

*presents the 2012*

# Crane Project of the Year

The 2012 entries for the Crane Association of New Zealand Crane Project of the Year are:



**Project:** Placing 19 Concrete Bridge Beams  
The Glen Bridge  
Caversham Highway, Dunedin  
30th January – 2nd February 2012

The project was to place 19 large concrete beams on a new two-lane over-bridge (Glen Bridge) as part of the improvements to State Highway One. The work was done at night to reduce disturbance to traffic. The existing road lanes and area where working, were closed to public. The 'Super T' concrete beams included seven that were 30 metres long, weighing 42 tonnes and 12 of 18 metres and 30 tonnes.

The beams were made in Dunedin. We worked in partnership with another company to load them onto a special trailer from Christchurch to transport them to site. Our Kato NK550VR crane with 55 tonne capacity was used for this part of the job.

On site two Titan cranes the AC435 Demag 150 tonne & AC100 Demag 100 tonne were used in tandem lifts to put the Super T beams into place. Titan crane operators were assisted by rigger dogmen who hooked up the beams that were lifted 8 metres off the ground. Dogmen supervised the positioning of the beams, using radio-telephones to communicate with operators during this process.

The cranes were set up on the street and our staff took every precaution to ensure the ground pressure was low enough to stop underground water pipes from cracking or bursting. Of special note was the amount of preplanning done by Downer & Titan Cranes, and the extent that the planning resulted in the safe and timely execution of the work.

## Special Aspects of the Job:

- Six months of meticulous planning
- Focus on safety throughout planning and implementation
- No accidents or incidents
- Efficiency of the job.
- Job completed in the four allocated nights 30th January to 2nd February
- Just in time logistics with concrete beams stored off site
- Concerns were carefully checked and addressed to meet the best known industry practice ahead of the job starting
- Seamless workflow with multiple companies involved – Titan Cranes, Downers, Hanham Transport, Hall Brothers, Dunedin Crane Hire
- Everyone knew their role when it came to carrying out the work within a fixed time window each night of 7pm to 6am.





**Project:** Stair Replacement at "The Palms"  
Shopping Mall, Christchurch 2011

In the Devastating February 2011 earthquake, one of Christchurch's largest Shopping mall's (the palms) received major structural damage to the building's staircase and emergency access.

Smith Crane and Construction were contacted by the Naylor Love Construction to provide a quick and safe solution to remove the damaged concrete stair structure and replace with a Steel Stair structure.

The Location of the stair case was in the centre of the building with the only available crane location being an alleyway between the car-park and main building. Restrictions to this location was its distance of 48m away and only measuring 10m wide x 75m long while having carparks and air bridges surrounding.

With a lifting radius of 48m and a required SWL of 10T, we selected one of our 200T Crawler Cranes configured with 82m of main boom, 82t of upper c/w and 20T of Car-body weight.

The alleyway was 75m in length however we required 91m length to assemble the 200T Crawler Crane.  
Assembly options

