



Waikato Expressway

Cambridge Section

Information sheet October 2014

Summer is coming - take care around site

The winter period has been a busy time on site with a number of noticeable milestones reached. These include the reopening of Pickering Road to SH1, and a new section of expressway opening between Duncan Road and Pencarrow Road. We have recently celebrated being one year into construction, and with summer on its way, you will start to notice a few changes as we crank up activity on site.

Please take extra care at haul road crossing points on Watkins, Victoria and Forrest roads with an increasing number of trucks travelling on site.

Beware of the safety issues around these haul road crossings as we are still getting a number of people running red lights.

HEB Construction and their subcontractors will be working hard to minimise dust with systems in place such as water carts, dust warning signs and no driving zones.



Take care and follow the traffic signals while at controlled crossings as there is some very big machinery using these haul road crossing points, as this photo demonstrates.

Pavement design

Work on the main alignment pavement has so far been focussed at the northern end of the project, but pavement crews will be moving along the site, which means we'll soon have more pavement plant on site, and fewer dump trucks.

The NZ Transport Agency has applied to alter a designation condition to change the first coat surfacing that will be trafficked in the first year of opening, before laying of the smooth asphalt surfacing later in the year. The first coat surfacing is expected to be more durable than originally proposed as it is more suited to higher trafficked roads such as SH1. The effects of this change are expected to be minimal.

To the right is a typical cross section of the pavement layers that will form the expressway road. The cement has been added to the basecourse and subbase layers to improve early pavement performance.



This is a bitelli paver



Paver laying asphaltic concrete

PAVEMENT LAYERS



Surfacing: This varies depending on the road usage and traffic volumes, but the types of surfacing we have on this project include chip seal, asphaltic concrete and the smooth surface of open graded porous asphalt (OGPA).

Basecourse: A high quality aggregate with cement mixed in.

Subbase: Larger chip size aggregate with cement mixed in.

SIL: (Subgrade improvement layer) brown rock or sand.

Geotextile and geogrid.

Subgrade: Insitu, natural ground.

Pickering Road bridge opening!

Pickering Road underbridge will be a milestone for the project as it will be the first bridge open to expressway traffic. It is currently planned to open in early 2015.

A little about the bridge:

- It is a single span super tee bridge, with abutments founding directly on top of MSE walls
- It was the first bridge on this project to have bridge beams placed
- It has no deep foundations but is 'sitting on the surface'
- The bridge beams rest on a concrete pad cast on top of a 'mechanically stabilised soil block' that is steel reinforced to resist earthquake loads
- It is made up of 11 precast super tee beams, cast by HEB Precast in Tauranga.



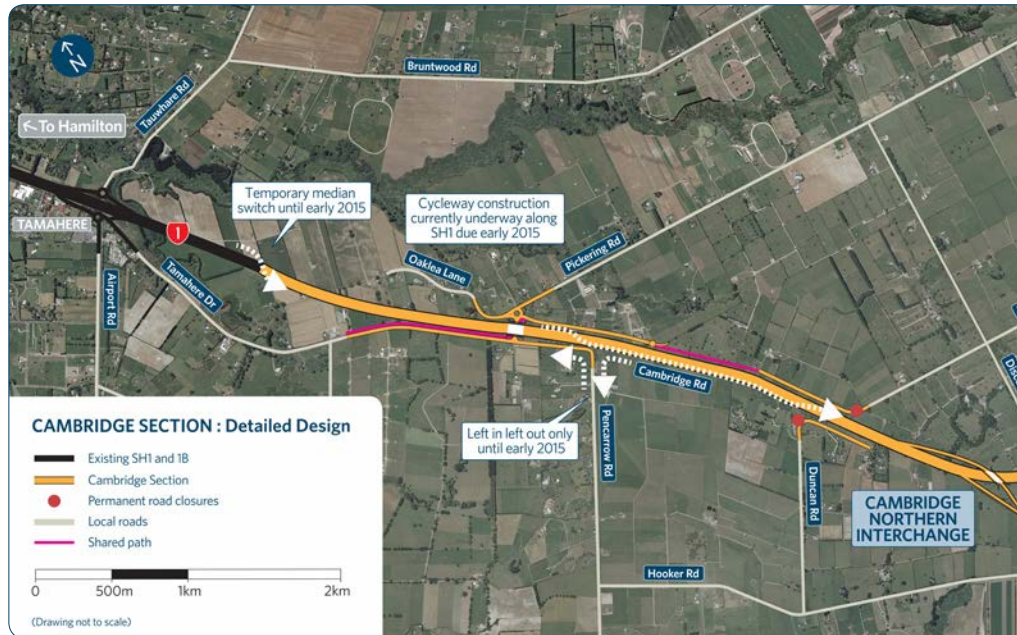
Concrete beams being lowered into place at Pickering Road underbridge.



