

Ōhiti Rd | Omāhu Flood Mitigation Project

Frequently Asked Questions (FAQs)

Q: What is the purpose of this project?

A: This project is one of the Central Government's NIWE (North Island Weather Event) portfolio of funding for recategorisation: the funding is specifically to provide flood mitigation for affected Category 2C properties to enable their move to Category 1. The potential stopbank solution will provide a 1:100 year protection.

Q: Will the Government give HBRC a time extension?

A: Unfortunately, not. There is a push from Central Government to get this project done. While minor amendments to the Resource Consent may be permitted, this does not alter the overall work or timelines required to complete the design and construction of the stopbank and road. The project must still be delivered within the deadline set by Central Government, which remains firm as March 31, 2025. Any adjustments to the consent process would not impact the completion timeframe.

Q: Why not just move the houses to Category 3?

A: Because moving to Category 1 ensures people can move on with lives and stay on their land. Hastings District Council has indicated that it is not feasible to buyout properties due to budget constraints.

There is only one recorded property in the 2C area with a Section 72 notice, and this notice was in place prior to Cyclone Gabrielle. There are two other sections that do not have buildings on them, so they do not carry Section 72 notices. It's important to note that a Section 72 designation does not prevent someone from living in their property; it simply indicates that the property is in a hazard-prone area. Once the proposed flood mitigation works are completed, the Section 72 notice will be removed, as the hazard maps will be updated to reflect the reduced risk.

Q: What size was Cyclone Gabrielle?

A: According to the latest NIWA data, the ARI (Annual Return Interval) prior to Cyclone Gabrielle was a 1:710, and post-cyclone, 1:400. You can find more statistics [here](#).

Q: Why is a stopbank the best solution?

A: The project scope for the Omāhu area, which includes funding and legislation to complete these works, is limited to building protection for the 11 properties currently categorised 2C within the Ōhiti Rd area and the surrounding 2C area. It does not extend to wider flood protection improvements to the upstream areas of the Okawa/Ohiwia catchment, which is outside of the Heretaunga Plains Flood Control Scheme.

Stopbanks are the only viable solution to mitigate flooding for the 2C properties. This area is particularly prone to flooding, and effective mitigation must occur close to the affected properties to provide the necessary protection. Alternative interventions, such as upstream flood management, fall outside the scope of the Heretaunga Plains Flood Control Scheme and would not deliver the targeted protection required for these specific properties. The proposed stopbank offers a focused and effective solution to safeguard the 2C area. Our modelling has shown that this has minimal/no secondary effects in this catchment so is within the project scope and objectives.

A stopbank targeted in the 2C area provides the benefit of protection to a 1:100 year flood event to these 2C properties and provides time to evacuate to high ground in the event of a larger flood event ('overdesign event'). The proposed stopbank scheme has been amended

since initial proposals to reflect a need to mitigate flows on the left bank at Omāhu and the southern end of Ōhiti Rd.

All flood mitigation infrastructure in Hawke's Bay is designed to provide protection against a 1:100-year flood event, including an additional freeboard for added security. While this level of service is standard, it's important to acknowledge that in an 'overdesign' event, such as a 1:500-year flood or beyond, there remains a risk of flooding. The proposed stopbank will offer crucial protection for the Ōhiti Rd 2C properties by mitigating flood risk to the 1:100-year standard and providing residents with critical time to evacuate in the event of a more extreme weather event. This approach aligns with the region's overall flood control strategy. For context, Cyclone Gabrielle was initially assessed as a 1:710-year event but, following updated analysis, it would now be classified as a 1:400-year event after the updated NIWA post cyclone flood data. While no flood mitigation system can fully eliminate risk during such extreme events, the proposed measures significantly enhance community safety and resilience.

Q: What effects and impacts will the houses upstream on Taihape Road (that are not categorised) experience?

A: There are two properties upstream of the proposed stopbank on Taihape. One has already been categorised as Category 3, noting the extreme risk to life of this property and the other property we are proposing further assessment as it is slightly further upstream.

