

30 March 2021

David Page
Neil Construction Ltd.
Auckland

Boffa Miskell

Dear David

109 Beachlands Road wetland survey review

Introduction

Neil Construction Limited (in conjunction with Fletcher Residential) propose a development of 259 houses at 109 Beachlands Road. We understand that the proposal is seeking to utilise the Fast Track Consenting legislation, and the application is nearing the point where the Minister will make a decision whether to refer it to an expert consenting panel. In making that decision, the Minister must be confident that the proposal meets the eligibility criteria, such that there is nothing that could prevent the project from proceeding.

An Assessment of Ecological Effects has been undertaken by Bioresearches¹, as well as a follow up additional ecological assessment². Boffa Miskell Ltd. (BML) have been commissioned to provide a peer review of the wetland assessment component of the report. Our review considers the methods applied to the wetland assessment, the results and findings obtained, and the statutory assessment of the wetlands.

Background

The Site is zoned Residential - Single House Zone under the Auckland Unitary Plan Operative in Part (AUP(OP)) and is characteristic of peri-urban pastoral land. The site is within the Hunua Ecological District of the Auckland Ecological Region. The vegetation on the site has not been identified as a Significant Ecological Area (SEA) in the AUP(OP).

Bioresearches (2020) report that the approximately 16.3 ha site currently consists predominately of pasture grasses. Multiple tributaries are predicted to flow through the Site. That report describes the existing terrestrial and freshwater ecological values of the Site, assesses the potential effects of the proposed development on those values, and provides recommendations to avoid, minimise and mitigate for any adverse effects where appropriate.

RMA and NPSFM wetland definitions

The Bioresearches ecological assessment was carried out prior to NPSFM coming into force (3 September 2020), and considered the features under RMA wetland definition. Here we

¹ 109 Beachlands Road, Beachlands: Assessment of Ecological Effects. September 2020.

² 109 BEACHLANDS RD – FAST TRACKING RFI FRESHWATER ECOLOGY RESPONSE. Bioresearches memo dated 15 March 2021.

consider the definitions of wetland provided by the Resource Management Act (RMA) and the National Policy Statement for Freshwater Management (NPSFM).

The RMA definition states:

- **Wetland** includes permanently or intermittently wet areas, shallow water, and land margins that support a natural ecosystem of plants and animals that are adapted to wet condition.

The NPSFM definition³ states:

- **natural wetland** means a wetland (as defined in the Act) that is not:
 - (a) a wetland constructed by artificial means (unless it was constructed to offset impacts on, or restore, an existing or former natural wetland); or
 - (b) a geothermal wetland; or
 - (c) any area of improved pasture that, at the commencement date, is dominated by (that is more than 50% of) exotic pasture species and is subject to temporary rain- derived water pooling.
- **Improved pasture** means an area of land where exotic pasture species have been deliberately sown or maintained for the purpose of pasture production, and species composition and growth has been modified and is being managed for livestock grazing

In clarifying these definitions, we note that the RMA wetland definition is relevant, that natural wetlands are not restricted to indigenous ecosystems or biota, and no reference is made to the significance, quality or condition of the wetland feature.

NPSFM natural inland wetlands

The NPSFM requires that:

- (1) Every regional council must include the following policy (or words to the same effect) in its regional plan(s):

"The loss of extent of natural inland wetlands is avoided, their values are protected, and their restoration is promoted" (with exceptions).

NESF regulations on natural wetlands

The NESF provides some specific regulations for natural wetland activities, notably:

- Earthworks within a natural wetland, and the taking, use, damming, diversion or discharge of water outside, a natural wetland, that results in complete or partial drainage of all or part of the wetland, is prohibited (Reg. 53).
- Earthworks outside, but within 100 m setback from a natural wetland, and the taking, use, damming, diversion or discharge of water outside, but within a 100 m setback from a natural wetland, that results in complete or partial drainage of all or part of the wetland, is a non-complying activity (Reg. 52).
- vegetation clearance within, or within a 10 m setback from, a natural wetland, earthworks within, or within a 10 m setback from, a natural wetland, and the taking, use, damming, diversion, or discharge of water within, or within a 100 m setback from, a natural wetland is a non-complying activity.

The distinction between these two definitions (i.e., RMA and NPSFM definitions) is important, as the NPSFM definition provides for exclusions from a feature being a natural wetland. The important definition to consider is whether any feature meets the NPSFM definition of a natural inland wetland, as any loss of extent, or drainage of natural wetlands is prohibited.

