Waipawa stopbank upgrade project

Frequently Asked Questions (FAQs)

November 2025

Cyclone Gabrielle made it plain: our flood defences, in places, were no longer enough. The Waipawa stopbank upgrade – one of several upgrade projects across Hawke's Bay – is part of a broader effort to reduce flood risk.

Here's what you need to know about this project: what's planned, what gravel extraction work we have underway, and how this local work connects to something much larger.

About the project

What is the purpose of this project?

Funded by Central Government (75%) and Hawke's Bay Regional Council (HBRC – 25%) under the North Island Weather Event (NIWE) flood mitigation programme, this project will upgrade the Waipawa stopbank to the to the 1-in-100-year protection standard (1% AEP) used across Hawke's Bay. The design draws on updated post-Gabrielle modelling and includes an additional 700mm of freeboard, which is a safety buffer to allow for uncertainty and to take account of climate change.

We are now progressing through the design phase, with results showing the upgrade work will target:

- Increasing the height and width of the stopbank that runs from Coronation Park to Rathbone Street, along the left bank of the Waipawa River.
- Ensuring the riverside 'batter' – or slope – of the stopbank meets current HBRC design standards.

Why is this project needed?

During Cyclone Gabrielle, floodwaters breached through the stopbank at Coronation Park, flooding Waipawa Township, leaving parts of the town flooded with homes damaged and residents cut off.

The proposed works will significantly enhance flood resilience in Waipawa and give residents more time to evacuate safely if an over design event should occur.

Timeline and construction

3. When will the project start?

Planning is underway. We have completed concept design and from there, we're moving through the preliminary design phase to detailed design over the next month. We're expected to have our detailed designs complete by the end of the year.

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Design and impacts

What happens during the planning phase?

While we work through the design process, we also undertake a range of site investigations including geotechnical and ecological, and a consequential flooding report. A Cultural Impact Assessment (CIA), and a noise/vibration report have already been completed.
Once we have final detailed design, we'll be able to lodge our consent and put a tender to market in order to appoint a contractor.

What about the haul track?

A haul track is needed to access the stopbank. Its construction is already underway and will be a permanent fixture, for future gravel extraction access and as a walking track.

What is a 100-year, 1% AEP or 1-in-100-year flood?

Floods of this size are often described using different terms – a 100-year flood, a 1-in-100-year flood, a 1% AEP (Annual Exceedance Probability), or a 1% ARI (Annual Recurrence Interval). These phrases all point to much the same concept.

A 1-100-year or 1% AEP flood means there is a one-in-100 (or 1%) chance of a flood of that scale occurring in any given year. It doesn't mean such a flood will only happen once every century – it's about probability, not prediction. In fact, two of these floods might occur within the same decade, or even the same year. This project is designed to manage floods of that scale. In over design events, such as Cyclone Gabrielle, it won't stop flooding– but it will give people more time to get out of harm's way.

What is a 'scheme' – and what do we mean by 'level of service'?

A scheme is the combined system of flood defences in a catchment – stopbanks, pump stations, floodgates, edge protection plantings and other works – all designed to lower flood risk in that area and to optimise the performance of the river system.

Each scheme is designed to a set 'level of service', or performance standard. In flood management, this standard is usually defined by the size of event it can handle, such as a 1-in-100-year flood. Over time, that level can be reduced by changes like climate change, earthquakes or shifting riverbeds. A level-of-service upgrade brings the scheme back to its agreed design level.

Has the level of service changed after Cyclone Gabrielle?

Cyclone Gabrielle had a significant effect on our flood infrastructure and prompted a reassessment of the protection our flood schemes provide. Using the data and insights gained from Gabrielle, we've refined our flood modelling to more accurately reflect the realities of extreme weather. The post-cyclone models continue to include safety factors like freeboard and climate change allowances, now more precisely tailored to the character of each river and catchment.

Gravel – and flood mitigation

How is gravel extracted – and what's a 'grade line'?

Gravel is extracted to maintain channel capacity, enabling flood control schemes to convey their designed flood flows. HBRC has devoted considerable resources to gravel removal in

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recent years. Since 2021, 1,959,535 cubic metres have been extracted from Central Hawke's Bay rivers. Gravel extraction will continue to be extracted on an annual basis.

A 'grade line' is a design benchmark representing the average riverbed level that lets the river carry a typical annual flood without spilling over onto the surrounding berms. Gravel is only taken from above this line, helping protect the river's natural shape and flow. It's based on survey data – a snapshot in time – and because rivers are always changing, we keep monitoring and adjusting as needed.

Keeping extraction above the grade line helps to:

- Prevent erosion that could put river edge protection, stopbanks, roads, and bridges at risk
- Maintain strong, stable riverbanks that support our flood mitigation work
- Keep gravel moving naturally downstream, supporting both the extraction industry and coastal systems like the Lower Tukituki.
- Preserve the natural shape, flow and character of the river over time.

While a grade line is an important consideration, preventative actions like beach raking, edge protection works (i.e. live trees such as willows), and engineering installations work alongside strategically targeted gravel extraction, all help maintain the design capacity of the river. We also remain flexible in our approach and consider extraction below the grade line on a case-by-case basis.

Can you use some of this gravel for the stopbank project?
Yes! We will be extracting 30,000 cubic metres of gravel from the river in cross sections next to the township near Coronation Park, and two sites downstream of the rail bridge and SH2.

The bigger picture: the NIWE programme

What is the North Island Weather Event (NIWE) resilience programme?
The North Island Weather Event (NIWE) resilience programme is a $256 million investment to make Hawke's Bay and the wider North Island better prepared for the floods of the future. It's co-funded by Central Government ($209 million) and Hawke's Bay Regional Council ($47 million), under a funding agreement signed in October 2023 .

Here in Hawke's Bay, the NIWE programme includes new major flood resilience projects in Ōhiti Road | Ōmāhu, Pākōwhai, Pōrangahau, Waiohiki, Wairoa, Whirinaki and Havelock North as well as upgrades to pump stations, stopbanks and the river telemetry systems that track rainfall and river levels in real time. It also includes reviews of our smaller flood control and drainage schemes. This stopbank project in Waipawa is one such NIWE upgrade project.

More information

How do I keep up to date with the project?
We're committed to keeping you in the loop as our projects progress. Here's how:

- **Our website.** The flood resilience section of the HBRC website – www.hbrc.govt.nz/hawkes-bay/projects/restoring-flood-resilience – has the latest news, along with designated pages for each of our projects.

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- **Drop-in sessions and community meetings**. We hold these regularly, so you can ask questions, share thoughts, or just pop by for a chat.
- **Regular newsletters**.
- **Email** – if you've got a question or concern, please get in touch at project.enquiries@hbrc.govt.nz

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