Walk-in Slide: AU 2014 Social Media Feed

1. Click on the link below, this will open your web browser

http://aucache.autodesk.com/social/visualization.html

2. Use "Extended Display" to project the website on screen if you plan to work on your computer. Use "Duplicate" to display same image on screen and computer.

Implementing Advance Steel within a BIM Workflow

Richard Walsh

Technical Consultant – Autodesk

Class summary

- Implementation of Advance Steel software for connection design and fabrication modeling within an existing Building Information Modelling (BIM) workflow based in Revit software.

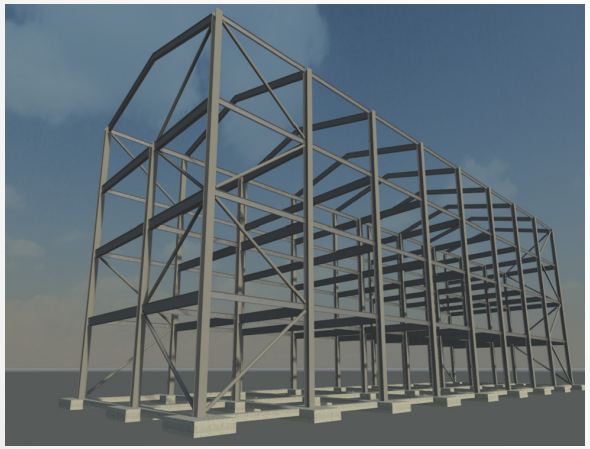
- Integration of model data from Revit into Advance Steel and on into Navisworks for construction coordination.

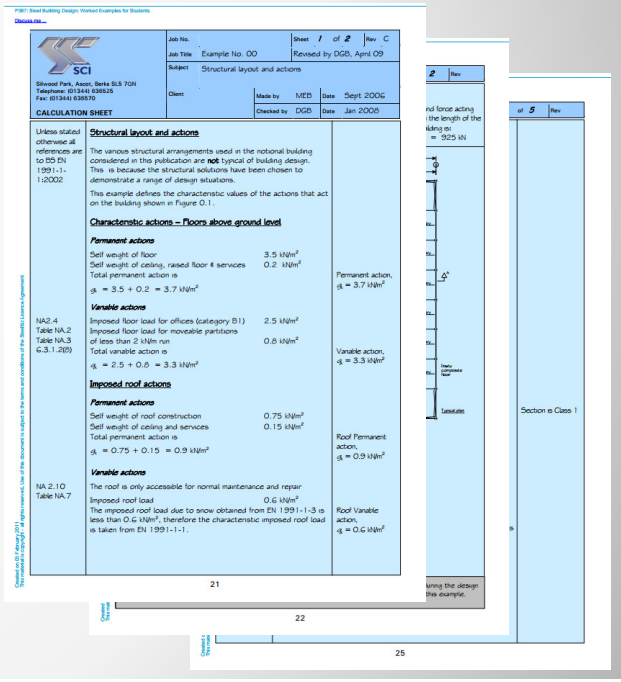
Key learning objectives

1. Discover the most efficient practices for getting started with Advance Steel software
2. Learn how to use Revit software model export functionality to populate an Advance Steel software model
3. Understand the various features & limitations of Advance Steel
4. Learn how to generate models for fabrication

Worked Example

P387: Steel Building Design: Worked Examples for Students
Published by The Steel Construction Institute 2011





www.tatasteelconstruction.com/static_files/StaticFiles/Construction/p387.pdf

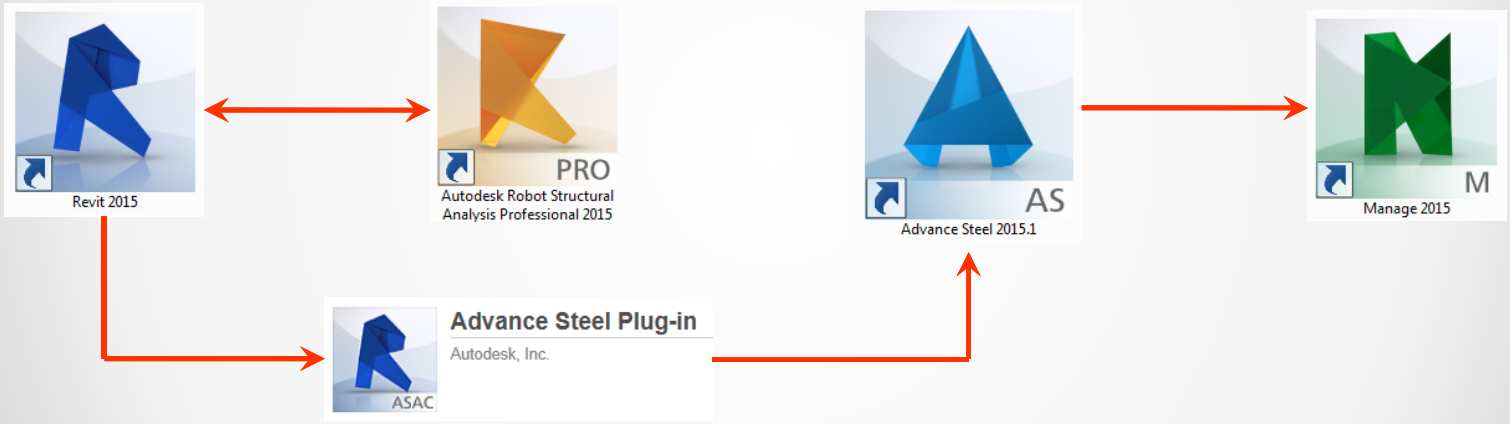
Software Used

Autodesk Revit 2015 R2 build: 20140223_1515

Autodesk Robot Structural Analysis 2015

Autodesk Advance Steel 2015.1

Autodesk Navisworks Manage 2015



https://apps.exchange.autodesk.com/RVT

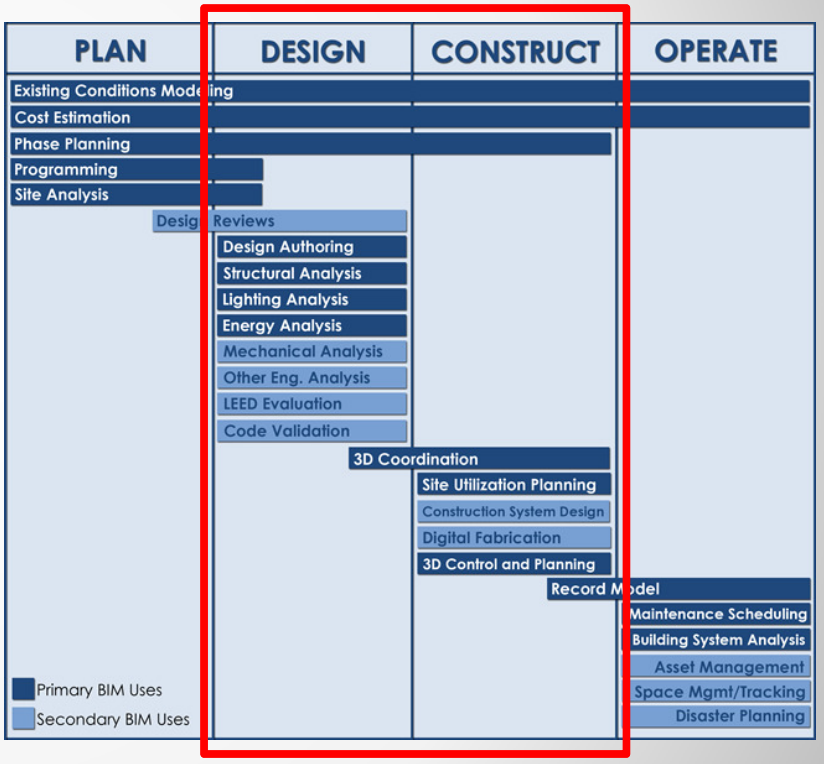
BIM Uses and Workflow

Penn State BIM Uses

- 3D Coordination
- Design Review
- Design Authoring
- Construction System Design
- Existing Conditions Modelling
- 3D Control and Planning
- Programming
- 4D Modelling
- Record Modelling
- Site Utilisation Planning
- Site Analysis
- Structural Analysis
- Energy Analysis
- Cost Estimation
- Building System Analysis
- Code Verification
- Asset Management