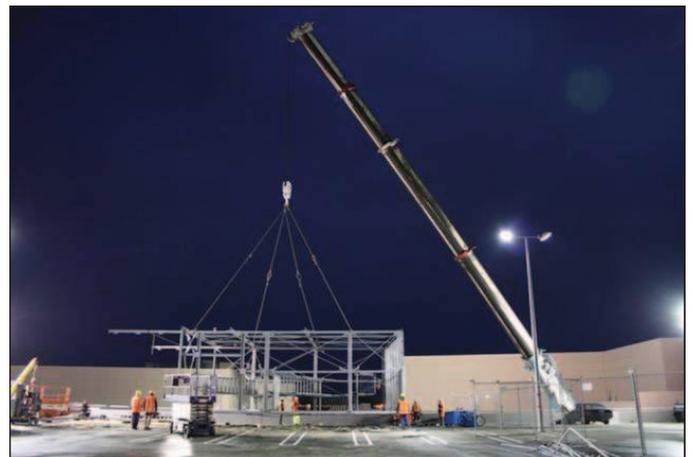
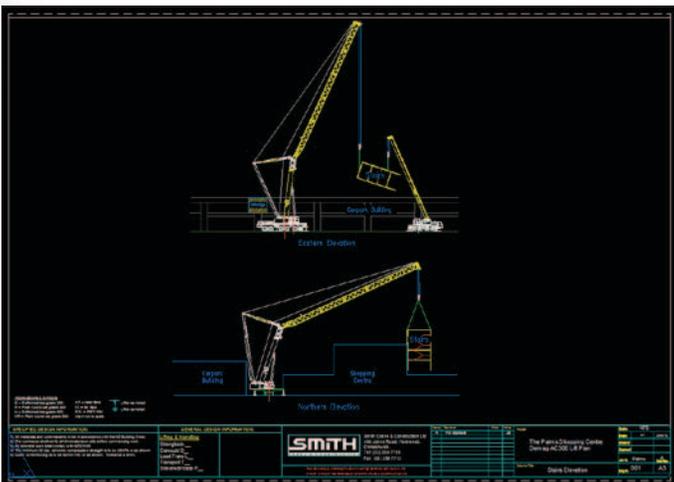
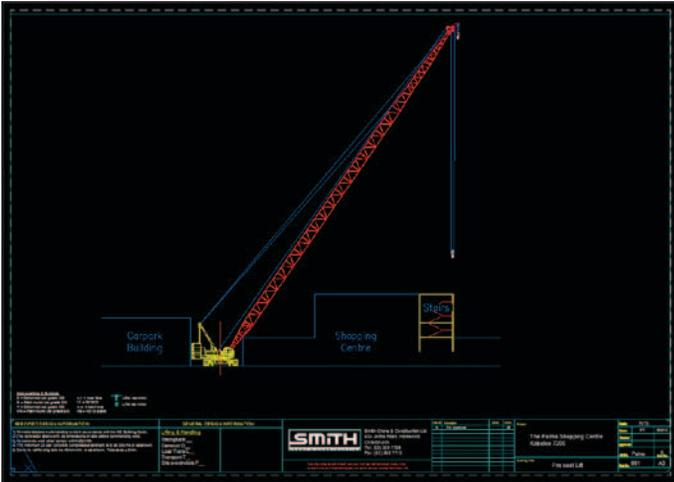
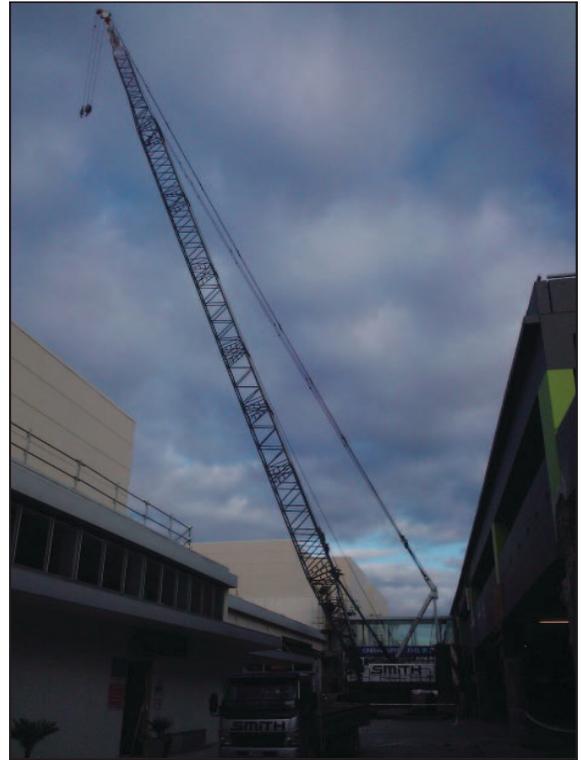
- 1) Assemble the boom in 2 pieces in the air which would have required 2x support cranes with 220T and 130T capacity and over 6hrs for 3 Riggers working at 25m in the air, along with 1 extra day delays
- 2) Fit the Crawler Body under an Air-bridge with only partial c/w and the Gantry lowered, using a 90T crane to lift the boom above the Car-park while the Crawler walked forward to clear its Gantry and install the remainder of c/w

Option 2 was Taken chosen which eliminated working at heights and the requirement for 2 large support cranes and extra delays to the client.

