

SE310-2

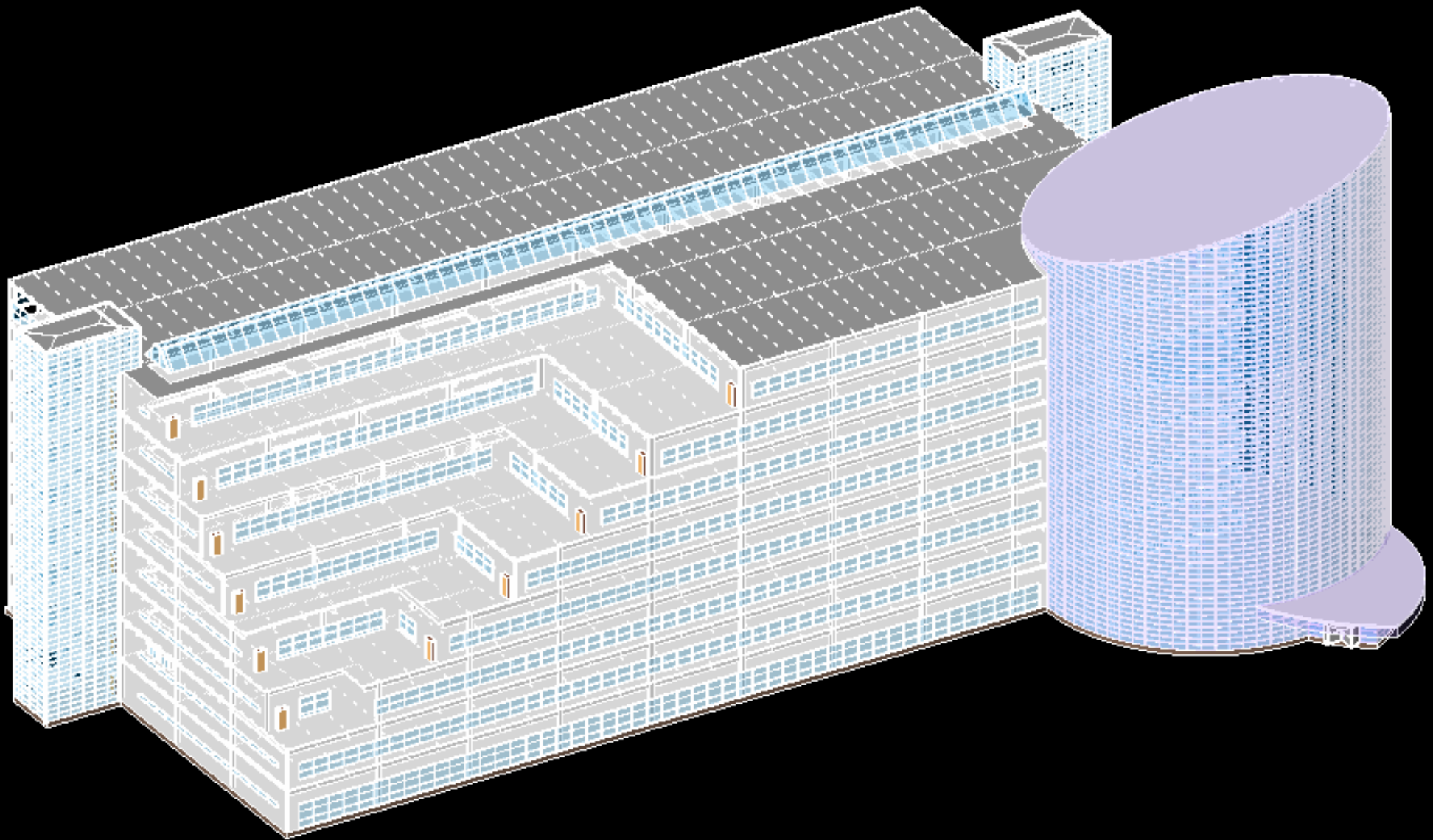
Maximizing Interoperability with Analytical Programs & Revit Structure

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Associate Structural Engineer

