



# The Bulletin Kaikoura earthquake update

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## STATE HIGHWAY 1 IS DUE TO REOPEN ON FRIDAY 15 DECEMBER

Detailed information about 'what open looks like' is being shared via a dedicated web page - [www.nzta.govt.nz/p2c](http://www.nzta.govt.nz/p2c). The page will be updated regularly with more information - including photos and video footage - about what to expect on the route as the reopening date approaches.



## A GLIMPSE OF A NEW ROAD APPEARING IN THE NORTH

Site 1 at Mangamaunu is bustling with activity as the work to rebuild State Highway 1, north of Kaikoura, ramps up.

The two major slips at this site has meant the new road alignment stretches more than 1km, the highway having to be shifted seawards to create space for rockfall protection and a new rail alignment.

'At the start of the project, the biggest challenge was the deadline to complete the rail realignment and get trains back up and running,' says Construction Manager David McGoey. 'Once that milestone was achieved, the teams were able to focus on the road and they have made great progress.'

The coastal realignment team, of about 30 people, has been working hard since April to get this section completed. Underneath the road, seven new drainage culverts were installed to take water that comes off the mountains and divert it from the road.

Kerbing has been completed and next week work begins installing the guardrails at the site. The kerb had to be completed before placement of AP40 (which is a 40mm maximum size aggregate, a loosely compacted mix of sand, gravel, and stones) could begin. 'Now the team is working to place AP40 over the entire 15,000 square metre area, and that should be completed by the middle of next week. Following placement, we will cement stabilise it.' Cement stabilisation involves a large hoe coming in and milling the AP40 and adding cement to the aggregate which strengthens the material.

'The road is really taking shape and once it is stabilised, we can give it a final compaction using various construction rollers. After this we can start laying the chip seal,' says David. 'There is a lot of pavement work and sealing to complete, and our team is working around the clock to accomplish our goals,' says Delivery Manager Cherie Leckner.

Once the sealing is complete, the line marking team will come through and put the finishing touches on the road.



Site 1 at Mangamaunu

Site 1 at Mangamaunu

This weekly bulletin provides the latest information about the rebuild of road and rail networks damaged by the Kaikoura 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.



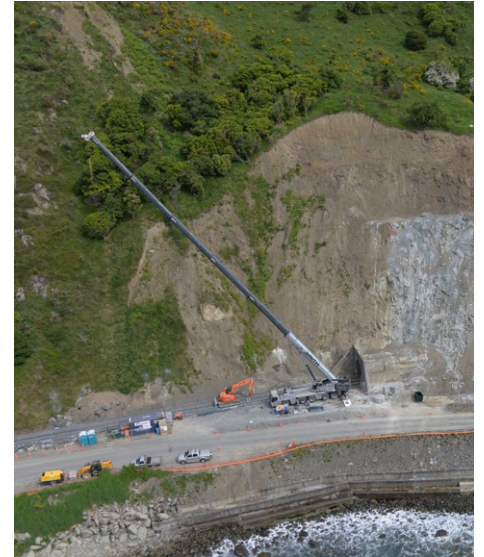




## A HUGE ACHIEVEMENT AT TUNNEL 13

A team of 24 people worked around the clock for more than four months at the badly damaged Tunnel 13, just south of Kaikoura, beyond the Kahutara River Bridge. Now the tunnel team's hard work is paying off. At this stage, the slope above the tunnel has been fully unloaded, mesh has been applied on the face of the slope, and slope stabilisation is 100% complete. All 116 anchors have been installed and grouted with 1750 tonnes of cement outside of the tunnel. Using an innovative propping system that was the first of its kind in New Zealand, all 346 anchors have been installed and grouted with 1689 tonnes of cement from inside the tunnel. At a site that was once considered an exclusion zone, it is no small feat that work trains are passing safely through Tunnel 13 on schedule.

With the priority of stabilizing the tunnel in order to ensure work and freight trains can pass safely through now completed, Tunnels Manager Rafael S Ballen says they can look ahead to the next goal; constructing a 65 metre extension at the southern portal of the tunnel.



