

The Solano

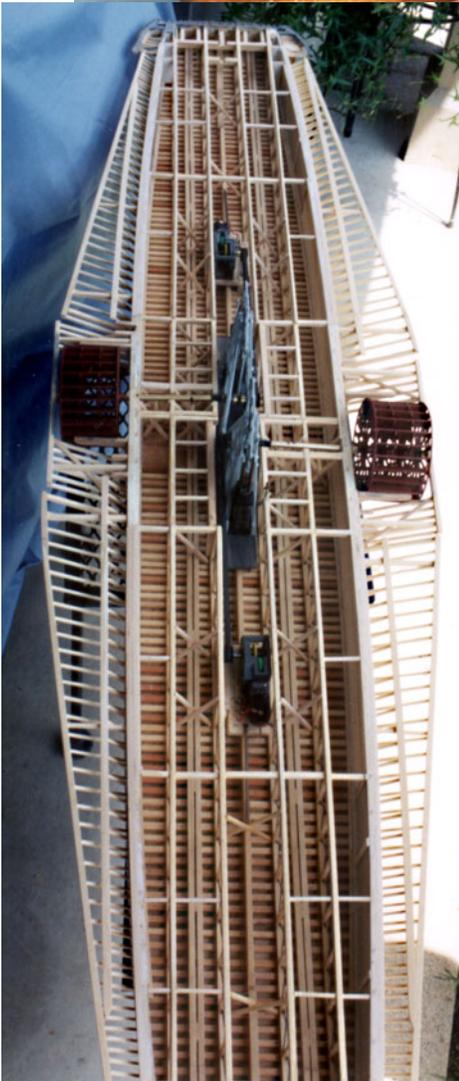
■ Jim Turner, our model builder and good friend.



■ The Solano model as she looked in fall 2000. Cabins and superstructure are about to be built following a winter break.



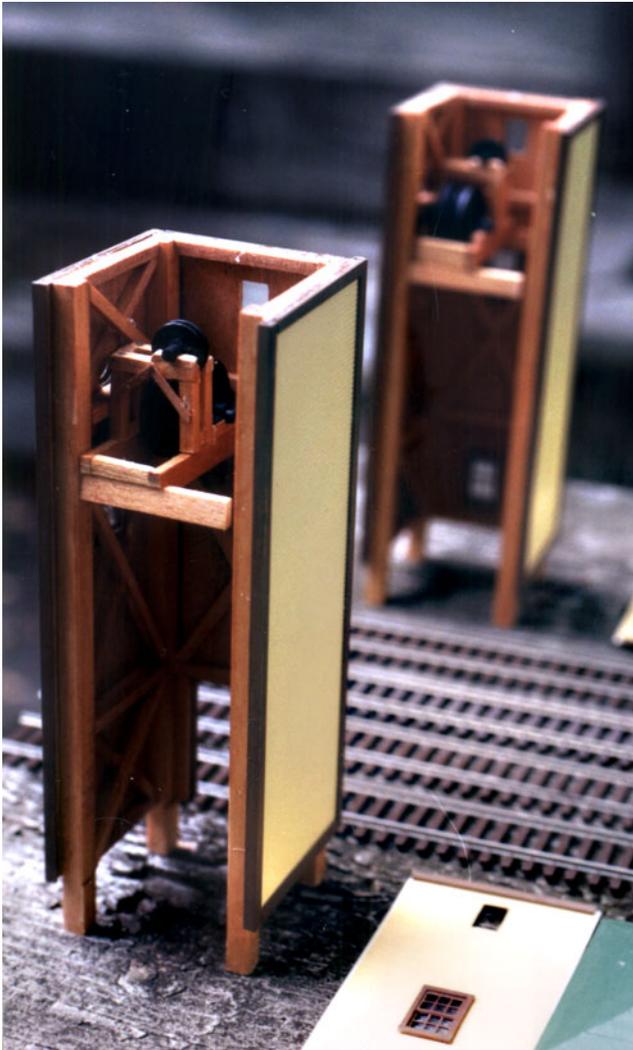
■ Note the teeny weenie HO scaled man standing in front of the A-frame engine structure.