Mike Livernois II
Structural Engineer

Shaun Rihacek, LEED AP
Architect

Betsy Werra
Senior Applications Expert



AUTODESK UNIVERSITY 2007

BIO's

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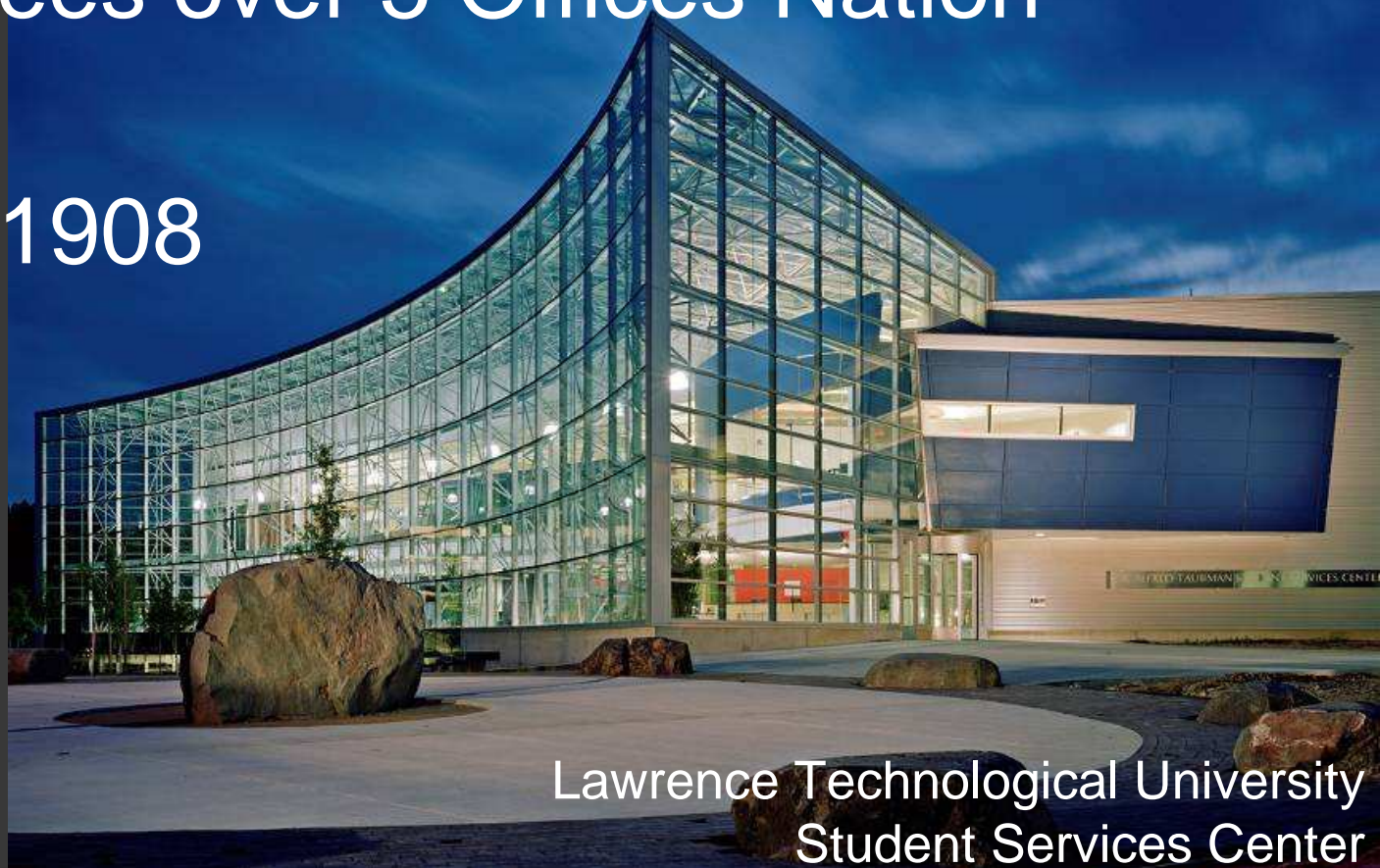
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HARLEY ELLIS DEVEREAUX

- Full Service A/E Firm
- 500 Employees over 5 Offices Nation Wide
- Founded in 1908



