

# TEKLA BASECAMP

What's new in Drawings &  
Interoperability

Amy Northcutt, P.E.  
Senior Technical Consultant



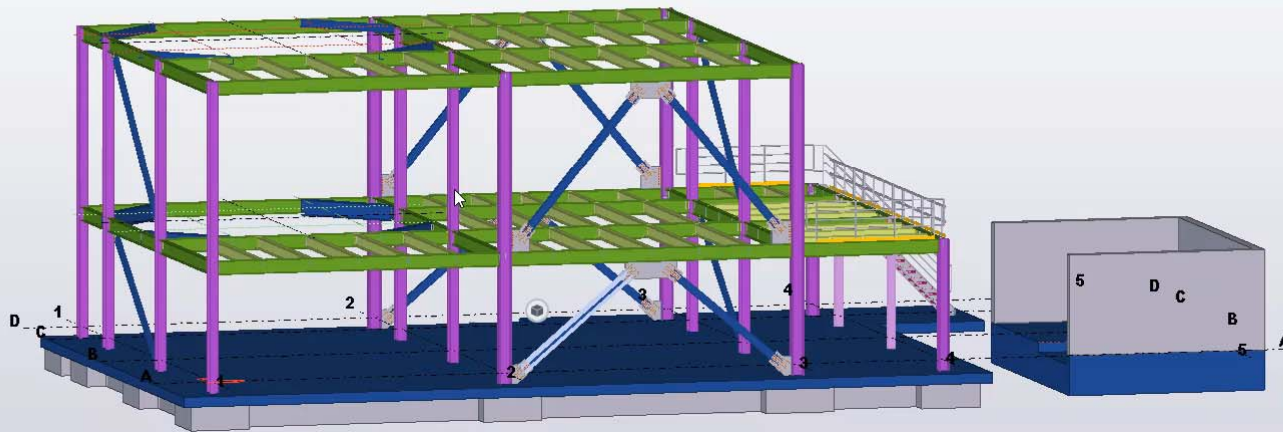
AUG. 27 - 29

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# 2018-2019 Drawing Updates





# Document Manager

Tekla Structures - C:\TeklaStructuresModels\000Engineering\2019\BASECAMP-DRAWINGS - [G [5]]

AMY Northcutt

DRAWING ANNOTATIONS DIMENSIONING VIEWS

Document manager Previous Next Copy Move Remove Properties DWG/DXF Image Link Hide/show Line Clone selected Part mark Weld mark Level mark Section mark Detail mark Revision mark Update Arrange marks Align marks Symbol Note Text Rich text Arrange objects Window

PROJ.ARCHITECT  
PROJ.ENGINEER

NO.	DESCRIPTION	DATE	BY	CHECKED

TEKLA STRUCTURES EXAMPLE  
12345 TEKLA WAY  
PROJECT 0.1  
PROJECT 0.2

Prepared by: TMI / Trimble

FRAMING PLAN AT ELEVATION +30  
S202

Crossing Selection is inactive

4 12/8/2021 Amy Northcutt, P.E. 0 of 5 0 Pan Current phase: 1, Phase 1 0 + 0 objects selected

# Drawing Content Manager

Document manager

Search...

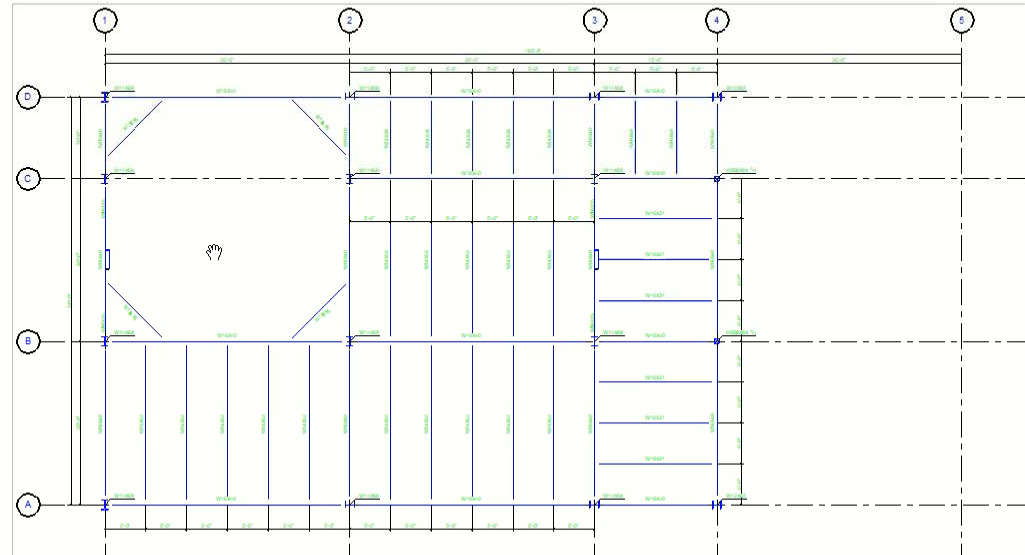
	Created	Modified	Name	Title 1	Mark	Revision	Changes	Type	Size	Ready for issuing by	Issued	Document type	Extension	Locke
All documents														
All files	08/20/2019	08/20/2019	S202	FRAMING PLAN AT ELEVATION +30	[5]	2		G	41"x29"			GaDrawingDocument		
All drawings	08/20/2019	08/20/2019	S201	FRAMING PLAN AT ELEVATION +12	[2]	2		G	41"x29"			GaDrawingDocument		
Single-part drawings	08/20/2019	08/20/2019	S301	ELEVATION ALONG GRID D	[3]	1		G	41"x29"			GaDrawingDocument		
Assembly drawings	08/20/2019	08/20/2019	S300	ELEVATION ALONG GRID A	[4]	1		G	41"x29"			GaDrawingDocument		
Cast unit drawings	08/20/2019		BRACE		[B9]			A	16"x10"			AssemblyDrawingDocument		
Multidrawings	08/20/2019		BRACE		[B6]			A	16"x10"			AssemblyDrawingDocument		
GA drawings	08/20/2019		BRACE		[B15]			A	16"x10"			AssemblyDrawingDocument		
	08/20/2019		BRACE		[B16]			A	16"x10"			AssemblyDrawingDocument		
Up-to-date drawings	08/20/2019		BRACE		[B4]			A	16"x10"			AssemblyDrawingDocument		
Out of date drawings	08/20/2019		BRACE		[B2]			A	16"x10"			AssemblyDrawingDocument		
Obsolete drawings	08/20/2019		BRACE		[B12]			A	16"x10"			AssemblyDrawingDocument		
Issued drawings	08/20/2019		BRACE		[B13]			A	16"x10"			AssemblyDrawingDocument		
Issued but changed drawings	08/20/2019		BRACE		[A1]			A	16"x10"			AssemblyDrawingDocument		
Locked drawings	08/20/2019		BRACE		[A2]			A	16"x10"			AssemblyDrawingDocument		
Frozen drawings	08/20/2019		BRACE		[A4]			A	16"x10"			AssemblyDrawingDocument		
Ready for issuing drawings	08/20/2019		BRACE		[A3]			A	16"x10"			AssemblyDrawingDocument		
	08/20/2019		BRACE		[B10]			A	16"x10"			AssemblyDrawingDocument		
Rev2	08/20/2019		BRACE		[B11]			A	16"x10"			AssemblyDrawingDocument		
	08/20/2019		BRACE		[B3]			A	16"x10"			AssemblyDrawingDocument		
Elevations	08/20/2019		COLUMN		[C6]			A	16"x10"			AssemblyDrawingDocument		
Plans														