BIM Uses and Workflow

- BIM Uses Considered:
  - 3D Coordination
  - Design Authoring
  - Drawing Production
  - Schedule Production
  - Design Review
  - Design Analysis



Efficient practices for getting started with Advance Steel

Getting Started

Maintaining traditional Design Authoring processes

- Modelling Starting in Revit
- Analysis in Robot
- Revit model updated
- Pushed to Advance Steel
- Fabrication model generated
- Coordination model updated

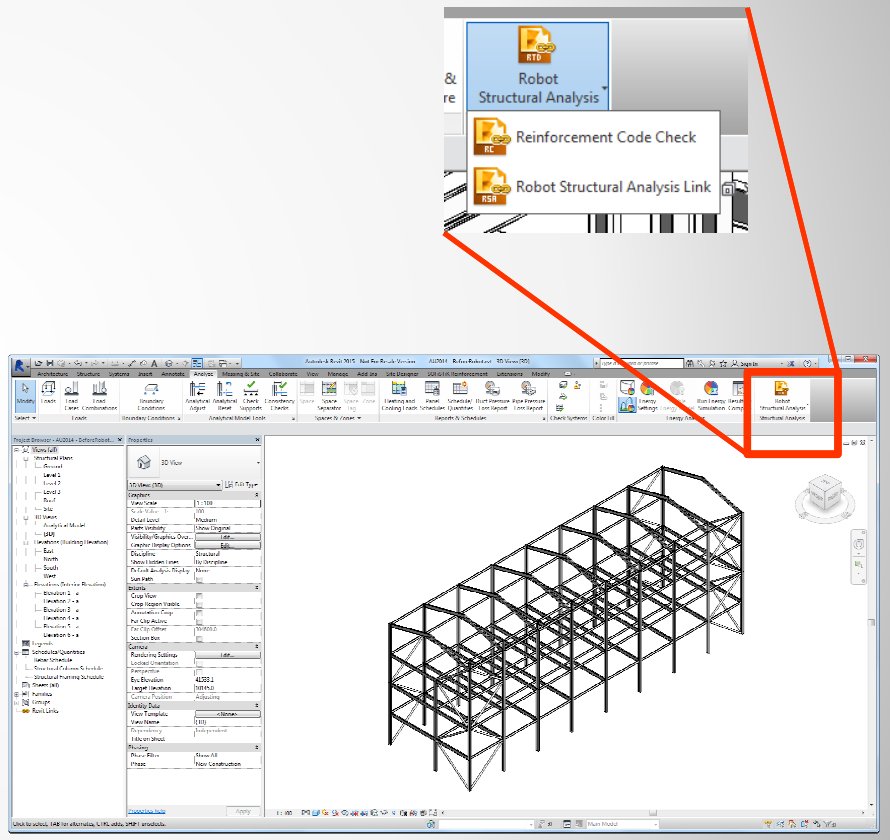
Getting Started

Model Created with:

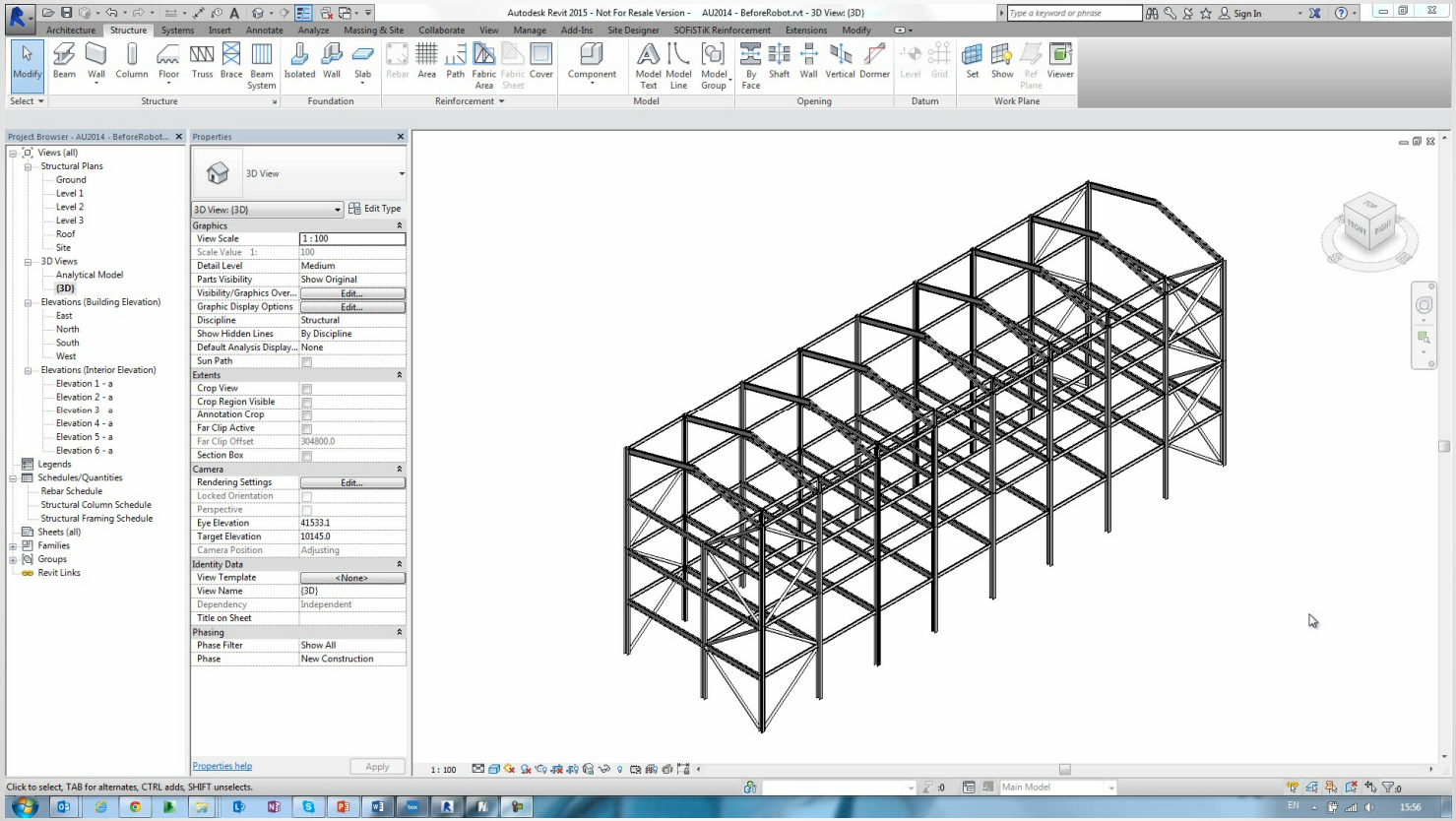
- Columns (Universal Columns)
- Beams (Universal Beams)
- Bracing (Circular Hollow Sections)

There are no:

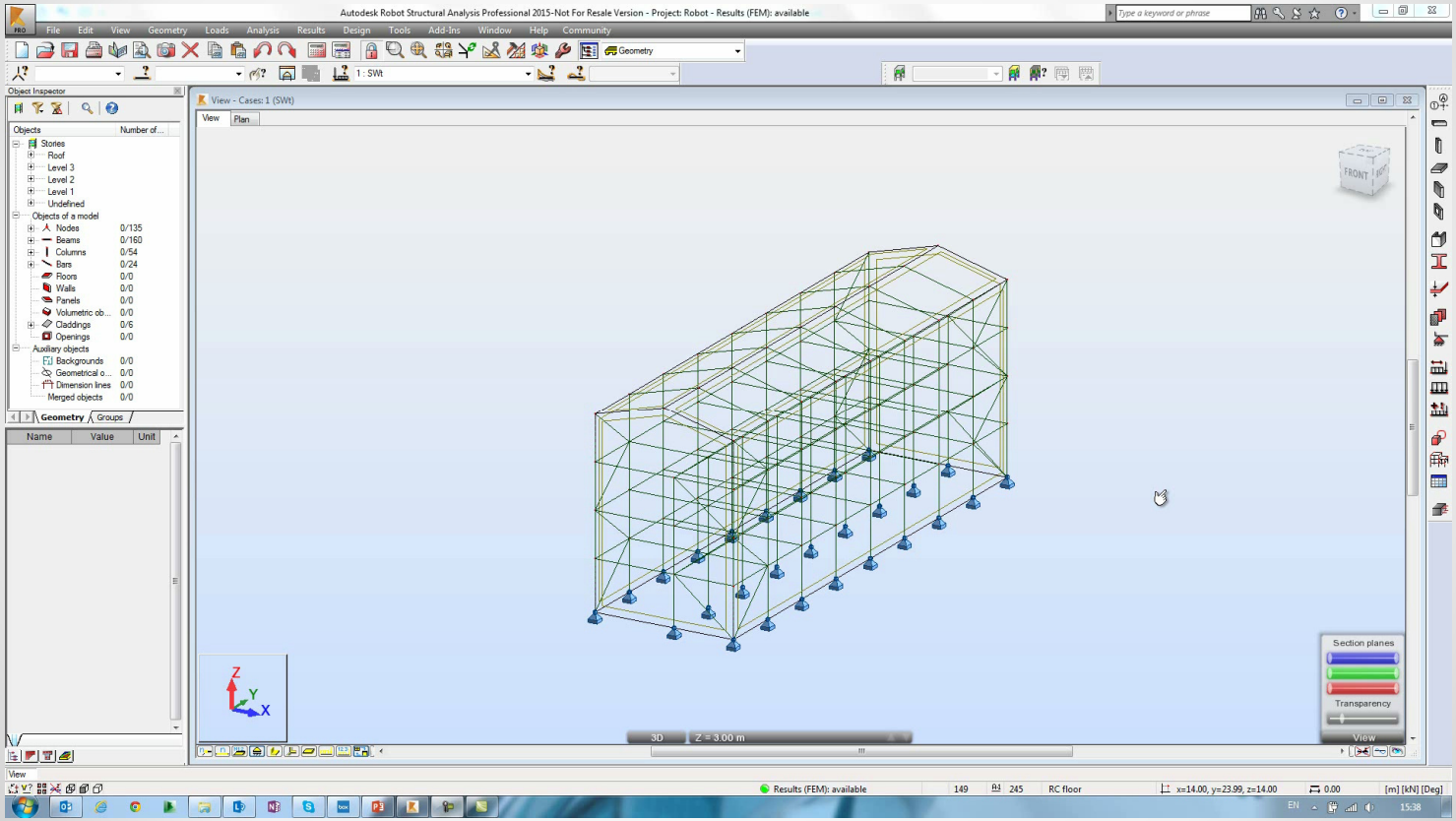
- Floors
- Foundations
- Walls
- etc…



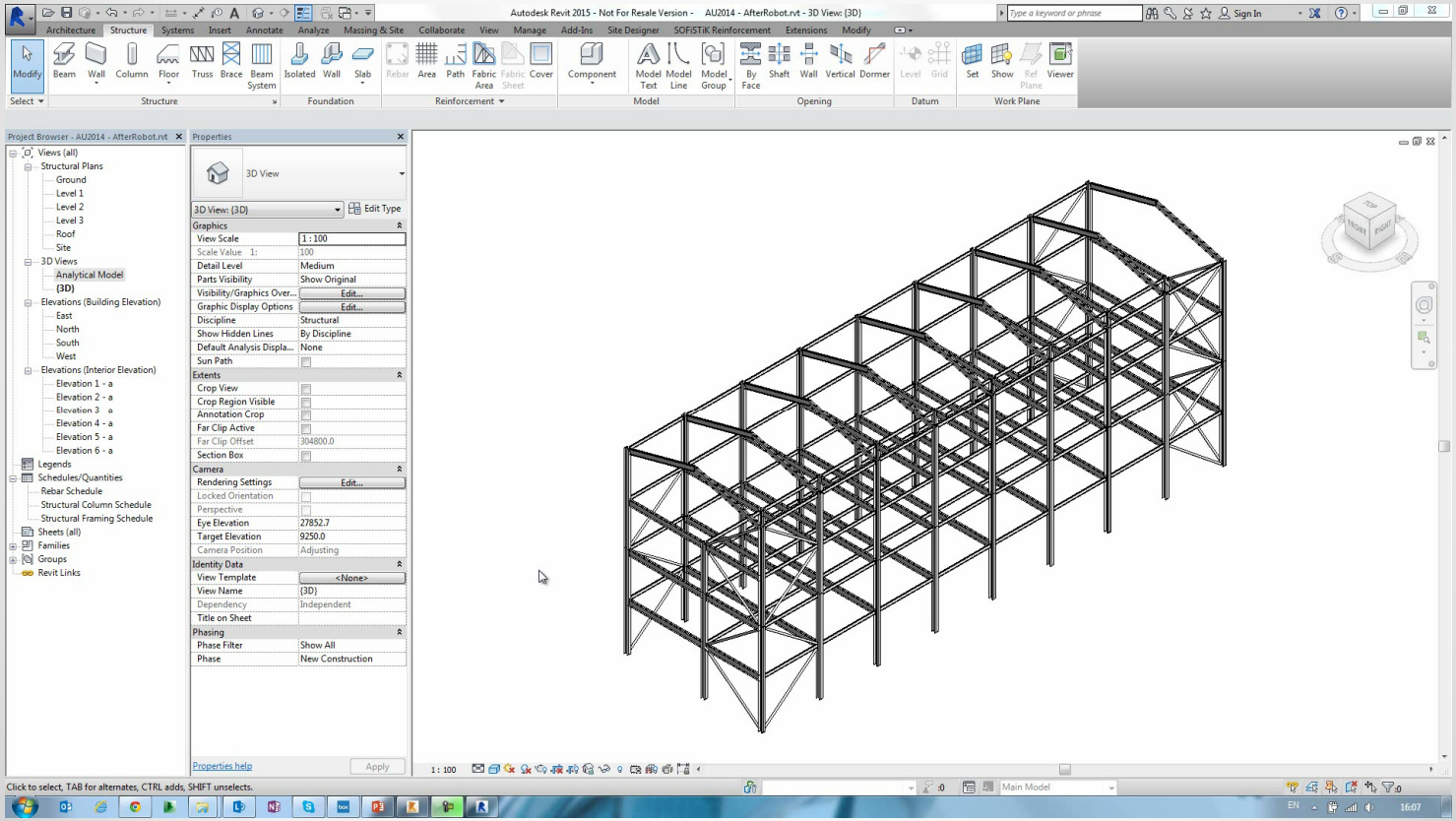
Revit to Robot



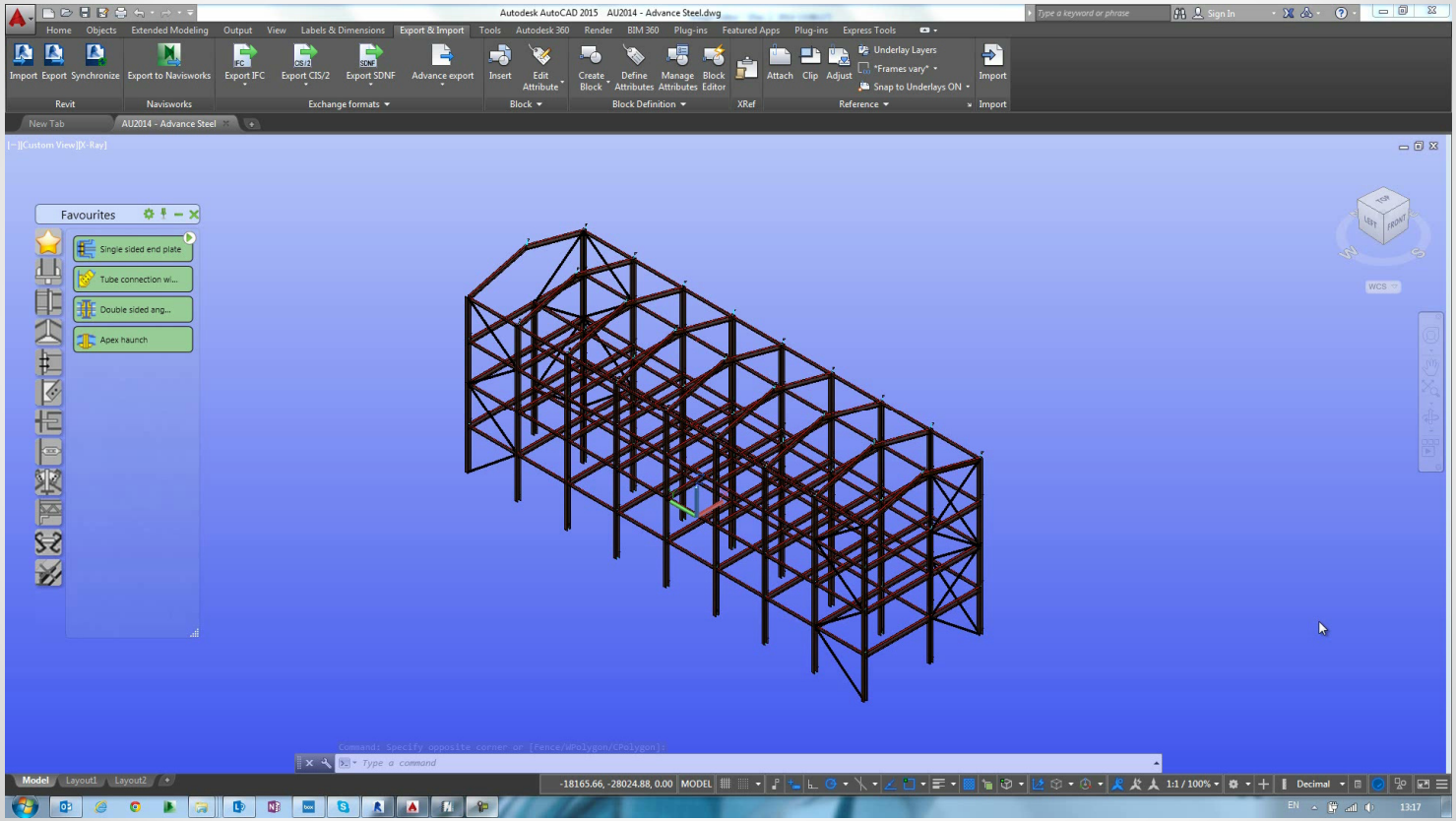
Robot to Revit