Lawrence Technological University
Student Services Center



Western Michigan University
College of Engineering



Baylor University
New Sciences Building



William Beaumont Hospital
Troy Campus Master Plan Implementation

A Year of Change

- The last 12 months recap
- Partnering with Reseller
- ATC Training

COURSE OBJECTIVES

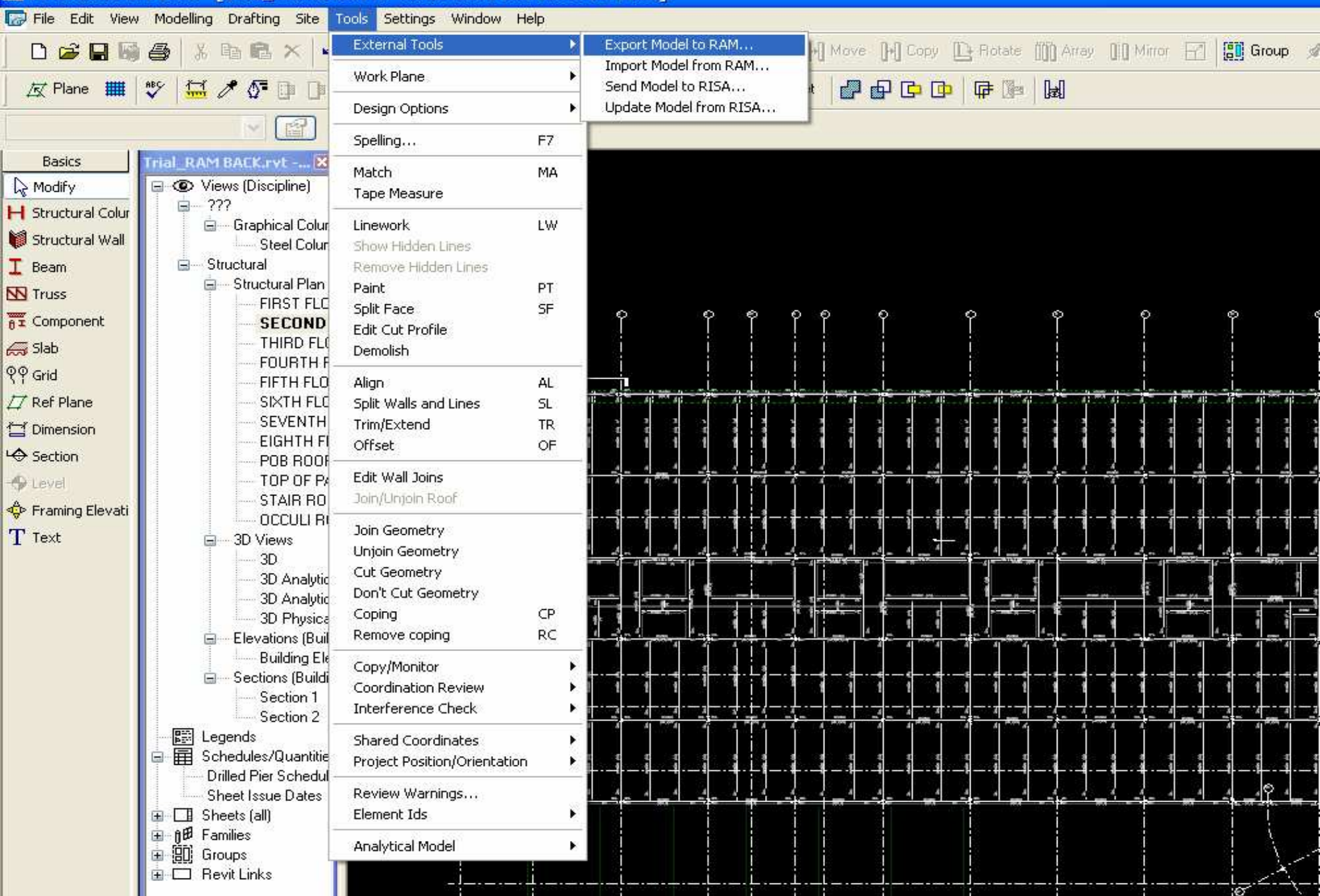
- Frame work for work flow process
- Two model approach (KISS Method)
- Model structural elements in Revit® Structure
- Analytical vs. Non-analytical elements
- External analytical programs
- Create construction documents
- Embrace change

WORK FLOW PROCESS

- Architectural Responsibilities (what the architect controls)
- Establish Boundaries of Structural Modeling
- AutoCAD Balance

WORK FLOW PROCESS

- Two Model Concept
- Analytical vs. Non-Analytical Models





Basics

- Modify
- Structural Color
- Structural Wall
- Beam
- Truss
- Component
- Slab
- Grid
- Ref Plane
- Dimension
- Section
- Level
- Framing Elevations
- Text

Trial_RAM BACK.rvt - ...

- Views (Discipline)
 - Graphical Column
 - Steel Column
 - Structural
 - Structural Plan
 - FIRST FLOOR
 - SECOND FLOOR**
 - THIRD FLOOR
 - FOURTH FLOOR
 - FIFTH FLOOR
 - SIXTH FLOOR
 - SEVENTH FLOOR
 - EIGHTH FLOOR
 - POB ROOF
 - TOP OF PAVEMENT
 - STAIR ROOF
 - OCCUPANCY ROOF
- 3D Views
 - 3D
 - 3D Analytical
 - 3D Analytical
 - 3D Physical
- Elevations (Building)
 - Building Elevation
- Sections (Building)
 - Section 1
 - Section 2
- Legends
- Schedules/Quantities
 - Drilled Pier Schedule
 - Sheet Issue Dates
- Sheets (all)
- Families
- Groups
- Revit Links

RAM File Exporter - v2.1.0.0

Exporting File:
 G:\Autodesk University\Trial_RAM BACK.rvt

RAM Export File Destination:
 G:\Autodesk University\Trial_RAM BACK.rss

☐ Export Current Selection Only
 ☐ Perform deletes on re-export

☒ Freeze Member Sizes

Select Program to Launch

- ☒ RAM Structural System
- ☐ RAM Advance
- ☐ RAM Concept
- ☐ RAM CADStudio
- ☐ None

