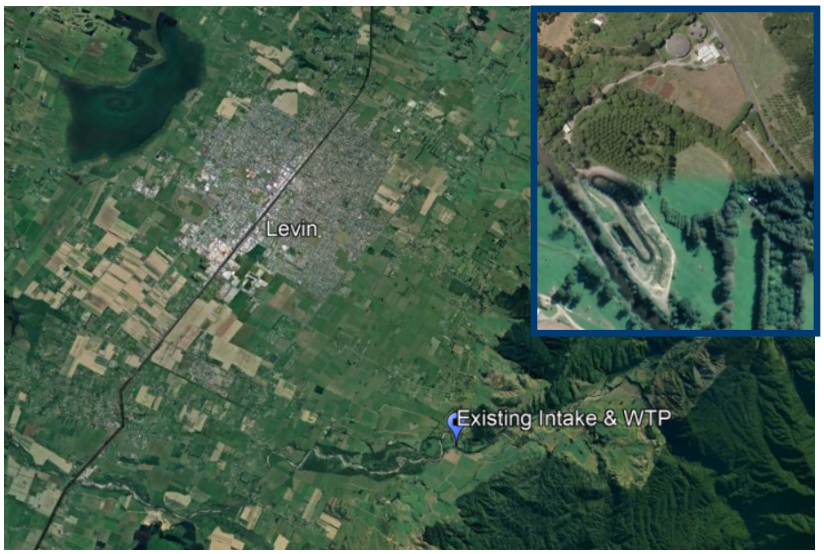
Levin Water Supply – Resource Consent Application Summary; March 2025

Horowhenua District Council is seeking resource consents for the Levin water supply scheme. In recent years, significant investment has been made into reducing leakage and improving the efficiency of the supply network. While significant gains have been made, and will continue to be made, Levin is also growing at a fast rate and our current water allocation is not enough to provide for the long-term.

We know that we cannot just take more water from the River – we need to do things differently to make sure we have an efficient, resilient water supply that meets our community's current and future needs. At the moment, we don't have any alternative water source so when the river is low, we need to take water to supply the community and this has an adverse effect on the river.



To avoid effects on the river at low flow and to provide for growth needs, HDC is proposing to construct a large off-river reservoir. This will mean we can take water from the River when it is in high flow (above median), and store the water so that is available for use when the river is low.

HDC is seeking the necessary resource consents to enable it to construct and operate the water storage reservoir and the Levin water supply.

The reservoir will enable us to stop taking water from the River when it is in low flow conditions in all but the more extreme drought events.

Associated with the proposal and included in the application is stream and wetland enhancement, planting and restoration of approximately 5 ha of river terrace.

Project Objectives:

- Reduce effects on the River
  - Avoid abstraction at minimum flow
  - Reduced reliance on the existing intake and minimise the impacts on the river bed when we need to undertake maintenance

Reduce effects

- Improve resilience of supply to the community. The reservoir will improve our resilience to:
  - Drought & high flows
  - Earthquakes or other supply interruptions
  - Climate change