³ NPSFM, s3.21(1)

Methods applied in the ecology assessment

In their assessment, Bioresearches applied the wetland delineation method of Clarkson (2013)⁴ to six potential wetland features identified on the site. The Dominance Test and Prevalence Index were used to determine if the area was a natural wetland as per the NPSFM definition (area of improved pasture). The Prevalence Index weights the abundance of each plant species on a scale of 1 (obligate wetland species) to 5 (obligate upland species¹). The Prevalence Index threshold is met if ≤ 3.0 (i.e. the vegetation is considered hydrophytic). We note that the delineation method also states that a prevalence index between 2.5 and 3.5 indicates a range where the wetland status is uncertain.

The delineation method as used is the appropriate method to be applied to defining a wetland feature.

Findings

The findings of the Bioresearches dominance and prevalence tests are repeated in Table 1 below. We agree with the findings of the ecological assessment that for the features C, D and F. The Dominance Test and the Prevalence Index confirm that Areas C, D and F were not considered natural inland wetlands under the RMA.

Table 1. Results for the Dominance Tests & Prevalence Indices (taken from Bioresearches 2020).

Plot	Dominance Test %	Hydrophytic Vegetation? *	Prevalence Index	Hydrophytic Vegetation? †	Likely Wetland?
A	100	Yes	3.09	No	No
B	66.7	Yes	3.18	No	No
C	0	No	3.88	No	No
D	50	No	3.62	No	No
E	100	Yes	3.24	No	No
F	50	No	3.18	No	No

For the potential wetland features A, B and E, we note that the ecology assessment found that these features did not meet the Prevalence Test, and contained hydrophytic vegetation (dominated by creeping buttercup and contained silt rush, a plant commonly occurring in drier upslope non-wetland areas. We note the Prevalence Index score for these three areas sit within the 'uncertain' band. Accordingly, it was identified by the Ministry of the Environment that additional assessments of natural wetland status of these three features was required.

Additional wetland assessment

Additional wetland assessments were carried out by Bioresearches in March 2021. These assessments carried out observations for 'hydric soils'. This is a method that is recommended in the NPSFM⁵.

⁴ Clarkson BR 2013. A vegetation tool for wetland delineation in New Zealand. Landcare Research Contract Report LC1793.

⁵ 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.

Bioresearches document their findings on hydric soils along with photographs of the soil profiles in Bioresearches 2021⁶.

Findings

The additional ecological assessment of hydric soils follows the methods established in the Fraser et al. (2018) document. The additional assessments provide extensive description of the soil types and the observed hydrology of each potential wetland feature.

We note that, with the exception of Area E, all the remaining features were considered to meet the exclusion from being a natural wetland and hydric soils were not evident at these locations. These findings provide compelling evidence that potential wetland features A to D, and F, do not meet the definition of a natural wetland.

The potential wetland feature E was given more scrutiny by Bioresearches in their additional ecological assessment. This arose due to their observation of evidence of a narrow band of gley soils indicating the presence of hydric soils in Area E. In their additional ecological assessment, Bioresearches go on to list a number of attributes that confirm the area as meeting the exclusion from a natural wetland.

In our view, amongst the more compelling attributes noted, is the degree of modification to the location. Bioresearches emphasise the historical changes to the upper catchments that have resulted in the existing feature present at Area E. Bioresearches noted that:

'Area E appeared to be an old intermittent stream channel, which may explain the present hydrology observed. Additionally, indicators of hydric soils can persist with in 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.'

We agree with this assessment, and acknowledge that the historical nature of the feature is likely to have driven the conditions present today.

Accordingly, we agree that Area E does not meet the definition of a natural wetland.

Conclusions

In conclusion, we find that Bioresearches have followed established best practice methods in assessing the potential wetland features within 109 Beachlands Road, and that the findings from their ecological assessment confirm that the features of the site (Areas A to F) do not meet the definition of natural inland wetlands.

⁶109 BEACHLANDS RD – FAST TRACKING RFI FRESHWATER ECOLOGY RESPONSE. Bioresearches memo dated 15 March 2021.

Yours sincerely

BOFFA MISKELL LTD

A handwritten signature in dark ink, appearing to read 'I. Boothroyd', is positioned above the printed name.

Dr Ian Boothroyd FEIANZ, FRSB, CEnvP
Senior Ecologist

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