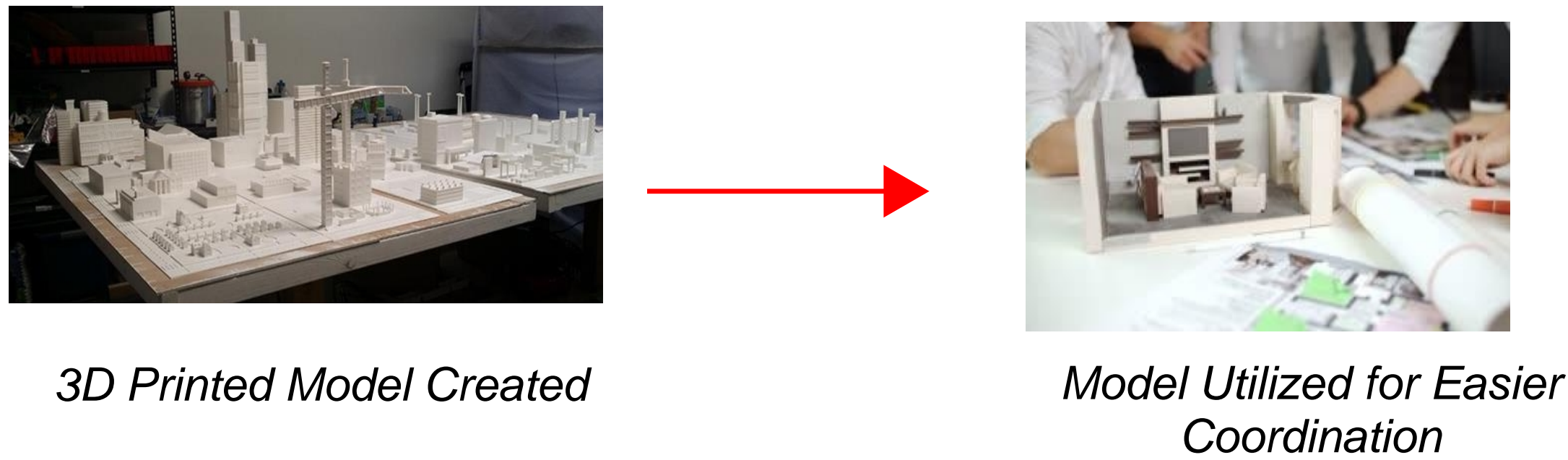
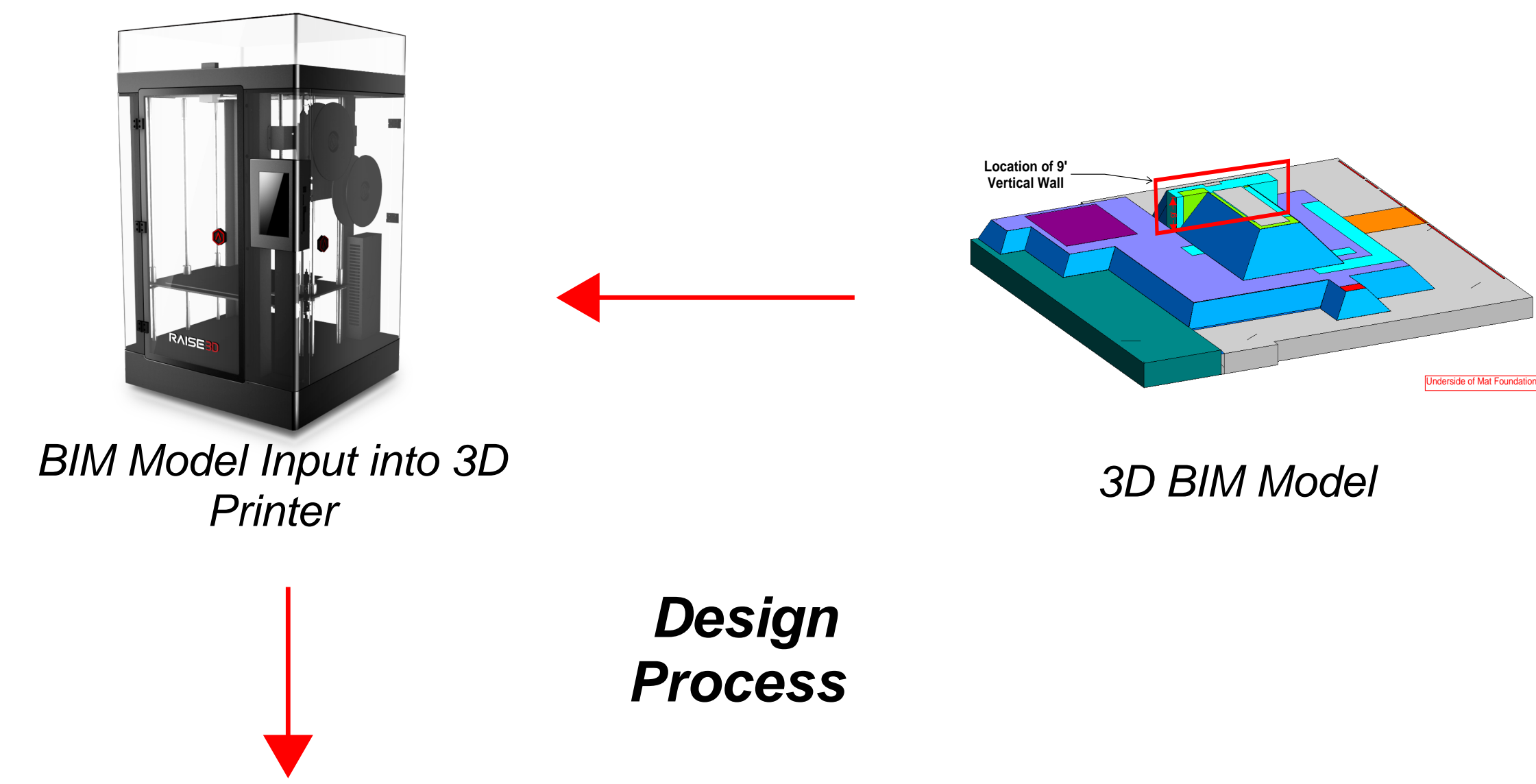


