THOMPSON METAL FAB, INC.
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March 18, 2011

Matthew Garrett
Oregon Department of Transportation
1158 Chemeketa St NE
Salem, OR 97301

RE: Columbia River Crossing – Minimum River Passage Height

Dear Mr. Garrett,

Thompson Metal Fab, Inc. (TMF), situated in the old Kaiser Shipyards on the north bank of the Columbia River, has over 70 years of experience in the fabrication and shipping of numerous heavy industrial as well as marine-related projects. Our company employs over 350 direct labor jobs in its construction of large infrastructure projects, as well as hundreds of indirect jobs in support of our operations. Our facility, located at Columbia Business Center in Vancouver, Washington is unique in its flexibility to construct large industrial projects. Our "roll-on/roll-off" barge slip for river transportation is the only one of its kind on the west coast. The combination of a heavy industrial construction facility and a support yard with marine transportation capability, is an important asset to the region's industrial job base and potential to attract large job producing projects. This capability has given TMF the ability to stay competitive in a business that has largely moved overseas.

Currently the lift span on the interstate bridge is 178' at maximum clearance. It is critical to TMF and the region's industrial competitiveness to maintain a minimum of 125' clearance from zero datum in the new design for the Columbia River Crossing Bridge. Any less clearance will inhibit, not only our ability to attract industrial job-producing projects, but additional users such as the Army Corps of Engineers who depend on structures delivered by barge to support our region's dams and ports east of I-5.

Attached is a partial list of TMF projects that have utilized barge transportation over the past three decades (photos are attached as indicated).

The Columbia Business Center was formerly Kaiser Ship Yard in the 1940s producing Liberty ships for the war effort. From the mid 1950s to 1960, the area was also used for the construction of a number of large offshore oil drilling platforms to support arctic drilling. Nearly every one of these projects required maximum bridge clearance.

A large number of general contractors, fabricators, and other industrial companies utilize the Columbia Business Center's barge facility for river and ocean transportation. Many of these projects also require the highest bridge clearance possible.

The new bridge design may be our region's only chance to ensure future generations the same strategic industrial competitiveness we have now. Do not restrict future jobs and commerce by lowering the passage height of the Columbia River Crossing by less than 125'. The design decisions you make today will possibly last the next 100 years. Please do not choke off the region's future east of I-5 to save a few dollars today.

Thank you for reviewing our information. You and/or your representatives are welcome to tour our facility at any time. If you have any questions, please feel free to contact me.

Sincerely,

John Rudi,
President
Thompson Metal Fab Inc.
360-696-0811
jrudi@tmfab.com


OVERALL: 120' Top of load
50'
50'
20'
On 6/23/2009, River elevation at 6.8 ft.

2-15-2009

- **Alaska Ferry Conversion.** In 1973, TMF supplied an exhaust funnel, a solarium structure, and modular subcomponents for the passenger ferry that travels the Inland Passage to Alaska. TMF fabricated the components for this major renovation (the ferry was cut in half and lengthened), and delivered them by barge to the shipyard.

- **Georgia Pacific (Toledo, Oregon) 1,680' Wood Chip Material Handling System.** In 1975, TMF fabricated six 280' tube conveyor sections and all support towers for this project. The completed fabrications were transported by barge to Toledo, Oregon and installed. (See attached photo).

- **Conversion of Barges to Chips & Coke/Soda Ash for Pulp and Paper Mills.** TMF worked on these projects from 1979 to 1981. The converted barges were fabricated to ABS and USCG standards. These projects were installed at our adjacent dock and barge facilities on the Columbia River.

- **ARCO Operation Center Housing Expansion (North Slope, Alaska).** In 1985, TMF fabricated modular super-structures, with bases and decking housing modules, which measured 40' in width by 65' in height by 80' in length. The completed modules were loaded onto a barge standing 65' high and were transported to the North Slope in Alaska. (See attached photo).

- **Newport Bay Floating Restaurant.** In 1986, TMF fabricated a one-piece floating platform to support the waterside restaurant. It was fabricated in the TMF shop and then constructed at the Columbia Business Center barge slip. It was then finally transported to it's final destination in downtown Portland, Oregon.

