To

Auckland Thoroughbred Racing Club
Adam Sadgrove

From

Woods
Thomas McClory – Engineer
Ajay Desai – Principal 3 Waters Engineer

W-REF: P23-057_1
1 May 2024
Reviewer: Brian Flood

Auckland Thoroughbred Racing Pukekohe Park - Infrastructure Serviceability Memorandum

Pukekohe Park – Introduction

This memorandum is for the purposes of outlining the proposed serviceability for s 9(2)(b)(ii) within the Auckland Thoroughbred Racing (ATR)'s Pukekohe Park Racecourse. s 9(2)(b)(ii) It outlines a summary of the infrastructure opportunities and constraints for three waters and utility servicing based on conceptual yields as of May 2024.

1. Stormwater

The site contains three existing open channels in series that run from north to south and are interspersed with dual 2500mmø culverts to convey stormwater between the channels. The dual culverts are vested to Auckland Council as part of the public stormwater network and can be viewed in Auckland Council's GeoMaps. The channels and culverts encompass the entirety of the public stormwater network within the ATR Pukekohe Park site. The surrounding roading network made up primarily of Manukau Road and Buckland Road to the west and south do not contain any public stormwater networks. Private stormwater assets exist within the site to service the racetrack buildings and the racetracks themselves.

It is proposed to realign sections of the existing open channel and daylight sections of culverts to increase developable land, improve hydraulic conveyance, and provide amenity to the future communities. Additional public piped networks are proposed and will outlet to the realigned open channel.

Areas being investigated for development will be serviced by new primary stormwater networks to cater for the 10-year ARI stormwater flows including 3.8°C climate change.

1.1. Natural Hazards and Resilience

The site is located within the Pukekohe stormwater catchment. The legacy stormwater model was received from Healthy Waters which has been revised and updated by Woods using InfoWorks ICM. Flood modelling and analysis for the potential development was undertaken by Woods using various urban design layouts which incorporates high-level terrain surfaces, with the inclusion of the realigned open channel and partial daylighting of public stormwater network within the site. The modelling uses climate change considerations of 3.8°C increase in temperature by 2110. This is based on the latest Ministry for Environment and Auckland Council guidelines including the recently released Stormwater Code of Practice V4.

1.1.1. Key Assumptions

The flood modelling undertaken is based on the parameters and assumptions noted in the Pukekohe FHM Study (Tonkin + Taylor, 2018). Key assumptions are summarised as follows:

- The model scenario incorporates design landform and proposed stormwater infrastructure information to date.
- Partial daylighting of the existing public network traversing through the site.
- In addition to the above, the Maximum Probable Development (MPD) Scenarios have been simulated incorporating high-level design surfaces and proposed partial daylighting.
- All flood modelling work being undertaken has and will continue to assess future climate change using 3.8°C by 2110.
- The TP108 rainfall profile and corresponding rainfall depths applied in the flood model for the

s 9(2)(b)(ii)

1.1.2. Findings

A summary of the findings from model results are as follows:

- The work undertaken to date confirms that the development can proceed without creating adverse effects to neighbouring properties.
- Based on these results, the existing public stormwater infrastructure is sufficiently sized to cater for the increased stormwater runoff resulting from a final build out of the site.

2. Wastewater

Two public wastewater transmission mains (600mmø and 900mmø) run from the north to the south of the site where they are intercepted by a wastewater pump station on Buckland Road adjacent ATR owned land. s 9(2)(b)(ii) Watercare have undertaken a high-level assessment and determined that the network has sufficient capacity for the expected flows from the proposed development.

Additional public wastewater networks are proposed to service the future development of the site and will outlet to the existing wastewater transmission network.

Based on the above, it is expected the proposed development is serviceable from a wastewater perspective.

For further information, please refer to the Watercare Assessment consultation letter in Appendix A.

3. Water Supply

An existing 150mmø public water supply main runs through Buckland Road to the west of the site. s 9(2)(b)(s 9(2)(b)(ii) . Watercare have responded that an agreement is already in place to install a new bulk water supply and transmission/distribution upgrade at the proposed development.

For further information, please refer to the Watercare Assessment consultation letter in Appendix A.

Nova Flowtec were engaged in early 2024 to carry out hydrant testing and determine the pressures of the existing water supply along Bucklands Road. Initial FW3 testing confirms that there are sufficient pressures in the tested hydrants to service the development.

For further information, please refer to the Nova Flowtec Mains Flow and Pressure Report in Appendix B.

4. Roading Network

The site can be accessed by Manukau Road and Buckland Road which run along the western boundary of the site. s 9(2)(b)(ii) . These new roads will likely be publicly vested to Auckland Council, with privately owned JOALs providing further vehicle accessibility.

It is not expected that other upgrades to the existing roading network will be required beyond the construction of intersections for the proposed new road connections, however consultation with Auckland Transport will be necessary during the consenting stage to understand any potential roading infrastructure upgrade requirements.

5. Utilities

Counties Energy have been engaged to perform an initial assessment of electrical reticulation for s 9(2)(b)(ii)

For further information, please refer to the Counties Energy Initial Assessment letter in Appendix C.