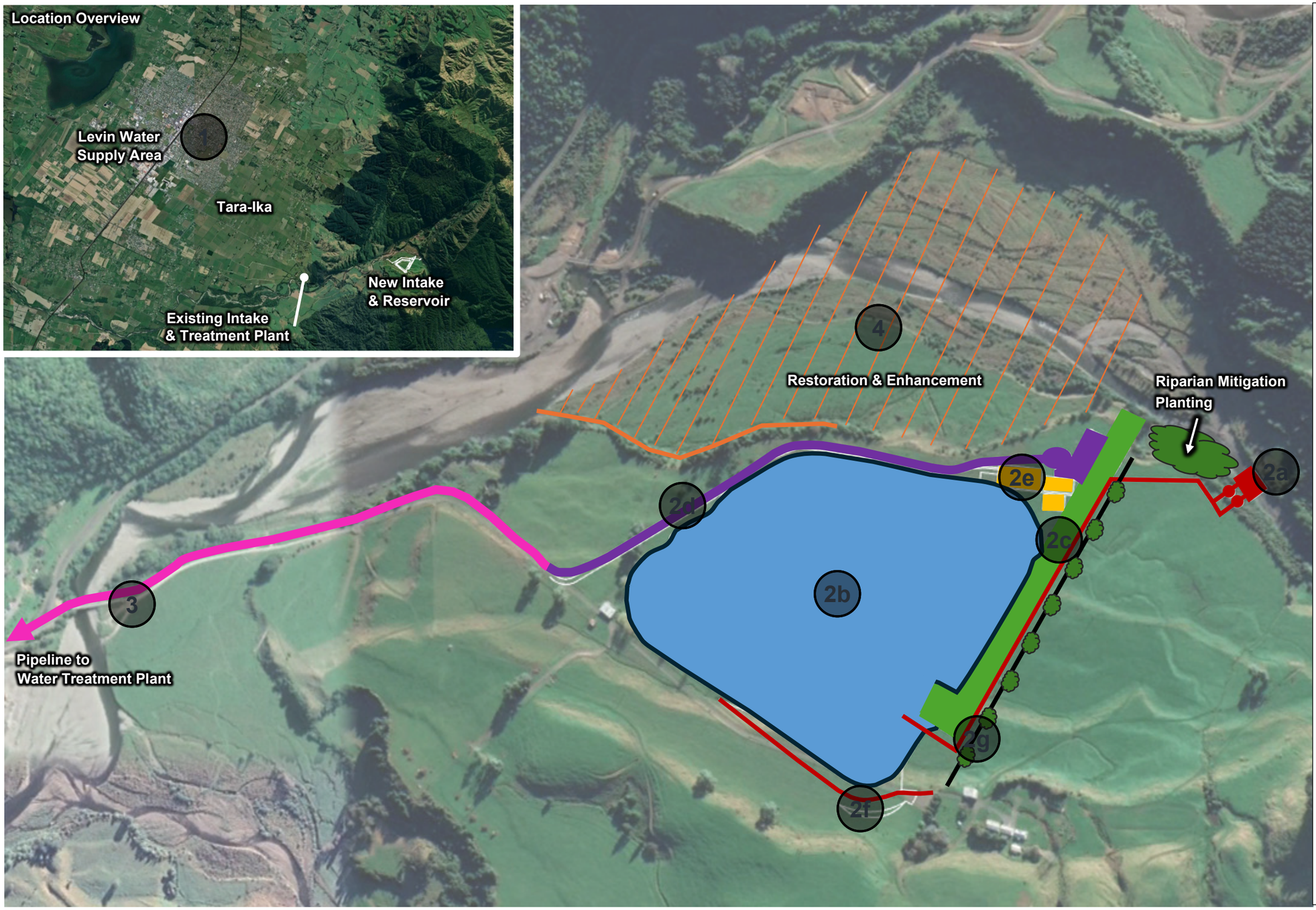
Improve resilience

- Provide for community growth
  - We are not seeking to take any more from the river under normal flows (core allocation.)
  - The reservoir will allow us to take additional water (supplementary allocation) when the river is above median flow and store that for later use.

Provide for growth

Horowhenua DISTRICT COUNCIL

Levin Taitoko Water Supply
Water Harvesting & Resilience (Poads Road Reservoir) Project Summary



Project Objectives

- Reduce effects on awa – avoid abstraction at minimum flow.
- Increase resilience of supply (drought, earthquakes, supply interruptions, climate change).
- Provide for community growth.

Elements of Project

1. Network Efficiency and Demand Management Improvements
   - Active leakage monitoring
   - Leak detection and repair
   - Pressure management
   - Asset renewal
   - Universal water metering
   - Update and implement Water Demand Management Plan
2. Reservoir and Associated Infrastructure
   a. Sub-surface intake and pump to reservoir + riparian mitigation plantings
   b. Reservoir: 740,000m^3
   c. Overflow spillway (grassed)
   d. Access road and carpark
   e. Pump and control buildings; emergency power generator
   f. Realign end of Poads Road and Te Araroa walkway
   g. Boundary plantings and fencing
3. Pipeline from Reservoir to Water Treatment Plant
   - Supply pipeline along Poads Road and Gladstone Road with new single span pipe bridge over Ohau Awa
4. Restoration and Enhancement Area
   - Mauri and habitat enhancement of stream and lower terrace; wetland restoration.