Pickering Road underbridge



Pickering Road underbridge MSE block wall.



Building bridges

Karapiro Gully viaduct is one serious piece of engineering! The viaduct consists of four 50m spans, making it 200m in length with the deck 40m above the gully floor. Auckland's Harbour Bridge is only 3m higher at 43m above the water.

The bridge is supported on piled foundations, consisting of 711mm diameter steel tubes, filled with reinforcing and concrete. Piles vary from 20m to 63m deep. The four-span bridge deck consists of precast panels with a concrete topping and requires 1100 tonnes of structural steel.



Karapiro Gully viaduct progress.

Pickering Road may be the first, and Karapiro Gully viaduct the most impressive, but there are six other bridges on this project to take a closer look at.

The **Northern interchange overbridge** is a two span structural steel concrete deck composite bridge. Steel is ideal for the long spans, keeping the superstructure light and able to be supported on 'shallow' substructures.

Peake Road overbridge will carry local traffic over the Expressway. With the racecourse close by it will have a wide shared path for pedestrians and horse riders plus a higher parapet rail to ensure safety for equestrian traffic.

The **Victoria Road interchange bridge** consists of two bridges, which will carry Expressway traffic over Victoria Road. The structure has two separate decks, one for each carriageway.

The **Swayne Road overbridge** is more traditional in its design as softer soils means piles are needed to support the weight of the bridge. It has taken many centuries for the meandering Waikato River to deposit the 65 metres of silts that the piles need to be driven into.

The **Thornton Road overbridge** is a little different to the other structures, as it will take Thornton Road traffic at near ground level over the Expressway. At this location, the Expressway will be about 6m below ground level.

Finally, the **Southern interchange bridge**, with its high skew angle, will have long steel beams spanning across Tirau Road as it delivers Expressway traffic back to the existing SH1 south of Cambridge.



Bridge programme update

With a large and complex project like this, project managers are continually reviewing the work schedule based on technical complexity, unforeseen events, weather, geotechnical matters, and resourcing staff and machinery. With eight bridges to build, work began first on the most complex, the Karapiro Gully viaduct. Below is an updated construction schedule.

JANUARY - FEBRUARY 2015	Pickering Rd underbridge	Access to SH1 opened on 29 Aug 2014. Aiming to have traffic on it early 2015.
APRIL 2014 - AUGUST 2015	Northern interchange	Earthwork preload in place. On track for August 2015.
MARCH 2014 - MARCH 2015	Peake Rd overbridge	Delayed start primarily due to programming, opening may be slightly delayed. On track for February 2015.
SEPTEMBER 2014 - MAY 2015	Victoria Rd interchange	Delayed start, primarily due to programming, but work now progressing well. On track for May 2015.
MARCH 2014 - JUNE 2015	Swayne Rd overbridge	Piling completed Oct 2015. On track for June 2015.
APRIL 2014 - APRIL 2015	Thornton Rd overbridge	Originally meant to start February, but the diversion road was built first to keep Thornton Road open. On track for April 2015.
DECEMBER 2013 - JUNE 2015	Karapiro Gully viaduct	Construction has presented a number of challenges; piles needing to go deeper than design depth, design challenges, fabrication and delivery times for steel. On track for June 2015.
MARCH 2014 - MARCH 2015	Southern interchange	Foundation work well under way. On track for March 2015.

