Cultural Impact Assessment Report – Rail Bridge 217

Stage 2 – Span Replacement

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1. INTRODUCTION

Ko Ōtātara te maunga
Ko Tūtaekurī te awa
Ko Ngāti Kahungunu te iwi
Ko Ngāti Pārau te hapū
Ko Waiōhiki te marae
Ko Tareha Te Moananui te tangata

Ngāti Pārau Hapū Trust, represents a diverse cluster of bloodlines linked by common tupuna. Some whānau directly whakapapa to Tangaroa. Over the course of history local indigenous residents of the area now referred to as Waiohiki have been known as Ngāti Hikawera and Ngāti Rangikamangunu.

Following the reoccupation of Ahuriri and Heretaunga after the Battle of Te Pakake in 1824 those whānau who had maintained the ahi kaa and those who returned from exile clustered under the banner of Ngāti Pārau led by the rangātira Tareha Te Moananui.

Several complementary CIA's have already been undertaken by mana whenua, Ngāti Pārau in and around Waiohiki (Brookfields Pump Station, Maraenui Golf Course, Brookfields Stopbank, Waiohiki Stopbank, Waiohiki and Pakowhai Secondary Stopbank and, Taradale Road to Pākōwhai Road SH2 Expressway Extension). The CIA's provide a comprehensive record of Ngāti Pārau's connection, history and values which can be summarised as:

- Protection and enhancement of the mauri of the Tūtaekurī Awa and associated wetlands
- Enhancement of the mauri of the Tūtaekurī Waimate stream and associated wetlands
- Enhancement of the mauri of the Waiohiki Drain
- Enhancement of rongoā and native species proliferation
- Enhancement of mahinga kai species proliferation
- Realisation of kaitiakitanga for Ngāti Pārau hapu

KiwiRail has commissioned Ngāti Pārau Hapū Trust to prepare a Cultural Impact Assessment (CIA) for the proposed works at Bridge 217 in Awatoto, following damage caused by Cyclone Gabrielle. The purpose of the works is to maintain the resilience of the Palmerston North to Gisborne railway line, as it existed prior to the cyclone, ensuring it can withstand future flooding events.
The construction project is divided into three stages:

- **Stage 1**: Corrosion protection (scheduled for 24 July 2025)
- **Stage 2**: Span replacement (scheduled for 10 September 2025)
- **Stage 3**: Berm works (scheduled for 10 December 2025), which will include:
    - Debris and silt removal to increase the depth of the water channel beneath the bridge
    - Removal of crane pads
    - Riverbed regeneration, with mana whenua participation

For Stage 1, the contractor holds a discharge resource consent for mobile blasting and painting; therefore, no additional consents are required. A separate resource consent will be lodged with the Hawke's Bay Regional Council for Stage 3.

Please note: This Cultural Impact Assessment report focuses solely on Stage 2: the span replacement. Given the scale and potential environmental effects of the Stage 3 works, and the current lack of detail regarding ecological mitigation, a separate CIA will be prepared specifically for that stage.

2. BACKGROUND

The history of Awatoto is complex and unique, shaped by multiple flood events, shifting river courses, and repeated bridge reconstructions, with documented records dating back to 1872 (KiwiRail, 2023). Early survey plans noted the area as “river mouth liable to change,” reflecting the frequent and dynamic movements of the river (MapsPast, 1959). This instability has likely been exacerbated since the diversion of the Tutaekurī River from its original outflow at Ahuriri, culminating in the present-day confluence of three river systems.

The first recorded mention of Bridge 217—commonly referred to as the “Waitangi washout bridge”—appears around 1897 (KiwiRail, 2023). The bridge currently spans the Waitangi Washout Channel and Waitangi Washout Basin. Since its initial construction, it has undergone multiple washout and reconstruction cycles due to recurring flood events, most recently during Cyclone Gabrielle in 2023. Following the 2023 washout, KiwiRail undertook temporary repairs. After four months of construction, the bridge was reopened, with an expected service life of five years.

