



Evaluation of the Cost Impact of Florida's Specific Changes to 2015 I- Codes "Prescriptive Code Changes"

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Research Team

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- Graduate Students

ISSUES

- The proposed research assesses the cost impact of Florida's Specific Changes to 2015 I-Codes that are prescriptive in nature and that have the potential of adding cost to construction.

STATEMENT OF WORK

- **1. Review/analyze the Florida's specific changes to the 2015 I – Codes to identify those code changes/provisions that are prescriptive in nature and have the potential of adding cost to construction.**

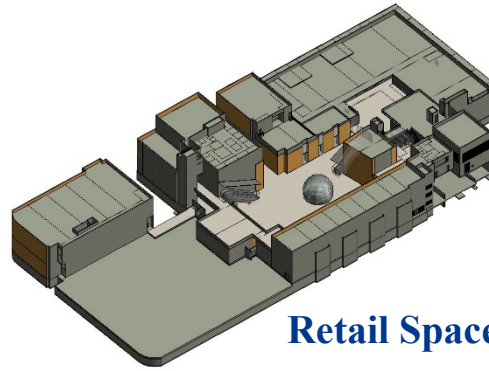
STATEMENT OF WORK

- **2. Use the standard set of baseline residential and commercial building designs previously used to evaluate the I-Codes prescriptive changes to estimate the potential cost of Florida's specific changes.**
 - **Develop modified building information models**
 - **Generate material quantity surveys**

Building Information Models



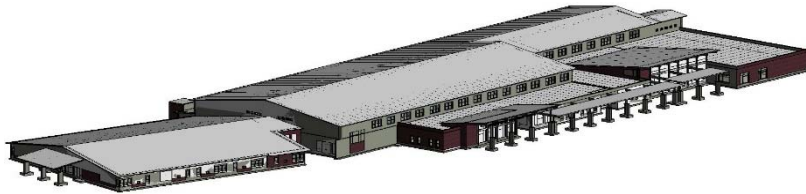
Small Office



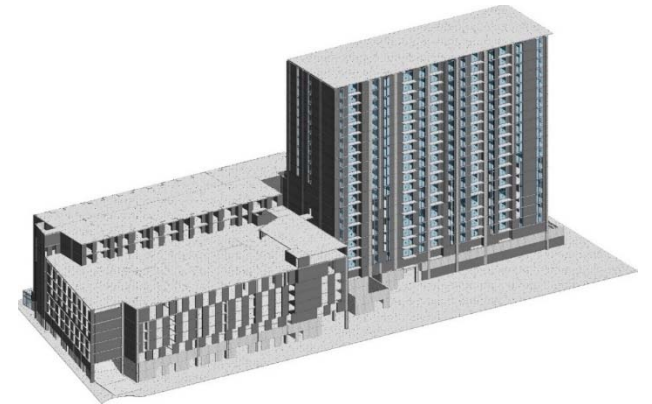
Retail Space



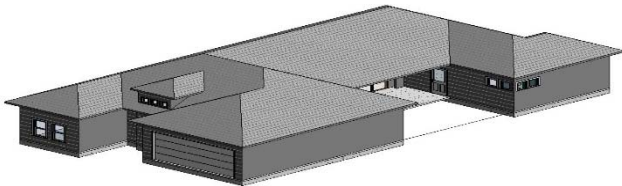
Small Hotel



Elementary School



Mid-Rise Apartments



1-story Residence



2-story Residence

STATEMENT OF WORK

- **3. Estimating the additional construction cost of those provisions that are not covered under (2) using good engineering judgment and feedback from general contractors and consulting engineers.**
 - **Generate cost estimates**
 - **Perform overall cost impact analysis**

DELIVERABLES

- A report providing technical information on the problem background, results and cost implications of the prescriptive Code changes.
- An analysis of individual code changes will also be provided in the Appendix.