Clone Create GA drawing Drawing versions 39 documents found, 0 selected. 1 categories selected

# Version Control

Tekla Structures - C:\TeklaStructuresModels\000Engineering\2019\BASECAMP-DRAWINGS - [G [2]]

- DRAWING
- ANNOTATIONS
  - Previous
  - Next
  - Print
  - Close
- DIMENSIONING
  - DWG/DXF
  - Image
  - Link
  - Hide/show
- VIEWS
  - Line
  - Clone selected
- Part mark
- Weld mark
- Level mark
- Section mark
- Detail mark
- Revision mark
- Update
- Align marks
- Symbol
- Note
- Text
- Rich text
- Arrange objects
- Window



PROJECT INFORMATION

NO.	REVISION	DATE

NO.	REVISION	DATE

**TEKLA STRUCTURES EXAMPLE**  
123456789  
PROJ-ARCHITECT  
PROJ-ENGINEER

Powered by Tekla  
Trimbler  
S200  
FRAMING PLAN AT ELEV +12

# Dimension Point Associativity

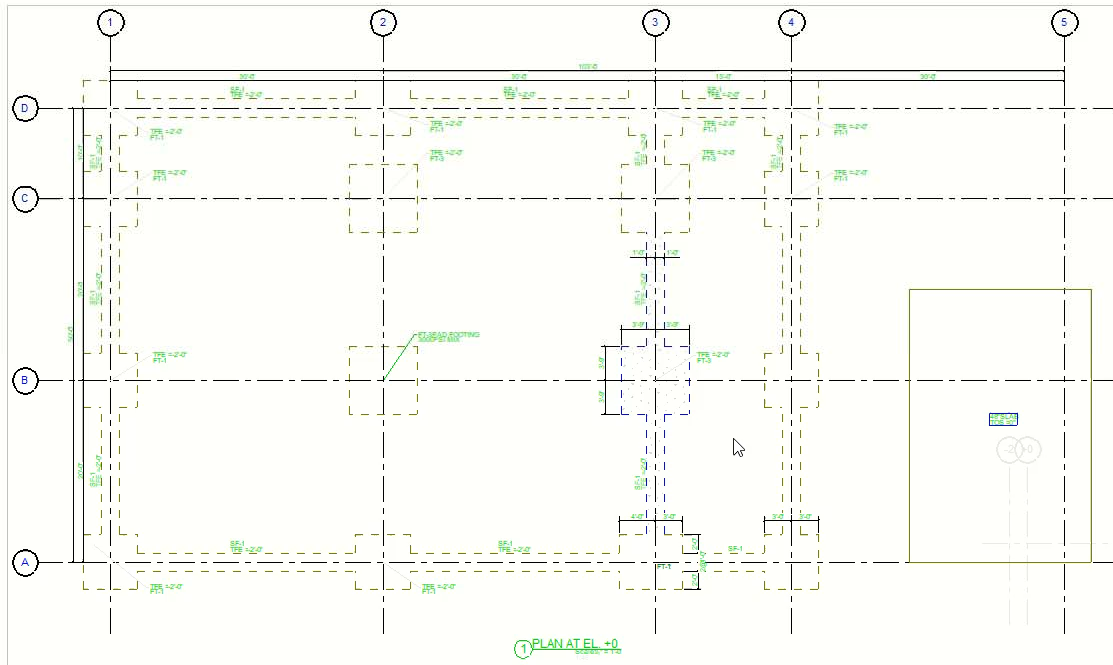
Tekla Structures - C:\TeklaStructuresModels\000Engineering\2019\BASECAMP-DRAWINGS - [G (6)]

AMY NORTH CUTT

Quick Launch

DRAWING ANNOTATIONS DIMENSIONING VIEWS

Document manager Previous Next Copy Move Print Remove Properties DWG/DXF Image Link Hide/show Line Clone selected Part mark Weld mark Section mark Revision mark Update Afrange marks Align marks Symbol Note Text Rich text Arrange objects Window



Clone Selected

FOUNDATION NOTES:  
T.O.P. = 2'-0" UNO

MARK	DEPTH	LENGTH	SPACING	TOP REIN.	NOTE
FT.1	8'-0"	8'-0"	3'-0"	TOP REIN.	
FT.2	8'-0"	7'-0"	3'-0"	TOP REIN.	
FT.3	7'-0"	7'-0"	3'-0"	TOP REIN.	

