



The Foundation for The Gator Nation

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.**

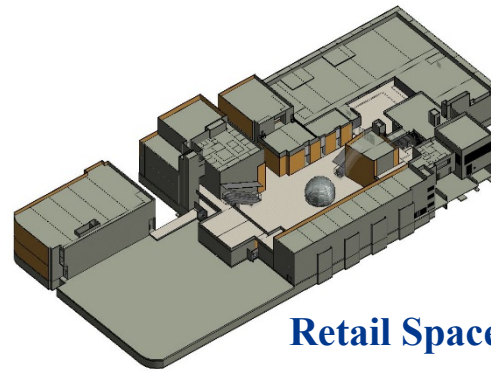
STATEMENT OF WORK

- **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



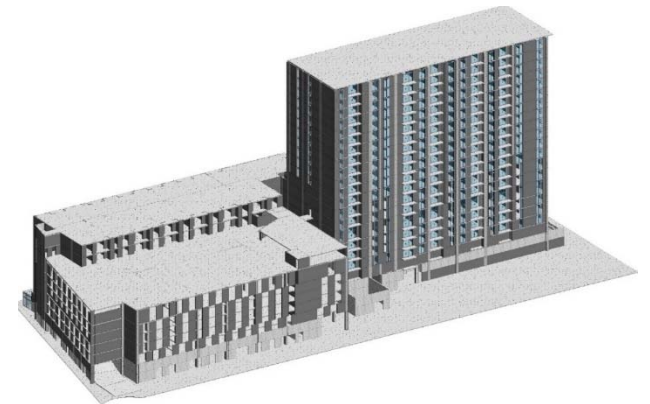
Retail Space



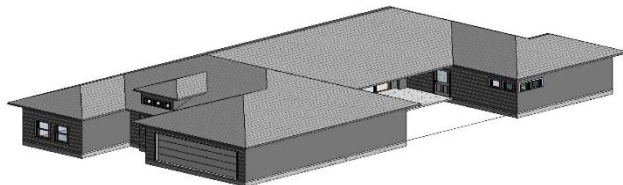
Small Hotel



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 Structural Cost Impact Analysis

APPENDIX D - Florida Specific Changes to the 2015 I-Code Structural Cost Impact Analysis

CODE CHANGE #	FLORIDA SPECIFIC CHANGES TO 2015 I-CODE STRUCTURAL SUMMARY	ESTIMATED AMOUNT*
S6598-R1 (Building)	Revises Section 2222.4.4 requirement for the deflection of structural wall panels (siding) and roof panels made of formed metal sheets based on testing that demonstrated that increased deflection had no impact on performance.	Cost savings of \$500 - \$2000 per system.
S6826 (Building)	Requires in Section 2103.4 that exterior masonry walls horizontal joint reinforcement be ladder type, corrosion resistant complying with referenced standards.	Cost of joint reinforcement in exterior walls increases 15% to 20% per bundle (500 L.F.).
S6840 (Building)	Carries forward Section 2122.2.3 from 2014 FBC and updates the referenced section and adds corrosion protection for horizontal joint reinforcement.	Cost of joint reinforcement in exterior walls increases 15-20% per bundle (500 L.F.).

*For prescriptive Code changes only.

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

APPENDIX D - Florida Specific Changes to the 2015 I-Code Structural Cost Impact Analysis

CODE CHANGE #	FLORIDA SPECIFIC CHANGES TO 2015 I-CODE STRUCTURAL SUMMARY	ESTIMATED AMOUNT*
S6976-R1 (Building)	Add provisions for using fiber and WWF in addition to control and contraction joints for concrete slabs-on-ground in Section 1907.2	Adds \$5-6 per cyd for microSynthetic fiber and \$16-17 per cyd for Macro Synthetic Fiber and \$11-25 per cyd of concrete depending on slab thickness and WWF gage.
S6846 (Residential)	Amends Section R606.2.12 to require ladder-type joint reinforcement and adds corrosion protection for joint reinforcement where provided in exterior walls.	\$0.16-\$0.20 per lineal foot of wall.
S6977-R1 (Residential)	Adds in Section 506 use of welded wire fabric or synthetic fiber reinforcement for slabs-on-ground	Adds \$5-6 per cyd for microSynthetic fiber and \$16-17 per cyd for Macro Synthetic Fiber and \$11-25 per cyd of concrete depending on slab thickness and WWF gage.

*For prescriptive Code changes only.

QUESTIONS ?