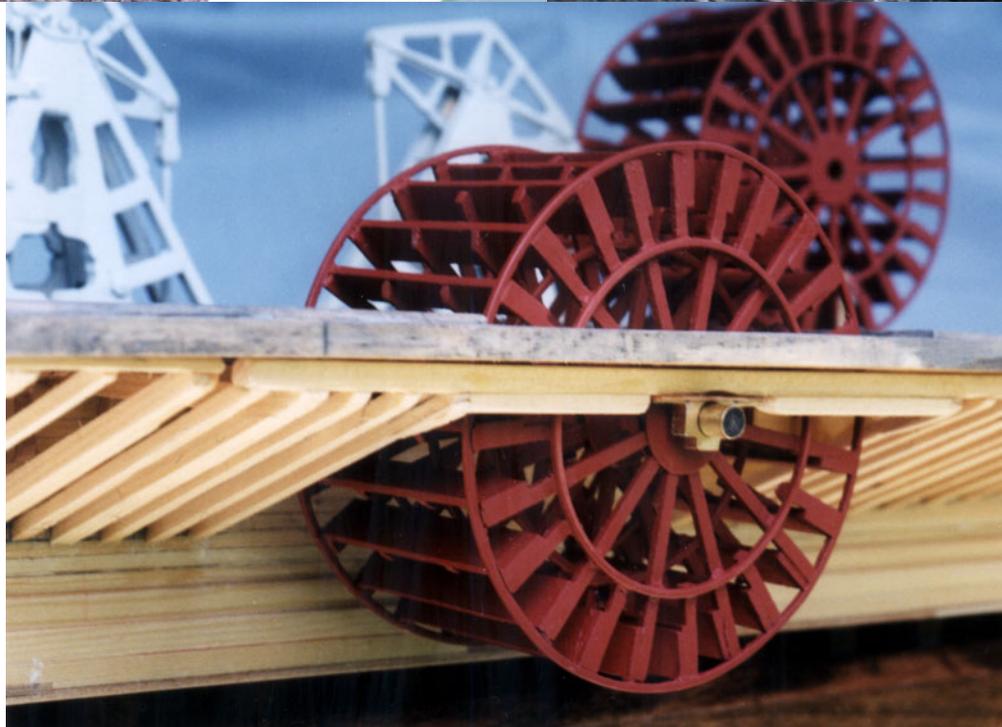
■ “Solano Island” (middle pic and above). Yes, the Solano still exists today — as an island breakwater near Antioch, California. And she still shows-off one of her two A-frame walking beam structures (the other is there too, but tipped sideways).

■ Solano Hull Detail. The two items located at about 1/3rd of the hull length are electric motors to animate the movement of the walking beam engines and paddle wheels.

■ **Inside Detail of the Counter Balance Towers.** The tracks and ramp are simulated in this picture.