- **I-90 East Channel Bridge.** In 1986, TMF fabricated trapezoidal tub girders that varied from 98' to 198' in length and weighed between 60 and 200 tons each. TMF pre-assembled the deck on the girders in the Columbia Business Center and the completed components were then loaded on a barge. These were transported to Lake Washington in Seattle and erected off the barge.

- **210' Dry Dock.** In 1987, TMF fabricated a complete 210' dry dock. This included the steel walls and decks, as well as all ballast tanks and piping.

- **Conoco Milne Point Project (North Slope, Alaska).** In 1987, TMF supplied 3,400 tons of fabricated modular steel structures. The completed fabrications required three ocean-going barge loads.

- **Pacific Marine (Honolulu, Hawaii).** In 1989, TMF fabricated a 365-ton SWATH (Small Waterplane Area Twin Hull) excursion vessel. The fabrication consisted of twin cigar-shaped hulls that were 9' in diameter and 132' in length with vessel beams measuring 53'. TMF's location adjacent to the Columbia River proved valuable for launching the vessel. After sea trials, the *Navatek* vessel headed to Hawaii and is still operating today.

- **Parker Drilling Rig 245 - Mobile Oil Drilling.** In 1990, TMF fabricated a self-propelled mobile oil drilling rig. The drilling module was 43' wide by 78' high by 150' long and it weighed 3,000 tons. The utility module was 40' wide by 58' high by 130' long and it weighed 1,500 tons. The cutting module was 30' wide by 30' high by 40' long and it weighed 350 tons. The completed drilling rig was transported by ocean-going barge from TMF's facility to the North Slope in Alaska. (See attached photo).

- **Powell River Paper Company.** In 1991, TMF supplied the fabricated steel for a Chlorine Dioxide Module that measured 35' wide by 76' high by 35' long with a weight of 350 tons. The module was transported by barge in the vertical position (76' high) from TMF's facility to Power River Paper Company in British Columbia, Canada.

- **US Army Corps of Engineers John Day Dam - Upstream Navigation Lock Gate.** This gate was fabricated in 1991 at our location. The gate measured 28' by 80' by 120' and it weighed 105 tons. It was transported standing up (80' high) for installation. (See attached photo).

- **Trapezoidal Steel Tub Bridge Girders for Seattle West Access.** The girders were fabricated at our location in 1992 and transported by barge to Seattle, Washington for erection.

- **Port of Sacramento 1,100' Bulk Material Handling System.** In 1993, TMF fabricated the 275' tube conveyor sections and all support towers. The completed fabrications were transported by barge to the Port of Sacramento.

- **Orthotropic Tub Girders - Nimitz Freeway.** The Cypress Contract "E" consisted of 13 steel curved tub bridge girders for the reconstruction of the Nimitz Freeway in the San Francisco/Oakland Bay area. The total project weighed 6,000 tons. The largest tub girders weighed 450 tons and measured 50' wide by 250' in length. The completed tub girders required 4 ocean-going barges that delivered the tub girders directly to the job site. (See attached photo).

- **Steel Trusses - Portland Expo Center.** In 1995, trusses were fabricated at our location for the expansion of the Portland Expo Center. The completed trusses were transported by barge to the job site in Portland, Oregon.

- **Bridge Fabrication - 1st Avenue & Duwamish Bascule Bridge Replacement.** In 1996, the complete truss section for this project was fabricated and assembled, along with the finish paint, at TMF's facility. This it was transported by barge to the job site in Seattle, Washington. (See attached photo).

- **Tri-Met Pedestrian Bridge.** In 1996, the pedestrian bridge that crosses the Sunset Highway at Highway 217 was fabricated at our location. The completed fabricated sections were

transported by barge to a nearby location and off-loaded. They were then heavy-hauled overland to the job site.

- **Nordic - Calista.** In 1997, TMF fabricated Modular Mobile Oil Drilling Rig 3. The rig included 850 tons of fabricated steel and it was 45' wide by 78' high by 110' long with complete turnkey assembly. The rig was transported by barge to the North Slope in Alaska. (See attached photo).

