

Communication

Hood Canal Bridge Project Team

The ultimate goal of the Hood Canal Bridge Team is to administer a world-class project to replace the Hood Canal Bridge. Meet one of the people who makes it all happen.



Jim Zusy, K-G General Superintendent, Hood Canal Bridge Project Team

Jim Zusy, General Superintendent at Concrete Technology Corporation, started as an engineer with Kiewit General (K-G) in 2002. He began working in the construction field as a college intern.

While attending Oregon State University, Jim completed on-the-job training with the Port of Seattle working construction at Sea-Tac Airport. He joined the K-G team immediately after earning his degree in Construction Engineering Management.

Jim's first assignment with K-G was as an engineer at the Boeing Renton site. He then ventured into bridge work, taking an assignment on the Tacoma Narrows Bridge Project. His experience in concrete placement on the Tacoma Narrows Bridge Project has proved invaluable to the Hood Canal Bridge Project Team.

His versatility and adaptability also benefits the team greatly. Since joining the Hood Canal Bridge Project Team, he has worked at the Port Angeles graving dock, constructed approach spans and superstructures, worked at the Hood Canal Bridge site, and been involved with three of the four pontoon construction cycles. Of the 14 new pontoons being built for the project, Jim has been involved with the construction of 10 of them.

When asked why he enjoyed his job, Jim responded, "We are building the gateway to the Olympic Mountains; the most beautiful place in the state. It is a job to be proud of."

His dedication to his work is only rivaled by his dedication to his family. Jim likes to spend his time with his wife, Ursula, 22-month-old daughter Aspen, and 3-week-old son Xander. The family enjoys hiking, running, sailing and golfing.

He nearly summited Mt. Rainier last summer, climbing 13,900 feet of the 14,410-foot mountain. Poor weather rolled in and forced him to turn around. But, true to Jim's strong personality, not even Mother Nature can keep him down for long.

Questions? (360) 340-5601 or Jim.Zusy@kiewit.com

Next Month's Activities



K-G crews will begin roadway installation on the PB pontoon, following the construction of supports and columns. May 1, 2008.

Transition Span and Lift Span Fabrication

- Transport all three lift spans from OIW by barge to TPS in Seattle and place them into the draw span assembly
- Set, fit and weld diagonal members on the east transition span

Pontoon Construction

- Place concrete for a top slab on pontoon U
- Place concrete for the upper anchor gallery on pontoon W

East-half Assembly, Outfitting and Testing

- Install the lower guide rollers
- Place rebar and concrete for crossbeams on the draw span pontoons

Hood Canal Bridge West-half Leak Detection System

- Construct access scaffolding and stairs for the west end of the bridge
- Scan rebar using Ground Penetrating Radar on pontoons MA and LA to ensure structural integrity

Hood Canal Bridge

West-half Retrofit and

East-half Replacement Project

East-half Replacement: 2009

West-half Retrofit: 2010

Q. Where is the bridge?

A. The Hood Canal Bridge is located between Kitsap and Jefferson counties at the mouth of the Hood Canal.

Q. Why is it important?

A. It serves as a vital economic and social link between the greater Puget Sound and the Olympic Peninsula.

Q. What is WSDOT doing?

A. The Washington State Department of Transportation is improving this lifeline by replacing the east-half floating portion of the bridge, replacing the east and west approach spans, replacing the east and west transition truss spans and updating the west-half electrical system. The project completion estimate is 2010.

Q. What can drivers do to stay informed?

A. Sign up to receive the latest news regarding the Hood Canal Bridge Project and other related area transportation news in your e-mail. Visit www.HoodCanalBridge.com.

