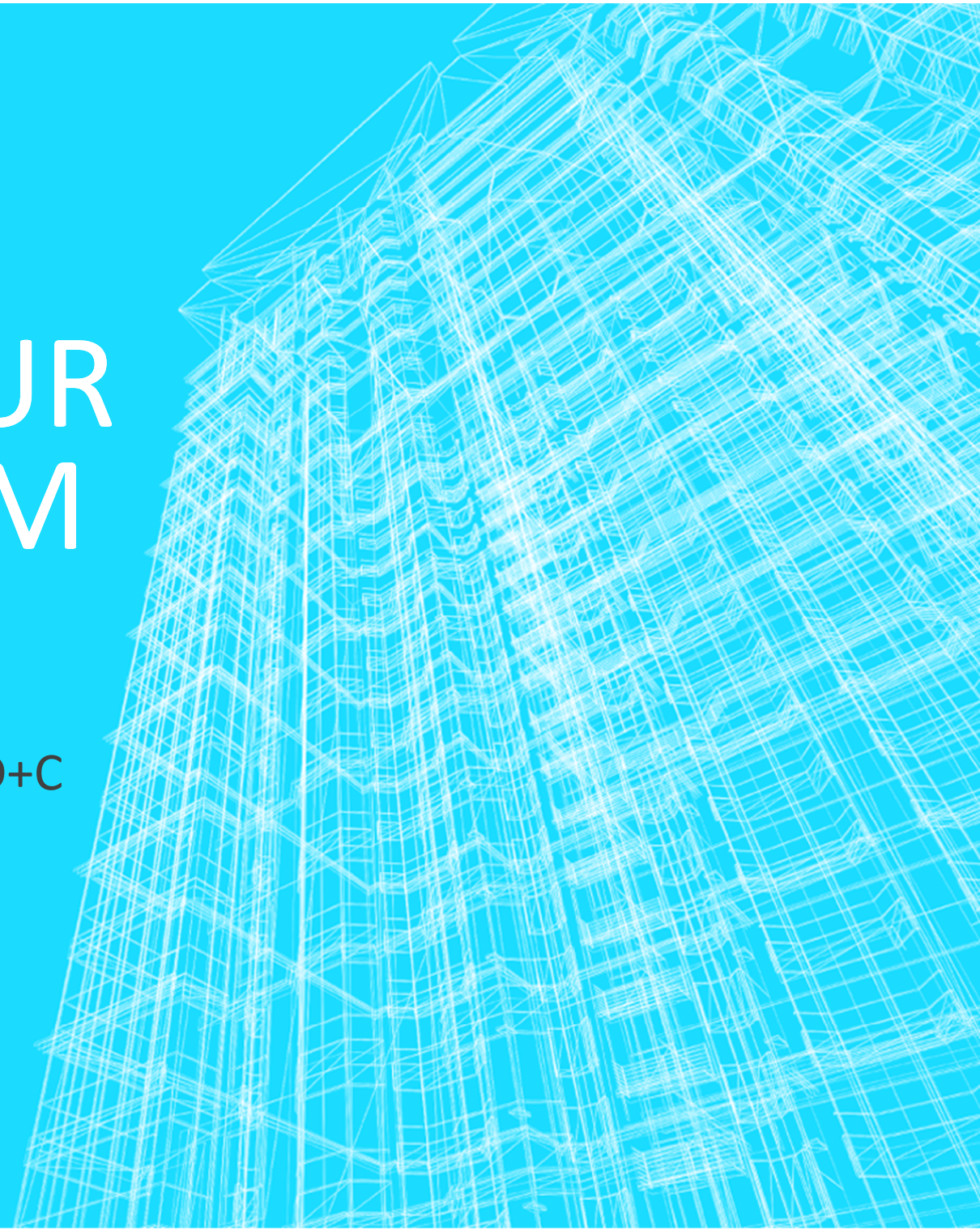


OPTIMIZING REVIT/BIM FOR YOUR ARCHITECTURE FIRM

For the Entrepreneur Architect Academy

Presented by Victor Caban-Diaz, AIA, LEED AP BD+C

June 1st, 2016



BUILDINGENUITY



SPEAKER:

VICTOR CABAN-DIAZ
AIA, LEED AP BD+C

- Principal/Owner of Building Ingenuity Architecture and Design
- 8+ years using BIM/REVIT as a Project Manager for architecture on healthcare, office, commercial, aviation, and parking garage projects.
- Successfully managed the transition of three architecture firms from CAD to REVIT



PURPOSE OF THIS WEBINAR

To highlight common missteps made by Architects when implementing REVIT/BIM in their practice and how to overcome them.



REVIT VS. BIM

- REVIT (or any other parametric modeling software) is a vehicle for creating a 3D database of a project.
- BIM (Building Information Modeling) is the process of coordinating, implementing, and delivering the 3D database to the client.



REVIT VS. BIM

- Many firms claim that they are delivering “BIM” just because they are using the REVIT program to implement the process, when they are actually just using REVIT as a glorified version of CAD.
- BIM is a process above and beyond standard architectural service and architects should structure their fees accordingly to administer it.