Circumstances have necessitated the reinstatement of the bridge be extended to a target design life of 100 years. This will require work to the existing structure to maintain its resilience to potential impacts caused by weather and flood events. Other works (Stage 3) are required to assist in returning the resilience of the bridge to what existed before the cyclone. Resource Consents for thesel works will be obtained at that time. Specifically, it has been proposed that the water levels of the Waitangi basin are lowered by approximately 1-2 m, facilitated by the removal of earth from the surrounding bank.

Cited in Frost, E. (2025, April 23). Awatoto Bridge 217 PNGL ecological report summary (Document No. C5001-02-577-12000-EW-PP-TREC-000001)

Figure Above: Awatoto, the Waitangi wetland and the location of Bridge 217

3. NGATI PĀRAU TAKIWA

Tangata whenua is a term used to describe people of the land. It is often used as a generic term for Māori with cultural rights, interests, or historical connection with a takiwā (district).
Mana whenua refers to the mana (authority) held by an iwi, hapū or whānau over the specific whenua (land) and resources of the takiwā according to cultural rights. The Resource Management Act 1991 provides that mana whenua means customary authority exercised by an iwi or hapū in an identified area. This authority is passed down through whakapapa (geneaology) and is based on the settlement or occupation of, continued use and control of natural resources within an area.

Figure Above: Ngāti Pārau Takiwa

Although Ngāti Pārau's takiwa interests and historical connections extend beyond the boundaries depicted in the map above (Figure 7), the area specifically highlights the region where the hapū has maintained an unbroken connection for over 200 years and has whakapapa linkages for over 600 years. This enduring relationship emphasises the profound cultural, historical, and spiritual significance of the area to Ngāti Pārau, making it a cornerstone of the hapū's identity and heritage. Ngāti Pārau also acknowledges the interests and historical connections of neighboring hapū in this region, including Ngāti Hinepare, Ngāti Māhu, and Ngāi Tāwhao to the north and northwest, Ngāi Te Upokoiri to the west, and Ngāti Hāwea, Ngāti Hōri, and Ngāti Hinemoa to the south, among others. The delineation of these boundaries reflects the enduring presence and authority of Ngāti Pārau in the region, deeply rooted in ancestral heritage and sustained through successive generations. This acknowledgment of shared connections highlights the collaborative and interconnected nature of the hapū within the wider community, strengthening the collective identity and cultural landscape of the area.

