Collaborative Workflows Between AutoCAD Plant 3D, Revit and AVEVA PDMS

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V.P. CAD/BIM Norconsult Informasjonssystemer

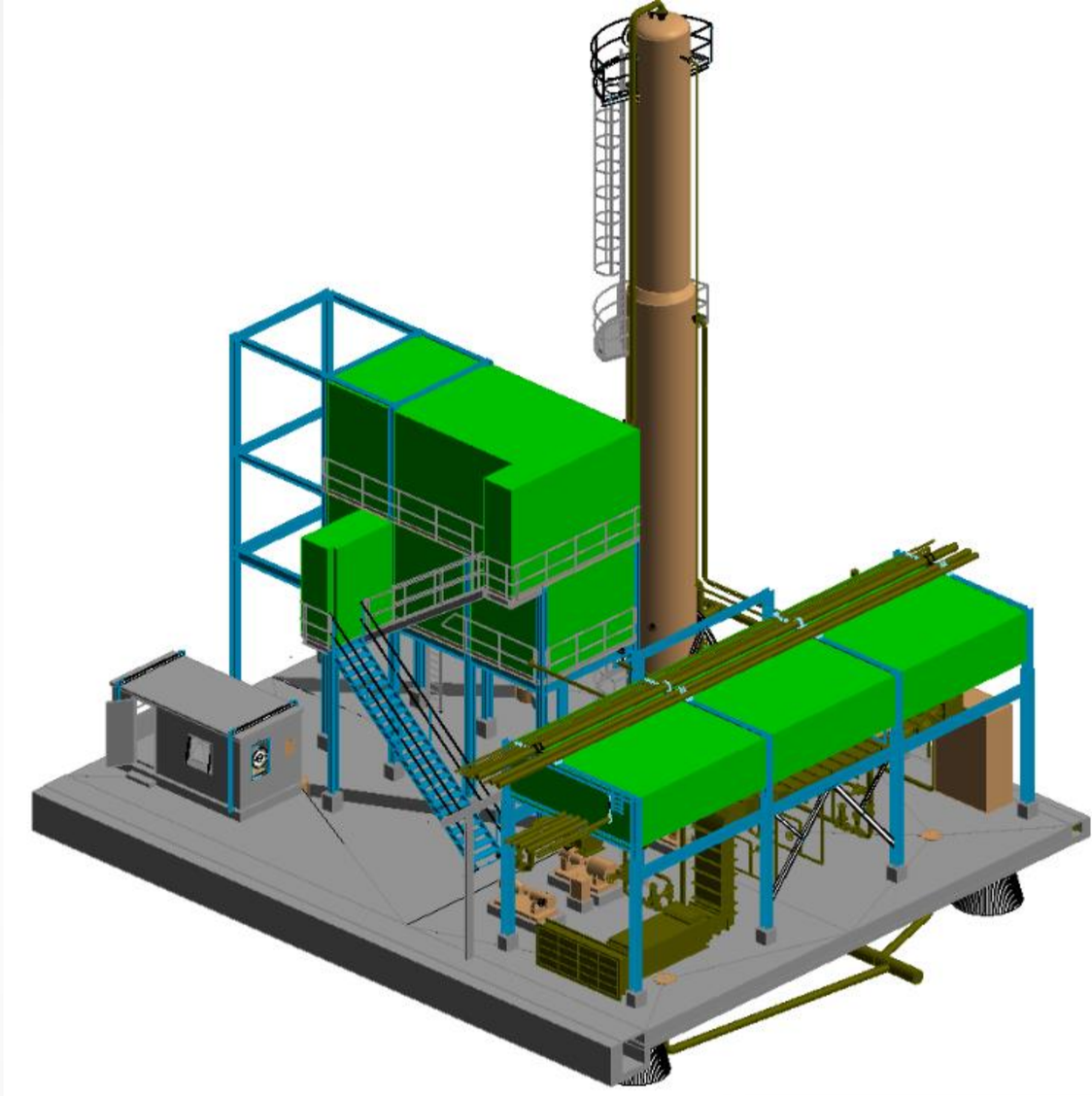
Key learning objectives

At the end of this class, you will know how to:

- Share multidisciplinary data between Autodesk Plant software and PDMS
- Import existing PDMS models in AutoCAD and Revit
- Convert PDMS specification database into AutoCAD Plant 3D
- Convert Plant 3D and Revit models into intelligent PDMS models

Agenda

- Background
- Plant 3D and PDMS
- Revit and PDMS
- Project samples



Background

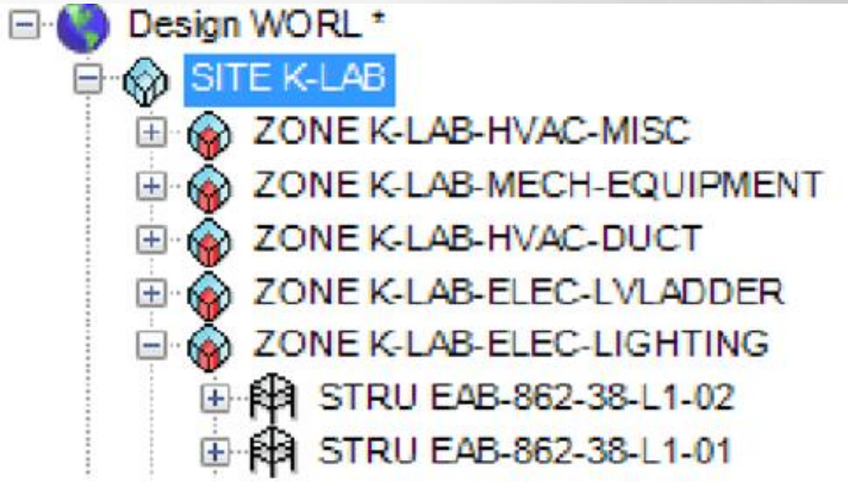
Why AVEVA PDMS?

- PDMS dominates the Norwegian oil/gas market (and other markets)
- Operators and contractors standardized
- Plant 3D start in 2012
- Customer requests for Revit and Inventor support
  - Inventor: Skids / equipment
  - Revit: Onshore plants and offshore living quarters
- Owner/Operators are positive

- Now **ISY Plant** family

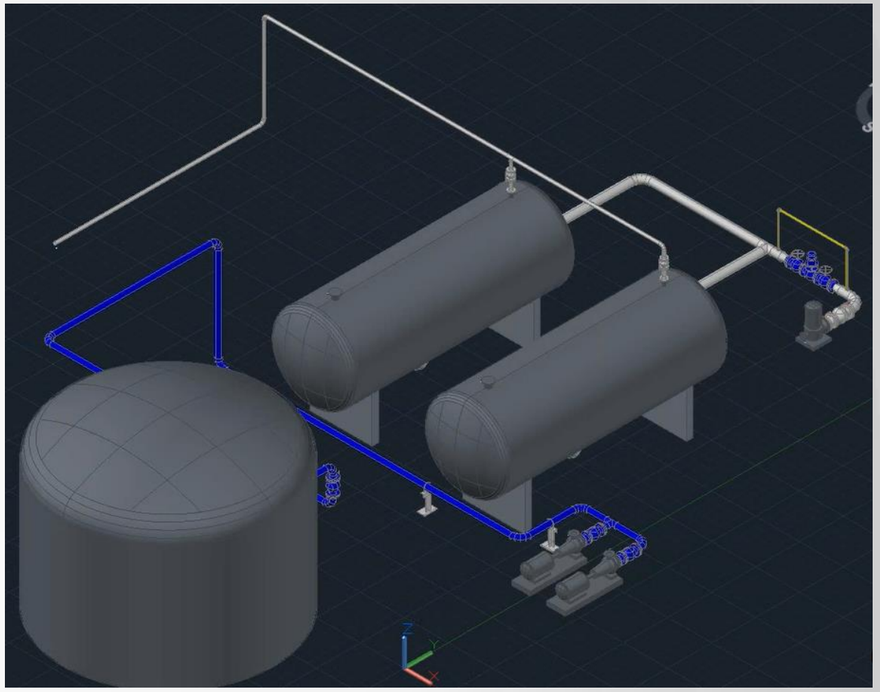
AVEVA PDMS basics

- Multi-disciplinary, originally Piping, Equipment and Structural
- Proprietary database, no graphics files
- Cat. / spec. database (parametric components)
- Equipment as primitives (box, cyli, extrusion etc)
- Project is incomplete without cat. / spec.
- Fixed Design hierarchy (Site, Zone etc)
- Also Everything3D (E3D)
- Review format (RVM)
  - Geometry and hierarchy
  - Pair with attribute export



Plant 3D and PDMS…

Workflow to address:

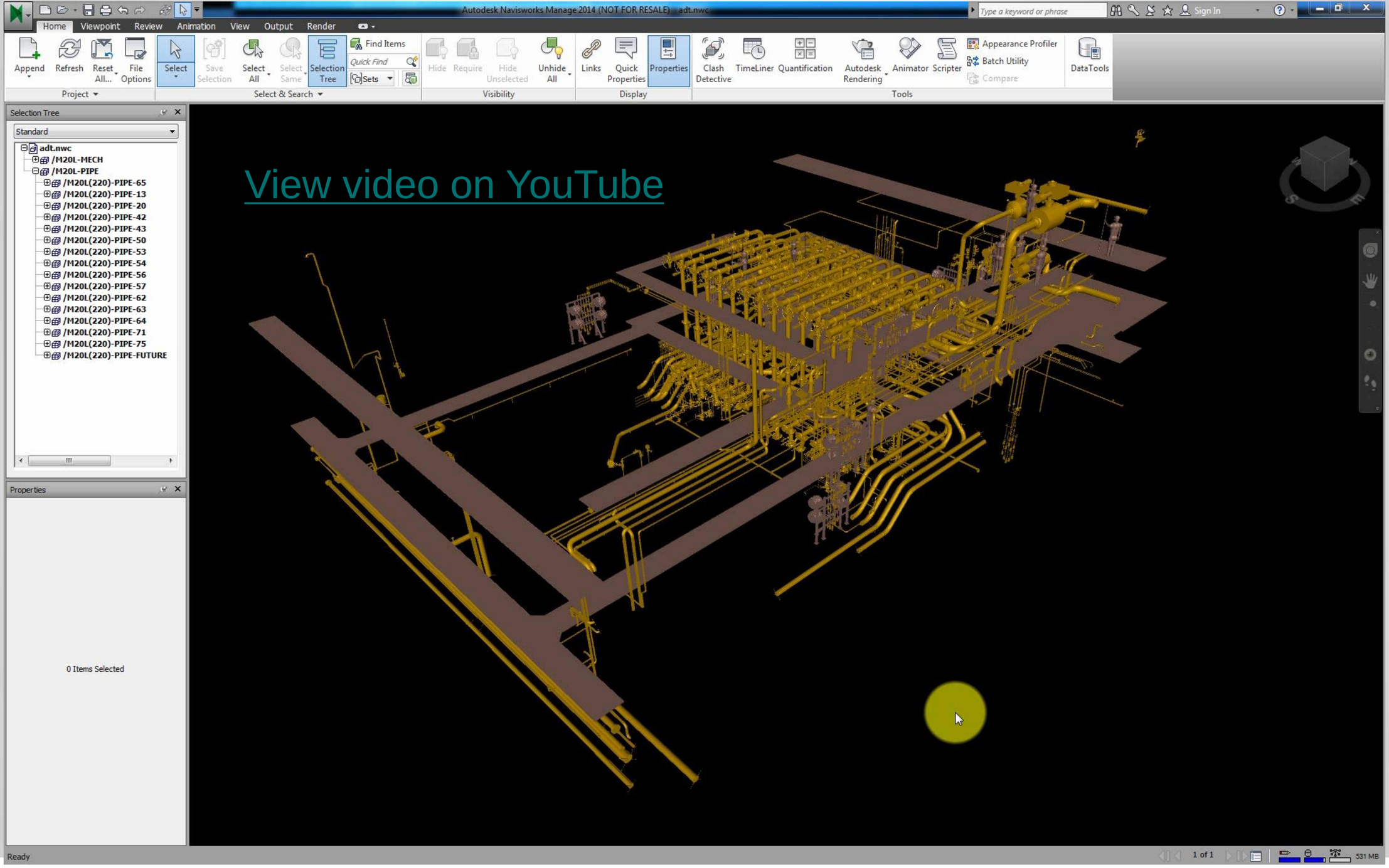


- Existing PDMS plant
- Modification project using Plant 3D
- Convert Plant 3D back into PDMS

In more detail:

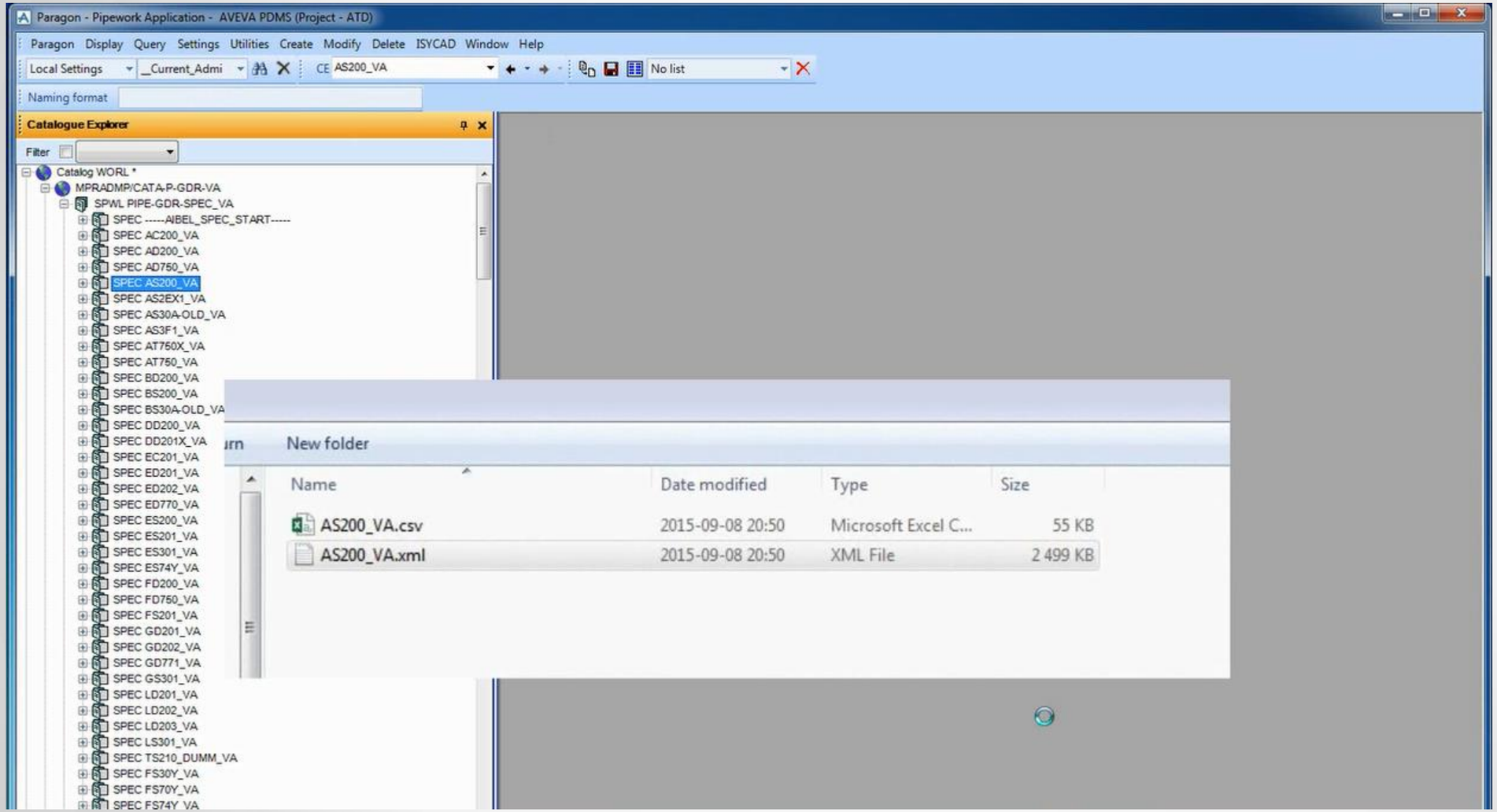
- Export existing PDMS data
- Import into AutoCAD
- Analyze spec to be used
- Convert spec from PDMS to Plant 3D
- Create new piping/equip. in Plant 3D
- Convert modified / new design from Plant 3D to PDMS

Import PDMS model into AutoCAD


Autodesk Navisworks Manage 2014 (NOT FOR RESALE) adt.nwc
Type a keyword or phrase
Sign In
Home
Viewpoint
Review
Animation
View
Output
Render
Append
Refresh
Reset All...
File Options
Project
Select
Save Selection
Select All
Select Same
Selection Tree
Find Items
Quick Find
Sets
Select & Search
Hide
Require
Hide Unselected
Unhide All
Visibility
Links
Quick Properties
Properties
Display
Clash Detective
TimeLiner
Quantification
Autodesk Rendering
Animator
Scripter
Appearance Profiler
Batch Utility
Compare
DataTools
Tools
Selection Tree
Standard
adt.nwc
/M20L-MECH
/M20L-PIPE
/M20L(220)-PIPE-65
/M20L(220)-PIPE-13
/M20L(220)-PIPE-20
/M20L(220)-PIPE-42
/M20L(220)-PIPE-43
/M20L(220)-PIPE-50
/M20L(220)-PIPE-53
/M20L(220)-PIPE-54
/M20L(220)-PIPE-56
/M20L(220)-PIPE-57
/M20L(220)-PIPE-62
/M20L(220)-PIPE-63
/M20L(220)-PIPE-64
/M20L(220)-PIPE-71
/M20L(220)-PIPE-75
/M20L(220)-PIPE-FUTURE
Properties
0 Items Selected
View video on YouTube
Ready
1 of 1
531 MB

Export and convert PDMS spec.

