

To: Egmont Dixon

Date: 31 October 2022

Attention: Earl Hope-Pearson

Ref: 65612

Subject: Otaki Maori Racecourse Freshwater Constraints

Egmont Dixon requested freshwater assessments associated with a proposed development around the racecourse in Otaki (Figure 1). The objective of the ecological assessments was to determine whether there are any aquatic habitats or wetlands located on site or within 100m of the proposed works, and identify and address the freshwater constraints under the current regulations.



Figure 1. Otaki Māori Racecourse

This memorandum presents the preliminary findings and freshwater constraints maps for the site.

A site visit was carried out by an experienced freshwater ecologist on 28 April 2022, accompanied by Louis Freeland, Envelope Engineering. The four zones proposed for development were inspected. The zones were A, B, C and D, as marked on Figure 2.

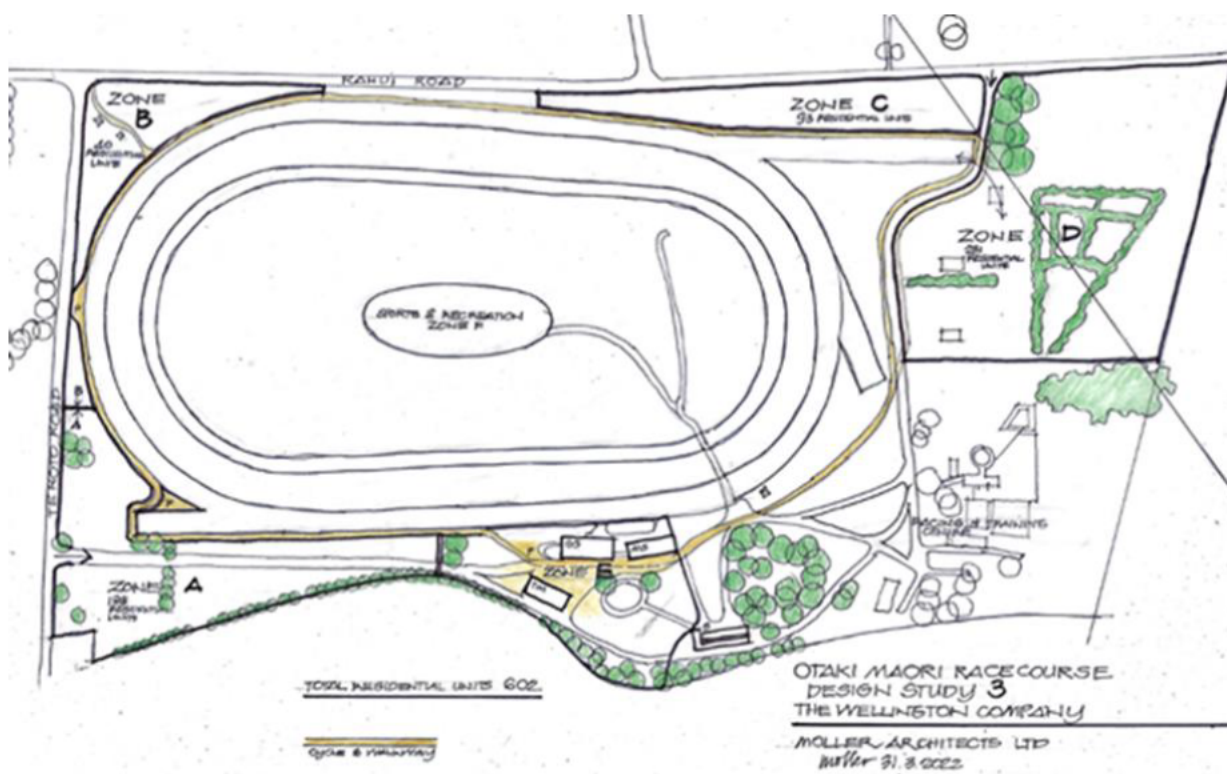


Figure 2. Proposed development zones assessed for freshwater constraints

Results

Zone A provided no freshwater constraints (Photo 1 and Photo 2)



Photo 1. Zone A - west of racecourse

Photo 2. Zone A – south of racecourse

Zone B was dominantly pasture but has a stream flowing adjacent to the boundary of Rahui Road (Photo 3 and Photo 4). This stream could meet the criteria for a 20m esplanade reserve, although there are valid arguments for a waiver. The stream was more than 3m between the top of the banks in places but narrowed near the centre of the site and was much less than 3m. Careful survey including the entire length would be need to determine the average width. There were no wetlands in Zone B, but farm

maintenance is required to ensure that the occasional rushes present do not spread to cause a trigger for assessment in the future.

The stream is marked on the Greater Wellington Regional Council (GWRC) Web Map Viewer on Schedule F1: *Rivers and lakes with significant indigenous ecosystems - Habitat for 6 of more migratory indigenous fish species of conservation interest. River class 6, low gradient, small. Waitohu Stream and all tributaries.* (Figure 3).