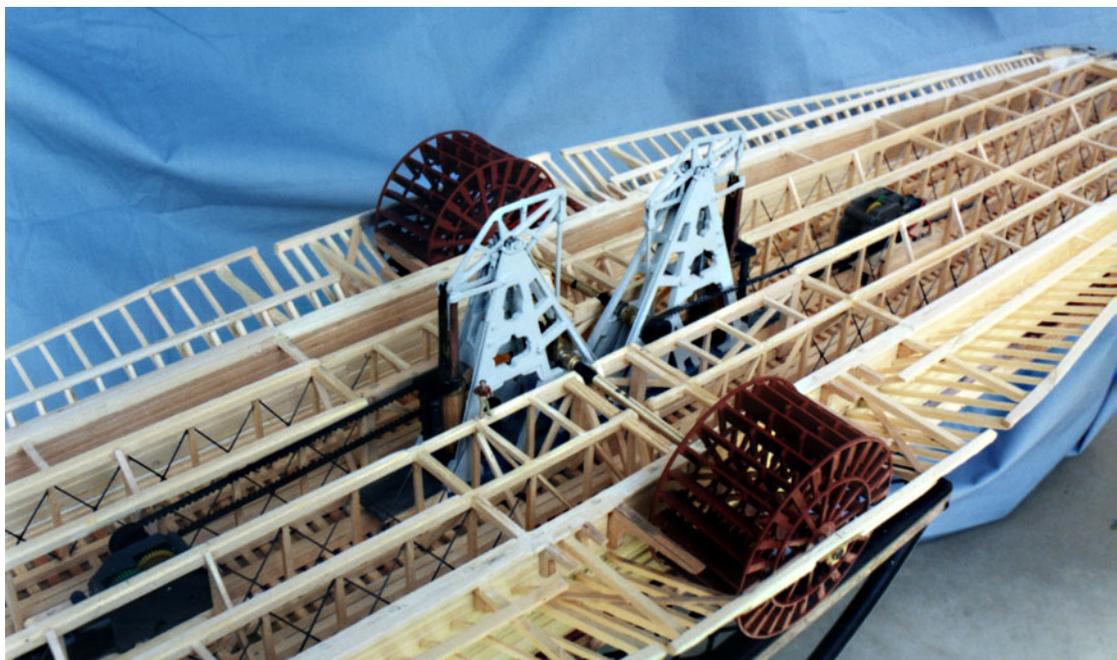


■ While Jim is doing the Solano, my brother Bill is modeling Port Costa. These are Port Costa's dock ramp counter balance towers. Only the original dock (of the two that existed) will be modeled. Port Costa will be built to HO modular layout specifications and will depict the dock, the SP mainline, the Port Costa yard and a small portion of the town of Port Costa. We plan to mount the Solano on a wheeled cart so it can "dock" and trains can be moved on and off the boat.



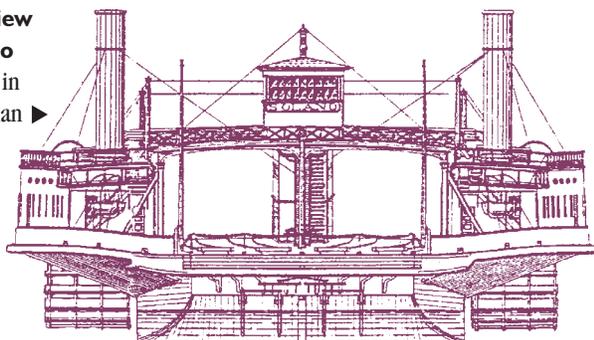
■ **Detail of One of the Two Side Paddle Wheels**

Here's a closer look at the Solano hull. Although we found copies of the original blueprints for Solano's A-frame engines and overall hull and deck layouts, we also relied heavily on detailed structural information from the Contra Costa to "flesh out" the Solano's hull. As in other pictures, there is a little HO scaled man in there somewhere.

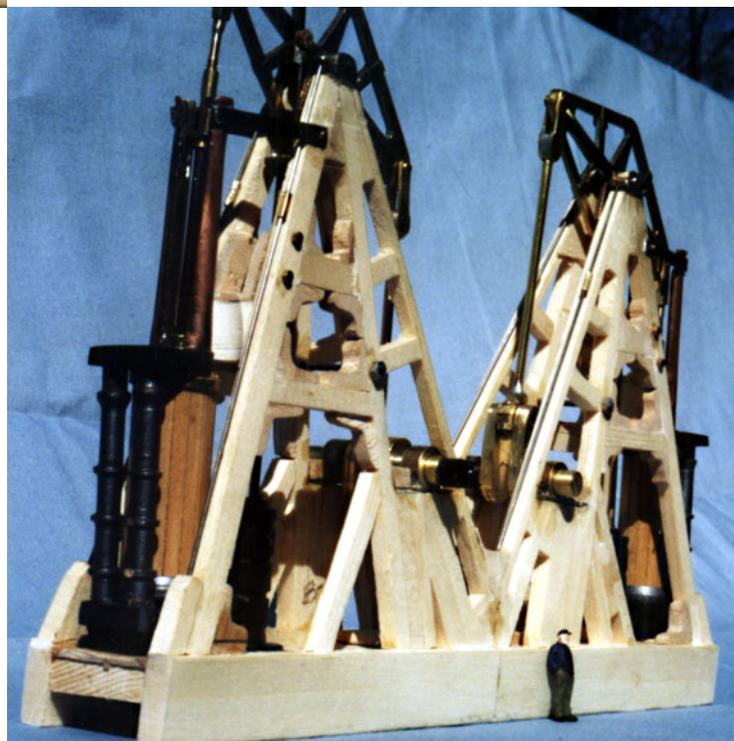


Detail of the Original Solano Rudders. We found out that these rudders were, in later years, significantly redesigned. So, sometime after this picture was taken, Jim had to go back and rework the model's rudders to conform with the Solano of the 1930's (which, I would guess, closely matched that of the Contra Costa).