- **Pre-Heater Tower for La Farge Cement Plant.** In 1997, TMF fabricated this project and it was then transported by barge from the TMF facility to Richmond, British Columbia in Canada.

- **Golmar Explorer Recovery Ship Conversion to Oil Drilling Vessel.** In 1997, TMF fabricated 2 double-bottom sections, 4 thruster tubs, vessel exhaust stacks, and manifold systems for this project. The completed components were transported by barge from the TMF facility to Cascade General Shipyard.

- **PGE Trojan Decommission Nuclear Reactor Project.** In 1998, TMF fabricated a 120-ton transport support structure and 5" thick shielding component enclosures. The completed fabrications were transported by barge from TMF to the job site and the decommissioned reactor was transported from the job site by barge to the final storage site at the Richland, Washington Hanford site.

- **Esperanza 124 MW Power Barge.** In 1999, TMF fabricated and assembled this barge at our facility. It measured 105' in width by 16' in depth by 284' in length with a weight of 1,800 tons. The completed barge was loaded on top of a 400' by 100' barge and transported to Cascade General Shipyard in Portland, Oregon for final assembly and functional operation testing.

- **Removable Spillway Weir Structure for the Army Corps of Engineers - Lower Granite Lock and Dam.** In 2001, this removable spillway weir was designed to move juvenile fish more efficiently downstream through the dam spillways. The weir was 83' wide by 61' in depth by 115' in length and it weighed approximately 1,000 tons. The weir was completely fabricated at TMF and then transported by barge to Cascade General for repositioning. Then, finally, it was delivered to the job site on the Snake River for installation. (see attached photo).

- **Boeing Delta IV Launch Table.** In 2003, TMF fabricated a 580-ton launch table. It measured 98' in length by 33' in height by 46' in width. This project also included large 50 to 120-ton flame deflector components. The launch table and flame deflectors were fully assembled at the TMF facility and transported by barge to Vandenberg Air Force Base in California and then off-loaded and installed at the launch site.

- **Richmond/San Rafael Bridge.** In 2004, TMF supplied 10,000 tons of structural bridge steel for the sub-structure portion of the Richmond/San Rafael Bridge in California. This seismic retrofit

project was fabricated over a 3-year time period. The larger components were transported by barge directly to the job site in the San Francisco/Oakland Bay area.

- **Removable Spillway Weir Structure for the Army Corps of Engineers - Ice Harbor Lock and Dam.** In 2005, this removable spillway weir was designed to move juvenile fish more efficiently through the dam spillways. The unit measured 70' in width by 68' in height by 105' in length and it weighed approximately 950 tons. The weir was completely fabricated at TMF and transported by barge to Cascade General for repositioning and then transported directly to the job site on the Snake River for installation. (see attached photo).

- **Samuel Engineering - Alaska Gold Mining Project.** In 2005, TMF fabricated hoppers, grizzly grates, ball mill chutes, structural supports, modification of the ball mill, and other mining equipment for this project. TMF's facility was used for the marshaling yard and then all of the equipment and fabrications was transported by barge to the mining site in Nome, Alaska.

- **San Francisco/Oakland Bay Bridge Replacement.** In 2006, TMF fabricated two steel orthotropic tub girders that each weighed more than 1,600 tons and measured over 200' in length and 80' in width. The girders were transported by barge directly to the Bay Area for erection.

- **OHSU Portland Aerial Tram.** In 2006, TMF fabricated the center support towers, the lower station and the upper station for the tram project. The major components were transported by barge from TMF to the job site in Portland, Oregon where they were off-loaded and erected.

- **Caltrans - East Tie-In.** TMF was selected by Caltrans (owner) to work with TY-Linn (designer), CC Meyers (contractor), and DCCI (erector) to fabricate 3,100 plus tons of temporary detour steel for the Oakland Bay Bridge at Yerba Vista Island. This project was completed on an extremely "fast track" basis. TMF met, or exceeded, all schedule requirements while maintaining all Caltrans' requirements. The major large components required four barge loads to be transported from TMF to the job site in California. This project was completed in June 2009.