LEARNING OBJECTIVES

- COMMON PITFALLS
- MANAGING YOUR CLIENT
- TRANSITIONING FROM CAD TO REVIT
- OPPORTUNITIES FOR EFFICIENCY AND PROFIT

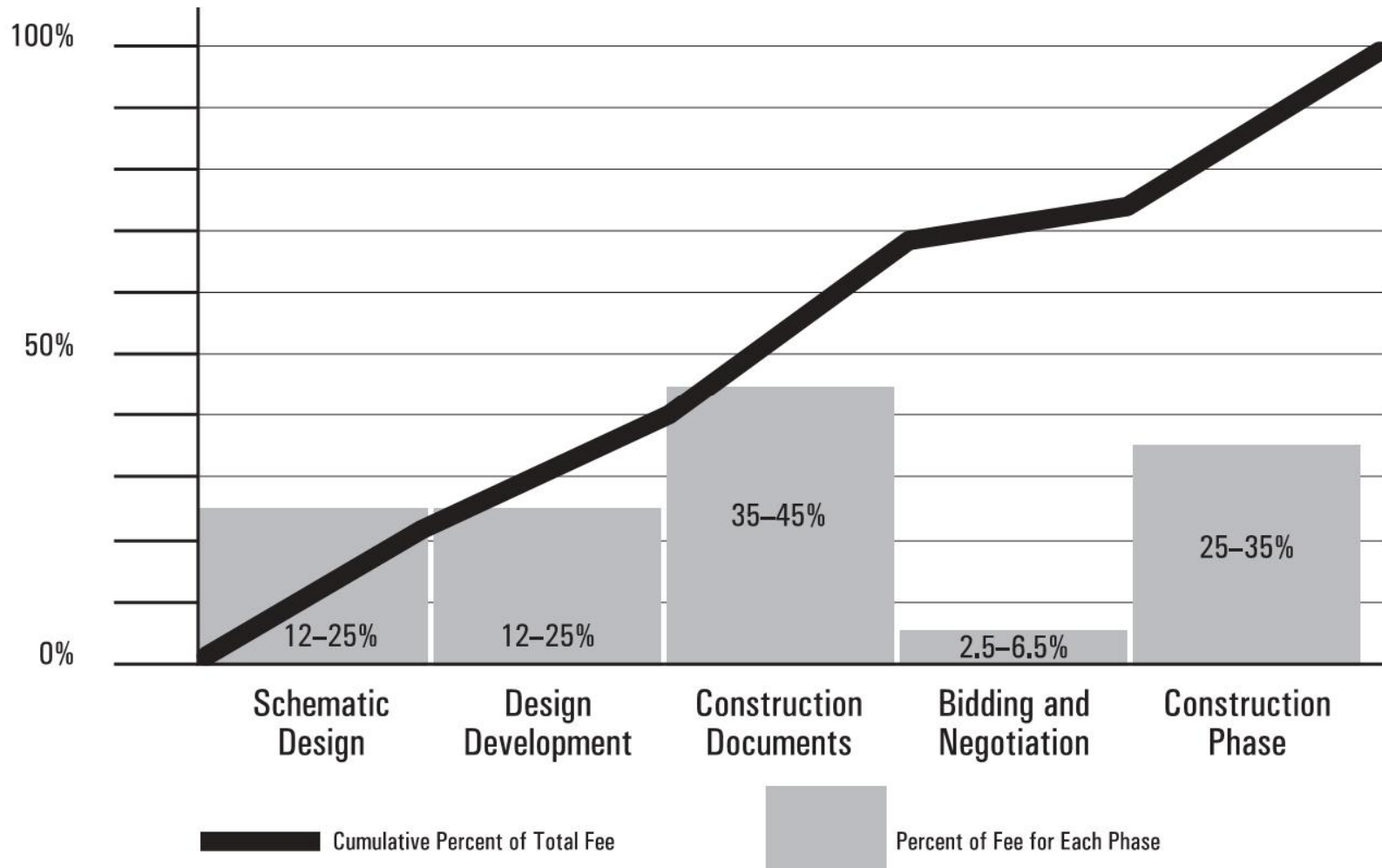


COMMON PITFALLS

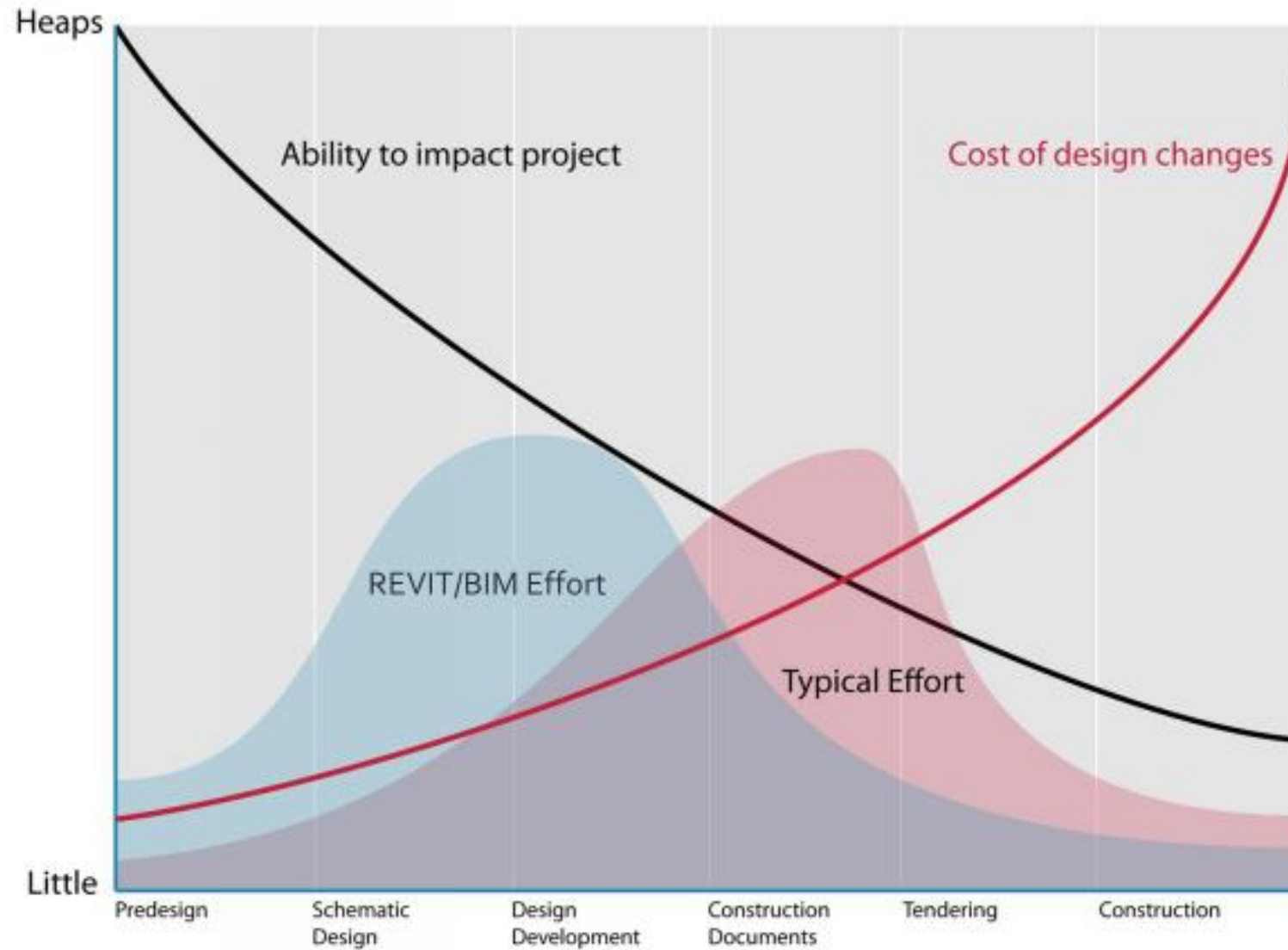
- CONTRACT STRUCTURE
- PROJECT MANAGEMENT
- TEAM STRUCTURE

COMMON PITFALLS - CONTRACT STRUCTURE

Typical Allocation of Fees for a "Traditional" Architectural Project



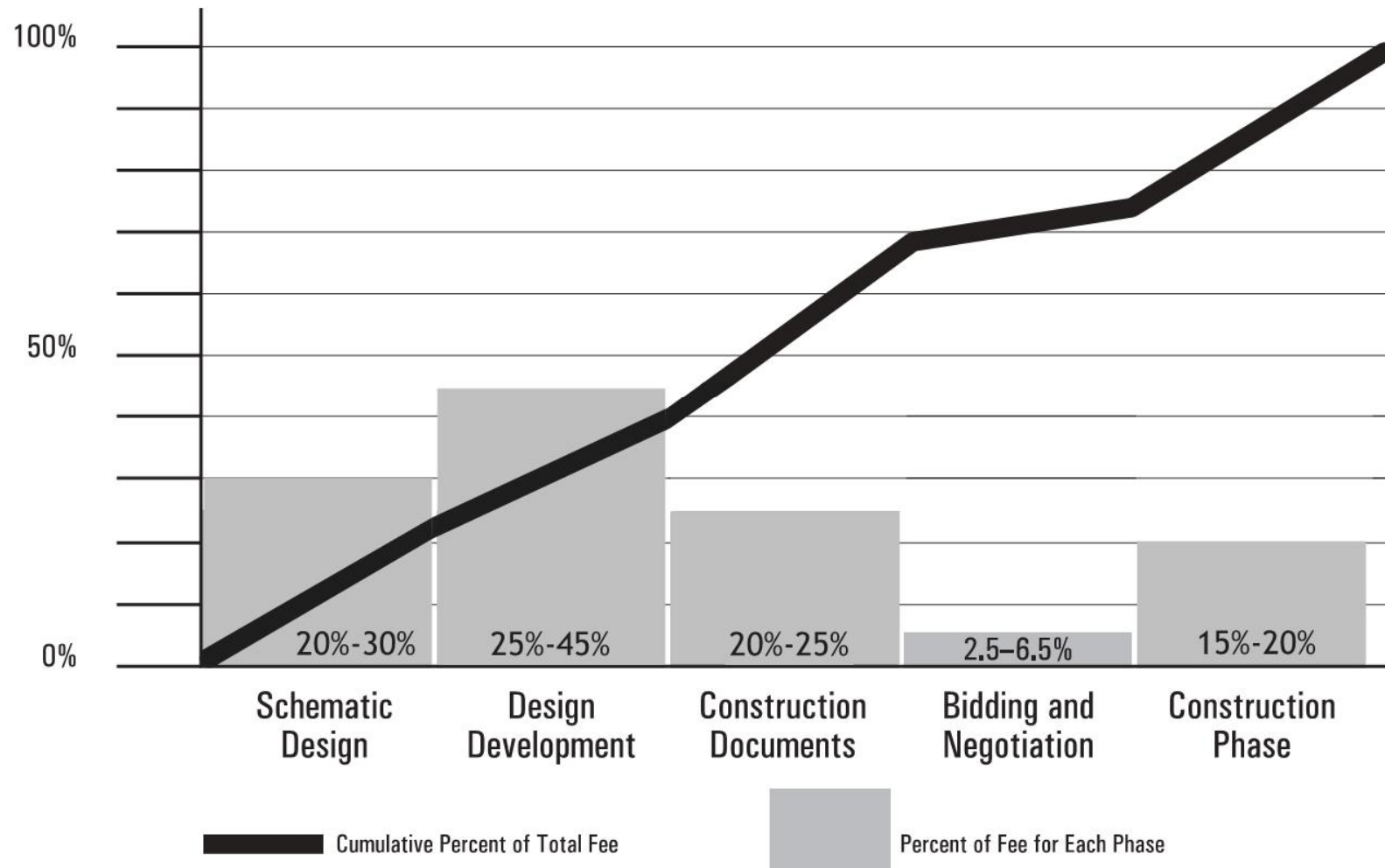
COMMON PITFALLS - CONTRACT STRUCTURE



Macleamy Curve by Patrick Macleamy, FAIA, CEO of HOK