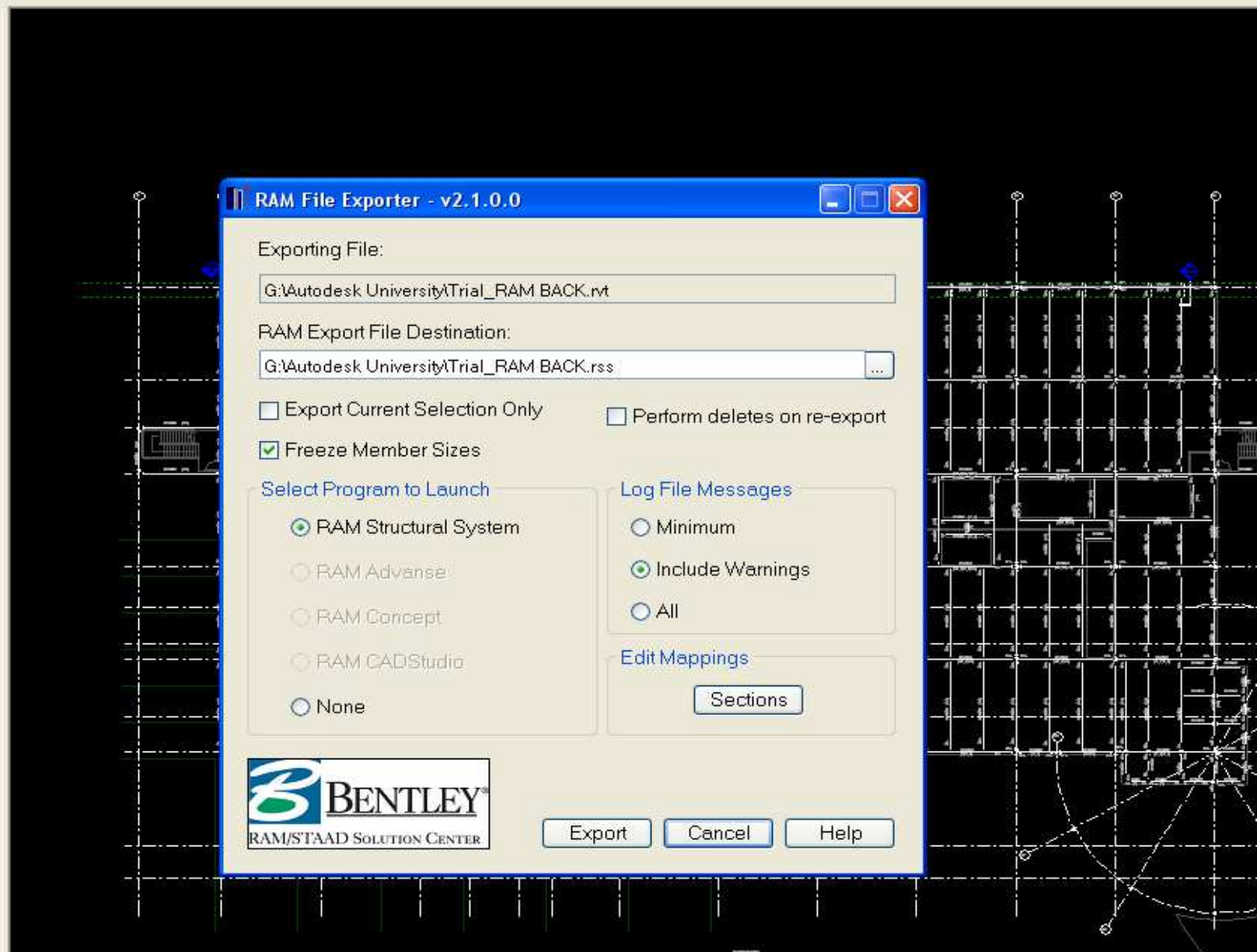
Log File Messages

- ☐ Minimum
- ☒ Include Warnings
- ☐ All

Edit Mappings

Sections

BENTLEY
 RAM/STAAD SOLUTION CENTER



Model: C:\DOCUME~1\MALIVE~1\Desktop\AU\Trial1

● RAM Modeler

RAM Concrete

RAM Frame:

● RAM Steel Beam

● Concrete Gravity Analysis ● Analysis - Load Cases

● RAM Steel Column

● Concrete Beam

● Analysis - Load Combinations

● RAM Foundation

● Concrete Column

● Steel Standard Provisions

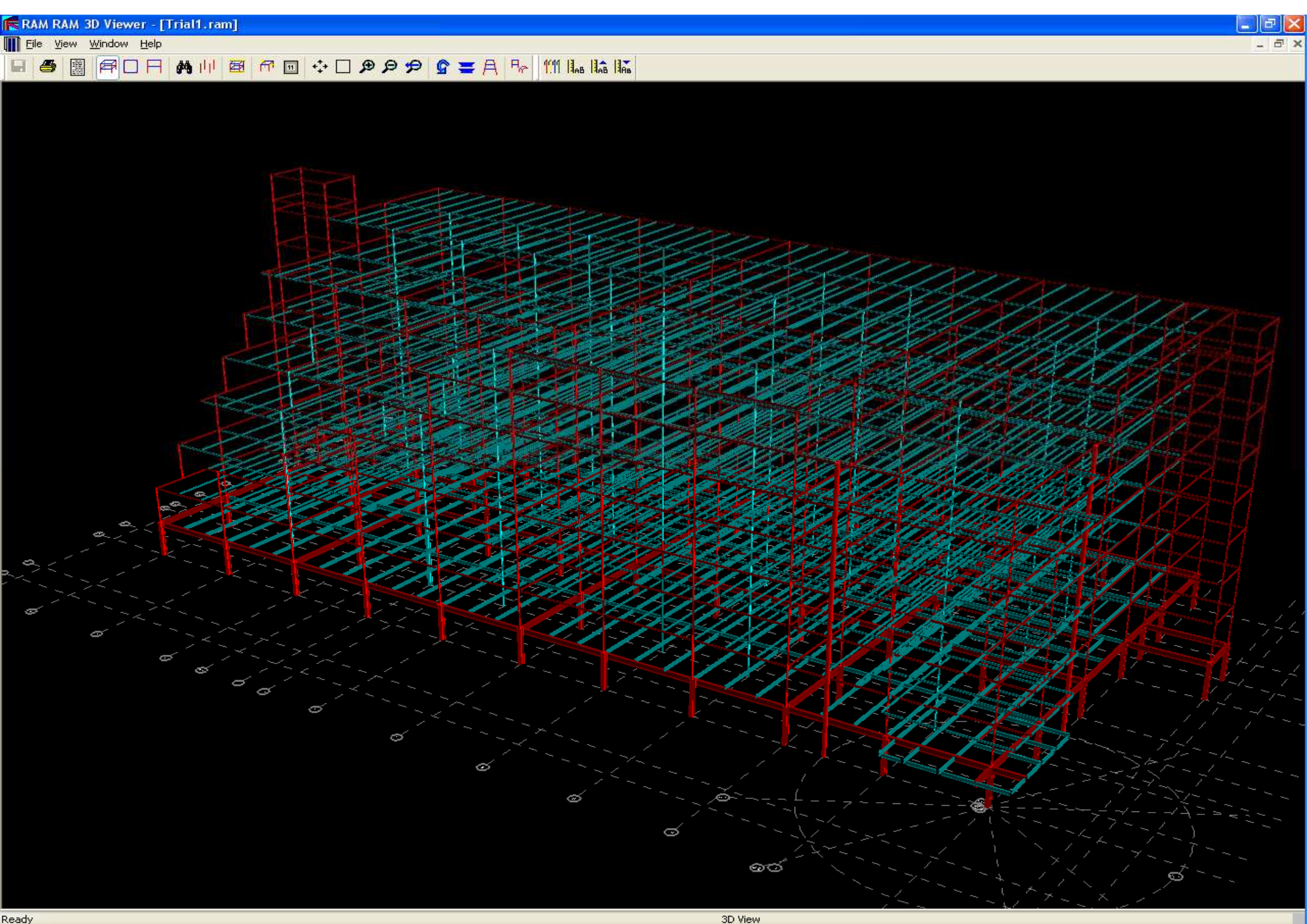
● Steel Seismic Provisions

● Drift Control



ASSOCIATE

Autodesk





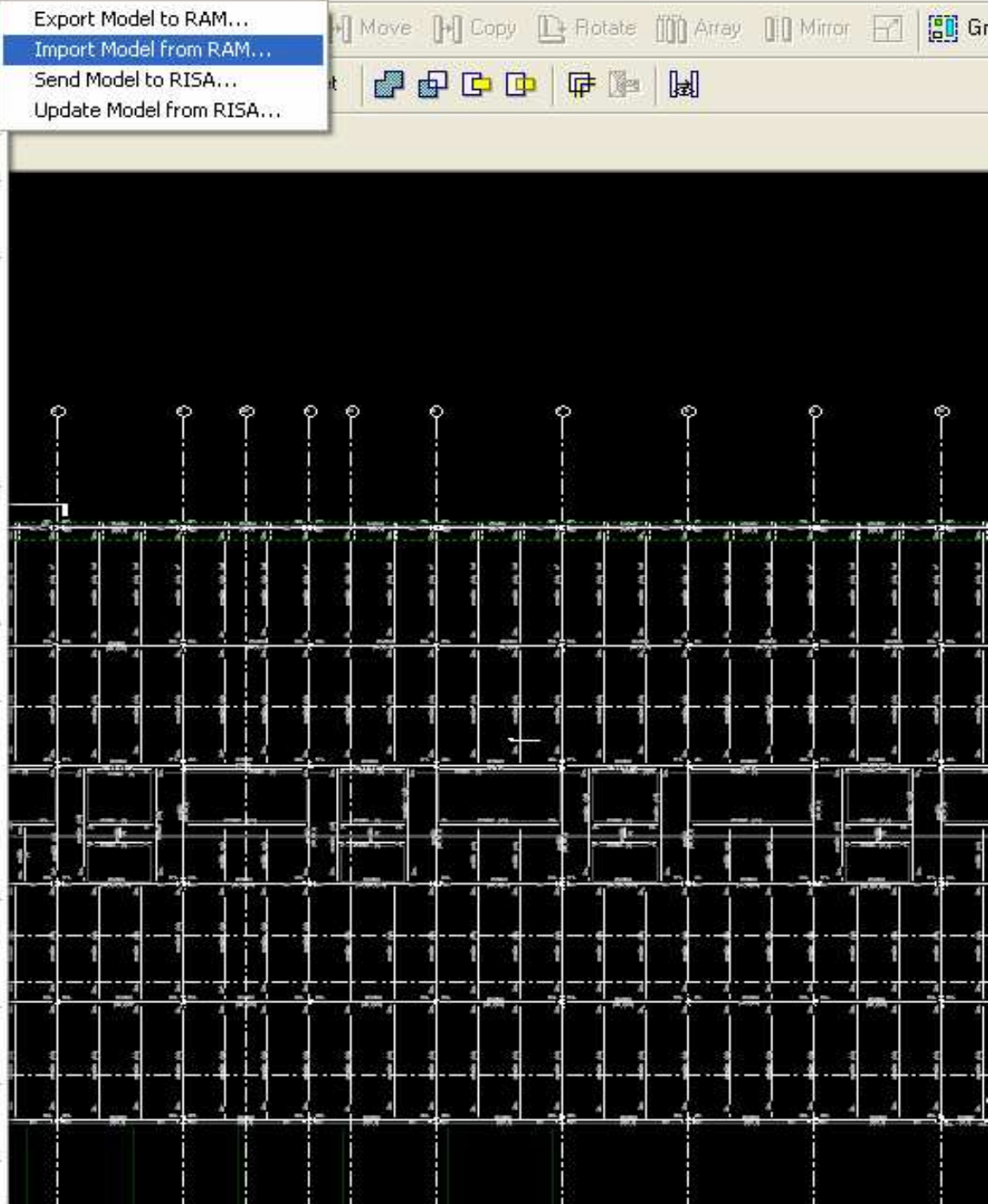
Basics

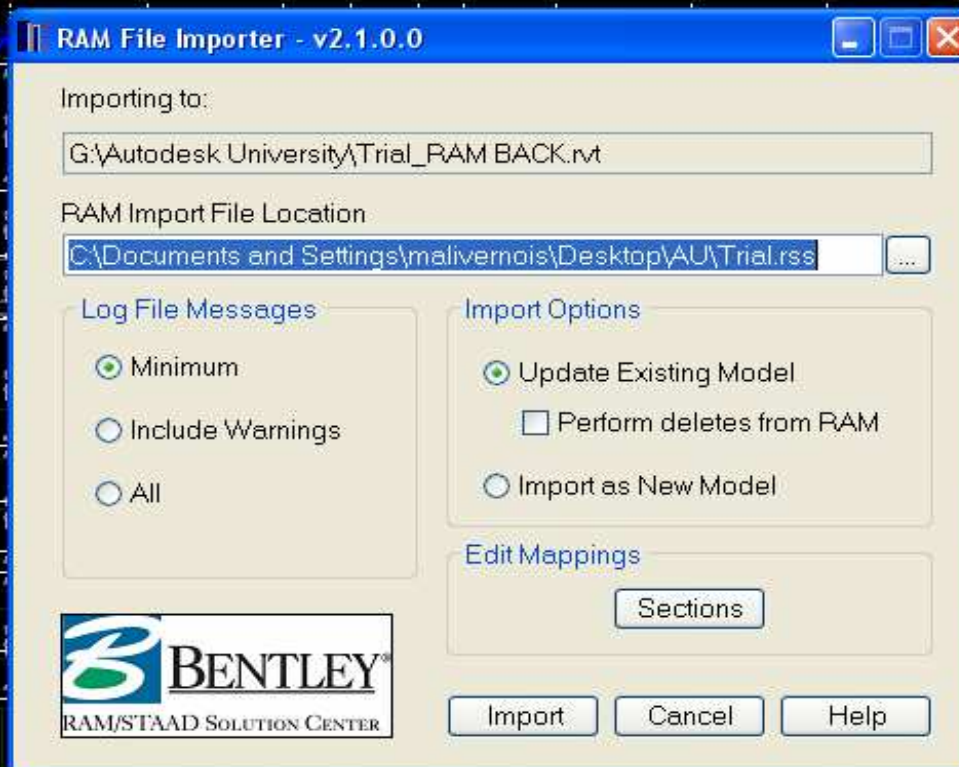
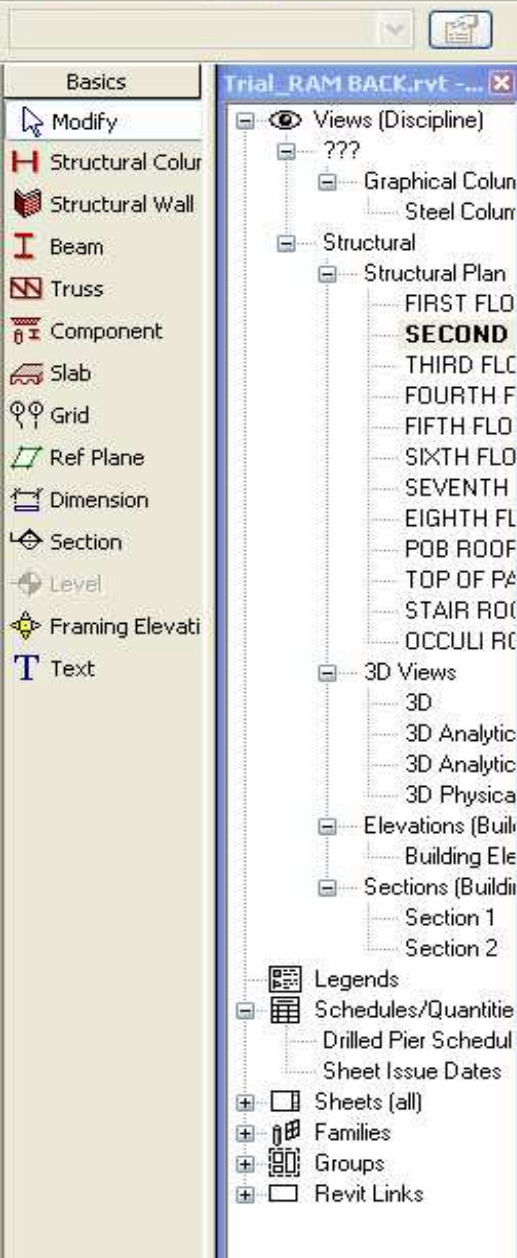