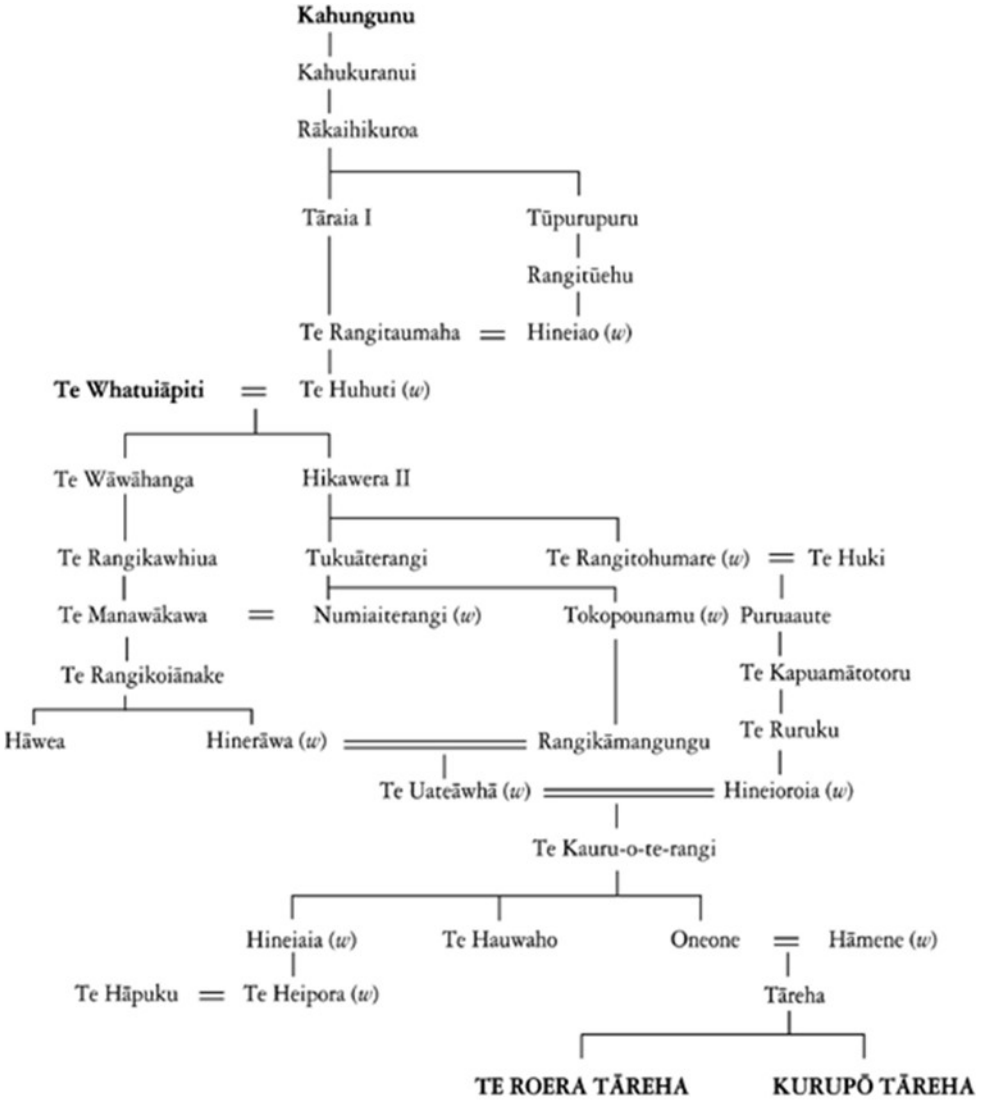
Whakapapa of Ngāti Pārau hapū

The whakapapa of Ngāti Pārau extends back to Tangaroa, Pania and Moremore; recognising the hapū links to the water bodies from the Kaweka Ranges to Te Whanganui-a-Orotū. Te Whanganui-a-Orotū and the Tūtaekurī River were central to the prosperity and survival of mana whenua who dwelled and still dwell in its vicinity. Since the 15th century Ngāti Pārau ancestors have maintained interwoven union of people belonging to Te Tini o Toi, Ngāti

Whatumoamoa and then the later arrival of Taraia, a prominent rangatira of Ngāti Kahungunu. Generations later Ngāti Pārau, Ngāti Hinepare, Ngāti Māhu, and Ngai Tāwhao formed their respective societies yet maintained ancestral, spiritual and physical links to the area. Today these hapū are based out of Waiohiki, Moteo, Wharerangi, and Timikara Maraes .

Ngāti Pārau descend from the line of the prominent rangatira Hikawera II, the great grandson of Taraia. Hikawera had two sons – Tuku a Te Rangi and Te Kereru. Through the rights provided by Tuku a Te Rangi, his grandson Rangikamanunu continued to maintain his tupuna's interests near the southern end of Te Whanganui-a-Orotū and towards the coast. Ngāti Pārau are also descendants of Te Kereru who's interests ranged from the southwestern corner of the pre-quake Te Whanganui-a-Orotū and the current edge of the Ngāti Pārau claimed area in the Ahuriri Estuary at Te Umu o Roimata Pā near Park Island.

Following the reoccupation of Ahuriri and Heretaunga after the Battle of Te Pakake in 1824 those whānau who had maintained the ahi kaa and those who returned from exile clustered under the banner of Ngāti Pārau led by the rangātira Tareha Te Moananui. The author is a descendant of Tareha Te Moananui.



Ētahi rārangi whakapapa i tukua ki te Papatangata e te whānau Tāreha.