MARK	DEPTH	SPACING	TOP REIN.	NOTE
SC.1	2'-0"	2'-0"	TOP REIN.	

PROJ-ENGINEER

NO.	REVISION	DATE

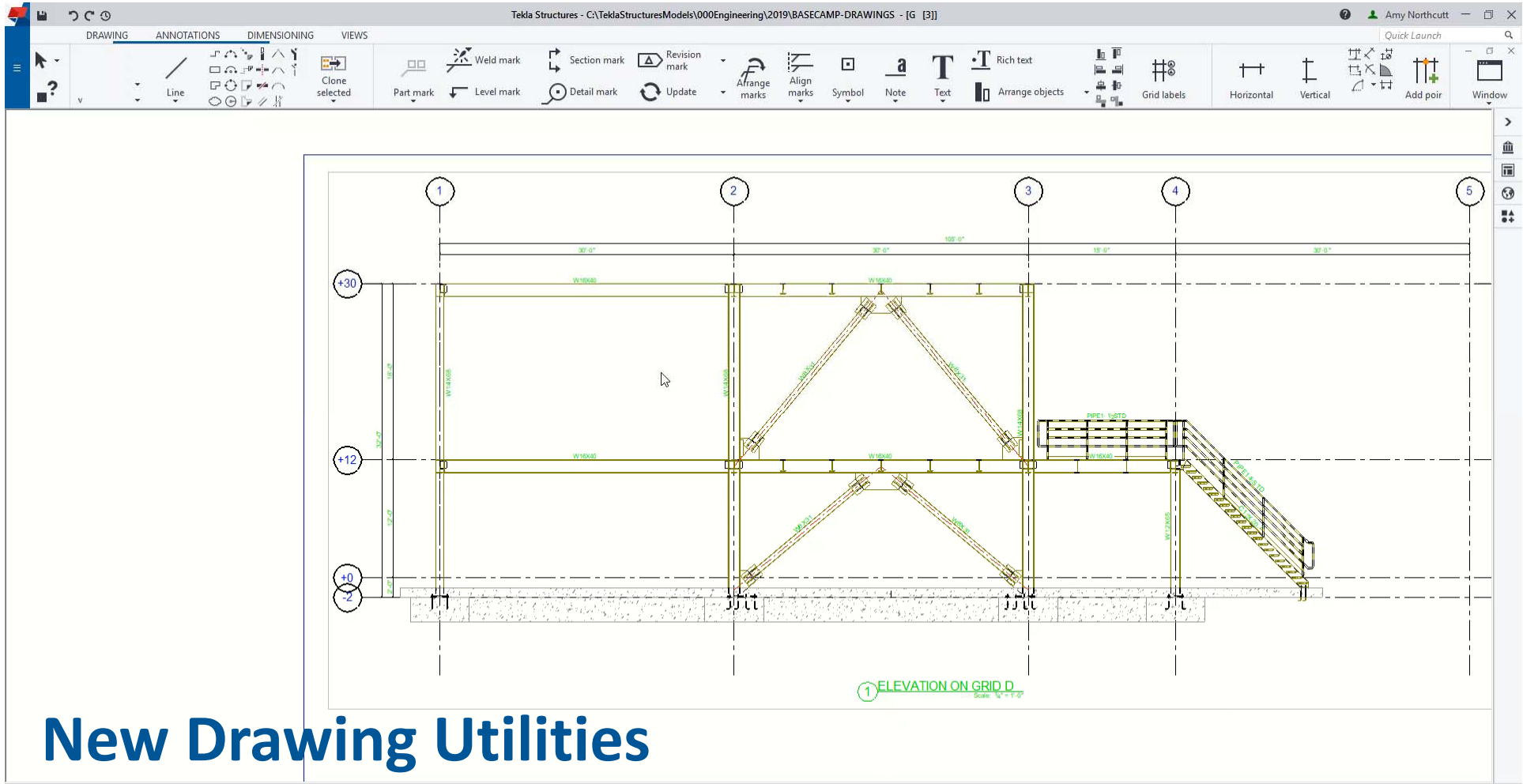
**TEKLA STRUCTURES EXAMPLE**  
1234 TEKLA WAY  
PROJ-INFO\_1  
PROJ-INFO\_2

Powered by Tekla **Trimble**

FOUNDATION PLAN

Navigation icons: pan, zoom, rotate, etc.





# New Drawing Utilities



Crossing Selection is inactive

8

12/8/2021

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d S 0 Pan Current phase: 1, Phase 1 0 = 0 objects selected



Tekla Structures - C:\TeklaStructuresModels\000Engineering\2019\BASECAMP-MODELING - [View 2 - 3d]

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STEEL CONCRETE EDIT VIEW DRAWINGS & REPORTS MANAGE ANALYSIS & DESIGN TRIMBLE CONNECT BRIDGES

Quick Launch

A & D models Load groups Load Node Merge nodes Rigid link Part analysis properties Load properties Reset editing of selected parts Get analysis properties Node numbers Member numbers

Web Desktop Connector Bridge Creator Beam Extruder Main Bars Cross Bars Stirrups Window