Other than these two properties, there are none within the floodplain for several kilometres upstream on Taihape Road until Pukehamoamo/Shanley Road. Given the distance from the stopbank to these properties (>4km), the effects of the stopbank on these properties is considered negligible. Most of the effects of the stopbank on the flood hydraulics are limited to the lower Okawa catchment area, in close proximity of the stopbank. These are generally summarised as follows:

- 5 year ARI (Annual Recurrence Interval) or event - negligible change in flood effects
- 20 year ARI event- some slight increase in flood depth of Taihape Rd, negligible change in flood velocity.
- 100 year ARI event - increase in flood depth on Taihape Rd of around 0.5m, typically greatest at Taihape Rd. Small increase in flood velocity.

A further flood assessment (to be provided as part of the resource consent) is proposed to address these matters in more detail. An update on this work will be provided at a future community hui.

The design specifically addresses the concern that channeling Ohiwia flood waters across Broughton's Bridge and along the road towards Omahu will transfer risk to the wider community through additional protective works proposed for Taihape Road on the Omāhu side of the bridge. Our consent conditions under the Order in Council explicitly require us to ensure there are no consequential flooding or secondary effects from the proposed works. The modeling has demonstrated low water velocities around the bridge even during high flow events. We want to emphasise that our comprehensive design approach isn't just about protecting the 11 houses - it's about ensuring the entire community's safety. The additional measures we're implementing on the Omāhu side of the bridge are specifically designed to prevent any transfer of flood risk to the wider community, meeting both our regulatory obligations and our commitment to community-wide protection.

Q: When will the upstream flood modelling be available?

A: Four to six weeks. Currently, the modeling work is still ongoing with our technical team, and

we've received additional requests that need to be incorporated to ensure comprehensive analysis. Rather than providing a definitive date that might shift, we're taking a thorough approach to capture all questions and concerns in the most efficient way possible. While previous estimates ranged from 4-8 weeks, we want to be transparent that we're still working with our modeling team to determine precise timeframes that account for all new requests. We're committed to using the funding responsibly and maximising the value of this analysis. Once we have confirmed timeframes from our modeling team that reflect the full scope of work, we will share this information with the community promptly.

Q: Will the flood mitigation solution make a Gabrielle-sized event worse, better or the same?

A: The assessment is not complete – it is approximately four to six weeks' away. We would like to make sure all funding is utilised in the most efficient way. We would like to ensure we capture all of the information from community, HDC and independent landowners in one model that can be shared and easily interpreted.

Q: What consultation has happened with the community so far?

A: We have been sending out monthly newsletters that have project updates and other relevant information. There is also a project specific website hub on the HBRC website that houses the latest updates, the project team, and has an archive of newsletters and other communications. Community meetings have been held, although the focus up until recently has been with affected 2C property owners. We are now in a position of engaging with the wider community, which we're doing.

While we have maintained communication through monthly newsletters, meetings and our HBRC website hub, we understand some community members feel they haven't been adequately consulted. To address this, we're implementing a more comprehensive engagement strategy, including the establishment of a Stakeholder Advisory Group (STAG) group required by Central Government. This group will provide all stakeholders with a direct voice in the project's development. We're also planning additional engagement opportunities to ensure every landowner has the chance to raise concerns and be actively involved in the process. Our goal is to create multiple pathways for meaningful dialogue with all affected community members, moving beyond our initial focus on Category 2C property owners to include the wider community in our ongoing discussions and decision-making processes.

Q: What assurances can Hawke's Bay Regional Council give that in moving the houses off Ōhiti Road out of Category 2C, the flood protection measures won't put the Omāhu community and key roading infrastructure at risk?

A: The T+T flood model report notes that breakouts into the Omāhu area, via the left bank of the Ohiwia stream are a risk in moderate to large flood events, as was experienced during Cyclone Gabrielle. Accordingly, the project concept has now included an additional section of bunding and raising of Taihape Rd, east of the bridge to mitigate these effects. The latest modelling incorporates these additional works.

