

# Engineering Assessment (Land Use)

Land Development Engineer	James Templeton
Planner:	Consultant – Element Planning (Michelle C)
Date:	04 March 2024
Application No:	LUC0188/24
Applicant:	Sanderson Group Limited
Property Address:	56 Tamahere Drive TAMAHERE
Legal Description	LOT 1 DPS 59441

## INTRODUCTION

Expansion of the Tamahere Country Club to the **Eastern and Southern Stage**. Land Development Engineer review of Geotech, Natural Hazards and 3Waters.

The reports provided in application generally included the combined assessment of the Tamahere Country Club Eastern and Southern Stage.

Detailed Traffic assessment is completed by others (Gray Matter), LDE reviewed the outcome and Submission #1 matters, comments provided below.

### Site plan



## SUPPORTING INFORMATION

The following documents that are used for engineering assessment have been submitted with the land use consent application.

Preliminary Geotechnical Report, Tamahere CC by HDGeo, dated 01 May 2023 Project No: HD2812 Ref: PGR-1

Detailed Site Investigation, Tamahere CC by HDGeo, dated 01 May 2023 Project No: HD2807 Ref: DSI

Development Infrastructure Report, Tamahere CC Stage 3 Extension by Kotare Consultants May 2023 Rev 2 27 March 2024) File: 1011.3 Rev2 (includes Appendix A South Precinct drawings Oct2023, East Precinct drawings Jun2023, Appendix B Te Miro SW Report dated 09-06-2023, Te Miro s92 response dated 12-10-2023)

## DISTRICT PLAN ASSESSMENT

An assessment of the proposal's compliance with the relevant rules of the Operative District Plan has been completed. In summary, the proposal triggers consent under the following rules:

Rule #	Rule Name	Comment
25.15	Access, vehicle entrance, parking, loading and manoeuvring.	Road Network Safety and function. Restricted activity under Rule A14.A.
25.16	Vehicle Movements	179 additional movements total 358. 200 movements threshold
25.25	Earthworks	3600m <sup>3</sup> cut and 50,000m <sup>3</sup> fill

## ASSESSMENT OF EFFECTS

### **General (include earthworks)**

The current consents provide for 202 villas/townhouses and 80 care bed care facility. The consent currently being processed increases the villas by an additional 69 villas (25 for eastern/42 for southern and 2 within the existing footprint). Therefore total of 271.

Terrain is generally flat in topography. No significant water courses are located within or proximity of the site. No slope stability concerns or major retaining structures are proposed. Earthworks does not result in a change of overland paths or off-site effects.

Earthworks and dust management can be managed by way of a Construction Management Plan (CMP) as conditions of consent.

## Wastewater

Wastewater is reticulated and treated on-site as established in the original Tamahere Country Club stages. Wastewater discharge to ground (on-site) is by way of current Waikato Regional discharge consent.

The wastewater treatment plant has the potential to increase its capacity due to modular design and demand. The data in Table 1: “Wastewater Treatment Capacity Check” demonstrates that the actual demand at 45,000 l/day at current usage (155 units), can represent 50% of the anticipated total occupancy (271 units).

If the treatment plant has a design capacity of 130,000 l/day, then the treatment plant is currently underutilised to its actual design capacity. Modelling suggests the current treatment plant can accommodate the Southern and Eastern extensions with contingency.

Current arrangement has Primary treatment system indicated in **Green** and reserve area in **Orange**.

Kotare Consultants indicate that the extension to the south is possible. Spaces indicated in “Red and Blue” as possible areas of extension if required.