## FISH SALVAGING OPERATION

More than 750 fish have been re-released into Lane Stream on the Inland Road (Route 70) following the repair of Culvert A58. The culvert, over a tributary of the Conway River, was badly damaged in the earthquake. The stream flows through Culvert A58 on the Inland Road (Route 70), just over 30km from the Kaikoura township.

NCTIR's fresh water ecology team using a variety of techniques, including electric fishing and trapping, captured 750 fish from the stream, re-releasing these following completion of the work.

Electric fishing, which works best in flowing water, was used upstream to capture fish that have been stunned by the electric fishing machine. The fish included common bullies (a migratory species that need access to the sea to complete their lifecycles) and non-migratory upland bullies. 'This was a remarkable and unexpected number of fish to capture from a small area of stream,' Tanya says. Only one common bully was found. Downstream, trapping was used in a small pool because the water was deeper and slower.

Freshwater ecologist Dr Tanya Blakely says: 'We then used baited fyke nets to trap fish downstream of the culvert. Nine nets were baited with cat food to attract fish in a small pool.'

An environmental survey earlier in the year suggested fish were having trouble navigating through the broken pipe - many migratory and non-migratory fish were present downstream, but only a few upstream. 'Even though the pool was only about 2m x 3m and by 1m deep, we captured more than 750 fish.'



Damaged Culvert A58



Net full of fish about half of the 750



Upland bully





## FREIGHT SERVICES RESUME

Freight operations on the Main North Line between Picton and Christchurch are back up and running this week after the exceptionally heavy rain in late September and early October impacted the rail link.

Commercial freight services began in mid-September but exceptionally high levels of rain in Kaikoura later that month and in early October caused dozens of slips along the line, halting the services.

Favourable weather conditions since then have meant our teams were able to clear the slips and repair the tracks and bring forward some other Main North Line works.

The bridge bearing replacement programme on the Clarence River Bridge has been accelerated and more than one quarter of the works have now been completed. The time was also used to lower the track through one of the tunnels north of Kaikoura, which means work can begin on replacing the tunnel lining.

Two return freight services will operate at night, to enable work on the road reconstruction to continue during the day, says KiwiRail Group General Manager Network Services Todd Moyle.

‘Despite the limited, low frequency of the services, we estimate they will help take up to 2000 trucks a month off the alternate route.

‘That helps take pressure off the alternate route, which has been the main route to shift freight south since the earthquake. We will continue to work towards restoring the line to its full operating capacity over the coming months.’



## TRAIN DRIVER RE-FAMILIARISATION ON THE MAIN NORTH LINE

Resuming freight services hasn't just been a matter of clearing and repairing the track - making sure all the train drivers knew what to expect when they resumed driving duties was also a big part of the commissioning process.

Christchurch and Picton-based Locomotive Engineers (LEs) must all take part in the comprehensive route familiarisation training programme, called “Programme Reset” before taking up their driving duties again.

KiwiRail Operational Excellence Manager Jason Lawn says ‘the priority was to ensure safety first and for the local LEs, after a 10-month absence from the Main North Line, to come back and replenish their knowledge of the track - the new adjustments of the track gradient, curves and speeds prior to going out live.’

Drivers spent some time in the classroom going over the rules and codes, and worked through a presentation outlining the changes they would see, before they headed out for training runs on the route. ‘We also introduced additional safety components to the train, an emergency communications bag, “the grab & go bag”. This has a personal locator beacon, satellite phone, back up train control radio, food supply, torch and blanket,’ Jason says.

So far all Picton-based drivers and well over half of Christchurch-based drivers (many of whom also drive other South Island rail routes as well as the Main North Line) have completed that training.





## RAIL SAFETY

With freight trains back on the Main North Line between Picton and Christchurch, please remember to stay focused every time you approach a level crossing and to always expect trains at any time, from either direction. Trains are fast moving, deceptively quiet and they can't stop in a hurry or swerve to avoid anything.

Please stay off the railway tracks, and only cross at level crossings.

### Reminder – how to stay safe around a railway:

#### Key safety messages for pedestrians:

- Only cross at formed pedestrian crossings or an overpass or underpass.
- Remove your headphones, stop and always look both ways for trains before crossing the tracks.
- Only cross if you are sure there are no trains in sight.

