

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.



Mike Baker, field engineer, Hood Canal Bridge Project Team

Mike Baker, a field engineer at Todd Pacific Shipyards in Seattle, is one of the employees who make up the pontoon assembly and outfitting crew. Mike is responsible for overseeing pontoon draw span assembly and outfitting; including construction of the roadway and electrical and mechanical buildings. He is also supporting demolition and preparation work at the bridge site for the May-June 2009 east-half replacement.

Mike has been with the project team since May 2007 and his wide array of career experiences, past work in bridge construction and his technical skills make him a true asset. He helps keep the team on track to ensure it meets its commitment to the public for the May-June 2009 bridge closure and east-half replacement.

He graduated from Eastern Washington University with a degree in marketing and dabbled in everything from running a Jack in the Box to selling ice cream machines before joining the Washington State Department of Transportation in 1991 as a transportation technician on the Lake Washington floating bridge replacement project.

After that project ended, he transferred to the 520 Floating Bridge Project and tested materials as a construction inspector. His last job before joining the HCB team was with Washington State Ferries as a materials engineer. The two bridge projects and experience with maritime transportation helped prepare him for his duties on the Hood Canal Bridge Project.

When asked about his current job Mike said, "For years I could tell you exactly when I would be retiring but because of my interest in this project and desire to see it through to the end, now my retirement begins when this project successfully ends. I am blessed with success here, having a team of terrific inspectors and a great supervisor. You will not find a better set of people anywhere."

When Mike's not leading a team and ensuring quality work, he enjoys hosting get-togethers with his family and friends. To stay active, he hikes, fishes, golfs and skis.

Questions? (206) 624-2508 or bakerml@wsdot.wa.gov

Next Month's Activities



K-G crews work on the project's final pontoon pour. June 27, 2008.

Pontoon Construction

- Concrete surfacing work in pontoon U
- Stress vertical bar tendons and transverse tendons in pontoon W
- Final preparations for August float out

East-half Assembly, Outfitting and Testing

- Complete conduit work in pontoons NA, NB, PA, PB and YF
- Set forms for the mechanical building
- Frame the exterior walls of the control tower

Hood Canal Bridge West-half Leak Detection System

- Plan for float-in work
- Hang conduit in lift span cells
- Scan rebar using ground penetrating radar in pontoons MA and LA

Fabrication at Oregon Iron Works

- Install west truss deck grating and monitor west span foundation settlement
- Weld diagonals and chords on the east truss
- Weld and ultrasonically inspect lower members of the east and west A-frames

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 **June 1 – 30, 2008.**

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

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



(left) The first of three lift spans completes its 358-mile trip from Vancouver, Wash. to Seattle. June 9, 2008. (right) The second and third lift spans are towed into Seattle. June 23, 2008.



Project Delivery

Hood Canal Bridge winning battle of the 'bulge': New lift spans arrive in Seattle

The Hood Canal Bridge Team took another major step toward winning the battle of the "bulge" by replacing the old, curved east-half draw span unit with a straight assembly. Three new lift spans made a 358-mile journey by tug from Vancouver, Wash. and arrived at Todd Pacific Shipyards (TPS) in Seattle. The entire project is now 76 percent complete.

The first span was towed to TPS June 9 following a 50-hour trip and the second and third spans arrived June 23 following a 46-hour trip. Within days of their arrival, each of the three, 210-ton lift spans were jacked – or elevated – high enough to be placed on top of columns located along the new draw span and installed.

Crews plan to have the lift spans ready to test in September. Four hydraulic cylinders are used to raise and lower the new lift spans to enable the retractable draw span pontoons to pull back

underneath the lift spans, allowing the bridge to open for marine traffic or during extreme weather.

The steel lift span sections were fabricated and assembled at Oregon Iron Works in Vancouver. All components are galvanized with three additional coats of paint to protect them from the harsh marine environment of the Hood Canal.

