

A site visit at Powells/Tramway Road Subdivision, in particular a visual inspection of the Tramway Road farm drain was undertaken on 26<sup>th</sup> November 2021 and Powells Road drain on 3<sup>rd</sup> March 2022. This memo provides a brief overview of the site context, presents key definitions relevant to this site including watercourse classifications pertinent for the tributary within the Tramway Plan Change Area and outlines our watercourse assessment for the Tramway Road drain and Powell's Road drain.

The Tramway Plan Change area is within the Kirikiriroa sub-catchment, the largest area within the Ruakura growth cell. There are four existing outlets to the Kirikiriroa system (Appendix 1: Figure 4 Ruakura South Existing Waterways<sup>1</sup>) and one surface flow outlet to the Komakorau system with surface flow occurring during extreme weather events.

Smaller discrete networks flow to the Kirikiriroa gully system in the northwest (see Appendix 1: Figure 4 Ruakura South Existing Waterways) and discharge to the Kirikiriroa Stream after passing under Wairere Drive roundabout. Two other small networks flow to the existing reticulated system in Fairview Downs and on Tramway Road. Some drains in the sub-catchment (including Tramway Road Drain) are not connected to any natural waterway except via the HCC reticulated stormwater network which presents significant obstacles to fish passage.

The Waikato Regional Plan (WRP) stream classifications and watercourse definitions relevant to this site are provided in Table 1 below. We note that based on these WRP definitions, "farm drain" is a type of artificial watercourse.

<sup>&</sup>lt;sup>1</sup> Boffa Miskell (2015) Ruakura South Native Fish Management Plan, Ruakura South Existing Waterways, Figure 4

Table 1: Waikato Regional Plan - Glossary of Terms<sup>2</sup>

Term	Definition
Ephemeral streams	Streams that flow continuously for at least three months between March and
	September but do not flow all year.
Perennial streams	A stream that flows all year round assuming average annual rainfall.
River	A continually or intermittently flowing body of freshwater, and includes a stream and modified watercourse; but does not include any artificial watercourses (including an irrigation canal, water supply race, canal for supply of water for electricity power generation, and farm drainage canal).
Modified watercourse	An artificial or modified channel that may or may not be on the original watercourse alignment and which has a natural channel at its headwaters.
Artificial watercourse	A watercourse that contains no natural portions from its confluence with a river or stream to its headwaters and includes irrigations canals, water supply races, canals for the supply of water for electricity power generation and farm drainage canals.
Farm drainage canal	An artificial watercourse on a farm that contains no natural portions from its confluence with a river or stream to its headwaters and includes a farm drain or a farm canal.

The watercourses on site likely flow (or hold water) for at least several months of the year especially between May to September. However, it is highly likely that the watercourses dry out for a period during summer and are therefore ephemeral in nature.

The most relevant watercourse definitions to this assessment are "modified watercourse" vs "artificial watercourse". The key difference between the two definitions is the presence of "natural portions" or "channels". According to the definitions, a modified watercourse has a "natural channel" at its headwaters whereas an artificial watercourse has "no natural portions" from its confluence with a river or stream to its headwaters.

The assessed Tramway Road and Powell's Road drain network is an artificial watercourse, as they do not feature any natural portions from its confluence to its headwaters. More specifically, this drain comprises a straightened channel within an agricultural setting which originates from a culvert and enters the HCC stormwater network and is therefore classified as an artificial watercourse (Photos 1-4).

The River Environments Classification does not identify Tramway Road drain and Powell's Road drain as a stream or river section, therefore confirming classification as an artificial farm drain.

Three records have been identified within the New Zealand Freshwater Fish Database for the Tramway Road Drain; all identified no species captured during the fishing efforts. There is no direct linkage to the Komakorau catchment, and it has been previously identified to have a fish passage barrier downstream due to the HCC stormwater reticulation system. During the visual assessment it was identified that the watercourse does not appear to provide suitable habitat or hydrological regimes for mudfish to reside. However, further fishing surveys will be necessary using the mudfish fish protocols, in association with an eDNA sampling suite, to confirm that this habitat is unlikely to be utilised by mudfish.

The National Environmental Standard for Freshwater ('NESF') and the National Policy Statement for Freshwater Management 2020 ('NPS-FM') were released on 5 August 2020 and took effect from 3 September 2020. Both documents make specific provisions related to natural wetlands and streams, as well as other freshwater-related activities.

The NPS-FM requires that:

- (1) Every regional council must include the following policy (or words to the same effect) in its regional plans (s):
  - "The loss of river extent and values is avoided, unless the council is satisfied:
  - (a) That there is a functional need for the activity in that location; and

<sup>&</sup>lt;sup>2</sup> Operative Waikato Regional Plan (2019) Glossary of Terms, Waikato Regional Council (<u>https://www.waikatoregion.govt.nz/assets/WRC/Council/Policy-and-Plans/Rules-and-regulation/WRP/Glossary-of-Terms-Operative-Waikato-Regional-Plan-to-include-NESPF-amendments-as-at-9th-August-2019.pdf)</u>

(b) The effects of the activity are managed by applying the effects management hierarchy."

The NESF provides specific regulations for rivers:

Reclamation of the bed of any river is a discretionary activity (subpart 2 – Reclamation of rivers)

As stated in Table 1, the definition of a river is "a continually or intermittently flowing body of freshwater, and includes a stream and modified watercourse; but does not include any artificial watercourses (including an irrigation canal, water supply race, canal for supply of water for electricity power generation, and farm drainage canal). Therefore, the Tramway Road drain and Powell's Road drain do not classify as a river under the Operative Waikato Regional Plan definition and therefore neither the NPS-FM or NESF regulations associated with rivers apply to this watercourse.

Nonetheless, a full ecological impact assessment is necessary prior to any modification of the watercourse or change in land use that may be impacting the watercourse and receiving environment commence.



Figure 1: Photograph showing vegetation present in upstream section of Tramway Road drain (view below culvert at start of reach)



Figure 2: Photograph showing evidence of artificial straightening of Tramway Road drain.



Figure 3: Culvert along Tramway Road drain, reach drains into HCC stormwater reticulation network downstream.



Figure 4: Photograph showing deeply incised and vertical artificially created channel transect

## Wetlands

A site visit on the 9th March 2022 was conducted to determine whether any areas within the Tramway project footprint met a wetland classification under the recently released National Environmental Standards for Freshwater (NESF) and the National Policy Statement for Freshwater Management (NPSFM).

No inland wetlands have been identified throughout the site visit, concluding that there will be no implications under the NPS-FM in terms of natural inland wetlands.







Projection: NZGD 2000 New Zealand Transverse Mercator

300 Metres

RUAKURA SOUTH NATIVE FISH MANAGEMENT PLAN Ruakura South Existing Waterways

Figure 4

Date: 14 August 2015 | Revision: C Plan Prepared for Tainui Holdings Limited by Boffa Miskell Limited Project Manager: Louise Saunders | Drawn: JWa | Checked: LSa