Front View of Solano as drawn in a 1879 plan



Here's a detailed pic of Solano's two huge A-framed "walking beam" engines. The model's walking beams and rods actually move. Again, to get a handle on their original size, there is a little HO man standing beside them. These A-frames, unlike most steel A-framed engines of the time, were made of massive wood timbers ... and it's one of these A-frames that still stands on "Solano island"



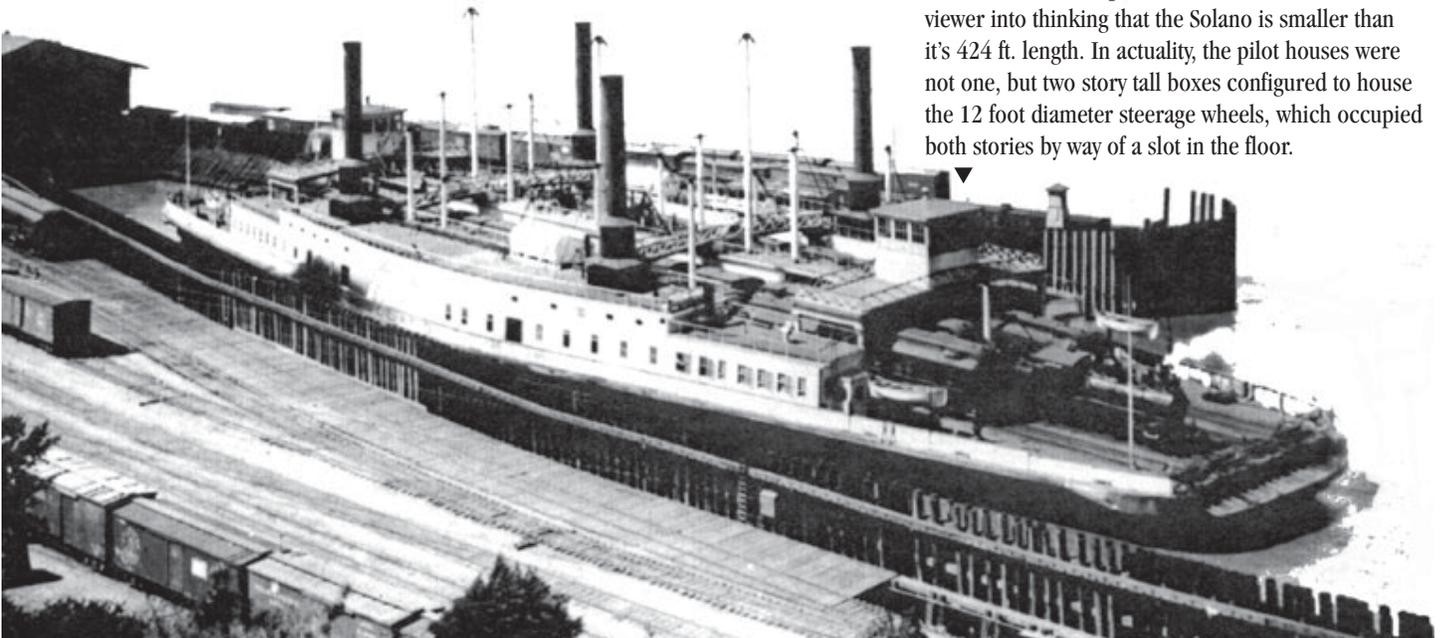
■ Here is the Solano model with cabins and dock beginning to take shape (July 2001). After multiple tries, Jim is still not happy with the window layout and plans to take another stab at 'em. Go figure. Notice that the model's windows do not match those on the Solano pictured below. The Solano, like many ships, had been significantly altered throughout its lifetime. Our model depicts the 1930's version.



■ Jim took a break from building the Solano during the winter of 2001 to finish this tall ship for his daughter's wedding. Any structural resemblance between this model and the Solano model appears to be none existent — except that they were both wooden ships — and they were both lovingly built by Jim.