The 104-foot-long, 75-foot-wide sections are an integral component in the new east-half draw span assembly, mirroring the existing west-half draw span and providing a straight shot across the Hood Canal Bridge. The new draw span assembly will replace the bridge's existing "bulge" – a gradual curve around the east half's pontoon – and will create a safer drive across the bridge for motorists when the project is completed.

The arrival and placement of all three lift spans moves the bridge project even closer to completion as the Hood Canal Bridge Team looks forward to the May-June 2009 float-in.

Accountability

Moving things through mechanics

Making the Hood Canal Bridge's new east half more reliable is one of the primary goals of this replacement and retrofit project. The new draw span assembly is a key component in this effort.

The bridge's new draw span is a masterwork from a technical standpoint, but wouldn't be able to serve its purpose without reliable mechanical, electrical and hydraulic systems. When the work is complete, the bridge maintenance crews will be able to control all three systems from a central operating location – the control tower.

The electrical system drives both the hydraulic and mechanical systems. Here is how they work:

Step 1: Hydraulic powered units control the end locks between the east and wet draw spans, allowing the bridge to open and securing it shut. Additional hydraulic units control lock bars which slide in and out of the new draw span pontoons, working like gigantic deadbolts.

Step 2: In order for the draw span assembly to function, the mechanical systems must sync perfectly – moving the enormous pontoon section in and out of the assembly while the bridge's hydraulic system raises and lowers the lift spans. Each of the three 210-ton lift spans is individually controlled by four hydraulic powered units.

Step 3: Four drive motors power gears that turn through gear racks on the sides of the draw span pontoons. As the drive motors operate in forward and reverse, the draw span pontoons retract and extend.