- **Parker Drilling Company/British Petroleum Liberty Oil Drilling Rig (Alaska).** This oil drilling rig was delivered from our facility to the North Slope Alaska in July 2009. TMF furnished approximately 5.5 million pounds of fabricated steel and rig-up support. The rig consisted of three large modules. The Drill Module was 58' wide by 98' high (transport height) by 68' long and weighed 900 tons. The Pipe Barn Module was 158' wide by 45' high by 170' long and it weighed 2,560 tons. Finally, the Drill Service Module was 50' wide by 48' high by 177' long and it weighed 2600 tons. (see attached photo).

- **Parker Drilling AADU Oil Drilling Rigs (272 and 273).** These are currently in the process of being delivered to the North Slope in Alaska. Each drilling rig was comprised of three main modules. The Mud Modules weigh 600 tons; the Drill Modules weigh 700 tons; and the Utility Modules weigh 450 tons (6 modules total). The size of the Mud and Utility modules is 48' wide by 55'

high by 90' long. The Drill Module was 76' high with the mast in the lay-down position. After being loaded on an ocean-going barge, the tie-down blocking added 23' feet to the overall height. Therefore, the final height of the unit on the barge was 99 feet.

- **Doyon Oil Drilling Rig 25.** TMF furnished over 4 million pounds of steel and aluminum fabrication and served as the primary contractor for this job. TMF managed all rig-up yard activities, including mechanical, electrical, and functional checkout. The rig consisted of 6 individual complexes:
  - -The Power Complex weighed 550 tons and was 56' long by 40' wide by 42' high.
  - -The Drill Complex weighed 560 tons and was 96' long by 37' wide by 40' high.
  - -The Pipe Complex weighed 560 tons and was 68' long by 47' wide by 25' high.
  - -The Mud Complex weighed 550 tons and was 68' long by 40' wide by 49' high.
  - -The Pump Complex weighed 560 tons and was 64' long by 40' wide by 52' high.
  - -The Casing Complex weighed 500 tons and was 60' long by 56' wide by 40' high.

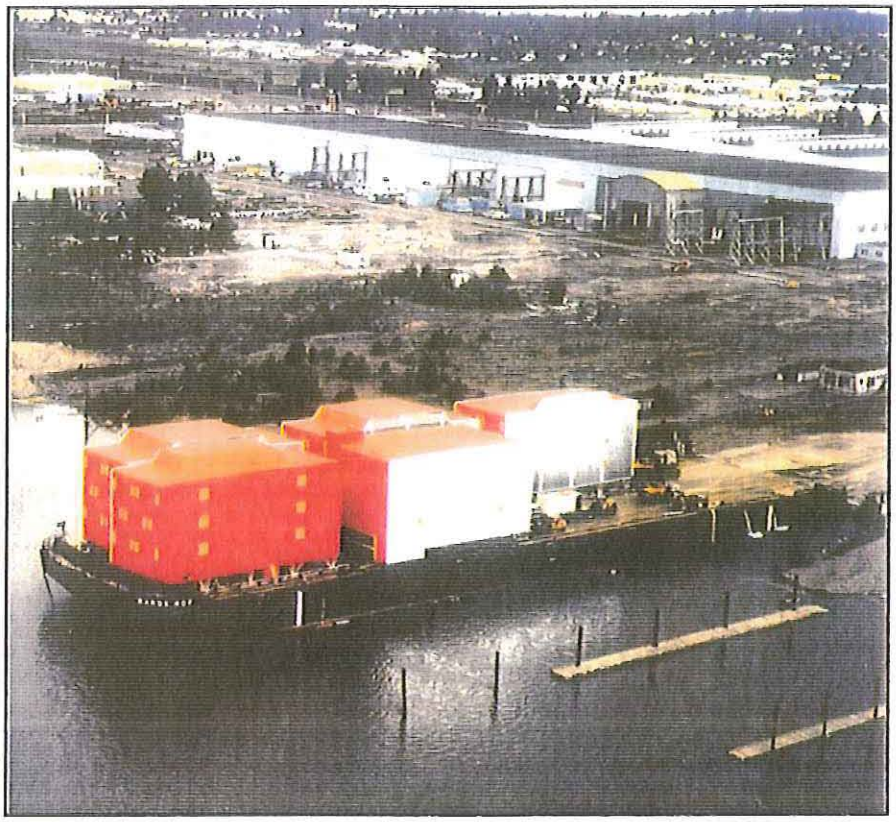
There was also a Rig Mast that was 148' long (when fully extended) by 26' wide (at the base) by 25' high. The overall footprint of this project was 265' by 150' and it weighed 6.2 million pounds.

