

SH20A to Airport

PROJECT UPDATE

SEPTEMBER 2015

Visible progress on SH20A

September marks nine months since work began on SH20A to Airport. Progress is visible along SH20A, from Bader Drive south to Landing Drive.



Construction progress, August 2015.

Northbound motorway ramps at the new Kirkbride interchange are well underway and are now being prepared for paving.

As SH20A sits on top of soft peat, ground improvement techniques have been needed.

Layers of soil have been added on top of the soil over a period of months to press it down to create a firm base to build on.

The first stage of noise walls, north of Kirkbride Road, will be constructed in September.

In total, more than 700m of noise walls

are being built alongside the motorway to reduce the impacts of road noise on houses bordering the motorway. A noise wall will also be constructed along the motorway boundary of Mangere Central School.

A combination of timber and concrete is being used and the design of the walls incorporates themes of cultural significance to manawhenua.

Trees and shrubs have been cleared along the state highway to make way for the improvements.

More than 80,000 new shrubs and trees

will be planted along the corridor as part of the project's wider landscape plan.

Relocating underground services has been a large part of the job so far.

Utility pipes and cables have been temporarily moved out of the way of works at the Kirkbride Road and SH20A intersection. They'll be moved again to be incorporated into the Kirkbride Road bridge.

Work has also started on the motorway trench. See over the page for a detailed explanation of how it will be constructed.

Building the trench

SH20A will pass through the trench under Kirkbride Road. The finished trench will be 580m long and 7.5m from top to bottom at the deepest point.

HUNUA 4:

The Hunua 4 Watermain will be incorporated into the side of the bridge.

THROW SCREENS

The throw screens (safety barriers) on the bridge are shaped to represent a waka moving on waves. The design of the throw screens acknowledge the importance of the Manukau Harbour as a key transport route for manawhenua in pre-European times.

THE BRIDGE

The Kirkbride Road bridge will be at grade level (flat). Once the d-walls are in place, 13 beams will be laid across them to form the bridge. The bridge is being built in two parts to allow traffic to continue to use the intersection during construction.

MANGERE CENTRAL SCHOOL

KIRKBRIDE ROAD

D WALLS

The diaphragm walls, or d-walls, are built first and form the sides of the trench. They are made of a series of panels which are installed in the ground before the trench is excavated.

Each panel is made by digging a shaft, inserting a steel cage and filling it with concrete.



Cages being prepared to use for construction of the d-walls.

SCREW PILES

Screw piles are part of the foundations of the trench. The water level is high in the ground beneath the state highway and the trench needs to be anchored to prevent it from floating. The piles are wound into the ground, much like a screw into wood, to hold the base down. The first piles are already being put in north of Kirkbride Road, as pictured.



SH20A

CAPPING BEAM:

This is the final part of the foundations. It connects the d-walls to props in the bridge.

THE TRENCH:

Much of the trench will be excavated from the top down. Once the bridge is in place, we will dig down for about 4m and install a temporary prop to support the d-walls during the rest of the dig.



Art work on overhead panels will mark road users' entry into the trench. Panels on the trench walls will represent the ribs of a waka. It is one of many elements of the project incorporating themes important to manawhenua.

SLAB:

This is the bottom of the trench. SH20A will run over it.

SUMP:

Rain and any other water that makes it into the trench will flow into the sump, which under the base slab, before being pumped out.

DID YOU KNOW?



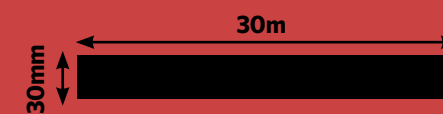
The bridge is due to be completed in August 2016 and the trench in February 2017.



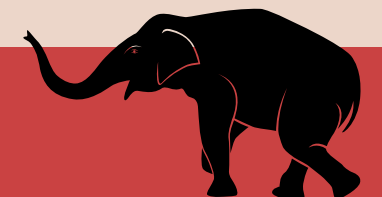
There will be 361 screw piles. They'll be drilled up to 40m into the ground in some places. They are a unique feature of the trench. They have not been used in a project like SH20A to Airport before.



There are 57 panels in the d-walls, containing about 857 truckloads of concrete.



The sump measures about 30m long and 30m wide. It's longer and wider than the lane pool at the Moana-Nui-a Kiwa Leisure Centre.



Each of the concrete bridge beams weighs about 55 tonnes. This is about the equivalent weight of 10 elephants.

Cycling detour routes during construction



Cyclists and pedestrians are not permitted to travel on SH20A until the new shared path opens in 2016. Two detour routes are signposted between Kirkbride Rd and the Landing Dr/ Verissimo Dr/ SH20A roundabout.

Kirkbride Road

The current layout of the Kirkbride Road and SH20A intersection will be in place until March 2016.

There are no right turns from Kirkbride Road on to SH20A and no left turn if you're heading north from the airport.

To ensure we maintain the existing lanes on SH20A heading to and from the airport, the road layout will be shifted throughout construction.

Montgomery Road

The intersection of Montgomery Road and SH20A will close permanently in 2016.

A second right turn lane from SH20A onto Montgomery Road has been temporarily opened to allow easier access to Ihumatao and Airport Oaks while there are traffic restrictions in place at Kirkbride Road.

Avoid delays at Kirkbride Road during construction by using Montgomery Road.

Real time travel updates

Current travel times for major routes to and from Auckland Airport are available on a mobile friendly webpage.

Bluetooth based 'blip-tracker' technology is being used to measure travel times on routes, including via the SH20 Manukau Harbour Bridge, the SH20 and Dominion Road interchange and SH20B.

Times are updated every six minutes and reported on www.drivelive.nz/AKL.

Save the link to the 'home screen' of your mobile device so you can check it prior to travel.

HOW IT WORKS:

- Anonymous Bluetooth devices including mobile phones, headsets and in-car navigation systems register as they pass between tracking units at different points, tracking the travel time between different locations.
- Units do not gather or record personal information and cannot be linked to an individual.

For more information on the SH20A to Airport project, or to be added to the Stay in Touch project database, please contact Kelli Sullivan, Stakeholder Manager for the MHX Kirkbride Alliance.



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