Work-stopping archaeological discoveries during waterfront construction further increase awareness of the risks associated with construction undertakings in potentially sensitive areas of historic interest. The increasing awareness combined with the risks themselves introduces a challenge to the waterborne transportation industry. Specifically, there is need for a tool that allows for more efficient representation of site data to accurately define an Area of Potential Effects and the effects to be caused by planned undertakings. As an ideal solution, subsurface 3D modeling shows existing conditions with utmost clarity, in a manner comprehensible to all associated parties. The application provides a focal point for stakeholders, regulatory agencies, and project teams, and in turn, leads to the ongoing and collaborative communication necessary for beneficial project planning and development. Permissions to identify specific projects to which subterranean three-dimensional models have been applied have not been granted due to the nature and confidentiality associated with the implications of a model prior to project completion. However, stakeholders, regulatory agencies, and specialists have responded positively to the application and have praised its value. Subsurface three-dimensional modeling is unique in nature, and although specific projects having employed the application are not identified herein, this paper attempts to demonstrate its benefit to the waterborne transportation industry on a universal level. Specifically, a sampling of past events that necessitate this progressive approach are discussed, followed by explanation of the approach itself, and its potential utilization and benefit to a project.