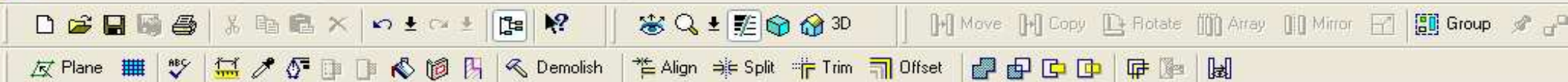
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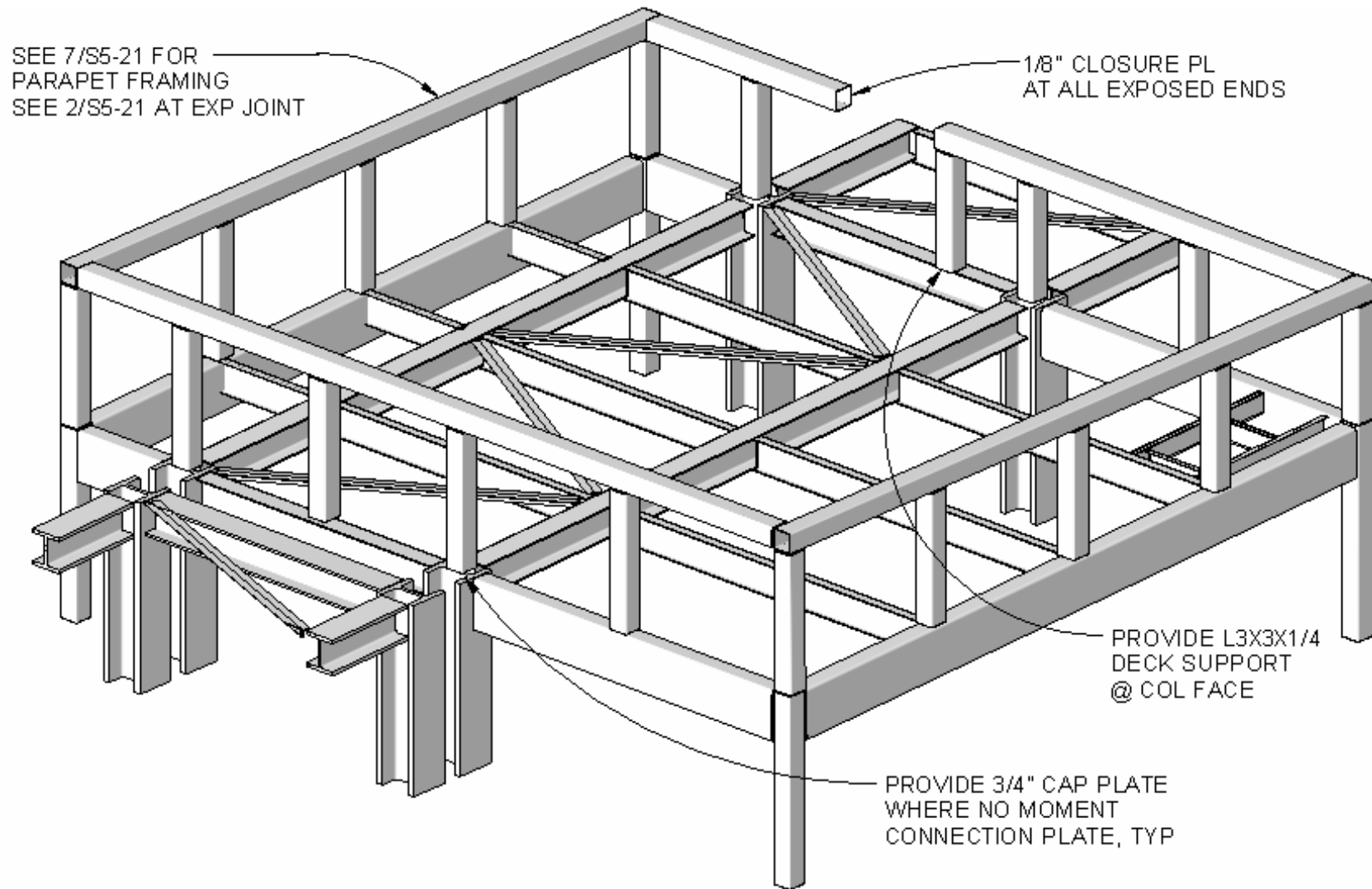
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- External Tools
 - Export Model to RAM...
 - Import Model from RAM...**
 - Send Model to RISA...
 - Update Model from RISA...
- Work Plane
- Design Options
- Spelling... F7
- Match MA
- Tape Measure
- Linework LW
 - Show Hidden Lines
 - Remove Hidden Lines
- Paint PT
- Split Face SF
- Edit Cut Profile
- Demolish
- Align AL
- Split Walls and Lines SL
- Trim/Extend TR
- Offset OF
- Edit Wall Joins
- Join/Unjoin Roof
- Join Geometry
- Unjoin Geometry
- Cut Geometry
- Don't Cut Geometry
- Coping CP
- Remove coping RC
- Copy/Monitor
- Coordination Review
- Interference Check
- Shared Coordinates
- Project Position/Orientation
- Review Warnings...
- Element Ids
- Analytical Model





