Thank you from NCTIR

The 14th of November marked three years since the 2016 earthquake, which shook many from their beds and the NCTIR project into being.

The Kaikoura District Council’s Community Celebration was a great opportunity to mark the anniversary alongside the local community, who have been so welcoming and hospitable to our NCTIR team.

As the project approaches its final year we would like to acknowledge the amazing patience and support we have received from the community. We know it has been a long process, but the end is in sight!

Long after the project is done and NCTIR is gone, we hope that the community will enjoy journeying along a resilient coastline and be proud of their part in supporting the rebuild effort.

Ngā mihi nui,
Tony Gallagher
NCTIR Project Director

Royal welcome

His Royal Highness Prince Charles looking at the NCTIR display at the Future is Bright event at the Memorial Hall during his recent visit to Kaikōura.

Meeting the NCTIR welcoming party at the Takahanga Domain.
**Tunnel 19 extension slides complete**

Crews at Tunnel 19 south of Ōhau point have recently finished sliding a number of concrete sections against the tunnel mouth to form an extension. This will act as a permanent rockfall protection measure. This is similar to works underway at Tunnel 11, south of Kaikōura, except here crews need to work around the existing rockfall shelter. See below for an example of the process.

*Before*

*During*

*Existing temporary rock shelter that was installed after the 2016 earthquake. This will be removed, mid 2020, when the new tunnel extension is completed.*

*Temporary sliding platforms used to move the ‘U’ sections into place.*

*Scaffold set up on either side of the railway line. Each concrete ‘U’ section is made up of two sides and a 13 tonne top beam, which is lifted alongside the scaffold and then connected together. These sections were then slid, three at a time, into position under the temporary rock shelter.*

**DoubleEE exciting news**

The inaugural Engineering New Zealand ENVI Awards were held earlier this month. These awards look for organisations that have been involved in outstanding engineering projects that demonstrated excellence in engineering in ways that benefit society and the environment.

NCTIR, the NZ Transport Agency, and KiwiRail were proud to be finalists in three categories for our work in Kaikōura: Partnership, Impact, and Innovation. With 120 applications received across the eight award categories, Project Director Tony Gallagher says, ‘These awards are recognition of the wider Kaikōura community’s involvement in NCTIR and their support of the rebuild efforts.’

On the night, we were delighted to win the Impact Award, jointly with Auckland Council, Fulton Hogan, Boffa Miskell and AECOM for the Te Auaunga project.

The icing on the cake? Receiving the Supreme Award. ‘This was a great honour for us to receive, and recognises the huge effort that went into re-opening the road and rail networks. The NCTIR team is diverse and exceptionally talented. I’d like to thank all of our crew members, past and present, for their hard work – we couldn’t have achieved what we have without them. To date, over 8,000 people have worked to restore the road and rail networks and make them safe and resilient for the future.’

**Hidden work under Hāpuku Bridge**

It’s not immediately obvious from the road, but there is a hive of activity taking place under the Hāpuku Bridge. Site Engineer Florent Giffon describes it as a challenging project, but says that work is well underway.

The main work involves jacking the bridge at each of the ten piers to remove and replace the bearing pads. The 30km speed restriction and one-way traffic lanes currently in place help to reduce the impact of the traffic loading on the bridge.

Minimising inconvenience to the public was paramount – so every Monday night the team close SH1 for ten minutes while they lower the bridge onto the previous weeks’ repaired pier, then for another two hours from midnight while they raise the bridge and complete work on the next pier.

‘We use four jacks at the same time – and the purpose is to jack the bridge evenly to prevent any damage. It’s an old bridge that has been partially damaged by the earthquake so we need to take care of the weight,’ says Florent. ‘We are allowed to jack a maximum of 10mm of displacement, but most of the time we are only jacking the bridge to 6mm, which is enough to remove the bearing pad.’

The team raise the bridge slowly using a number of small lifts across each 100 tonne jack to ensure each is raising evenly in increments of about 5MPa (MPa stands for Megapascal, a unit of pressure) and no more than 2mm of displacement at a time.

**Cyclone Gita repairs at Oaro**

The work at the twin culverts site on SH1 at Oaro is on target to be completed. The road will be sealed and back to two lanes before the Christmas holidays.

On the larger northern site the retaining wall is being constructed of sandbags, containing 95% sand and 5% cement. Placing each sandbag by hand takes slightly longer, but makes for a more resilient structure, as hand placed sandbags have a 100-year guarantee, instead of the standard 50.

When the 8m high retaining wall is complete, and the twin 1050mm diameter culverts installed, the western side of the road will be backfilled to match the road height. Traffic will then switch onto this newly constructed lane while the culverts are installed on the eastern side. The road will then be stabilised and sealed ready for Christmas.
Clarence River Bridge final pier pour

Crew at Clarence River Bridge recently hit a milestone, strengthening the last of the bridge’s piers by pouring a 92m³ concrete ‘jacket’ around the existing Pier B structure. The pour lasted around six hours, with two 6m³ capacity concrete trucks taking turns to pour and then refill at an on-site concrete plant. Crews will now begin removing the river diversion, with work expected to wrap up before Christmas.