Export the AS200_VA PDMS piping spec.



XML file produced…

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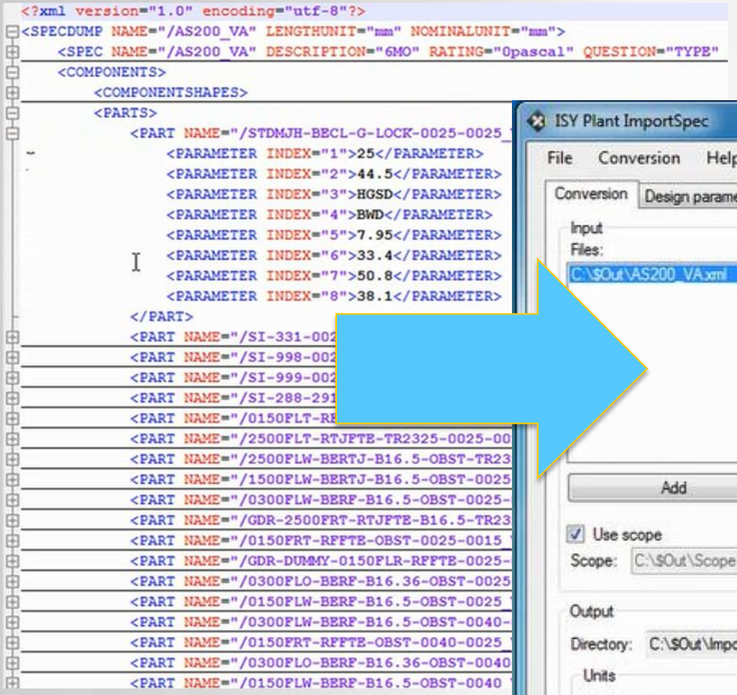
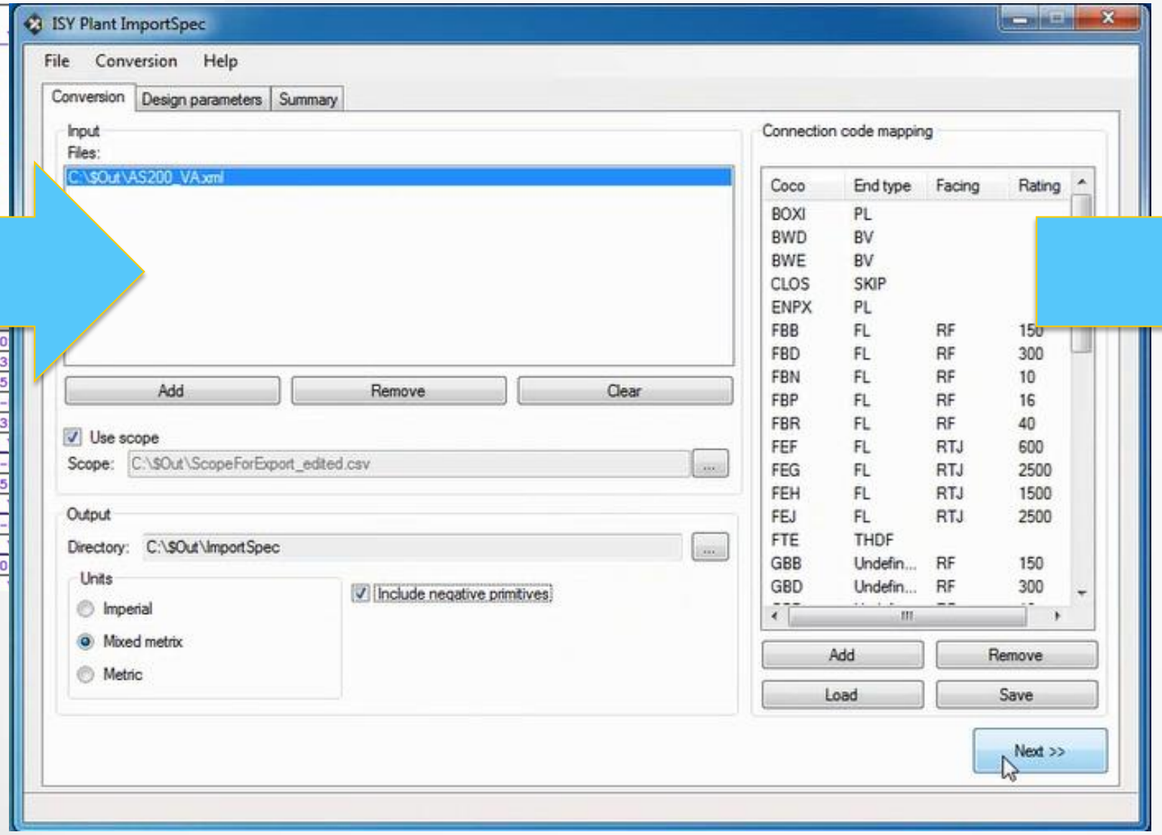
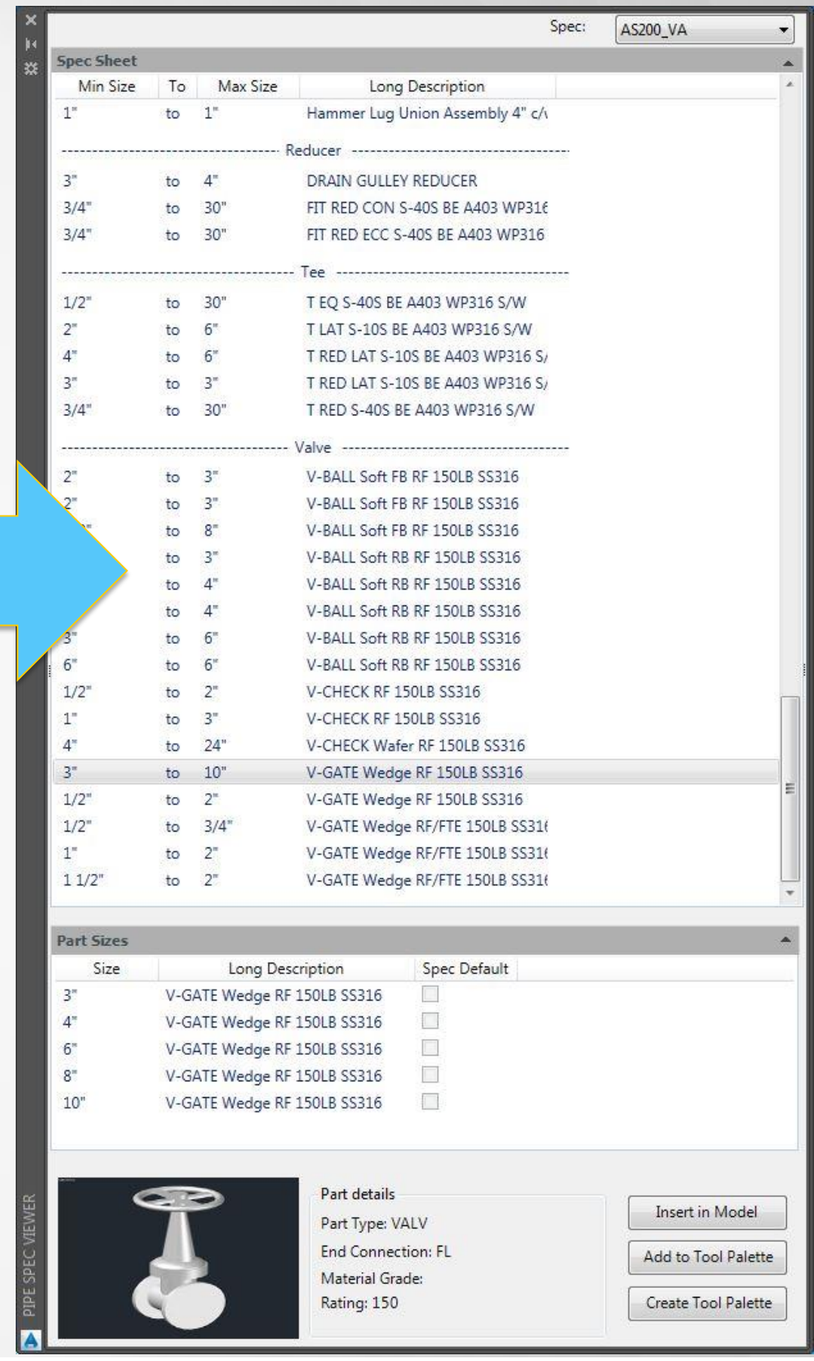
```

Create Plant 3D spec.

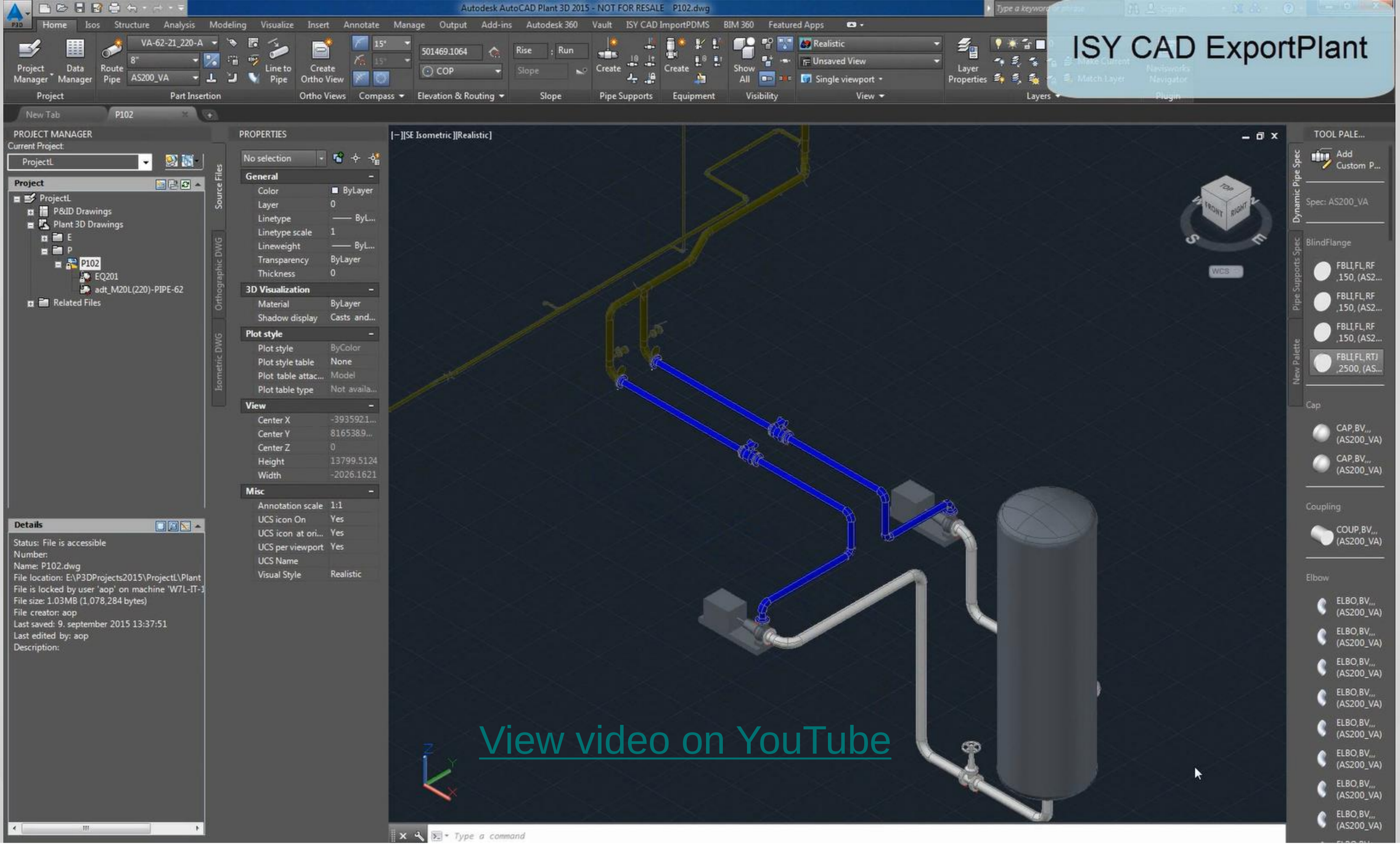






Additional settings / mappings

Create new design in Plant 3D and export..


ISY CAD ExportPlant
Autodesk AutoCAD Plant 3D 2015 - NOT FOR RESALE P102.dwg
PROJECT MANAGER
PROPERTIES
[−][SE Isometric][Realistic]
TOOL PALE...
View video on YouTube

XMpLant file based on ISO 15926 contains:

- Piping
  - Piping logic
  - Spec. references
  - Connect points
  - Properties
- Equipment
  - Geometry (primitives)
  - Nozzles (linked to pipe)
  - Properties

```
<?xml version="1.0" encoding="UTF-8"?>
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  + <PipingNetworkSystem TagName="VA-62-212_220-A.MOD" ID="ID_3243">
  + <PipingNetworkSystem TagName="VA-62-511_220-A-MOD" ID="ID_3952">
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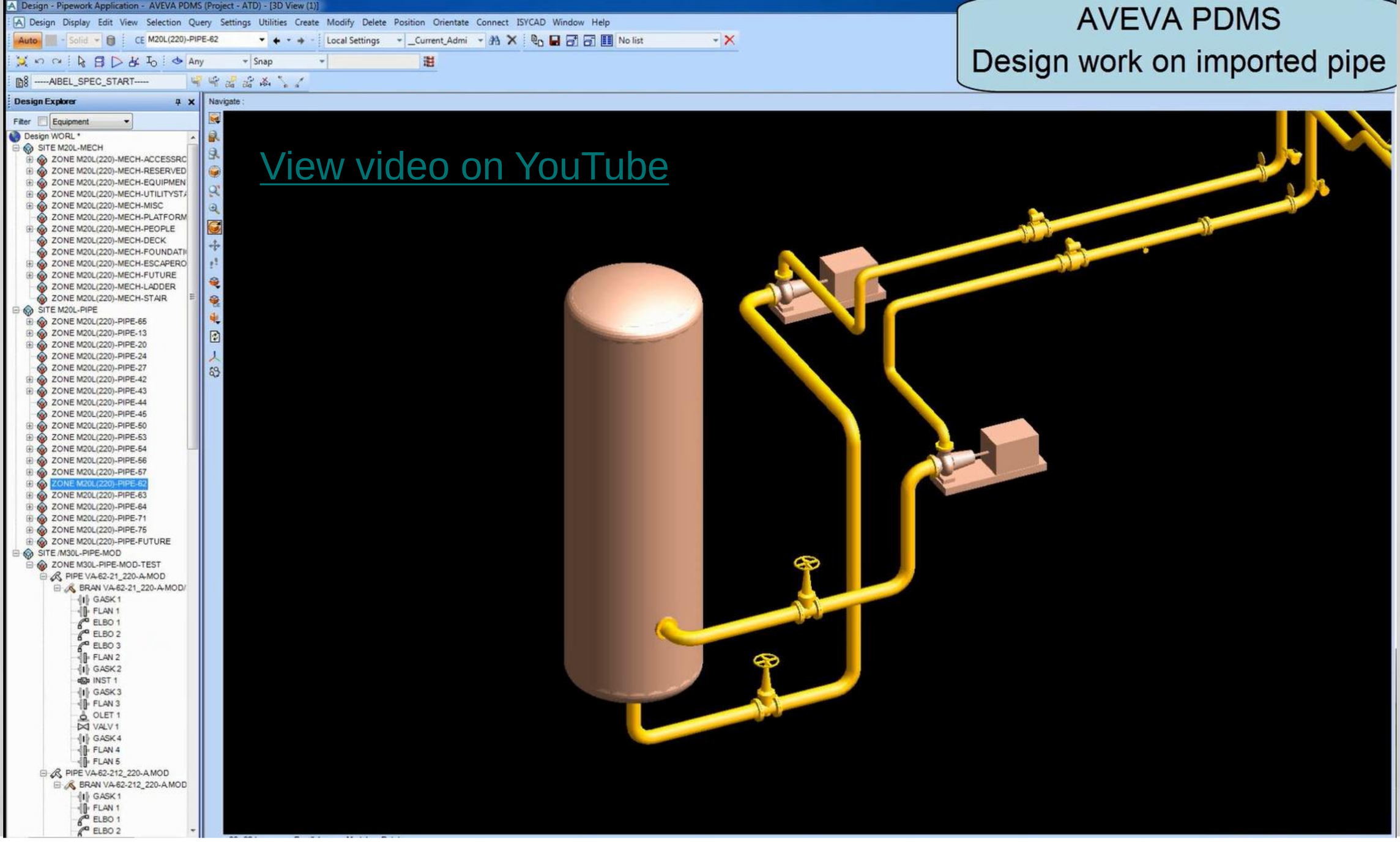
Import and edit model in PDMS…