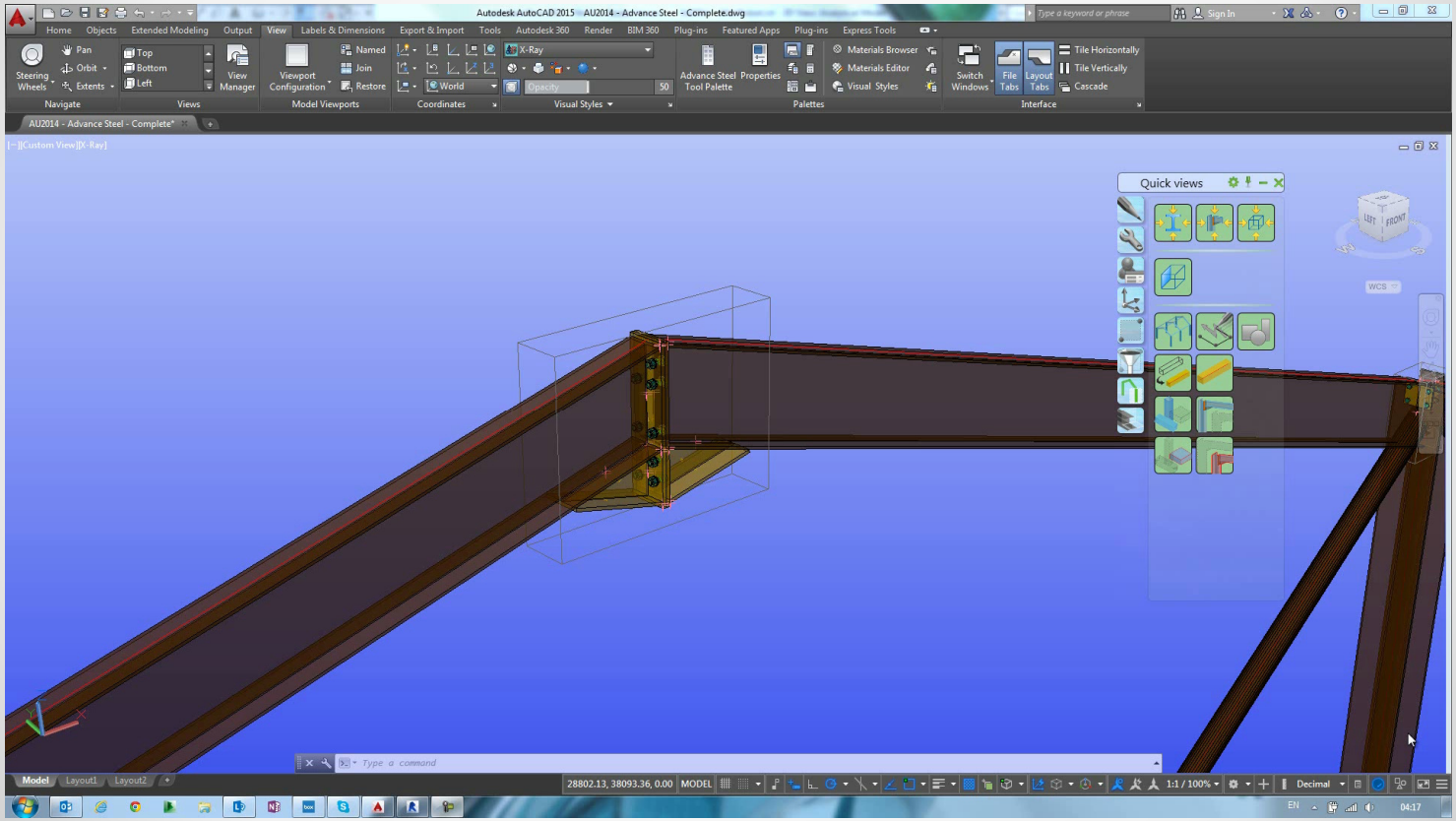
Revit to Advance Steel



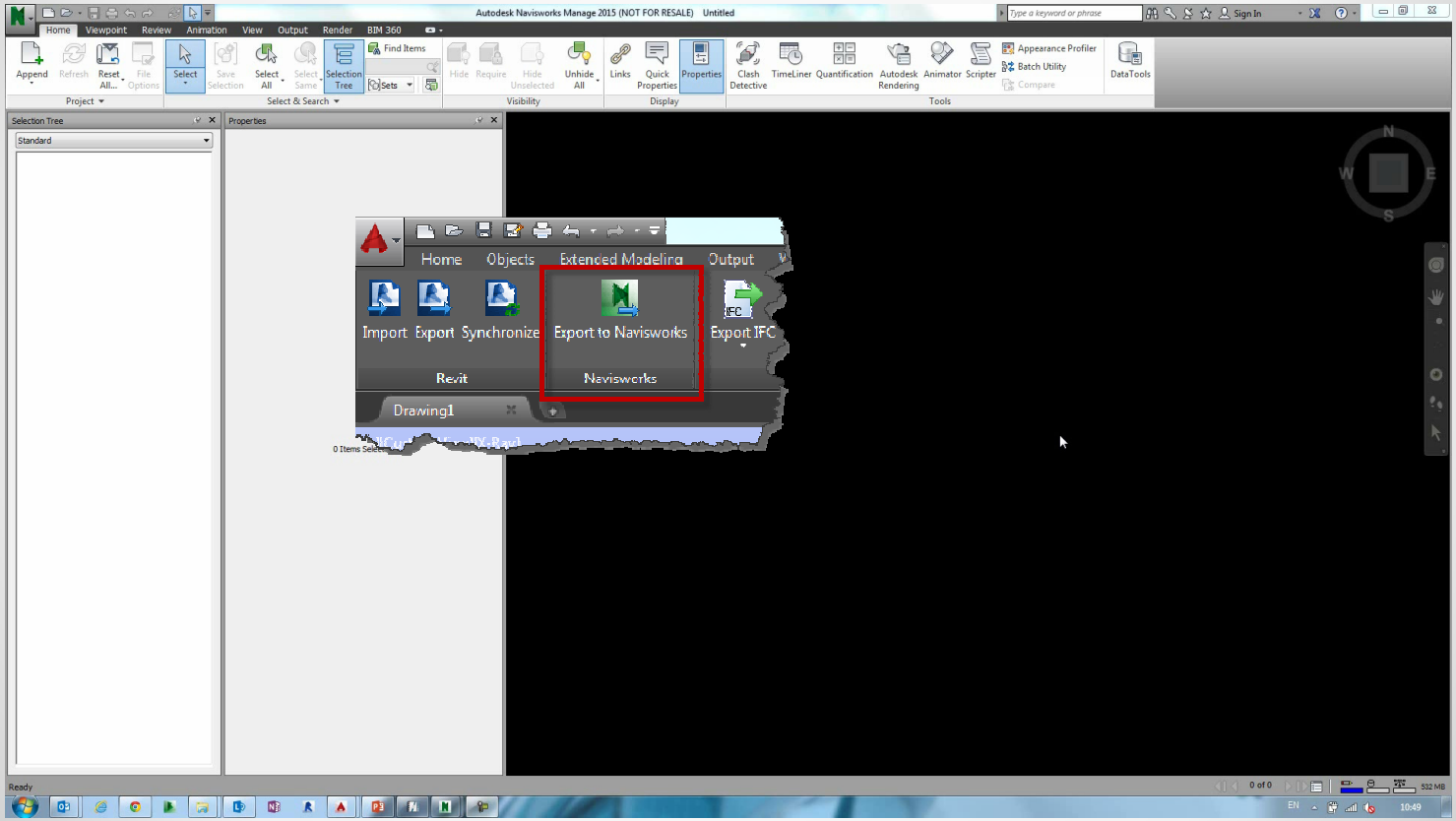
Advance Steel



Advance Steel



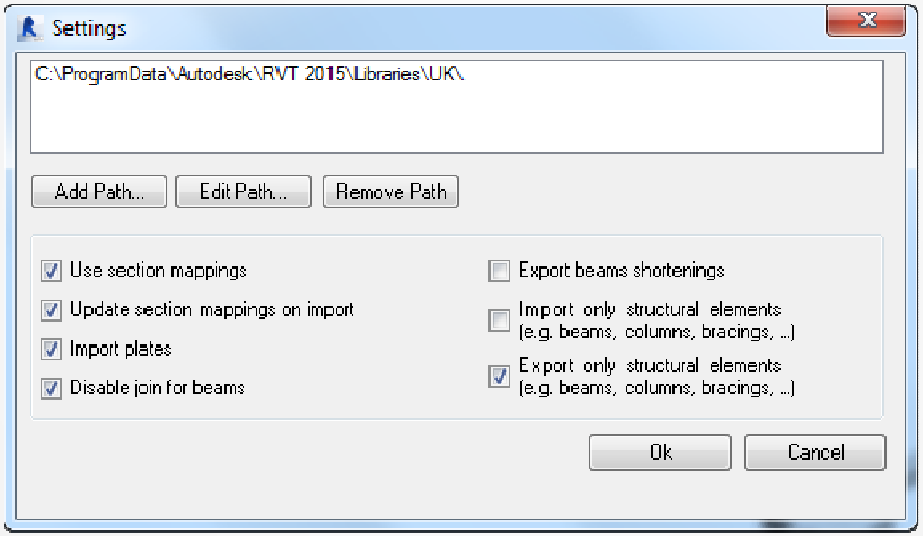
Advance Steel to Navisworks



