

# CONSTRUCTION UPDATE



## Busy season upon us

We've entered our final bulk earthmoving season and our structures are quickly coming together. Landscaping is well underway and work has started on the Northern and Southern Connections which will book-end our project. Our alignment and finishing works team has started drainage, ducting and swale works. Road surfaces are all set to go with the placement of a granular layer for the lower part of the surface structure.

It's exciting to see our road begin to take shape and to see our end goal more clearly – a safer, more resilient and reliable connection.

That excitement has been evident across the project recently as we return to our busy summer construction period.

Big machines are once more moving around

the countryside and with around 1.6 million cubic meters of earth left to move, we'll be looking to maximise every day of sunshine.

We've got off to a strong start, shifting over 200,000 cubic meters of earth already thanks to some unexpectedly good weather.

As activity ramps up, we're welcoming back many staff who have worked on the project previously, including our subcontractor colleagues. We're also seeing the return of machines including 120 tonne diggers, 65 tonne rigid dump trucks and articulated dump trucks ranging in size from 30 to 50 tonne.

For a glimpse into what goes on during the earthmoving season, check out this great video of our highlights from last summer: [www.youtube.com/watch?v=AxS-ER5XRiM](https://www.youtube.com/watch?v=AxS-ER5XRiM)

## MILESTONES

As you know, we needed to adjust our opening date and programme of works following the COVID-19 shutdown earlier this year. We now have some new dates for some of our key milestones:

**JANUARY 2021**

Arawhiti ki Ōkahu complete

**MARCH 2021**

Arawhiti Pua Ngahere complete

Earthworks complete

**APRIL 2021**

Arawhiti ki Pūhoi complete

**MAY 2021**

All structures complete

**FEBRUARY 2022**

Road surface works complete

**MAY 2022**

Motorway open to traffic



## First winter planting season complete

The end of winter marked the end of our first planting season on the project.

Planting is completed between May and September when the ground is wet. We had originally hoped to finish about half of our total planting for the project this winter but our preparation was hampered by the first COVID-19 lockdown.

“Despite this we made great progress in the areas that were available and planted a total of 37.44 hectares which was above our targets,” says Landscaping Area Manager Simon Butler.

“The team did a great job in getting the final preparations complete in quick-smart time post lockdown.

“We’ve also learnt some good lessons and will apply them during next winter’s mammoth 115 hectares (750,000 plants) season.”

While the planting season is complete, it doesn’t mean there’s any rest for the landscaping team over summer, who will now shift their focus to fencing, mulching, grassing, planting maintenance and site preparation for the winter 2021 season.



Landscape Co-ordinator Chris Dale at one of the season’s final plantings.

## Viaducts come together

There has been plenty to celebrate over recent months for our structures team, who met a number of milestones in the construction of the stunning viaducts at the southern end of the project.

The final steel girder to be installed on the project was lifted into place on Arawhiti ki Pūhoi on 18 September.

This is a huge achievement for both the project and the team who have been fitting these massive girders since November last year.

In total, we have installed 104 sections of steel girders on both Arawhiti ki Pūhoi and Arawhiti ki Ōkahu. Each girder weighs around 50 tonnes and lifting them requires some of the largest cranes available in New Zealand. Installation began 14 November for Ōkahu and 15 March for Pūhoi, with a total of 36 lifts (four sections in each lift, with a total 200 tonnes per lift).

Arawhiti ki Pūhoi’s last precast deck panel has also been installed, and concrete pours are continuing.

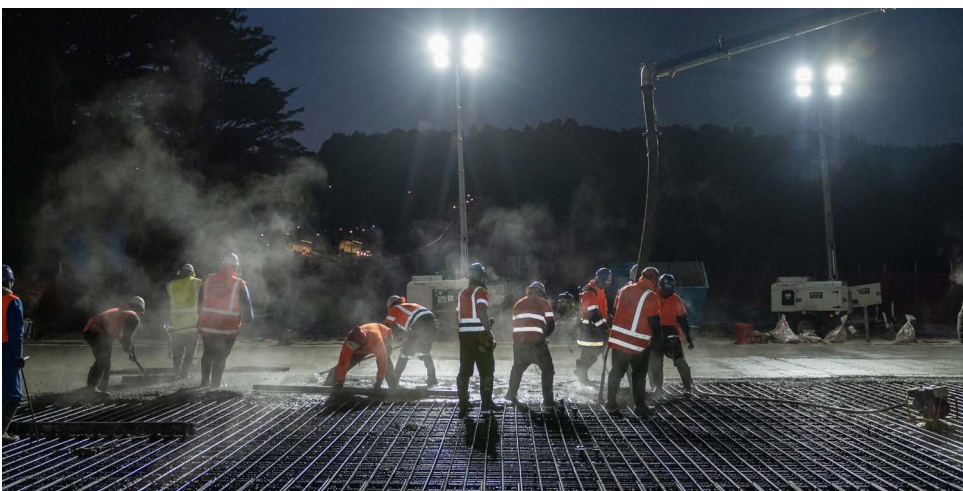
Meanwhile the sixth and final concrete deck pour took place on Arawhiti ki Ōkahu in October.



