

## Visit report 21/10/16: Bay Model Visitor Centre

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On the last day of the study tour we visited the bay model visitor centre in Sausalito. Here we were welcomed by three employees of Arcadis who told us a bit about the company, their background, their recent jobs and why they enjoyed working with Arcadis. After this someone of the US Army Corps of engineers took over and told us about how the Bay Model has come to be and showed us around.

The Bay Model was built in 1957 as part of the Comprehensive Survey of the Bay. The Delta was added to the model in 1966 to provide information for studies concerning impacts of the deepening of the navigation channels. In 1983 the model was upgraded, by introducing computerized data acquisition. After this the use of computers has been gradually expanded with the computerization of the tide controls, checking of other controls and boundary controls and analysis and presentation of test result. The last upgrade was done in 1998.

The initial cause of building the Bay model was the plans of John Reber concerning the San Francisco bay. His plan was to channelise the mouth of the Sacramento River by dams. This would create two freshwater lakes within the bay to provide drinking water for the residents of the bay area. Since the navy did not like this plan, he later added the reclamation of 20 thousand acres of land. This land could be used for an army base. To further investigate these plans the US Army Corps of Engineers were asked to build a model.

The location of this model was decided to be in Sausalito because of the availability of the hall where it was built. In this hall everything is scaled and somewhat squeezed because, it would not fit otherwise. To make sure that the model still behaved the way it should there were placed copper tabs to influence the resistance of the bed on the water. After the build was completed the plans of John Reber were implemented in the model. When the water was put into the model and run, it turned out that if this damming of the bay were to be implemented the whole of San Francisco and its surrounding would flood due to the surge coming from the rivers.

After this result John Reber's plans naturally were not implemented in real life. And however his plan failed, it did make it possible to build the bay model which was later used to research other plans. This made it possible for these plans to be implemented and succeed. After each such a research the model needed to be emptied, scrubbed, surveyed and possibly leveled. This was done to make sure that a next test had the same starting position and that the model was still representative of the real situation. This making the model ready for a new experiment took about a week.

Since the year 2000 the model is no longer actively in use. However, it used for educational purposes for example for schoolchildren. As of today a new model is built in Pittsburg: the Engineering Research Development Centre (ERDC), which makes it not necessary to update the model.