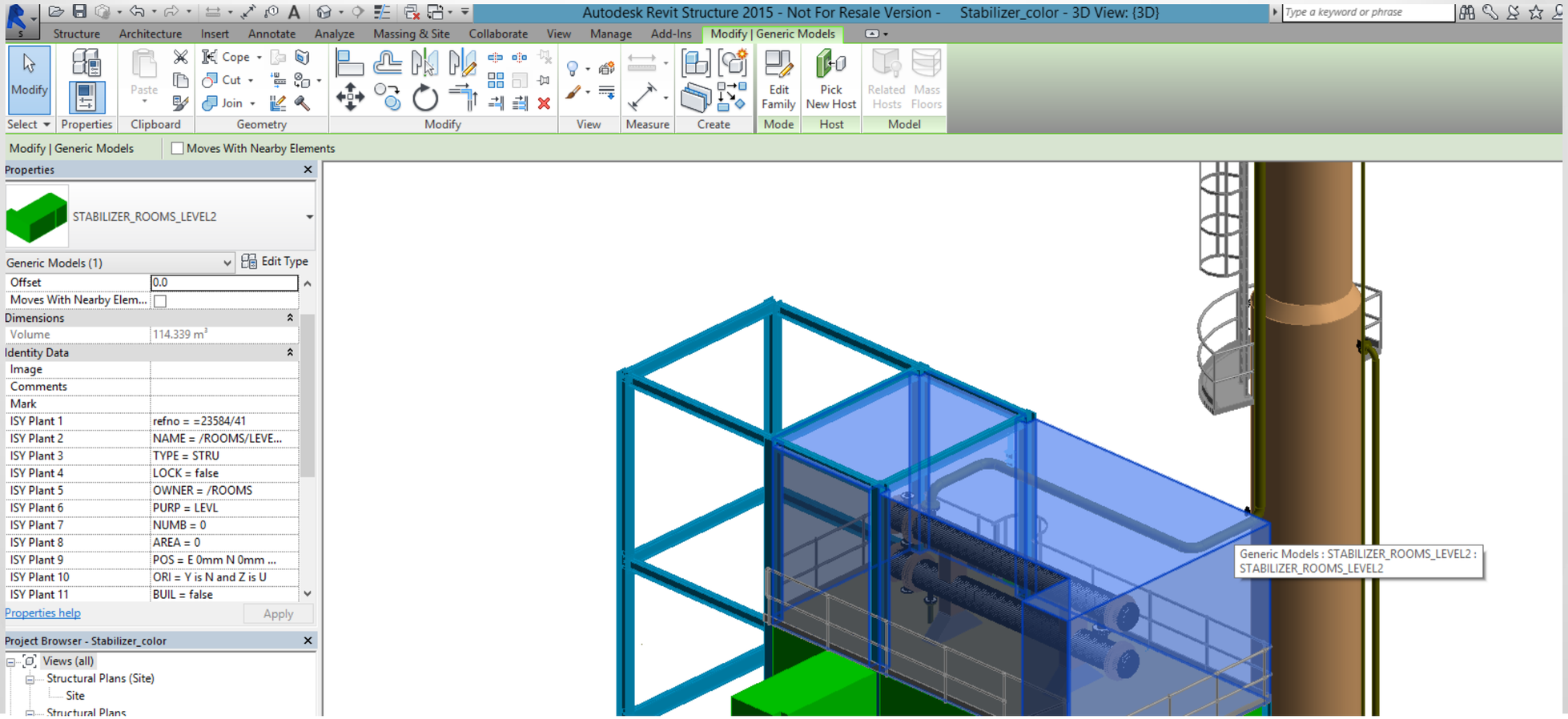
AVEVA PDMS
Design work on imported pipe

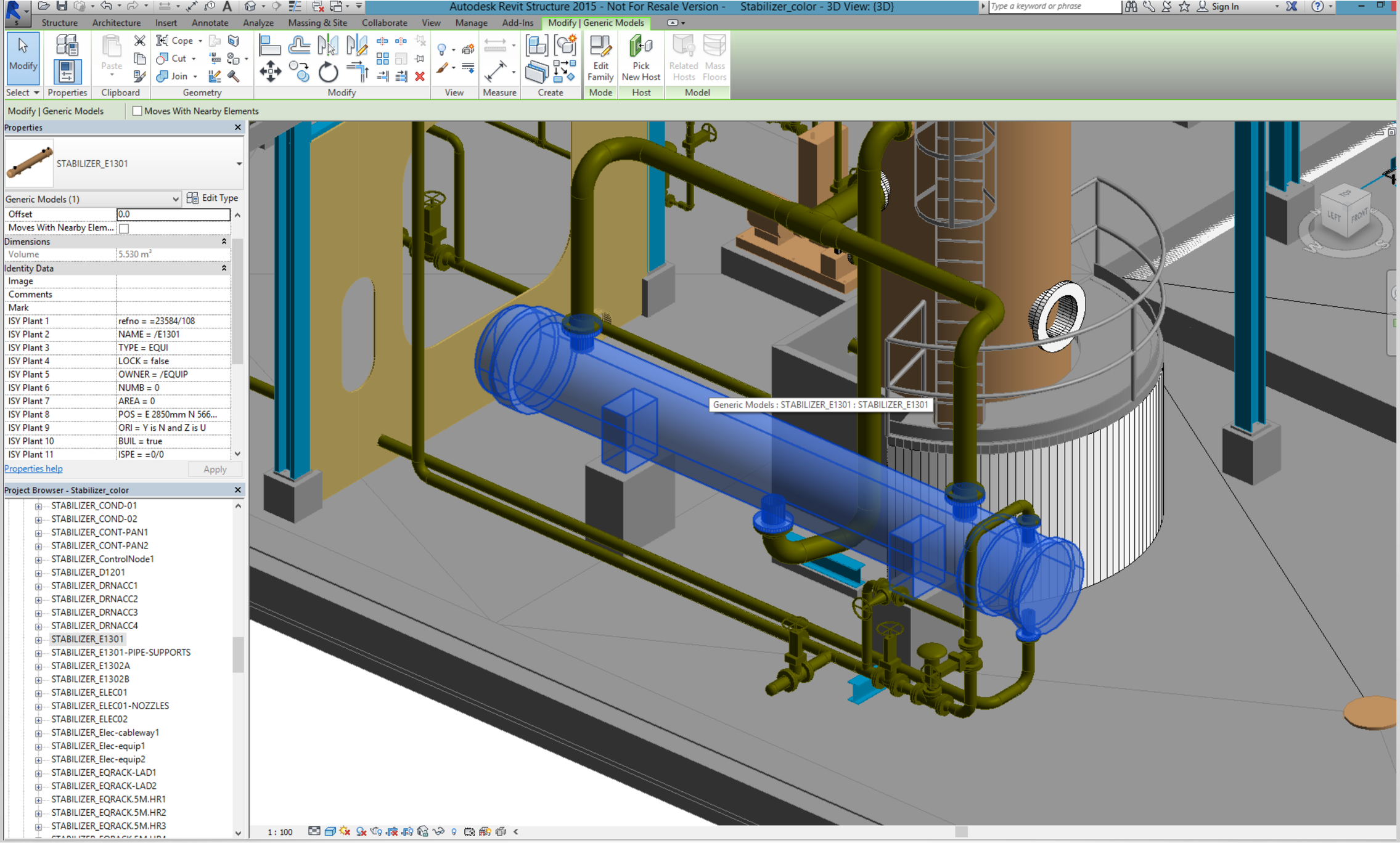


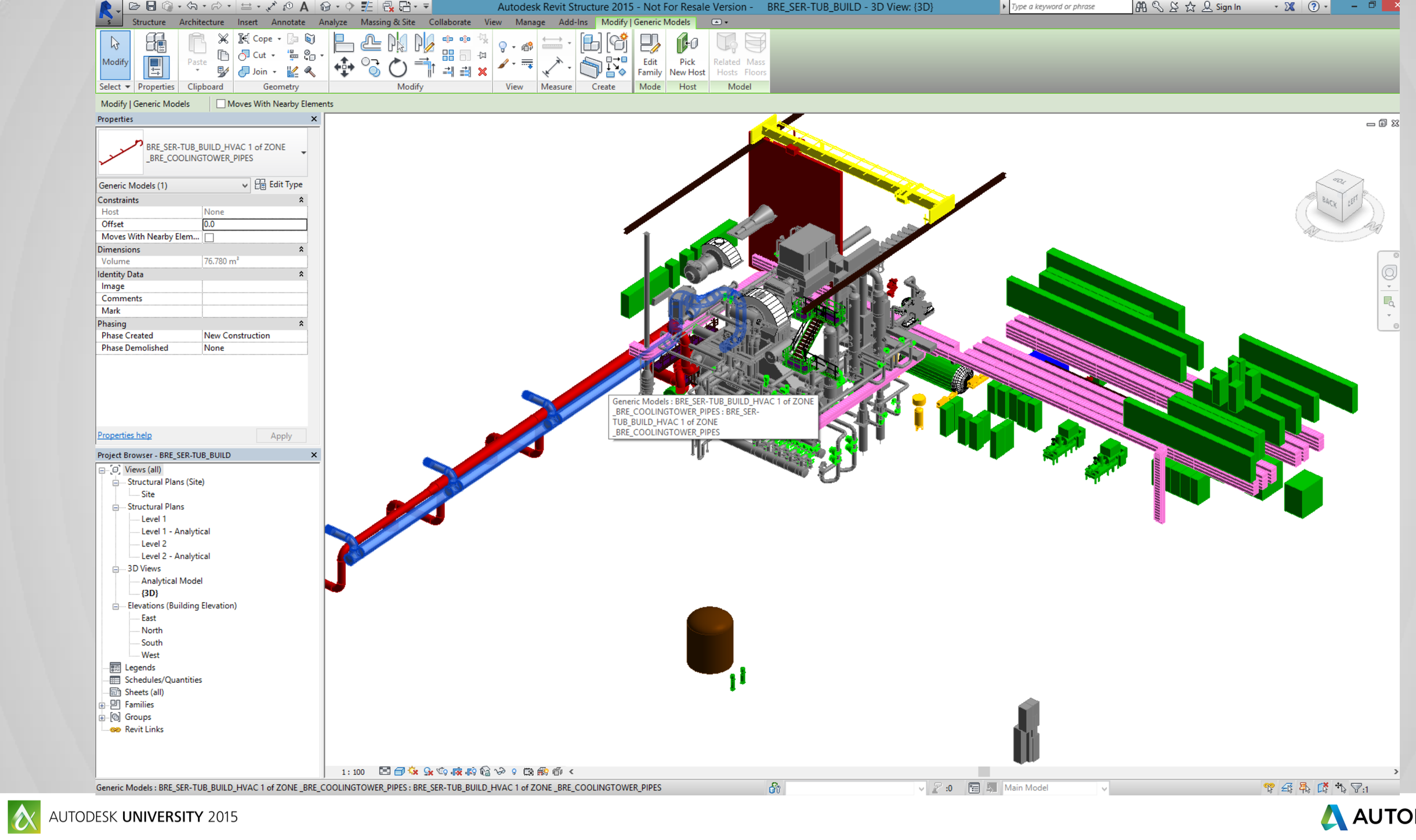
Revit and PDMS…

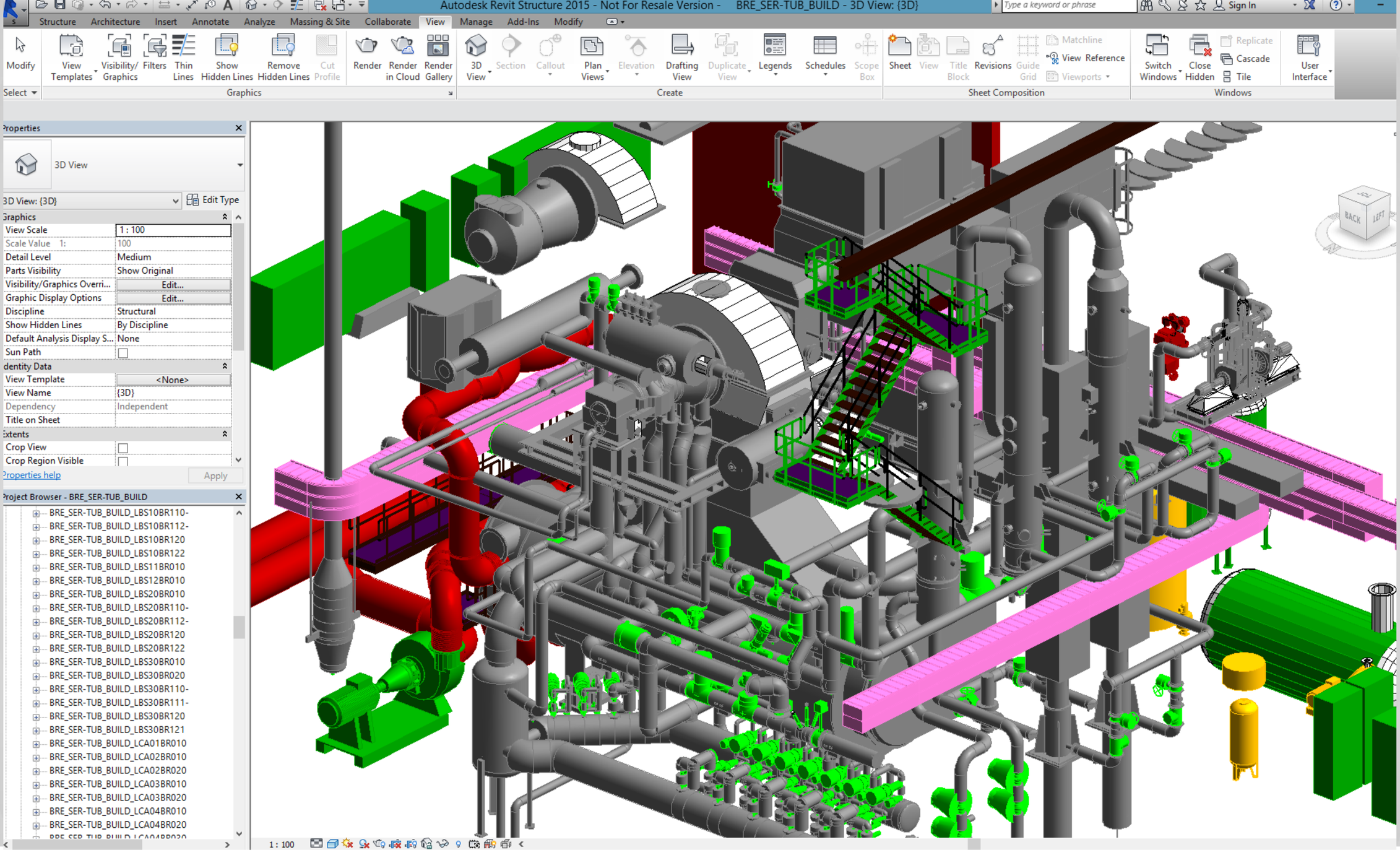
PDMS models into Revit

- Source: rvm + attribute files
- Pipe, Equi, Stru → Revit Generic Model Families