The final steel girders were installed on Arawhiti ki Pūhoi on 18 September.



The concrete deck has been completed on Arawhiti ki Ōkahu.



Concrete being poured on the deck of Arawhiti ki Ōkahu in the early hours of the morning.





## Environmental excellence

Our project team was recently recognised for its efforts to protect the local environment, particularly waterways, during construction.

Ara Tūhono – Pūhoi to Warkworth won the project category of the International Erosion Control Association (IECA) Australasian Environmental Excellence Awards, which celebrate innovation and outstanding achievement in the industry.

“The Ara Tūhono – Pūhoi to Warkworth motorway is being built to high environmental standards with a focus on protecting native species and our waterways, as well as significant planting and restoration works,” says Project Director Robert Jones.

Waka Kotahi Senior Manager Projects Delivery Andrew Thackwray says the IECA award is great recognition of the project’s attention to environmental detail.

“The motorway is to improve safety and resilience on this strategic route connecting Auckland and Northland, but the project team is also delivering on a commitment to enhance and protect the environment that the motorway passes through, leaving it in a better state.”

Robert Jones says the project is one of the largest earthworks projects underway in New Zealand.

“Erosion and sediment control is a key consideration and something the project team is particularly passionate about.

“The diverse geographical and geological landscape, from steep hill country to flat farmland and flood plains, has tested the project team.

“Through a collective effort and innovative solutions we have overcome challenges and met programme milestones while still achieving positive environmental outcomes.

“Our team takes pride in its environmental compliance. This award is a great achievement and a credit to their commitment and hard work.”

## Keeping safe on our roads

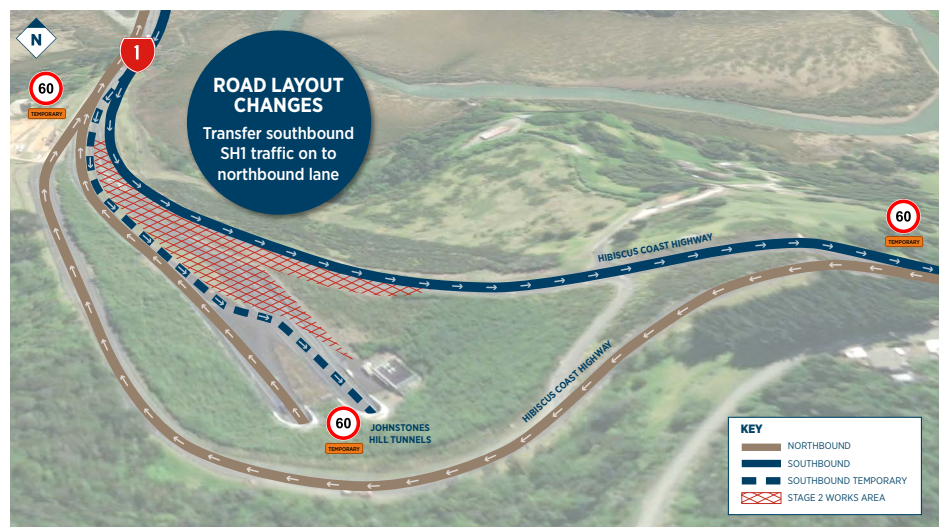
We are currently undertaking a range of works which require traffic management measures including speed restrictions, road closures and stop/go controls.

While we understand these measures can be disruptive, they are very important for keeping road users and our people safe. Please slow down and follow the instructions of our people and signs.

We will try to limit disruption to traffic flows, however road users should plan ahead and allow more time for their journey.

