



# Ruby Bay Bypass Project Newsletter

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The new highway formation is taking shape and the first layer(s) of aggregate for the new road surface are visible on the alignment as it stretches towards Tasman Bay.



Work is now progressing adjacent to "live" traffic between Dominion and Apple Valley roads.

## Project Progress

*Fine weather has continued during April and May; however, the run of good weather appears to have come to an end. Autumn's dry conditions allowed the team to keep the project ahead of schedule and by early June more than 75% of the project's earthworks had been finished. The project team worked on construction of the new highway formation throughout most of its length during this period with the most visible areas being in the vicinity of Old Coach Road, Chaytor Road, Dominion Road, Higgs Reserve and Trafalgar Road*

A temporary side road between Apple Valley and Nile Roads has been formed to carry highway traffic while we continue to work on the new highway.

Earthworks in the vicinity of Apple Valley Road and Trafalgar Road have started which will enable the overhead power lines to be relocated and the existing culvert under State Highway 60 to be extended.

Material taken from Apple Valley is being used to 'fill' areas where unsuitable material is being removed from Higgs Reserve and the Dominion Road flats.

As we complete excavation/earthworks in each area we spray grass seed onto the batters (banks) to stabilise the surfaces and reduce the potential for erosion. This is now well-established, as is the aerial seeding of disturbed areas outside the highway alignment.

An historic ford exists at the Tasman end of the project and we have installed a retaining wall to ensure it remained intact and was not damaged by machines working nearby. Meanwhile the old Tasman footbridge has been removed. The upper Field Creek culvert is complete and work is progressing well on the construction of the lower Field Creek culvert near the Tasman Domain.

Rain has now halted this work and at this stage it is uncertain how much further progress will be made on earthworks during the winter.

We have now completed the stream diversions at both the Tasman and Mapua ends of the project and drained the 'Johnstone' dam, relocating its aquatic life and filling the dam to allow construction of the highway.

The diverted sections have been replanted with transplanted local vegetation and the stream bed modified with gravels and rocks from

*continued overleaf*

# There was an unexpected find on site at the Ruby Bay Bypass

*Local Iwi monitor Amo Stafford and digger driver Dave Vass spotted what looked like the framework of a wooden coffin as excavations were finishing up for the week on the project.*



This was the first sighting of 'the find'



The excavations continued inch by inch

The estuarine areas at either end of the \$30m roading project have the potential to reveal material of historical and cultural significance, so an Iwi monitor is present during all excavations in these areas and an on-call Project Archaeologist also monitors work in sensitive areas. This ensures that all cultural and historical finds are respected, investigated and preserved whenever possible.

Iwi Liaison Co-ordinator Daren Horne says that Mr Stafford followed the strict protocol that exists to protect any discoveries on the site, particularly koiwi (ancestor's) remains.

As an extremely experienced Iwi monitor and respected Kaumata, Amo immediately halted work in the area and said a karakia and blessing over the find.

Project Archaeologist Amanda Young says while there was a possibility of human remains being uncovered the archaeological investigation had to continue, so 'all hands were on deck' as the team dug inch by inch under torchlight to establish whether or not the wooden box-like structure was a coffin.

After a few hours it became evident that the framework was not, in fact a waka koiwi, or coffin, but taonga (treasure). It was a small wooden dingy much like a punt says Amanda. It has a very shallow draft and would have been ideal for transport in the shallow waters of the estuary. The boat was filled with estuarine mud and gravel and perhaps was covered by a flood.

Ms Young says that at this stage it looks like the boat may date from the early 1900s as it was beneath the layers of fill that was used to form the Tasman Domain in about the 1930s.

An old 'Champion's Vinegar' bottle was within the mud and gravel filling the boat and Amanda's investigations have revealed that its type and shape date it as being between 1890-1915.



All hands were on deck as the excavations continued



Hori Kahukura (left) and Project Archaeologist Amanda Young reveal the 'punt'

## Project Progress *continued from page 1*

the previous stream beds to enhance ecological function. Once everything was prepared, local school children joined us to relocate wildlife into the streams. It is great to have their involvement and interest on the project. Additional landscape planting this winter season and towards the end of the project will further enhance the diversions' appearance and ecological values.

Our main partners in the project include Opus, Downer Edj, Tasman District Council, iwi, DoC, Forest and Bird, plus representatives of the Tasman and Mapua communities. The project team consults regularly with these partners and stakeholders. Here are just a few examples of recent discussions:

- Further consultation has taken place with DoC, TDC and the Mapua community regarding the location of the Higgs Reserve carpark and kiosk.
- Further discussions have occurred with DoC and TDC regarding shaping and landscaping of the Higgs Reserve disposal areas and enhancement of the stream area between the existing and new alignments.
- The Dominion Road Culvert has been modified to include a permanent cycle/foot path.

- A site meeting was held with the Nelson Cycle Trails Trust representatives to facilitate an off-road cycle link between Gardiner Valley Road and Old Coach Road.
- The lighting design for the bypass route has been reviewed following concerns raised by stakeholders. This has resulted in changes to the intersection designs and the removal of the raised medians between the traffic lanes. A revised lighting design for the new intersection design is currently being prepared and will be presented at the next partnering meeting in July. Also, plans for relocation of power and communications services are well advanced and should be completed shortly.

