

Executive Summary

The following proposal outlines issues and changes that will be analyzed to add value, decrease schedule and cost to the project. Three technical issues will be analyzed and one industry issue will be researched and applied towards the Marriott Hotel and Convention Center Project. All of the following issues will be addressing construction difficulties that arose in the southern half of the project, in particularly the convention entry level of the project. These technical and industry issues include:

Breadth #1 - Structural Redesign

The structural system of the convention entry and museum levels will be redesigned from a cast in place concrete floor slab and concrete structure to a composite steel joist structural system with W-shape columns and girders. Additionally, cantilevered retaining walls will be designed using Ivany block to replace the pinned cast-in-place concrete retaining walls utilized.

Breadth #2 – Mechanical/Plumbing Redesign

The original groundwater lift station system will be redesigned to account for additional water flow required; due to the discovery of a natural underground spring encountered during the excavation process.

Depth #1 - Construction Sequencing

An equivalent micro-pile foundation system will be designed to support the required loads that the current caissons support. This system will also be evaluated as an alternative to decrease the schedule for the foundation work. In large part, the convention entry (south end of the site) will be evaluated and re-sequenced to implement the proposed changes of the foundation system, retaining walls and superstructure structural system construction.

Research - BIM Implementation

A specific BIM processes that will be researched for this project will include the effectiveness and advantages of implementing a 3D electronic survey of existing conditions into a BIM model/3D model of the structure. The existing buildings on site made it difficult to design and construct the new Marriott Hotel and Convention Center with traditional surveying techniques. The costs and limited availability of the new technology will be evaluated against the advantages in time savings and in having the 3D electronic survey available for incorporation into a 3D model of the superstructure to avoid conflicts.