



The Bulletin Kaikōura earthquake update

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Picking up where we left off

Following the Government’s Alert Level 3 announcement, our site-based crews have returned to work on the roads under strict new health and safety measures, while our office staff continue to work from home.

We are adhering to all official advice, as the health of our people and the community is our priority.

We are following the New Zealand COVID-19 construction protocols, which will be the same across the construction and building sector. At Level 3 this includes restricted access to sites, maintaining physical distance, and the use of additional protective clothing.

Our crews have formed small work ‘bubbles’ that will remain together during this time, including travel and shared accommodation.

Our return was staggered across the week, with new teams arriving in Kaikōura on different days to allow time to adjust to the new way of working. Before starting back, all site crews went through a NCTIR COVID-19 Reboot induction to learn about our new practices and protocols to keep themselves and others safe.

The NCTIR Village has reopened to accommodate workers, with staggered meals and work start times to allow for physical distancing. Communal areas are closed off during this time, with workers isolated to their rooms or work bubbles.

We’re not sure at this stage how the recent shutdown and reduced capacity return will impact the project’s completion date, but we will put out an update once we are back in full swing. For an overview of our projected two-week programme of work during Alert Level 3, please see page 2-3.



If you have any questions please contact us on **0800 628 4737** or info@nctir.com.

We hope you and your bubble are staying safe and well.


Ngā mihi nui, Tony Gallagher




Physical distancing during a morning crew briefing


Site restrictions



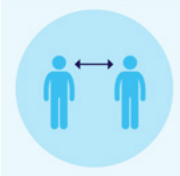
Small ‘work bubble’




Protective wear




Physical distancing



Hygiene standards



Cleaning protocols



Level 3 work map

This map covers our projected Alert Level 3 work plan. Crew will be returning to these select sites under our Alert Level 3 health and safety protocols.

For those of you undertaking essential travel along SH1 and Route 70 (Inland Road), please be aware that there will be traffic management around a number of these sites. In addition to these main sites, there will be some temporary works underway, such as roaming Telco ducting and road sealing.

Please note that non-NCTIR maintenance crews may also be undertaking essential works during this time.

For real time travel information on SH1 between Picton and Christchurch go to: www.nzta.govt.nz/p2c. For updates regarding Route 70 (Inland Road) please email: info@nctir.com.

Please note: This map is indicative only.