There is existing fibre reticulated through Buckland Road adjacent the western boundary of the site. It is s 9(2)(b)(ii)

6. Conclusion

High-level assessments have been undertaken for infrastructure serviceability of three waters and utilities. Flood modelling and assessments undertaken by Woods for a 100-year ARI rainfall event demonstrate that development can proceed without negative upstream or downstream effects, and existing open channels will be utilised for stormwater discharge. Watercare has confirmed that the site can be serviced with wastewater and water supply, while Nova Flowtec have confirmed that hydrant testing indicates the minimum FW3 requirement is available. Counties Energy confirm that electrical reticulation can be provided for the currently proposed yield, and it is expected that telecommunication reticulation can also be provided.

Based on these investigations, Woods have not uncovered any significant infrastructure constraints that might limit development of the site.

Appendix A – Watercare Assessment Consultation Letter

Watercare Services Limited
Private Bag 94010
Auckland 2241
www.watercare.co.nz
Customer service line
Mon to Fri 7.30 to 6pm
09 442 2222
info@water.co.nz

Fault line
24 hours
09 442 2222
Free text 3130
faults@water.co.nz

29th April 2024

Adam Sadgrove
Auckland Thoroughbred Racing Club
100 Ascot Avenue
Remuera
1050 Auckland

Dear Michael,

Re: Initial High-Level Assessment.
Watercare application number **CON-215678**

Request for information on reviews of the development assessment and confirm existing capacity of the Pump Station at 360 Buckland RD, Pukekohe and the Water Supply Network to serve a potential s 9(2)(b)(ii) dwellings at 222-250 Manukau RD Pukekohe 2120**.**

Here-below is the response;

Thank you for your application. As a result of the above request, the following initial high-level assessment was made for the proposed development.

Please refer to our comment(s) below:

Wastewater:

- **Based on the information available, it is considered the downstream network has sufficient capacity for expected flows from this development.**

Water Supply:

- **The area on where the proposed development is, will have a new bulk supply and a transmission/distribution upgrade or a wider servicing plan in the area and an agreement on the upgrades were already in place.**

The assessment is at the *time of this letter and is just for your information.* The timing of development is critical and future upgrade requirements will be assessed by Watercare in more detail under the Resource Consent (RC) stage and / or engineering plan approval process.

This review does not constitute resource consent or engineering plan approval. You will need to apply to Auckland Council and submit these documents with your consent application.

If you have any questions, please contact the Connections Team via connections@water.co.nz or the Contact Centre on 09 442 2222 and select option 4.

Yours faithfully,

Nick Odhiambo
Development Engineer | Developer Services

Watercare
An Auckland Council Organisation

Appendix B – Nova Flowtec Mains Flow and Pressure Report

NOVA FLOWTEC SERVICES LTD
HYDRANT TESTING SPECIALISTS

E: info@novaflowtec.co.nz
T: 09 444 8375
PO Box 241, Albany Village, Auckland 0755
www.novaflowtec.co.nz

23rd January 2024

Auckland Thoroughbred Racing
100 Ascot Avenue
Remuera
Auckland

RE: Firefighting Water Supply at 222-250 Manukau Road, Pukekohe (Pukekohe Park – The Pukekohe Horse Racing Club)

Attention: Adam Sadgrove

Dear Adam

Nova Flowtec Services were engaged to conduct a FW3 hydrant flow test for the future development at the above address.
The testing was conducted on Tuesday 23rd January at 1.00pm.
The object of the testing was to prove that there is sufficient water for firefighting purposes.

Requirements:
In order to meet the FW3 minimum requirements of PAS 4509: 2008, 25Lps is required within 135m and an additional 25Lps is required within 270m of the development.
This being a total of 50Lps at a minimum residual pressure of 100kPa.

Results:
It is noted at the time of testing that the location of any future development has not been determined. However, the nearest three hydrants were tested and a flow of 74.2Lps at 220kPa was recorded, proving the minimum FW3 requirement is available at these closest testable hydrants.
If the location of any future development is not within the allowable FW3 distances as described above - Additional hydrant(s) will need to be fitted within the site so as every proposed building has a hydrant within 135m of the main entrance.
Please find the results table and the hydrant map on the following page.

Should you have any questions please do not hesitate to contact me.

Kind Regards

Mkeane

Melanie Keane
Testing Manager

Appendix C – Counties Energy Initial Assessment Letter

16 February 2024

Woods & Partners Consultants
PO Box 6752
Victoria St West
Auckland 1142

s 9(2)(a)

Dear Alex Mai,

INITIAL ASSESSMENT for Woods & Partners Consultants (Customer)
Subdivision: s 9(2)(b)(ii) **(Proposed Project)**
222-250 Manukau Road Pukekohe (Location)
J22258 (Our Reference Number)

Thank you for your enquiry regarding providing a network connection point for 222-250 Manukau Road Pukekohe

- s 9(2)(b)(ii) e
- Provide single-phase 63A domestic point of connection.

We confirm that network connection points can be made available within the road reserve to serve this request; however, further technical assessment (including the number of connections) will be necessary to determine the extent and nature of the work required to do this. In addition, the connection of the lots to the electricity network will be further subject to compliance with the terms and conditions of the Electricity Network Provision and payment of a capital contribution towards the provision of the network connection points. This allows Counties Energy to appropriately invest in its network to ensure quality and security of supply for existing and future consumers.

Yours faithfully,

KCristobal

Kenan Cristobal
Customer Projects Engineer