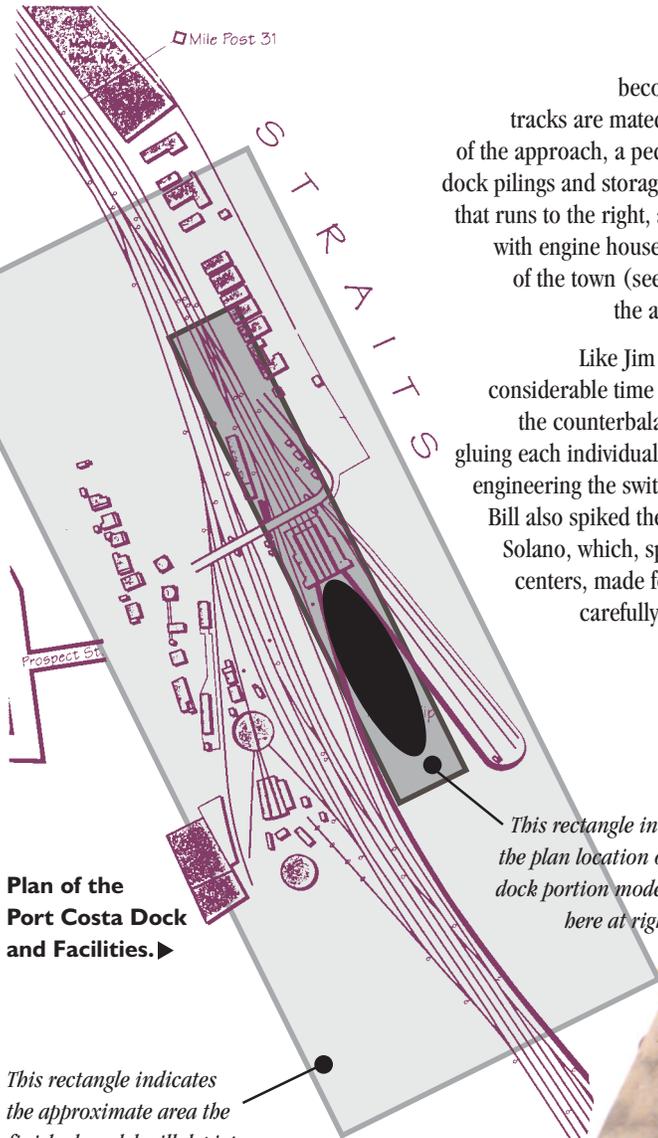


■ **The real Solano** — shown here at the Port Costa docks in its fairly early years, before a second dock was built for its sister ferry, the Contra Costa. Note that the pilot houses tend to deceive the viewer into thinking that the Solano is smaller than it's 424 ft. length. In actuality, the pilot houses were not one, but two story tall boxes configured to house the 12 foot diameter steerage wheels, which occupied both stories by way of a slot in the floor.



Suddenly the size of this model becomes apparent as the ramp and approach tracks are mated with the Solano. Still missing is more of the approach, a pedestrian bridge, a passenger station, dock pilings and storage tracks, the multi track mainline that runs to the right, and Port Costa's yard (complete with engine house and turn table) and a portion of the town (see plan at left). When finished, the assembly will be 16 feet long.

