

Abstract

The purpose of this study is to develop a BIM model to support the waterfront industry. This is accomplished by developing a library of objects in Revit, composed of both parametrized object family files and parametrized project template files. The model serves to support the waterfront industry by streamlining and automating the drafting and design procedures for the engineers involved in the practice. This study describes how Revit parameters are used to accomplish automation, to mimic the environment of waterfronts, and to serve as an input control panel in the model. The study then goes to describe the best practices to utilize the library of elements and structures.

In in years following Hurricane Sandy and in light of the inevitable rising sea levels, the waterfront and marine industry in the Northeast, as well as across the country, is growing and evolving rapidly. Yet, the industry's resources are comprised of a collection of codes and software borrowed from other industries. Furthermore, design drawings are produced in AutoCAD 2-D while the surrounding industries are progressing to BIM-supported systems. This study serves to implement a BIM model intended specifically for waterfront designs, and supports the unique characteristics of the waterfront environment. The model ultimately provides a more streamlined and automated process while also saving time, promoting collaboration, and producing higher-performing designs.