# Case Study: Analyzing the use of 3D printing to model the base of slab excavation on the Hispanic Museum project in San Francisco, California

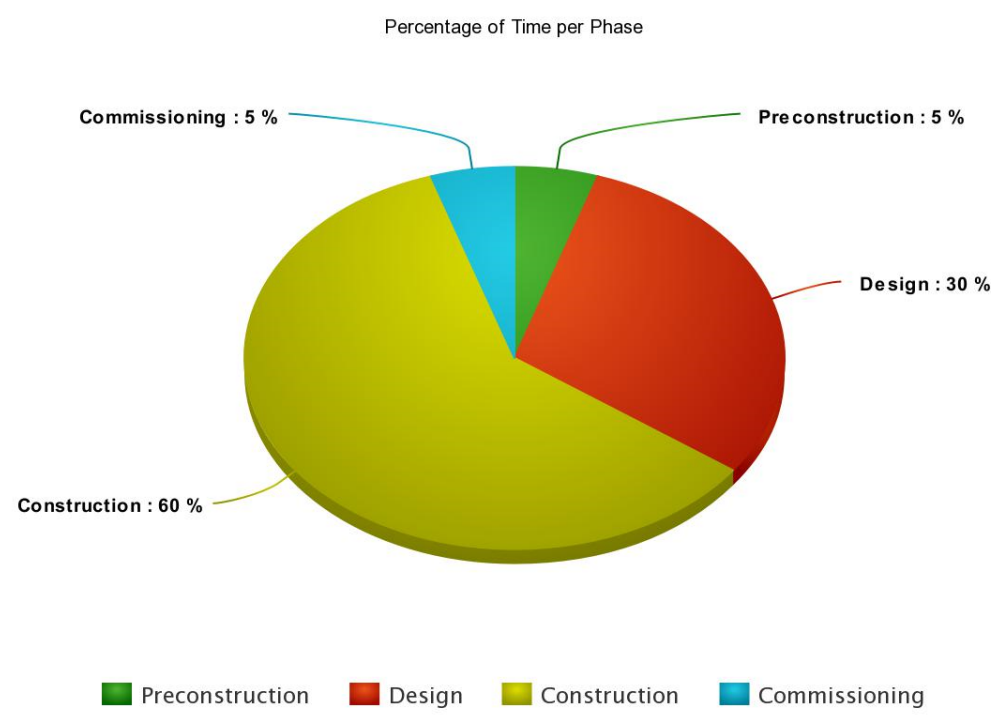
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Spring 2018