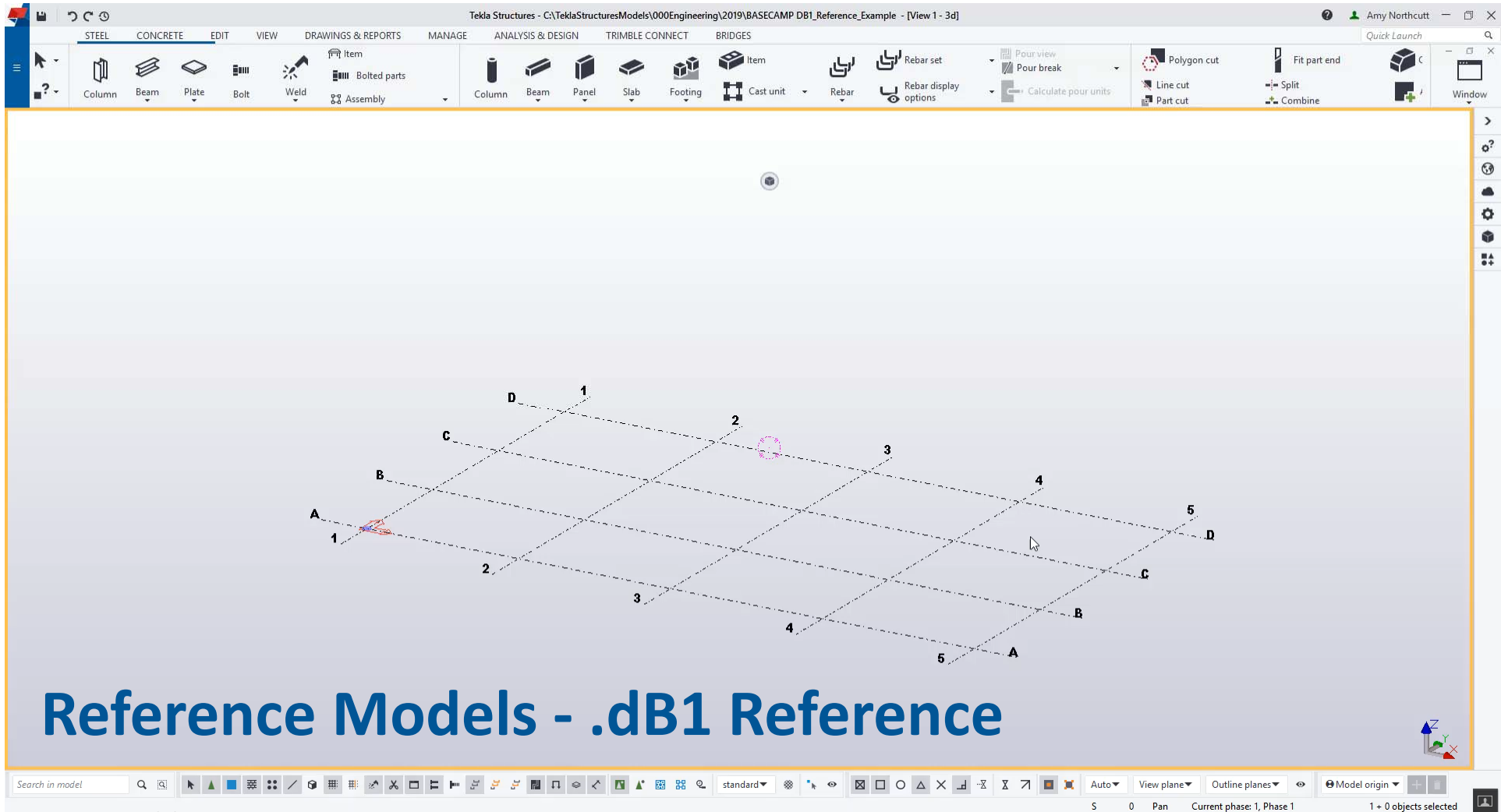
**Analysis Model Improvements**

Search in model

standard

Auto View plane Outline planes Model origin

0 5 0 Pan Current phase: 1, Phase 1 1 + 0 objects selected



# Reference Models - .dB1 Reference

# START

# HERE

2019



# Program Specific Interoperability Updates

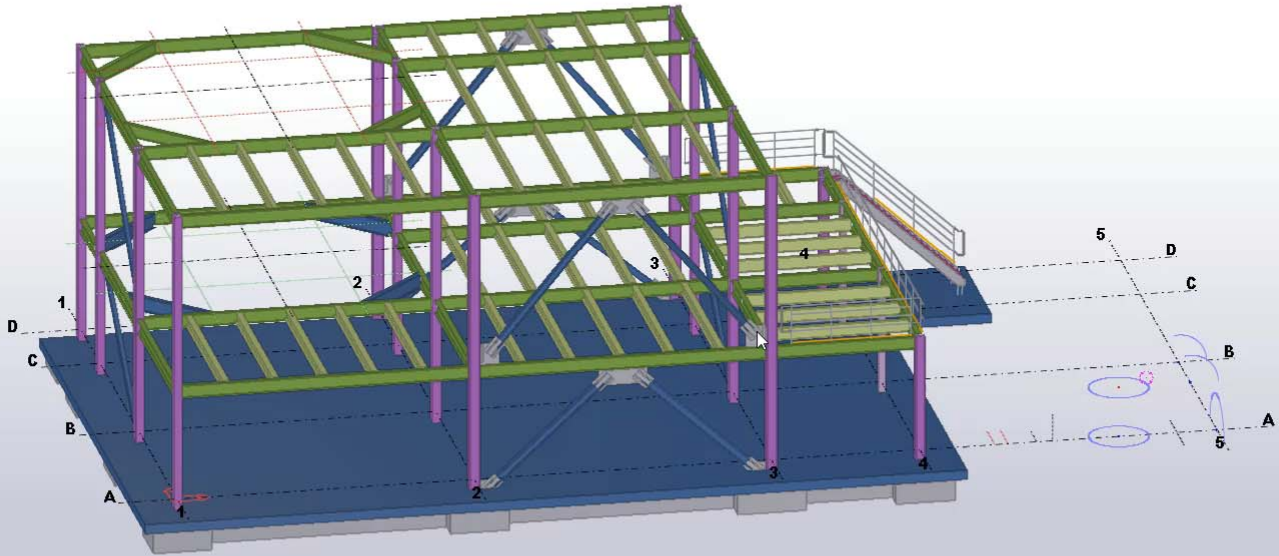
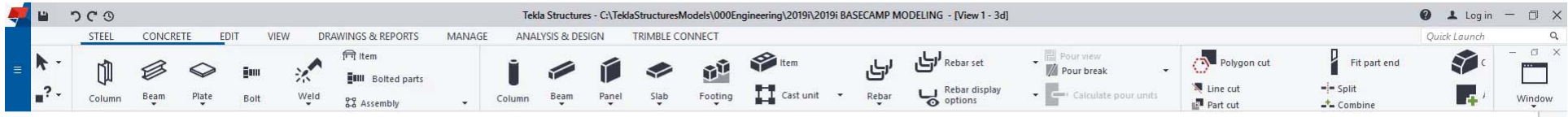