Awatoto

The following excerpts relate to the Awatoto area and come from the book "Maori Place Names of Hawke's Bay" by J.D.H. Buchanan. The book was first published in 1973 and is a well-regarded source on the historical and cultural significance of place names in the Hawke's Bay region of Aotearoa New Zealand. It draws on local knowledge, oral histories, and early settler accounts to document Māori place names and their associated stories, particularly around rivers, pā sites, and early iwi activity:

> *The Tutaekuri used to flow into the Inner Harbour by Battery Point. Its old bed is still to be seen along George's Drive. The block of land between it and the shingle bar of the coast was given the name Te Whareomaraenui when it was sold to the Government in the 1850s. The usual custom was presumably followed when naming the block; that is to say, the Maori name for some place or natural feature in the block was applied to the block as a whole. Maraenui is literally the big marae or open place in a pa where tribal functions were held. An abbreviated form of Te Whareomaraenui is still current for the Maraenui golf links at Awatoto.*
>
> *Te Whareomaraenui was a swampy area, intersected by numerous small waterways, the biggest of them being the Waitangi which flowed south parallel to the coast to join the Ngaruroro near its mouth. Others were Te Awapari, Te Awatoto and Te Awapuraho, all at or about Awatoto of today. One of these, the Awapari I think, ran into the sea near the Awatoto railway crossing. There was a toll gate and the stream was crossed by a bridge, Tareha's Bridge. Awatoto was the stream, awa, where canoes were hauled, toto, from the sea to the inland waterway of the Tutaekuri. Between Awatoto and the Tutaekuri was a small block called Pukeroa, the long hill, really no more than slightly higher ground in the surrounding swamps. Between Pukeroa and the Maunu Bridge, Rochfort's map shows a racecourse.*
>
> *Another old name from Awatoto is Te Ruahoru, reputed to be near the railway crossing. Horu was the red ochre highly prized by the Maori for the painting of carvings, store houses, canoes and monuments. Te Ruahoru means the hole from which the ochre was dug. I do not know of any sign of this deposit today, nor of any other in or near Napier.*
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> *The shingle bank along which run the road and the railway from Napier to Awatoto was called Tutaeomahu, a name which, like Tutaekuri, would be offensive in English form but which was in no way so to the matter-of-fact attitude of the Maori to the natural functions that are the common lot of man. Mahu is the hero of an old story that takes us back to the time of the great canoes.*
>
> *At the northern end of Tutaeomahu, on the eastern side of McLean Park, was Te Ahiatewaru. Te Waru was a chief of Ngati Awa of the Bay of Plenty. A relation of his, Te Hunakohukohu, had been killed at one of the fights at Pakake, and Te Waru came to seek vengeance.*
>
> ***Tutaekuri***
>
> *The early surveyors gave the Tutaekuri the name Meanee, but the old name has persisted. Tutaekuri got its name from an incident that occurred some 400 years ago. A party of Ngati Kahungunu from north of Napier had heard over-optimistic reports of the abundance of food at Porangahau. They trekked to the coast but found that the reports were false and had to make their way back. They reached the hills between Waiohiki and Omahu in a famished condition. Hikawera II, a son of Te Whatuiapiti and Te Huhuti, was occupying the lands of his grandfather, Te Rangitaumaha, which included the old pa Oueroa on the hills above Crissogh, and another pa nearer Waiohiki. Hikawera ordered seventy dogs to be killed to help feed the travellers. Near the site of the old mill on the Waiohiki — Omahu road is a spot called Te Umukuri, the*

ovens where the dogs were cooked. The offal from this slaughter was thrown into the river, hence its name.

Like the other two rivers of the plains, the Tutaekuri, less than a hundred years ago, emptied into the southern end of the Ahuriri lagoon. Several old stream beds can still be distinguished, especially the main channel along Riverbend Road; another one was known as Purimu. At present the Tutaekuri reaches the sea by the lower course of the old Waitangi, which once drained the Papakura swamp south of Meance. The Waitangi received its name in commemoration of the signing of the treaty. It was also called Tareha's Creek. Old maps show the Tutaekuri turning north at Tamihinu, not very far below the Redcliffe bridge, and skirting the eastern side of Taradale. Earlier still, the Tutaekuri flowed into the Ngaruroro at the Pakowhai bridge, leaving its present course at the dairy factory and running across the Chesterhope flats. Its main course was what is now known as the Tutaekuri Waimate, the dead Tutaekuri. There were a number of kainga along this course, including Tauke, famous for its flax.

