12 Matakohe Bridges replacement project

The Matakohe Bridges realignment project is progressing well through the colder, wetter winter months.

The Matakohe River western side abutment/causeway has been built up to 15m which is the finished height and is largely completed.

Area-specific sediment control measures are in place across the entire 2.5km site to mitigate the impacts of winter weather.

The large 300 tonne crane located at the eastern side of Matakohe River is now constructing the staging (temporary bridge) which will soon be used for access to construct the new bridge.

The Parerau Stream west and east embankments have been completed and the piles for the bridge are close to completion.

The construction of the bridge is starting to take shape with the central columns, pier head and abutments.

Earthworks at the western end of the SH realignment is continuing and the 33Kv area-wide power supply lines have been relocated to make way for the new intersection leading to Matakohe township which will be constructed closer to the end of the project.

Cutting limestone in the old quarry has slowed down now that both of the large bridge embankments have been completed.

The quarry will continue to be used as a source of limestone for the slip stabilisation works through winter. Construction of both bridges will occur throughout winter and into summer.

Limited earthworks that are approved and regularly audited by the Northland Regional Council will continue through the winter and then increase again in summer to allow the pavement construction to start.

Looking from the west end of the site eastwards to where the realignment crosses the existing SH12.

Open invitation to the friends and volunteers of the Kauri Museum's Matakohe Bridges realignment talk

WHEN Tuesday 31 July 12–2pm

WHERE Matakohe Memorial Hall

WHAT Fulton Hogan's Project Manager Daniel McKessar will provide an overview of what's been happening on site including a drone flyover and what's coming up. He's looking forward to answering your questions.

Everyone's welcome – hope you can make it.

Any queries, please contact Tracey Wedge, Kauri Museum Collection Manager on 09 431 7417 or Jenny Scott, Matakohe Bridges project on 0800 900 007 (direct).

BRIDGE FACTS

- Bridge No.1 is at the west end of site and will span Parerau Stream.
  - It will use 470m3 of concrete.
  - It is 54.8m in length.
  - Anderson Bridge currently spans Parerau Stream.
- Bridge No.2 is at the east end of site, spanning Matakohe River.
  - it will use 1200m³ of concrete.
  - It is 191.0m in length.
  - It is the longest super tee in Northland – each super tee beam is 27m in length and weighs 50 tonnes.
  - It will be constructed using a 300 tonne crawler crane.
  - Hardies Bridge currently spans Matakohe River.

A 300 tonne crawler crane is being used to install the staging (temporary bridge) from the eastern side of Matakohe River. This crane will operate from the staging to construct Bridge No.2.

Protecting local ecology

Ecological investigations provide important information that is used in the planning and design phases of infrastructure works such as the Matakohe Bridges Realignment project. These investigations are carried out to ensure we know 'what lives where' within the proposed works area. The project's planning and environment team work with the engineers to design and now construct the realignment in a way that avoids, remedies or mitigates any adverse effects on the environment. Ecological protection is also a key requirement of the resource consent process which this project has been through.

Determining what ecological aspects (plant and animal) need to be investigated is a collaborative and iterative process where a number of ecologists and engineers bring their expertise together.

To gain an initial understanding of what environmental risks may arise, a literature review of previous ecological studies and databases relevant to the project area was completed, including those held by the Department of Conversation.

Ecologists then carried out a number of day and night field studies along the project's extent and surrounding areas likely to be disturbed by the construction works.

Matakohe literature along with our ecologists' previous experience indicated a likelihood of several threatened or at-risk bird species being found, including; fernbirds, pied stilt, banded rail and pied shag. This enabled the team to make sure the field surveys' methods provided the best chance of these species being identified, if found. The methods included playing recorded bird songs and listening for a response, viewing and also inspecting the mud flats for tell-tale footprints.

As some birds are more active at night, we had a team out on several occasions overnight to listen to the birds and record their presence. Night surveys were also completed for lizards, where a herpetologist used flashlights to inspect under fallen logs and leaf litter.

Photo of fernbird by Neil Fitzgerald www.neilfitzgeraldphoto.co.nz

The team found fernbirds, pied stilt, banded rail and pied shag. Of these, fernbirds were the most likely to roost in the local area due to the presence of saltmarsh. Saltmarsh is typically found around mangrove areas in Northland.