Revit software export functionality to populate Advance Steel models

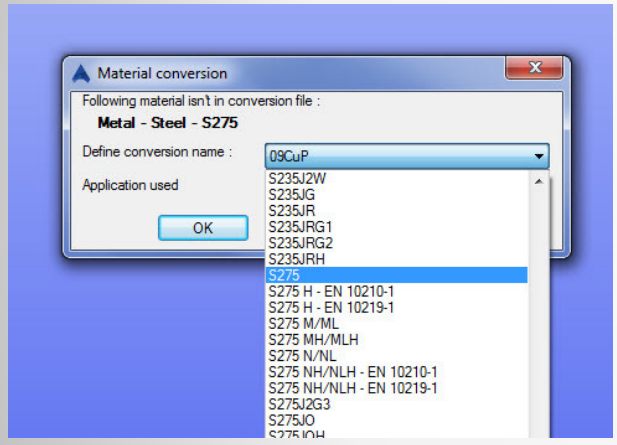
Export Functionality

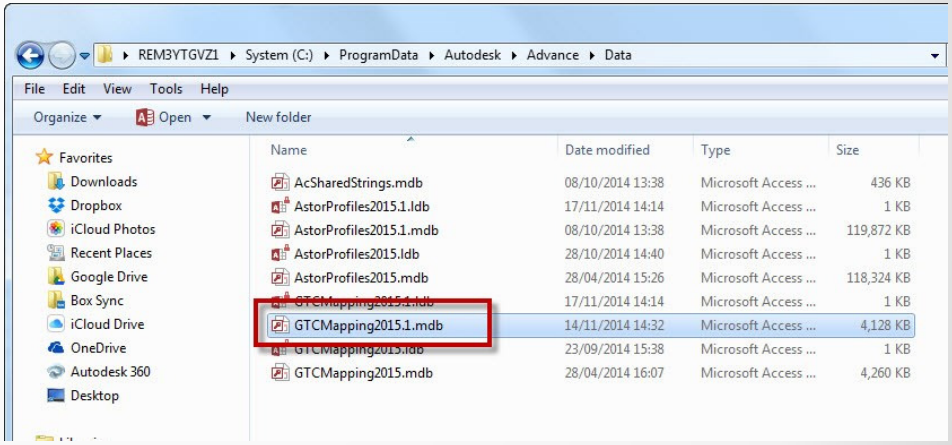
Options with Revit:



Export Functionality

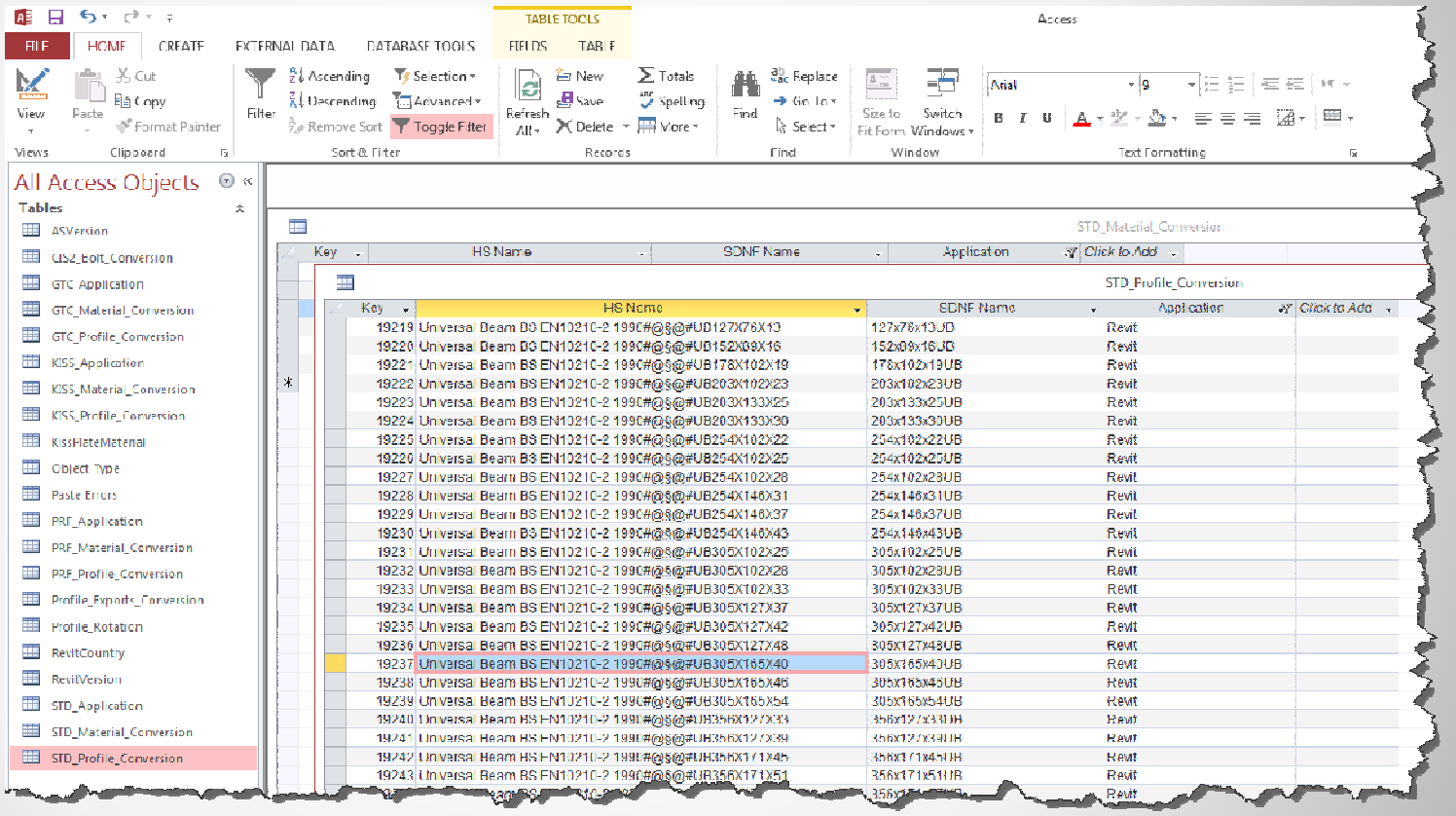
Mapping of Sections and Materials





Export Functionality

Mapping

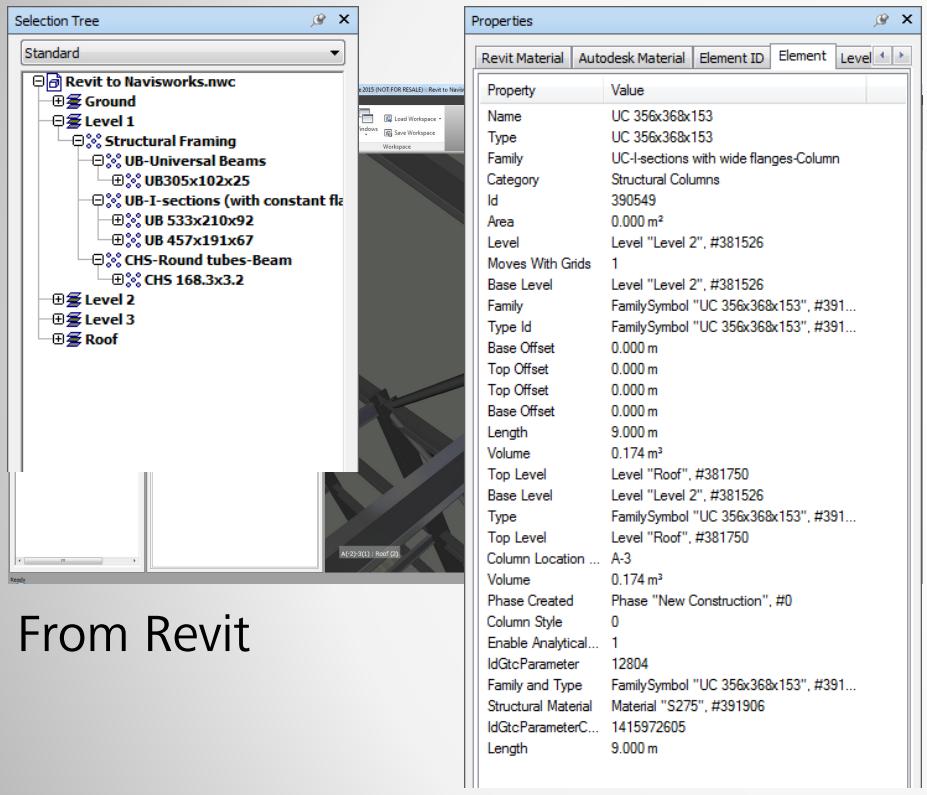


Current Advance Steel Features & Limitations

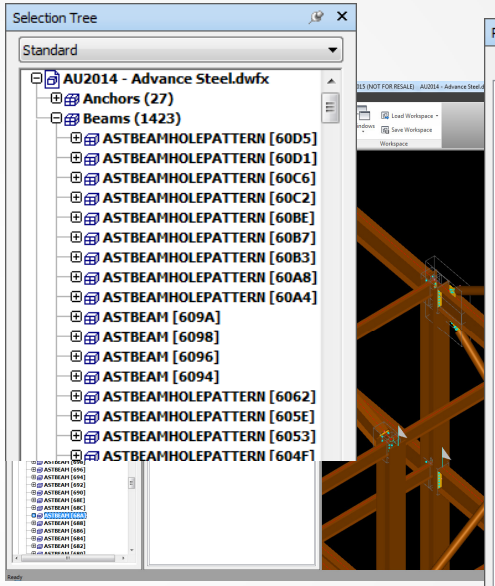
Features

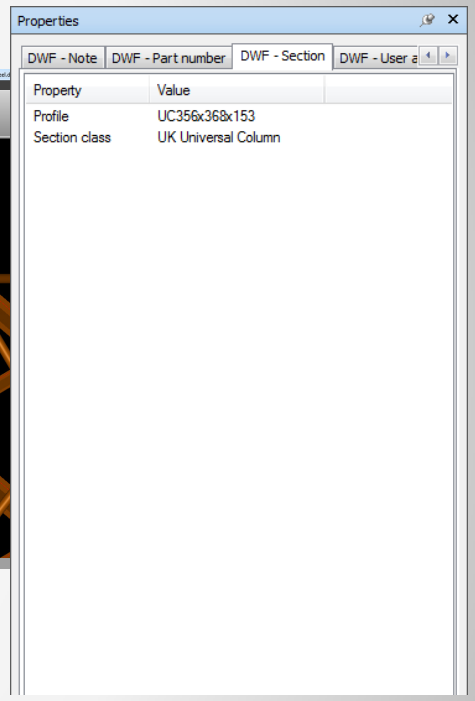
- Advance Steel is AutoCAD based platform
- Object Enablers allow for native incorporation of:
  - Civil 3D
  - Plant 3D
  - Other AutoCAD verticals…
- Intuitive Software
- Rapid Development