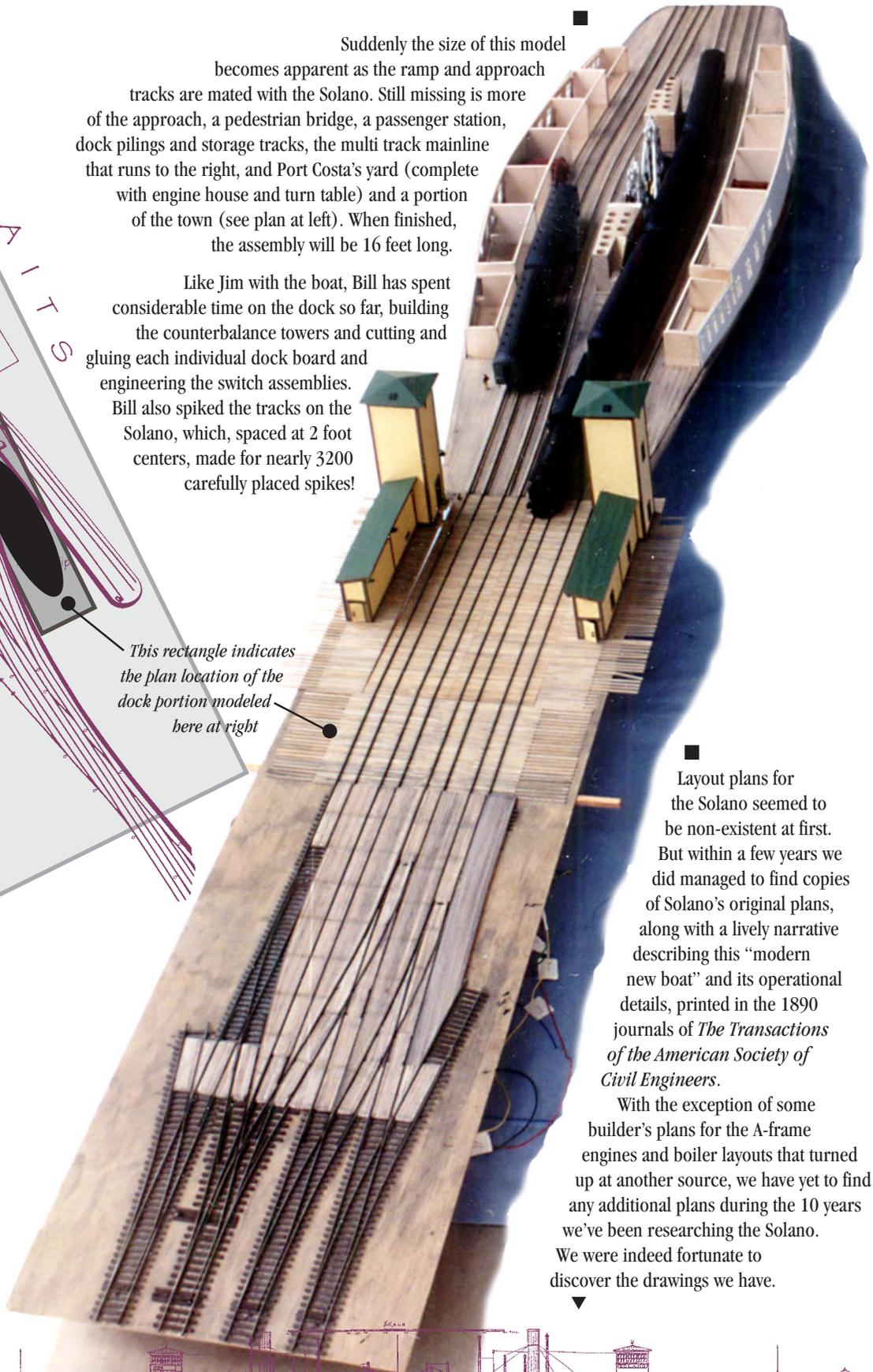
Like Jim with the boat, Bill has spent considerable time on the dock so far, building the counterbalance towers and cutting and gluing each individual dock board and engineering the switch assemblies. Bill also spiked the tracks on the Solano, which, spaced at 2 foot centers, made for nearly 3200 carefully placed spikes!



Plan of the Port Costa Dock and Facilities. ▶

This rectangle indicates the approximate area the finished model will depict.

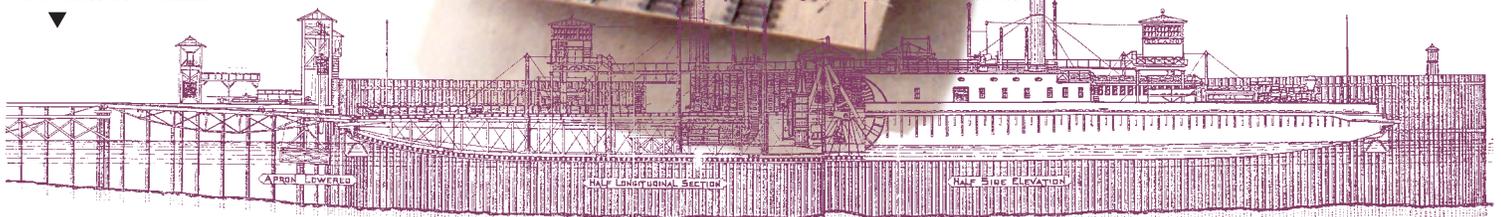
This rectangle indicates the plan location of the dock portion modeled here at right