The 13T Boom was lifted by the 90T crane while the Crawler walked out from under the Air-bridge and raised its gantry then Remainder of C/W fitted with a 20T Franna.

By the time the New Steel Stair was designed and fabricated, the Mall was up then open so installation was now time critical due to the alley-way being the main access into the mall. Therefore Naylor Love gave us 1x 12hr evening to install the new stair case.

In addition to the time restraints the steel structure weight increased from 11.5T to 12.9T and that was completely bare without landings etc. The Chosen crane for the job was our Demag 300T All Terrain Crane, rigged with 14.6m main boom, 44m luffing jib and 100T of c/w.



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# Waikato Cranes Auckland Cranes



**Project:** PROJECT RENA

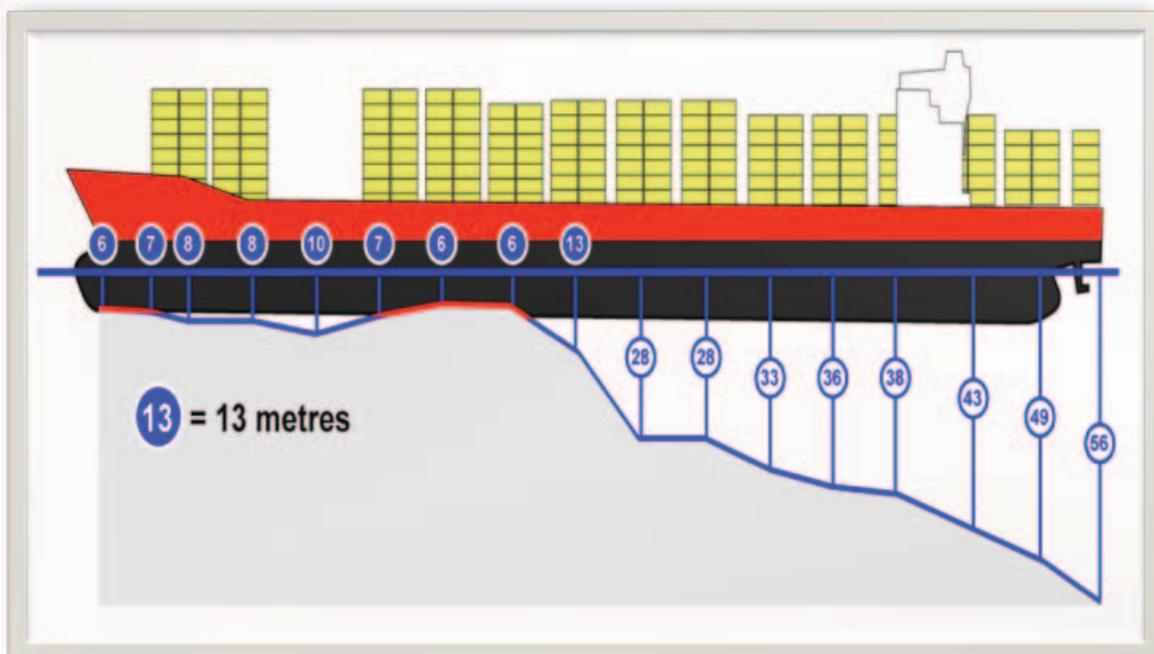
In the early hours of Tuesday, the 5th of Oct 2011, the cargo ship RENA ran aground onto the Astrolabe Reef; 12 nautical miles off the east coast of New Zealand. The RENA was a 38,700t, 236m long vessel, carrying 1380 containers which Waikato Cranes were approached to assist with the removal of.