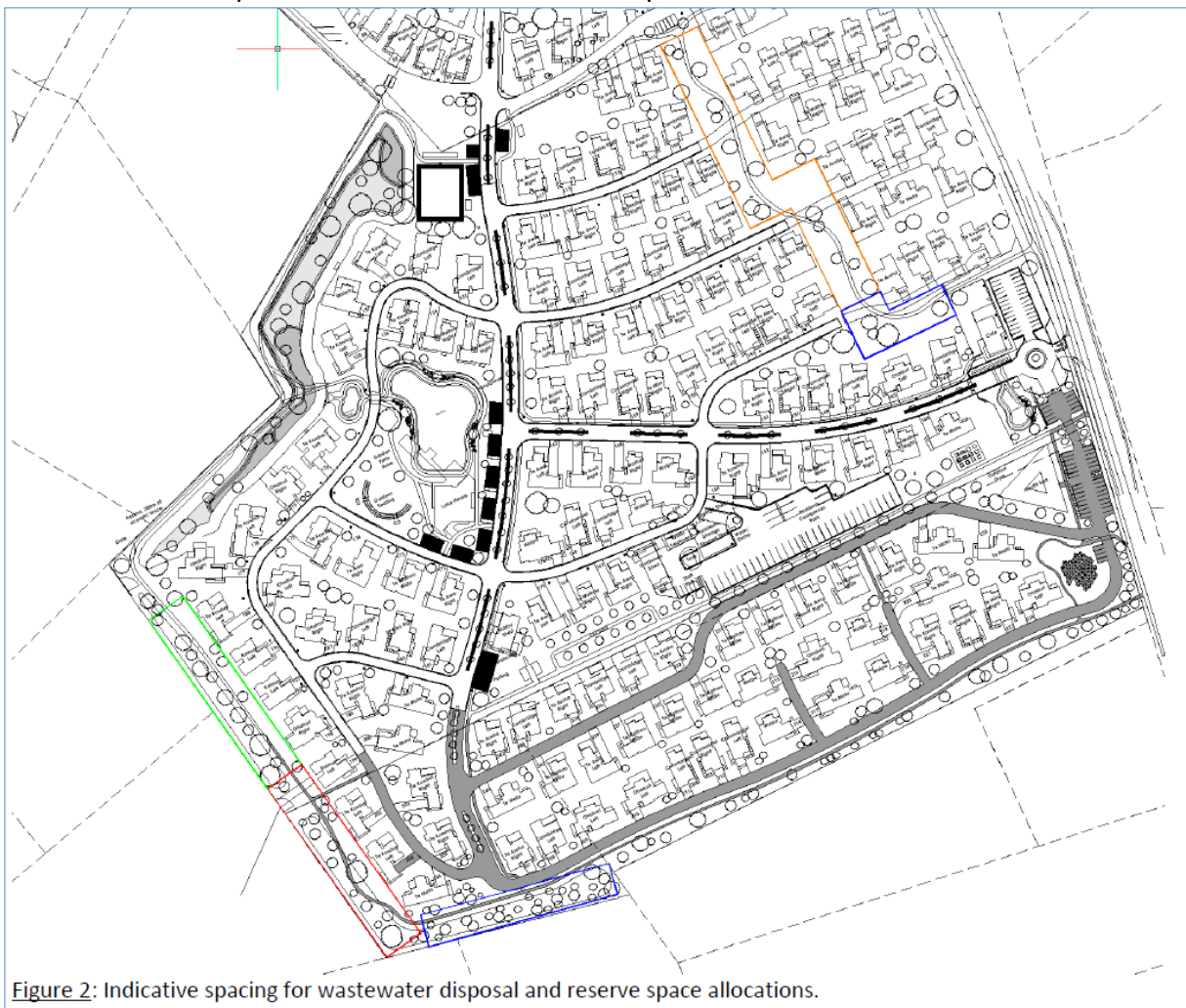


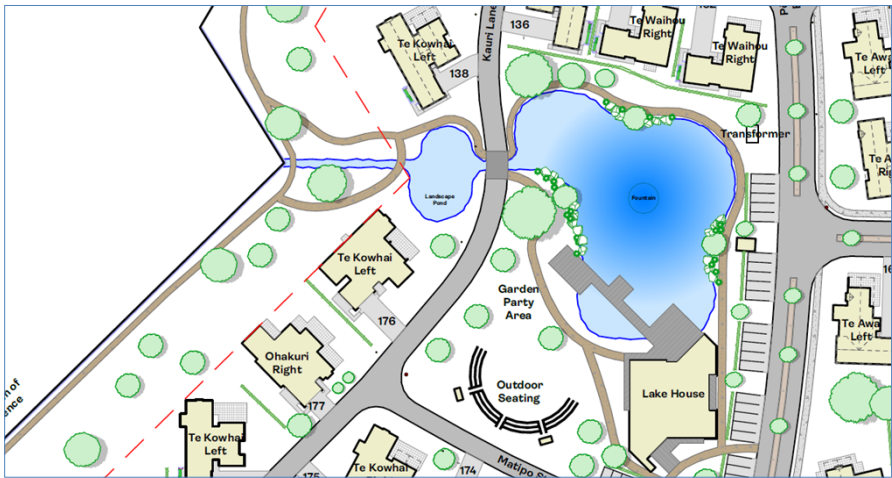
Figure 2: Indicative spacing for wastewater disposal and reserve space allocations.

