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 lower levels 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 level will be redesigned from a cast in place concrete structure to a steel structure. The steel structure will allow for the super structure to be erected prior to all underground and unforeseen issues being complete in the museum and convention entry levels.

Breadth #2 - Mechanical Redesign

The ceiling will be redesigned from a hard ceiling to a balloon type ceiling. This redesign will yield a savings in smoke evacuation ductwork by utilizing the plenum space as means of smoke evacuation. The proposed change will also provide a savings in material costs, design costs and time, and schedule. Additionally, in switching from a concrete structure to steel structure the required ductwork will be evaluated for the potential in having the entire ductwork run through the joist openings and thus not losing floor to ceiling height.

Breadth #3 - Construction Sequencing

A micro-pile foundation system will be designed and evaluated as an alternative to decrease the schedule for the foundation work from the existing caisson foundation design. Additionally, the convention entry (south end of the site) will be evaluated and re-sequenced to implement all the proposed changes. With the implementation of all proposed changes the south end of the site will be a cleaner more efficient work area that will also reduce the schedule.

Research - BIM Implementation

The BIM processes that will be researched for this project will include the effectives and advantages of having a 3D electronic survey of existing conditions imported into a BIM model/3D model of the structure when an existing building is on the proposed building site. Additionally the use of BIM for the coordination of MEP systems and for the design and coordination of the structure will be evaluated for potential advantages with using BIM.