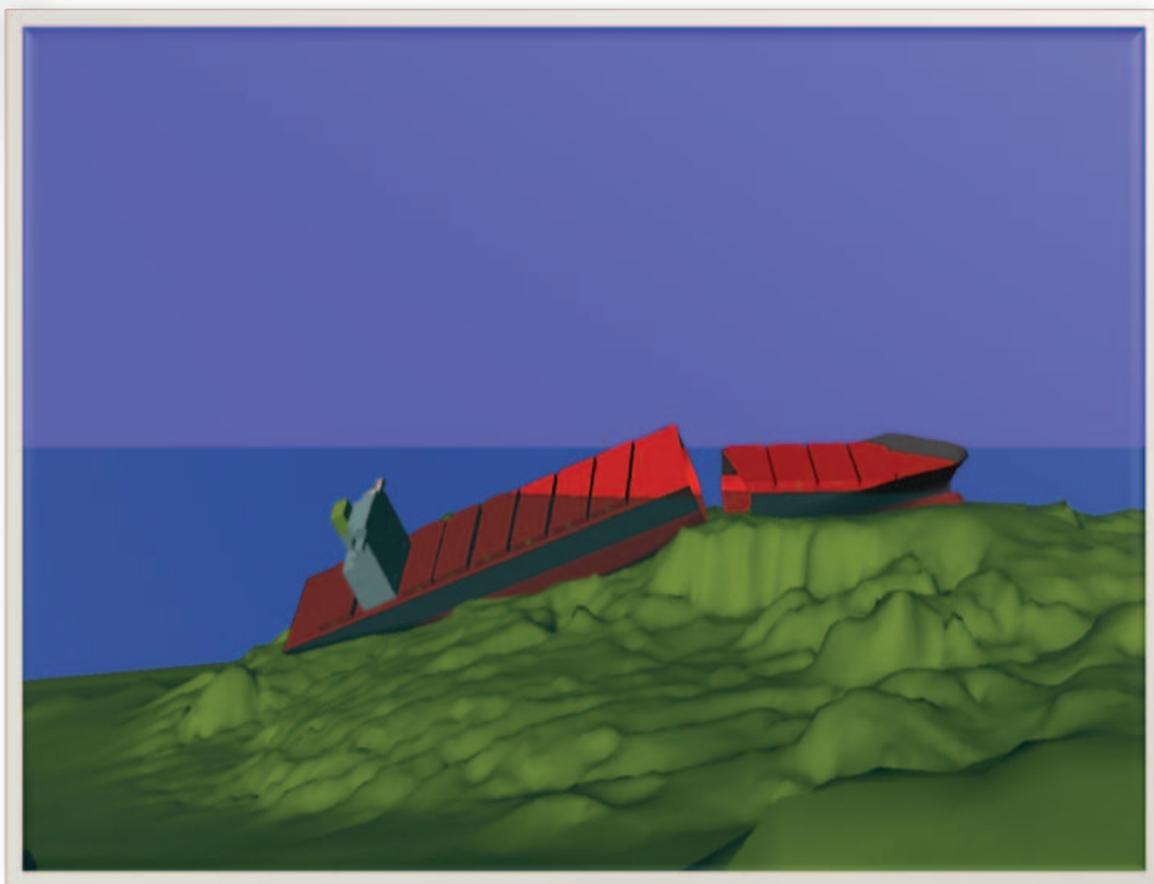
At 2.00pm on the Sunday the 23rd of Oct, 18 days after the RENA ran aground and 6 hours before the Rugby World Cup final, I signed a contract with Svitzer Salvage to supply one Kobelco 7150 and one Liebherr LR1280 crane plus the riggers to remove the containers off the RENA.

We had to establish the cranes onto the barge Sea-Tow 60. This involved negotiating with the Ports of Tauranga for an area to assemble the Crawler Cranes and a berth to walk the cranes onto Sea-Tow 60. It also required us to engage a Naval Architect to calculate the stability, buoyancy, and ballasting of the barge.

We have worked 7 days per week since the 28th of October removing freight from either the RENA or the surrounding ocean. Prior to this job we had no previous experiences of operating cranes at sea.