As part of the project team's commitment to keeping our stakeholders and partners informed we host partnering meetings every month. This provides a forum for the team to update everyone on the project's progress, as well as the future programme of works, which they can take away and filter down to their organisation or community. It also provides an opportunity for these groups to ask questions and give opinions as well as to bring local feedback on the project.



**Born in County Armagh, Northern Ireland, Environmental Manager Joanna Orr was just completing her Civil and Environmental Engineering degree at Edinburgh University when Downer EDI Works (Downer) offered her a job during a recruitment drive back in Scotland.**

She had no idea that saying 'yes' would mean getting down and dirty with some of New Zealand's native fish!

"The role is incredibly diverse. One day I am helping school children, and a consultant biologist, relocate eels and small fish into new stream diversions; and the next I might be liaising

with Daren Horne on Iwi issues, or on site monitoring the settlement ponds to make sure they are operating correctly."

Joanna says that leaving her family and friends behind in Ireland was a bit tough. She has found New Zealand very similar to home and hasn't had too many miscommunication problems.

"Despite the difference in accents we are at least speaking the same language!"

Like John, Joanna says one of the biggest challenges is the restraint of the narrow site, but another is the need to mitigate any impact the project may have on the area.

"For example, in the estuarine areas at either end of the project, the first job was to scrape off the top 300mm of soil and set it aside rather than remove it with the rest of the excavated material. Once the roadworks are completed, this soil will be pulled up the side of the new batter (bank) of the road to ensure that the natural environment of the estuary is restored as quickly as possible."



**Project Archaeologist Amanda Young has nearly 20 years' experience working on Maori and European discoveries around the country, as a regional archaeologist with the Historic Places Trust and with several Territorial Local Authorities.**

As a busy mother of two, a six-year old girl and four-year old boy, life is a matter of juggling responsibilities, but she loves working as Project Archaeologist on the Ruby Bay Bypass, so the balancing act is worth it.

Amanda says she attends on site when excavation work is in a particularly sensitive area but

is on-call on an 'as and when needed' basis.

"But there is a strict protocol set up relating to all discoveries on site to minimise any damage, record information and to ensure that all due respect is given to anything found" she adds.

Amanda works closely with the Iwi monitors on site, as between them they are responsible for the protection and investigation of all finds, or taonga, on the project from both the scientific and spiritual/cultural points of view.

In one of the more recent discoveries on site some hangi were unearthed near the Waimea estuary and Amanda was surprised to find no shell remains within them, as with others she has investigated elsewhere. However, the Iwi monitors were able to explain that the traditional way hangi are prepared locally this would not be the case.

There are still further excavations on the project, but meanwhile Amanda is writing up her findings on the discoveries so far.



**John Tailby was born in Kaitiaki but just keeps getting drawn further south.**

He and his family moved from Whakatane to Nelson for a lifestyle change just over a year ago and have not regretted it one bit.

The move has allowed John to replace his trailer yacht, which he used to sail on the Rotorua Lakes, with a 10.6m keel yacht. Although John's love of sailing isn't shared as enthusiastically by his wife and three children, membership of the Tasman Bay Cruising Club means he has met some like-minded sailors with which to share the experience.

John's engineering career began with a cadetship 30 years ago, and now as Site Representative

for Opus International Consultants (Opus) his many years' experience on construction projects in New Zealand and Australia come into play.

Opus are the client representative on the Ruby Bay Project and are responsible for liaising with stakeholders, ensuring that the requirements of the contract including Quality, Safety and Environmental Provisions are met. Their role also includes contract administration and progress reports, interpreting the drawings and managing revisions and changes.

John enjoys the cooperative team approach of the project and notes that one of the biggest challenges on Ruby Bay is the sheer size of the job combined with a lack of room to execute the work.

"The work site is long and narrow with little room either side of the road formation for the installation of sediment control devices and the disposal of the wet and weak materials excavated from the lower reaches of the site."



**Iwi Liaison Coordinator Daren Horne leads two great teams of Iwi Monitors, one from Motueka and the other from Nelson. Members of the team are always on site around any excavation work and it was one of their most respected and experienced members, Amo Stafford, who discovered the boat earlier this year.**

Daren also has been involved in Iwi monitoring for a number of years and has an amazing connection to many of the local tribes Ngati Rarua, Te Ati awa,

Kurahaupo tangata through direct bloodlines. It was this connection and experience as a Resource Management Advisor that made him the ideal pick for Iwi Liaison Coordinator for the Ruby Bay Project.

Daren was born and raised in and around Motueka. Sadly, his father passed away three years ago, but his mother and older siblings are also in the region, and his bloodlines continue in his two teenage daughters and young son.

Daren says of his monitor role that it is an honour to represent Iwi and to be part of a team that is protecting the region's taonga for the tamariki of future generations.

"This area is rich in history as our early settlements were around the estuarine areas and there was also a Pa in the region too. We are the kaitiaki, the guardians."

# Did you know?

In order to help protect the environment sediment control is really important in any area of excavation.