THOMPSON METAL FAB, INC.

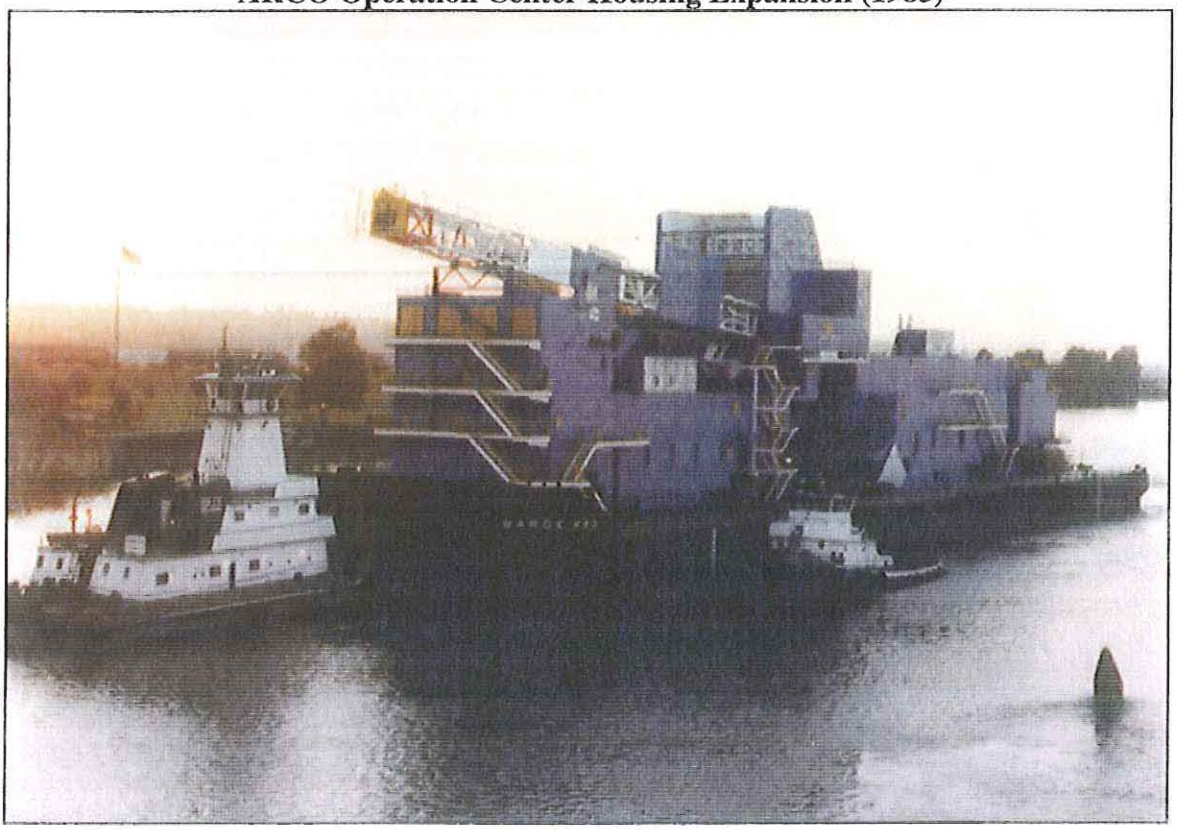
3000 S.E. Hidden Way
Vancouver, Washington 98661

Thompson Metal Fab, Inc. (TMF) has over 70 years of experience in the fabrication of marine related projects.