COMMON PITFALLS - CONTRACT STRUCTURE

Typical Allocation of Fees for an Architectural Project in BIM





COMMON PITFALLS – CONTRACT STRUCTURE

The BIM Execution Plan needs to be part of the contract with the owner. The document can evolve as the consultants and the contractor join the team.



COMMON PITFALLS – CONTRACT STRUCTURE



- BIM Execution Plan
 - Organization Roles
 - Level of Development/Ownership
 - Collaboration Procedures
 - Model Structure

COMMON PITFALLS – CONTRACT STRUCTURE

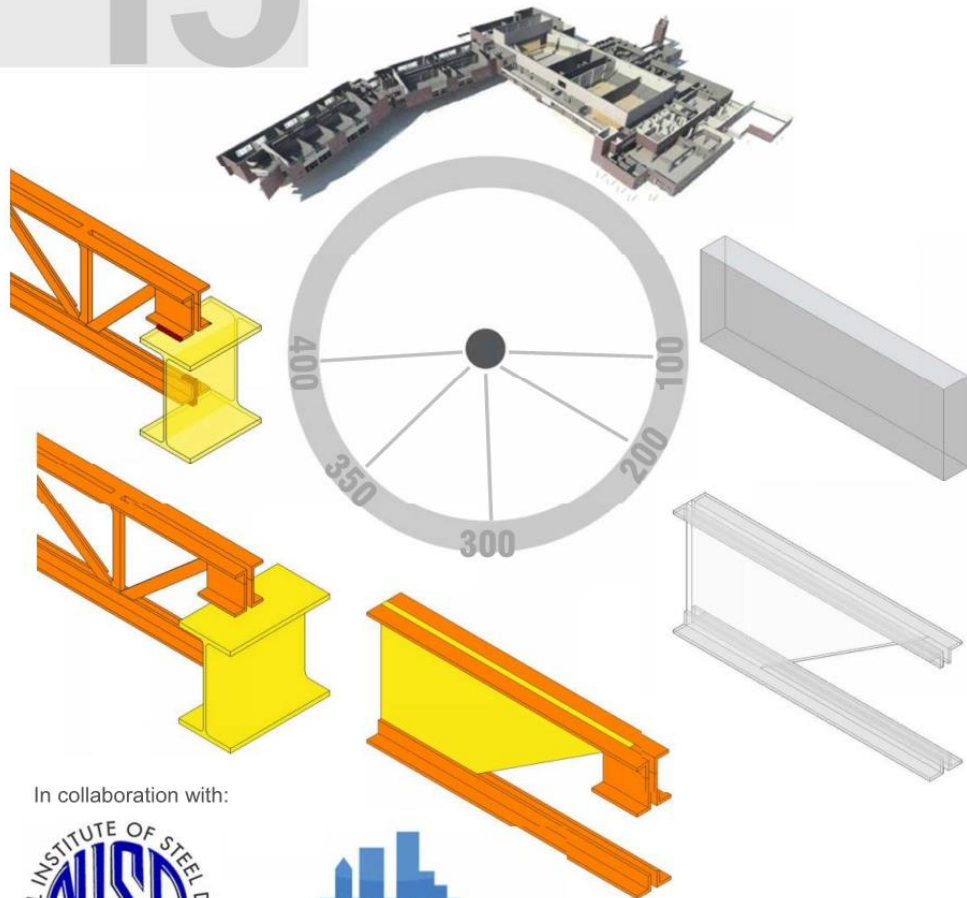


- BIM Execution Plan
 - Organization Roles
 - Project Manager/Model Manager or Project Manager and Model Manager

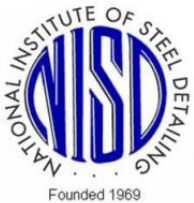
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LEVEL OF
DEVELOPMENT
SPECIFICATION
October 30, 2015

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COMMON PITFALLS – CONTRACT STRUCTURE

- BIM Execution Plan
 - Level of Development and Ownership
 - Define your expectations to your team as to what gets more attention in the model and who models what, or you will be disappointed when you see the drawings