#### Key safety messages for motorists:

- Obey the warning signs and look carefully in both directions for trains.
- Listen, be aware and pay careful attention to your surroundings.
- Always ensure there is space on the other side of the crossing for your vehicle.



## RESIDENTS IN OARO LOOKING FORWARD TO BRIDGE COMPLETION



After spending most of the year watching workers bring the earthquake-damaged Oaro Bridge back to life, local residents are looking forward to a peaceful summer with the completion of the bridge repairs.

From this week, work has been carrying out the finishing touches to the bridge, laying a new chip seal, installing new guard rails and line marking the road with work due to finish in November.

It's a welcome sign of progress for the community. Tony Davis has been holidaying in Oaro since 1981 and has owned his home there for 15 years.

'It was heart breaking to see the damage to the bridge; it was shocking how it can be so damaged so quickly - how can it pop up like that?,' says Tony. He didn't think it would be able to be repaired.

'The road on both ends just dropped away, there were cracks all over the bridge and I thought this was the end of it,' he says. Unlike the bridge, Tony's house has been written off: it's cracked and broken and will need to be rebuilt.

He was used to having thousands of cars and trucks pass over the bridge every day, however apart from the workers it's been relatively quiet. 'I can almost see the finish line, but boy it takes a while to repair a bridge,' he says.

His neighbour Trudy McConchie has also been keeping a close eye on work; she's looking forward to the work finishing. 'It will be nice when the cones are gone, the bulldozers pack up and go home and we get our view back.' Straight after the earthquake local rumours had her concerned that these much needed repairs were never going to happen.

'It was pretty devastating, there were lots of rumours floating around. Everybody was saying lots of scary things, that there would be no railway, no bridge and the Hundalees wouldn't be repaired.' Luckily that was never the case, Trudy was glad to see an earthworks army move in to fix the bridge. 'I'm really grateful for the support of the workers, helping to get Oaro back up and running,' she says.

During the first stage of repairs, traffic heading to or from Kaikoura had to share a small local road running past the bridge on the ground. It was just a few metres closer on the other side of the rail line, but Tony says it made all the difference.

He's looking forward to the road north of Kaikoura reopening before Christmas. 'We're almost forgotten in a way; we used to have State Highway 1 traffic past our houses and now it's quiet. It will be business as usual pretty soon,' he says.



## DEBRIS BRIDGES

After just two weeks of work, what was recently a worksite buried in slip debris after heavy rain, is now a nearly complete debris channel bridge north of Half Moon Bay. Crews have cleaned up the worksite and are now ahead of schedule after a weekend of heavy rain turned the site into a swamp.

Pictures of the mud-soaked bridge made national headlines earlier this month, however last week a series of major milestones were reached when the cleaned-up site had ten 21m long bridge beams installed last week (see **last week's Bulletin** to find out more).

'It's an awesome milestone for the crew and one to be proud of,' says Site Engineer Sarah McCallum.

'The debris bridge wasn't complete when the rain sent the muck rushing down. Instead of being a covered channel for material to flow through, the unfinished and open construction site filled up with mud like a pool.

'We always knew it was going to come down but we would have preferred to have a finished bridge there to take the mud flow. It was disappointing but we knew we had to just get back up and carry on,' says Sarah.

Faced with a muddy worksite, the earthworks team joined forces with the structures team and carried out the clean-up in just five hours.

To help clear material from the top of the slip, a section of rail line was cut out so machinery could move the mud. Four excavators, bulldozers and huge dump trucks worked to clear the mess, and it wasn't long before the site was back to normal.

'We had crews back at work the next day, the new rail bridge we recently installed wasn't even damaged,' says Sarah.

Meanwhile, the second debris flow bridge located 300m to the north also had ten beams laid last week.





## Irongate Bridge

The crane being used for the debris bridges has now moved to Irongate where the first 13 beams of the new bridge are being installed. The remaining 78 beams will be installed by a 250-tonne crawler crane, expected to arrive on site in November.

Site Engineer, James Brewer says it will be a logistical challenge once the 250-tonne crane is assembled on site.

'We will have several crews working at both ends of the bridge. At the northern end we will be laying bridge beams, while at the southern end we will be completing the last of our pier heads for the beams to sit on,' says James.