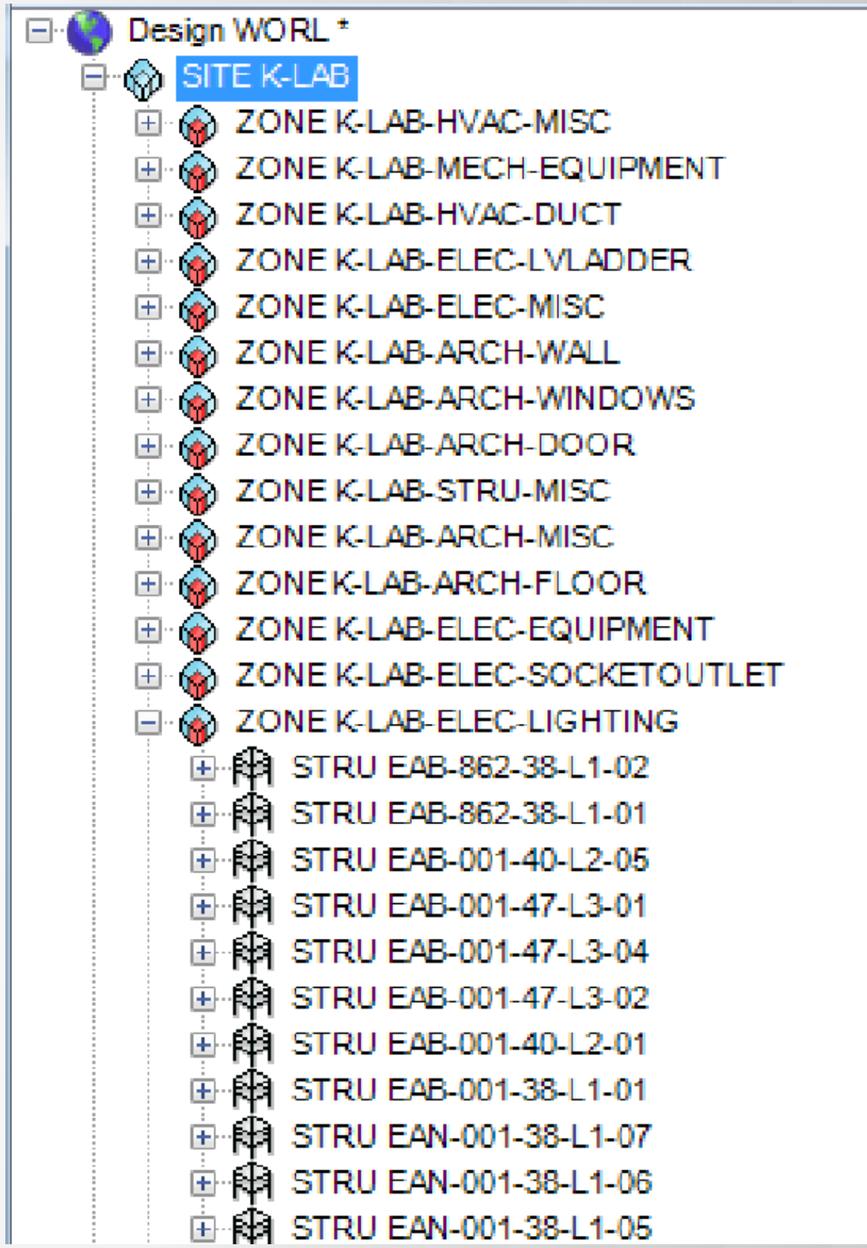

Autodesk Revit Structure 2015 - Not For Resale Version - Stabilizer_color - 3D View: {3D}
Structure
Architecture
Insert
Annotate
Analyze
Massing & Site
Collaborate
View
Manage
Add-Ins
Modify | Generic Models
Modify
Select
Properties
Paste
Clipboard
Cope
Cut
Join
Geometry
Modify
View
Measure
Create
Edit Family
Pick New Host
Mode
Host
Related Hosts
Mass Floors
Model
Modify | Generic Models
Moves With Nearby Elements
Properties
STABILIZER_E1301
Generic Models (1)
Edit Type
Offset
0.0
Moves With Nearby Elem...
Dimensions
Volume
5.530 m³
Identity Data
Image
Comments
Mark
ISY Plant 1
refno = =23584/108
ISY Plant 2
NAME = /E1301
ISY Plant 3
TYPE = EQUI
ISY Plant 4
LOCK = false
ISY Plant 5
OWNER = /EQUIP
ISY Plant 6
NUMB = 0
ISY Plant 7
AREA = 0
ISY Plant 8
POS = E 2850mm N 566...
ISY Plant 9
ORI = Y is N and Z is U
ISY Plant 10
BUIL = true
ISY Plant 11
ISPE = =0/0
Properties help
Apply
Project Browser - Stabilizer_color
STABILIZER_COND-01
STABILIZER_COND-02
STABILIZER_CONT-PAN1
STABILIZER_CONT-PAN2
STABILIZER_ControlNode1
STABILIZER_D1201
STABILIZER_DRNACC1
STABILIZER_DRNACC2
STABILIZER_DRNACC3
STABILIZER_DRNACC4
STABILIZER_E1301
STABILIZER_E1301-PIPE-SUPPORTS
STABILIZER_E1302A
STABILIZER_E1302B
STABILIZER_ELEC01
STABILIZER_ELEC01-NOZZLES
STABILIZER_ELEC02
STABILIZER_Elec-cableway1
STABILIZER_Elec-equip1
STABILIZER_Elec-equip2
STABILIZER_EQRACK-LAD1
STABILIZER_EQRACK-LAD2
STABILIZER_EQRACK.5M.HR1
STABILIZER_EQRACK.5M.HR2
STABILIZER_EQRACK.5M.HR3
Generic Models : STABILIZER_E1301 : STABILIZER_E1301
1 : 100

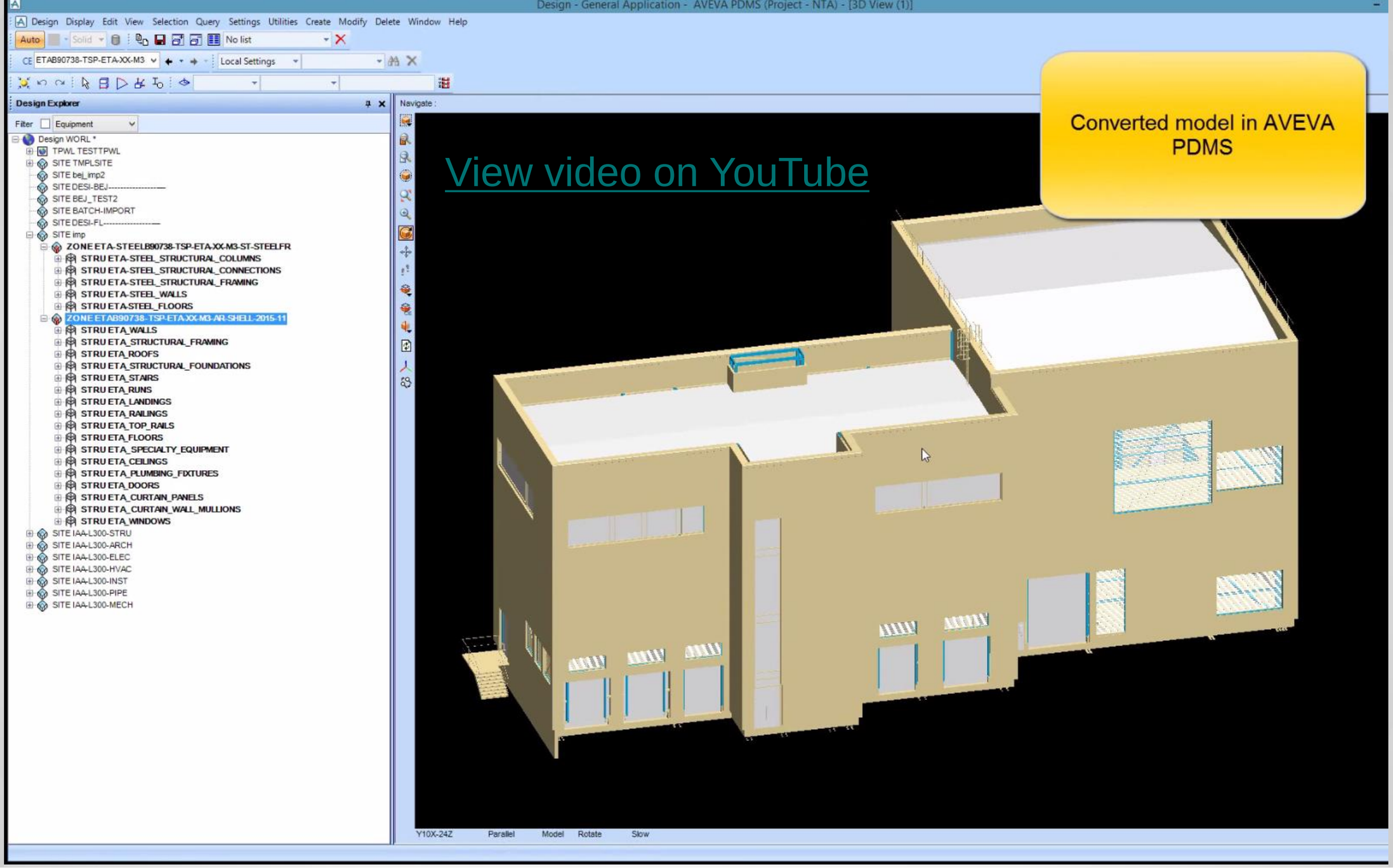

Autodesk Revit Structure 2015 - Not For Resale Version - BRE_SER-TUB_BUILD - 3D View: {3D}
Structure
Architecture
Insert
Annotate
Analyze
Massing & Site
Collaborate
View
Manage
Add-Ins
Modify | Generic Models
Modify
Select
Properties
Paste
Clipboard
Cope
Cut
Join
Geometry
Modify
View
Measure
Create
Edit Family
Pick New Host
Mode
Host
Related Hosts
Mass Floors
Model
Modify | Generic Models
Moves With Nearby Elements
Properties
BRE_SER-TUB_BUILD_HVAC 1 of ZONE _BRE_COOLINGTOWER_PIPES
Generic Models (1)
Edit Type
Constraints
Host
None
Offset
0.0
Moves With Nearby Elem...
Dimensions
Volume
76.780 m³
Identity Data
Image
Comments
Mark
Phasing
Phase Created
New Construction
Phase Demolished
None
Properties help
Apply
Project Browser - BRE_SER-TUB_BUILD
Views (all)
Structural Plans (Site)
Site
Structural Plans
Level 1
Level 1 - Analytical
Level 2
Level 2 - Analytical
3D Views
Analytical Model
{3D}
Elevations (Building Elevation)
East
North
South
West
Legends
Schedules/Quantities
Sheets (all)
Families
Groups
Revit Links
Generic Models : BRE_SER-TUB_BUILD_HVAC 1 of ZONE _BRE_COOLINGTOWER_PIPES : BRE_SER-TUB_BUILD_HVAC 1 of ZONE _BRE_COOLINGTOWER_PIPES
1 : 100
Generic Models : BRE_SER-TUB_BUILD_HVAC 1 of ZONE _BRE_COOLINGTOWER_PIPES : BRE_SER-TUB_BUILD_HVAC 1 of ZONE _BRE_COOLINGTOWER_PIPES
Main Model


Autodesk Revit Structure 2015 - Not For Resale Version - BRE_SER-TUB_BUILD - 3D View: {3D}
Structure Architecture Insert Annotate Analyze Massing & Site Collaborate View Manage Add-Ins Modify
Modify View Templates Visibility/ Graphics Filters Thin Lines Show Hidden Lines Remove Hidden Lines Cut Profile Render Render in Cloud Render Gallery 3D View Section Callout Plan Views Elevation Drafting View Duplicate View Legends Schedules Scope Box Sheet View Title Block Revisions Guide Grid Matchline View Reference Viewports Switch Windows Close Hidden Replicate Cascade Tile User Interface
Select Graphics Create Sheet Composition Windows
Properties
3D View
3D View: {3D} Edit Type
Graphics
View Scale 1 : 100
Scale Value 1: 100
Detail Level Medium
Parts Visibility Show Original
Visibility/Graphics Overri... Edit...
Graphic Display Options Edit...
Discipline Structural
Show Hidden Lines By Discipline
Default Analysis Display S... None
Sun Path
Identity Data
View Template <None>
View Name {3D}
Dependency Independent
Title on Sheet
Extents
Crop View
Crop Region Visible
Properties help Apply
Project Browser - BRE_SER-TUB_BUILD
BRE_SER-TUB_BUILD_LBS10BR110-
BRE_SER-TUB_BUILD_LBS10BR112-
BRE_SER-TUB_BUILD_LBS10BR120
BRE_SER-TUB_BUILD_LBS10BR122
BRE_SER-TUB_BUILD_LBS11BR010
BRE_SER-TUB_BUILD_LBS12BR010
BRE_SER-TUB_BUILD_LBS20BR010
BRE_SER-TUB_BUILD_LBS20BR110-
BRE_SER-TUB_BUILD_LBS20BR112-
BRE_SER-TUB_BUILD_LBS20BR120
BRE_SER-TUB_BUILD_LBS20BR122
BRE_SER-TUB_BUILD_LBS30BR010
BRE_SER-TUB_BUILD_LBS30BR020
BRE_SER-TUB_BUILD_LBS30BR110-
BRE_SER-TUB_BUILD_LBS30BR111-
BRE_SER-TUB_BUILD_LBS30BR120
BRE_SER-TUB_BUILD_LBS30BR121
BRE_SER-TUB_BUILD_LCA01BR010
BRE_SER-TUB_BUILD_LCA02BR010
BRE_SER-TUB_BUILD_LCA02BR020
BRE_SER-TUB_BUILD_LCA03BR010
BRE_SER-TUB_BUILD_LCA03BR020
BRE_SER-TUB_BUILD_LCA04BR010
BRE_SER-TUB_BUILD_LCA04BR020
1 : 100

Revit models into PDMS

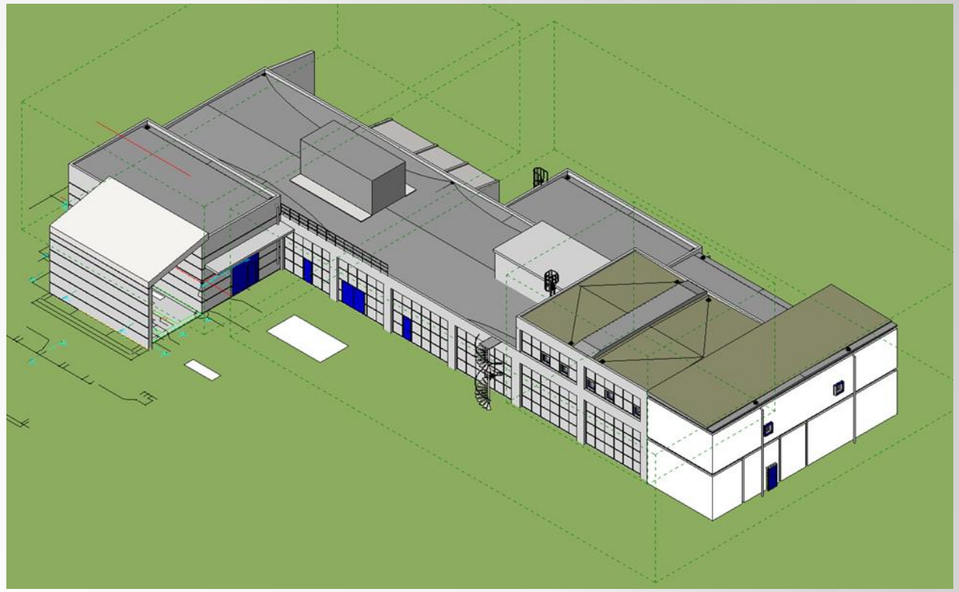
- Revit plugin creates PDMS macro file
- Element mapping
- Geometry to primitives
- Beam section mapping
- Revit Category to PDMS Zone / Stru
- Properties to PDMS attributes
- Properties as PDMS names
- Project- or local coordinate system



