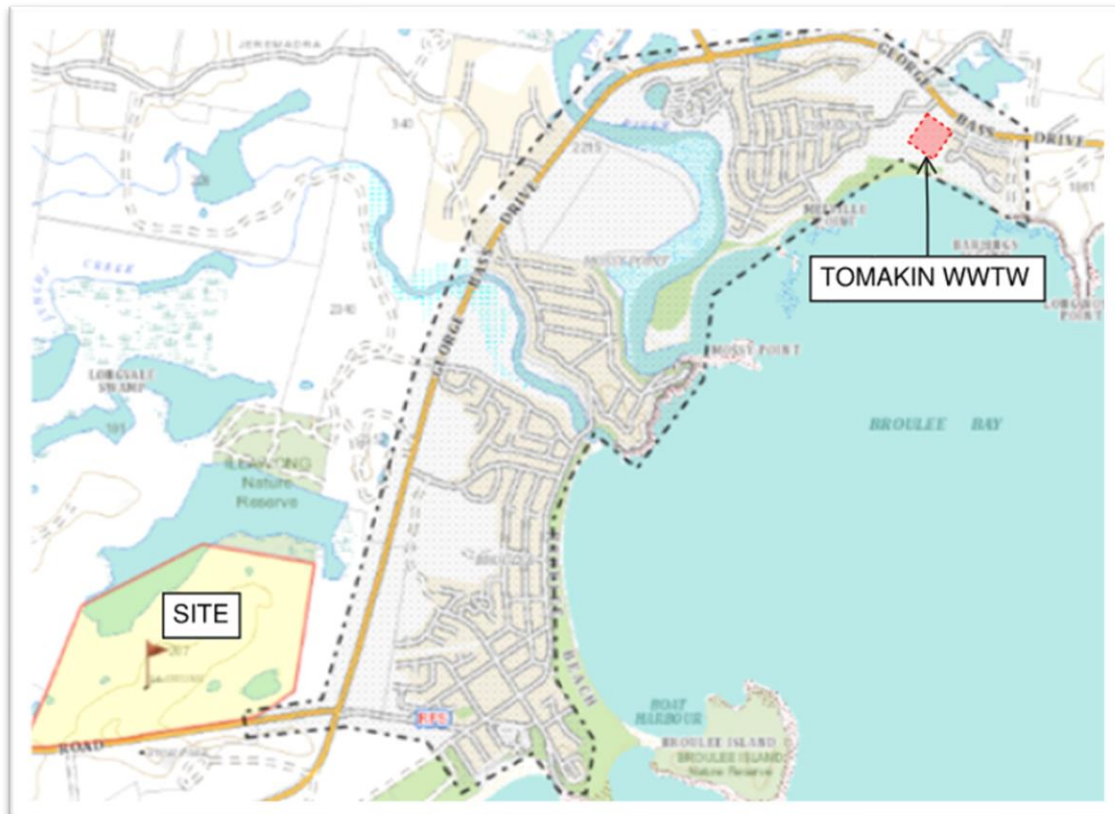


Figure 3: Study Zone (Source: Six Maps)

### 4.2 Early Eurobodalla Shire Council Engagement

Early consultation has occurred with Eurobodalla Shire Council's Water & Sewer Technical Officer. Advice from Council was following a high-level assessment of their water and wastewater infrastructure networks. The Council assessment looked at inclusion of "The Farm Broulee" development, specifically the concept plan lot yield of 800 residential lots and commercial areas. The Council assessment identified the following limitations and constraints with respect to water supply and wastewater transportation:

*"As mentioned, our existing infrastructure will not accommodate an additional 1000 lots. All current infrastructure is designed and has undergone upgrades to meet the demands for existing lots and lots currently zoned for residual use. There is zero capacity within the network to take on any additional loads.*

*The Tomakin STP which would theoretically service the proposed 1000 lots is schedule for an upgrade within the next 3 years. This upgrade will have the capacity to accommodate the 1000 proposed lots.*

*The current pump stations within Broulee are at their maximum capacity, any additional loads will either require a direct transfer route (approx. ~ 6.5 km) to the STP or upgrades to multiple pump stations within Broulee.*

*I have attached a diagram showing the distance and location of the proposed lots in comparison to the Tomakin Sewage Treatment Plant". (See appendix A for Council mark-up).*

As such, it is envisaged that any future development within the greater Broulee area and specifically within the Tomakin Sewer Treatment Plant (STP) catchment and associated water supply network within the study area, will necessitate amplification of the existing water and wastewater networks, potential upgrade of transportation and treatment facilities and construction of lead-in and out water and wastewater assets including trunk and reticulation water networks as well as wastewater pumping stations and associated sewer rising mains.