Indicative Schematic
Not to Scale

The Application in More Detail:

Horowhenua District Council (the Council) provides a public water supply to the community of Levin. The current consent (ATH-1991006011.03) authorises the abstraction of up to 15,000 m^3/day of water from the Ohau River to meet the public water supply needs of Levin.

At the time that the existing consent was granted (2017), it was anticipated that this allocation would be sufficient to meet the projected demand through until the expiry of consent in 2042. However, Levin has been growing at a significantly faster pace than projected and it is now clear that the existing allocation is not sufficient to meet the community's needs through to 2042. When granted in 2017, it was anticipated that there would be a total of 2% growth over 50 years. However, the growth that has occurred since grant of consent has been approximately 2% each year.

The Council has undertaken significant investment in network management and pressure controls to ensure it can actively monitor and manage network efficiency and to enable network leakage to be brought within best practice benchmark standards. It has also recently initiated universal water metering, and is in the process of installing water meters with leak detection capability on all properties. These improvements have resulted in the average water demand being generally consistent with what is calculated as reasonable and justifiable for a public water supply under Policy LF-FW-P15 of the Horizons Regional Council's One Plan. Despite these significant improvements and due to the pace and scale of growth in Levin, additional allocation is required to meet the community's projected growth needs.

In addition to ensuring that adequate quantity of supply is available to meet the human health and drinking water needs of the Levin community, the Council is seeking to improve the way in which it takes water from the Ohau River. The National Policy Statement for Freshwater Management introduced the fundamental concept of Te Mana o Te Wai into freshwater management in Aotearoa New Zealand and the NPSFM requires that freshwater is managed in a way that gives effect to Te Mana o Te Wai. To do this, the Council seeks to reduce its reliance on the abstraction of water from the Ohau River at times of minimum flow as far as possible. This will reduce potential adverse effects on the River and ensure the health and well-being of the water body is protected and provided for. Additionally, Council proposes a low flow abstraction management regime within which iwi / hapū have a direct role.

At the moment, there is only 14 hours of storage in the system. Council also seeks to increase the resilience of the Levin drinking water supply to the effects of climate change and variability, including in particular highly variable and extreme weather conditions, and improve resilience to natural hazards including earthquakes, by providing alternative/additional supply within the system that is not reliant on the river take. The provision of storage provides an alternative water source during high flow / high turbidity periods in the River. High flow periods in the River can result in very high turbidity such that water cannot be treated to drinking water standards in sufficient quantities to maintain uninterrupted supply. Such events are infrequent, but can be expected to increase with climate change, and have significant consequences in terms of public health and community wellbeing. An example occurred in June 2021 when high turbidity in the raw water resulted in the treatment plant not being able to produce drinking water fast enough to meet community demand and supply to the community was interrupted. Further, the River is located on a fault line, and there is potential for the supply to be interrupted in the event of a significant earthquake. Recent post-earthquake experience in New Zealand has demonstrated a need to have an alternative drinking water supply to meet post-earthquake needs.

Therefore, to ensure that the Levin Water supply take and operational regime gives effect to Te Mana o te Wai and is able to meet projected growth needs and to achieve a resilient supply (ie in the order of 30 days' storage), the Council proposes to construct a large off-river water supply reservoir on Council owned land located off Poads Road, approximately 3 km upstream of the existing intake.

In summary, the key reasons for the application are:

- To reduce the need to take from the river when it is below minimum flow thereby reducing the effects of the take on the River;
- To provide long term supply to Levin to meet growth projections which are significantly greater than when the existing Levin water supply consent was granted;
- To provide resilience within the Levin drinking water supply network by introducing large scale water storage and reducing risk associated with drought/low flow, high flow and highly turbid source water and emergency supply;
- To reduce the need to abstract large volumes of water from the existing intake structure, given sedimentation issues and the need to periodically scarify the river bed;
- To enable the construction, maintenance and operation of a new intake on the Ohau River and large off-river reservoir to be able to harvest and store water for later supply to the community;
- To provide flexibility and optionality within the water take permit structure to ensure security of supply and efficient use of resources and existing infrastructure by:
  - Providing flexibility between the two intake sites (being the existing intake site and a new reservoir intake site).
  - Ability to take the full consented volume from the new reservoir intake in emergency situations.
  - Providing for a short term abstraction of water for construction of the NZTA Ōtaki to North Levin project in order to enable efficient allocation of water for a project of national significance, which will have wide ranging benefits for the district.