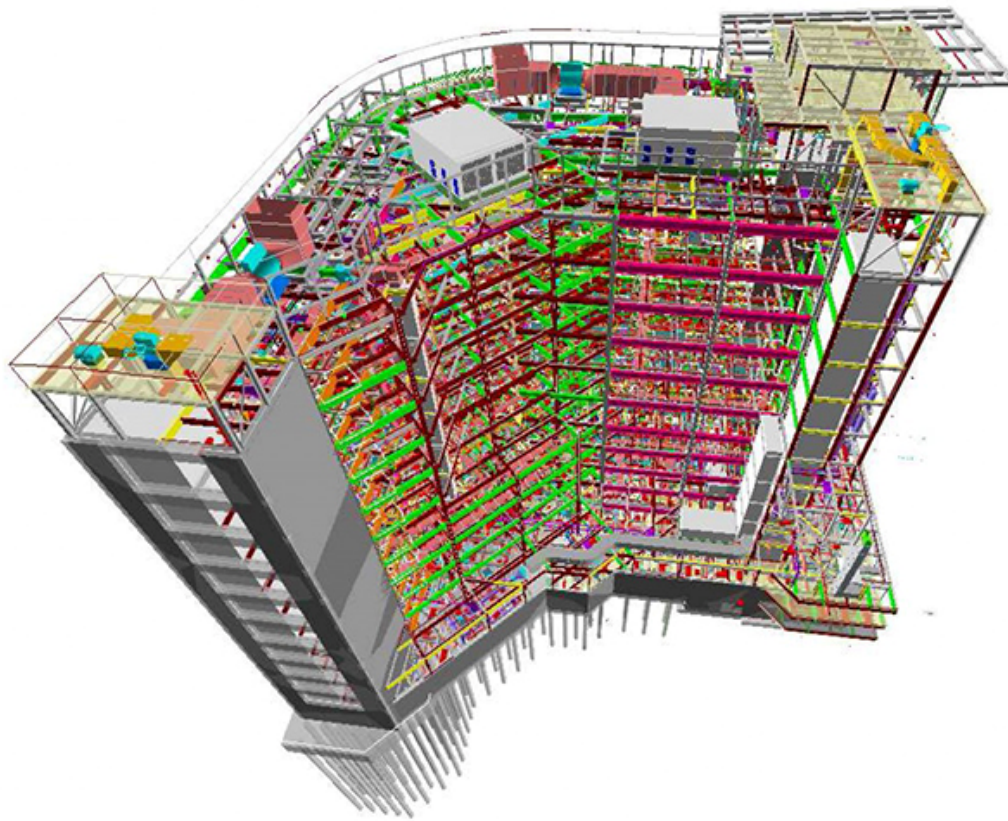




COMMON PITFALLS – CONTRACT STRUCTURE

- BIM Execution Plan
 - Collaboration Procedures
 - Frequency of model exchanges
 - Model Progression – LOD at each exchange

COMMON PITFALLS – CONTRACT STRUCTURE



- BIM Execution Plan
 - Model Structure



COMMON PITFALLS – PROJECT MANAGEMENT

- Managing the Modelers
- Managing Consultants
- Project Timing



COMMON PITFALLS – PROJECT MANAGEMENT

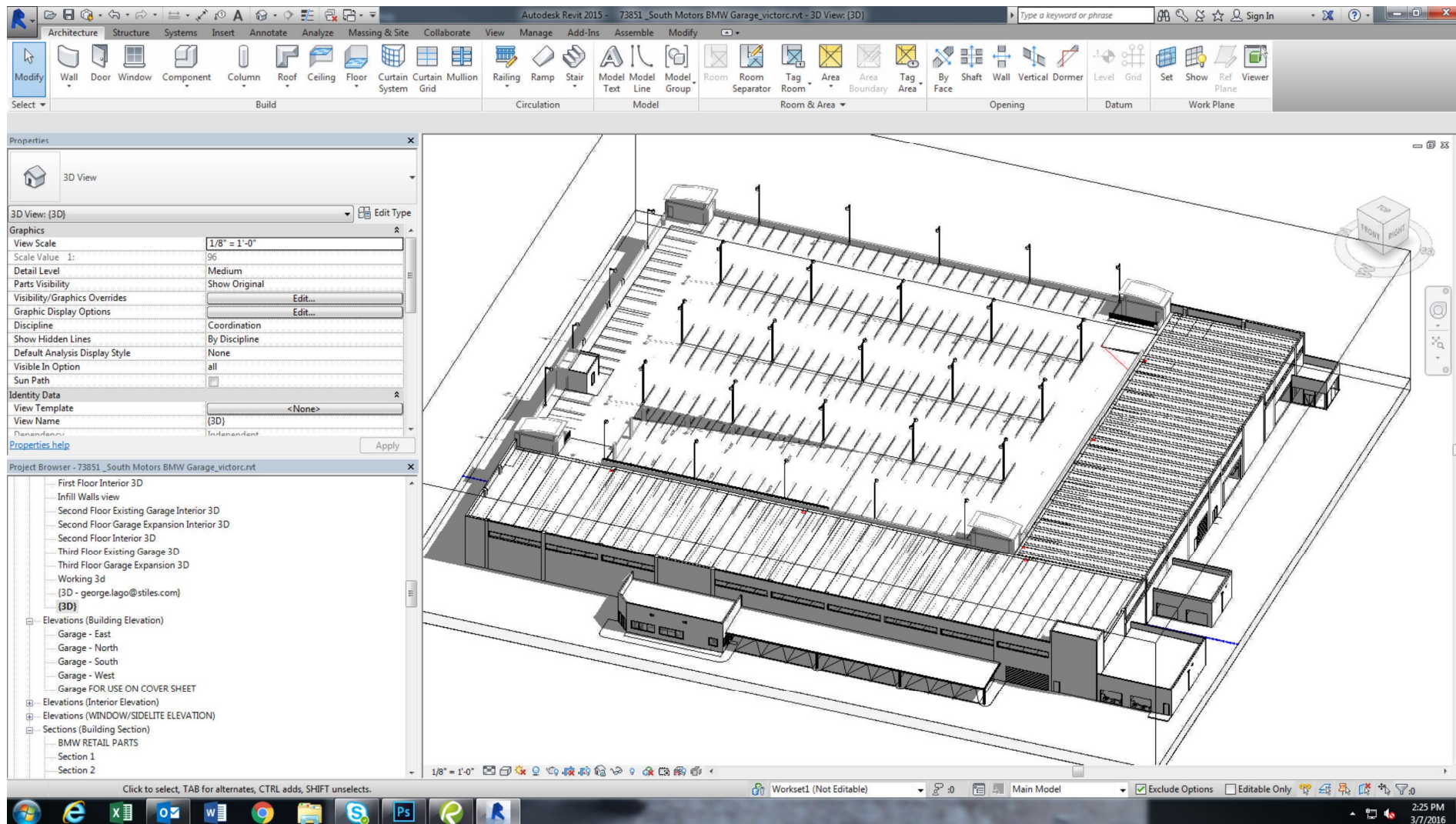
- Managing the Modelers
 - LOD Plan is key – Focus on the end game
 - "Lost in the Rabbit Hole"
 - Strategic Team Agencies
 - Worksharing – Split project at physical barriers