We are actively working with Hastings District Council on a comprehensive post-cyclone assessment of their assets. Our hydraulic modeling has provided detailed data on water velocities at the bridge, and we have incorporated additional rock revetment measures into our plans to enhance erosion protection. The flood protection measures for Ōhiti Road properties, including strategic bunding and raising of Taihape Road east of the bridge, have been carefully designed based on our latest modeling to ensure they won't increase flood risk to the Omāhu community. While we are still working to establish more specific measurements to better define what constitutes a "moderate flood event," our current analysis and protective measures take into account both moderate and severe flooding scenarios. Once we have completed our detailed assessment with HDC, we will

share this information with the community to provide a clear understanding of the bridge's resilience and our protection strategies.

Q: Does Council's latest analysis suggest that initial options that were discounted earlier are now a better cost-benefit? Is buying out the most vulnerable homes now a better cost option?

A: The project is designed and funded to enable the Category 2C properties to move to Category 1. The business case for this project was specifically developed and approved with the focused outcome of upgrading properties from flood Category 2C to Category 1 through stopbank improvements. During the planning phase, various stopbank proposals were thoroughly assessed, and the current preferred option emerged through detailed workshops and analysis as the most suitable solution. This approach has been validated through a comprehensive cost-benefit analysis, which was not only reviewed internally but also received approval from Central Government as part of the funding process. The current analysis continues to support this approach as the most effective way to achieve the project's core objective of improving flood protection for these properties within the approved scope and budget parameters.

Q: Why hasn't Council fully explored the option of releasing water into Lake Rūnanga to reduce flooding pressure downstream?

A: This option has been reviewed at a high level in the T+T modelling report. To increase flows into Lake Runanga, significant additional infrastructure would be required to train flows into the existing spillway, including:

- Construction of significant stop banking on the left bank of the Okawa stream upstream of the Taihape Rd overflow
- Formalising of the existing spillway into Runanga
- Amending the existing weir and bund at the downstream end of the lake.

These works would also potentially have a negative effect of increasing flood flows and velocities above the spillway location. Accordingly, we are not proposing to pursue this option any further.

The suggestion to utilise Lake Rūnanga for flood mitigation, while potentially beneficial for the broader Omāhu area, falls outside the specific scope and objectives of the current project. Our immediate focus is on addressing the flood risk categorisation of specific properties, moving them from Category 2C to Category 1. While exploring Lake Rūnanga's potential role in flood management could be valuable for future catchment-wide planning, it would require extensive infrastructure modifications, including significant stopbanking, spillway formalisation, and weir amendments. Such comprehensive catchment management strategies would need to be considered as part of a separate, larger initiative with its own funding stream. The current project team is working within defined parameters and budget allocations specifically targeted at improving the flood protection for the identified properties, rather than implementing broader catchment-wide solutions.

Q: How will this stopbank impact overland flow paths, and what measures are in place to mitigate any negative effects, particularly for properties west of Omāhu?

A: The proposed stopbank scope has been increased to include additional low height banks or bunds along the southern end of Ōhiti Rd. The modelling work suggests that overland flow paths would direct runoff into the subdivision area. Accordingly, we propose including this work in the project scope.

However, there is likely to be some nuisance flooding associated with rainfall runoff within

the confines of the subdivision or the hills immediately to the west. We will be seeking to address options to mitigate this during the forthcoming design phase of the project. This could include a culvert through the stopbank, or creating a dedicated ponding area within the subdivision site.

Q: Have alternative flood mitigation solutions been considered, such as culverts or natural floodplains, wetlands, in addition to the stopbank?

A: The flooding within the Ōhiti Rd 2C area is largely driven by catchment flooding in the Okawa/Ohiwia stream. This is exacerbated by high tailwater levels at the downstream end of the catchment (i.e. the level of the Ngaruroro when this is in flood at the same time).

The Ōhiti Rd subdivision is largely built on the floodplain of the Ohiwia stream. Protection options for the site are limited due to its low lying position near the confluence with the Ngaruroro and the relatively large size of the Okawa catchment. Wetlands and similar attenuation devices would need to be constructed upstream of the project site to be beneficial (likely on private land that is not owned by HBRC).