This report highlights updated Hood Canal Bridge Project information from **May 1 – 31, 2008.**

For more information about the Hood Canal Bridge Project visit the project web site, www.HoodCanalBridge.com, or contact project staff:

Becky Hixson, Business Manager
(253) 305-6450, hixsonb@wsdot.wa.gov

Dave Ziegler, Principal Engineer
(253) 305-6424, ziegled@wsdot.wa.gov

Monthly Report

Hood Canal Bridge West-half Retrofit and East-Half Replacement Project



(left) Pilebucks install a lower roller guide assembly on the new east half draw span. May 13, 2008. (right) K-G crews place concrete for the bottom slab of pontoon U. May 1, 2008.

Project Delivery

Hood Canal Bridge Project reaches 75 percent mark

After reaching the 75 percent mark for overall completion, the Hood Canal Bridge Project is rounding the corner into what is unquestionably the home stretch before float-in of the new east half in May-June 2009. The lion's share of the retrofit and east-half replacement project will be finished in a little more than a year.

Significant progress occurred at all three construction sites: Concrete Technology Corporation (CTC), Todd Pacific Shipyards (TPS) and Oregon Iron Works (OIW), moving the project work closer toward completion.

CTC: Construction continued in earnest on pontoons U and W as rebar and concrete placement paved the way toward their expected completion this summer.

In addition to the base slab pour and placement of concrete for three exterior walls on pontoon U, all exterior wall pours for pontoon W were completed. In total, 1,814 cubic yards of concrete were placed by Kiewit General (K-G).

TPS: Crews at TPS continued constructing the three-story tall control tower on pontoon PA as well as the electrical and storage

buildings on pontoon Q. K-G also focused on installing electrical, hydraulic and mechanical systems inside the pontoons.



OIW workers position the diagonal supports for weldings. May 19, 2008.

Lower guide rollers and box girders were installed on the draw span assembly. The rollers will guide the draw span in and out of the u-shaped assembly when the east half of the bridge opens and closes. The draw span's superstructure work continued on schedule, with eight of 10 crossbeams being cast.

OIW: Efforts at OIW focused on fabrication of the lift spans

and the east truss. The first of three lift spans, weighing 210 tons and measuring 104-feet long by 72-feet wide, was completed and prepped for transportation to TPS in Seattle.

OIW crews also continued tack welding diagonal supports on the east truss.

Accountability

Joining it all together

When WSDOT and K-G float out three 900-foot pontoon sections that will create the new east half of the Hood Canal Bridge in May-June 2009, they will be faced with the enormous feat of putting them together.

While this task is awesome enough, the floating aspect of the bridge was something that crews had to address long before the bridge's closure date. The fact that the bridge shifts, twists and ultimately raises and lowers up to 16.5 feet depending on the tides presented engineers and survey teams a unique challenge.

The task was even more daunting due to the bridge's tight tolerances. The new and retrofitted pontoons, including their superstructure and roadway must be built to within 1/8 inch of the design's height, length and width requirements so each section will properly fit together. This is a vital step in constructing the smoothest and safest roadway possible.

Unique surveying methods put into practice

The work requires precision surveying and relying on some of the processes used on dry land. However, to compensate for the movement of the floating pontoons, different techniques and instruments help establish and maintain the survey control needed to compensate for the movement of the floating pontoons.

WSDOT uses a specialized survey instrument that ignores the effects of gravity and creates three theoretical planes (X, Y and Z). These theoretical planes replace physical points used in land-based surveys and give crews the ability take vertical and horizontal measurements that are parallel and perpendicular to the tops of the pontoons at a given moment in time.