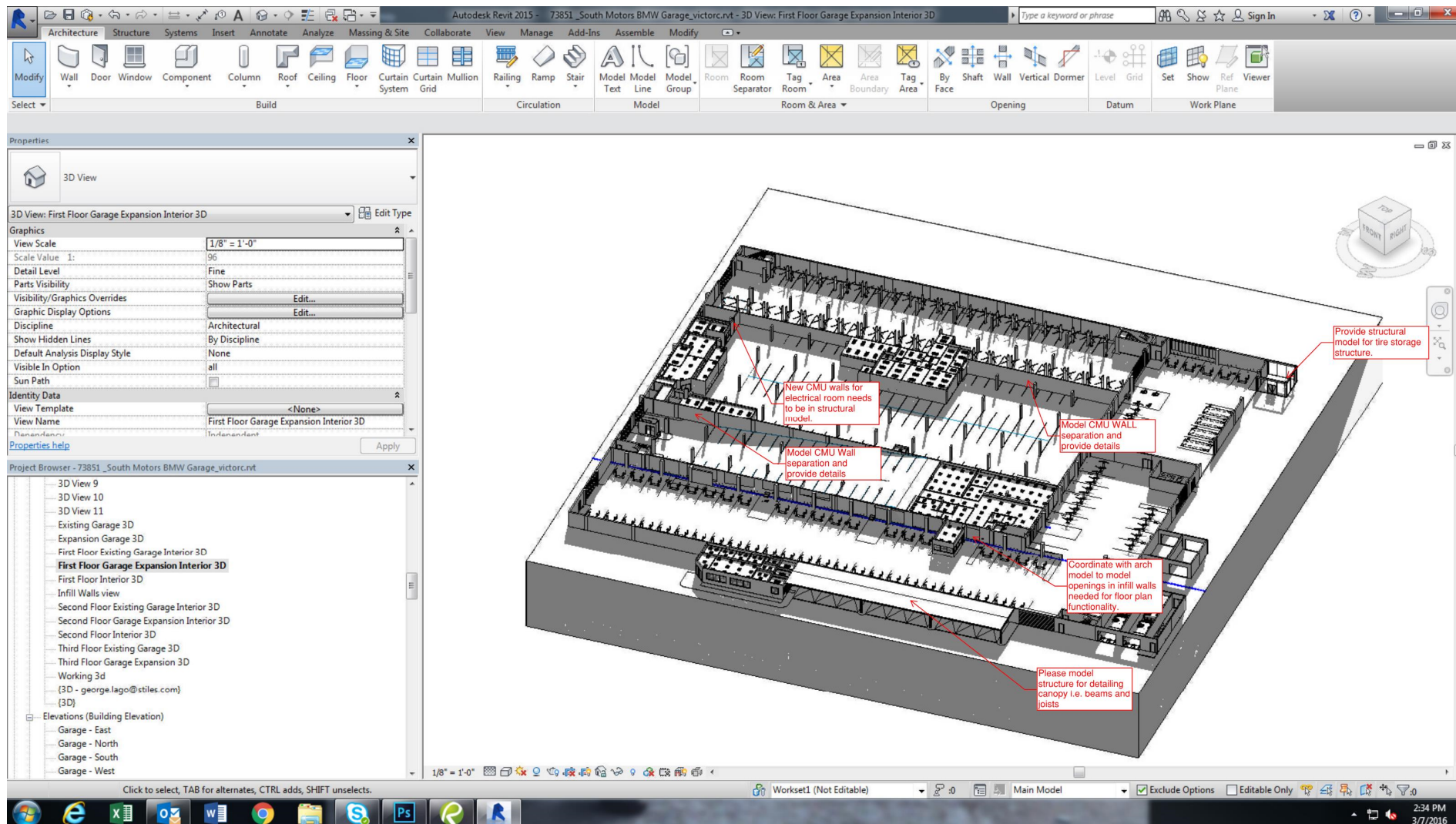
COMMON PITFALLS – PROJECT MANAGEMENT

- Managing the Consultants
 - BIM/REVIT kick off meeting
 - Review consultant models weekly and provide comments
 - Stagger model uploads of different consultants to increase project speed
 - Require model uploads with revision narrative
 - If providing clash detection, require MEP to clash in-house prior to main clash

