

# Diversion Tactics

Kobelco crawler crane takes on pile-driving work in Napa Valley

Pacific West



West Coast Contractors tapped its 100-ton Kobelco CK-1000 crawler crane and mounted it on a barge for pile-driving work on the Napa River Dry Bypass phase, part of a flood diversion project in Napa Valley, Calif.

**T**he Napa River Dry Bypass is just one portion of a unique diversion project enhancing downtown Napa, Calif. Rather than trying to divert the Napa River during flood season, the U.S. Army Corps of Engineers has designed a "Dry Bypass" area to spill the floodwaters during flood season, and create an open, park-like area for the remainder of the year. A barge-mounted Kobelco CK-1000, provided by West Coast Contractors (WCC), is the project's workhorse.

Relying on environmental considerations of the Napa River area in downtown Napa, the Corps of Engineers and the Napa County Flood Control and Water Conservation District worked together to design the Napa River Flood Project. The "Living River Principle" flood control method uses a combination of traditional and innovative approaches to reduce flooding in the Napa area, generally maintaining the river's origi-

nal flow, natural slope, and width.

Flooding in the Napa Valley region is nothing new. Recorded history indicates there have been at least 22 serious floods on the Napa River since 1865. The most severe flooding in a century occurred in February 1986, when between 12 and 28 in. of rain fell in the Napa Valley in a four-day period. This, combined with high tides, caused the Napa River to rise to 5 ft. over flood stage in downtown Napa and 7 ft. above flood stage upriver in St. Helena. The flooding claimed three lives, destroyed 250 homes, caused 7,000 residents to be evacuated, and cost upwards of \$100 million in damages.

Work on the flood project began in 2010. General contractor Nordic Industries, along with subcontractor WCC, Coos Bay, Ore., began work on the latest portion of the project, known as the Napa River Dry Bypass, in the oxbow area of the river at the confluence of Napa Creek and Napa River, a few

hundred yards downstream from the oxbow. This phase of the project will maintain the river's original course at the oxbow with a sheet-pile retaining wall designed to eliminate erosion of the river bank.

During flooding periods, the water will spill over the wall and flow through the naturally low area, then back into the river's banks downstream at Napa Creek. A performance stage with seating, as well as other outdoor areas, are planned to allow for public use while the river is not flooding, yet will channel the flood waters when the Napa River overflows its banks.

Nordic, based in Olivehurst, Calif., is doing the excavation and earth work on the 1,300-ft. bypass, including terracing, colored pavement, and a flexible concrete cellular block system to protect the side slopes of the bypass area. Nordic called on WCC, with expertise in marine construction, to install sheet pile walls at the river's edge. Perma-

## Groundwater, High-Speed Rail, and Solar Power Projects on the Books

ment walls will be placed to prevent erosion of the river bank, while temporary walls will be set in place to hold back the river so necessary work can take place near the shore. WCC's portion of the project, involving the Kobelco crawler and a P&H truck crane, is scheduled to be completed this fall.

### Piling on the workhorses

WCC performed work in the summer of 2013 installing the Main Street Boat Dock, and is pleased to be back in the Napa area. This year's work is being led by Ken Almberg, superintendent, and Rick Nickel, project manager. The Kobelco CK-1000 crawler crane and a P&H 790 truck crane, from WCC's fleet were both equipped with 120 ft. of boom for the job.

The maximum pick for both cranes was approximately 22,000 lbs. at a 40-ft. radius. For the 100-ton Kobelco, this maximum pick was the APE 150 vibratory hammer at 15,000 lbs. with a pair of 45-ft. long PZ sheets. The P&H handled the hammer with a pair of 50-ft. long AZ sheets, as well as a 21,500-lb., APE 200-6 vibro hammer. "WCC has several cranes for the work we do," explained Almberg, "In this case, the Kobelco CK1000 was an excellent choice to mount on a barge, while the P&H 790 was the right choice for work done from land."

Safety constraints included the most typical involved with marine and barge operations

- The San Francisco Public Utilities Commission (SFPUC) is carrying out what is considered a major groundwater supply project that will provide a water "savings account" to protect against future drought and earthquakes in the Bay Area. An environmental review has been completed, and construction is moving forward this year. Once completed in 2018, the project will provide 7.2 million gal. of water per day through 16 new recovery wells, stations, pumps, and pipelines to benefit 2.6 million people, reports [www.watertworld.com](http://www.watertworld.com). The \$113-million Regional Groundwater Storage and Recovery project uses both groundwater and surface water in the peninsula to increase available water supplies during dry years. During years of normal or heavy rainfall, the project will provide additional surface water to partner agencies in San Mateo County, Calif., to reduce the amount of groundwater pumped from the South Westside Groundwater Basin.

- As part of a \$72-million contract for construction management of the Fresno-to-Bakersfield, Calif. high-speed rail line, Arcadis US will provide engineering and consulting services for the California High-Speed Rail Authority over a five-year period. The start of construction, according to [www.constructionglobal.com](http://www.constructionglobal.com), has been delayed by slow acquisition of the land needed for an initial 29-mi. segment that will pass through Fresno. The California High-Speed Rail Authority has been forced to hire more staff devoted to acquiring property. Users of California's high-speed rail system will be able to travel from Los Angeles to San Francisco in about two hours and 40 minutes. The \$68-billion system is expected to be completed by 2029.

- Panasonic Enterprise Solutions Co. and Coronel Group have completed nine solar projects in Tulare and Kings Counties in Central California. The projects provide 16.2 MW of energy to Southern California Edison's grid to power approximately 14,500 homes annually. According to a BusinessWire press release, the projects were built by Panasonic and ImMODO Energy Services Corp. Coronel's exclusive relationship with Panasonic allows it the flexibility to acquire operating solar assets or partner with developers and engineering, procurement and construction providers in North America.

for the outlet work, he reported. "All work on this side was performed on water. This is a very public project with auto and pedestrian traffic in close proximity, so public safety is always in the forefront," added Nickel. Crews also had to adhere to an in-water work win-

dow between June 1 and Oct. 15.

The CK-1000 has a maximum boom length of 200 ft., and a jib length of 60 ft. Its maximum lifting capacity with luffing jib is 80,000 lbs. It features a full-vision cab with unobstructed view and generous leg room, fully-hydraulic technology designed to deliver quick response and excellent precision, and a choice of power lowering or free-fall mode.

In power lowering mode, the drum clutch is constantly engaged and the load is lowered at a variable speed. In free-fall mode, the clutch is released automatically when the control lever is placed in neutral and lowering is controlled by foot-operated brake.

"The Kobelco CK-1000 is invaluable for all working conditions. In this case, it needed to be moved onto a barge for in-water work," explained Almberg. "The P&H 790 truck crane is a good all-purpose crane when an all-terrain crane is not needed."

In Napa, WCC has found that the environmental regulations are strict and must be adhered to. Also, says Nickel, competition is stiff. "In general, regulations are very difficult in today's climate. WCC has a core workforce that has a long tenure with the company," he added. ■



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