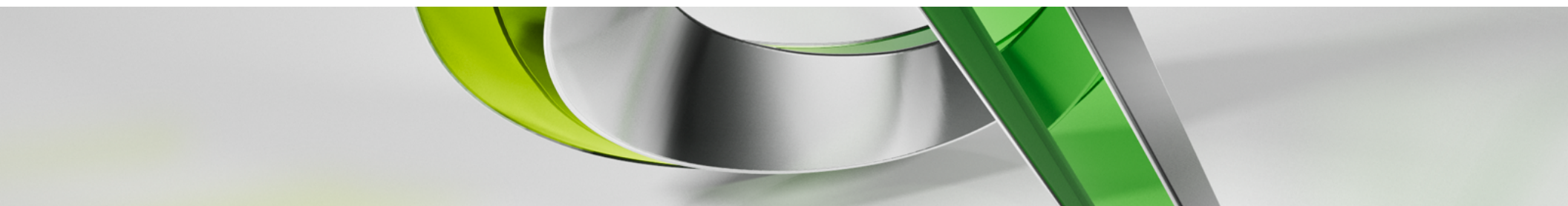




AS13737-R – AutoCAD to Revit and Beyond: An Introductory Guide for Architects and Engineers

Presented by Chris Motto and Martin Finn
Souza, True and Partners Structural Engineers



Christopher Motto

- Structural Engineer and at Souza, True and Partners, Inc.
- 8 Years Professional Experience in Structural Engineering
- BIM Technology Leader



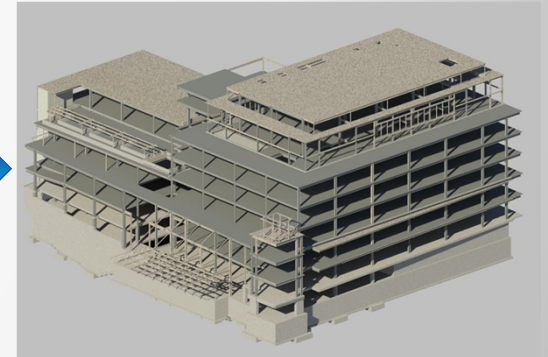
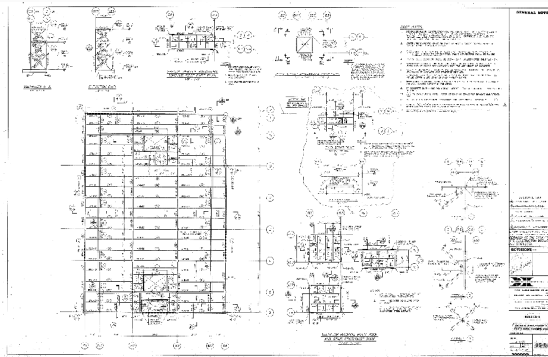
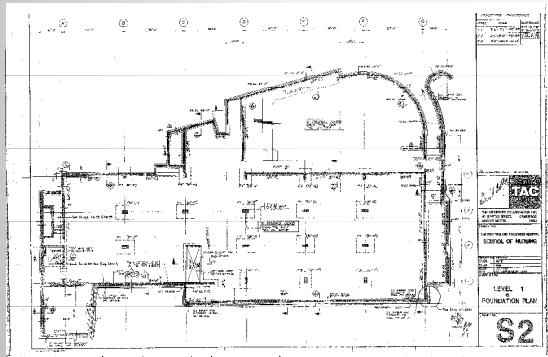
Martin Finn

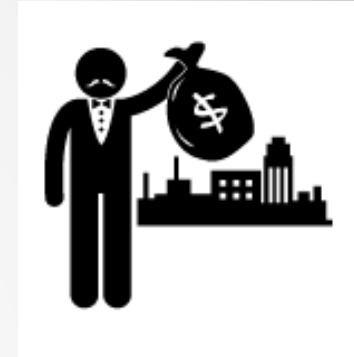
- Structural Engineer at Souza, True and Partners, Inc.
- 4 Years Professional Experience in Structural Engineering
- BIM Coordinator



Class summary

- This class is a roundtable discussion on the integration of Revit for small to mid-sized engineering firms working in building construction. By sharing our own experiences we hope to gather insights that will be useful for companies making the transition from CAD to BIM.





Key learning objectives

At the end of this class, you will be able to:

- Be prepared to handle the problems of transferring from CAD to BIM, and their solutions.
- Understand the use of Revit by a small to mid-sized engineering firm.
- Use Revit efficiently to develop construction documents for any sized project.
- Use collaborative technologies such as Autodesk 360 in developing interdisciplinary Revit projects.