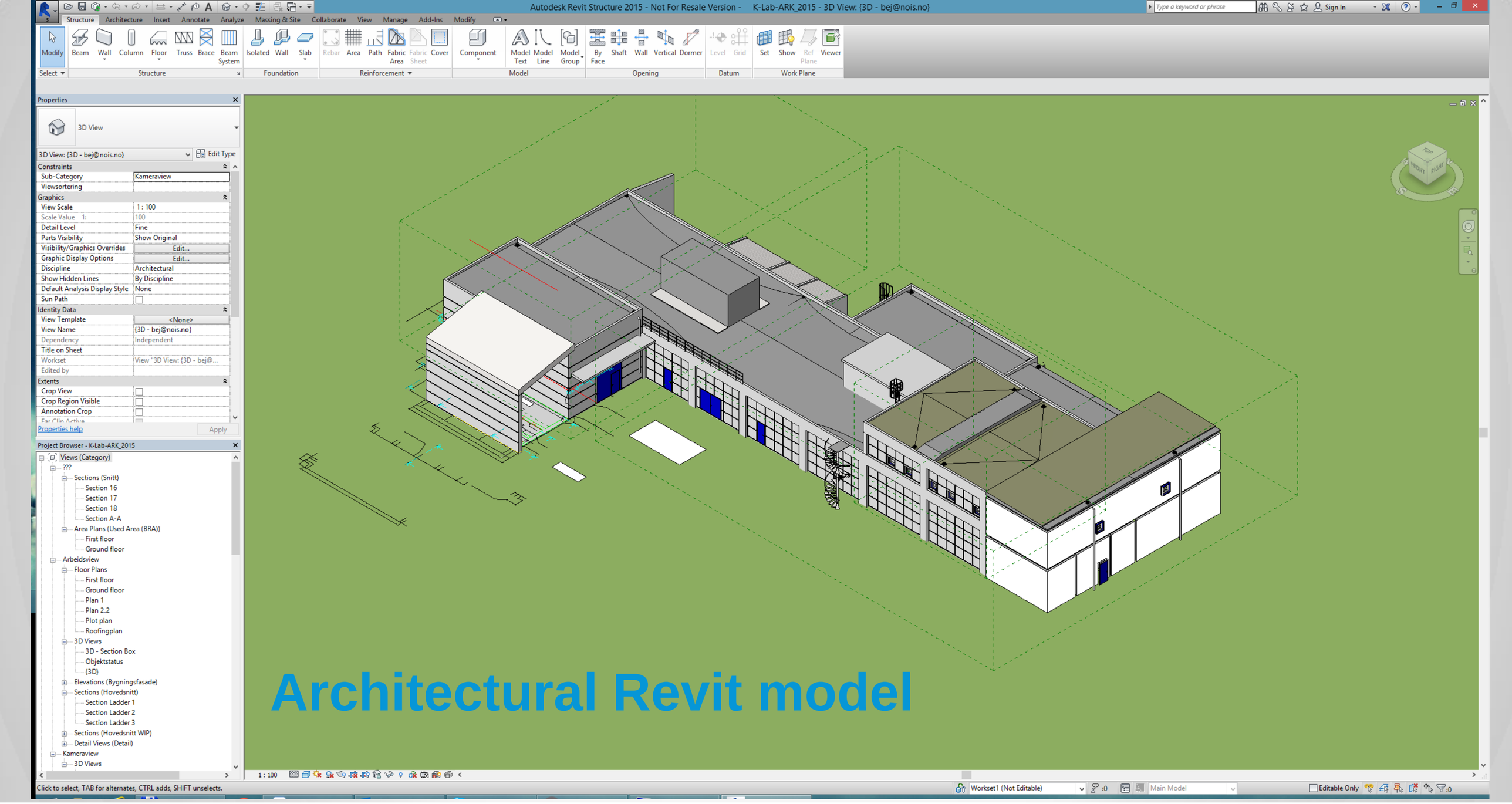

Design - General Application - AVEVA PDMS (Project - NTA) - [3D View (1)]
Design Explorer
Navigate :
View video on YouTube
Converted model in AVEVA PDMS

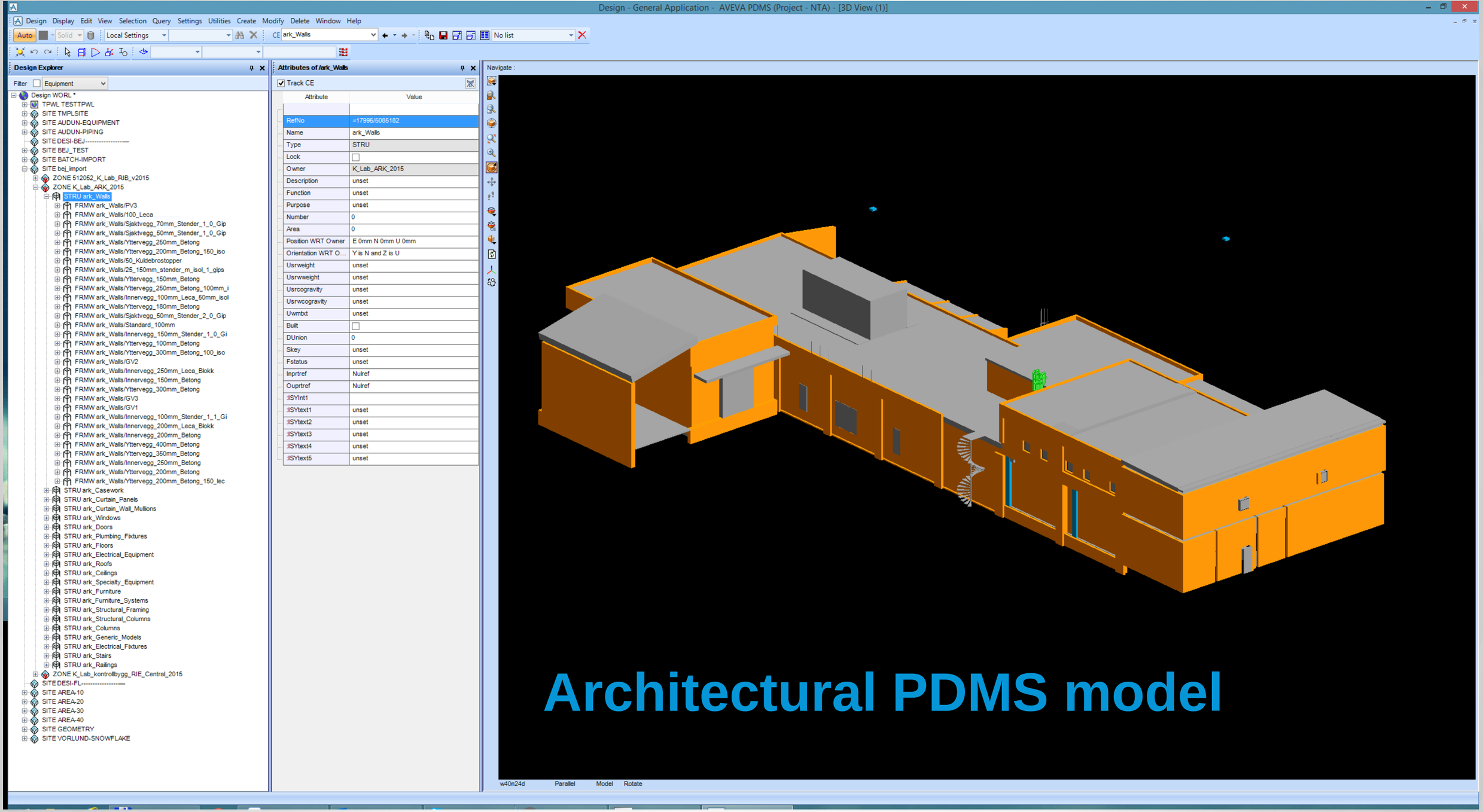
Project samples…

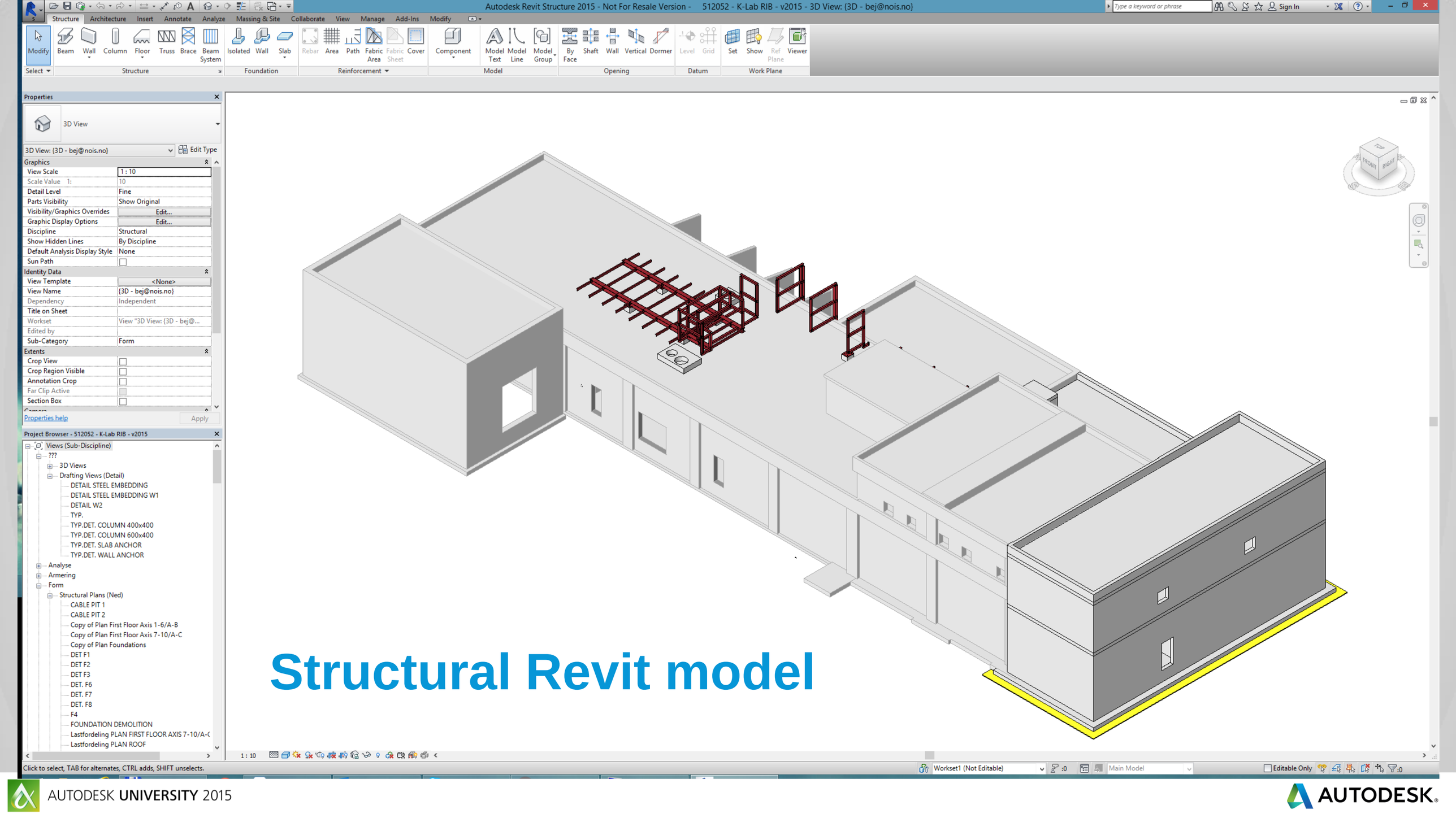
Lab - building (Statoil LNG plant)

