

# CONSTRUCTION UPDATE

## EARTHWORKS SEASON 2018/19

**The project's earthworks season officially starts on the 1st of October 2018.**

This is the project's second earthworks season and it's shaping up to be a big one! Over the next six months the team will be working hard to move up to four million cubic metres of earth across the project, as well as having all seven bridges underway. Construction activities will increase as the season progresses and the shape of the new motorway will become clearer.

**UP TO  
 4 MILLION  
 CUBIC METRES**

of earth to move  
 across the project.

Construction of  
**ALL 7 BRIDGES  
 UNDERWAY**

Bringing in  
**THE BIG KIT**  
 to help with production  
 and progress.

WE HAVE A  
**HIGHLY SKILLED  
 WORKFORCE**

who are passionate about what  
 they do and committed to building  
 a world-class motorway.

**KEEPING SAFE**

Some construction activities will be visible  
 from the roadside and may look rather  
 interesting, but **please don't get distracted**  
 when driving past.



# Works this season



## Woodcocks/ Carran Road Intersection

Ground improvements have been ongoing at the intersection of Woodcocks and Carran Road. This is to prepare for the construction of the Woodcocks Road Bridge in early 2019.



## Central North Zone

The Central North Zone has the most earth to move this season (up to 2 million cubic metres). This is due to the topography of the existing land with steep hills and deep gullies. Rock blasting will continue at several locations throughout the season.



## Southern end of the Central South Zone

The area between Pūhoi and Watson's Road (Site Access Point 7) will drastically change shape this season. In total there is more than 1 million cubic meters of earth to be cut, making our way through the landscape to reveal the path the road will take.

NORTHERN  
ROUNDBABOUT

Warkworth

MOIR HILL  
BRIDGE

Pūhoi

JOHNSTONE'S  
HILL TUNNELS

1

## Northern Connection

We will start ground improvement works at the Northern Connection, which is the area where the roundabout will be built and where the motorway will tie-in to the existing State Highway 1 (SH1).

3

Several culvert systems will be completed in the Central North Zone, to ensure fill/embankments can be placed on top.

4

## Central South Zone

With the abutments of Tapuwae o Kahumatamoemoe (Moir Hill Bridge) now poured the bridge is well underway. Over the coming months the bridge will start to take shape with a target completion date of mid 2019.

6

## South Zone

Permanent piles have been installed for the Arawhiti ki Ōkahu (Ōkahu viaduct) and the team have now moved on to the Arawhiti ki Pūhoi (Pūhoi viaduct). You can read more about this process in the story on page 3.



## Meet the Team – Ana Cuervo Gonzalez



Ana Cuervo Gonzalez

Meet Ana Cuervo Gonzalez, a site engineer in the Structures team working on Te Tapuwae o Kahumatamoe (Moir Hill Bridge). Originally from the beautiful North of Spain, a coastal town named Gijón, Ana moved to New Zealand for the project.

**Can you describe the moment you realised you wanted to become an Engineer?**

*When I was young, roughly 9 years old, I crossed over the Carlos Fernandez Casado Bridge which is near my home region, I looked to my parents and I said, "one day I will build a bridge like this one", from that moment I decided to study Civil Engineering. When I used to tell people that I wanted to be an engineer, the first reaction was: "are you sure?" engineering is a hard degree and it's*

*common for people to change their major part way through, take years to finish or in some cases not even finish it at all. The second reaction was: "you must take into account that construction world is a difficult word", but I always like to contradict clichés and go against what people expect of you just because of your gender, attitudes or any reason. I went to finish my civil engineering degree and two master's degrees: civil engineering and renewable energies in 6 years. A fantastic achievement!*

**What is the most exciting project you have been involved in?**

*Prior to this job I was working on the US \$13 billion KNPC Al-Zour Refinery project in Kuwait. This was an EPC project (Engineering, Procurement and Construction) and is the biggest refinery of the middle east and one of the largest in the world. I was based in Madrid as part of the design team as Structures Engineer.*

**It's a big commitment to move from the other side of the world for a job, we asked Ana her thoughts on moving to New Zealand**

*I love New Zealand, there are millions of places to visit! And the weather is better than I expected! Although some days we can have the 4 seasons in one day. I really enjoy the country and there are a huge amount of things to do yet!*

## Latest Drone footage now available

Interested in seeing how the project is progressing? Take a look at the latest drone footage, now available on our website [www.nx2group.com](http://www.nx2group.com) or by clicking the image below.