**LDE conclusion:** Wastewater can be sufficiently managed on-site as per Waikato District Operational District Plan Engineering Standards Part 3, Appendix B2 “Wastewater” and

Waikato Proposed District Plan Part 2, WWS-R2 “Wastewater Servicing for new development or Subdivision”. Conditions for consent are applicable for Engineering Detailed Design approval, construction, and certification.

**Stormwater**

Stormwater collected on site (from internal road runoff, buildings, and hardstand areas) is drained to the soakage basin (attenuation pond) for treatment and soakage. The previous Stage 2 development included redesign of the soakage basin (attenuation pond), to accommodate at least the 100-year rain event. Events larger than the 100 year will discharge via the western boundary farm drain (natural overland flow path).



Overland flow path farm drains

The Eastern and Southern areas will be attenuated to the 10year rain event via underground modular soakage system. For rain events above the 10year event, discharge will be conveyed to the soakage basin within the pipe network. Pipe grades and velocities have been checked to ensure minimum flow velocities are achieved.

**LDE conclusion:** Stormwater has been designed appropriately as per Waikato District Operational District Plan Engineering Standards Part 3, Appendix B5 “Stormwater” and Waikato Proposed District Plan Part 2, WWS-R1 “Stormwater systems for new development or Subdivision” for a suitable on-site solution. It is anticipated to have no offsite effects due to Stormwater design. Conditions for consent are applicable for Engineering Detailed Design approval, construction, and certification.

### **Water Supply**

Provided by on-site bore supply to an on-site water treatment plant. Firefighting water storage capacity is provided by a backup supply in the historical stages. The reticulated private system provides water supply for all on-site facilities, irrigation and residents usage.

Water demand and water take were checked for compliance with the Waikato Regional Consent APP143736. The results showed the current water take consent can accommodate the forecast demand including the expansion of the Southern and Eastern areas (total 271 Units) with contingency. Irrigation usage can be adjusted (if required) to ensure compliance with the consent.

**LDE conclusion:** Water Supply has been designed appropriately as per Waikato District Operational District Plan Engineering Standards Part 3, Appendix B4, “Water” and Waikato Proposed District Plan Part 2, WWS-R10 “Water supply servicing for new development or subdivision”. Conditions for consent are applicable for Engineering Detailed Design approval, construction, and certification.

### **Roading**

Previous stages arrangement has been consented in accordance with the Integrated Transportation Assessment by Stantec June 2023.

Gray Matter (Transportation Consultants) have been approached to review the East and West extension increased traffic effects and have provided the document:

Tamahere Country Club Extension: Transport Review by Gray Matter dated 8<sup>th</sup> September 2023.

Submission #1 received via the notification process raised traffic concerns in view of the Operative and Proposed District Plan rules ie.

Waikato Operative District Plan:

- A13 Queueing Space
- A14A Road network – Safety and Functions
- 25.16 Vehicle Movements

## 25.15 Access Vehicle Entrance

Proposed District Plan:  
TRPT-R4 Traffic Generation

Council LDE reviewed the applicable traffic matters raised in Submission #1 and cross-checked the items to the content provided in the Transport Review by Gray Matter dated 8<sup>th</sup> September 2023,

- Makes references to the Consented ITA Stantec June 2023 report and accepts the information sufficient.
- States consented 202 independent villas and accounts for an additional 69 as per East and South Extensions.
- New trip generation numbers (increase of 179 trips).
- Provides intersection/ entrances assessment.
- Provides a summary and qualifying statements that support the ITA's recommendations for consent conditions.
- Provides a summary that accepts the "proposed extension can be accommodated without changes to the vehicle crossings and transport network."

Council LDE is of the opinion that the Transport Review by Gray Matter dated 8<sup>th</sup> September 2023 addresses the relevant information raised in Submission #1.

For the purpose of absolute clarity and rule out any cross-check misinterpretation, Gray Matter was approached to review the Submission #1 matters. The document: Tamahere Country Club – Response to Submission dated 13<sup>th</sup> March 2024 was provided by Gray Matter to confirm the previous conclusions. No further recommendations were made as a result.

The Transport Review by Gray Matter dated 8<sup>th</sup> September 2023 can be accepted with minor recommendations as per conditions of consent ie. 7 cycling spaces inclusion located near the facilities, CMP, landscaping review near intersections and footpaths to have clear visibility, ideally 90° intersections of footpaths and ROWs and kerb cutouts where paths cross with ROW extensions.