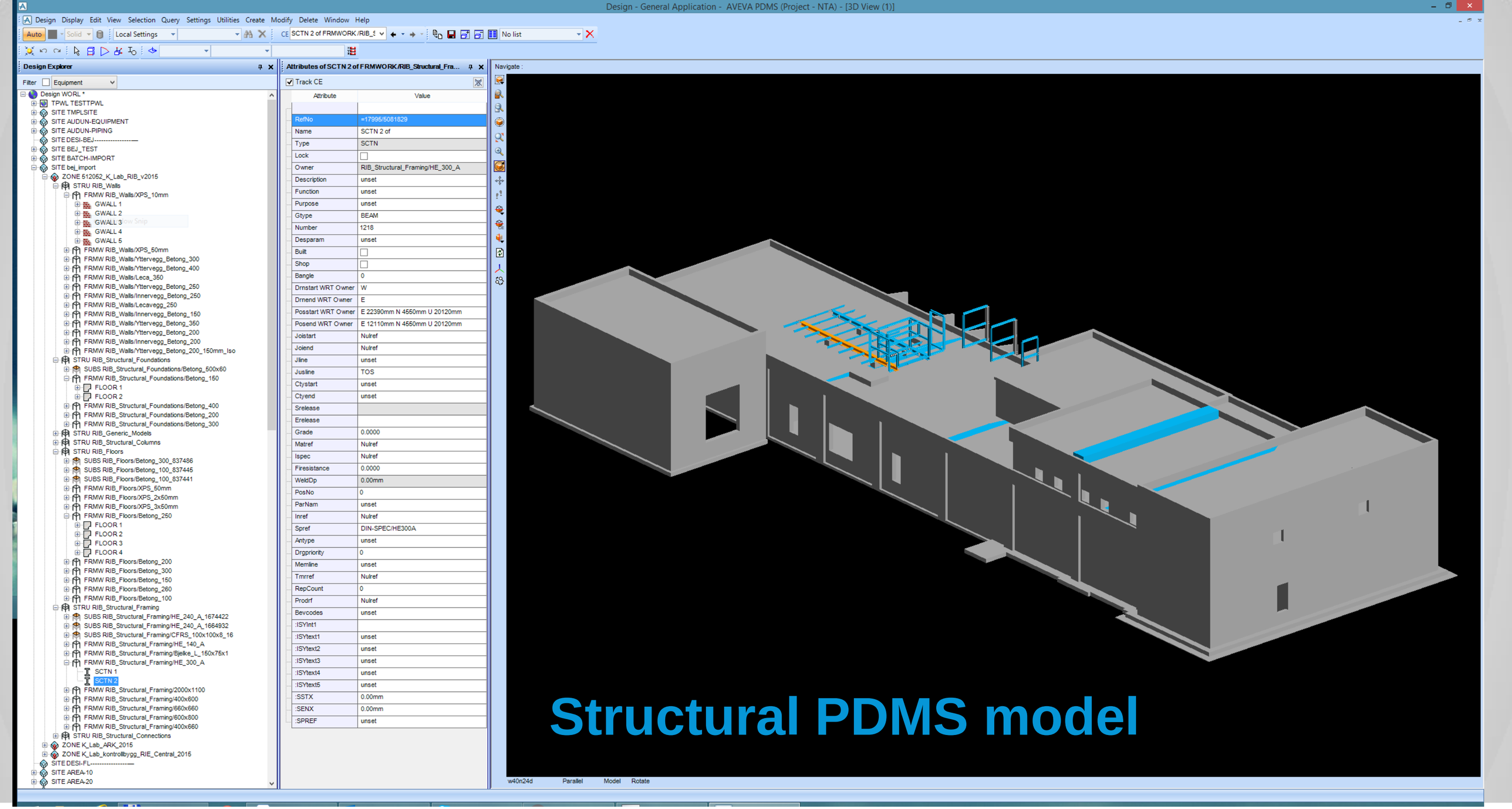


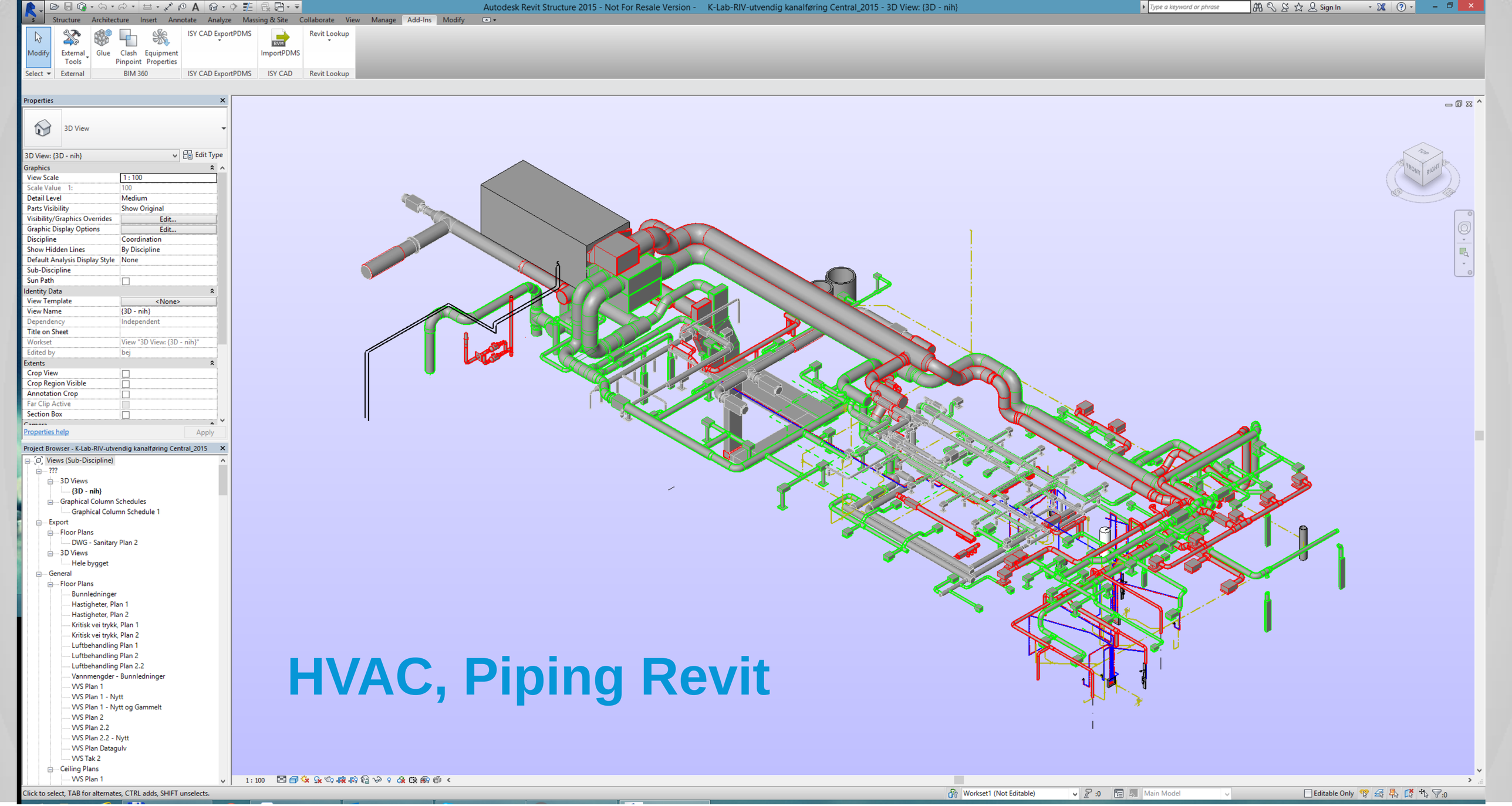
- Contractor: Multiconsult
- Tools
  - Revit (arch., structural)
  - Magicad (HVAC, piping, ele)
- One Revit model per discipline
- Delivery December 2015 (building and PDMS model)
- PDMS conversion by Norconsult
- Requirements:
  - Structural section mapping
  - Tag information

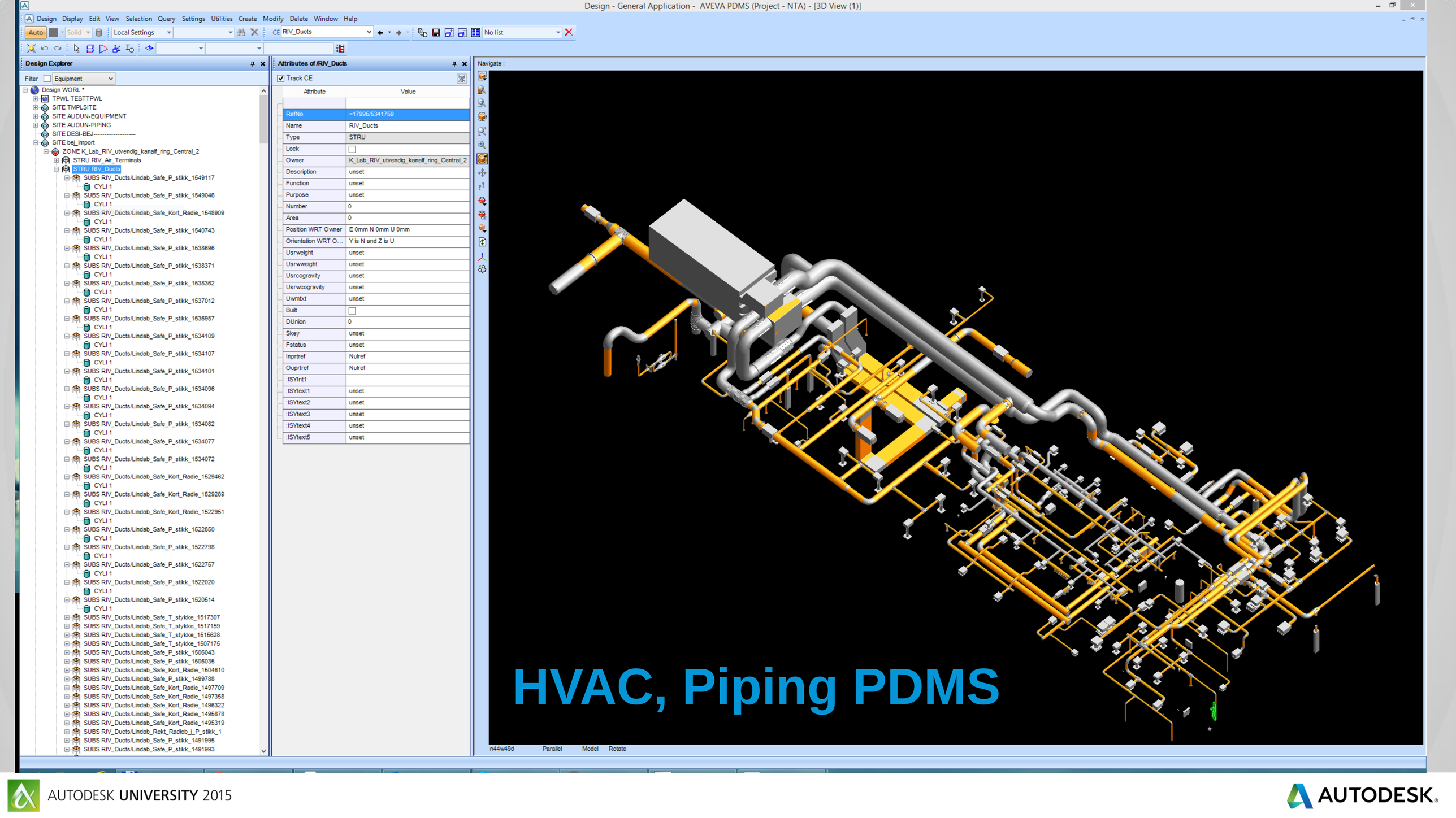

Autodesk Revit Structure 2015 - Not For Resale Version - K-Lab-ARK_2015 - 3D View: {3D - bej@nois.no}
Structure
Architecture
Insert
Annotate
Analyze
Massing & Site
Collaborate
View
Manage
Add-Ins
Modify
Modify
Beam
Wall
Column
Floor
Truss
Brace
Beam System
Isolated
Wall
Slab
Rebar
Area
Path
Fabric Area
Fabric Sheet
Cover
Component
Model Text
Model Line
Model Group
By Face
Shaft
Wall
Vertical
Dormer
Level
Grid
Set
Show
Ref Plane
Viewer
Select
Structure
Foundation
Reinforcement
Model
Opening
Datum
Work Plane
Properties
3D View
3D View: {3D - bej@nois.no}
Edit Type
Constraints
Sub-Category
Kameraview
Viewsortering
Graphics
View Scale
1 : 100
Scale Value 1:
100
Detail Level
Fine
Parts Visibility
Show Original
Visibility/Graphics Overrides
Edit...
Graphic Display Options
Edit...
Discipline
Architectural
Show Hidden Lines
By Discipline
Default Analysis Display Style
None
Sun Path
Identity Data
View Template
<None>
View Name
{3D - bej@nois.no}
Dependency
Independent
Title on Sheet
Workset
View "3D View: {3D - bej@...
Edited by
Extents
Crop View
Crop Region Visible
Annotation Crop
Properties help
Apply
Project Browser - K-Lab-ARK_2015
Views (Category)
???
Sections (Snitt)
Section 16
Section 17
Section 18
Section A-A
Area Plans (Used Area (BRA))
First floor
Ground floor
Arbeidsview
Floor Plans
First floor
Ground floor
Plan 1
Plan 2.2
Plot plan
Roofingplan
3D Views
3D - Section Box
Objektstatus
{3D}
Elevations (Bygningsfasade)
Sections (Hovedsnitt)
Section Ladder 1
Section Ladder 2
Section Ladder 3
Sections (Hovedsnitt WIP)
Detail Views (Detail)
Kameraview
3D Views
Architectural Revit model
1 : 100
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.
Workset1 (Not Editable)
Main Model
Editable Only

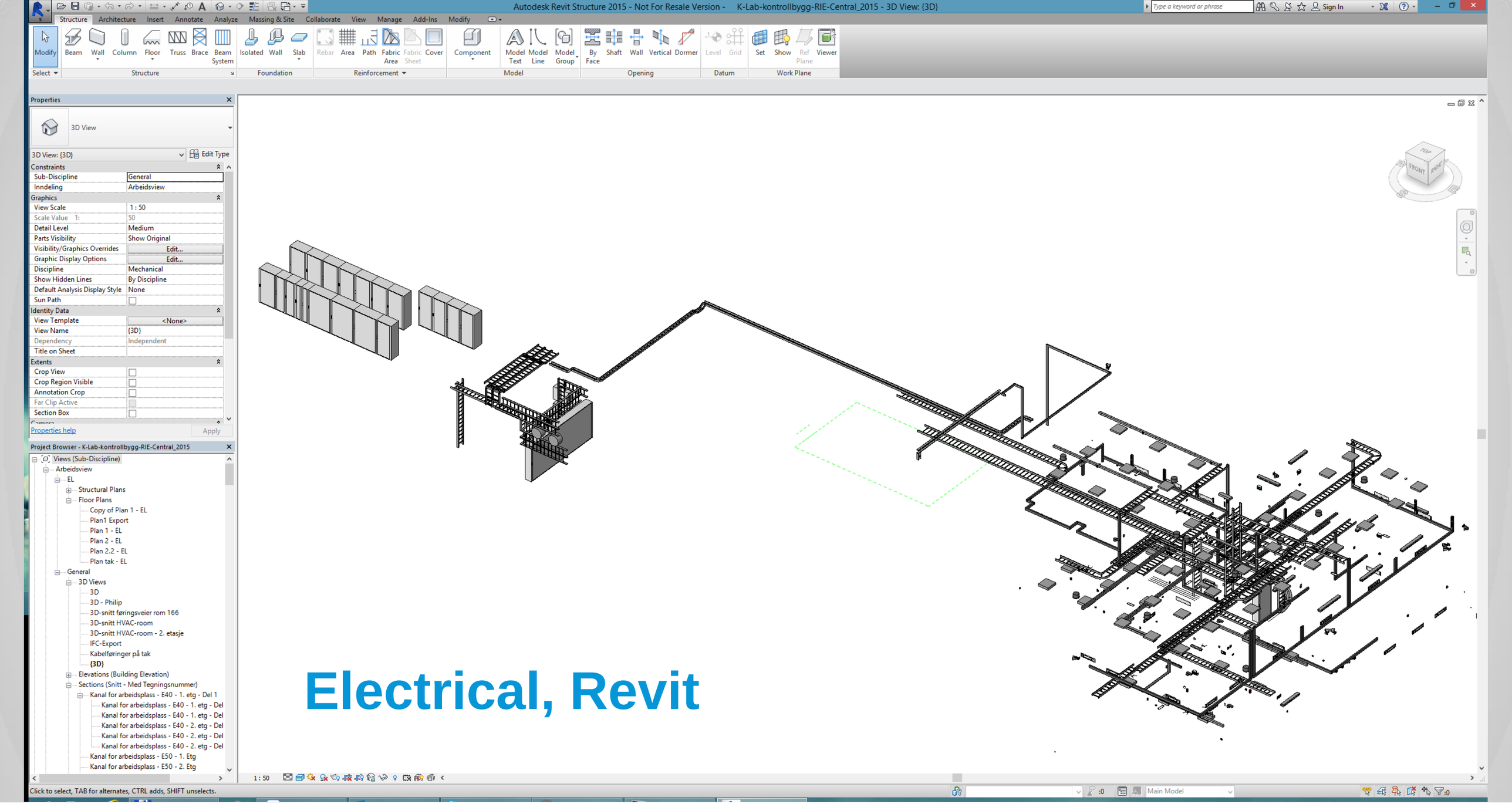

Design - General Application - AVEVA PDMS (Project - NTA) - [3D View (1)]
Design Explorer
Attributes of /ark_Walls
Navigate :
Architectural PDMS model


Autodesk Revit Structure 2015 - Not For Resale Version - 512052 - K-Lab RIB - v2015 - 3D View: {3D - bej@nois.no}
Structure
Architecture
Insert
Annotate
Analyze
Massing & Site
Collaborate
View
Manage
Add-Ins
Modify
Modify
Beam
Wall
Column
Floor
Truss
Brace
Beam System
Isolated
Wall
Slab
Rebar
Area
Path
Fabric Area
Fabric Sheet
Cover
Component
Model Text
Model Line
Model Group
By Face
Shaft
Wall
Vertical
Dormer
Level
Grid
Set
Show
Ref Plane
Viewer
Select
Structure
Foundation
Reinforcement
Model
Opening
Datum
Work Plane
Properties
3D View
3D View: {3D - bej@nois.no}
Edit Type
Graphics
View Scale 1 : 10
Scale Value 1: 10
Detail Level Fine
Parts Visibility Show Original
Visibility/Graphics Overrides Edit...
Graphic Display Options Edit...
Discipline Structural
Show Hidden Lines By Discipline
Default Analysis Display Style None
Sun Path
Identity Data
View Template <None>
View Name {3D - bej@nois.no}
Dependency Independent
Title on Sheet
Workset View "3D View: {3D - bej@...
Edited by
Sub-Category Form
Extents
Crop View
Crop Region Visible
Annotation Crop
Far Clip Active
Section Box
Properties help
Apply
Project Browser - 512052 - K-Lab RIB - v2015
Views (Sub-Discipline)
???
3D Views
Drafting Views (Detail)
DETAIL STEEL EMBEDDING
DETAIL STEEL EMBEDDING W1
DETAIL W2
TYP.
TYP.DET. COLUMN 400x400
TYP.DET. COLUMN 600x400
TYP.DET. SLAB ANCHOR
TYP.DET. WALL ANCHOR
Analyse
Armering
Form
Structural Plans (Ned)
CABLE PIT 1
CABLE PIT 2
Copy of Plan First Floor Axis 1-6/A-B
Copy of Plan First Floor Axis 7-10/A-C
Copy of Plan Foundations
DET F1
DET F2
DET F3
DET. F6
DET. F7
DET. F8
F4
FOUNDATION DEMOLITION
Lastfordeling PLAN FIRST FLOOR AXIS 7-10/A-(
Lastfordeling PLAN ROOF
Structural Revit model
1 : 10
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.
Workset1 (Not Editable)
Main Model
Editable Only

