

Library In Metropolitan Washington, D.C.

Project Data

Occupant- County Library & Non-profit Art Group
 Gross Square Foot- 90,000
 Actual Project Cost- \$69,530,000
 Dates of Construction- January 2013 - October 2014
 Delivery Method- Design-Bid-Build
 Architecture- Future Light Rail Stop & 50' Cantilever
 Enclosure- 53% Curtain Wall, 47% Architectural CMU
 Mechanical- IPEC(Integrated Packaged Equipment Center)

Analysis 3- Caisson Rebar Cage Fabrication

Goal to Save Costs & Reduce Delays
 30' Cage Shipping Lengths
 Truck Crane Cage Install
 High Mechanical Splice Costs
 Compare Total Wasted Cage Costs

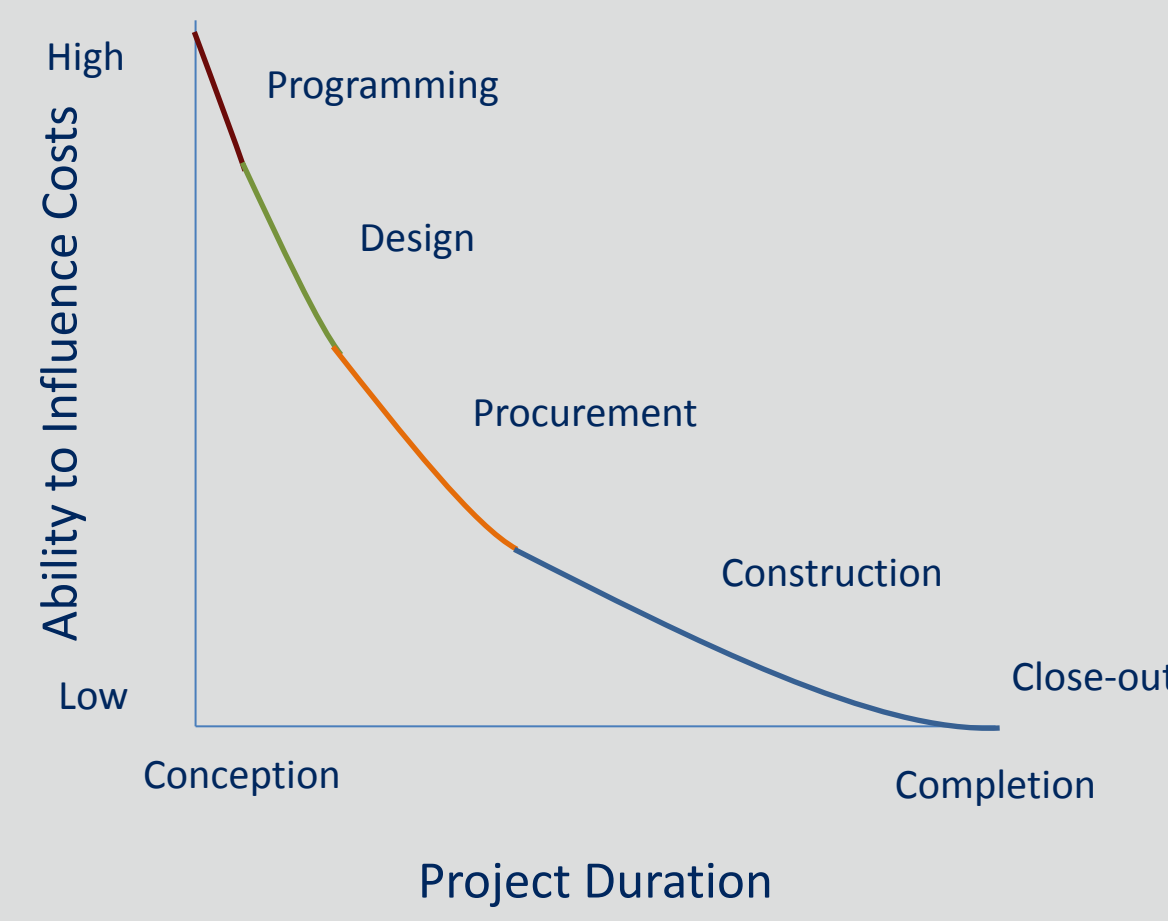


Fabrication Methods	Prefabrication Options Wasted Costs Comparison				
	Base Line	Over 10% Prefab Estimation	Prefab 80% of Estimation	10' Length Sections	15' Length Sections
Total Wasted Costs	\$ 22,951.94	\$ 32,329.00	\$ 23,402.52	\$ 51,508.23	\$ 21,723.43

Analysis 1- Early Involvement in Design

Less Change Orders; Cost Savings; Minimal Delays
 Scope Selection (Project Specific)