Florida Specific Changes to 2015 I-Codes Cost Impact

Disclaimer - Probable Construction Costs Opinions

Assumptions

- This Estimate is not a guarantee of Final Bid Cost or of Final Project Cost.
- This is an Opinion of Probable Cost of Mechanical, Electrical, and Piping (MEP) Systems for the proposed buildings.
- The estimate was compiled using documents provided by various sources.
- The estimate is representative of average unit pricing and labor from historical job costs of similar type, cost and labor data from Mechanical Contractors Association of America (MCAA), CostWorks 2015 Qtr. 2 (Change Date and Qtr) by R.S. Means Company Inc, National Electrical Contractors Association (NECA) and Sheet Metal Estimating by Wendes.
- The subcontractor unit rates include the subcontractor's overhead and profit, unless otherwise stated.
- The mark-ups included in the unit prices cover the cost of field overhead, home office overhead and profit, and range from 15% to 25% of the costs of a particular item.
- Since we have no control over the cost of labor, material and equipment, or the contractor's method of carrying out the work and determining the price, or over competitive bidding or market conditions, this opinion of probable construction cost provided is made on the basis of experience and qualifications. This opinion represents our best judgment as professional construction consultants with the Construction Industry. However, we cannot and do not guarantee that proposals, bids or the construction cost will not vary from the opinions of probable cost in this estimate.

Florida Specific Changes to 2015 I-Codes Cost Impact

Disclaimer - Probable Construction Costs Opinions

General Assumptions:

- "Allowances" are considered to be an allotted sum of money for a particular system or scope of work for which sufficient detail is not available to determine a definitive cost.
- These cost allowances are included to project a final cost to include labor, material, equipment and any subcontractor costs.
- The owner receives the savings for any amount under the allowance and is at risk for any amount over the allowance.
- The estimate is in today's dollars, and has been adjusted to the local area.
- This estimate does not include any fees or permits.
- This estimate is intended to reflect construction costs only.
- This estimate is intended to reflect normal construction schedules only.
- Variations in material costs, labor efficiencies, wage rates, union practices, and bid climate will effect final costs.
- Workers will report to the actual job site.
- Materials delivered to the actual job site will need to be scheduled.
- No premium or overtime has been included.
- No General Construction costs have been included.
- All utilities have sufficient capacity for the added loads.

Excerpts – Florida Specific Changes to 2015 I-Codes Cost Impact Analysis

APPENDIX - Florida Specific Changes to the 2015 I-Codes- SW Cost Impact Analysis

CODE CHANGE #	FLORIDA SPECIFIC CHANGES TO 2015 I-CODES SW SUMMARY	ESTIMATED AMOUNT*
SW6496-R1 (Building)	Modifies Section 454.10.4 to require GFCI protection be provided for replacement of pool pump motors, if not already in place.	\$150
SW7014 (Building)	Eliminates in Section 454.6.5.16.6 unnecessary and excessive UV requirements for lower risk facilities and specifies use for higher risk facilities.	Reduces costs for approval variances and equipment for lower risk facilities.
SW7074-R1	Modifies Section 454.1.9.8.6.3 to allow for UV systems to be installed on the filter return lines as an alternate to the feature return line placement.	Could reduce Cost

*For prescriptive Code changes only.

Excerpts – Florida Specific Changes to 2015 I-Codes Cost Impact Analysis

APPENDIX D - Table 4. Florida Specific Changes to the 2015 I-Codes- SW Cost Impact Analysis

CODE CHANGE #	FLORIDA SPECIFIC CHANGES TO 2015 I-CODE SW SUMMARY	ESTIMATED AMOUNT*
SW6529-R1 (EB)	Adds to Section 302.6 requirements for GFCI protection and equipotential bonding at existing swimming pools undergoing repair, replacement, alterations, or relocation.	\$150
SW6530-R1 (Residential)	Adds requirements in Section 4501.16 for GFCI protection for outlets supplying electrical equipment at new private (residential) swimming pools.	\$150

*For prescriptive Code changes only.

Excerpts – Florida Specific Changes to 2015 I-Codes Cost Impact Analysis

APPENDIX - Florida Specific Changes to the 2015 I-Codes- E Cost Impact Analysis

CODE CHANGE #	FLORIDA SPECIFIC CHANGES TO 2015 I-CODES ELECTRICAL SUMMARY	ESTIMATED AMOUNT*
E6460 (Building)	Expands the requirements in Section 2703 for the installation of lightning protection systems (LPS) to certain commercial occupancies and provides exceptions to the new rule.	Average cost of a complete LPS is approximately 1-5% of total construction cost, which can be off-set as much as 80% by insurance deductions and rebates.

*For prescriptive Code changes only.

QUESTIONS ?