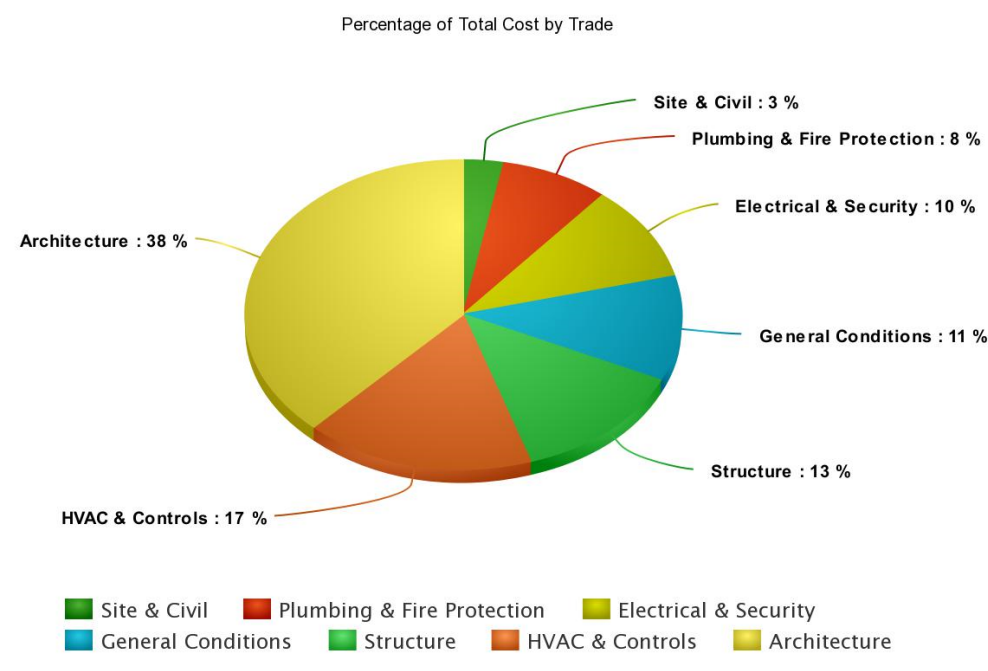
The Mexican Museum in Downtown San Francisco, California is currently undergoing major renovations as well as a new addition. During the design phase of the project, it was discovered that a section of the Mat Slab contained a nine foot vertical wall. This posed a challenge on several fronts: excavating, shoring, and waterproofing. The contractor elected to 3D print the base of the slab in order to better visual the issue they were dealing with. This decision allowed for easier coordination between subcontractors, ultimately saving time, energy, and ultimately money. It also opens up the door to new possibilities regarding 3D printing within the industry.