These also would need to be of a suitable size and scale to make an appreciable difference to the downstream flooding. We therefore have not reviewed these options in further detail, due to the uncertainties of access to the land, limited cost effectiveness and the large number of devices that would be required to improve flood resilience. Accordingly, stopbanking has been proposed to protect these specific areas.

The decision to build in hazard-prone areas involves shared responsibility between property owners, developers, and councils. Property owners are expected to conduct thorough due diligence before purchasing or building, which includes reviewing hazard information, Section 72 notices, and understanding the risks associated with such locations.

The Hawke's Bay Regional Council provides critical hazard mapping and flood risk assessments, identifying at-risk areas through comprehensive technical studies. The Hastings District Council, as the consenting authority, oversees the building consent process. HDC may approve building in hazard-prone areas with specific conditions and ensures that hazard-related notifications are included on property titles.

For any future developments in the project area, the same framework will apply. Property titles will clearly disclose hazard risks, and prospective buyers will need to assess these risks carefully. This approach ensures transparency, enabling property owners to make well-informed decisions while councils continue their regulatory and advisory roles to safeguard community interests.

Q: Will there be adequate provisions to address the risk of debris and sediment accumulation, especially at bridges, which could exacerbate flooding?

A: The bridge asset is managed by Hastings District Council, including maintenance and clearance of debris. Management of the stream and the drainage scheme along the Okawa stream will remain the responsibility of HBRC. This includes management of bank erosion.

A separate project is reviewing improvements to the drainage scheme, including erosion repair upstream of the Ōhiti Rd site. Design is currently underway for this work. The Ōhiti Rd project includes no further provisions for debris management.

Q: What provisions are there to ensure the ongoing maintenance and monitoring of the stopbank for its effectiveness and structural integrity?

A: The new stopbank will be managed in accordance with HBRC's Asset Management Plan as part of the Heretaunga Plains Flood Control Scheme.

Q: How will the stopbank influence water flow and drainage patterns in the area, particularly near the Taihape Road bridge and Ōhiti Road?

A: The stopbank will slightly increase flood levels on Taihape Rd during a large flood event i.e. those exceeding about a 1 in 20 yr event. The flood velocity increase is negligible but the time for the road to be out of service is slightly increased.

HBRC notes that much of the roading network within this catchment would not be able to be traversed in a 5 year flood, let alone a 20 year or 100 year event. HBRC are currently working with HDC to understand effects and impacts on the transport network.

The modeling indicates that the stopbank will only extend road closures by a few hours during a major flood event. It's important to note that Taihape Road and other roads in this catchment already experience flooding in moderate events. As mentioned, we are working closely with Hastings District Council (HDC) to assess the transport network's resilience. This includes reviewing structural assessments and asset information gathered after Cyclone Gabrielle to better understand any potential impacts on key infrastructure, such as Broughton's Bridge.

Q: What is the plan for incorporating feedback from residents who may be impacted by the stopbank's construction and operation?

A: A site walkover was undertaken with members of the community, T+T flood modellers, HBRC staff, Between2Rivers, and members of the local iwi. Local experiences were shared and knowledge gathered about flood flows and paths from Cyclone Gabrielle. Photos and videos were shared with HBRC and T+T to review.

The flood model has been calibrated by checking modelled flood levels with actual observed levels (supplied by community members and further survey). This has been extremely useful to validate our modelling work and we thank the community for their collaboration.

Q: What effect might the preferred design have on the Omāhu community, the road and bridge during a larger event than the stopbank has been designed to provide flood protection for?