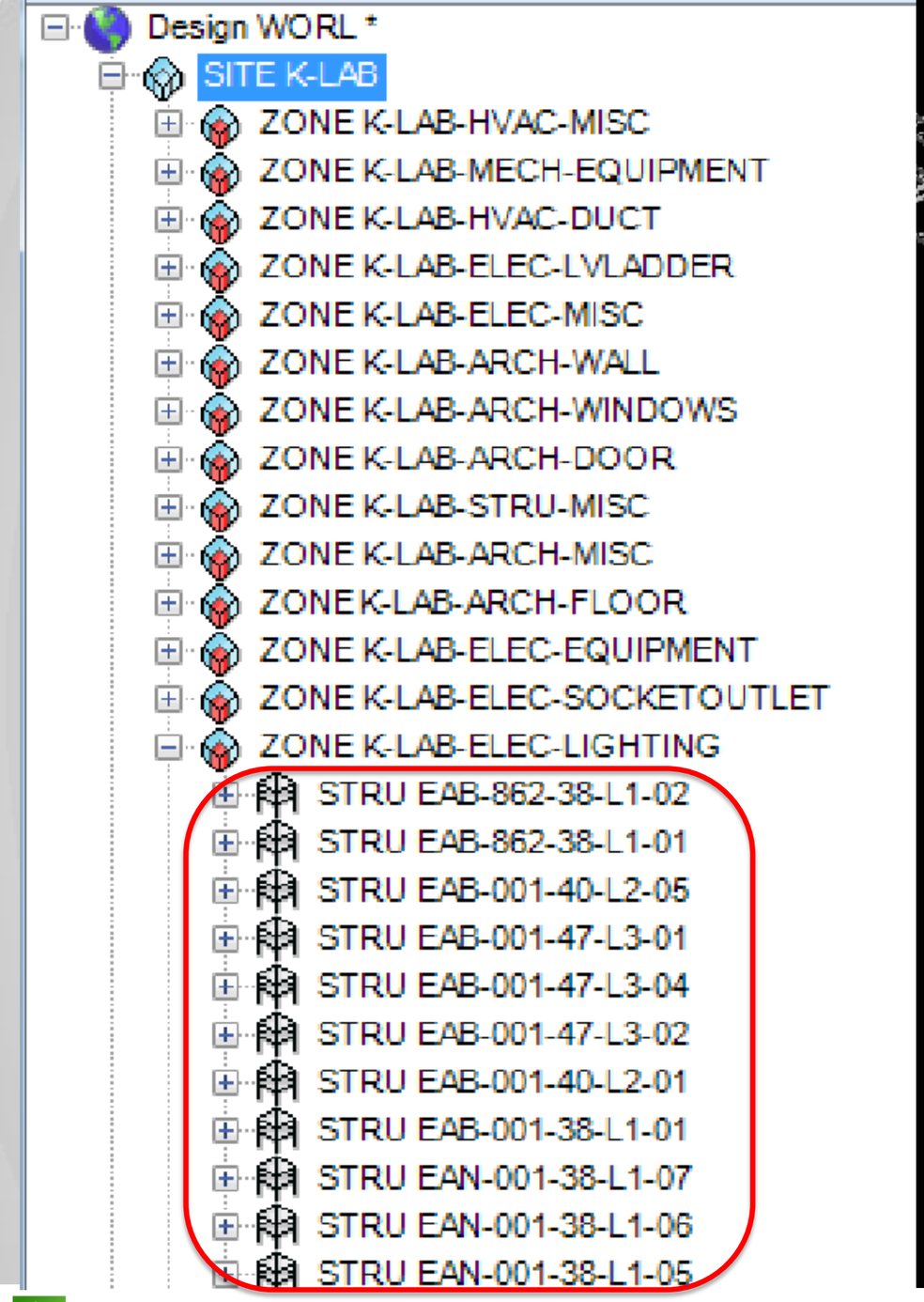

Design - General Application - AVEVA PDMS (Project - NTA) - [3D View (1)]
Design Explorer
Attributes of SCTN 2 of FRMWORK/RIB_Structural_Fra...
Navigate :
Structural PDMS model


Autodesk Revit Structure 2015 - Not For Resale Version - K-Lab-RIV-utvendig kanalføring Central_2015 - 3D View: {3D - nih}
Structure Architecture Insert Annotate Analyze Massing & Site Collaborate View Manage Add-Ins Modify
Modify External Tools Glue Clash Pinpoint Equipment Properties ISY CAD ExportPDMS ImportPDMS Revit Lookup
Select External BIM 360 ISY CAD ExportPDMS ISY CAD Revit Lookup
Properties
3D View
3D View: {3D - nih}
Edit Type
Graphics
View Scale 1 : 100
Scale Value 1: 100
Detail Level Medium
Parts Visibility Show Original
Visibility/Graphics Overrides Edit...
Graphic Display Options Edit...
Discipline Coordination
Show Hidden Lines By Discipline
Default Analysis Display Style None
Sub-Discipline
Sun Path
Identity Data
View Template <None>
View Name {3D - nih}
Dependency Independent
Title on Sheet
Workset View "3D View: {3D - nih}"
Edited by bej
Extents
Crop View
Crop Region Visible
Annotation Crop
Far Clip Active
Section Box
Properties help
Apply
Project Browser - K-Lab-RIV-utvendig kanalføring Central_2015
Views (Sub-Discipline)
???
3D Views
{3D - nih}
Graphical Column Schedules
Graphical Column Schedule 1
Export
Floor Plans
DWG - Sanitary Plan 2
3D Views
Hele bygget
General
Floor Plans
Bunnledninger
Hastigheter, Plan 1
Hastigheter, Plan 2
Kritisk vei trykk, Plan 1
Kritisk vei trykk, Plan 2
Luftbehandling Plan 1
Luftbehandling Plan 2
Luftbehandling Plan 2.2
Vannmengder - Bunnledninger
VVS Plan 1
VVS Plan 1 - Nytt
VVS Plan 1 - Nytt og Gammelt
VVS Plan 2
VVS Plan 2.2
VVS Plan 2.2 - Nytt
VVS Plan Datagulv
VVS Tak 2
Ceiling Plans
VVS Plan 1
HVAC, Piping Revit
1 : 100
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.
Workset1 (Not Editable)
Main Model
Editable Only


Design - General Application - AVEVA PDMS (Project - NTA) - [3D View (1)]
Design Explorer
Attributes of /RIV_Ducts
Navigate :
HVAC, Piping PDMS


Autodesk Revit Structure 2015 - Not For Resale Version - K-Lab-kontrollbygg-RIE-Central_2015 - 3D View: {3D}
Structure
Architecture
Insert
Annotate
Analyze
Massing & Site
Collaborate
View
Manage
Add-Ins
Modify
Modify
Beam
Wall
Column
Floor
Truss
Brace
Beam System
Isolated
Wall
Slab
Rebar
Area
Path
Fabric Area
Fabric Sheet
Cover
Component
Model Text
Model Line
Model Group
By Face
Shaft
Wall
Vertical
Dormer
Level
Grid
Set
Show
Ref Plane
Viewer
Select
Structure
Foundation
Reinforcement
Model
Opening
Datum
Work Plane
Properties
3D View
3D View: {3D}
Edit Type
Constraints
Sub-Discipline
General
Inndeling
Arbeidsview
Graphics
View Scale
1 : 50
Scale Value 1:
50
Detail Level
Medium
Parts Visibility
Show Original
Visibility/Graphics Overrides
Edit...
Graphic Display Options
Edit...
Discipline
Mechanical
Show Hidden Lines
By Discipline
Default Analysis Display Style
None
Sun Path
Identity Data
View Template
<None>
View Name
{3D}
Dependency
Independent
Title on Sheet
Extents
Crop View
Crop Region Visible
Annotation Crop
Far Clip Active
Section Box
Properties help
Apply
Project Browser - K-Lab-kontrollbygg-RIE-Central_2015
Views (Sub-Discipline)
Arbeidsview
EL
Structural Plans
Floor Plans
Copy of Plan 1 - EL
Plan1 Export
Plan 1 - EL
Plan 2 - EL
Plan 2.2 - EL
Plan tak - EL
General
3D Views
3D
3D - Philip
3D-snitt føringsveier rom 166
3D-snitt HVAC-room
3D-snitt HVAC-room - 2. etasje
IFC-Export
Kabelføringer på tak
{3D}
Elevations (Building Elevation)
Sections (Snitt - Med Tegningsnummer)
Kanal for arbeidsplass - E40 - 1. etg - Del 1
Kanal for arbeidsplass - E40 - 1. etg - Del
Kanal for arbeidsplass - E40 - 1. etg - Del
Kanal for arbeidsplass - E40 - 2. etg - Del
Kanal for arbeidsplass - E40 - 2. etg - Del
Kanal for arbeidsplass - E40 - 2. etg - Del
Kanal for arbeidsplass - E50 - 1. Etg
Kanal for arbeidsplass - E50 - 2. Etg
Electrical, Revit
1 : 50
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.
Main Model

Electrical, PDMS

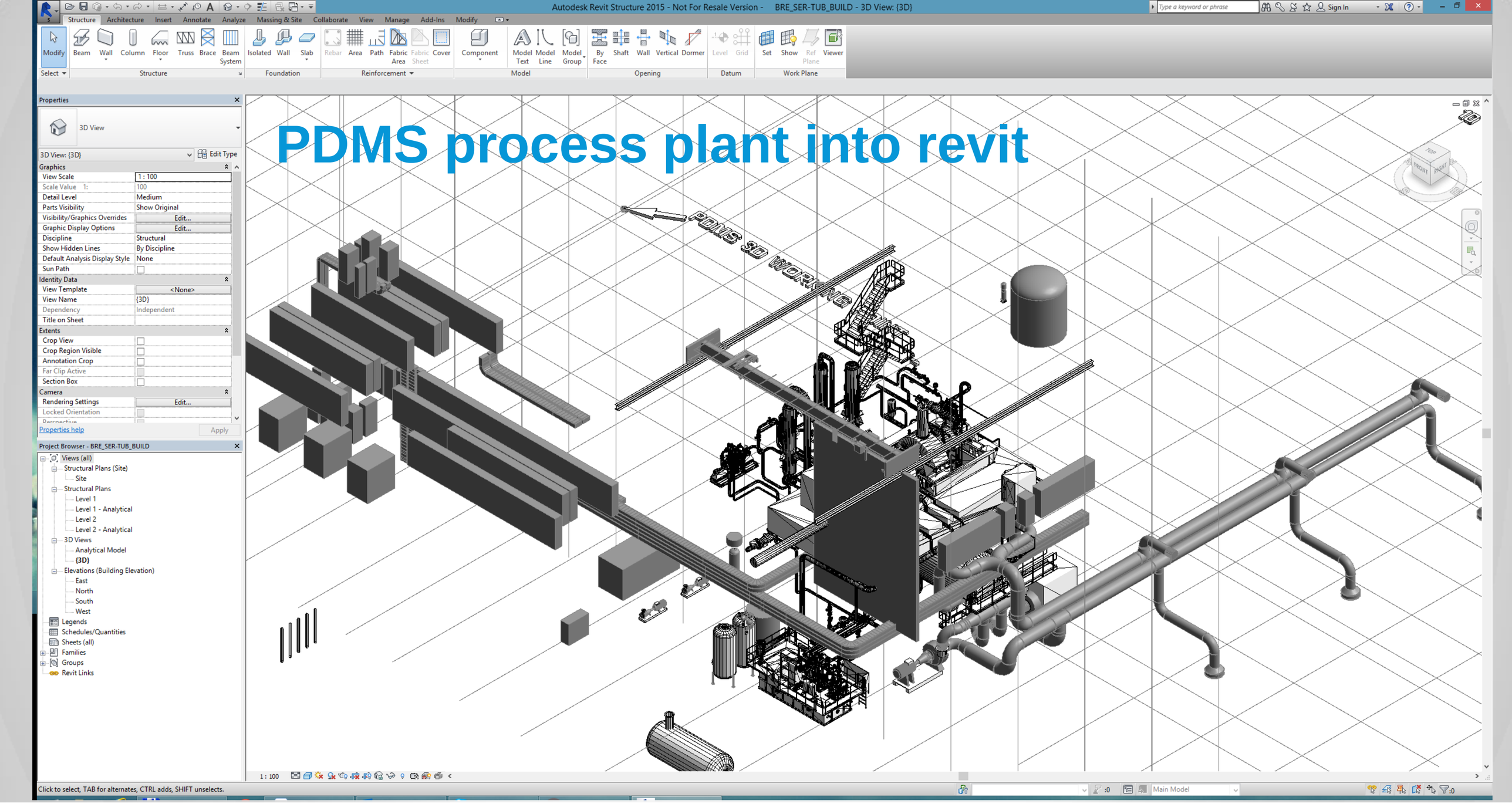


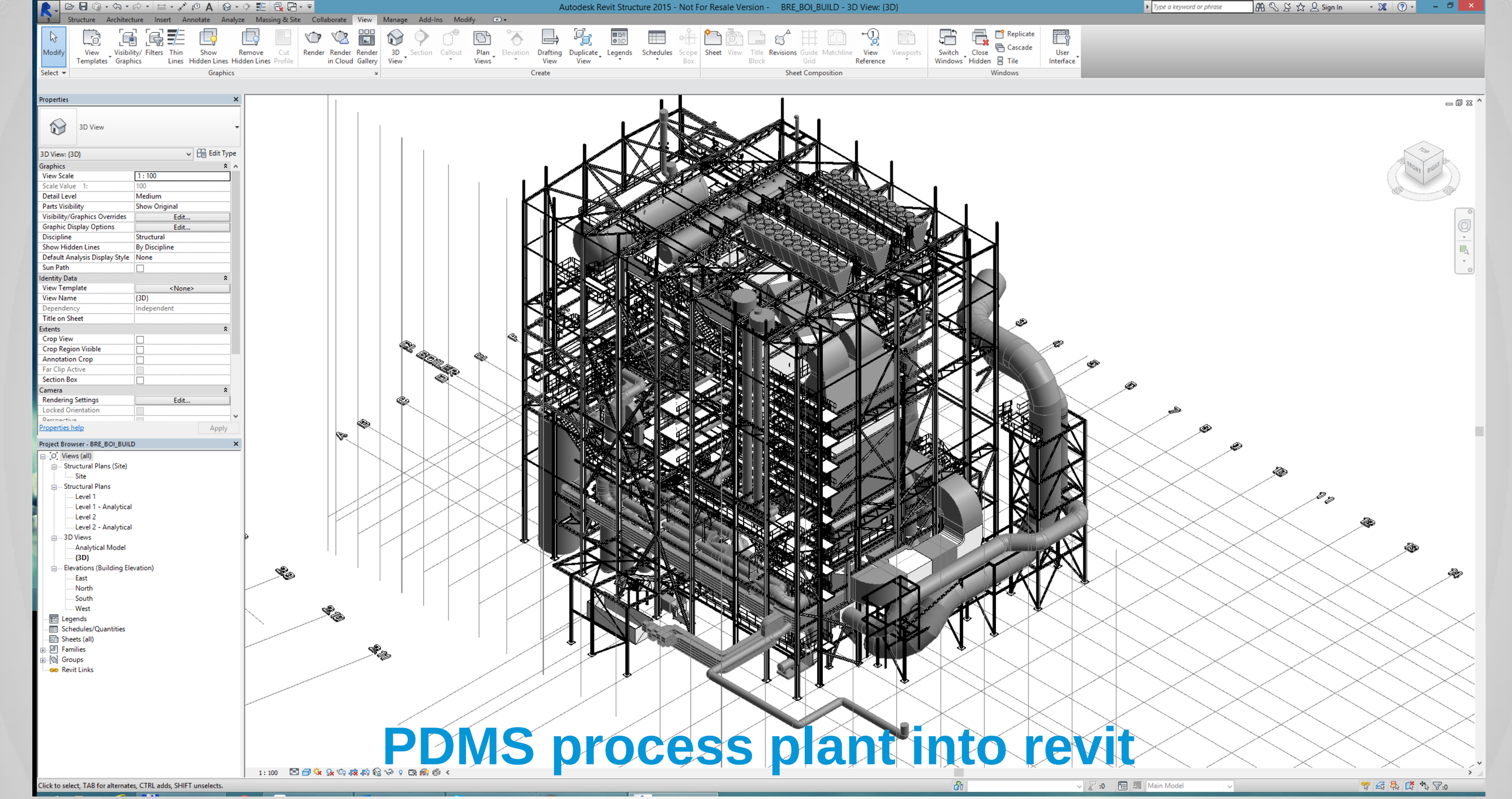
Design - General Application - AVEVA PDMS (Project - NTA) - [3D View (1)]
Design Display Edit View Selection Query Settings Utilities Create Modify Delete Window Help
Auto Solid Local Settings rvt_Cable_Trays/Kabelstiger_ No list
Design Explorer
Filter Equipment
SUBS rvt_Cable_Trays/Kabelstiger_1526976
SUBS rvt_Cable_Trays/Kabelstiger_1526970
SUBS rvt_Cable_Trays/Kabelstiger_1526688
SUBS rvt_Cable_Trays/Kabelstiger_1526567
SUBS rvt_Cable_Trays/Kabelstiger_1524249
SUBS rvt_Cable_Trays/Kabelstiger_1524167
SUBS rvt_Cable_Trays/Kabelstiger_1524119
SUBS rvt_Cable_Trays/Kabelstiger_1523511
SUBS rvt_Cable_Trays/Kabelstiger_1523379
SUBS rvt_Cable_Trays/Kabelstiger_1523233
SUBS rvt_Cable_Trays/Kabelstiger_1522655
SUBS rvt_Cable_Trays/Kabelstiger_1522603
SUBS rvt_Cable_Trays/Kabelstiger_1522591
SUBS rvt_Cable_Trays/Kabelstiger_1522419
SUBS rvt_Cable_Trays/Kabelstiger_1522355
SUBS rvt_Cable_Trays/Kabelstiger_1522349
SUBS rvt_Cable_Trays/Kabelstiger_1521710
SUBS rvt_Cable_Trays/Kabelstiger_1521676
SUBS rvt_Cable_Trays/Kabelstiger_1521302
SUBS rvt_Cable_Trays/Kabelstiger_1521269
SUBS rvt_Cable_Trays/Kabelstiger_1521261
SUBS rvt_Cable_Trays/Kabelstiger_1520854
SUBS rvt_Cable_Trays/Kabelstiger_1520695
SUBS rvt_Cable_Trays/Kabelstiger_1520568
SUBS rvt_Cable_Trays/Kabelstiger_1520565
SUBS rvt_Cable_Trays/Kabelstiger_1520564
SUBS rvt_Cable_Trays/Armaturskinner_1517778
SUBS rvt_Cable_Trays/Armaturskinner_1517103
SUBS rvt_Cable_Trays/Armaturskinner_1517055
SUBS rvt_Cable_Trays/Armaturskinner_1516947
SUBS rvt_Cable_Trays/Armaturskinner_1516795
SUBS rvt_Cable_Trays/Armaturskinner_1516343
SUBS rvt_Cable_Trays/Armaturskinner_1516051
SUBS rvt_Cable_Trays/Armaturskinner_1516047
SUBS rvt_Cable_Trays/Kabelstiger_1515167
SUBS rvt_Cable_Trays/Kabelstiger_1514508
SUBS rvt_Cable_Trays/Kabelstiger_1513758
SUBS rvt_Cable_Trays/Armaturskinner_1513590
SUBS rvt_Cable_Trays/Armaturskinner_1513487
SUBS rvt_Cable_Trays/Kabelstiger_1512565
SUBS rvt_Cable_Trays/Kabelstiger_1512486
SUBS rvt_Cable_Trays/existing_1511851
SUBS rvt_Cable_Trays/existing_1511735
SUBS rvt_Cable_Trays/existing_1511578
SUBS rvt_Cable_Trays/Armaturskinner_existing_
SUBS rvt_Cable_Trays/Kabelstiger_1510556
SUBS rvt_Cable_Trays/Kabelstiger_1510341
SUBS rvt_Cable_Trays/Kabelstiger_1510224
SUBS rvt_Cable_Trays/Kabelstiger_1509093
EXTR 1
BOX 1
BOX 2
BOX 3
BOX 4
BOX 5
BOX 6
BOX 7
BOX 8
BOX 9
BOX 10
BOX 11
BOX 12
BOX 13
BOX 14
BOX 15
BOX 16
BOX 17
SUBS rvt_Cable_Trays/Armaturskinner_1504395
SUBS rvt_Cable_Trays/Armaturskinner_1504278
SUBS rvt_Cable_Trays/Armaturskinner_1503746
SUBS rvt_Cable_Trays/Kabelstiger_1503476
SUBS rvt_Cable_Trays/Kabelstiger_1502170
SUBS rvt_Cable_Trays/Kabelstiger_1500328
SUBS rvt_Cable_Trays/Kabelstiger_1499579
SUBS rvt_Cable_Trays/Kabelstiger_1495781
SUBS rvt_Cable_Trays/Kabelstiger_1465364
Navigate :
n45w42d Parallel Model Rotate