## Saves Time

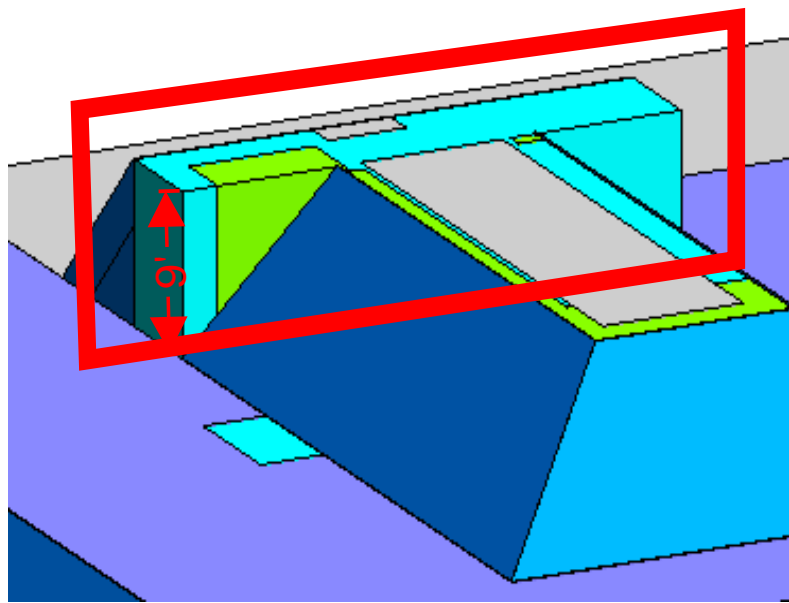


## Saves Money

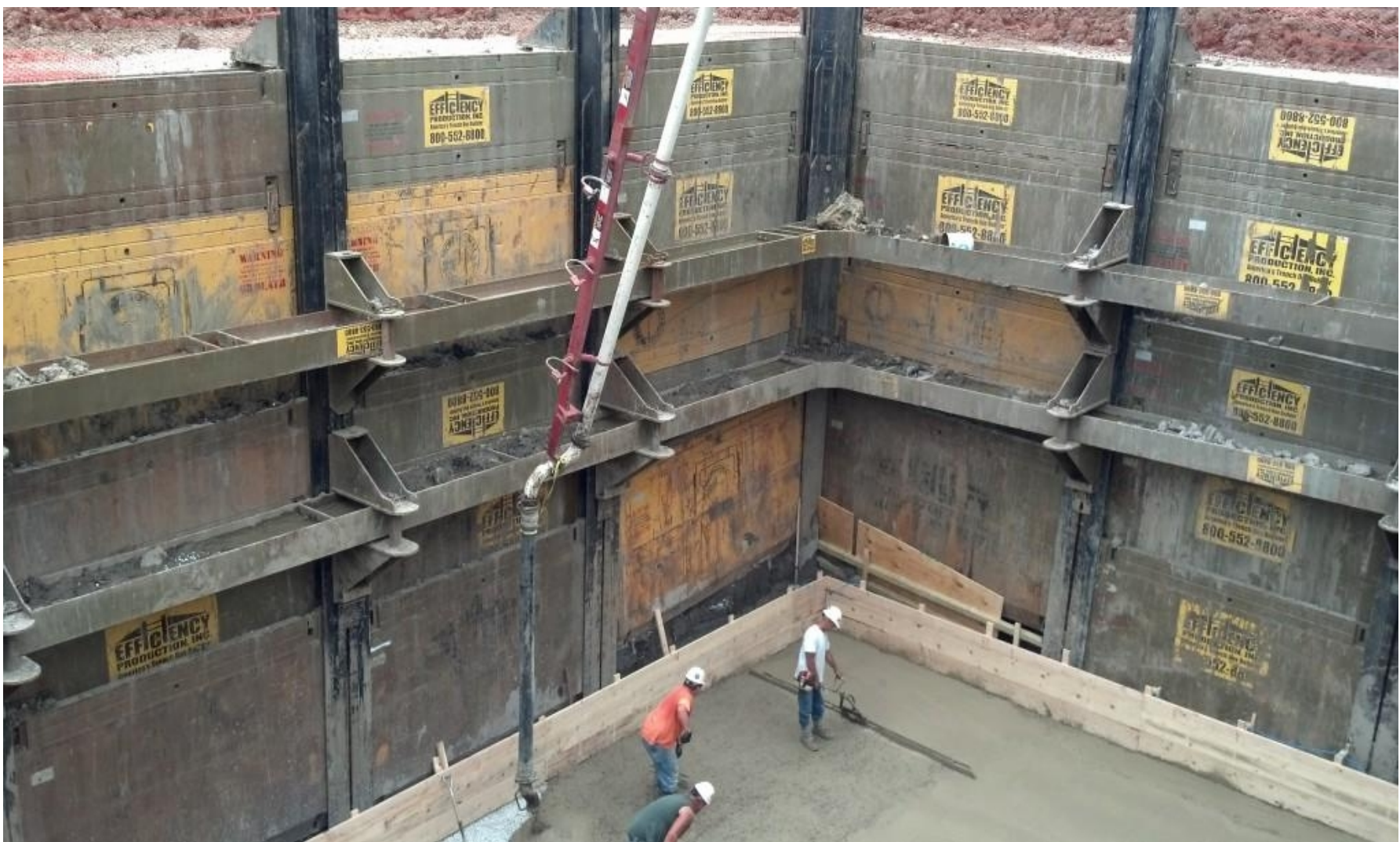


## Benefits

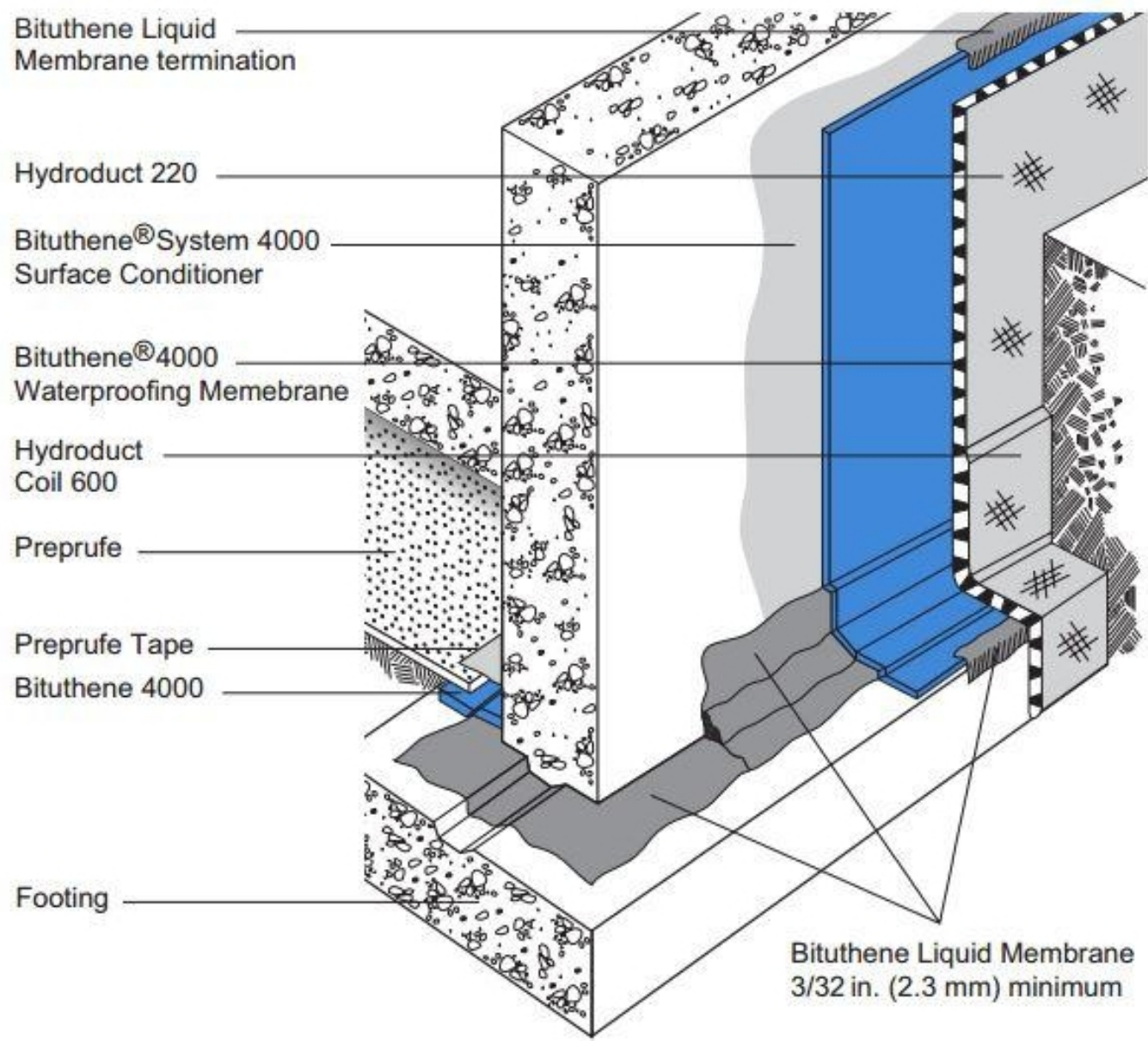