Safe stopping areas progress update

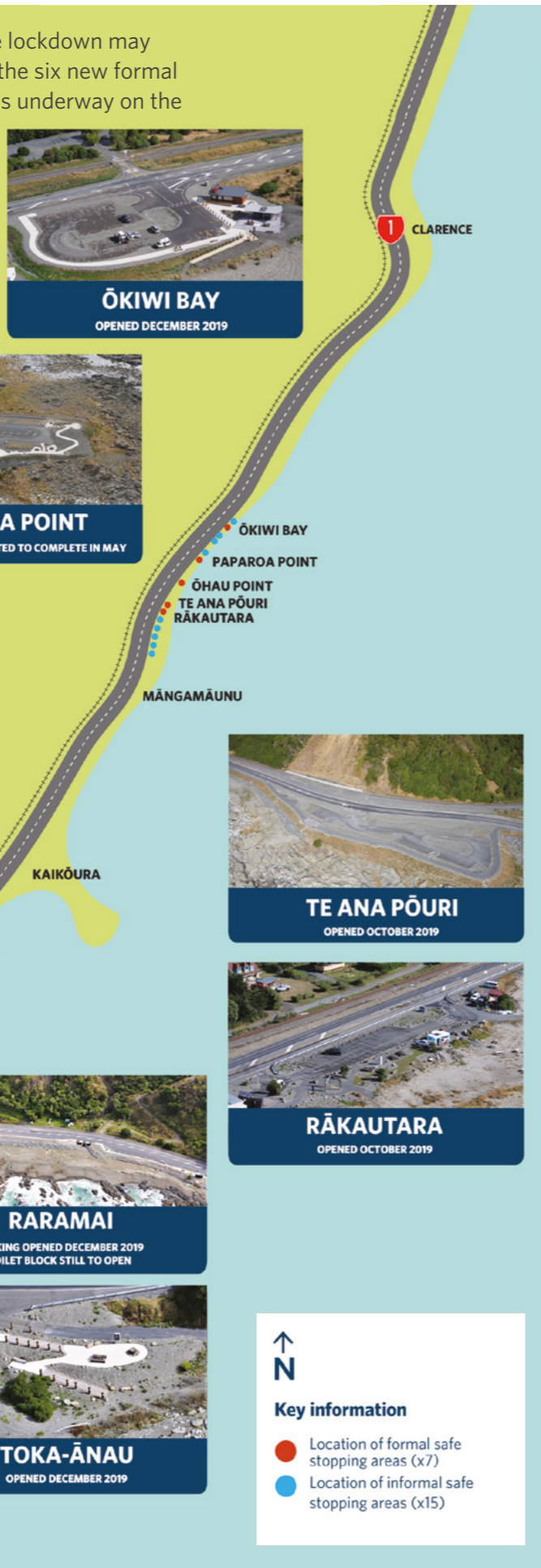


Anyone who drove the Kaikōura coast before lockdown may have taken the opportunity to stop at one of the six new formal Safe Stopping Areas along SH1. Work remains underway on the seventh and final formal area at Paparoa Point, with construction expected to be complete mid-year.

Information panels and various pieces of furniture have been installed at the Safe Stopping Areas as part of the Cultural Artwork Package, which was designed in collaboration with local Rūnanga to tell local stories along the coastal corridor. We will give more of an update about this project and the remaining work in an upcoming Bulletin, so watch this space!

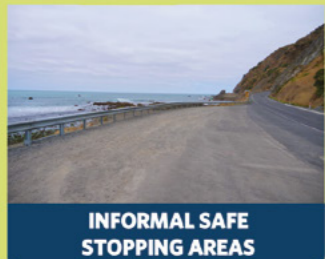
In addition to the seven formal Safe Stopping Areas there will also be 15 informal Safe Stopping Areas where NCTIR has been working, which will be tidied and then planted to help them blend into the natural environment.

There will also still be numerous casual places along the coastline with room to park and access the coast, as before the earthquake. Further planting will be undertaken at the Safe Stopping Areas during the June/July planting season.



Key information

- Location of formal safe stopping areas (x7)
- Location of informal safe stopping areas (x15)



Camera crews focus on rail at Tunnel 11



Before lockdown a camera crew from the Discovery Channel visited NCTIR's Tunnel 11 site south of Kaikōura to shoot some footage for its documentary programme, *Mighty Trains*. NCTIR Site Engineers Marion Guerreiro and Miguel Arteaga spoke with the team about the tunnel extension, and the rock anchors and backfilling work under way at the time.



Mororimu Stream Bridge repairs



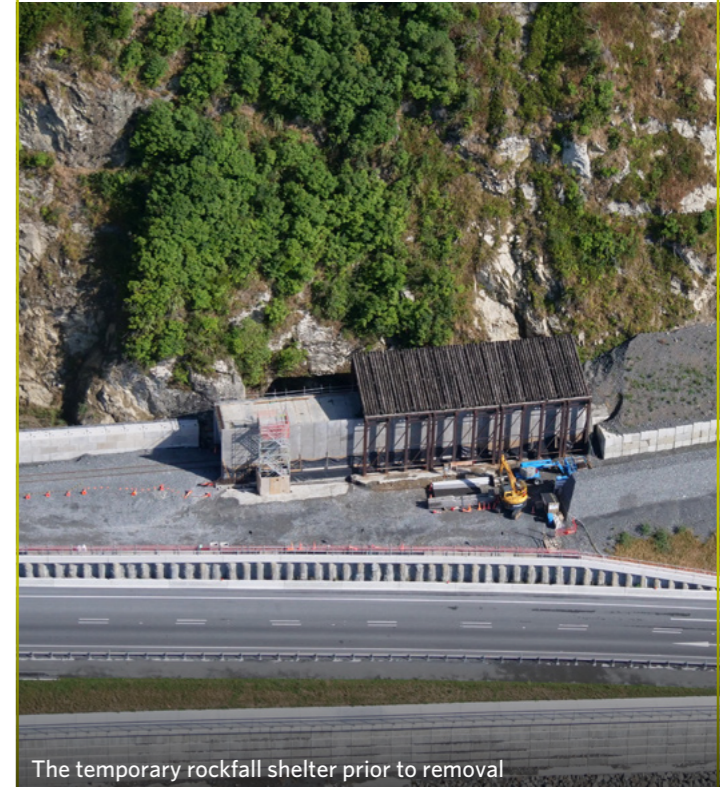
Earthquake repairs were well underway at the Mororimu Stream Bridge (north of Ōkiwi Bay) before lockdown. These repairs involve reconstructing parts of the bridge's abutments and approaches, hydro-demolition of existing abutment wingwalls, careful reconstruction of the reinforcement, concrete crack injections, and upgrading the road safety barriers.