### **Site photographs**



## PROPOSED ENGINEERING CONDITIONS

### General Conditions

Earthworks, foundation design, stormwater management and onsite wastewater disposal must be constructed or undertaken in general accordance with the following reports:

Preliminary Geotechnical Report, Tamahere CC by HDGeo, dated 01 May 2023 Project No: HD2812 Ref: PGR-1

Detailed Site Investigation, Tamahere CC by HDGeo, dated 01 May 2023 Project No: HD2807 Ref: DSI

Development Infrastructure Report, Tamahere CC Stage 3 Extension by Kotare Consultants May 2023 Rev 2 27 March 2024) File: 1011.3 Rev2 (includes Appendix A South Precinct drawings Oct2023, East Precinct drawings Jun2023, Appendix B Te Miro SW Report dated 09-06-2023, Te Miro s92 response dated 12-10-2023)

### Developer's Representative

Prior to the commencement of engineering design or construction works, the Consent Holder shall appoint a Developer's Representative who shall supervise and provide certification of the engineering works.

### Notification of Intention to Start Works

The Consent Holder shall notify the Waikato District Council, in writing, of their intention to commence any of the physical works associated with this consent, a minimum of 10 working days prior to commencing.

Notification shall include the following details:

- (a) Names and telephone number/s of the Developer's Representative/s
- (b) Site Address to which the consent relates
- (c) The Waikato District Council reference number
- (d) A description of work to be undertaken
- (e) Expected duration of the works
- (f) Documentation required by other conditions of this consent.

Advice Note: The preferred means of notification is via email to [monitoring@waidc.govt.nz](mailto:monitoring@waidc.govt.nz)

### Prior to Construction

#### Detailed Engineering Plans

Prior to any construction, detailed engineering plans must be submitted for certification (Engineering Plan Approval) for:

- (a) Earthworks Plans in accordance with the approved development concept plans of Tamahere County Club Extension at 56 Tamahere Drive, TAMAHERE.



(b) Internal road network layout including northern extension to existing Tamahere Country Club development, kerb and channels, cesspits, footpaths, and parking spaces as demonstrated on the approved Tamahere Country Club development concept plans and:

- Transport Review by Gray Matter dated 8<sup>th</sup> September 2023
- Tamahere Country Club – Response to Submission by Gray Matter dated 13<sup>th</sup> March 2024

(c) Internal lay-out of wastewater network in accordance with the approved plans.

(d) Internal lay-out of stormwater network, run-offs treatment and soakage disposal management system in accordance with the restrictions and recommendations of Tamahere Country Club Stormwater Design Report (Final Version) by Te Miro Water Consultants Ltd and dated 4/06/2021 and Development Infrastructure Report, Tamahere CC Stage 3 Extension by Kotare Consultants May 2023 Rev 2 27 March 2024) File: 1011.3 Rev2 (includes Appendix A South Precinct drawings Oct2023, East Precinct drawings Jun2023, Appendix B Te Miro SW Report dated 09-06-2023, Te Miro s92 response dated 12-10-2023)

(e) Internal water supply network to proposed Tamahere Country Club extension supported by hydraulic flow and pressure test report. Design pressures must include the requirements of SNZ PAS4509:2008. Designs must be in accordance with the Waikato District Plan (Waikato Section) and the Regional Infrastructure Technical Specifications (RITS)/ NZS:4404 and are to take into consideration any recommendations from the Geotechnical Assessment Report. Design plans and accompanying reports are to be provided to the Senior Land Development Engineer, Waikato District Council for certification.

### **Construction Management Plan**

The Consent Holder shall submit a Construction Management Plan (CMP) to the Waikato District Council Team Leader Monitoring a minimum of 10 working days prior to the commencement of activities associated with this consent. The CMP shall include, but not be limited to, the following:

- (a) The staging of works planned and the description of works including site plans;
- (b) An erosion & sediment control plan;
- (c) Detailed management procedures for fill placement (all imported material shall be cleanfill), treatment and/or stockpiling;
- (d) Dust control plan;
- (e) Machinery to be used on site;
- (f) Communications Plan
- (g) Clarification of number of persons to be engaged in site works;
- (h) Health and Safety Plan;
- (i) Hours of work;
- (j) Noise management within a Construction Noise and Vibration Management Plan (including specific provision to manage construction noise near adjacent properties);
- (k) Existing transport environment;
- (l) Construction access;
- (m) Mitigation/minimisation of off-site construction movements;
- (n) Temporary traffic management controls;
- (o) Appropriate guidance for Contractors on accidental discovery protocols.