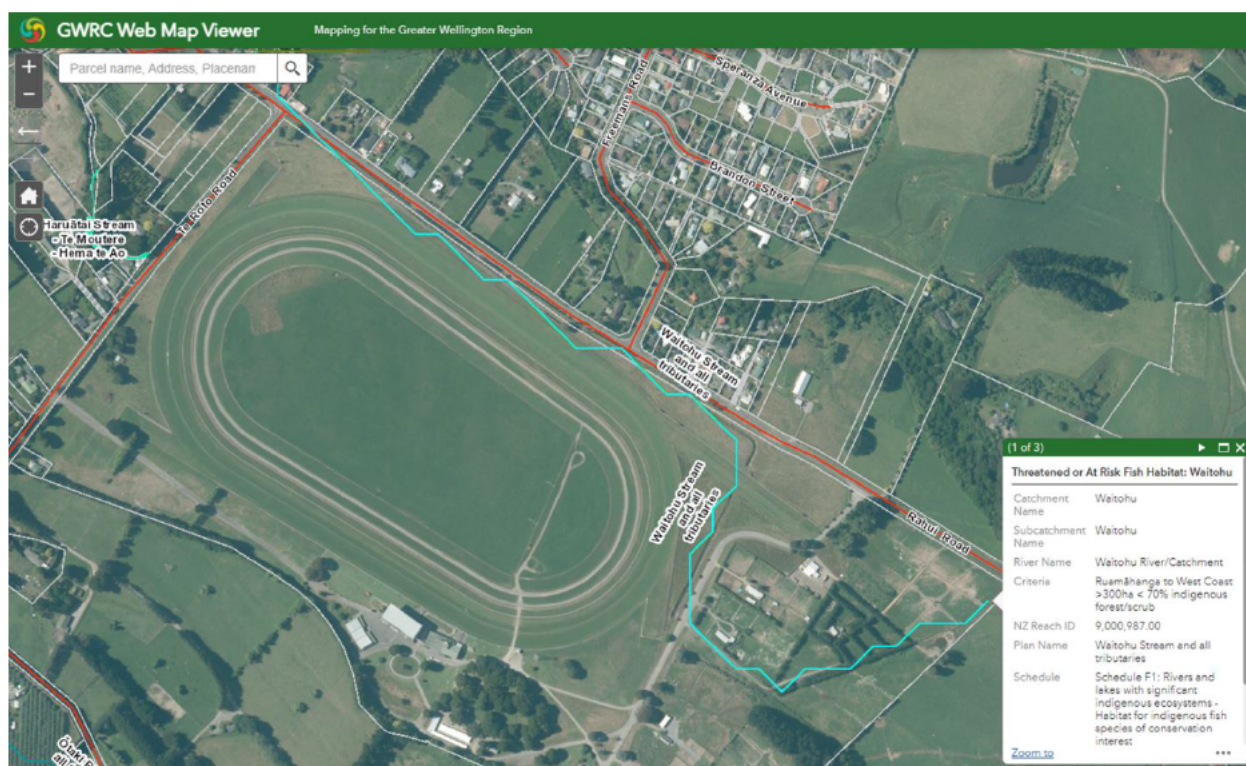


Figure 3. GWRC Web Map Viewer - Waitohu Stream and all tributaries.

Zone C is also pasture with the stream flowing adjacent to the access road and Rahui Road boundary, and with the same constraints as listed for Zone B above (Photo 5). In addition a drain, was present along the

southern boundary of the zone. This drain has been marked on the GWRC pNRP as a highly modified stream (Figure 4) but was vegetated with pasture grass (Photo 6) and if assessed as a stream would meet the criteria for an ephemeral stream¹.



Photo 5. Stream adjacent to access road and flowing to the stream adjacent to Rahui Road



Photo 6. Ephemeral flowpath



Figure 4. GWRC pNRP Natural Streams and Highly Modified Rivers/Streams overlay.

Zone D was dominantly horse paddocks but provided a number of freshwater constraints. Several tributaries of the Waitohu Stream flowed west and north through Zone D. Although modified these tributaries are all part of a natural watercourses and are therefore classified as permanent and intermittent streams. They are (in part) illustrated on the GWRC Web Map Viewer / ArcGIS:

Waitohu Stream and all tributaries overlay present (Figure 3) – refer to Zone A discussion.

GWRC pNRP Natural Streams and Highly Modified Rivers/Streams overlays present (Figure 4).

¹ Ephemeral watercourses are excluded from the definition of a surface water body and therefore certain rules do not apply.

The watercourses and aquatic habitats in Zone D are illustrated in Figure 5, Photo 7 and Photo 8. Two branches flow from Rahui Road into Zone D, with additional branches from the pasture to the east. They then combine and flow under the racecourse access road to a wide straight drain back towards Rahui Road, into Zone C and B.