Temporary tunnel shelter removed south of Ōhau Point



The temporary rockfall shelter that has been in place at Tunnel 19 since the 2016 earthquake was removed last month, revealing the new permanent tunnel shelter beneath. Crews are now back on this site under Alert Level 3, and can focus on installing rock anchors and backfilling.



Mulch collaboration at Jacob's Ladder B

With the bund and catchment basin at Jacob's Ladder B (south of Ōkiwi Bay) completed before shutdown, crew can now turn their attention to the finishing touches: planting and hydroseeding.

The land at Jacob's Ladder belongs to the Department of Conservation (DOC), and throughout the project there has been a real collaboration between NCTIR, DOC, the Cultural Advisory Group, the Restoration Liaison Group and local iwi to preserve the ecology of the area.

NCTIR Project Manager David Larcombe explains that the trees remaining at the centre of the basin are a result of this collaboration. 'The original plan was to build the basin straight through the site, but pretty early on in the piece we had conversations with the Cultural Advisory Group and DOC and identified two totara trees of cultural and ecological significance that we all wanted to keep.'

'To ensure the survival of these trees going forward, we adjusted the design of the basin and shaped it around the root systems of the totara. DOC was also focused on protecting seeding trees - the older trees that will seed the forest floor - and so we saved as many of these as we could up on the edge of the forest.'

A digger with a special mulcher head attachment was bought in to chip the remaining trees that were removed from the basin, with the resulting mulch to be spread over the outward side of the bund. DOC's focus was to encourage the growth of native species on the outward side of the bund, as this will be unaffected by any future debris flow.

To reduce the spread of exotic and invasive plant species all machinery entering the site was washed, and active weed control put in place. The bund was hydroseeded last week, with a mixture of fast-growing and long-lived native seeds that have been eco-sourced. Some further planting is planned during the June/July planting season.



Completed bund Jacob's Ladder B



The special digger head attachment used to mulch trees

Safer alignment at Ōkiwi Bay



Prior to lockdown, motorists may have noticed a change on State Highway 1 south of Ōkiwi Bay, with the single lane of traffic switching from rail-side to sea-side as work progressed on the road alignment.

After the 2016 earthquake, a temporary road was built on the seaward side of the original road and the rail laid on the pre-earthquake road footprint to ensure resilience from the slips above, says NCTIR Design Lead Rosman Abdullah.

'This post-earthquake road was always intended to be a short-term solution as the current geometry and camber isn't suitable for the overall operating speed of this area.'

The new road alignment will reduce the number of curves from three to two, remove a dip in the road, increase the radius of the curves and widen the centreline.

'The majority of the alignment is being built on the existing footprint of the road - building it up to match the height of the realignment section,' says NCTIR Site Engineer Kerry Baillie.

Part of the road was built on the slip material to reduce construction time and cost, and to decrease the amount of excavation and imported river gravels required, providing a more sustainable solution.

'Layers of geogrid have been added beneath the embankment to ensure structural integrity of the rebuilt road for future resilience,' says Baillie.

While they built the revetment, the crew made a temporary protection bund using the existing beach rock wrapped in geotextile fabric to prevent sediment run-off, as a measure against environmental impacts and tidal erosion.

Once the revetment was completed, the geotextile was removed and the bund rock was pulled back to tie it back to the existing beach rock.

At the completion of the project the embankment will be covered with topsoil and reinstated to a natural state.



Bringing the new alignment up to height earlier this year



NCTIR's realignment works are a part of the Government's wider \$231 million investment into safety and resilience on SH1 between Clarence and Oaro, with the aim of delivering a more 'self-explaining' and consistent corridor, which helps to achieve safety benefits.

