

TO: Neil Construction Ltd
COPY TO: David Page, Senior Development Manager
FROM: Mark Delaney, Senior Ecologist

Date: 15 March 2021
Job No: 63284

109 BEACHLANDS RD – FAST TRACKING RFI FRESHWATER ECOLOGY RESPONSE

The Ministry for the Environment (MfE) has assessed that the Fast-track Consent application for 109 Beachlands Road, Beachlands, Auckland, requires additional information. An Assessment of Ecological Effects¹ (Report) for the proposed activity was prepared by Bioresearches in September 2020.

This memorandum is in response to the request for further information (RFI) pertaining to freshwater ecology outlined in the RFI letter. MfE's requests that are relevant to ecology are shown in green below and numbers are consistent with the request numbers within the RFI letter.

Freshwater

1. You will be aware that section 18(3)(a) of the FTCA states that a project must not include an activity that is described as a prohibited activity in the Resource Management Act 1991 (RMA), regulations made under the Act (including national environmental standards), or a plan or proposed plan. Of relevance to your application, as you have identified, is whether there are any natural wetlands on the site, and whether the Project includes an activity that would be a prohibited activity under Regulation 53 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020.

The ecological assessment prepared by Bioresearches details six potential wetland areas within the site were assessed using the Clarkson (2013) methodology. The assessment concludes that there are no areas on the site that meet the criteria of a wetland under the RMA. The report also notes that the site has undergone vegetation clearance, including around the freshwater features. Our understanding is that the site may not represent 'normal circumstances' as referred to under the Wetland delineation protocols (Ministry of Environment, 2020), and therefore that the Dominance Test and Prevalence Index alone may not be appropriate to determine whether wetlands exist on the site.

Please provide further supporting evidence/assessment from a suitably qualified and experienced ecologist (which may be Mark Delaney from Bioresearches) that assess the

¹ Bioresearches (2020). 109 Beachlands Road, Beachlands: Assessment of Ecological Effects, September 2020, report prepared for Neil Construction Ltd.

potential wetlands on the site in accordance with the Wetland delineation protocols (Ministry of the Environment, 2020). It is anticipated that this additional assessment will include full species lists for the vegetation and a hydric soil assessment throughout the areas that were identified as potential wetlands.

In regards to the 'vegetation clearance, including around the freshwater features', this vegetation clearance was not clearly defined in the report. The vegetation clearance only occurred along Stream 3, Stream 4 and the lower reach of Stream 1 (Figure 4, Report). Consequently, the vegetation clearance only occurred downstream of the potential wetlands areas and had no direct effects on the wetlands. As such, in regards to the potential wetland areas, the Dominance Test and Prevalence Index were undertaken under 'normal circumstances'. The Wetland Delineation Protocols² state that when the Vegetation Tool³ is used on its own, both the Dominance Test and the Prevalence Index are required to be satisfied for the site to be categorised as a wetland.

Despite this, further assessment were undertaken within potential wetlands on the site in accordance with the Wetland Delineation Protocols, including hydric soil and hydrology assessments. Hydric soils assessments followed the flow chart within the Hydric Soil Tool⁴, note that no specific timing or season is recommended for this assessment. The assessment was undertaken March 9th, 2021 and three soil profiles were assessed from each area. Hydrology assessments were based on the US procedures⁵ and again no specific timing or season is recommended for this assessment.

Appendix I of the Report is considered to represent a full species list of the potential wetland areas. The plot locations were chosen based on the representativeness of the area, no other species were identified within the areas. In particular, no other 'Obligate' or 'Facultative Wetland' plant species were observed and any other species potentially present and not identified would be in such low abundance as to have a negligible effect on the wetland assessment.

² Ministry for the Environment. 2020. Wetland delineation protocols. Wellington: Ministry for the Environment.

³ Clarkson BR 2014. A vegetation tool for wetland delineation in New Zealand. Landcare Research Contract Report LC1793.

⁴ Fraser S, Singleton P, Clarkson B 2018. Hydric soils – field identification guide. Envirolink Tools Contract C09X1702. Manaaki Whenua – Landcare Research Contract Report LC3233 for Tasman District Council.

⁵ Morse T 2016. Wetland delineation and technical criteria. US Army Corps of Engineers, Colorado Regulatory Branch, Colorado.

Morse T 2016. Wetland delineation and technical criteria. US Army Corps of Engineers, Colorado Regulatory Branch, Colorado.