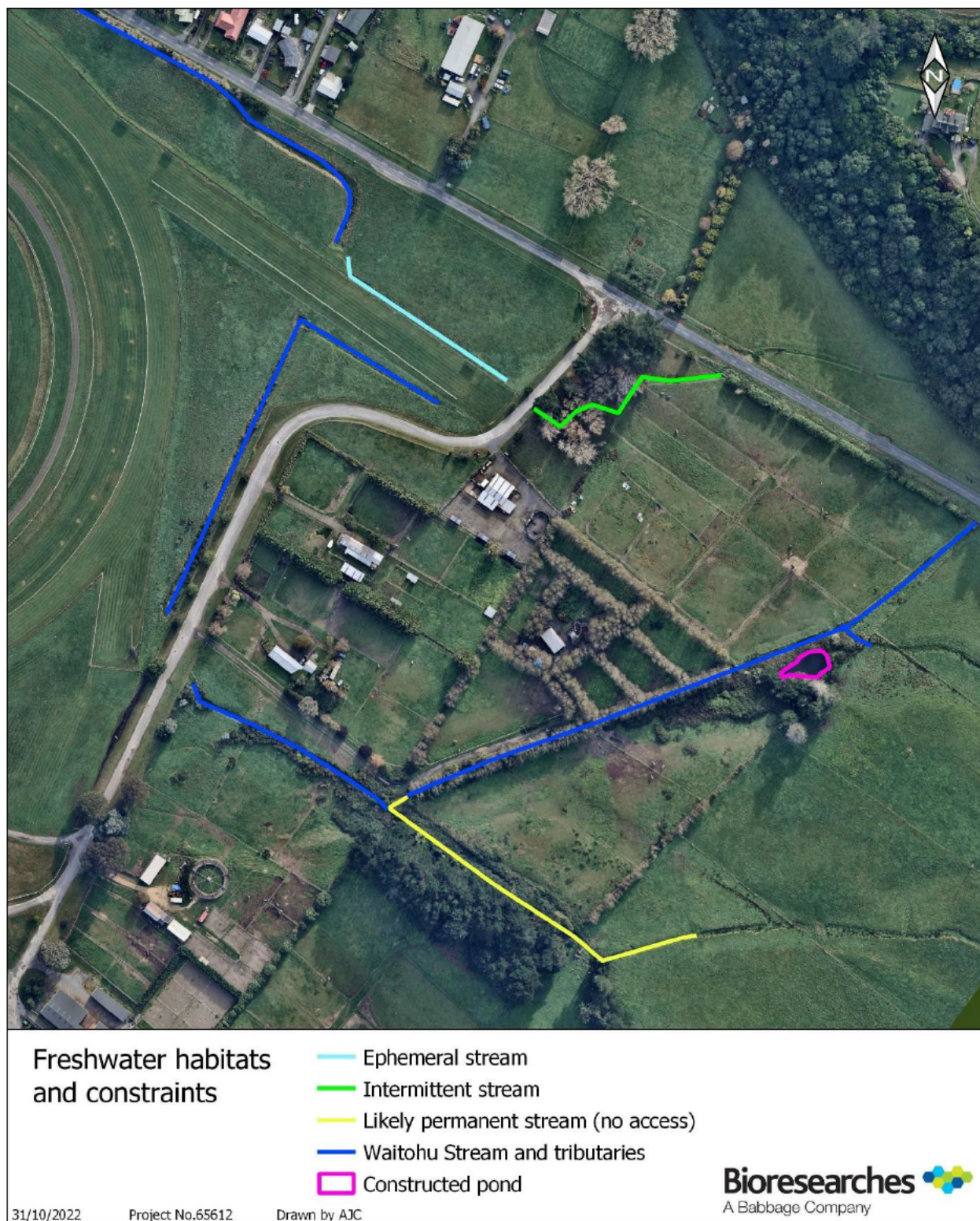


Figure 5. Freshwater habitats and constraints in Zones C and D.



Photo 7. Typical pasture in the horse paddocks of Zone D.



Photo 8. Intermittent upper section of Waitohu Stream in Zone D.

A constructed pond is present near the eastern boundary. The pond is not a natural wetland. Although unable to access, a uniform shape and deep vertical sides were visible through the vegetation. Historical aerial photography show the pond was not present in March 2011 and was present in September 2013 (Photo 9 and Photo 10).



Photo 9. Google Earth imagery 28 March 2011 – no pond present



Photo 10. Google Earth imagery 17 September 2013 – constructed pond present.

The stream marked in green on Figure 5 is a transitional habitat. It has been straightened and modified and is classified as an intermittent stream. The stream marked in yellow is a stream, likely a permanent stream, but it was not accessed.

The remaining area to the east of the Waitohu Stream (and south of the constructed pond), was comprised more horse paddocks. During the site visit water was impounded by low bund between the paddock and the stream and an NPS-FM assessment for natural wetlands could not be completed. It is envisaged that an ecological assessment of this paddock would be carried out at a later stage if the referral is approved. The area and surrounds are current proposed for a park (Figure 6).



Figure 6. Proposed development areas at and around Otaki Maori Racecourse.

Yours sincerely,



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