## **During Construction**

### **CMP Implementation**

The activities associated with this consent shall be undertaken in accordance with the CMP. Specifically, earthworks shall be carried out in accordance with the approved CMP and Engineering Plans under the supervision of a Geo-professional to the satisfaction of Waikato District Council's Team Leader Monitoring. In the case of inconsistency between the CMP and the condition of this consent, the conditions of consent shall prevail.

### **Internal Road Network**

The Consent Holder must establish internal road network, including kerb and channel, cesspits, footpaths, and parking spaces as per approved engineering plans to the satisfaction of the Consents Monitoring Officer, Waikato District Council.

### **On-Site Wastewater System**

The Consent Holder must upgrade the internal wastewater network as per approved engineering plans to the satisfaction of Consents Monitoring Officer – Waikato District Council.

### **Advice Note:**

The Consent Holder is advised to provide a copy of its Discharge Consent from WRC to Consents Monitoring Officer – Waikato District Council prior to undertaking any upgrade of existing on-site wastewater treatment and effluent disposal fields.

### **On-Site Stormwater Management**

The Consent Holder must establish internal stormwater pipe network, outlets, treatment, and disposal system in accordance with the approved engineering plans to the satisfaction of Consents Monitoring Officer – Waikato District Council.

## **Post Construction**

### **Statement of Professional Opinion**

At completion of the earthworks for each stage of development and prior to undertaking any building works, the Consent Holder must provide a 'Statement of Professional Opinion on Suitability of Land for Building Consent', certificate by a Geoprofessional to confirm that the earthworks within the site is suitable for a development and must be submitted to the satisfaction of Consents Monitoring Officer - Waikato District Council.

Advice Note: An acceptable format can be found in the 'Section 2 - Earthworks and Geotechnical Requirements' of Regional Infrastructure Technical Specifications (RITS) - Appendix 2A: Schedule 2A (NZS 4404:2010) - "Statement of Professional Opinion on Suitability of Land for Building Consent".

### **Certification Contractor's Certificate – construction (Schedule 1B)**

Prior to occupation of any dwelling on site, A 'Contractors Certificate – construction', for each work undertaken by contractor as part of the consented works must be provided to the satisfaction of Waikato District Council Consents Monitoring Officer.

Advice Note: An acceptable format for certification upon completion of works can be found in the NZS4404-2010 Schedule 1B (Contractor`s certificate upon completion of land development).

## **On-going Conditions**

### **Review Condition**

Pursuant to section 128 to 131 of the Resource Management Act 1991, the Waikato District Council may review any or all of the conditions of this consent at any time from the commencement of this consent. The Council shall serve notice on the Consent Holder of its intention to review any or all of the conditions of this consent for any of the following purposes: (a) To review the effectiveness of the conditions of this consent in avoiding, remedying, or mitigating any adverse effect on the environment that may arise from the exercise of this resource consent (in particular the potential adverse environmental effects in relation to amenity, noise, traffic and shuttle service and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; (b) To address any adverse effects on the environment which have arisen as a result of the exercise of this consent that were not anticipated at the time of granting this consent, including addressing any issues arising out of complaints (c) To review the adequacy of, and necessity for, any of the monitoring programmes or management plans that are part of the conditions of this consent. The Council will undertake the review in consultation with the consent holder and the consent holder shall pay the actual and reasonable costs of the review pursuant to section 36 of the Resource Management Act 1991.

## **Advisory Notes**

### **Debris & Tracking**

The Consent Holder is to be advised that any debris tracking/ spillage onto any public road as a result of the exercise of this consent is to be removed as soon as practicable, and within a maximum of 24 hours after the occurrence, or as otherwise directed by the Waikato District Council Alliance, to the satisfaction of the Waikato District Council. The Consent Holder, upon becoming aware of the need to clean up the roadway, must advise Waikato District Alliance of the need for the road to be cleaned up, and what actions are being taken to do so. The cost of the clean-up of the roadway and associated drainage facilities, together with all temporary traffic control, must be the responsibility of the Consent Holder.

## **Signed By**



**James Templeton**  
**Senior Land Development Engineer**  
**Date: 08 April 2024**