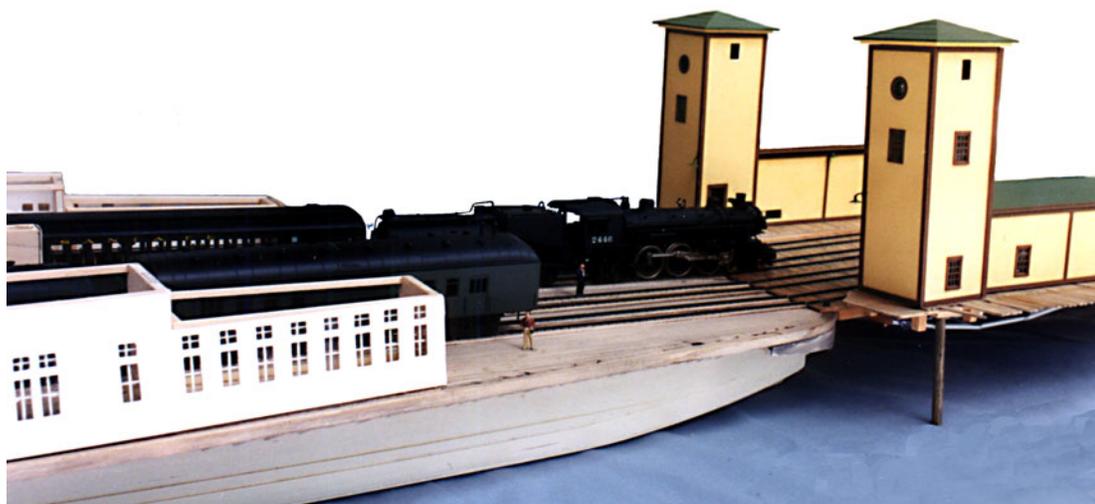


Layout plans for the Solano seemed to be non-existent at first. But within a few years we did managed to find copies of Solano's original plans, along with a lively narrative describing this "modern new boat" and its operational details, printed in the 1890 journals of *The Transactions of the American Society of Civil Engineers*.

With the exception of some builder's plans for the A-frame engines and boiler layouts that turned up at another source, we have yet to find any additional plans during the 10 years we've been researching the Solano. We were indeed fortunate to discover the drawings we have.

Side View Cross Section of Solano





Here's a detail view depicting the kind of railroad equipment Solano would have carried in its later years. Bill has been steadily obtaining the types of period railroad cars, engines and switchers that would have sailed on Solano.

Solano in 2001:

Our Solano story wouldn't be complete unless we shared with you our March 2001 trip to Solano's final resting place near Antioch, California. I had seen "Solano Island" before from shore, but this time Solano's current owner treated us to a fascinating boat trip around the wreck, where we discovered some secrets — and were able to "touch the ole girl."

Too bad we didn't take that boat trip years earlier. Solano was scuttled at this site as a marina breakwater shortly after being decommissioned in the 1930s. Over the years her superstructure was slowly stripped away to reduce the shedding of rotting debris that constituted a navigational hazard. Still, her hull remained relatively intact — till July 4th, 1983, when fireworks launched off her deck started a fire that burned her to the tidal waterline.

One of Solano's secrets that surprised us? ...the wreck revealed that one of Solano's original track supporting wood beams had apparently been replaced with a massive steel I-beam — probably, we guess, because by the 1920s ship refitters could not obtain massive old growth wood anymore.

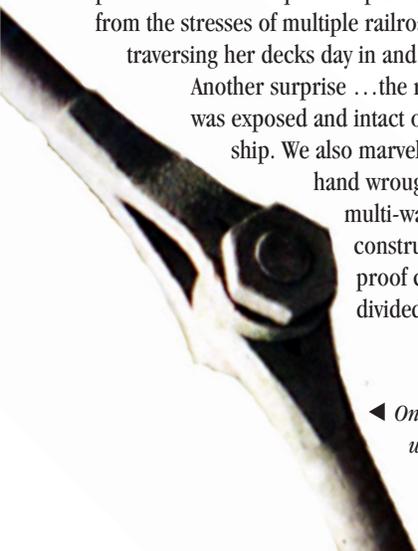
This discovery would jive well with some late 1920's pictures that reveal quite a dip on one side of her deck from the stresses of multiple railroad engines and cars traversing her decks day in and day out for 50 years.

Another surprise ...the rudder lever assembly was exposed and intact on one end of the ship. We also marveled at Solano's hand wrought fixtures and the multi-walled crisscross construction of the water proof compartments that divided her hull.



A close-up of one of the two massive "A" frames that supported a walking beam engine. ▶

Here is the rudder lever assembly for the four rudders. ▼



◀ One of Solano's hand wrought iron fixtures.

