

Subject: Waikanae North Development (FTA106). Wetland and Stream Condition Recommendations

Attention: Joshua Knowles and Katherine Greenaway – Greater Wellington Regional Council (GWRC)

From: Melanie Dixon, Principal Ecologist & James Blyth, Director and Water Scientist, & Dr Gareth Taylor, Director and Aquatic Ecologist

Date: 08 June 2027

1 Introduction

This memo is intended to provide an indication of areas that should be considered for conditions by GWRC. Our advice is high level only with the intention that GWRC would utilise this memo to expand on conditions proposed by the applicant.

2 Hydrology (James Blyth)

Environmental outcomes, ownership and maintenance and list of plans

- Condition set should clearly state the environmental outcomes sought for streams and wetlands as part of the development
- Ownership and maintenance of the wetlands and streams needs to be clearly defined so KCDC or GWRC know in the future who will be responsible to maintain these sites (for example, if sedimentation in Ngarara Stream becomes an issue).
- Conditions should list the monitoring reports or plans that need to be developed and certified by the regional council as part of the consent. This should include details of the steps of certification.
- Go into detail about each of these monitoring reports/plans later in condition set.

Groundwater Level Monitoring Report (GMR) (as described set out in Conditions 60–63):

- Environment Court decision NZEnvC 284 for AAWUG groundwater take in Northland sets out sound conditions for groundwater monitoring, baseline monitoring, objectives of monitoring and trigger levels. While this is for groundwater take effects on wetlands/streams, the same principles apply.
- In addition, Plimmerton Farms conditions sets out some monitoring requirements which could also be used to flesh out the conditions.
- As a minimum, the GMR should have sub conditions that require the consent holder too:

- Identify all locations (mapped and tabulated) of monitoring locations and equipment and install new bores where appropriate. Ensure all bores are suitable depth so they do not run dry.
- Establish monitoring equipment to measure water levels in wetlands that will be maintained and restored/offset. Allow through the certification process a discussion on monitoring frequency at each site, including continuous or manual (monthly) monitoring.
- Undertake baseline monitoring and maintain this through development and restoration.
- Develop an annual monitoring report that details trends, statistics and climatic variations over the year and wetland hydrological functioning.
- Establish trigger levels for Water Levels. Suggest:
 - Alert (warning only, monitor trend) set at the 10th percentile of the low water levels from baseline data.
 - Alarm, set at the 5th percentile of the low water levels from baseline data. Exceedance would warrant a monitoring report to justify the low levels to ensure its not a function of development works (dewatering, change of fill etc) and may instead be climate driven. Report needs to specify an action (i.e. stop works if proven to be a development effect) and be delivered within 30 days of the Alert being triggered to GWRC.

Ngarara Stream Monitoring

- Could be integrated into the GMR (perhaps this could be rephrased as eco-hydrological monitoring report?)
- Require water level monitoring of Ngarara Stream upstream of the proposed structure to understand:
 - Baseline conditions prior to restoration (i.e. response of Ngarara Stream to rainfall events prior to structure installation).
 - Water level frequencies and durations reported, and relationship to rainfall return periods or depth (i.e. 50 mm of rain = 0.6 m WL increase)
 - Monitoring sites to NEMS standards, maintained during and post development to understand the change in hydrology.
 - Analysis of baseline water level data to integrate into the design level of the stream bed to ensure wetlands and frequently flooded riparian margins will be suitably 'wet', including how often they will be inundated from the stream and potential effects this may have on shallow groundwater.
 - Certification process/review process by GWRC to ensure their detailed designs will achieve desired environmental outcomes for water levels for wetland/stream margins.
 - Consideration of how this hydrology monitoring could be implemented into the wetland ERMP may be necessary to ensure the restoration outcomes are being met (i.e. wetland health will be driven by hydrology).

- Sedimentation in Ngarara Stream should be monitored to understand the risk of sediment removal requirements in the long term. This may involve the establishment of staff gauges at different locations along the *restored stream length* that should be surveyed to a datum.
- An annual report should be prepared detailing the change in bed levels and if any maintenance would be anticipated, and causes for the changes (i.e. aggradation driven by high rainfall and erosion upstream).
- This monitoring should be undertaken for a number of years post the establishment of the culvert, prior to any vesting of responsibility to other parties (i.e. KCDC).

3 Wetland Ecology (Melanie Dixon)

Groundwater Level Monitoring Report (GMR) (as described set out in Conditions 60–63) sequencing.

- As discussed and agreed at the at the meeting on Friday 5th June, this should be prepared before the stormwater management plan and the ecological management plan are updated, to ensure they align.
- A list of the expected contents of the report
- Consideration of sediment in the stream and wetlands
- Purpose/objectives of the report.

Long term maintenance of wetlands: As discussed at our meeting last week the applicant is currently in discussions with KCDC and mana whenua regarding the management structure. If this is not resolved prior to this matter being before the panel then I recommend updating Condition 69 to confirm minimum management requirements e.g. ongoing pest and weed and pest control, hydrological maintenance such as removal of any sediment build-up).

Clarification of wetland conditions: Wetlands are covered in ‘wetland’ conditions 19-30 and ‘drainage and reclamation of wetlands and associated offsetting and enhancement works’ conditions 49-69.

- Perhaps these could be consolidated? Or at least a cross-reference provided between the two sections
- Regardless ERMP applies to both offset wetlands and existing wetlands to be retained. This should be made clear in conditions 19-30 which currently could be interpreted as applying to only the existing wetlands to be protected, and not the offset wetlands.

4 Stream Ecology & Fish Passage/Salvage (Dr Gareth Taylor)

Water Control Structure:

Concern:

Post storm or in low flow may result in passage being excluded due to bed changes or scour.

Conditional Matter:

Culvert and associated aprons and erosion structures shall be maintained to provide fish passage at all times and condition 133 to 134 generally cover concerns.

One additional point that would be worthwhile in early days is ensuring that the culvert is inspected following large flood flow events (i.e. overtopping weir or high water in culvert) for changes to culvert bed that may restrict passage. The focus would be to ensure the bed is not scoured out or changes in a way that prevents passage.

Ecological Value outcomes for Streams

Concern: SEV and assessment does not achieve outcomes intended by applicant. The applicant's ecologist is to provide an estimated SEV outcome from the design to confirm assessment matters, this should be used as a performance target for the Ecological Restoration Management Plan.

Condition:

To seek that the designs and remediation plan has a clear target for streamworks to align with the application assessment.

Design condition 106 could be adjusted to reference the SEV outcomes.

ERMP condition 107 could be adjusted to also reference the SEV outcomes.

Remediation plan should include monitoring and maintenance for a period to align with the assessment to confirm the SEV outcomes intended have been achieved. This should be a conditional matter to be certified with that plan.

Minor changes to conditions:

Condition 118 as proposed is unworkable. It is not possible to maintain passage at all times when installing diversions. Prior to install, passage is blocked temporarily to allow salvage to allow for this. I suggest adding some wording to allow for very short-term blockage (e.g. no more than one day at a time) by the Consent Holder.

Condition 119 is not consistent with the Ecological Report which indicates all culverts will be designed in accordance with the NES-FM which gives greater certainty of outcome for fish passage and effects; therefore, it would be important the condition should also reference this as a requirement.