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## **ASCE SEATTLE SECTION RECOGNIZES LOCAL OUTSTANDING CIVIL ENGINEERING PROJECTS**

### **I-5 Skagit River Bridge Replacement and SR 520 Floating Bridge and Landings Anchor Design are Top Honorees**

*By Rachel Blomker and James Chae, Immediate Past President*

The Seattle Section of the American Society of Civil Engineers (ASCE) has chosen the I-5 Skagit River Bridge Replacement and the SR 520 Floating Bridge and Landings Anchor Design projects for top honors in their 14th Annual Local Outstanding Civil Engineering Achievement (LOCEA) Awards.

The LOCEA Awards recognize projects that have improved the quality of life and contributed to the economic development of the local community, area, or region. These projects represent the successful combination of multiple engineering objectives, including design innovation and excellence, environmental sustainability, cost effectiveness, the effective use of materials, and aesthetics.

The Seattle Section ASCE is also recognizing two projects with Honor Awards as part of this year's LOCEA Award competition, including: Seattle Children's Hospital Design and Consulting Services (Seattle, WA), Honor Award: Transportation & Development Category; and the Cottonwood Neighborhood Drainage Improvements (Birch Bay, WA), Honor Award: Water Resources Category.

ASCE Seattle will formally present the outstanding achievement and honor awards at its June 11, 2014 meeting at McCormick & Schmick's Harborside Restaurant in Seattle.

#### **I-5 Skagit River Bridge Replacement**

The ASCE Seattle Section has chosen the I-5 Skagit River Bridge Replacement near Mt. Vernon, WA for recognition as a 2014 Local Outstanding Civil Engineering Achievement in the Structures Category. The award-winning project team includes Parsons Brinckerhoff and Max J. Kuney Company. Washington State Department of Transportation (WSDOT) is the project owner.

Built in 1955, the Interstate 5 Skagit River Bridge crosses the river between Mount Vernon and Burlington in northern Washington. On May 23, 2013, a portion of the I-5 Skagit River Bridge collapsed into the Skagit River near Mount Vernon after an over-height truck clipped a portion of the bridge's steel truss, causing a 160-foot-long span to collapse into the river. The accident

severed the primary trade and transportation corridor for the entire U.S. West Coast – the means for transporting as much as \$20 billion in freight to



and from Canada to the U.S. – Mexico border annually.

The Washington Department of Transportation (WSDOT) hired the design-build team of Max J. Kune Company, with Parsons Brinckerhoff as designer, to construct the \$6.87 million permanent bridge span replacement. Using accelerated bridge techniques and Virtual Design and Construction (VDC) capabilities, the team developed an innovative design and construction scheme that allowed WSDOT to reopen the bridge ahead of schedule on September 15, 2013, just 88 days after contract award and 115 days after the initial accident.

### **SR 520 Floating Bridge and Landings Anchor Design**

The ASCE Seattle Section has chosen the SR 520 Floating Bridge and Landings Anchor Design project in Seattle/Bellevue, WA for recognition as a 2014 Local Outstanding Civil Engineering Achievement in the Geotechnical Engineering Category. The award-winning project team includes Hart Crowser, Inc., Kiewit/General/Manson (KGM) Joint Venture, and KPFF Consulting Engineers. Washington State Department of Transportation (WSDOT) is the project owner.

The new SR 520 Evergreen Point Floating Bridge and Landings Replacement Project will replace the existing floating bridge and improve a major traffic corridor between Seattle and Redmond. The bridge will consist of 77 concrete pontoons and will be the longest floating bridge in the world at a length of approximately 1.5 miles.



Hart Crowser was the lead geotechnical consultant on a multi-disciplinary design-build team who designed 58 highly specialized anchors constructed in water up to 210 feet deep. The anchors are required to resist incredibly large environmental forces and ultimately keep the bridge in place through massive storms and even earthquake-related wave loading. Throughout design and construction, the team successfully installed and

proved the anchor's function and capacity through a comprehensive full-scale field load testing program evaluating the ability of the anchors to resist the required loads.

### **Honor Awards**

The ASCE Seattle Section recognized an additional two projects as Honor Award recipients as part of the 2014 Local Outstanding Civil Engineering Achievement Awards competition.

#### Honor Award, Transportation and Development Category

*Seattle Children's Hospital Design and Consulting Services (Seattle, WA).*

Project Owner: Seattle Children's Hospital.

Project Team: Transpo Group, Coughlin Porter Lundeen, SvR Design, WH Pacific.



Transpo provided design and construction support of the traffic signal system, channelization, roadway illumination, and civil improvements associated with the expansion of Seattle Children's Hospital. The improvements included construction of an extension of the Burke Gilman Trail to the Seattle Children's hospital campus at the 40th Avenue NE/Sand Point Way NE intersection. Sand Point Way is a heavily travelled corridor, which intersects with 40th Avenue NE at a skewed angle presenting challenges for the trail crossing. Transpo used the skew as an opportunity to add a pedestrian/bicycle crossing as the third pair of approaches to the intersection. This crossing directly linked the Burke Gilman Trail, a major regional rail-trail, with the campus frontage. In addition, Transpo designed one of the first supplemental pedestrian detection systems, on the West Coast, utilizing stereoscopic video detection, and also designed the signage and illumination for the crossing and an interface between the cycle track and the high-use transit stop.

Honor Award, Water Resources Category

*Cottonwood Neighborhood Drainage Improvements (Birch Bay, WA).*

Project Owner: Whatcom County.

Project Team: Whatcom County Public Works, Leonard Honcoop/Len Honcoop Gravel, Inc., Dale Buys, P.E./Reichhardt & Ebe Engineering, Amerlia Seagrave, P.E./Whatcom County Public Works.



The Cottonwood Neighborhood Drainage Improvements project is located in northwestern Whatcom County. This subbasin has the highest levels of fecal coliform bacteria in Birch Bay, more than five times higher than most other coastal tributaries in the watershed and is a high priority area for water quality improvement and protection. The project area was also subject to flooding when upland runoff flowed through failing stormwater infrastructure, resulting in

damage to Birch Bay Drive and adjacent properties and creating hazardous conditions for the community. This multifaceted stormwater project combines water quality protection objectives with much needed conveyance improvements. Key project accomplishments include installation of a bioinfiltration treatment facility; significant reduction of localized flooding, maintenance, and safety problems in a high-density residential neighborhood and high-use recreational area; building ongoing relationships with the community maintained through BBWARM stormwater program activities; and project construction under budget with no accidents in a highly sensitive marine shoreline with significant archaeological resources.