A: Irrespective of the stopbank proposal, in a moderate flood event, the depth of flood water over Taihape Road would render the road impassable to most vehicles. The current flood model suggests that in a one in 20 year event, the flood water reaches the soffit level of the Taihape Road Bridge and would inundate the bridge and culvert crossings at Pukehamoamoā. There is a negligible change in flood levels and velocities in small to moderate flood events at Taihape Road. In larger events, up to a one in 100 year event, there is a very small increase in modelled flood velocities and an increase in flood depth on Taihape Road. However, the modelled flood velocities in the larger events are still <2.5m/s, which is typically the threshold. This is supported by observations of siltation of the Okawa channel, which suggests that the actual flood velocities are low (therefore material is depositing rather than eroding). HBRC has however, proposed to armour the left bank abutment of the Taihape Road bridge to provide additional resilience, as part of the project scope.

Accordingly, whilst the stopbank does have an effect on flood depth on Taihape Road, this road is already out of service in extreme events and the amenity is not changed. The duration of flood water over Taihape Road in large events is on the order of 12-16 hours. The stopbank proposal slightly increases this duration by 2-3 hours.

The potential impact of the stopbank on the Taihape Road Bridge during floods has been assessed. The model shows a negligible increase in flood velocities and a small increase in flood depth during events up to a 1 in 100-year flood, with velocities remaining below 2.5 m/s—well within safe limits. Observations of silt accumulation further confirm low erosion risk. To enhance resilience, the project includes armoring the bridge's left bank abutment to protect against potential scour. While the stopbank may extend road flooding by 2-3 hours in extreme events, it does not increase the likelihood of structural damage to the bridge. We will continue working with HDC to assess the bridge at the larger events and await this information.

Q: Has the council done an economic impact report on the road being closed for extended times especially if Broughton's bridge is taken out due to the extra flow the stop banks will force towards it?

A: Taihape Road is managed and maintained by Hastings District Council (HDC) and we are working closely with the Council. The modelling works completed shows the bridge impacted by flood waters in a 20 year event, so the road is expected to be out of service in large events, with or without the stopbank. We are not undertaking an economic impact report.

Our modeling shows the bridge would be affected in a 1 in 20-year event, causing road closures regardless of the stopbank. While HBRC hasn't conducted an economic impact report, we'll continue working with HDC to address risks and consider potential impacts on the community.

Q: Who will bear the cost of bridge upgrade, repair or replacement?

A: Taihape Road is managed and maintained by Hastings District Council (HDC) and we are working with the Council. As stated however, the bridge is expected to be impacted by flooding with or without the stopbank. The velocity is low at a 1:100 year event causing limited impact on the bridge we await more information from HDC regarding the requested information on the bridge.

Q: What are the dollar costs of the full set of options considered – initial options and those still on the table?

A: The initial project physical works budget for the preferred stopbank alignment was in the order of \$3-\$4.5m. This does not include aspects such as design, consenting, land purchase and project management.

Since the initial budget was completed, further works have been added to the project scope, including additional bunds, stopbanks and road raising at Omāhu and Ōhiti Road. Accordingly, the project team will be undertaking a further cost review following the next design revision.

Q: What are the estimated economic costs to the community from the councils preferred option(s)? That is, in the event of a flood, what is the cost to the local economy from infrastructure being taken out – either temporarily or permanently? If the council has not done that analysis, why not?

A: We have not undertaken a cost analysis in this regard and have no plans to in the immediate future.

Q: What happens to our insurance if we are in Category 2C and move to Category 1?

A: Each property needs to discuss their insurance requirements with their insurer.

Council is unable to address insurance-related questions, as these are handled on a case-by-case basis with your provider. However, we have engaged with the Insurance Council about the impact of flood mitigation measures on property insurability. Once the mitigation is in place, it is expected that significant investments in infrastructure will have a positive effect on the insurability of properties that have faced challenges with insurance since the cyclone.

Q: If the stopbank solution is agreed upon, when would work start?

A: The intent is to start construction as soon as possible. However, design needs to be completed, consent obtained, and land acquired. Engaging with the local community is also a vital part of this project and we are focused on ensuring we answer your questions and speak with the local community about our proposed solution before enablement works commence.

Where possible, subject to land and access agreements, HBRC will look to commence enabling works to construct haul roads, access points and complete vegetation clearance ahead of the main stopbank construction contract, which we are planning to start early to mid-2025. The physical works are expected to take 3-6 months to complete.