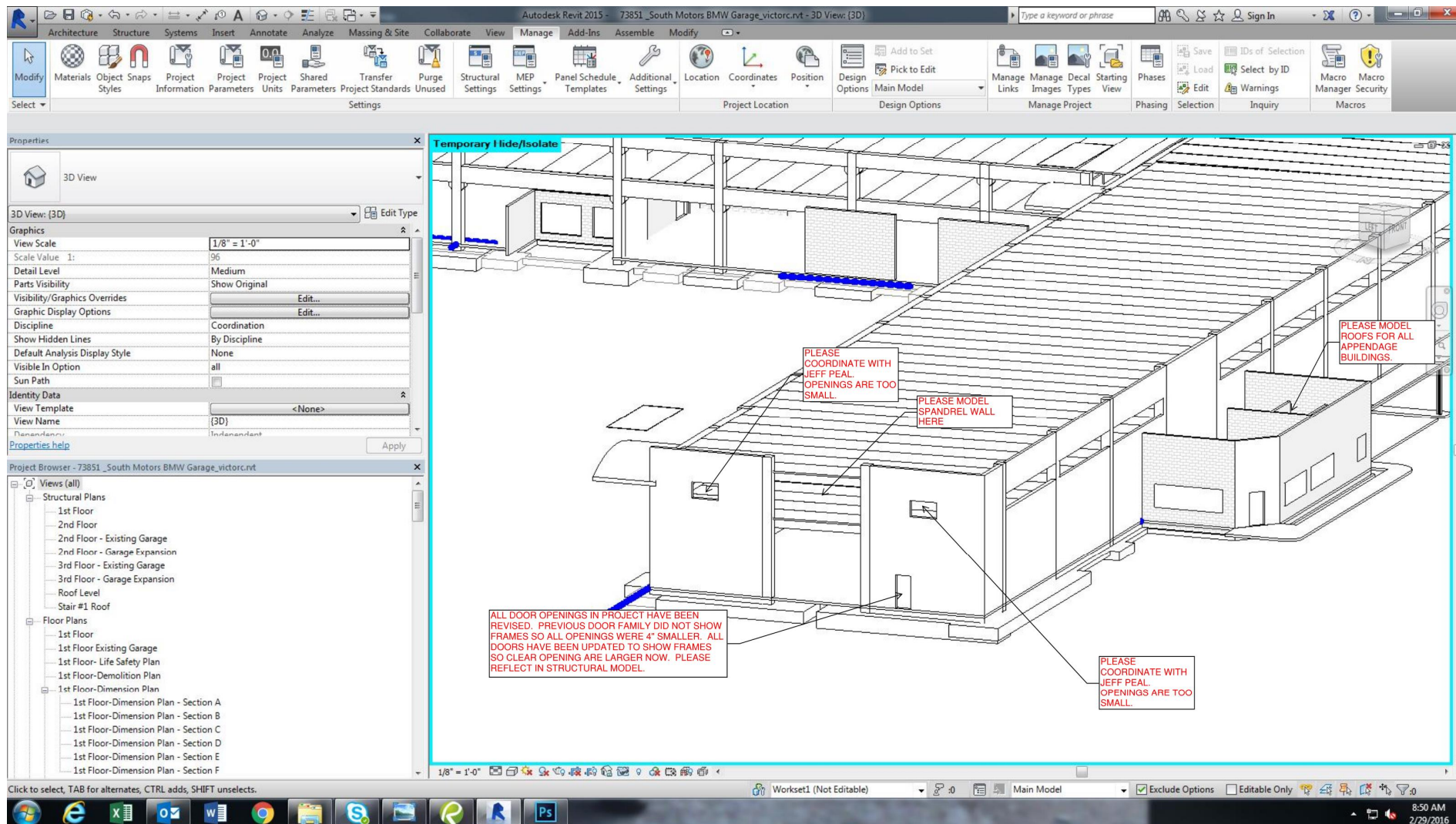
COMMON PITFALLS – PROJECT MANAGEMENT



COMMON PITFALLS – PROJECT MANAGEMENT



COMMON PITFALLS – PROJECT MANAGEMENT





COMMON PITFALLS – PROJECT MANAGEMENT

- Project Timing
 - The earlier the better
 - Start modeling in REVIT no later than end of schematic design or beginning of DDs



COMMON PITFALLS – TEAM STRUCTURE

- Project/BIM Manager for small projects
- Project Manager and BIM Manager for large projects



MANAGING YOUR CLIENT

- Define "BIM" because lawsuits are coming
- BIM is a premium service and you should charge
- Educate the client regarding cost & schedule
 - DD is longer than CD in REVIT
- Set expectations as to model transfer to contractor
 - Can the contractor rely on your model for construction?
- Be a proactive architect – BIM and Security