With warmer days and visible progress on site, James says morale is ever increasing.

'We're making awesome progress on site every day, this bridge is looking fantastic,' says James.

The 144m long Irongate Bridge connects to the new seawall by passing beside the old landslide-damaged road which is parallel with the rail line running between.

'It's going to be great to drive on it when the road opens,' he says.



## WHAT IT'S LIKE TO BE A STOP/GO WOMAN

Three days in to her new job as a stop/go woman on the alternate route, Nelsonian Crystal Ginty is loving life.

Seeking a hands on outdoors job, she switched from insurance to construction and isn't looking back.

'I like to be outdoors and this job is awesome, especially when it's not raining. I love my job, it's a massive change for the better,' she says.

'We have two sites, 400m apart, which we try to keep under control without traffic backing up in the middle section or waiting too long at either end; it's logistics management,' she says.

Crystal and her team are working to keep cars at a maximum wait time of five minutes, she says. Generally, most vehicle wait times vary between 30 seconds to a minute.

'We try to make it as less stressful for drivers as we can. There are a lot of worksites along the alternate route and we know it can be frustrating.'

**Note:** Speed restrictions, signage and road crews working close to moving traffic all work hard to keep everyone safe. Please obey road signage and instructions to play your part in helping to get everyone safely home at night to family and friends.







## PLAN AHEAD: ONE NIGHT CLOSURE WITH 40-MINUTE DETOUR BETWEEN SPRINGS JUNCTION AND MURCHISON

The NZ Transport Agency is closing a section of State Highway 65, the Shenandoah Highway, overnight November 12 to 13, to repair the Williscroft Bridge (pictured) between Springs Junction and Maruia.

The bridge is scheduled to be closed from 8pm Sunday 12 November until 6am Monday 13 November to complete this work as quickly as possible. Motorists in the area will need to take a 40-minute detour (see map). Please allow extra travel time if connecting with a ferry or other scheduled arrival time.

Northbound traffic will turn off at Springs Junction and continue on SH7 to Reefton, then SH69 to Inangahua before rejoining SH6 at the turnoff just south of Murchison (O'Sullivan's Bridge). Southbound traffic follows the opposite direction. Please follow the on-site signage.

Motorists are thanked in advance for their patience.

Scheduled work is subject to weather and other conditions. Visit [www.nzta.govt.nz/traffic](http://www.nzta.govt.nz/traffic) for real time travel information or phone **0800 4 HIGHWAYS** (0800 44 44 49).





## OPEN/CLOSED SCHEDULE FOR SH1 SOUTH OF KAIKOURA

### Reminder - next upcoming closure:

- Monday 6 November to Friday 10 November.

There will be local drive-throughs each day, with the Inland Road (Route 70) available for travel 24/7 when SH1 south of Kaikoura is closed. The new 'normal' open/closed schedule:

- Friday to Monday - open 7am to now 8pm to the public (closed overnight).
- Tuesday to Thursday - open at 7am, and then again for two hours between 6pm and 8pm for the local drive-throughs (closed the rest of the day and overnight).

### NEW upcoming closure:

- Monday 20 November to Friday 24 November.

Local only drive-throughs will be available at 7am and between 6pm to 8pm daily. The road will be closed for the rest of the day and overnight.

Heavy rain through September and October has meant that new slips and rockfalls have added extra works to the current work programme. Crews will also make use of the reduced traffic flows to advance road works at Oaro in the Hundalee range south of Oaro to ensure completion in December. Thank you again for your support and patience while our crew work hard to get the road reopened.

These works are only possible with a full road closure and your understanding as we progress this work is greatly appreciated.



## ROAD CLOSURE

Structural repairs are being made to the Flaxbourne River Bridge and Needles Bridge in Ward, north of Kaikoura. A road closure is in place on SH1 between Ward Beach Road and Seddon Street until December.



If you would like more information about this work please email [info@NCTIR.com](mailto:info@NCTIR.com)

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- For travel information about road conditions, see: [www.nzta.govt.nz/traffic/regions/11](http://www.nzta.govt.nz/traffic/regions/11)

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