Further Wetland Assessments:

Area A



Photos 1-3: Soil profiles from Area A.

In regards to the soil samples (Photos 1-3), no peaty soils were observed in the top 30cm⁶. No pale low chroma colours⁷ or dark low chroma colours⁸ that occupy 50% of the matrix exposed were observed. No mottles of any colour or reddish root channels were observed. As such, there was no evidence of hydric soils in Area A.

In regards to hydrology, no water seepage was observed within the soil sample holes⁹, indicating a low water table during a normal wet season and non-wetland hydrology. Additional indicators of wetland hydrology (surface water, drift lines, sediment deposition and watermarks) were not observed during the site assessment.

Following the flowchart presented in Figure 1 of the Wetland Delineation Protocols (Appendix 1), Area A: Fails the Rapid Test → PO\asses the Dominance Test → Most dominants are FAC¹⁰ → No indicators of hydric soil or wetland hydrology present → Non-wetland vegetation.

As such, Area A was assessed as not a natural wetland.

⁶ Note soils were dry and crumbly so a photo of the full 30cm profile was difficult to obtain.

⁷ Value 4 or more and 2 and less, or chroma 3 with value of 6 or more.

⁸ Value 3 or less and chroma 2 or less.

⁹ Soil sample holes dug to greater than 30cm deep.

¹⁰ FACU and UPL also included if applicable.

Area B



Photos 4-6: Soil profiles from Area B.

In regards to the soil samples (Photos 4-6), no peaty soils were observed in the top 30cm. No pale low chroma colours or dark low chroma colours that occupy 50% of the matrix exposed were observed. No mottles of any colour or reddish root channels were observed. As such, there was no evidence of hydric soils in Area B.

In regards to hydrology, no water seepage was observed within the soil sample holes (which were greater than 30cm deep), indicating a low water table during a normal wet season and non-wetland hydrology. Additional indicators of wetland hydrology (surface water, drift lines, sediment deposition and watermarks) were not observed during the site assessment.

Following the flowchart presented in Figure 1 of the Wetland Delineation Protocols (Appendix 1), Area B: Fails the Rapid Test → Passes the Dominance Test → Most dominants are FAC → No indicators of hydric soil or wetland hydrology present → Non-wetland vegetation.

As such, Area B was assessed as not a natural wetland.

Area C



Photos 7-9: Soil profiles from Area C.

In regards to the soil samples (Photos 7-9), no peaty soils were observed in the top 30cm. No pale low chroma colours or dark low chroma colours that occupy 50% of the matrix exposed were observed. No mottles of any colour or reddish root channels were observed. As such, there was no evidence of hydric soils in Area C.

In regards to hydrology, no water seepage was observed within the soil sample holes (which were greater than 30cm deep), indicating a low water table during a normal wet season and non-wetland hydrology. Additional indicators of wetland hydrology (surface water, drift lines, sediment deposition and watermarks) were not observed during the site assessment.

Following the flowchart presented in Figure 1 of the Wetland Delineation Protocols (Appendix 1), Area C: Fails the Rapid Test → Fails the Dominance Test → No indicators of hydric soil or wetland hydrology present → Non-wetland vegetation.

As such, Area C was assessed as not a natural wetland.

Area D



Photos 10-12: Soil profiles from Area D.

In regards to the soil samples (Photos 10-12), no peaty soils were observed in the top 30cm. No pale low chroma colours or dark low chroma colours that occupy 50% of the matrix exposed were observed. No mottles of any colour or reddish root channels were observed. As such, there was no evidence of hydric soils in Area D.

In regards to hydrology, no water seepage was observed within the soil sample holes (which were greater than 30cm deep), indicating a low water table during a normal wet season and non-wetland hydrology. Additional indicators of wetland hydrology (surface water, drift lines, sediment deposition and watermarks) were not observed during the site assessment.

Following the flowchart presented in Figure 1 of the Wetland Delineation Protocols (Appendix 1), Area D: Fails the Rapid Test → Fails the Dominance Test → No indicators of hydric soil or wetland hydrology present → Non-wetland vegetation.

As such, Area D was assessed as not a natural wetland.

Area E



Photos 13-15: Soil profiles from Area E.