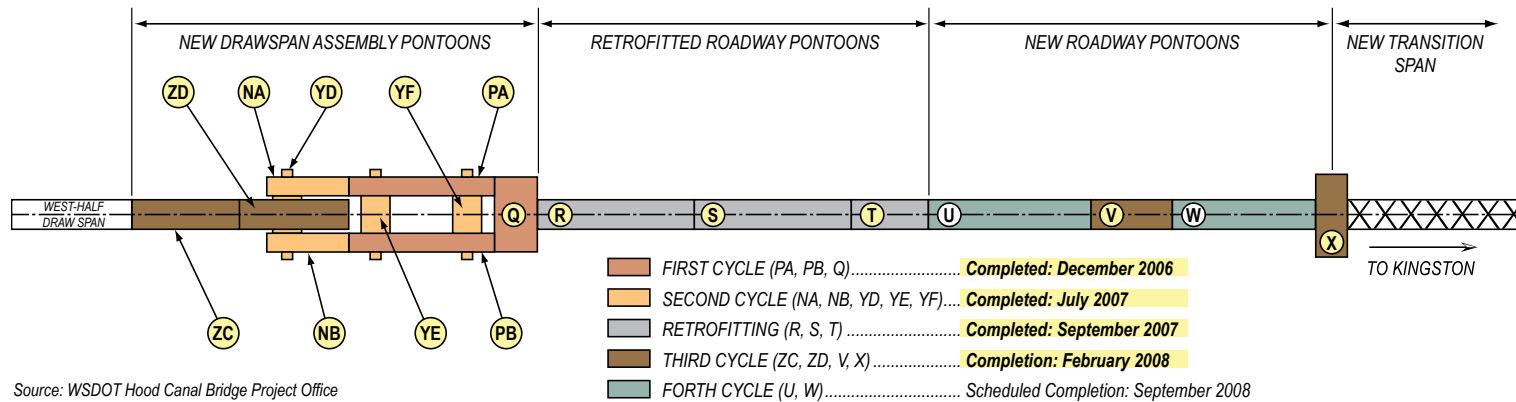
The system allows the crews accurately measure the pontoons in relation to one another as the columns and roadway are constructed. As the pontoons change their position in space due to wind, waves and tides, engineers are able maintain vertical and horizontal control making sure that the surveys are precise.

The Hood Canal Bridge Project engineers' attention to detail and innovative thinking truly contributes to the exactness of the surveys and is helping create floating structures that will fit together accurately, yet quickly enough to be completed within the six-week closure period.



Survey crews at TPS take measurements to determine the precise locations and elevations for the pontoon columns and roadway. Jan. 3, 2008 and Feb. 28, 2008, respectively.

Hood Canal Bridge Pontoon Construction Cycles



Source: WSDOT Hood Canal Bridge Project Office

Performance Measures: Keeping an eagle eye on quality

Communication of quality expectations is critical on a project of this complexity.

Realizing this early on, partners K-G and WSDOT developed a plan, which revolves around the Quality Incident Log. The log keeps both parties in the loop and ensures that the best possible product is constructed.

The team established goals, identifying quality as a core value. Particular focus was put on building things right the first time, meeting or exceeding the owner's expectations and obtaining early acceptance of the work. Project processes and procedures were developed so K-G and WSDOT could collectively measure and monitor work and implement corrective actions in a timely manner. Inspectors and superintendents work together in the field using agreed upon processes to meet the project's quality goals.

When rework does occur, a Quality Incident Report is generated and

entered into the log. The report not only identifies the root cause of the incident, it offers analysis and a solution as well.

Engineers review the log weekly to identify trends and take proactive measures to prevent similar incidents from occurring.

A prime example of this occurred during pontoon construction cycle three when poor concrete consolidation resulted in air pockets in the wall of pontoon V. A weakened section collapsed as the post-tensioning work was taking place, setting the construction back several days.

The issue was entered into the Quality Incident Log and K-G and WSDOT took corrective steps. Both partners agree the concrete consolidation on the fourth and final cycle is the best of the entire project.

The Quality Incident Log is just one of the many successful tools that K-G and WSDOT use to measure and maintain quality on the project, ensuring that the Hood Canal Bridge will provide reliable transportation across the canal for years to come.