# 2019i Interoperability



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# 3D DWG & DGNv8 Export



# S3D Interoperability Updates

- Support for Structural Systems
- Use Basepoint on Export and Import
- Member Part Name
- Slab and Plate Export Improved
- Batch Export Using Filters
- UDA (User Defined Attribute) Enhancements



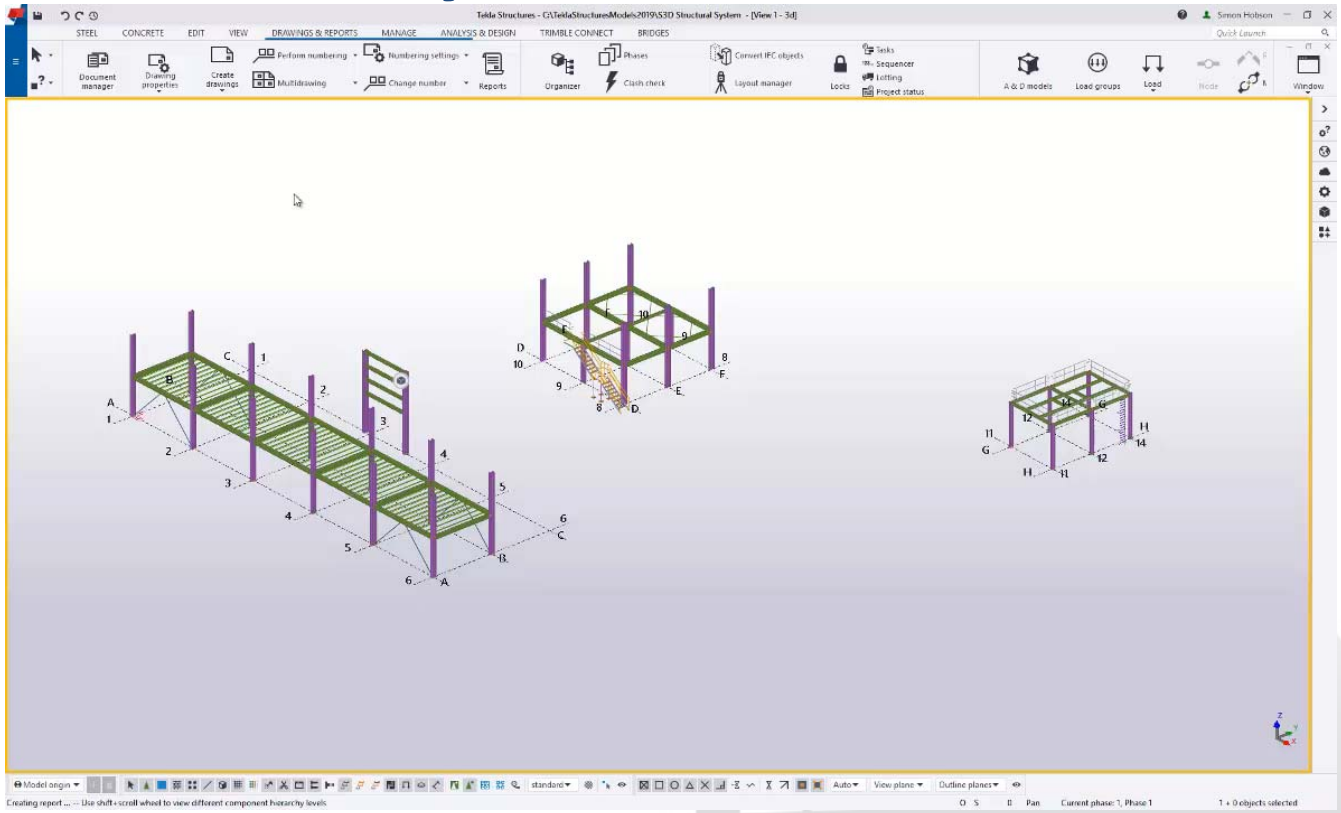
# Structural systems

- Model Begins in S3D
  - System data is stored
  - Copy a member and system data is also copied
    - Ensures the item falls back under that system
- Model Begins in Tekla Structures
  - Use UDA as definition for system to apply to members when Imported in S3D
  - Customizable - Could be Phase, Building, area etc.

