



THE OHIO STATE UNIVERSITY

Lessons Learned CMR Design Assist



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Presenters

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- Design Assist Projects
- Advantages / Disadvantages
- Contract Timing
- Project Types
- Trades to consider
- RFP content
- Design Process
- Cost Analysis



- 4 projects
 - Renovation - \$15M – Construction Complete
 - Renovation - \$13M – Construction Complete
 - Renovation - \$59M – Design
 - New Construction - \$5M – Design/Bidding





Advantages

Better Construction Documents
Reduce Conflicts and RFI's
Enhanced Collaboration
Reduce Change Orders
Earlier Cost Certainty
Schedule Assistance
Design Assistance
Value Engineering
Cost Estimating
Constructability
Leverage BIM

Disadvantages

Selecting the Right Contractor
Concern for Design Errors
Adds Cost During Design
Pricing Not Competitive



- Consider contracting early in the schematic design stage
- Consider the complexity, coordination, and scope of the project
- Contract timing could vary for trades based on project





- Design Assist is not for every project
- Heavy MEP projects seem to fit well
- Projects with unique scopes of work



- Any trade can be Design Assist
- Depends on scope of work for the project
- MEP trades can have the highest impact

MEP

● Mechanical ● Electrical ● Plumbing



- Pre-construction fee (lump sum)
- Pre-Construction Personnel Cost (Hourly Rates)
- Construction Fee (Change order fee%)
- General Conditions
- Shop Burden
- Tools
- BIM
- Type of Contract (cost plus, lump sum, etc) – convert?





- RFP can include a bid or estimate for the work
- Understand the difference between a bid and estimate
- Pre-Con Services and construction should be clearly separated on the RFP response



- Returned to owner! 😊
- How is shared savings handled in the RFP? DA, CMR, OWNER





Design Meeting Attendees

- Owner Rep/Project Mgr.
- A/E
- CMR Project Manager
- DA Project Manager
- DA BIM Manager
- CMR Estimator
- DA Superintendent





BIM, DA and Design

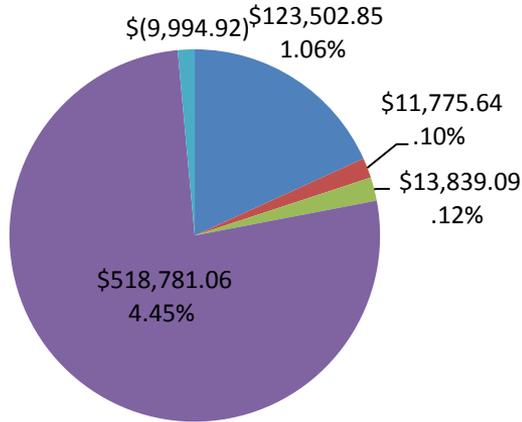
- A/E, CMR and DA contractors working together on design
- Coordination underway during design and reduction in changes during construction





Cost Analysis

CMR - DA



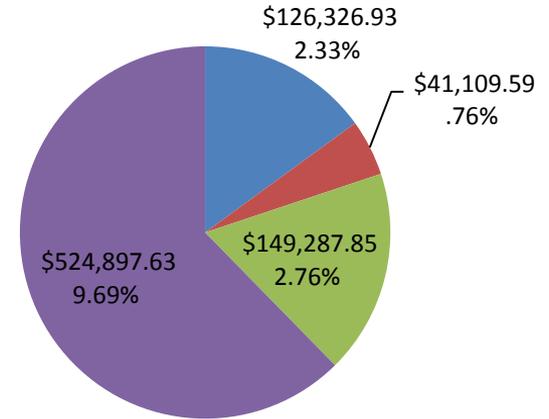
■ Differing ■ Error ■ Omission ■ Owner Request - Other ■ VE

DC – 2x

Error – 7X

Omission – 23X

Multi-Prime

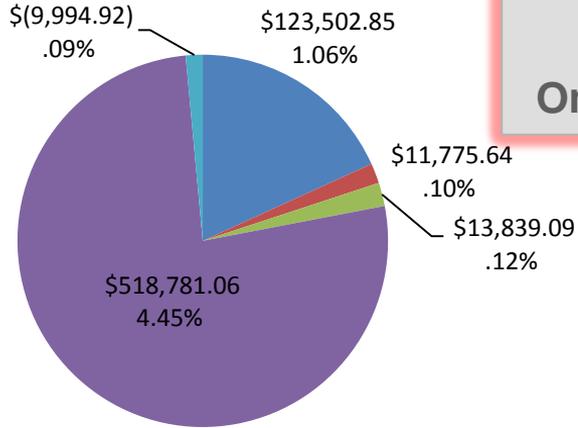


■ Differing Condition ■ Error A/E ■ Omission A/E ■ Owner Request Other

- \$156,000 CMR Contingency Return
- \$300,000 DA Buyout
- \$119,318 Bid Savings
- \$575,318



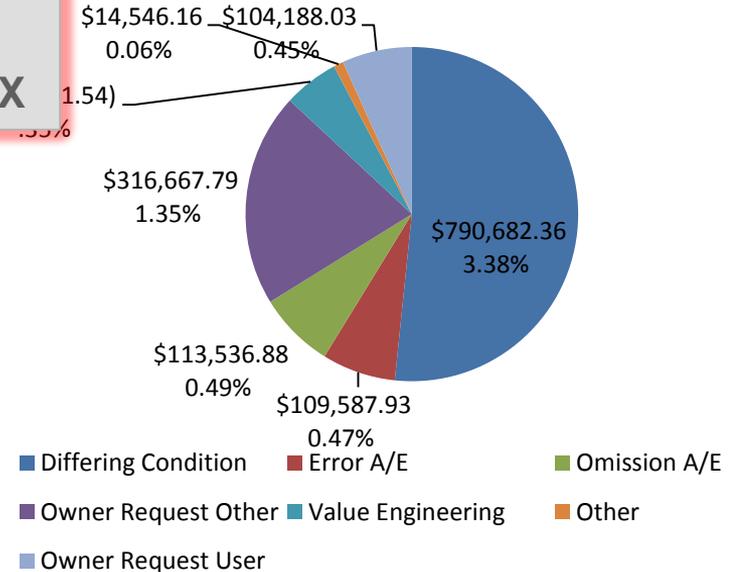
CMR - DA



■ Differing ■ Error ■ Omission ■ Owner Request - Other ■ VE

DC – 3x
Error – 5X
Omission – 4X

CMR



■ Differing Condition ■ Error A/E ■ Omission A/E
 ■ Owner Request Other ■ Value Engineering ■ Other
 ■ Owner Request User

- \$156,000 CMR Contingency Return
 - \$300,000 DA Buyout
 - \$119,318 Bid Savings
- \$575,318**



Change Orders

CMR – DA.....	76
CMR – DA.....	32
CMR.....	279
Multi-Prime.....	417



Contingency

CMR – DA.....	5.74%
CMR – DA.....	6.17%
CMR.....	6.55%
Multi-Prime.....	15.5%



Team





Questions/Answers