Some of the current and upcoming works requiring traffic management include:

- State Highway 1 – Southern Connection night works and road layout changes (north of Johnstones Hill Tunnels)
- Pūhoi Road widening works including night closures
- State Highway 1 – Northern Connection widening works between Hudson Road and the Kaipara Flats Road/Goatley Road/SH1 intersection



## Road layout changes near Johnstones Hill Tunnels

Work is beginning on an integral and important piece of work within the Ara Tūhono – Pūhoi to Warkworth Motorway Project requiring significant road layout changes north of the Johnstones Hill Tunnels.

Road users are encouraged to prepare for upcoming road layout changes to State Highway One (SH1) north of the Johnstones Hill Tunnels, Pūhoi.

Traffic in the southbound lanes will merge with the northbound lanes on approach to the tunnels. It will diverge into two lanes again before entering the tunnels (see map above).

This work is expected to kick off in November and marks the start of major Southern Connection work in this area to connect the tunnels to the new motorway.

There will be additional lane changes in the future that will enable us to work safely while still allowing traffic to flow in both directions.

Traffic management will be in place and the reduced speed limit of 60km/h will remain in place for the duration of the works, to ensure the safety of our people and the public.

For more information, see:

[www.nx2group.com/southernconnection](http://www.nx2group.com/southernconnection)

## Stakeholder survey

We work hard to keep stakeholders and the local community up to date about the Ara Tūhono – Pūhoi to Warkworth project, and we’re keen to get your feedback on how we’re doing. Our latest Stakeholder Satisfaction Survey is live now and will be open until Friday 6 November.

All responses will go in the draw to win a \$50 Countdown voucher. Follow this link to take part: [www.surveymonkey.com/r/73VR2F2](http://www.surveymonkey.com/r/73VR2F2)

## Creating art from ash and clay

When most of us look at ash and clay, we see dirt – but for our Traffic Engineer Martin Ward, these materials represent the possibility for colour and form.

Martin has a hugely important job on the project, helping keep our people and the public safe on the roads.

However, many are unaware he has hidden artistic talents and has been using discarded materials from the project to create works of art.

Martin is a skilled potter and he's created some stunning pieces using volcanic ash and clays dug from the project.

"The Taupō eruption deposited layers of Rhyolitic volcanic ash in various locations around New Zealand. It was discovered on the Ara Tūhono project and verified by our geologist specialist on site," says Martin.

"I decided to collect some to make a ceramic glaze. First I wash and grade the ash, and then the blending of a glaze starts. I produced

a fair few failures but then I produced the pot you can see in the photo."

Martin is a self-taught potter and particularly enjoys experimenting with different and unusual clays and glazes. Other materials he has used include bug casings, meteorites and bones.

"I once spent months on one glaze and used 50 vessels until I got it to come out the way I wanted it to," he says.

"I love the element of risk and reward. It pushes me to try different firing processes and firing schedules and to experiment with variations of glaze mixtures, to push clay and ingredients to whatever limits they can take.

"Only when a firing succeeds the risk and reward come together. Failure is often the best teacher as we learn from our mistakes."

Some of Martin's work can be seen at the Takatu Studio in Matakana or check out his website:

[www.nzstudiopottery.co.nz](http://www.nzstudiopottery.co.nz)



## Latest drone flyover

Check out our September flyover by clicking the image below (or head to our [YouTube channel](#), [Facebook page](#) or [website](#)).



We attended the Mahurangi Employment Expo on 1 October. Our team enjoyed meeting the local community and answering their questions about working in construction and infrastructure.



On October 12 the project team marked Fiesta Nacional de España (National Day of Spain) with a shared lunch, where everyone was invited to bring a plate of food from their family or culture. This was a great opportunity to celebrate our diverse team and to recognise how challenging this year has been, particularly for those who have family overseas.



## Taking to the skies

You may have noticed some helicopters in the skies around our project recently.

They've been undertaking specialised aerial work for us, such as transporting a drill rig (as pictured in these images). The drill rig needed to be taken to the base of a batter to install an inclinometer, which allows our team to monitor any lateral movement at the toe of the batter. The drill rig is dismantled and carried over 14 loads, taking around an hour.

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E. [info@nx2group.com](mailto:info@nx2group.com) P. 0508 P2WK INFO [f](#) Ara-Tūhono-Pūhoi-to-Warkworth