Limitations within Navisworks



From Revit

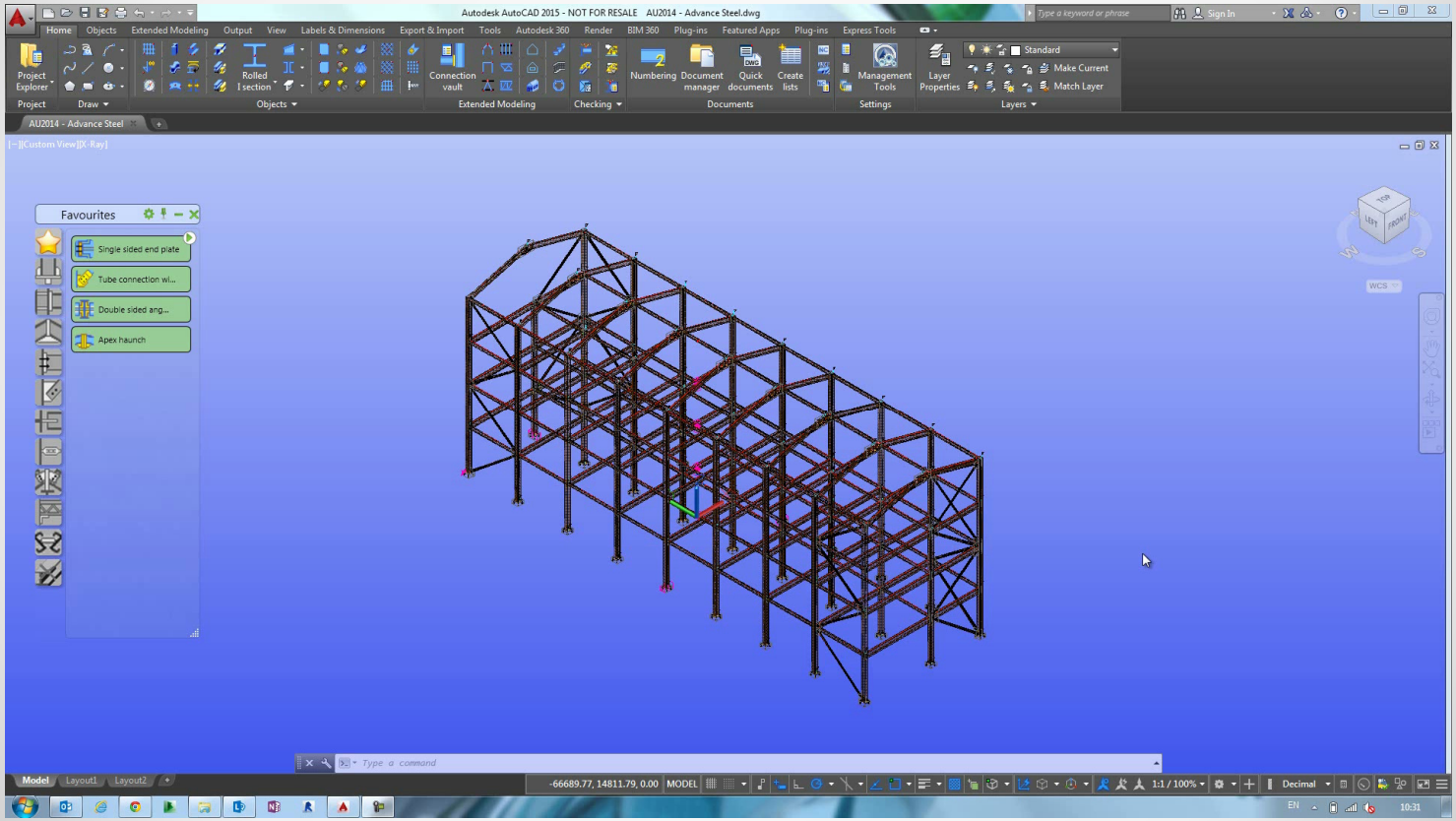




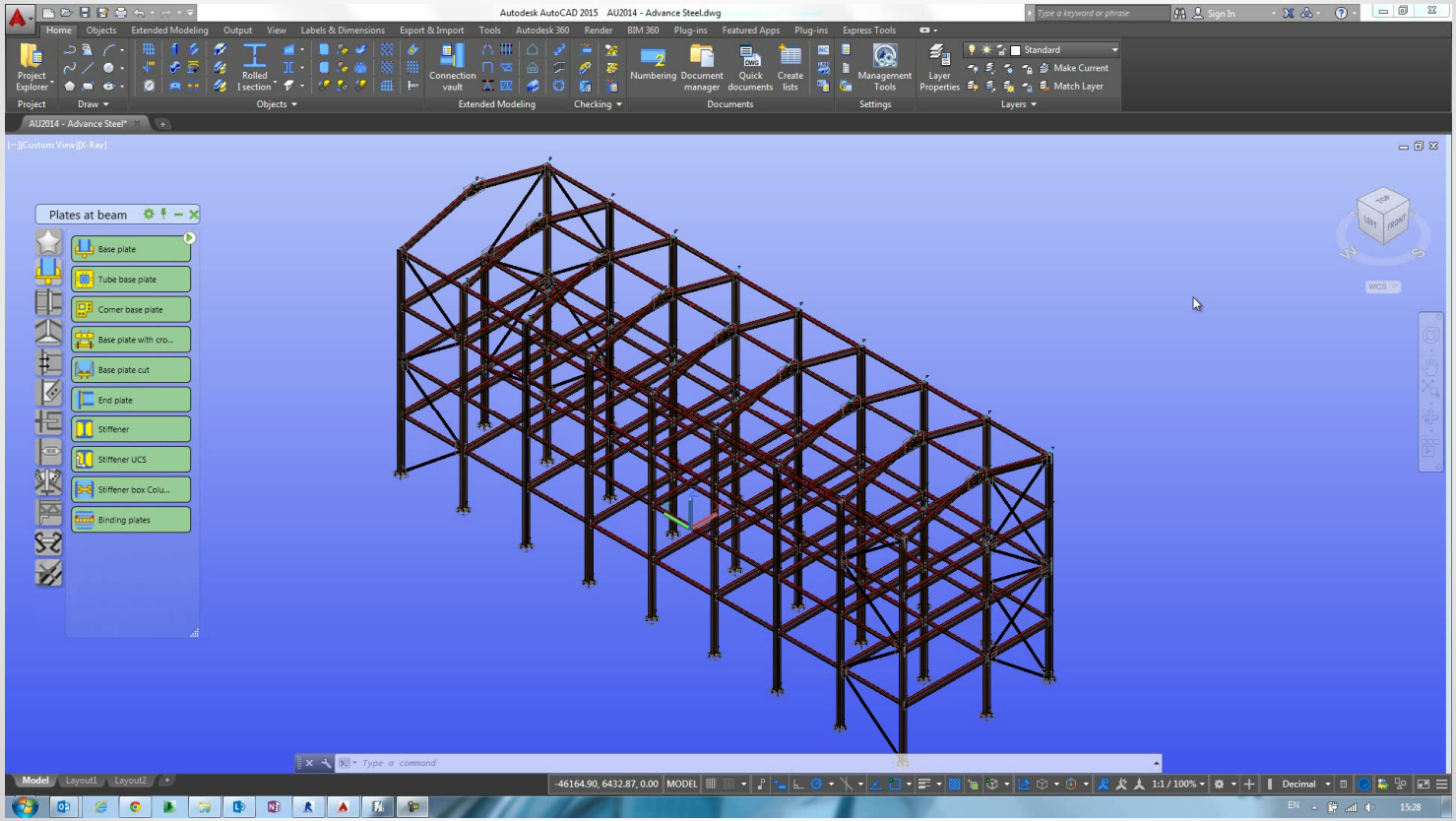
From Advance Steel (DWF)