Financial Status

Project Cost Summary

CATEGORY	BUDGET	EXPENDED
Original Commitments		
Port Angeles	\$82,741,000	\$82,225,000
Bridge Site Work	\$41,594,000	\$41,354,000
Work in Progress	\$81,728,000	\$77,800,000
Subtotal Original Commitments	\$206,063,000	201,379,000
Modified Commitments		
WSDOT Construction Management	\$32,036,000	\$19,474,000
Bridge Closure Mitigation	\$9,644,000	\$1,597,000
New Facilities & Bridge Construction	\$223,225,000	\$176,745,000
Subtotal Modified Commitments	\$264,905,000	\$197,816,000
PAR - Port Angeles Remediation		
PAR - Construction & Engineering	\$2,300,000	\$2,214,000
PAR - Design Engineering	\$1,500,000	\$754,000
PAR - Settlement & Other Costs	\$3,040,000	\$2,657,000
Subtotal Port Angeles Remediation	\$6,840,000	\$5,625,000
Project Total	\$477,808,000	\$404,820,000

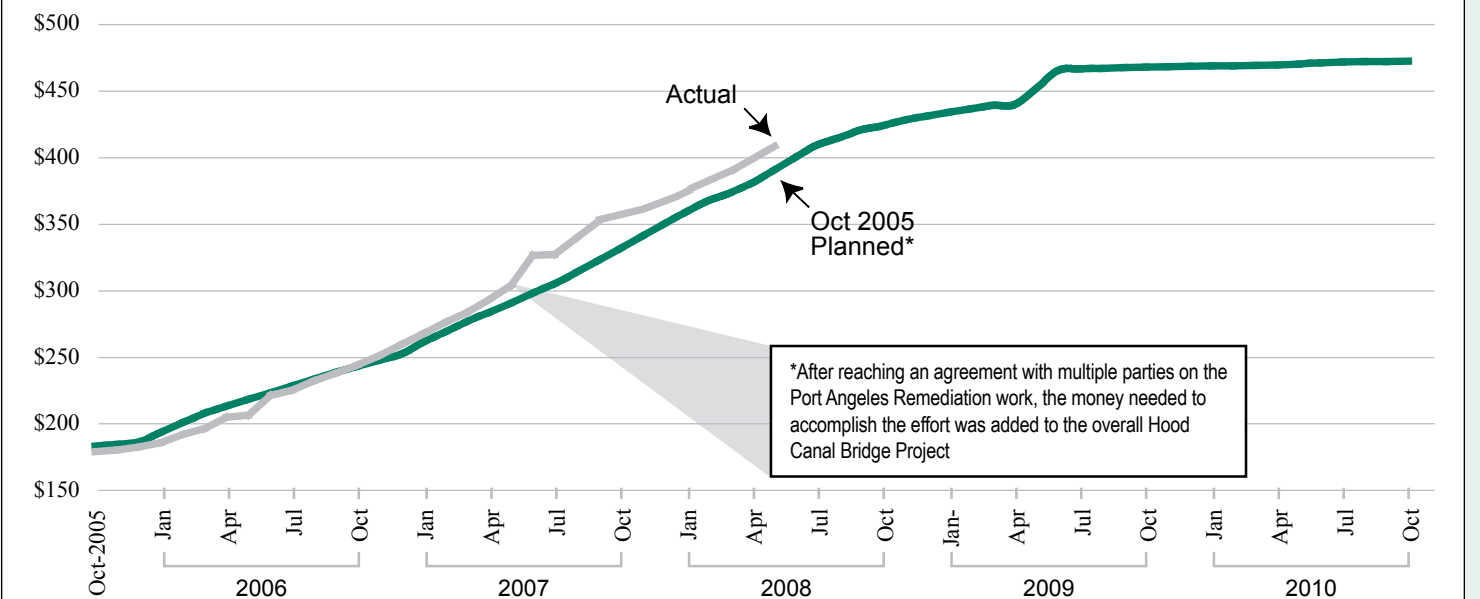


A reinforced rebar cage is placed on pontoon U at CTC. May 1, 2008.

Planned vs. Actual Expenditures

Total Project Cost, Dollar (millions).

Period Ending May 31, 2008



Source: WSDOT Hood Canal Bridge Project Office