### Simplifies Coordination



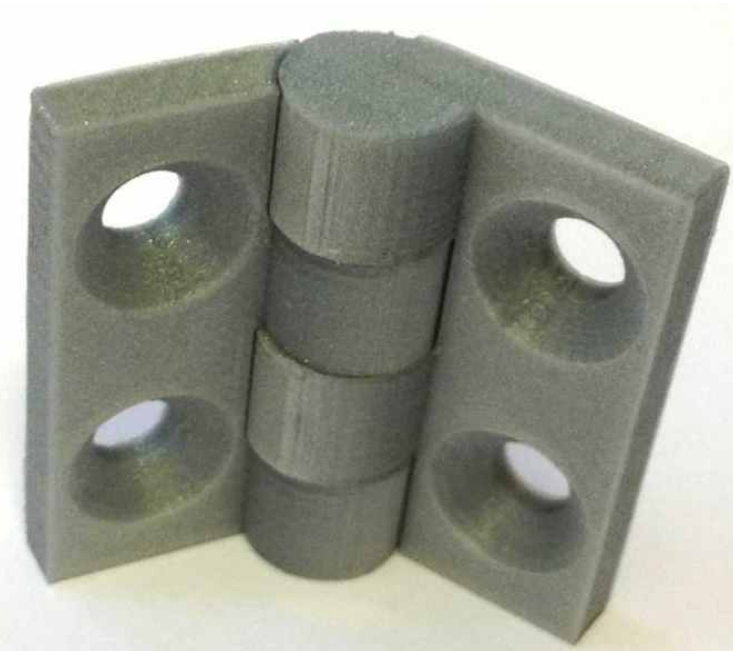
## Design Constraints



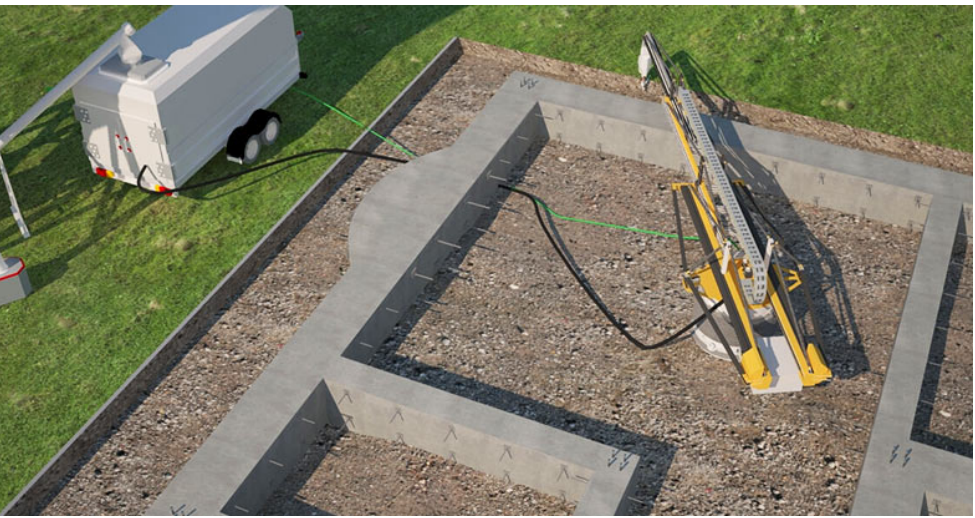
Shoring 9' Vertical Wall



Waterproofing Sharp Edges



3D Printing Prototypes & Mock-ups



3D Printing Entire Scale Models



3D Concrete Printing