# Structural Systems



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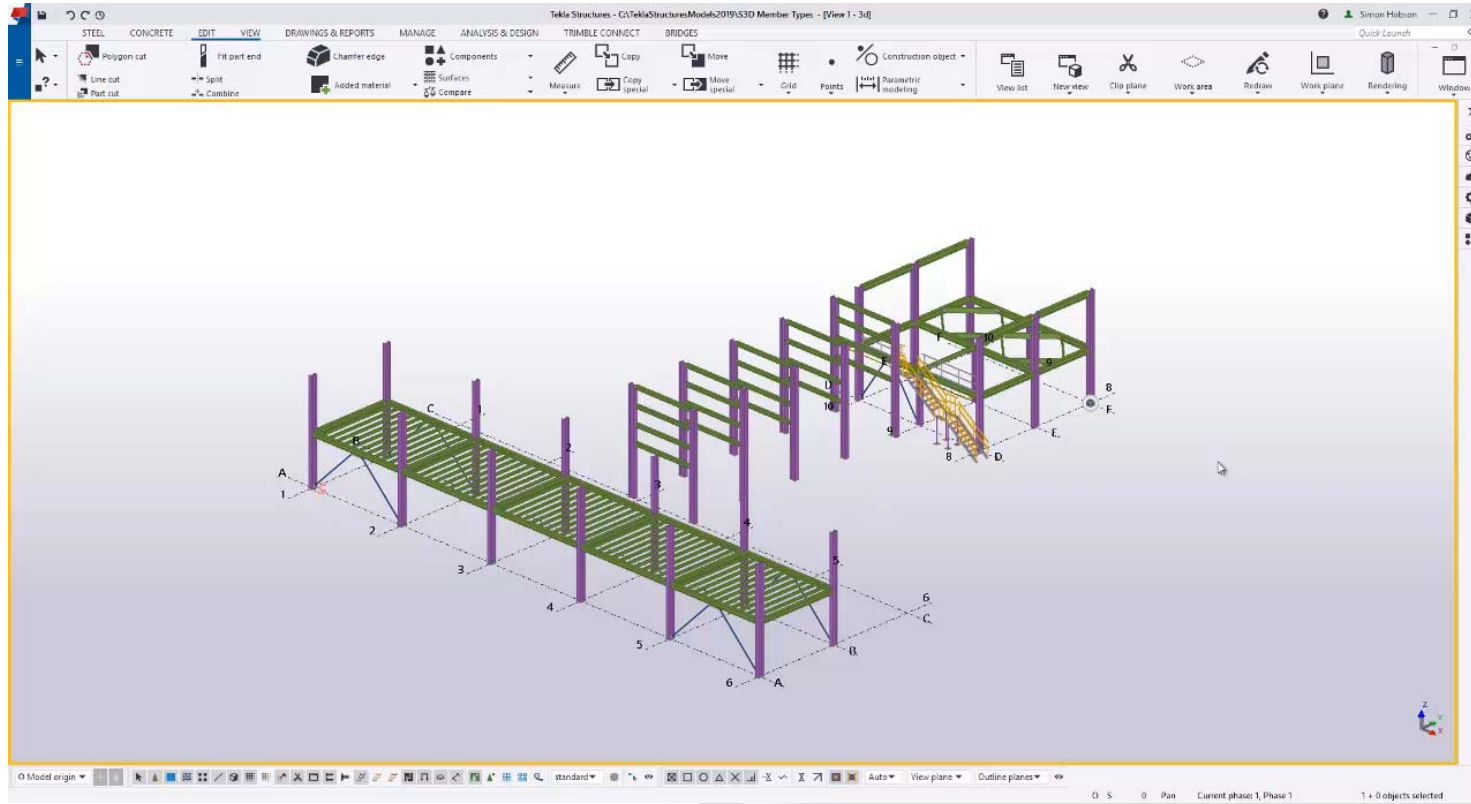
# Basepoint

- Translate Real World Coordinate System to Tekla Structures local coordinate system
- Now able to use saved Basepoint in:
  - Import &
  - Export
- Basepoint can also be used during modelling (point inquire, etc) drawing production (COG on objects) etc.

# Basepoint



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# Member Types

- Column, Beam and Brace have always been the only member types exported
- S3D has 'out of the box' elements which can be exported to, such as handrail elements, stair elements etc.
- Applying a UDA to the specific members in TS will be exported to the correct S3D Member Type

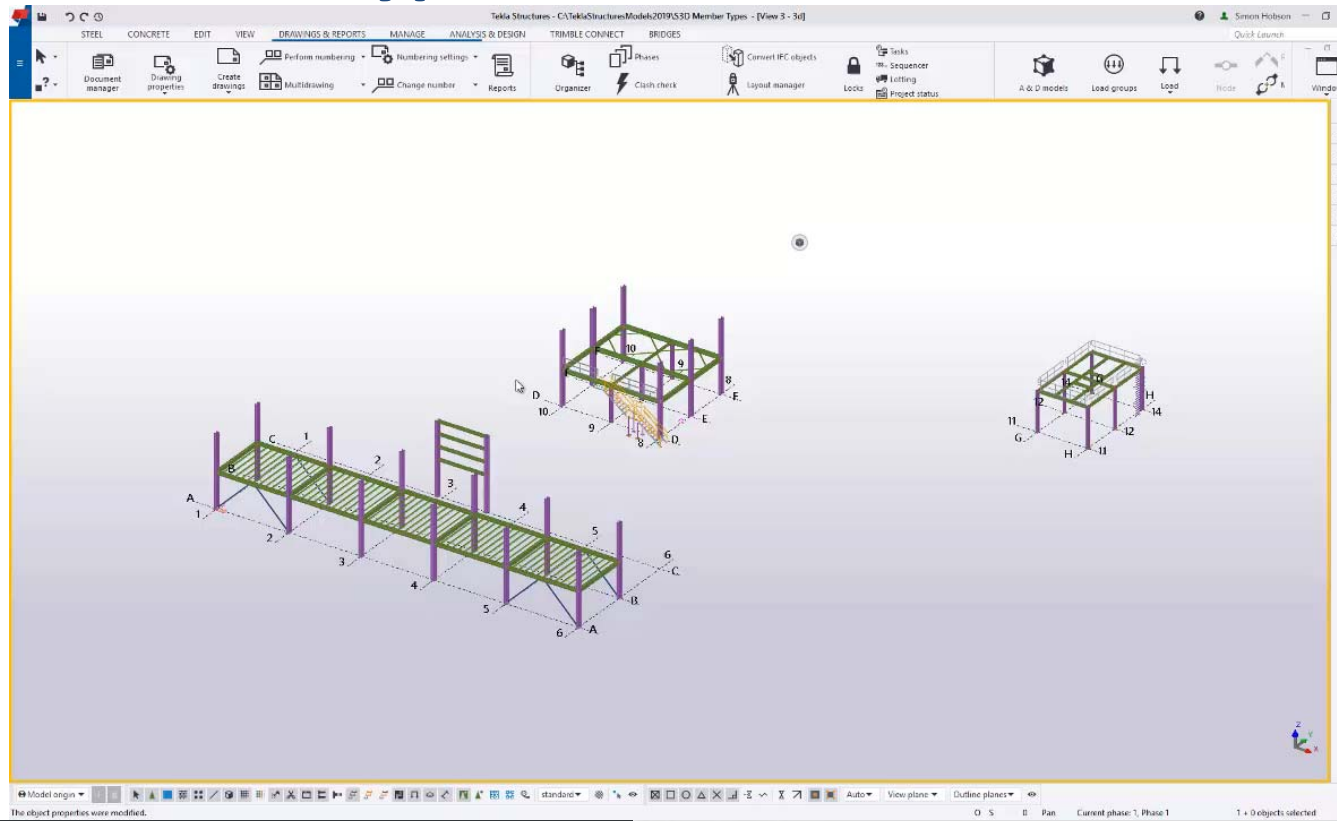
# Member Types

- TS Part name needs to be **Brace, Column, Beam**
- UDA is set to:

Brace :	Column:	Beam :
NULL_ENUM	NULL_ENUM	NULL_ENUM
CROSS BRACE	BATTENED COLUMN	JOIST BEAM
DIAGONAL BRACE	BOX COLUMN	GIRDER BEAM
HORIZONTAL BRACE	COMPOUND STRUT COLUMN	EDGE BEAM
KNEE BRACE	PORTAL COLUMN	EAVES BEAM
LATERAL BRACE		LINTEL BEAM
LONGITUDINAL BRACE		RAFTER BEAM
"PLAN BRACE		PURLIN BEAM
RAKER BRACE		RING BEAM
SWAY BRACE		SIDE BEAM
VERTICAL BRACE		WALING BEAM

- Other items in S3D:
- Truss: - Top Chord, Middle Chord, Bottom Chord
- Hand Railing: - Post, Top Rail, Mid Rail, Toe Plate
- Stairs:- Stair Stringer, Tread, Support, Landing
- **All need to be set in the attribute the user will choose for the part name.**

# Member Types



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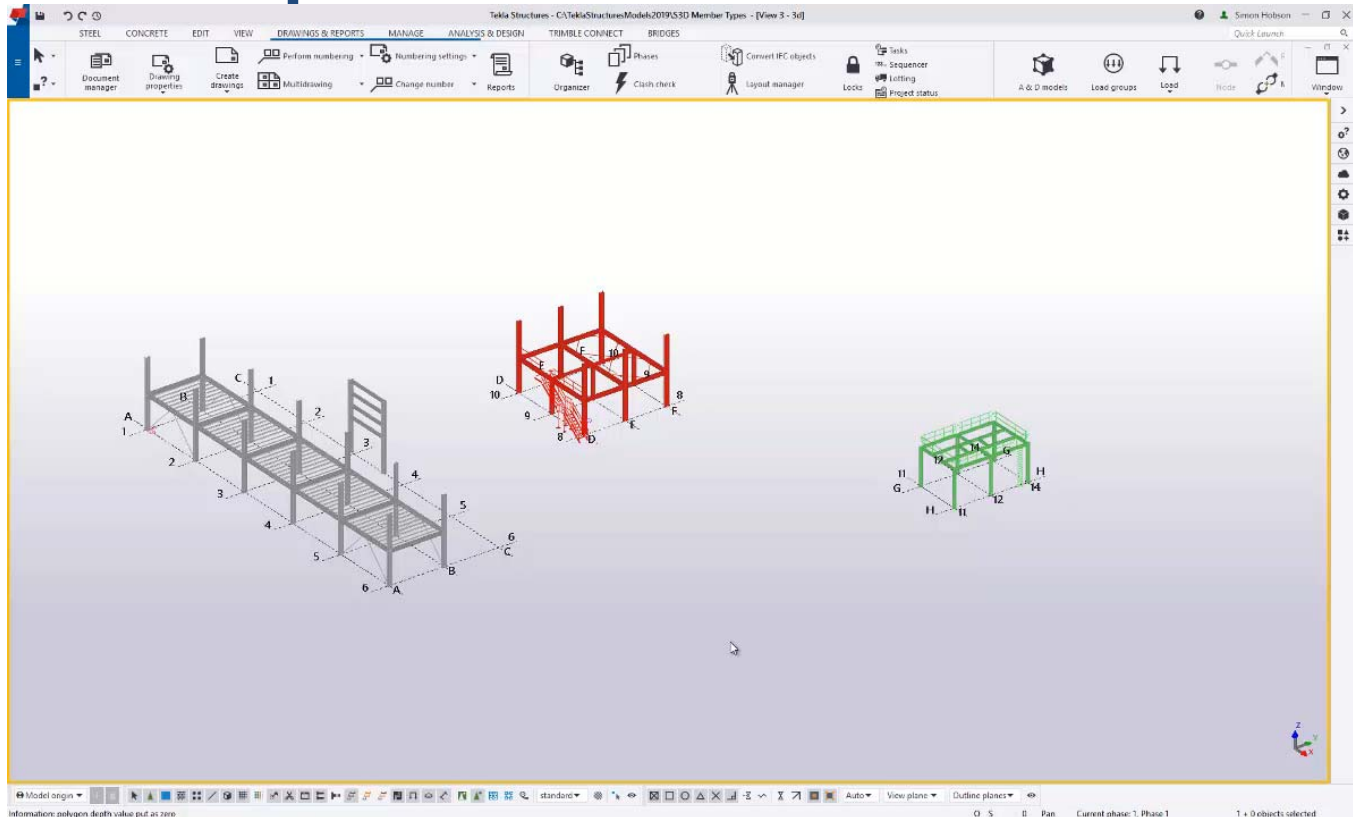
# Batch Export

- The UI on export now has an option for Batch export
  - Create a filter of the elements needed to be in a specific export
  - Choose the batch function
  - Specify which filters will be used to create export **FILES**
  - Files created with the filter and export name