Once the fernbirds presence was confirmed and the saltmarsh in the area was surveyed, changes were made to the project's design to reduce the total area of saltmarsh to be removed. Unfortunately, there was an area of saltmarsh that was in direct line of the bridge abutments.

To mitigate the loss of any habitat, the Transport Agency has committed to planting saltmarsh habitat at a ratio of 3:1 (for every part of saltmarsh cleared, three times that amount will be planted) upon completion of the main works. The Department of Conservation supported this ratio, and resource consent condition mandates this requirement.

In addition, pest control was implemented targeting rats and stoats around the saltmarsh habitat prior to saltmarsh and mangrove clearance commencing and across the duration

of works, an ecologist must give the all clear that no fernbirds or banded rails are breeding within the saltmarsh before any additional clearance works. In addition, before vegetation clearance on land, a herpetologist must also undertake a survey of lizard habitat and working under a permit issued by the Department of Conservation, relocate any native lizards to outside of the area to be disturbed.

Adopting these measures means that unexpected discoveries are unlikely to happen. However, if such a discovery occurred, works would stop in that particular area and an ecologist would be required to provide guidance on the actions to be undertaken.

Other measures being taken by the project to protect local ecology include:

- installing culverts through intermittent streams designed to provide fish passage
- ongoing weed and pest management along the project extents
- installing fencing along the project extents to minimise stock accessing waterbodies
- surveys of freshwater intermittent streams along the project site.

The Northland Regional Council undertakes regular audits of the site.

The copper skink is very common over much of the North Island. Sleek, glossy and coppery in colour, it grows to about 10cm, with a very long tail. They are active mainly at night and eat small insects, spiders and similar invertebrates. The copper skink does not lay eggs but gives birth to live young up to half the size of an adult skink.

Copper skinks found in the area during field investigations in Spring 2017, prior to the commencement of construction works

More often heard than seen, fernbirds are skulking sparrow-sized, well-camouflaged birds. They are long-tailed songbirds that are predominantly streaked brown above and pale below. Fully grown they are around 18cm in length and weigh around 35g. They are also known as mātātā, koroātito, karoti, matata, koroatito and u-tick.

Ruawai Kindergarten welcomed to Matakohe Bridges

Ruawai Kindergarten's four year old children, staff and parents recently came to have a look at what's been happening 'down the road'.

Project engineer Drew Williamson hosted the group in Zone 4 on the western side of Matakohe River where earthworks have wrapped up for the winter.

The children asked great questions and were keen to share helpful suggestions about how we could do things better.

A lot of hands shot up when Drew asked who'd like to work in construction one day.

The crane the group are standing in front of was in a secured area and not operating at the time the children visited.

Kindergarten manager Chanelle McLaughlin did a wonderful job coordinating this field trip and a big thank you to Ruawai College for loaning their minivan.

This wonderful group is welcome back any time (under our supervision).

Ruawai Kindergarten children, parents and staff enjoying their site visit with Project Engineer Drew Wilkinson (far left), NZTA Project Manager Vivianne Tadros (centre, white hard hat) and Assistant Eng Rep Laura Devcich (far right)

PROGRESS IN PICTURES

The Matakohe River western side abutment/ causeway has been built up to 15m which is the finished height and is largely completed. Piling has commenced on both sides of the river.

Earthworks at the western end of the realignment involve cutting down the paddocks and then materials, including limestone from the local quarry to form part of the subgrade, are built up in layers to construct the new road carriageway.

To control sediment in wind and rain, covering is a part of the daily routine as works progress. The Bridge No.1 western abutment adjacent to Parerau Stream is covered using limestone and aggregate on the western side while cloth covers the batters heading up to where the realignment crosses SH12 near Anderson Bridge.

Looking along SH12 to where the realignment will cross it – to the east is Bridge No.2 site and to the west is the limestone quarry which the realignment will run through.

PROJECT CONTACTS

Please contact Jenny Scott **0800 900 007** or **jenny.scott@fultonhogan.com**
Keep up with progress at: **www.nzta.govt.nz/projects/connecting-northland/matakohe-bridges/**

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WAKA KOTAHI