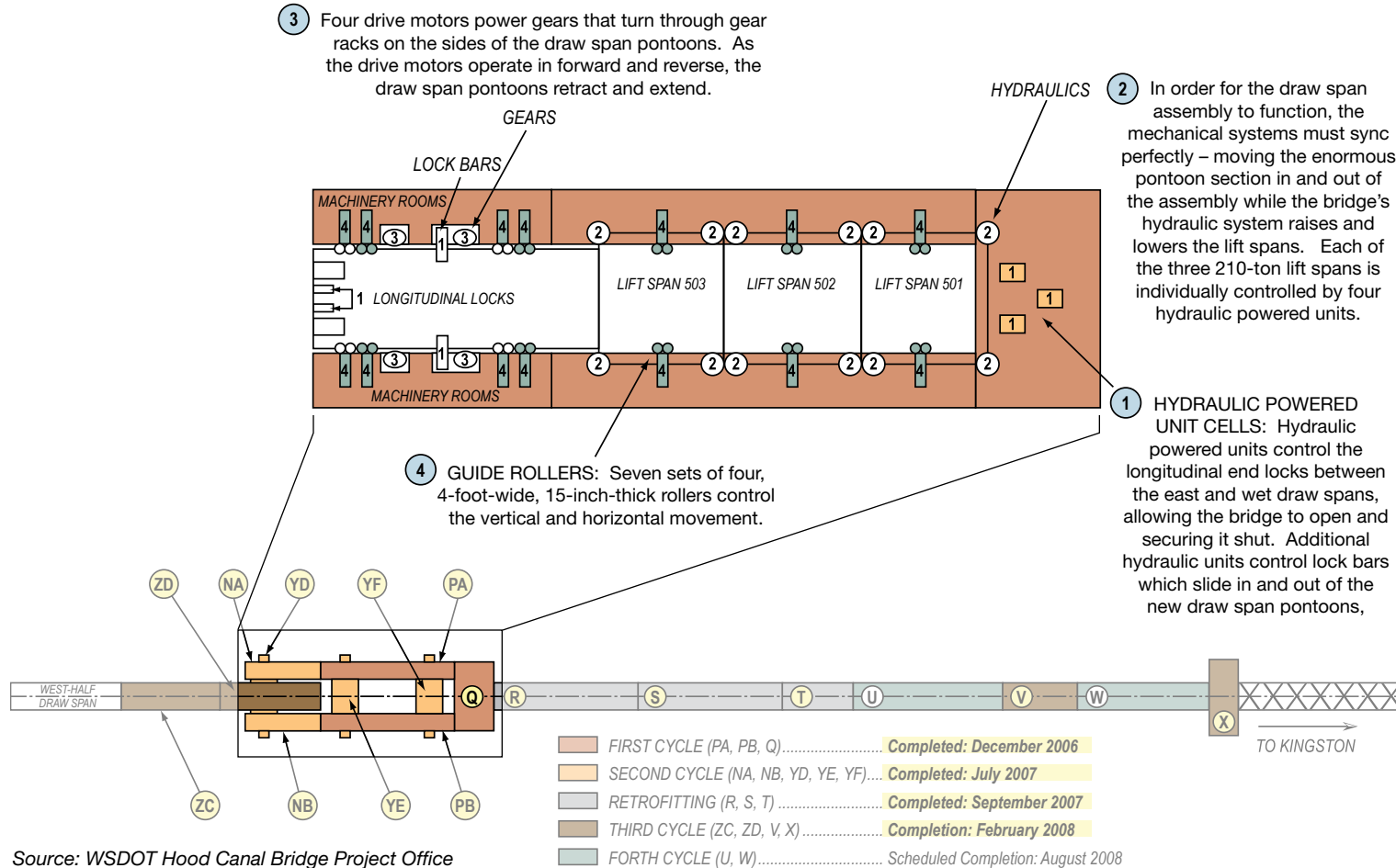


Crews at TPS install a roller guide into a draw span pontoon at TPS in Seattle. June 13, 2008.

Step 4: Seven sets of four, 4-foot-wide, 15-inch-thick rollers control the vertical and horizontal movement.

Maintaining the alignment of the 496-foot long draw span – sometimes during adverse weather – is key to the system's success. WSDOT and Kiewit-General are working diligently to make certain the new mechanical drives, motors, gears and roller guides are lined up perfectly, ensuring proper operation of the new east-half draw span for years to come.

Draw Span Mechanicals



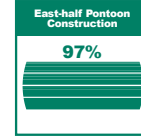
Source: WSDOT Hood Canal Bridge Project Office

Performance Measures



East- and West-half Material Fabrication

Fabricating and assembling steel bridge parts such as truss and transition spans, pontoon hatches, draw span machinery and draw span hydraulic components.



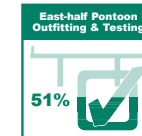
East-half Pontoon Construction

Building 14 new pontoons in four cycles at Concrete Technology in Tacoma and towing them to Seattle for assembly, outfitting and testing.



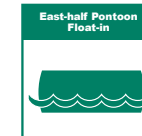
East-half Anchor Construction

Constructing 20 anchors and placing them on both sides of the bridge at the bottom of Hood Canal.



East-half Assembly, Outfitting and Testing

Connecting the individual pontoons together into three large segments, building elevated roadway sections on top of the pontoons, installing all electrical and mechanical parts and testing the retractable draw span assembly units.



East-half Float-in

Floating the pontoons from Seattle to the bridge site, putting them in place, connecting them together and installing the transition spans. The bridge will be closed to traffic during this time (May–June 2009).



West-half Mechanical and Electrical Retrofitting

Upgrading the mechanical and electrical systems on the west half to function efficiently with the new east half.