# Batch Export



2019

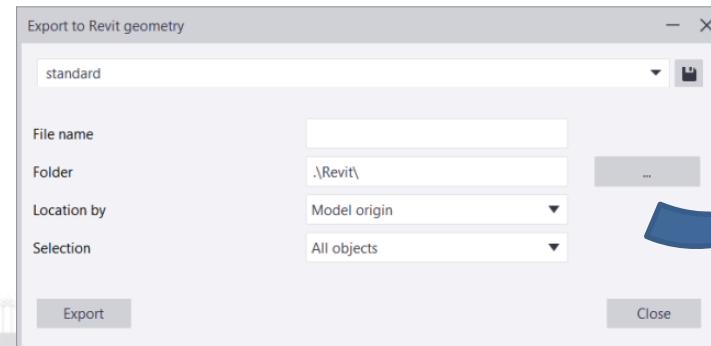
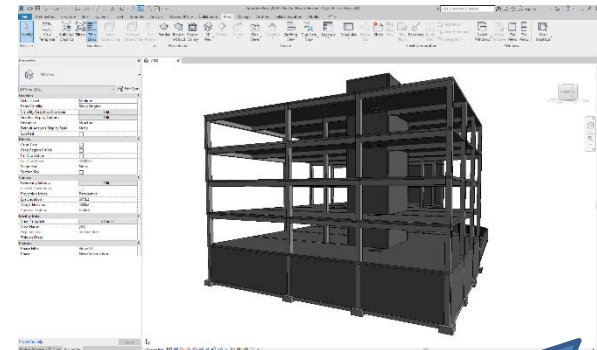
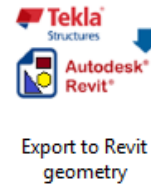


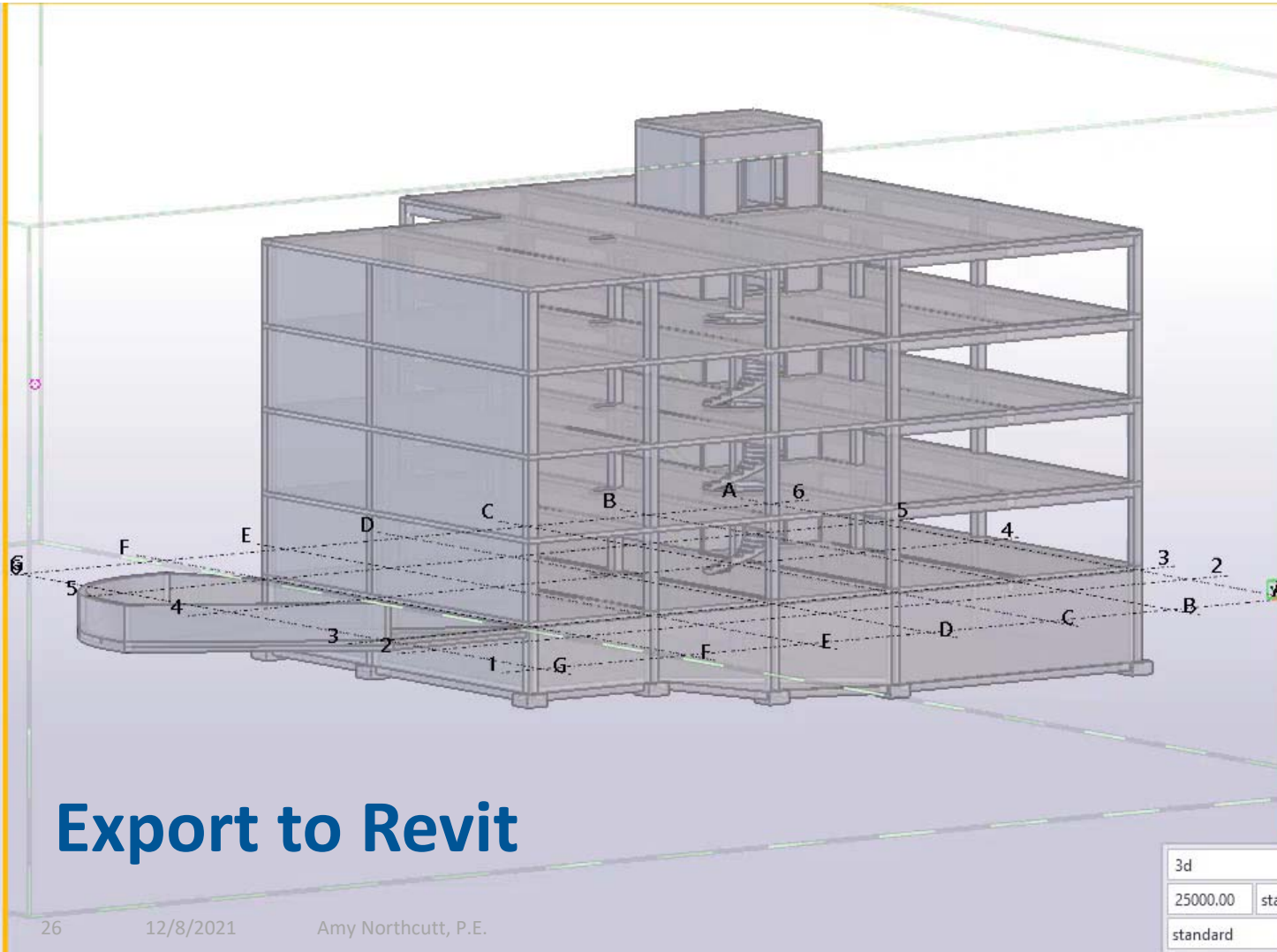
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# Export to Revit Geometry Extension



- Export direct to Revit (.rvt) format
  - Model geometry
  - Similar to 3D DGN/DWG
  - Project coordination
  - Surface geometry + general object property data
  - Model Categories
  - No sheets, family optimization, levels
- Fast Export





Applications & components

Show selected

Search...

- Recent
- Ungrouped items
- Construction
- Engineering
- Revit interoperability extensions

**Tekla Structures**  
**Autodesk Revit**

Export to Revit geometry

- Generic tools
- Concrete
- Steel
- Steel-Specialized
- Steel-Ungrouped
- Applications
- Connections
- Detailing
- Details
- Parts

3d 5000.00

25000.00 standard

standard 12.75 124.75

# Export to Revit

## Risa Tekla Direct Link

- v9.0.0
- Compatible with:
  - TS 2018-9
  - Risa 3D 17.0.2
  - Risa Connection 10.0.1
- Round Trip Capability
- Hot Rolled Sections
- Begin in TS or Risa
- Envelope Loads Transfer



RISA-3D

# TEKLA BASECAMP

## Questions?



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