Scope Inclusion Areas						
Scopes	Program	Conceptual	Schematic Design	Design Development	Construction Documents	Construction
Contractor	Start-up	Scope Selection & Sign Contract	Sub Selection & Design Input	Sub Selection & Design Input	Design Input & Long Lead Items	Management
MEP	-	Planning, Questions & Sign Contract	Consult w/ Subs	Design Input	Design Input & Long Lead Items	Procurement
Structural	-	-	-	Consult w/ Subs, Design Input & Sign Contract	Design Input & Long Lead Items	Procurement
Curtain Wall	-	-	Consult w/ Subs & Sign Contract	Design Input	Design Input & Long Lead Items	Procurement



Analysis 4- IPEC & Penthouse Comparison

Offer Project Team Recommendations Choosing System
 IPEC- 1 Week Site Install & Long Lead Time
 Penthouse- \$1 Million Cost Savings
 - 10 Week Site Install

IPEC vs. Mechanical Penthouse Costs			
System	Equipment	Enclosure/Structure	Total
IPEC	\$5,800,000	\$50,000	\$5,850,000
Penthouse	\$4,880,000	\$100,000	\$4,880,000

- More Flexible Design

Recommend Penthouse (Design-Build)

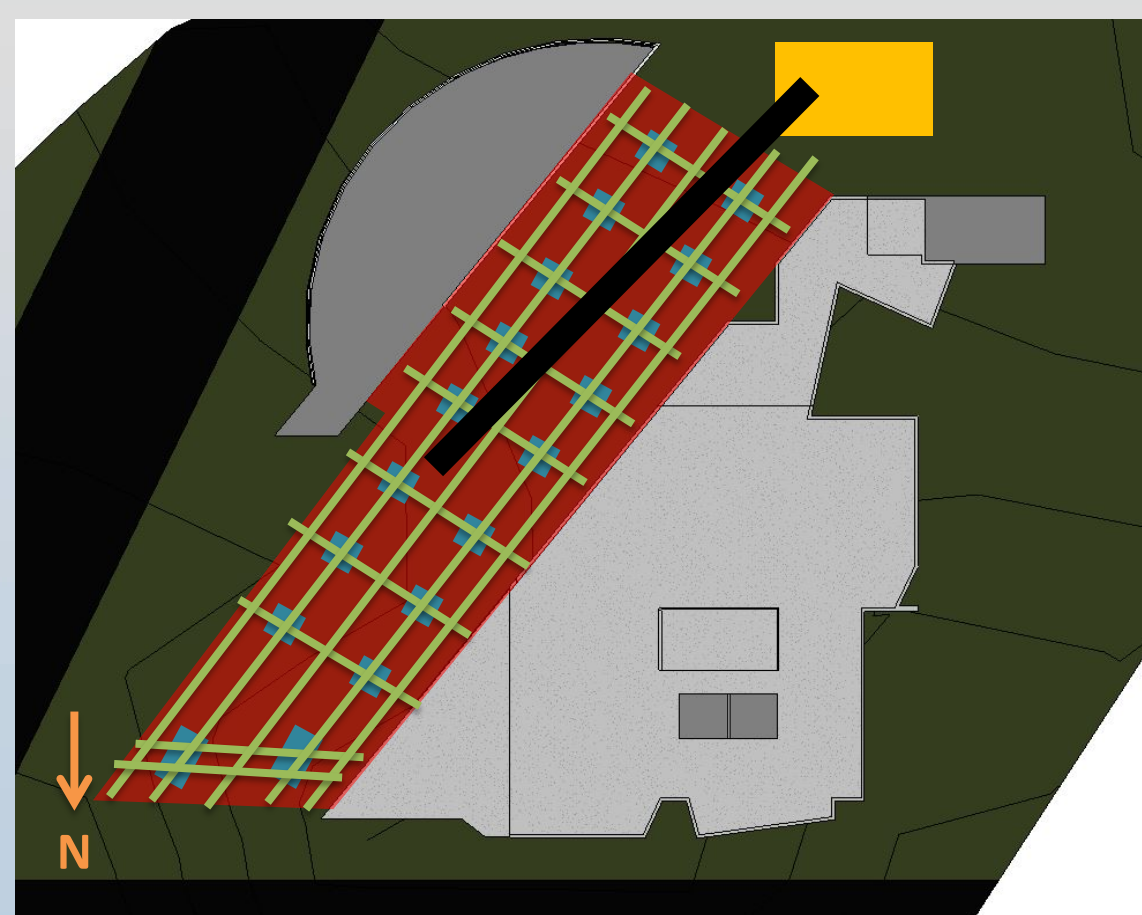
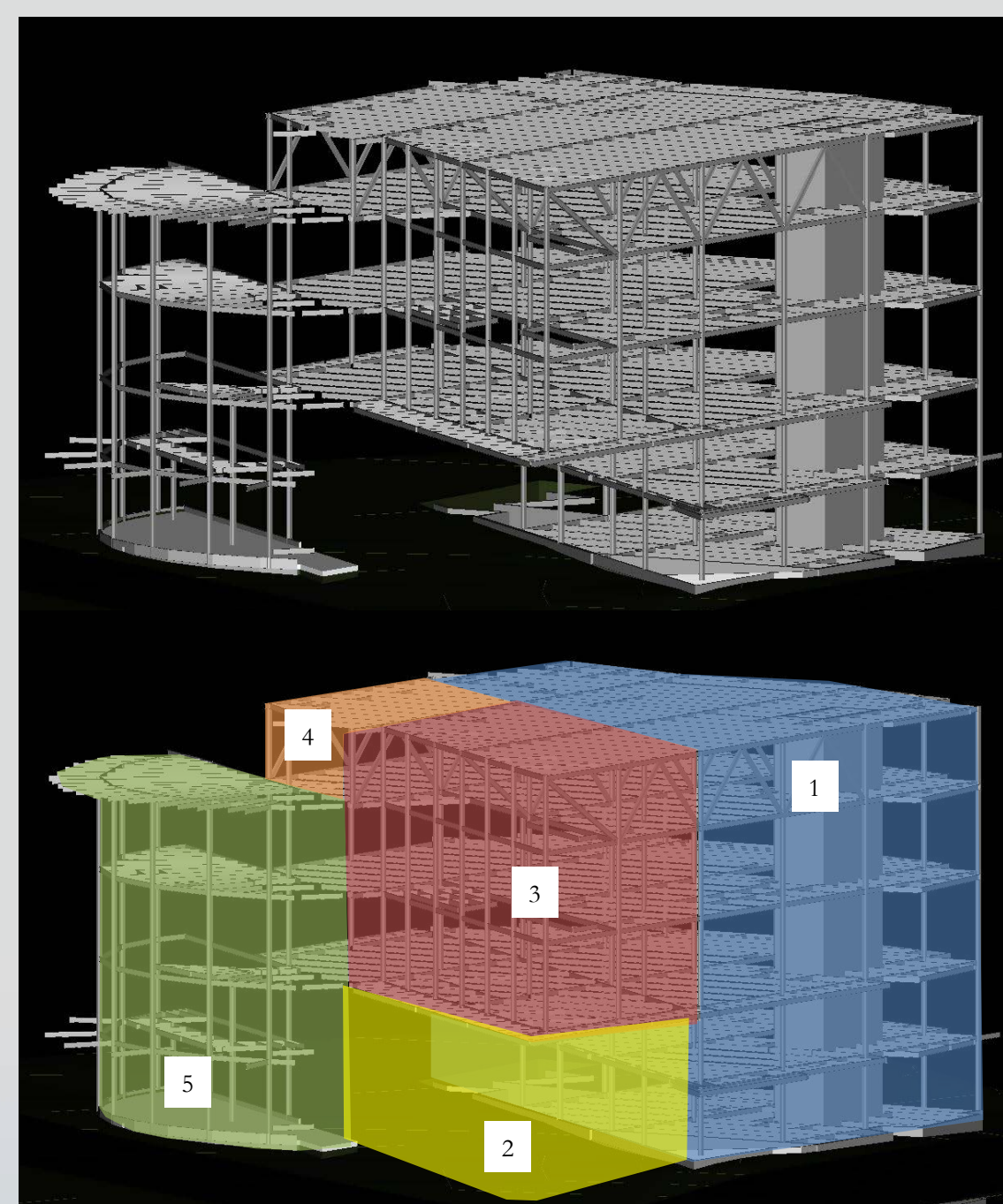
IPEC vs. Mechanical Penthouse Schedule		
System	Lead Time	Site Install Time
IPEC	1 Long Lead Item (Months)	1 Week
Penthouse	Multiple Shorter Lead Times (Weeks)	10.5 Weeks

Acoustical Comparison

Conference Room & County Ordinance
 IPEC is Acoustically More Desirable

Analysis 2- Structural Resequence

Complex Structure & Erection
 Sequence Structure w/ Shoring System
 3 Week Schedule Reduction
 \$30,000+ Cost Savings
 Linear & Simplistic Shoring Sequence
 Production Increase
Shoring Design
 Mabey Mass 25 Shoring Tower



Acknowledgments

Academic

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Special Thanks

Library's Owner

PACE Industry Members

Friends and Family



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