Financial Status

Project Cost Summary

CATEGORY	Period Ending June 30, 2008	
	BUDGET	EXPENDED
Original Commitments		
Port Angeles	\$82,741,000	\$82,225,000
Bridge Site Work	\$41,594,000	\$41,440,000
Work in Progress	\$81,728,000	\$78,110,000
Subtotal Original Commitments	\$206,063,000	201,775,000
Modified Commitments		
WSDOT Construction Management	\$32,036,000	\$20,362,000
Bridge Closure Mitigation	\$9,644,000	\$1,726,000
New Facilities & Bridge Construction	\$223,225,000	\$181,625,000
Subtotal Modified Commitments	\$264,905,000	\$203,713,000
PAR - Port Angeles Remediation		
PAR - Construction & Engineering	\$2,300,000	\$2,184,000
PAR - Design Engineering	\$1,500,000	\$738,000
PAR - Settlement & Other Costs	\$3,040,000	\$2,657,000
Subtotal Port Angeles Remediation	\$6,840,000	\$5,579,000
Project Total	\$477,808,000	\$411,067,000

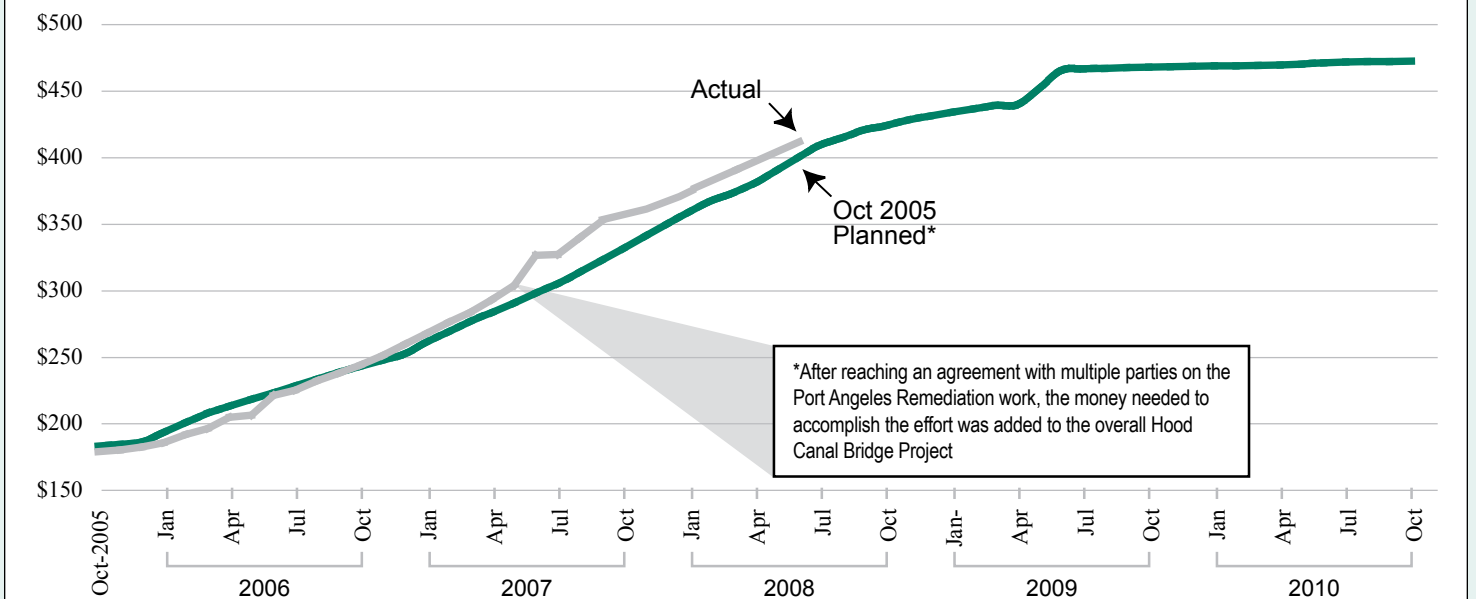


Crews at CTC start work on the final pontoon pour of the project. June 27, 2008.

Planned vs. Actual Expenditures

Total Project Cost, Dollar (millions).

Period Ending June 30, 2008



Source: WSDOT Hood Canal Bridge Project Office