This Application seeks to secure all regional resource consents for the activities required to provide the proposed augmentation to the Levin Water Supply.

In summary, this Application seeks consent for the following activities:

- A new water permit to enable water storage to be provided within the Levin Water Supply System (via use of the new reservoir). The new water permit will replace the existing core allocation water take permits. HDC is not seeking any additional core allocation from the River, but is seeking a supplementary allocation which will enable it to abstract water into storage when the river is above median flow.
- Construction, operation and maintenance of a new intake structure and associated riparian works in the river bed, next to the reservoir. This will improve optionality within the Levin Water Supply System and address and improve operational issues being experienced at the existing water treatment plant intake as well as to reduce adverse effects to the river bed associated with maintenance of the existing intake.
- Large scale earthworks to enable the construction of the off-river reservoir, including consent to undertake earthworks within, and within 100 m of, a natural inland wetland (marginal classification)

located within the reservoir footprint. The reservoir is off-river and does not impact on river flows or habitat.

- Construction and use of a new pipeline bridge to enable connection of the new reservoir to the existing water treatment plant.
- Intermittent discharge of overflow from the reservoir – this is only in extreme circumstances eg, where the reservoir is full and there is a lot of rainfall on the reservoir itself, or in the event of a pump system failure.
- Diversion and discharge of groundwater from under the reservoir.
- Any consents necessary to undertake wetland and stream enhancement, weed and plant-pest removal, and restoration on the lower terrace and floodplain area of the reservoir site in order to implement the Cultural Offset Management Plan (COMP) as appropriate mitigation measures for the effect of the water take and associated activities on the mauri of the awa.

Conditions of Consent

HDC has proposed several conditions that will ensure that the water take and the reservoir construction and operations, are managed appropriately and there is adequate oversight and transparency on how HDC operate the Levin water supply. The conditions proposed are summarised in the following diagram.

Strategy

Management Strategy: Sets overarching objectives for the Levin Water Supply Scheme with a focus on reducing losses, managing demand and ensuring growth does not increase effects on awa, in consultation with iwi/hapū. **Review and update every six years (aligned with LTP).**

Offsetting

Cultural Offsetting: Final COMP to be confirmed within first two years. Implement as per COMP to ensure no net loss, or preferably net gain, of mauri, habitat and wetland values. Implemented by qualified persons approved by iwi/hapū. **Monitoring in years 3 and 5; Review in year 8.**

Water Take

When River is Above Minimum Flow: Daily take of up to 15,409 m^3/day which can be taken as needed across three intakes:

- Existing WTP Intake: up to 15,409 m^3/day.
- Reservoir Intake: up to 7,500 m^3/day (Can be increased to 15,409 m^3/day in emergency if existing WTP intake site is inoperable).
- NZTA (SH1) intake: up to 2,400 m^3/day during Ō2NL construction period only.

Additional non-consumptive take of 750 m^3/day at existing WTP intake site as per existing consent.

Additional Supplementary Take when river is above median flow:

- Up to 10% of the river flow at the Reservoir site.

When River is Below Minimum Flow:

- Prior to Reservoir : up to 13,000 m^3/day at Existing Intake site as per existing consent. Water restrictions must be implemented.
- After Reservoir is Operational: up to 13,000 m^3/day only in exceptional circumstances (defined in conditions). Water restrictions must be implemented. Engagement with iwi/hapū and after event review required.

Flow metering and telemetry on all intake sites as per standard conditions and RMA regulations.

Operational Management & Reporting

Demand Management Plan: As per existing Management Plan until reservoir is operational. Major review and update within six months of commissioning reservoir, to align with Management Strategy objectives and provide new restriction framework that considers reservoir levels as well as river flows. Undertaken in consultation with iwi/hapū. **Review every six years thereafter.**

Water Supply & Reservoir Operational Plan to set out how the reservoir and overall water supply system will be operated and managed. Draft required prior to reservoir commissioning. Finalised after 12 months of operational experience. **Review and update every six years.** Prepared and reviewed in consultation with iwi/hapū.

Annual Reporting: Annual compliance report to be submitted to Regional Council. Network efficiency reporting to be the same as Taumata Arowai reporting to avoid duplication. Reporting for water year 1 July to 30 June, to be submitted by 30 September.