Georgia Pacific (Toledo, Oregon)—1,680 Foot Wood Chip Material Handling System (1975)

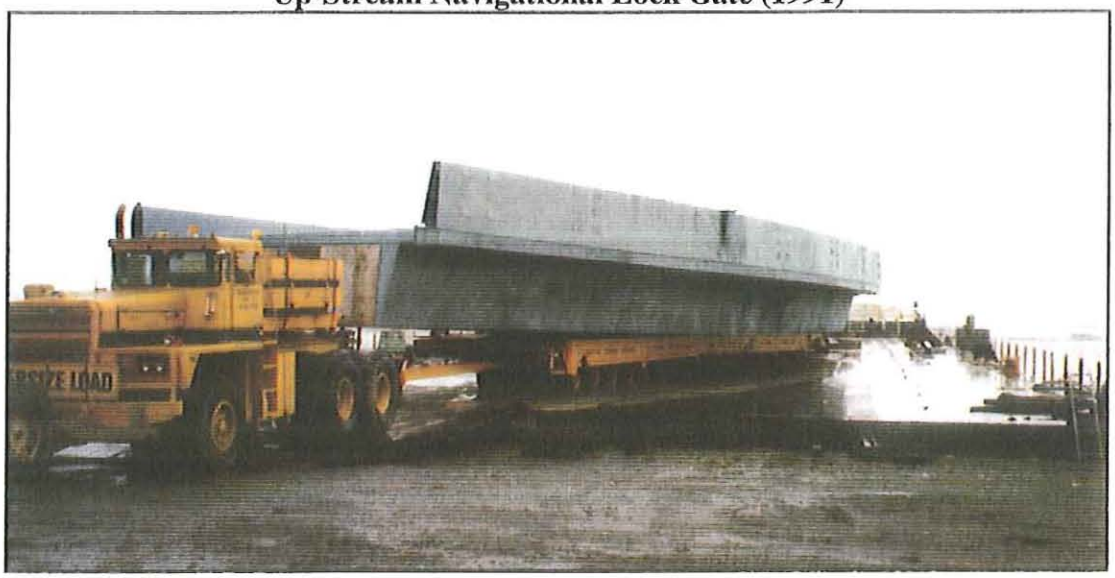


ARCO Operation Center Housing Expansion (1985)

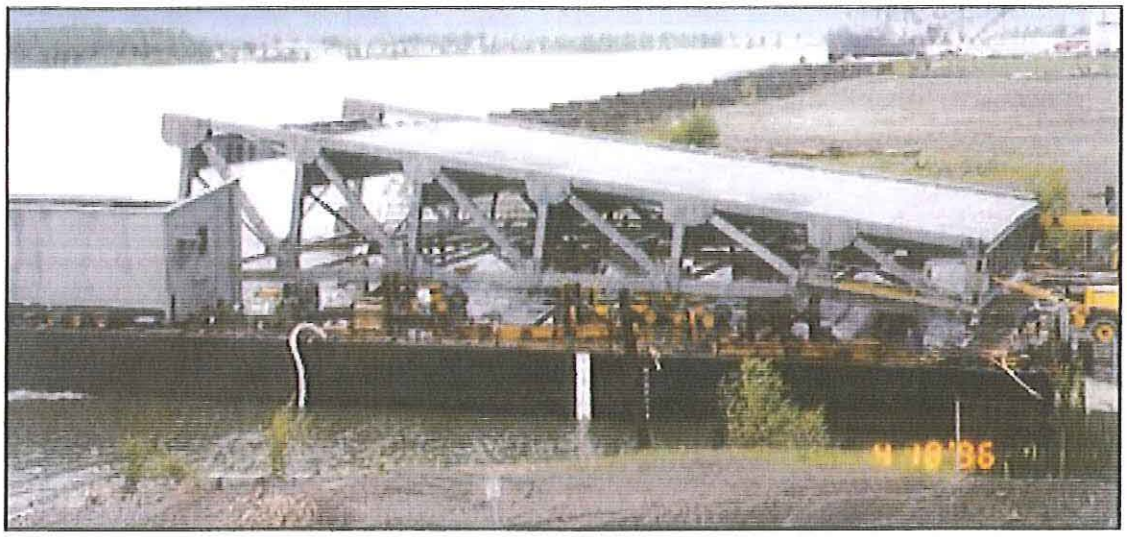


Parker Drill Rig 245 (1990)