There is little to say of the last four miles or so of its present course. The land was low-lying and swampy, intersected by many shallow waterways, but not suitable for occupation. Awatoto, on the coast, gets its name from toto, to haul. Canoes were hauled or portaged across the shingle bar from the sea into a convenient creek then led into the river proper. But from the neighbourhood of Waiohiki we are in the midst of history. The hill above Redcliffe bridge on the north, now being quarried for road metal, was the site of one of the biggest pa in the country, and one which was one of the earliest constructed in Hawke's Bay. This was the famous Otatara, the stronghold of a vigorous branch of the pre-Kahungunu people, Te Tini o Awa. Their extensive earthworks can be seen covering the hill face — terraces, pits and palisade lines.

Buchanan, J. D. H. *Maori Place Names of Hawke's Bay*. A.H. & A.W. Reed, 1973

3.1 Ngāti Pārau Values

Ngāti Pārau hapū hold and practice many traditions and values. Below are several principles the hapū practices and are guided by. More information can be found in the Ngāti Pārau Hapū Strategic Plan and the Ngāti Pārau Hapū Trust Cultural Values Assesssment. Ngāti Pārau hapū cultural values to the whenua, wai, taiao, tāngata, and tīpuna are intricately woven in to the principles of kaitiakitanga, manaakitanga, whakapapa, wairuatanga, and rangatiratanga:

Whenua

For the hapū, the whenua is much more than land; it is a sacred connection to our pepeha, whakapapa, and tīpuna, and it binds us to future generations. The whenua holds the mauri, the wisdom, stories, and mana of our tīpuna, carrying their values and spirit through time. By caring for the whenua Ngāti Pārau's wairuatanga and identity is enhanced and strengthened through nourishment and extending manaakitanga towards others .

Wai

Wai is the life force that flows through the land, people, and all living things encompassing wai tai, wai māori, and wai moana. It connects the hapū to the to our tīpuna who relied on rivers, lakes, and seas for sustenance and navigation. Waterways are sacred, carry wairuatanga the spiritual essence of the environment and our ancestors. Water symbolises purity, renewal, and healing and plays a central role in rituals and everyday life. We advocate for the protection of water rights and policies to preserve this precious resource for future generations. By respecting and protecting the wai, we uphold our wairuatanga and connection to our whakapapa, recognising the ancestral bonds tying the hapū to the Tūtaekurī River .

Taiao

The taiao, or natural environment, is a delicate balance of all living things, including forests, animals, and the air we breathe. Kaitiakitanga dictates our responsibility to care for the environment, ensuring we live harmoniously with nature and protect it from harm. Wairuatanga teaches us that the natural world is spiritually significant, and every element of the taiao—be it trees, birds, or rivers—has a sacred connection to our whakapapa. In return, we must honour and maintain the balance of the environment. The stories of our ancestors' interactions with the taiao are passed down through whakapapa, ensuring future generations understand their role as guardians of nature .

Tāngata

People are at the heart of the hapū, and relationships are vital — this is called whanaungatanga. The strength of the hapū depends on the well-being of its people, and unity is key to maintaining rangatiratanga within the community. Whakapapa connects us to our ancestors and to one another, forming the foundation of our shared identity. Wairuatanga connects us spiritually to both the living and the departed, ensuring their wisdom continues to guide us. Our decision-making is collective, ensuring all voices are heard, reflecting the values of whanaungatanga and rangatiratanga. Through passing down knowledge, traditions, and stories, we strengthen our whakapapa, ensuring future generations understand their role in the community .

Tīpuna

Our tīpuna are ever-present in the lives of the hapū, guiding us through their wisdom and values. Honouring our tīpuna is central to our Wairuatanga, as their influence continues to guide our decisions, actions, and relationships with the world. Rangatiratanga ensures that we uphold the values of our tīpuna, embodying their leadership and vision in our roles as leaders, kaitiaki, and caretakers of our people and the land. Manaakitanga towards our tīpuna is shown through the care we give to their legacies, ensuring their stories and teachings are preserved. Our tīpuna are the foundation of our identity. We honour our tīpuna through rituals, ceremonies, and storytelling, which preserve their memory and teachings. Kaitiakitanga extends to the protection of their resting places and the lands they once walked.