Modelling Fabrication

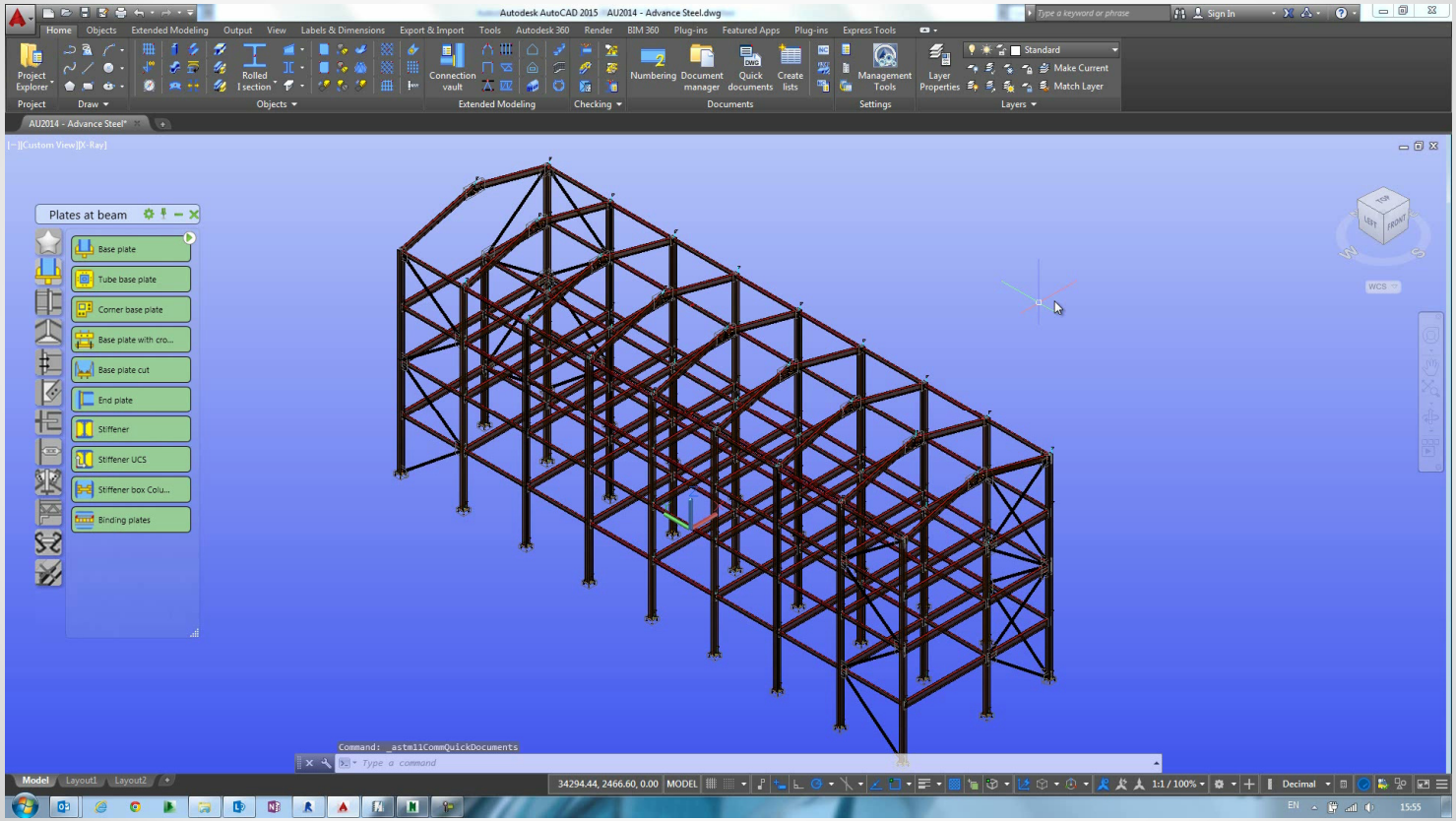
Modelling Fabrication – GA and Elevations



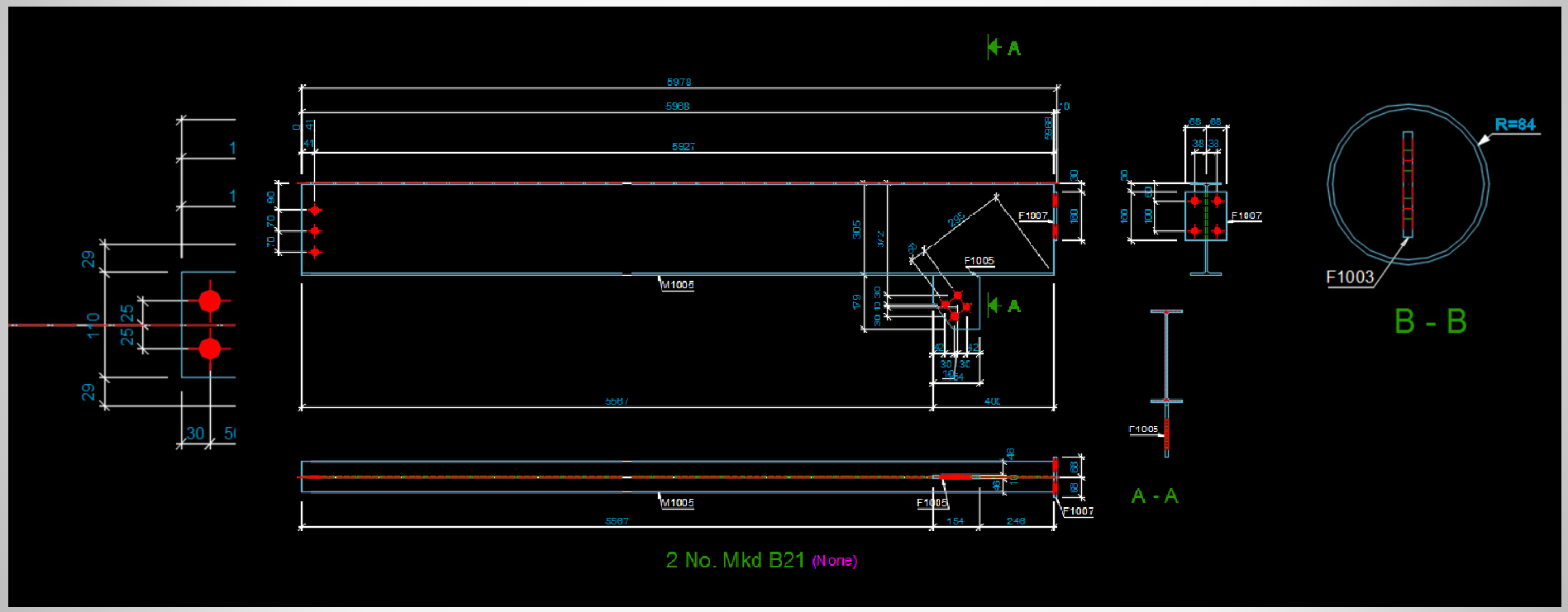
Modelling Fabrication – Parts List



Modelling Fabrication – Saw List

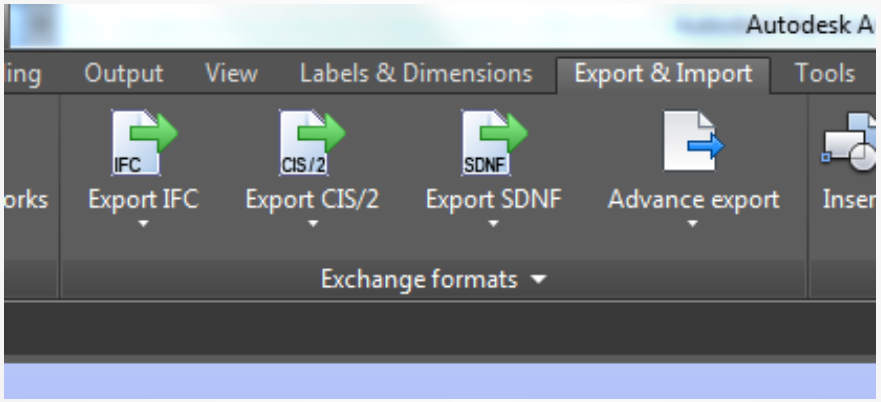


Modelling Fabrication – Detail Drawings



Modelling Fabrication

Number of industry recognised export formats available from Advance Steel



Modelling Fabrication

Industry Foundation Class format - IFC2x3
Further information about this classification can be found through the BuildingSMART® group

Modelling Fabrication

CIS Interface (CIMsteel Integrated Standard)

- Developed to enable a model based data exchange between different domains (construction, detailing and fabrication) dedicated to steel construction.
- Exchange format is mainly driven by the AISC.
- Export for Fabrication or Analysis and this depends largely on the downstream intended use by the steelwork fabricator.

Modelling Fabrication

SDNF (Steel Detailing Neutral Format) Version 3.0

- Standard format for data exchange of steel elements (sections, plates etc.).
- SDNF offers a system neutral method for the import and export of structural model data.
- Bidirectional process allows the import and export of SDNF files from structural models.

Questions

Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2014 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time

Students, *educators*, and *schools* now have

FREE access to Autodesk design software & apps.

Download at www.autodesk.com/education

Earn your professional Autodesk Certification at AU

Visit the AU Certification Lab