## **5 Water and Wastewater Infrastructure Requirements**

### **5.1 Water Supply**

Lead in water supply and reticulation infrastructure for "The Farm Broulee" is required to be designed in accordance with Eurobodalla Shire Council requirements, Aus-Spec Planning & Design Manual and WSA 03-2011-V3.2, Water Supply Code of Australia.

Eurobodalla Shire Council's existing water supply network is already at capacity and no further development connection is permitted. As such, an in-depth developer funded water servicing strategy specifically for "The Farm Broulee" development will be necessary to identify the opportunities for infrastructure upgrades in order to service the development.

It is envisaged that as a minimum, lead in water supply infrastructure including trunk water mains, water booster stations and water reticulation network will be necessary to service the development.

As noted within section 1 of this report, a developer funded water servicing strategy will be required to understand possible sources of water supply and determine the most efficient, effective, and suitable options available through consultation with Eurobodalla Shire Council and associated stakeholders.

Table 1 below provides an indicative demand estimate requirement for water supply and is based on the Concept Design Explanatory Report and The Farm Broulee Masterplan Annotated as provided by ELK Design. At the time of this report, peak hour demand rates weren't available from ESC. Table 1 identifies an estimate of water demand based on the Hunter Water specific WSA code and utilises demand rationale and methodologies.

Parameter	The Farm Broulee Demand
Number of Connection	800 (ET)
Average Day Demand (L/s)	6.47
Peak Day Demand (L/s)	19.76
Extreme Day Demand (L/s)	22.72

*Table 1: Development Water Supply Demand (based on 1 ET per Connection)*

### **5.2 Wastewater Transportation**

Development wastewater loadings have been estimated in accordance with Eurobodalla Shire Council requirements, Aus-Spec Planning & Design Manual and the specifications as per the Gravity Sewerage Code of Australia, WSA 02-2014-3.2. Demands have been estimated using ET associated with each connection. The parameters and results are summarised in Table 1 below.

As per ESC early engagement and advice, the existing wastewater network does not have any spare capacity to enable connection of the proposed development to this existing wastewater infrastructure.

We understand that ESC will require a new wastewater pump station (WWPS) and associated sewer rising main (SRM) to be constructed to transport wastewater from the development site through to the Tomakin WWTW, a distance of approximately 6.5km. It's envisaged that the location of the WWPS and alignment of the SRM will require Council and community engagement and consultation to ensure a suitable and feasible position and alignment is determined.

Further options to provide the wastewater network with capacity to enable connection of the proposed development may include upgrade works to existing ESC wastewater assets and infrastructure.

As discussed within section 5.1, a developer funded wastewater servicing strategy will be required to further investigate existing wastewater capacity versus required capacity, suitable servicing options available and an indicative cost estimate to enable servicing of the proposed development.

Table 2 provides an indicative estimate of design wastewater flows from the proposed development and utilises Hunter Water's design rationale and methodology.

UNIT	QUANTITY
ET's	800
PARAMETER	DESIGN FLOWS – L/S
Average Dry Weather Flows (ADWF) – L/S	8.8
Probable Dry Weather Flows (PDWF) – L/S	20.8
Probable Wet Weather Flow (PWWF) – L/S	67.2

*Table 2: Development Wastewater Loading (based on 1 ET per Connection, WSA 02-2014-3.2)*

## 6 Conclusion

Following the desk-top assessment of the proposed development of "The Farm Broulee", utilising the latest revision of the development lot layout/Masterplan and through consultation and engagement with Eurobodalla Shire Council, it's anticipated that in order to progress the proposed development, a substantial investment would be incurred by the Developer to provide the site at 207 Broulee Rd, Broulee with water and wastewater assets including a substantial investment from the developer.

This report has not considered any environmental investigations, geotechnical limitations, community engagement or cost estimates associated with servicing the development with water and wastewater.

Should the proposed development be progressed, further investigation of servicing will necessitate the development of a site-specific water and wastewater servicing strategy.

Yours faithfully,

**ACOR CONSULTANTS PTY LTD**



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