TRANSITIONING FROM CAD TO REVIT

- Successful transition is all about timing and investment
 1. Train your staff
 2. Have a REVIT/BIM project ready to start right after training
 3. Plan ahead for learning curve and unexpected
 4. Meet after project to discuss challenges and work on solutions



TRANSITIONING FROM CAD TO REVIT

- Invest in hardware that can handle the program and software that will augment your BIM services i.e. Navisworks, BlueBeam, etc...
- Build a library of families and 2D details or hire a firm to convert your CAD library to REVIT
- Invest sweat equity in “Parametric Modeling” to streamline repetitive process that may be unique to your workflow or building type

TRANSITIONING FROM CAD TO REVIT

- Adjust your contracts with clients and consultants to synchronize with the REVIT workflow. The AIA has “Building Information Modeling” contract templates that you can work with.
- Require your consultants to get on REVIT or get lost and they should not charge you more for their transition!



OPPORTUNITIES FOR EFFICIENCY AND PROFIT

- Use REVIT for marketing/renderings
- Modeling techniques to avoid rework
- Invest in “Parametric Modeling”

OPPORTUNITIES FOR EFFICIENCY AND PROFIT

- Use REVIT for marketing/renderings
 - Convert overhead time to billable time



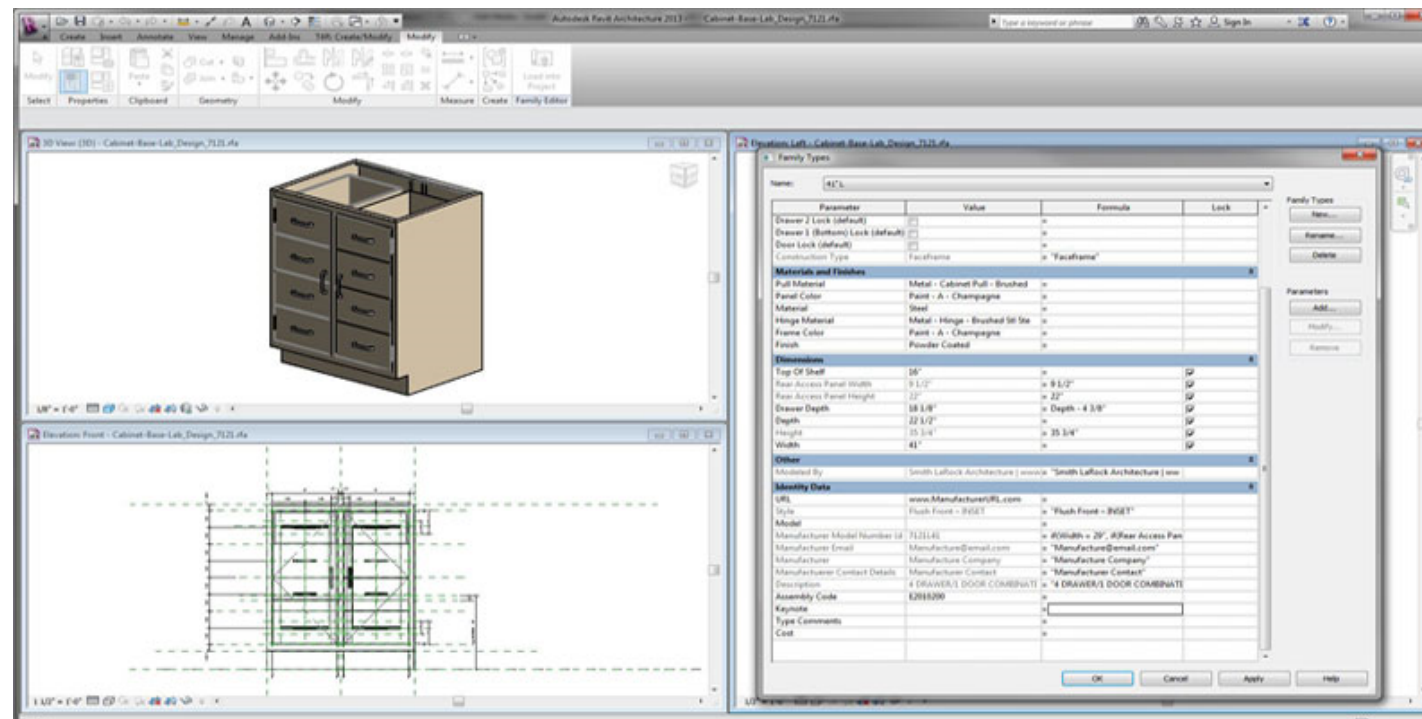


OPPORTUNITIES FOR EFFICIENCY AND PROFIT

- Modeling Techniques to avoid rework
 - Establish level and grids as first step
 - Anchor modeling elements to levels and grids
 - Identify quantity of wall types and create size-accurate placeholder's before modeling begins

OPPORTUNITIES FOR EFFICIENCY AND PROFIT

- Parametric Modeling
 - Creating objects with “intelligent” parameters and relationship to other objects
 - This takes advantage of REVIT’s strengths and makes them work for you



RESOURCES

- Building Information Modeling by Karen M. Kensek, Pocket Architecture: Technical Design Series
- <http://www.bim.psu.edu/Project/resources/default.aspx>
- BIM Forum LOD Spec - <https://bimforum.org/lo/>
- AIA BIM Contract Templates - <http://www.aia.org/contractdocs/referencematerial/aiab099128>



QUESTIONS?