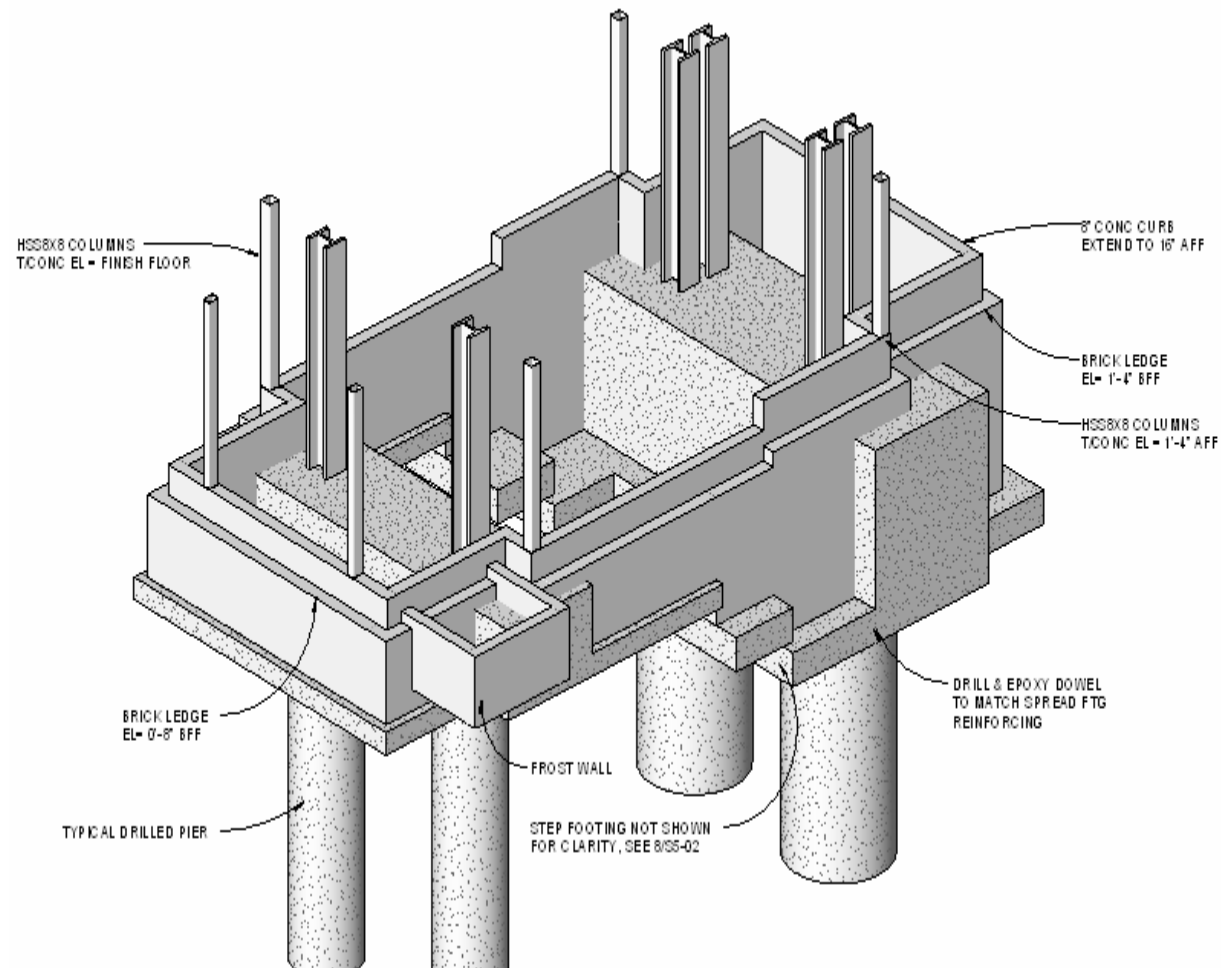
3D CLARITY!



West Pier Parapet Framing

SCALE:

3D CLARITY!



Questions?

- Q & A
- Course Evaluations