Did you know...

- The project has four steel bridges
- Steel beams for Karapiro Gully viaduct start to arrive on site this month
- The pattern on the keystone blocks was developed in collaboration with Waipa District Council and mana whenua. Every bridge has a different pattern depicting various strata layers in the area
- There will be native plantings on the embankments and oak trees will be planted along the Victoria Road gateway, leading into the "town of trees". The overall design of the Victoria Road interchange creates an open aspect to encourage use of the space below for walking and cycling
- There are 23,000 bolts that will go into the structural steel on the Karapiro Gully viaduct

Expressway overview

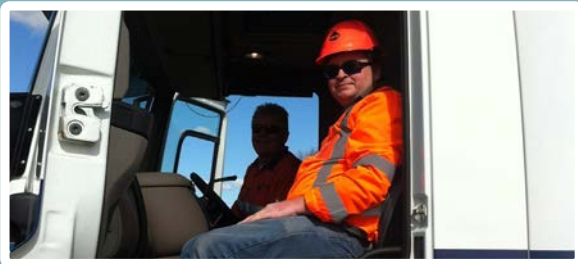
This project is part of the larger Waikato Expressway programme of work. The Waikato Expressway is one of seven roads of national significance for New Zealand.

Sections update:

- Longswamp - Secondary investigation, target opening 2018
- Rangiriri - Under construction, opens late 2016
- Huntly - Tender for design and construction, target opening 2019
- Ngaruawahia - Opened December 2013
- Te Rapa - Opened December 2012
- Hamilton - Specimen design, target opening 2019
- Cambridge - Under construction, opens late 2016.

Ride the haul road competition winner

Congratulations Aaron Woodcock, the winner of our recent 'ride on the haul road' competition. Aaron enjoyed a visit to all areas of the site and a ride down a section of the haul road in a Winstone truck. Aaron said it was an awesome opportunity and an experience that would be hard to top!



You are invited

The NZ Transport Agency and HEB are holding the annual Public Open Day for the Cambridge Section on **Saturday 15 November 2014**.

You are invited to join us for a BBQ at the Visitor Information Centre (129 Victoria Road) where our displays have been updated to help keep you informed as the project progresses.

As part of the Public Open Day we invite you to be one of the first to walk over the Pickering Road bridge following an iwi blessing.

NZ Transport Agency and HEB staff will be present to answer any questions about the project.

TIME	WHAT'S HAPPENING
9.00am	Visitor Centre opens
10.00am - 12.00pm	Pickering Road bridge iwi blessing and public walkover
12.00pm onwards	LIONs Community Fundraiser (BBQ) at Visitor Centre
2.00pm - 3.00pm	Victoria Road interchange 'behind the scenes' tour
4.00pm	Visitor Centre closes

"First year into it" screening

On Monday **17 November from 6.30pm** onwards the Tivoli Cinema in Cambridge (behind the BP service station) will be screening our documentary episodes made during the first year of construction. HEB and NZ Transport Agency staff will be available to answer any questions. Ring the Tivoli Cinema on **07 8235064** to book your free seat.



Christmas break shut down

After a full year of work, the site office and Visitor Centre will be closed from 24 December 2014 to 5 January 2015 to give all staff a well-deserved break.

If you have any queries or concerns over this period please contact: **0800 WAIEXP (0800 924539)**.

We would like to thank everyone for their patience, safe driving and adhering to any temporary speed restrictions in place.

Our contact details



For further information online visit:

www.nzta.govt.nz/rons

www.nzta.govt.nz/waikato-expressway

www.nzta.govt.nz/cambridge

Visitor Centre

129 Victoria Road

Open hours: 9am - 3pm

Mon - Fri (except on public holidays)

For enquiries or information regarding the Cambridge Section of the Waikato Expressway.

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