The learning curve has been steep, expensive, stressful and at times frustrating, however I am proud of all the staff involved in making this project a success for the client and Waikato Crane Services Ltd.

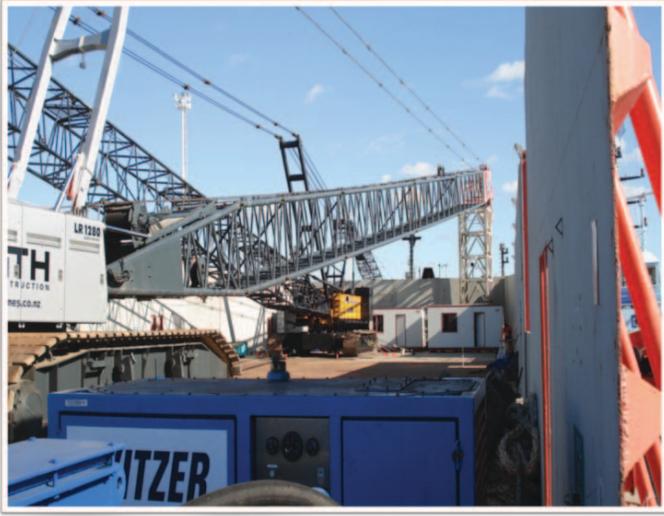


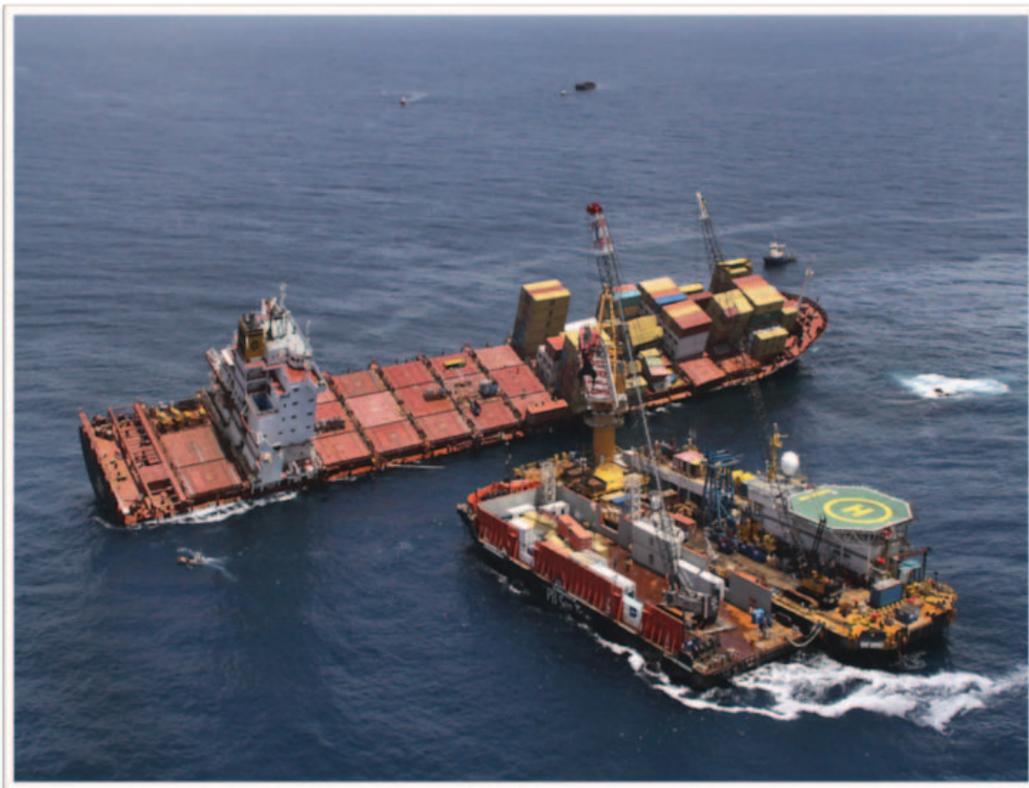




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