4. THE CURRENT STATE OF THE AREA

Several wetlands are located within the potentially impacted area. Wetlands are recognised as a national priority for protection, and under the National Policy Statement for Freshwater Management (2020), Policy 6 states that there must be no further loss in the extent of natural inland wetlands. While the wetlands are relatively modest, they are likely to provide habitat for native fauna and contribute important ecosystem functions within the broader landscape. Given their ecological characteristics and national significance, the wetlands within the impact area and its buffer have an ecological value. (Awatoto Bridge 217 PNGL ecological report summary). The stage 2 span replacement work does not have a major impact on the area's wetlands.

5. DESCRIPTION OF STAGE 2 SPAN REPLACEMENT WORKS

KiwiRail Bridge 217 Span Removal and Pier Demolition:

Pier Removal

Cyclone Gabrielle was a significant flood event for the Tuataekuri and Ngaruroro Rivers which resulted in the central section of the bridge being washed away. Based on site observations, it is likely that a debris mat formed causing accelerated bed scour in the central section of the bridge leading to loss of pile embedment. Spans 9 through 14 were damaged/destroyed and track set removed with concrete piers 11-13 destroyed.

Following Cyclone Gabrielle, the structure was temporarily reinstated in September 2023 with a design life of less than five years to enable the reopening of the rail line to Napier. This reinstatement was based on reduced design standards, including lower Importance Level seismic, durability, and flood loading requirements. These compromises were made to expedite the reopening, with the understanding that the bridge would be replaced in the future.

Span Replacement – Background Summary
A residual flood risk remains following the temporary bridge repairs, particularly associated with the 6m spans. This risk is now greater than pre-Cyclone Gabrielle levels due to the proximity of the cyclone-scoured channel to existing concrete piers 9' and 15', and the reduced span lengths as a result of the temporary bridge repairs. The short 6m spans increase the likelihood of debris buildup and lateral scour, which could compromise the foundations of these piers.

The key risk is the potential for lateral movement of the streambed to undermine piers 9' and 15'. This is exacerbated by the likelihood of debris accumulating between piers 9' and 10, and 15 and 15', increasing hydraulic pressure and scour effects.

Replacing the 6m spans with a single 17m clear-span structure will maintain the resilience of the bridge as it existed before the cyclone. The longer spans will allow water and debris to pass under the bridge and moves the supporting concrete piers approximately 12m further from the active stream channel. This distance, combined with targeted scour protection, will maintain the resilience of the bridge without requiring in-stream works.

Scope of Work
The replacement involves off-site fabrication of new 18m spans for both the northern and southern approaches. Existing 6m and 12m spans will be removed using cranes positioned on the same pads used during the 2023 temporary works. These spans will be returned to KiwiRail storage.

Once the new spans are installed, redundant piers (including piers 9' and 15') will be removed to bed level. Demolition will be carried out using concrete breakers and/or circular and wire saws, with material disposed of offsite.

The purpose of the works at Bridge 217 is to maintain the resilience of the Palmerston North to Gisborne Railway Line to a level that existed prior to the cyclone, to manage future flooding events. The two proposed repairs do this in two different ways as explained below.

Span replacement and Pier removal

Replacing the 6 and 12 m spans will reinstate the bridge to a similar resilience to before the flooding in two ways

1. The piers to be removed are on the edge of the current waterway which has scoured in Cyclone Gabrielle and will likely scour further/more easily in future events. The removal of the pier reduces the risk that the river channel scours sideways in a future event and undermines the concrete pier. This also allows some rock rip rap protection to the next pier to assist, limiting scour risk, to be added without placing material within the water.
2. The 6.0m/12m beam configurations, on either side of the temporary bridge, will attract build-ups of debris during flood events, potentially partly damming the river and leading to the washing out of these sections of the bridge or pushing them over. Debris dams also increase water velocities under the bridge, scouring and undermining adjacent pier foundations, and leading to pier failures.