Up-Stream Navigational Lock Gate (1991)

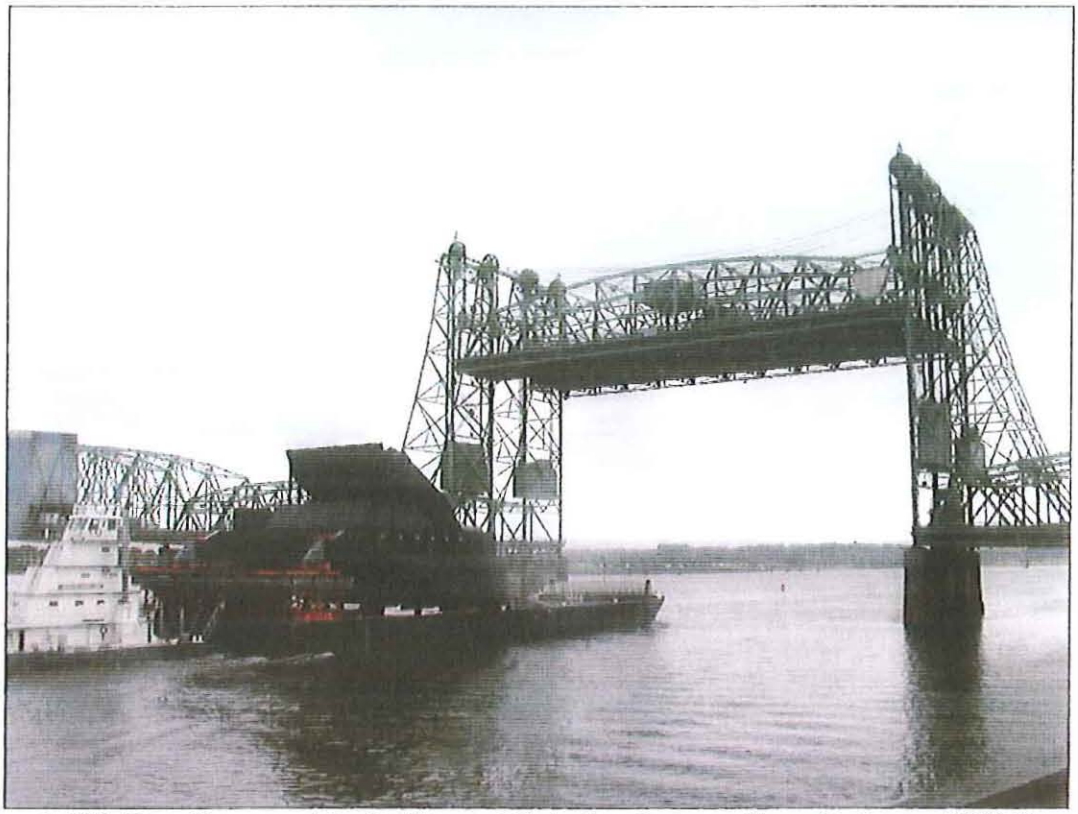


Orthotropic Tub Girder Fabrication—Nimitz Freeway (1995)



Bridge Fabrication—1st Avenue & Duwamish (1996)