In regards to the soil samples (Photos 13-15), no peaty soils were observed in the top 30cm. No dark low chroma colours that occupy 50% of the matrix exposed were observed. No mottles of any colour or reddish root channels were observed. However, pale low chroma colours were evident in one of the soil samples (Photo 13), showing evidence of gley soils which indicates the presence of hydric soils in Area E. Although, it should be noted that the potential presence of hydric soils was constrained to a narrow band within the centre of Area E, as indicated by the gley soils being only evident in one of the three soil samples.

In regards to hydrology, water seepage was observed within the soil sample holes, indicating a higher water table during a normal wet season. All soils samples appeared saturated, which is an indicator for wetland hydrology or for ephemeral/intermittent stream reaches. Additional indicators of wetland hydrology (surface water, drift lines, sediment deposition and watermarks) were not observed during the site assessment.

It should be noted that the reach in which Area E is located has been highly modified and the upper reach has previously been reclaimed, which in turn has affected the hydrology of the Area E (Figure 2 of the Report, 1962 aerial). Based on the historical aerials, Area E, and its upper reaches, appeared to be an old intermittent stream channel, which may explain the present hydrology observed. Additionally, indicators of hydric soils can persist within the ground for decades and the gley soils present may have formed as a result of the historic stream/current stream system. Hydric soils can also be present within intermittent or ephemeral reaches where macrophytes and/or plants adapted to wet soils area able to grow. A historic stream/current stream system is consistent with the fact that potential presence of hydric soils was constrained to a narrow band (stream channel) within the centre of Area E.

Following the flowchart presented in Figure 1 of the Wetland Delineation Protocols (Appendix 1), Area D: Fails the Rapid Test → Passes the Dominance Test → Most dominants are FAC → Indicators of

hydric soil or wetland hydrology present → Fails the Prevalence Index. The flowchart then does not conclude that wetland vegetation is present or does not conclude that the area is a wetland.

After consideration of the assessments, the relevant information available and the fact that the area has been highly modified/alterd over the years, Area E was assessed as not a natural wetland due to the following:

- Did not meet the Prevalence Test.
- Did contain any native plant species.
- Was dominated by creeping buttercup, an exotic 'Facultative' species commonly found outside of wetlands.
- Only contained one 'Facultative Wetland' species (the exotic soft rush), which is also commonly found in non-wetland areas.
- No other 'Facultative Wetland' or any 'Obligate Wetland' species were identified.
- A 'Facultative Upland' species was present.
- No surface aquatic habitat was present (even in the wet season) and no fish, birds or aquatic macrofauna adapted to wet conditions were present.
- Represent pugged floodplains and/or stream margins rather than wetlands.
- Is currently utilised as pasture for stock.
- More consistent with a degraded intermittent/ephemeral stream channel, which would show evidence of hydric soils and associated wet hydrology.

Area F



Photos 16-18: Soil profiles from Area F.

In regards to the soil samples (Photos 16-18), no peaty soils were observed in the top 30cm. No pale low chroma colours or dark low chroma colours that occupy 50% of the matrix exposed were observed. No mottles of any colour or reddish root channels were observed. As such, there was no evidence of hydric soils in Area D.

In regards to hydrology, no water seepage was observed within the soil sample holes (which were greater than 30cm deep), indicating a low water table during a normal wet season and non-wetland hydrology. Additional indicators of wetland hydrology (surface water, drift lines, sediment deposition and watermarks) were not observed during the site assessment.

Following the flowchart presented in Figure 1 of the Wetland Delineation Protocols (Appendix 1), Area F: Fails the Rapid Test → Fails the Dominance Test → No indicators of hydric soil or wetland hydrology present → Non-wetland vegetation.

As such, Area F was assessed as not a natural wetland.

2. The application contains limited assessment of the Project against the National Policy Statement for Freshwater Management 2020 (NPSFWM), with the exception of comment on clause 3.24. The Minister may decline an application for referral under the FTCA if the Project is inconsistent with the relevant national policy statement (Section 23(5)(c)). Please provide further assessment of the Project against the objectives and policies of the NPSFWM.

The applicant's planner will provide further commentary to this request.

I hope the above information answers all the queries raised by the s92 letter. Feel free to contact us for any further requests or enquiries.

Regards,



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s 9(2)(a)

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Appendix I: Figure 1 (Flowchart) of the Wetland Delineation Protocols

Figure 1: Flow chart of steps for hydrophytic (wetland) vegetation determination. Wetland indicator status abbreviations: FAC= facultative; FACW = facultative wetland; OBL = obligate wetland.

