Washington State Department of Transportation

Hood Canal Bridge Retrofit and East-half Replacement Project

August 2006

Building Anchors at Todd Pacific Shipyards Seattle, Washington

Dock for anchor construction at Todd Pacific Shipyards floats in place. August 22, 2006

By the numbers…

- ***Each anchor weighs more than 1,000 tons, equivalent in weight to about 167 male African elephants***
- ***Total weight of all 20 anchors is almost 2.5 times the weight of the Space Needle***
- ***Each anchor is the same height as the Chinese quince tree in the Seattle's UW's Medicinal Herb Garden – 29 feet tall***
- ***If all 20 anchors were stacked on top of each other, they would be almost as tall as the Space Needle***

Twenty new east-half Hood Canal Bridge anchors will be constructed by WSDOT and Kiewit-General (K-G) at Todd Pacific Shipyards in Seattle, Wash. Anchors are large, concrete, bowl-like structures that sit on the bottom of Hood Canal and keep the Hood Canal Bridge from moving side to side. The anchors are connected to the bridge by long, steel anchor cables.

In August 2006, crews started getting a dry dock ready for anchor construction and began assembling wood anchor forms. Actual anchor construction, marked by setting the first wood form in place, is anticipated to begin in October 2006 and be completed by August 2007.

The work will be accomplished over two phases: ten anchors constructed during each phase. The first phase is scheduled for October 2006 to February 2007. The second phase estimated construction dates are March 2007 until late July 2007. Casting the anchors in this manner is essential to maintain the overall project schedule and to provide the opportunity to re-use the wood forms.

Each 29-foot tall anchor will only take five concrete pours:

Pour # 5: The upper spokes inside the anchor

Pour # 4: Final 11 foot upper anchor wall section

Pour # 3: Fourteen-foot lower wall section, which includes setting in pipe and teardrop anchor cable openings

Pour # 2: Two-foot high base slab section

Pour # 1: Two-foot tall lower spokes and anchor footing section

When the anchors are completed, they will be transferred to water and floated to the bridge site. They will be filled with water and gravel and slowly lowered to the bottom of Hood Canal using global positioning system units to guide the anchor to the correct location.

Hood Canal Bridge East-half Anchors

Diameter	Number	Weight for Each	Total weight
46 feet	12 anchors	995 tons (1,989,400 lbs)	11,940 tons
56 feet	7 anchors	1,328 tons (2,655,140 lbs)	9,296 tons
60 feet	1 anchor	1,385 tons (2,769,660 lbs)	1,385 tons
TOTAL	**20 anchors**		**22,621 tons**