Consulting Firm Established in 1959

- Structural Discipline
- Clients - architects, owners, and contractors
- Primary focus is building design:
 - Health Care
 - Research
 - Academic
 - Commercial
 - Residential
 - Laboratory
 - Museums
 - Municipal
 - Parking
 - Commercial
- Typical services:
 - Analysis & Design
 - CA
 - Feasibility
 - Evaluations
 - Peer reviews
 - Expert witnesses

Duke Univ.
Cancer Center



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ST&P

SOUZA, TRUE
AND PARTNERS INC.
STRUCTURAL ENGINEERS

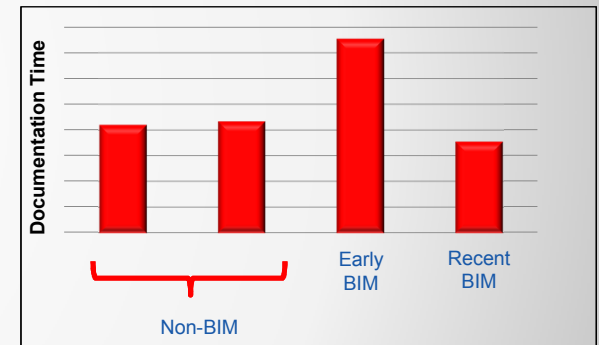
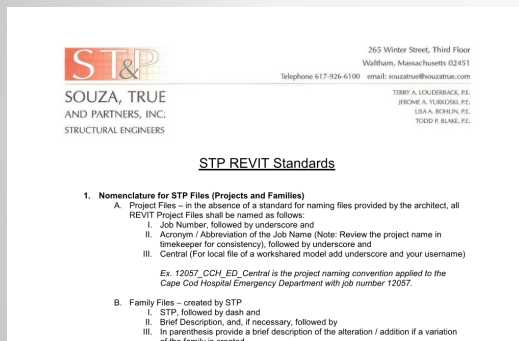
Healthcare
International
(Scotland)



Souza True's path to BIM Adoption

2007 - Adoption Begins

- Driven by client adoption
- Need to remain competitive
- Respond to increasing demands
- Develop skills and services



The Learning Curve

- Start-up and Implementation
- Project Management
- Long-term Development

Reaching the Goal

- Adapt Workflow
- Renewed Collaboration
- Changing the Office

Getting the process started:

Why make the jump to REVIT and BIM?

- Client Adoption – required for continued business
- Marketing – benefit your company profile
- Expand Skills –increasing complexity, better coordination
- Expand Services – pre-con. services, take-offs, estimation

What are the initial hurdles to success?

- Infrastructure Costs – hardware, storage, network capability
- Software – licensing, subscription, cloud services
- Training – Autodesk University, 3RD party training, certifications
- Communication – learning the lingo, conveying information



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Project Management:

What are the challenges to a successful BIM project?

- Schedule
- Level of Development
- Transferring Information
- Coordination

How do you overcome these challenges?

- Workflow – Modeling vs. Engineering
- Stakeholder Responsibility – AIA G202, element ownership
- A360, BIM 360 Glue, on-line meetings
- Clash Detection, Fabrication, Phasing

AIA Document G202™ – 2013
Project Building Information Modeling Protocol Form

PROJECT: (Name and address)

PROTOCOL VERSION NUMBER:
DATE:
PREPARED BY:
DISTRIBUTION TO: (List each individual to whom this protocol is distributed. Include individuals listed in Section 1.1, or reference Section 1.1, along with any additional recipients.)

TABLE OF ARTICLES

| | |
|---|----------------------|
| 1 | GENERAL PROVISIONS |
| 2 | LEVEL OF DEVELOPMENT |
| 3 | MODEL ELEMENTS |

ARTICLE 1 GENERAL PROVISIONS
§ 1.1 For each Project Participant that has incorporated the Project specific AIA Document G202™–2013, Building Information Modeling and Digital Data Protocol Exhibit, dated _____, into its agreement for the Project, identify and provide the contact information for individuals responsible for implementation of the Modeling protocols. If, for any Project Participant, more than one individual will be responsible for implementation of the Modeling protocols, list each individual separately and describe the unique Modeling Role assigned to each individual.

| Modeling Role | Project Participant | Individual Responsible | Contact Information |
|---------------|---------------------|------------------------|---------------------|
| | | | |
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This document is intended to be used in conjunction with a Project specific AIA Document G202™–2013, Building Information Modeling and Digital Data Protocol Exhibit, which the Parties will incorporate into their agreement for the Project, and a Project specific AIA Document G201™–2013, Project Digital Data Protocol Form.



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Long-Term Transition:

What happens to the business?

- Measuring Impacts – man-hours, COR, RFI, SKS
- Standardization – BIM management, library of details
- Customization – family files, add-ons
- Contracts – cost of BIM delivery
- Multiple Models – Analysis vs. Detailing, interoperability
- Employee Responsibility – drafters and designers



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