Most rain soaks into the soil, but some flows overland to our roads, drains, and streams and rivers and eventually to the sea. As it passes overland it gets dirty. Mud, or sediment, from exposed or excavated ground adds greatly to this during the periods of heavy or prolonged rainfall.

Specific controls are put in place to ensure that any earthworks are carried out with due respect given to the environment. For instance, established vegetation in surrounding areas is protected and also silt does not run into waterways destroying the normal habitat for various fish species etc.

It is essential that effective methods are used to prevent soil erosion at source and to stop sediment leaving site and entering waterways thereby protecting streams, beaches and coastal areas.

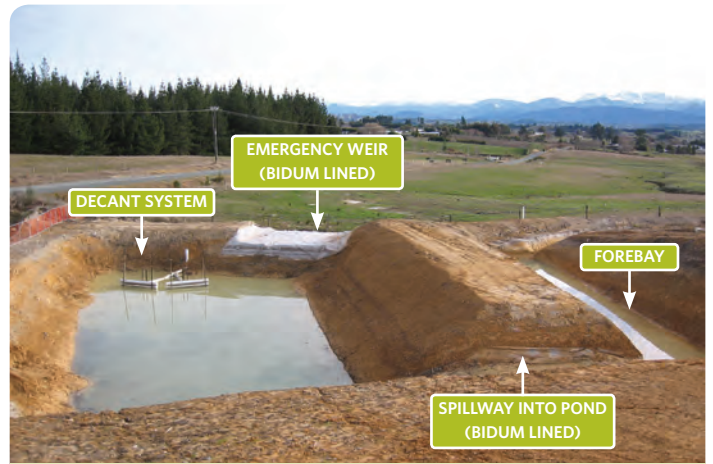
During earthworks one or more of these sediment control measures can be used to capture silt:

- i) silt fences
- ii) vegetation buffer strips
- iii) sediment ponds
- iv) earth bunds

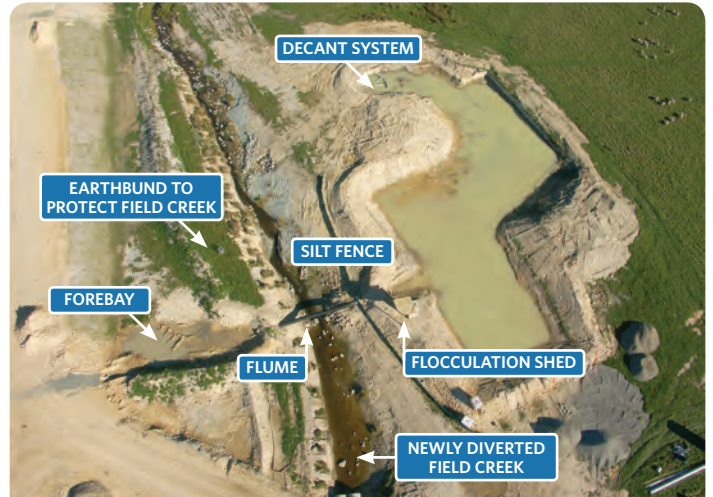
Here on the Ruby Bay project we are using silt fences, earth bunds and sediment ponds (see Glossary). Normally, dirty water flows into the ponds and the silt settles to the bottom, allowing fresh water to be drawn from near the top of the pond. However, the material being excavated around this project proved to be so fine that it would take months to naturally separate out from the water.

To solve this problem a 'flocculent' has been added which helps the fine particles coagulate - clump together - to form a heavy enough mass that will separate and sink to the bottom of the ponds. This is the first time this method has been used in the Nelson region.

As excavation work finishes in each area we are then hydro-seeding the steep batter faces with grass seed which once grown will prevent any erosion. Also straw mulch with grass seed is being applied to many other exposed areas, the straw acts as an instant barrier to prevent erosion from the impact of rainfall.



Sediment pond designed to TDC Engineering Standards 2008



In practice, some of the sediment ponds have slightly different layouts due to the site constraints

## Glossary

**Decant system** - this draws clean water off the top of the pond

**Earthbund** - this is a hump made of earth which acts as a barrier to divert dirty water flow and stop silt leaving the work site

**Forebay** - first holding pond which is used to dissipate the energy of the water before it flows into the main body of the sediment pond

**Flume** - water pipe which carries water, for example from the forebay into the sediment pond

**Silt fence** - fine mesh fence approx 400mm high to capture silt but allow water to flow through, used in areas of exposed ground or excavation

**Flocculation shed** - automated dosing system which releases flocculent into the sediment pond when it rains

**Spillway** - spills the water from the forebay into the main sediment pond at a slow steady rate to reduce turbulence allowing sediment to deposit in the pond

**Bidum lining** - a dense material to prevent any further erosion of bare soil and stabilise the ground

**Emergency weir** - during heavy rain if a pond becomes too full, water can flow over the weir and off site

## Who to contact:

As part of our commitment to keeping you informed please don't hesitate to call us on 0800 RUBYBAY60 to talk to one of the construction team about what we are doing. We'd be happy to help answer any questions you may have.

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New Zealand Government