



Temco Ship Protection Cover - Tacoma, Washington



Ship protection cover in Tacoma, Washington with Mount Rainier looming in the background.

by John Linn

Fred Tinker of Pacific Drafting, a member of the California Chapter is the first person to repeat with an On The Job Site article. In our spring 2003 issue we featured Pacific Drafting's project at Lambeau Field in Green Bay, Wisconsin.

Now we are presenting the Temco Ship Protection Cover in Tacoma, Washington. Tacoma is one of the rainiest areas in the US. This busy port sends a great many tons of grain products overseas every year. When it's raining the ships can't load because moisture can get into the hold and spoil some of the cargo. During the rainy season (much of the year) a number of ships would be seen waiting at anchor for the rain to stop so that they could load up and be on their way.

For the solution to this problem, once again, structural steel comes to the rescue. What other building material could cantilever 150 feet over the water and be able to withstand the fierce winds and storms that Mother Nature is known to visit upon the area?

The protective cover project totaled 1000 tons of structural steel. All of the connections were made with high strength bolts totaling 20 tons. There were seismic and wind slide bearings at the top of the towers. The structure is also designed for rain, snow, and ice loadings.



Fred Tinker
Pacific Drafting

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The ten 380 foot trusses had six splices. They were sub assembled and erected in one piece from the silos to the towers and then the cantilever sections followed. The lifts were assembled into 2-truss box sections with their struts and braces tying them together. The box sections had to be assembled across the bay and then barged over to the site.

The tower and truss sections were erected using a 450-ton barge crane with a 300-foot boom. The cantilever section is

160 feet above the water at high tide and the barge crane had to wait for high tide to do the heaviest lifts, which occurred at the tower to silo region.

The project engineer, Van Sickle Allen and Associates, provided quality design drawings and worked closely with the detailers on the many complex connections at the existing silos and new

towers. Pacific Drafting completed the project on a fast track schedule (what other kind is there?). They used SDS/2 3D modeling software and furnished CNC files to the fabricator, Paxton & Vierling Steel Co. The erector, WW Constructors, reported very few erection problems and the port of Tacoma is now happily loading its ships come rain or shine.



Above, A 450 ton barge crane getting ready to erect a cantilever truss section. Right, 230 foot truss sections going up.



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