The pier removal and span replacement methodology includes:

- Install silt curtain ahead of installing containment bunds/coffer dam and hardfill platforms
- Construct containment bunds/coffer dam and level area/create hardfill platform for access around concrete piers (Pier 9 and Pier 15A). Line exposed ground within containment bunds/coffer dam with polyethylene sheeting and/or geotextile to capture any concrete debris or slurry generated during the removal of the concrete piers
- Redundant concrete piers (Pier 9 and 15A) to be removed and loaded into trucks for off-site disposal at a licensed and registered facility.
- Concrete dust to be suppressed by water sprinkler/mist and/or direct application to the tool. Water to be captured within containment bunds/coffer dam and pumped to tanks for treatment or removal by vac truck for disposal at a licensed and registered facility.
- Geotextile, along with any concrete debris to be removed.

The pier removal will require some work within the waterway to cut and remove the redundant pier to the bed level. This will be managed with best practice removal techniques to minimise the amount of material that will end up in the waterway.

<u>Concrete pier removal</u>

The final methodology is subject to the procurement process and will follow one of the below methods, with environmental controls to be implemented for both options as mentioned above:

· Concrete piers to be demolished using an excavator-mounted breaker, and concrete debris loaded into trucks for off-site disposal, or

· Concrete piers to be wire sawed into manageable pieces with holes core drilled through the concrete pieces to create lifting points. Concrete pieces are to be lifted out by crane and either directly loaded into trucks or placed out of the work zone and broken down further by breaker or wire saw to enable loading into trucks for off-site disposal

KiwiRail may install rock riprap protection around Pier 8' and Pier 16' as part of these works.

On completion of the pier demolition and rock rip rap installation any disturbed areas will be returned to an erosion-resistant state.

Works will occur in accordance with best practice ecological management plans (ie lizard management plans) developed for this works or as agreed for previous works in this Awa (once confirmed as suitable).

6. EFFECTS OF THE PROPOSED SPAN REPLACEMENT WORKS

The author accepts that the spans have no cultural significance and is necessary work to maintain the areas flood resiliency. From the information provided to the author, the stage 2 works appear to only have a minor environmental impact on the area and its ecology.

7. CONCLUSION

Ngāti Pārau supports KiwiRail in its aspiration to maintain the resilience of the Palmerston North to Gisborne railway line, ensuring it is equipped to withstand future flooding events. Ngāti Pārau supports stage 2 span replacement works, on the following conditions:

1) Prior to construction, Kiwirail provides mana whenua groups with the stage 2 construction methodology and the Construction Environmental Management Plan that outlines the mitigation strategies that will be employed to minimise the detrimental Environmental effects on the awa and freshwater habitat.
2) Supporting Ngāti Pārau to exercise whanaungatanga and kaitiakitanga through karakia and a mihi to new contractors at the commencement of construction and the continued engagement throughout the entirety of the project.
3) Commissions a Cultural Impact Assessment for stage 3 berm works to ensure the:
    - The protection and enhancement of the mauri of the Tūtaekurī Awa and associated wetlands
    - Enhancement of rongoā and native species proliferation
    - Enhancement of mahinga kai species proliferation
    - Realisation of kaitiakitanga for Ngāti Pārau hapu

8. CONFIDENTIALITY

This CIA has been prepared for Kiwirail for stage 2 works: Span replacement - scheduled for 10 September 2025 .The material in this CIA may not be used in any other context, shared with any other person or organisation or for any other purpose without prior review and agreement with Ngāti Pārau Hapū Trust.

9. DISCLAIMER

This CIA does not reflect the opinions, traditions, or recorded history of other hapū who may have an interest in the area in question.

Should new information and technical reports provided to Ngāti Pārau as referenced subsequently prove to be incorrect or inaccurate, Ngāti Pārau should be informed immediatley as this may potentially result in the cultural impacts needing to be reveiwed.