## Permanent Piles in the South

The southern end of the project is the location of our two largest bridges the Pūhoi and Ōkahu viaducts. Arawhiti ki Ōkahu is the longest at over 340 metres and will be the first viaduct drivers will experience as they head north through the Johnstones Hill Tunnels on the new road. Arawhiti ki Pūhoi will connect the motorway over the Pūhoi river.

During the past few months the structures team have been busy constructing the permanent piles at Ōkahu and from early

October they will move up to Pūhoi. These piles form the foundations for the viaducts and will support the dead load – the weight of the bridge itself, as well as the live loads it will carry (the weight of traffic travelling over the bridge). This is a great milestone for the structures team and a lot of hard work over winter has got them to this point. The basic piling process involves vibrating in the steel casing, drilling down through to design level, installing reinforcing cages, pouring concrete and then removing the casing.

In some areas, the team have installed cofferdams to allow them to work in a dry environment below the water level. The cofferdams are constructed by driving sheet piles into rock, these hold back the water allowing the area inside to be excavated. During construction, ground water will still need to be pumped out of these dams. In our next construction update, we will provide an update on the teams progress and the next steps in the process of constructing these great structures.



Pile casing and drill rig at Te Arawhiti ki Ōkahu



Sheet piles being installed at Te Arawhiti ki Ōkahu



# Out & about in the community

It has been a busy few months for the team, we've been out and about in the community with 11 community meetings and presentations delivered! One of the highlights was taking some of our team along to speak to the

Spanish class at Orewa College. This was a great opportunity for the students to test their Spanish on native speakers from Acciona while sharing information about the project!



Kyle Rolland, Ana Cuervo Gonzalez and Deb Hill at Orewa College



Project team members at the 'Engineering the Future' expo.

## Bringing in the big kit

In September we welcomed a few new stars to our team, including an excavator which arrived on site in three pieces! This brand-new Komatsu 120 tonne excavator will be working on some of our largest cuts in the Central North area.

We are looking for a catchy, appropriate and imaginative name for the excavator. Send your suggestions through to [info@nx2group.com](mailto:info@nx2group.com) or find the post on our Facebook page – [Ara Tūhono – Pūhoi to Warkworth](#).



## What's coming up?

### NORTH ZONE

- Ground improvement works start at the Northern Connection, including wick drains and placement of preload
- Temporary road closure on a section of Carran Road to install 2.4 metre culvert (early/mid October 2018)
- Ground improvement works continue at the Woodcocks/ Carran Road intersection

### CENTRAL NORTH ZONE

- Rock blasting at various locations
- Continue to install several culverts and commence fill
- Recommence bulk earthworks

### CENTRAL SOUTH ZONE

- Construction of Te Tapuwae o Kahumatamoe (Moir hill overpass) continues
- Establishment works and stock piling of rock in preparation for culvert installation.
- Continuing bulk cuts in the SAP8, Hungary Creek area

### SOUTH ZONE

- Permanent piles being installed at Te Arawhiti ki Ōkahu (Ōkahu viaduct) and Te Arawhiti ki Pūhoi (Pūhoi viaduct)
- Continue enabling earthworks for bridge abutment south of Pūhoi Road.
- Continue placing fill material on the S2 fill, south of Pūhoi Road

## Project Timeline

✓ <b>JANUARY 2017</b> Start of enabling works	<b>NOVEMBER 2019</b> Start of pavement works	<b>SEPTEMBER 2021</b> Pavements completed
✓ <b>OCTOBER 2017</b> Start of bulk earthworks	<b>NOVEMBER 2020</b> Earthworks completed	<b>OCTOBER 2021</b> Works completed
✓ <b>JANUARY 2018</b> Start of structures	<b>OCTOBER 2020</b> Structures completed	<b>LATE 2021</b> Motorway open to traffic

## Project Open Day

Due to the increased activity planned for this earthworks season we will be hosting our project open day in March 2019. Once confirmed further information will be in our newsletter and on the website; [www.nx2group.com](http://www.nx2group.com)

If you do not wish to receive any further newsletters, please [unsubscribe here](#)

A copy of our privacy policy and how we look after the information you provide us is available on our website: [www.nx2group.com](http://www.nx2group.com)

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