

# Steidle Building Renewal Project

## Senior Thesis Presentation Outline

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3. Project Background (1)
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  - a. Issue Summary (1)
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  - c. Results (2)
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5. Analysis 2: Prefabricating the South Facade
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Sample Slides may be found below

# Steidle Building Renewal Project

Architectural Engineering Senior Thesis

PRESENTER: JEFFREY DUCLOS

CONSTRUCTION MANAGEMENT OPTION



ADVISOR: DR. JOHN MESSNER

APRIL 13<sup>TH</sup>, 2016

## Presentation Guide

Summary & Criteria Evaluation

Project Background

Analysis #1: Alternative Vertical Transportation Processes

**Analysis #2: Prefabricating the South Façade**

Issue Summary

Means and Methods

Structural Breadth: Columns and Support Angles Analysis

**Mechanical Breadth: Thermal and Moisture Protection Analysis**

Results

Conclusions

Analysis #3: Process Development for Executing 3D Coordination

Industry Research Topic: Best-Value Selection Processes for Subcontractors

Summary of Findings

Acknowledgements

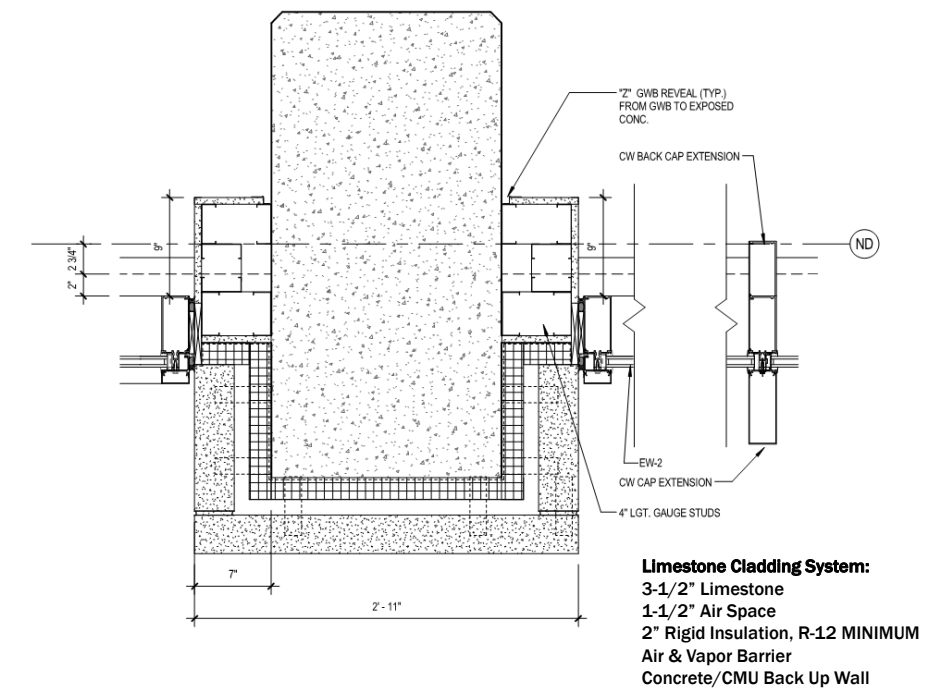
## Mechanical Breadth: Thermal And Moisture Protection

**Goal:** Determine if the proposed design change significantly affects the thermal and moisture protection performance of the façade.

**Process:**

1. Determine if R-Value for the Limestone Façade.
2. Determine the R-Value for the Precast Concrete Façade
3. Analyze any changes to the vapor barrier for potential deficiencies

Thermal Performance of the Limestone Façade	
Material	R-Value
3-1/2" Limestone	
1-1/2" Air Space	
2" Rigid Insulation	
3'-6 1/2" Deep Concrete Column	
5/8" Gypsum Wall Board (x2)	
Overall R-Value	



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**Analysis #3: Process Development for Executing 3D Coordination**

