



## 2 DOWSE-PETONE UPGRADE Project Update - June 2008

### PROJECT PROGRESS

Construction on the D2P project is still progressing quickly as can be seen by the three new bridge spans that have appeared within the past two months. The construction work remains on programme despite some less than ideal weather, though the late onset of winter is still proving to be a great help.

A new project brochure which includes an indicative programme and plan is now available from the Visitors' Centre or website.



First beams up on Petone Road Bridge. Photo: Mark Coote.

### MAJOR TRAFFIC CHANGES

A major traffic switch was made at the Korokoro intersection at the beginning of May. Final alterations for this stage of the intersection were completed about two weeks later, and the current layout will stay as it is for the next couple of months.

The project team are pleased at how well this intersection is working, and would like to thank all motorists who pass through the area for their patience and due attention while getting used to the new layout. As motorists can now see, this shift has opened up the original SH2 alignment so piling for the cemetery retaining wall can take place in June.

With so many changes to the Korokoro Intersection planned for the next 18 months, the D2P team have created a brochure with layout drawings showing the various stages that the intersection will go through. This will be delivered via a letter box drop to Korokoro residents and copies will be available from the Visitors' Centre or website.

The other significant traffic shift we have had recently moves the southbound SH2 traffic at Dowse Interchange closer to the railway line than in the past. This road is actually on the alignment of the eventual ramp up to the Dowse Interchange, and has been done so that the road workers can reconstruct the entire SH2 pavement in that area. During this shift, the structures team also successfully lifted two



more spans of the raised roundabout structure into place.

Motorists will be driving under the Dowse Interchange structure for the first time when northbound SH2 traffic is moved on to its final, permanent alignment at the Dowse Interchange within the next month.

### KORO CRESCENT

There is also a lot of work now happening down at the Korokoro end of the job. Koro Crescent (the minor road around the back of Acme Engineering that was primarily used as pedestrian access to the railway station) was closed on 8 May. A large amount of fill has now been placed in that area. We will use this fill as one of the final temporary roads on the project to move the existing Korokoro Bridge traffic away from construction of the new Korokoro Bridge. Southbound SH2 traffic will also soon be diverted under the first span of the Mackenzie Avenue bridge to allow J-Block to be safely demolished.



It is now possible to see the Dowse Interchange taking shape. Photo: Above Ground Level

### SERVICES UPDATE

Regular travellers down Hutt Road will have noticed that underground services work along the centre of the road has been completed and contractors are now upgrading the services on each side of the road as well.

Construction of the new Hutt Road roundabout will begin once the services work is out of the way, and that will follow with road construction along Hutt Road and up the new Mechanically Stabilised Earth (MSE) Wall that forms the ramp for Hutt Road access to the Dowse Interchange.

### FUTURE WORKS

Coming up in the next few months

- Dowse Interchange 'east bridge' span 2 and 3 beam lifts
- Roundabout construction at Hutt Road
- Road construction at Hutt Road
- SH2 southbound traffic to join northbound traffic on the temporary alignment at Korokoro
- SH2 southbound shift to the right under Mackenzie Avenue bridge
- Traffic shift on on the approach to existing Korokoro Bridge
- Demolition of J-Block

### ON THE JOB

#### BRUCE GILBERT - FHJV 'HIAB' OPERATOR



Bruce operates a 25500 E8 Cormach extendable knuckle-boomed telescopic crane off a 1991 Foden truck - more colloquially known as a 'HIAB'.

They say that if you find a job you like doing you never do a day's work again in your life and Bruce admits that operating a crane is as much fun as little boys dream it would be.

"I started my working career serving a paper hanger and decorator apprenticeship and got into crane operating by accident, but I love it!"

The Power Crane Association runs operator training courses and is also the licensing authority for crane operators. Bruce is currently licensed for cranes

with 2-13 tonne lifting capacity including those with winches.

"The most difficult aspect to grasp is mastering the smooth control of lifts - it is very important not to jerk, or snatch, at loads - and often I am operating in particularly confined locations working with only a few millimetres' clearance."

Highly skilled with more than 11 years experience Bruce is in high demand on the D2P site.