Progress on the new road alignment at Ōkiwi Bay as of mid-March

Telco update

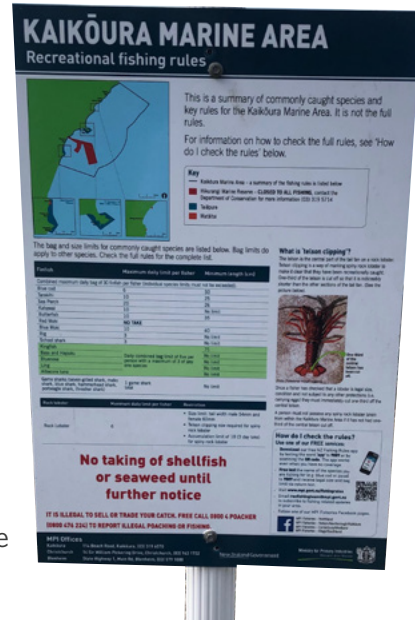


Under Alert Level 3 crew will continue laying duct for the Telco fibre optic cable between Hāpuku and Clarence, which was damaged during the 2016 earthquake. While a temporary fix was done at the time to restore critical communications, some sections of the cable remained exposed. NCTIR started this Telco project in 2019, and now there are only a few short sections of duct to be completed at Paparoa Point, Ōkiwi Bay and just north of Hāpuku Bridge. We have been working with our Cultural Advisor and Te Rūnanga O Kaikōura regarding the installation of Telco on the inland side of SH1 opposite Kiwa Road intersection. This will be installed overland (as opposed to trenched), which will involve minimal ground disturbance.

NCTIR to install marine managements signs



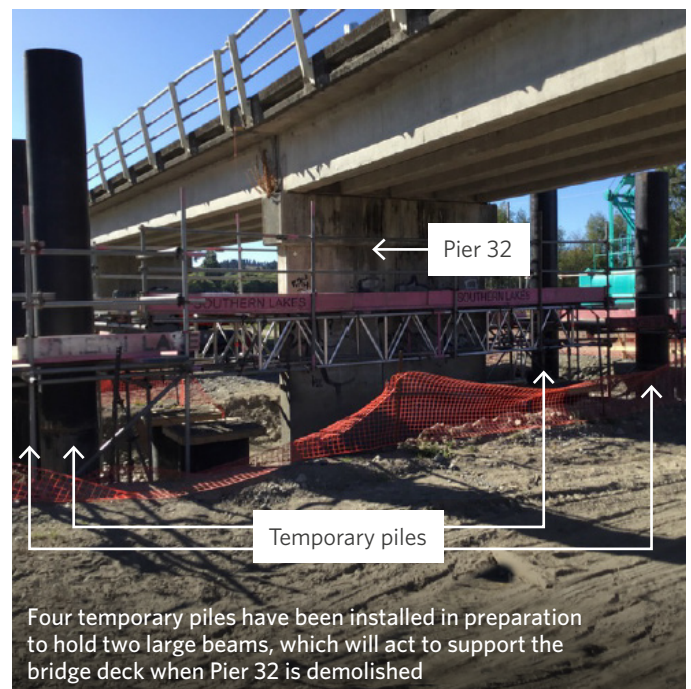
NCTIR will install 71 various marine regulation signs along the Kaikōura coastline on behalf of the Ministry for Primary Industries (MPI), which will supply the materials and mark out the intended locations.



Progress at Waiiau Bridge



Repairs on the Waiiau Bridge, which started in November last year, are now continuing under Alert Level 3. This involves replacing pier 32 and the southern abutment, and repairing 34 expansion joints. A temporary Bailey bridge has been installed over the southern end of the bridge where the abutment and pier will be demolished to keep the road open to traffic. Below are some photos showing the progress made on this work just prior to the COVID-19 shutdown.



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Call our freephone: **0800 NCTIR EQ** (0800 628 4737) or email us: info@nctir.com

This Bulletin provides the latest information about the rebuild of road and rail networks damaged by the Kaikōura earthquake in November 2016. The Bulletin is produced by the North Canterbury Transport Infrastructure Recovery (NCTIR) - an alliance representing the NZ Transport Agency and KiwiRail, on behalf of Government.