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Means and Methods

Results

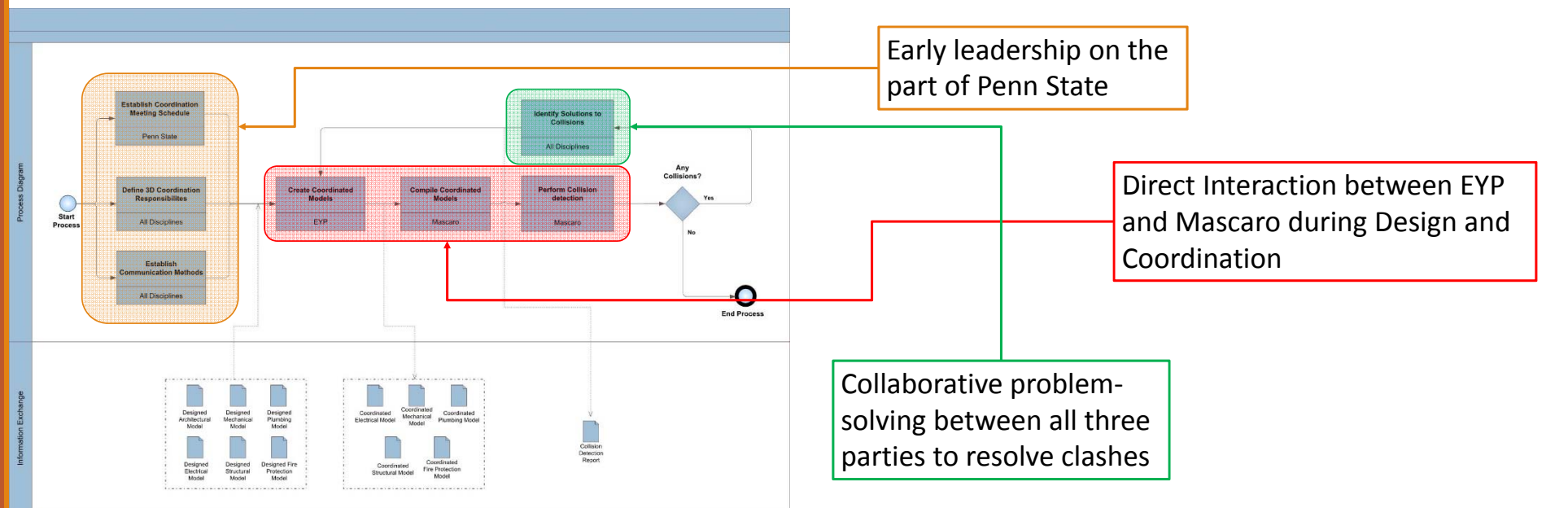
**Conclusions**

Industry Research Topic: Best-Value Selection Processes for Subcontractors

Summary of Findings

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## Level 2 Process Map for 3D Coordination



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Analysis #3: Process Development for Executing 3D Coordination

**Industry Research Topic: Best-Value Selection Processes for Subcontractors**

Issue Summary

Research Findings

Questionnaire Development

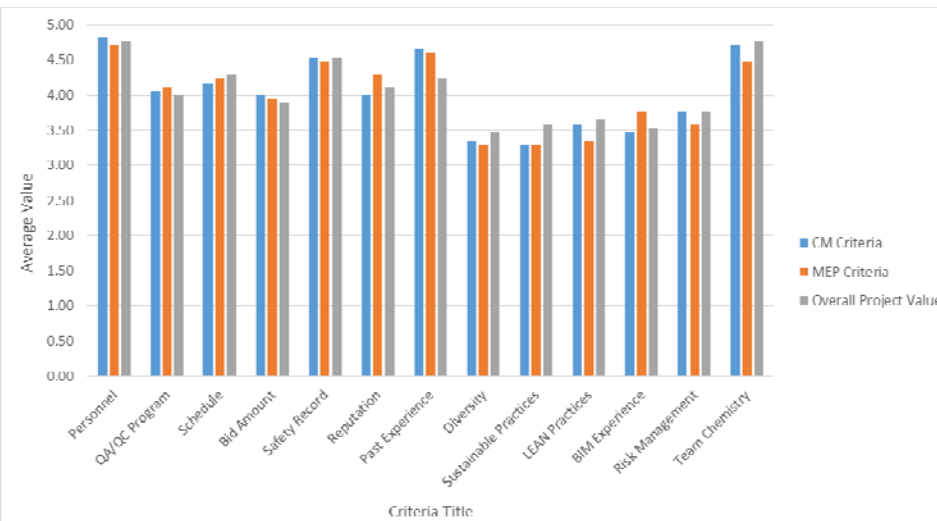
**Questionnaire Results**

Conclusions and Deliverable

Summary of Findings

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### Average Criteria Importance Based on Returned Questionnaires



### Additional Criteria

Construction Managers

- Experience working with Penn State or similar Project Types
- Highlighting Key Project Leadership

MEP Subcontractors

- Experience working with Penn State
- Knowledgeable about Building Automation Systems (BAS)
- Familiarity with the Commissioning Process

### What's Valuable to a Project?

- Fulfilling the Requirements of the Contract
  - Meeting the Schedule
  - Meeting the Budget
  - Ensuring a Safe Project
  - Delivering a High Quality Project
- Having a Collaborative Team
- Attaining a High End-User Satisfaction