"Some days I can be on site for 13 hours, with the appropriate breaks, and the engineers all know they have to use the booking system to make sure that all lifting is managed in the best way."

There have been times when sub-contractors have been brought in to

help get through all the lifting required and Bruce manages those guys too.

With such long hours on site it is great that Bruce is close to home, having lived in the Hutt Valley all his life. Married, with a 12 year old son, down time is treasured and he loves to take to the water to fish or kayak when he gets the opportunity. However, he may have to hang up his rods for a while as he is now a third of the way through a Road Transport Association Driver's course which incorporates 34 modules and takes between two to four years to complete.

"It is all encompassing and upon completion I'll be able to operate anything and everything."

## PETONE STATION PARKING CHANGES

Work on the SH2 Dowse to Petone Upgrade Project has resulted in some changes to park and ride facilities for Petone rail commuters.

The layout of the carpark at Petone Station has been altered to provide space for adjacent SH2 work and access for trucks and other machinery. As a result some carparks are unavailable from early June until work has concluded on the project. However, the final layout will provide an improved carpark with more efficient and safer access and parking for 176 vehicles.

The areas in which commuters can no longer park are clearly marked and signposted and we ask that the public not park vehicles in these areas as they are a crucial access way for trucks and equipment. Any cars that are inadvertently parked there will be towed away.

In order to offset the changes at the park and ride facility, motorists are welcome to use temporary additional carparks which have been made available by the construction team in an area off the northbound side of SH2. This area is close to the pedestrian footbridge ramp by Korokoro Cemetery and well signposted. Commuters should note that there are no security cameras or monitoring in this location and parking is done at the owner's discretion.

## NEED A LIFT?

The items needing to be lifted on the D2P project range from small hand tools and lighter building materials, such as bags of cement, to massive beams weighing more than 30 tonnes.



The 200 tonne crane in action installing the first of 14 bridge beams to form the north and south spans of the Dowse Interchange. Photo: Mark Coote

This means that the range of methods used for lifting is as varied and it is essential that the right method is employed for the right job. This includes using the right equipment.

Most small items weighing less than 30 kg can be manually lifted by an individual— see 'Did you know?'; bulky or heavier objects require assistance in the form of additional personnel or mechanical devices such as sack trolleys, hoists or fork lift trucks. The bigger the load the larger the equipment used.

For day to day lifting of loads up to 6 and 25 tonnes respectively, there is an 8 tonne 'HIAB' and a 25 tonne crane permanently on site. These lift concrete road barriers and assist with smaller beam lifts. There is also a 50 tonne crawler crane fitted with a piling rig which is being used in the construction of the bridge structures.

For larger lifts a specialist crane company, Titan, is used. The largest crane on D2P is Titan's 200 tonne crane which is used to lift the huge beams that span Hutt Road and SH2 at the Dowse Interchange and the Korokoro intersection. Titan brought this crane down from New Plymouth specifically for use on this project.

To ensure a safe and effective lift there are many calculations and checks that have to be carried out prior to the lift. These include:

- How heavy is the item to be lifted (including the weight of the slings and chains etc)?
- Where is the load being lifted from and to? The further the load is away from the crane's centre of gravity the lighter the load needs to be.
- What are the ground conditions and can they take the weight of the crane and its load?
- How much counterweight is required on the crane to balance the load?

It can take more than two hours to rig a 200 tonne crane for large specialist lifts. Correct operation during a lift is paramount because if something goes wrong - the bigger the crane, the bigger the potential accident.

Lifts on D2P include both single lifts using one crane and tandem lifts where two cranes are used. Tandem lifts are used if the load is too big for a single crane but they are not preferred as they are more difficult due to the need to co-ordinate the movement of both cranes.

Recent big lifts on the project were undertaken at night because of the size of the beams being installed at the Dowse Interchange. Each beam is 24m long by 2.5m wide beams, and weighs 32 tonnes. Two 50 tonne cranes working in tandem loaded them one at a time onto a special truck and trailer unit which then travelled with a long-load escort.

As soon as each beam arrived on site it was lifted into place by the 200 tonne crane to form the north and south spans of the new Dowse Interchange over SH2 which is really beginning to take shape.