Tunnel 11 rail tunnel extension

The 28th and final concrete ‘U’ section has recently been placed on the Tunnel 11 rail tunnel extension between the Raramai and Paratitahi tunnels south of Kaikoura. Crews are now focussed on backfilling work, and will begin installing rock anchors above the tunnel in the new year, with work expected to wrap up in April 2020. Traffic will return to two lanes over the Christmas break.

Blue Duck Corner – signed, sealed, delivered

Following months of road stabilisation work, crews at Blue Duck corner have sealed and line marked the road and returned traffic to two lanes. ‘This seal is literally the icing on the cake,’ says Project Engineer Wendy Heynen. ‘It’s the finished layer of the whole project.’

Realigning Ōkiwi Bay

Work is progressing on the southern end of Ōkiwi Bay where the road is being realigned to smooth out the curves, and to move the flow of traffic further from the rock face. Approximately 98% of the material to form the embankment has been placed, with 85% of the rock revetment completed. This project is scheduled to wrap up in late May 2020.
New home for native skinks

New Zealand renowned herpetologist and wildlife ecologist Marieke Lettink has been working with NCTIR to rehome native skinks from upcoming work sites. Initial surveys found a population of South Marlborough grass skinks at the Waiau Bridge that needed to be removed before construction to repair the bridge could begin. ‘They’ll have to strip all the vegetation off the slopes here, and obviously the lizards will be affected by that. So the easiest thing to do is to go in and move them,’ Marieke said.

‘First the site engineer has to wait for us to clear the lizards. Once we’re done they get the go ahead that the lizards are all gone, and they’re able to maintain this as a construction site.’

Marieke said there are over 110 species of native lizards and all are absolutely protected by the Wildlife Act – so mechanisms for their protection are a legal requirement. Marieke uses tinned pear to bait the skinks into the traps before she catches and bags them for removal. ‘They will be released at a site in Lottery Bush that has been prepared with a network of predator traps, which will protect the skinks from predation by things like mice and rats.’

‘It’s about making sure the animals are protected and that they get released in the best possible place.’

Seal of approval from Kaikōura Primary School

NCTIR Environmental Advisor Elisa Chillingworth has been visiting schools in the district to tell pupils all about Kaikōura’s seals and the steps being taken to protect them at NCTIR work sites. Her talk covers seal biology, behaviour, and the variety of different seals that call New Zealand home.

Elisa is part of the environmental team and is one of the environmental specialist seal handlers who relocate seals from unsafe areas in the rebuild. The preferred rocky habitat of New Zealand fur seals puts them at risk of construction works along the coastal route, and the specialised team has moved over 14,000 seals from harm’s way since work began.

Here are some of the thoughtful questions asked by Kaikōura Primary School children at one of Elisa’s talks:

Q: Can seals see underwater?
A: Yes, their eyes have an adapted round lens (similar to a fish) that lets them see clearly underwater.

Q: How long can seals stay underwater?
A: Their average dive time is 11 minutes to around 100-200 metres deep.

Q: How long do seals live?
A: NZ fur seals live to around 16 years old.

Q: How can seals move so quickly?
A: Yes, the casino is a very fast swimmer.

Q: How do seals move along the shoreline?
A: They swim and use their flippers to move along the shore.

Q: Why are seals important?
A: Seals help control the population of fish, keep the ocean clean, and are an important part of the marine ecosystem.

Seal of approval from Kaikōura Primary School

INLAND ROAD

Seal of approval from Kaikōura Primary School

INLAND ROAD

Kaikoura Earthquake Update

INLAND ROAD

Kaikoura Earthquake Update
NCTIR teams visit the Marae

Te Rūnanga o Kaikōura invited the NCTIR whanau to be welcomed on to the Takahanga Marae with a pōwhiri and to learn about the history of the whare. An added highlight for the NCTIR team was getting an overview of the Cultural Artworks Package and understanding the stories behind the design work.

The Cultural Artworks Package came from a November 2018 hui between NCTIR and the Cultural Advisory Group about the stories that should be told along the coastal corridor at seven formal safe stopping areas.

Te Rūnanga o Kaikōura executive member Maurice Manawatu gave an insightful presentation on the unique symbolism used at each site – on buildings, furniture, concrete pathways, and carved pouwhenua. For example, Rākautara, north of Kaikōura, has long been known for its kai moana.

NCTIR Project Director Tony Gallagher says the visit to the Marae was very special. ‘Such beautiful people who made us all feel so welcome, shared their own stories, built the story behind the Cultural Artworks Package which we will have the privilege of building. I was so proud to be part of the team and deeply appreciated the way we participated and came prepared to learn.’

Traffic hotspots map – December

This map covers the projected speed reductions and one lane sites along SH1 and Route 70 (Inland Road) in the lead up to NCTIR’s Christmas closedown (19 December 2019). Please note that this is an indication only, and sites may vary. In addition to these main hotspots there will be other temporary works underway.

Please note: This map is indicative only.