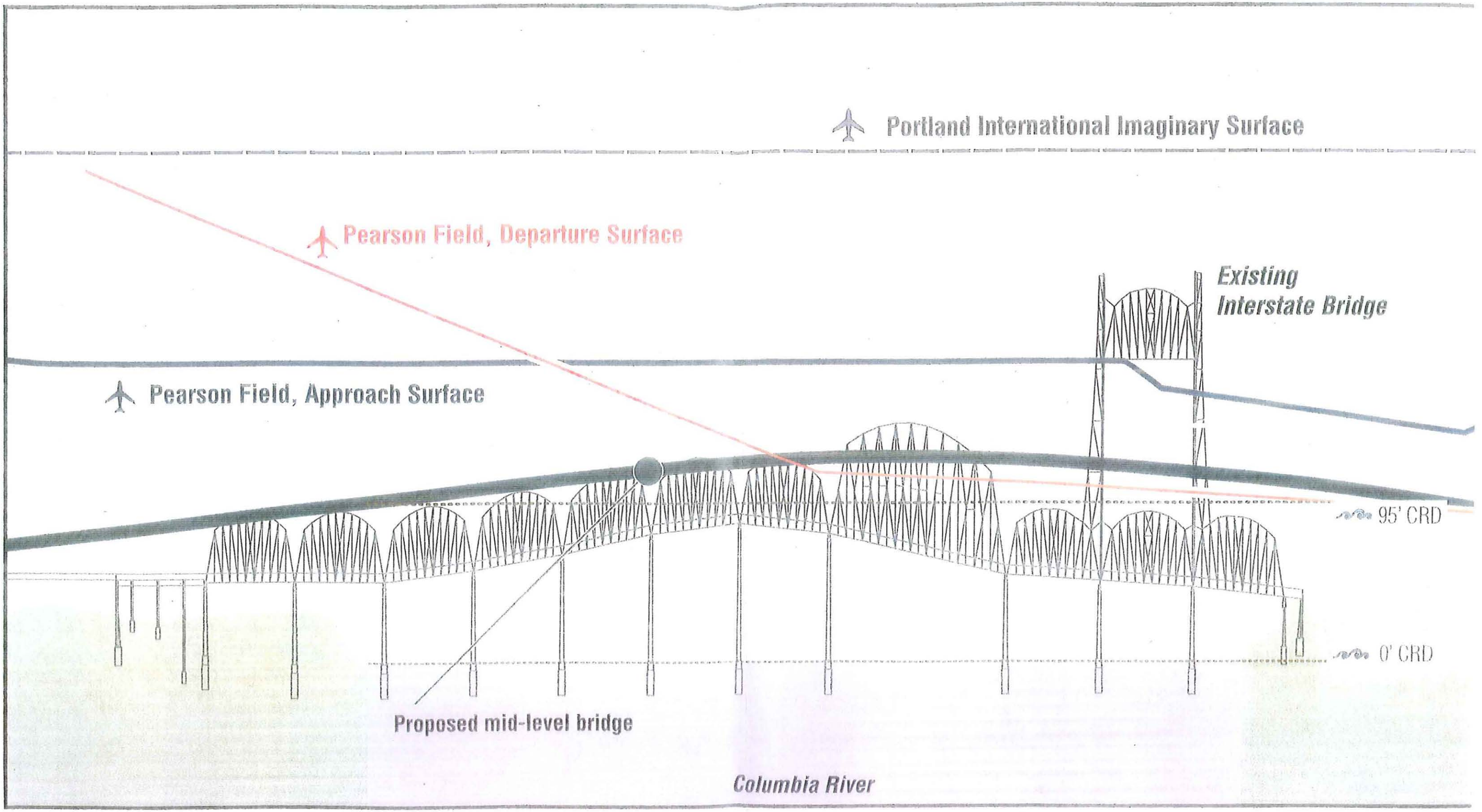
Nordic – Calista Modular Mobile Oil Drilling Rig 3 (1997)



1,000 Ton Removable Spillway Weir for Lower Granite Dam (2001)

950 Ton Removable Spillway Weir for Ice Harbor Lock and Dam (2005)

Parker Drilling/British Petroleum Liberty Oil Drilling Rig (2009)


Portland International Imaginary Surface
Pearson Field, Departure Surface
Existing
Interstate Bridge
Pearson Field, Approach Surface
95' CRD
0' CRD
Proposed mid-level bridge
Columbia River