Future big lifts will be happening soon with more bridge beams due for instalment at both the Dowse Interchange and later at the Korokoro intersection.

## DID YOU KNOW? - LIFTING

### MANUAL HANDLING

Manual handling work results in a large number of back claims to ACC by employees from a wide range of occupations.

Manual handling is defined as any activity requiring a person to lift, lower, push, pull, carry, throw, move, restrain, hold or otherwise handle any animate or inanimate object. It is something that we all do everyday whether at home or work.

On the D2P site all workers are trained to assess the manual handling tasks they are carrying out. Finding the safest and healthiest ways of doing manual tasks can protect people from harm. In a work environment it can make the task more effective, flexible and productive.

The Code of Practice for Manual Handling provides employers, designers, manufacturers, importers and suppliers with practical guidelines for:

- The evaluation of existing manual handling tasks
- The design and implementation of any new jobs which include manual handling tasks
- The design, re-design, change, manufacture, importation or supply of plant, equipment, facilities, work processes, workstations and tools.

### EQUIPMENT CHECKS

As with all tools at home, it is important that all lifting equipment is regularly checked to ensure it is in good working condition.

Prior to each and every use the slings, cables, chains and their fixings are thoroughly checked for wear or damage. They are then re-tested every year to check their safe working load which is clearly marked on it. The cranes themselves undergo weekly in-house inspections, with regular maintenance undertaken every three-six months. It can take up to eight hours to carry out a full service on a 25 tonne crane.



### »» WHAT IS A DOGMAN?

Not quite a new super-hero but still a very important person who is on site whenever a crane is in use.

The crane dogman is trained to 'sling-up' or 'rig' all loads and communicates with the crane operator and other site workers involved in the lift. A Dogman acts as the eyes and ears for the crane operator, who often cannot actually see where the load is all the time; they generally communicate with each other via a two-way radio or hand signal and are in constant touch during the lift.

### »» WOW - THAT'S BIG!

Check out the photograph of "Yoshida" – Japans biggest floating crane, lifting a submarine. Built by Mitsubishi heavy Industries Division its boom length is 132m and its lifting capacity is more than 3700 tonne!



### »» ALL SHAPES AND SIZES

As well as coming in different sizes there are also lots of different types of crane – such as static, mobile or tower. On site we use mobile cranes which are either AT (All Terrain) or

crawler (with tracks). Other industries use gantry cranes - like the 'HurryCranes' at the container docks in Wellington Harbour - and there are ones on rails and on rigs out at sea too.

## WORDSEARCH

See if you can find all these words to do with cranes. The words may be across or down. How many of these words do you know? Why not look up ones you don't?

- BOLTEYES
- BOOM
- CAB
- CHAINS
- CLAMPS
- COUNTERWEIGHTS
- DOGMAN
- GEAR
- HOOK
- JIB
- LIFTING BEAMS
- LIFTING MAGNETS
- MOBILE
- OPERATOR
- OUTRIGGERS
- SHACKLES
- SLINGS
- STATIC
- SWIVELS
- TOWER
- TWO-WAY RADIO
- VACUUM LIFTER

L	I	F	T	I	N	G	B	E	A	M	S	L	A
S	B	C	O	D	E	M	O	C	S	O	E	I	W
H	O	O	W	G	G	D	O	L	W	B	M	F	S
A	D	S	E	E	I	O	M	A	I	I	Y	T	E
C	A	B	R	A	S	G	Y	M	V	L	J	I	B
K	E	M	A	R	O	M	W	P	E	E	W	N	O
L	F	L	M	O	K	A	E	S	L	I	N	G	S
E	S	C	H	A	I	N	S	U	S	U	W	M	T
S	T	W	O	W	A	Y	R	A	D	I	O	A	A
V	A	C	U	U	M	L	I	F	T	E	R	G	T
F	H	B	O	L	T	E	Y	E	S	H	N	N	I
E	O	U	T	R	I	G	G	E	R	S	A	E	C
C	O	U	N	T	E	R	W	E	I	G	H	T	S
S	K	O	P	E	R	A	T	O	R	Q	P	S	R

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