

## Feature Story



# Old Wharf Deck Demolished with Flat Saws

## Careful Planning and Cutting Protects Workers and Wildlife

**C**anadian Forces Base Esquimalt (CFB Esquimalt) is Canada's West Coast naval base. The facility is part of the Maritime Command (Navy) element of the Canadian Forces and is located in the municipality of Esquimalt, just west of Victoria, British Columbia. The large base contributes about \$330 million to the local economy in addition to serving its primary military function. With its 10,300 acres, 1,500 buildings and workforce of 3700 military and 2800 civilians, CFB Esquimalt is well equipped to carry out its mission of providing total quality support to the ships of the Canadian Pacific Fleet. In keeping with its vision to be the benchmark against which all other bases in Canada are measured, the facility must be in top form. At present there are more than \$100 million worth of construction projects underway at the base.

The removal of CFB Esquimalt's F-Jetty in the Colwood property was part of a contract to build a new refueling jetty for Canada's naval vessels in the Pacific Coast. The Colwood Refueling Facility Upgrade Project, commonly referred to as the F-Jetty project, commenced in 2001 and was completed in late 2004.

The project specified that the existing concrete deck be cut and removed with little to no damage to the existing timbers below so that the lumber making up the wharf could be recycled. Removal of the concrete would take place at the same time that steel workers and other contractors would be performing their tasks on this renovation project, so work space on the deck would be very tight. Another constraint of this job would be that no concrete could fall into the water below thereby disturbing the area below the wharf and the marine life that lived under the wharf.

The contractors on this job would be under the ever watchful eye of Defence Construction Canada (DCC) who was there to ensure the safety of the environment as well as the Workers Compensation Board (WCB) who was there to make sure that all of the workers on this project were safe.

North America Construction (1993) Ltd. of Morriston, Ontario contracted CSDA member Pacific Concrete Cutters Ltd. (PCC) of Victoria, British Columbia to perform the concrete cutting portion of this job which included cutting more than 700 10-foot by 10-foot concrete deck slabs, 10 inches thick, each weighing approximately 2 tons. Each of the slabs would have to be carefully lifted out of position and removed in a carefully planned sequence so that the weight of the deck remaining would be evenly distributed on the already weakened structure. A trial was set up and a method was implemented that would ensure that the safety of the structure was maintained, that the safety of workers was ensured and that contract was completed on time

and within budget.

Operators began working on the job in September 2004. PCC used a CC6560 XLS turbo diesel saw supplied by Diamond Products which was more than adequate to reach the 10-inch depth required. Given the weight of the slab saws, a 20-ton excavator and a 10-ton crane, only 12 slabs, which represented two rows of the 60-foot-wide deck, could be cut at once. These slabs were then stacked on the deck, loaded onto trucks and removed. Then the process was started again. PCC worked at night so that the general contractor's removal of 12 slabs could proceed first thing every morning. Typically, two operators were on the job at a time, and they often worked until 8:00 at night. The job was completed in six weeks.

In all, PCC operators cut more than

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15,000 lineal feet of 10-inch-thick reinforced concrete. The project was completed on time and well within the client's budget. Not a single block was dropped from the jetty into the water and no one on site sustained any injuries. There was also minimal disturbance to the surrounding marine life.

The demolition could have been accomplished with a jack hammer or wrecking ball, but both of those methods would have resulted in the concrete debris piling up under the water, creating much more work, much more cost and severe damage to the environment and the marine life. Also, the heavy battering of the slab would have undermined the structural integrity of the jetty, which had to remain secure enough to support the

machinery used in the demolition efforts.

Safety was a major factor complicating this job. PCC used anchor points along the outside of the jetty to use for tying off operators when they had to cut near the edge of the deck. Other safety precautions included life jackets and lifelines in case any operators fell into the water. Safety straps also anchored the slab saws to remove the risk of the machines going over the edge of the deck.

John van Dyk, P.Eng. of Pacific Concrete Cutters Ltd. said he believes PCC was contracted for the job because of its reputation for being a reliable, hard-working and honest company. "We are very satisfied with the outcome of the project," van Dyk said. "After meeting the requirements of the client and DCC and adhering to all the environmental issues, our most important task was to get our cutting strategy in place. This was a critical part of the job because it ensured everyone on the job site could perform their work safely." ●

COMPANY PROFILE

Pacific Concrete Cutters Ltd. is based in Victoria, British Columbia, Canada and has performed specialized concrete cutting and controlled demolition projects throughout British Columbia. Founded in 2001, and a CSDA member since 2002, PCC has 6 company trucks and 10 employees. Company principal John van Dyk, P.Eng. is a registered professional structural engineer with 20 years experience in the design and construction of buildings, civil and marine structures. Operations Manager Mark Peake has over 20 years experience in both Canada and the UK, having performed cutting and controlled demolition on large nuclear, offshore petrochemical and underground mining projects. PCC has house engineering readily available and can fabricate any kind of cutting and coring equipment to suit a variety of jobs.

RESOURCES

**General Contractor: North American Construction (1993) Ltd.**  
**Morriston, Ontario, CANADA**  
**Sawing & Drilling Contractor:**  
**Pacific Concrete Cutters Ltd.**  
**Victoria, British Columbia, CANADA**  
**Methods Used: Flat Sawing**  
**Tel: 250-658-5250**  
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**Web: www.concretecutting.ca**  
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