Design - General Application - AVEVA PDMS (Project - NTA) - [3D View (1)]
Design Explorer
Navigate :
All disciplines PDMS

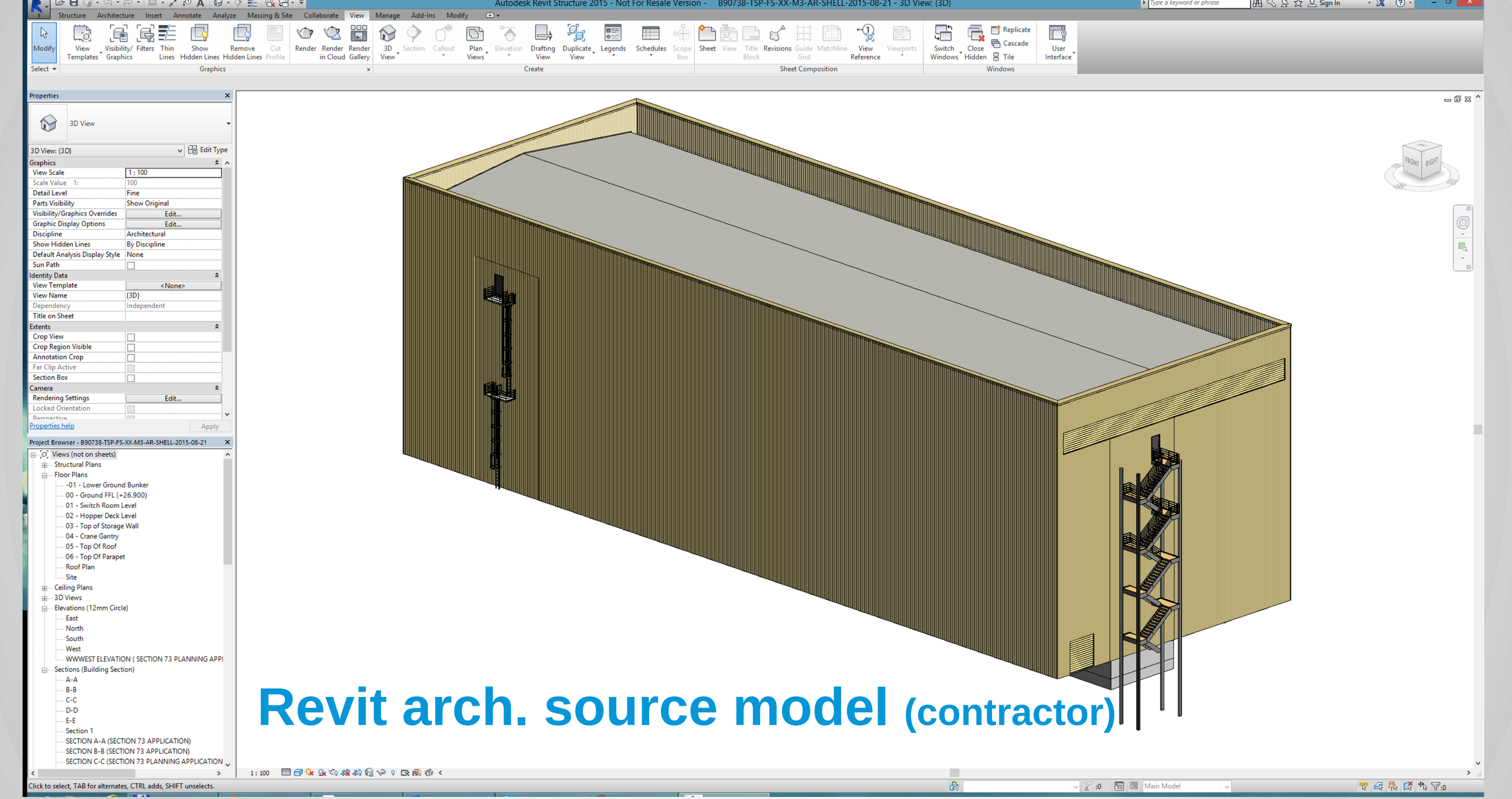
Biomass Power Plants (UK)

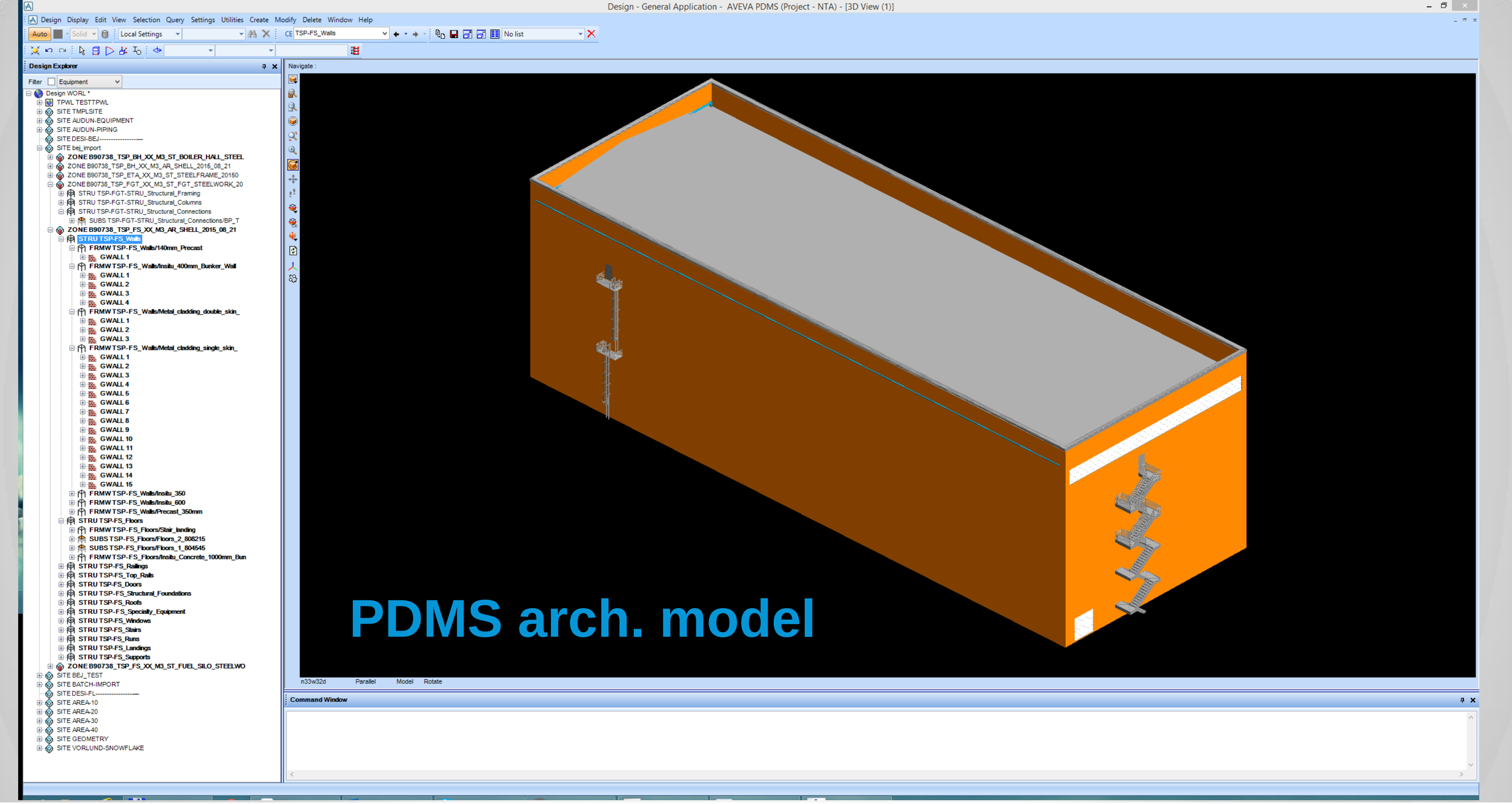
- B&W Vølund to design, manufacture, build, operate and maintain 3 biomass facilities in the UK (40 MW each)
- Concurrent engineering, several contractors
- PDMS, Revit, Inventor
- Norconsult conversion scope:
  - Convert Civil contractor Revit models into PDMS
  - Convert process plant PDMS models into Revit
  - Various Inventor models
  - Every 2 weeks

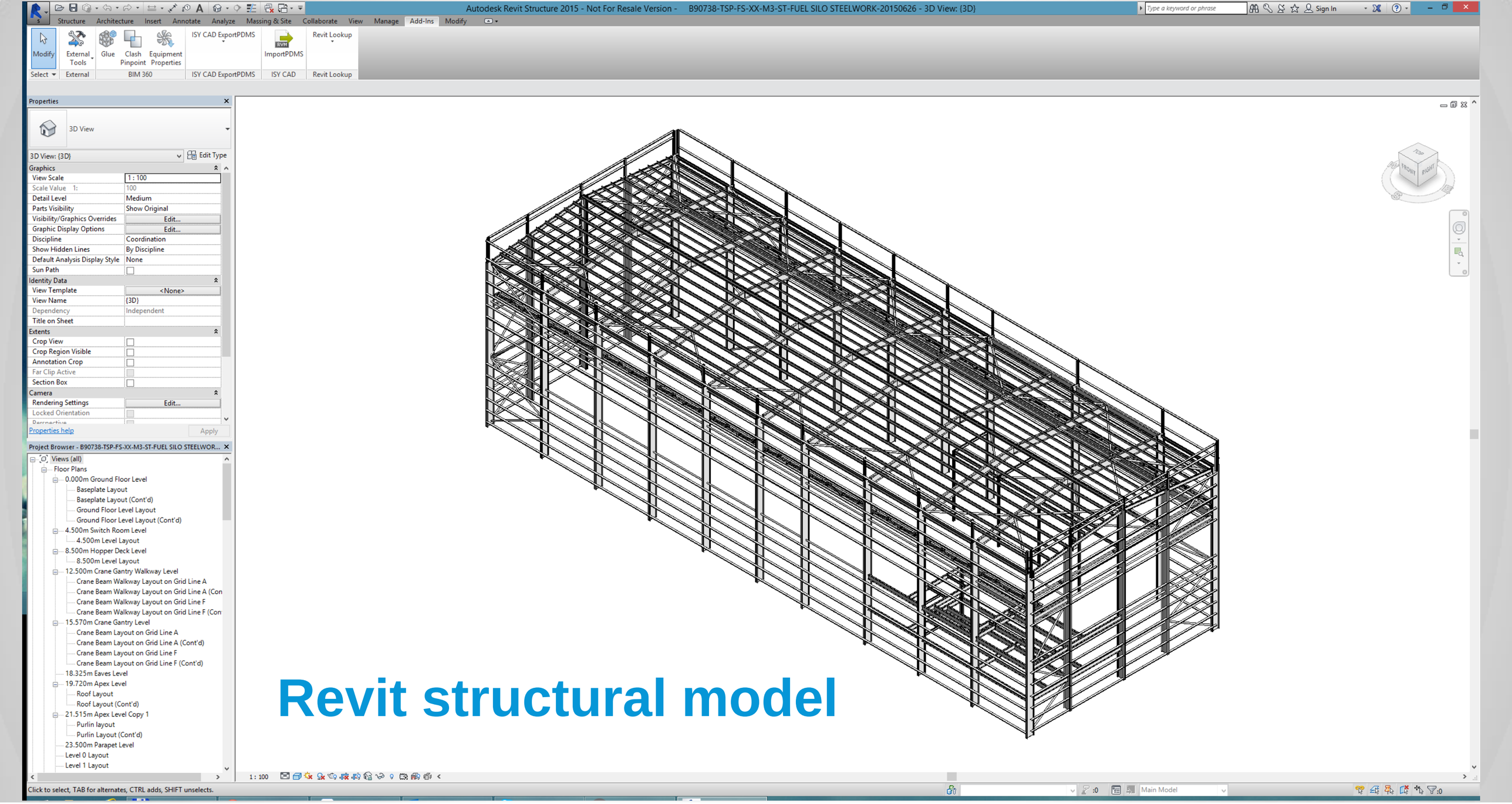

Autodesk Revit Structure 2015 - Not For Resale Version - BRE_SER-TUB_BUILD - 3D View: {3D}
PDMS process plant into revit
PDMS 3D WORKING
Properties
Project Browser - BRE_SER-TUB_BUILD
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.



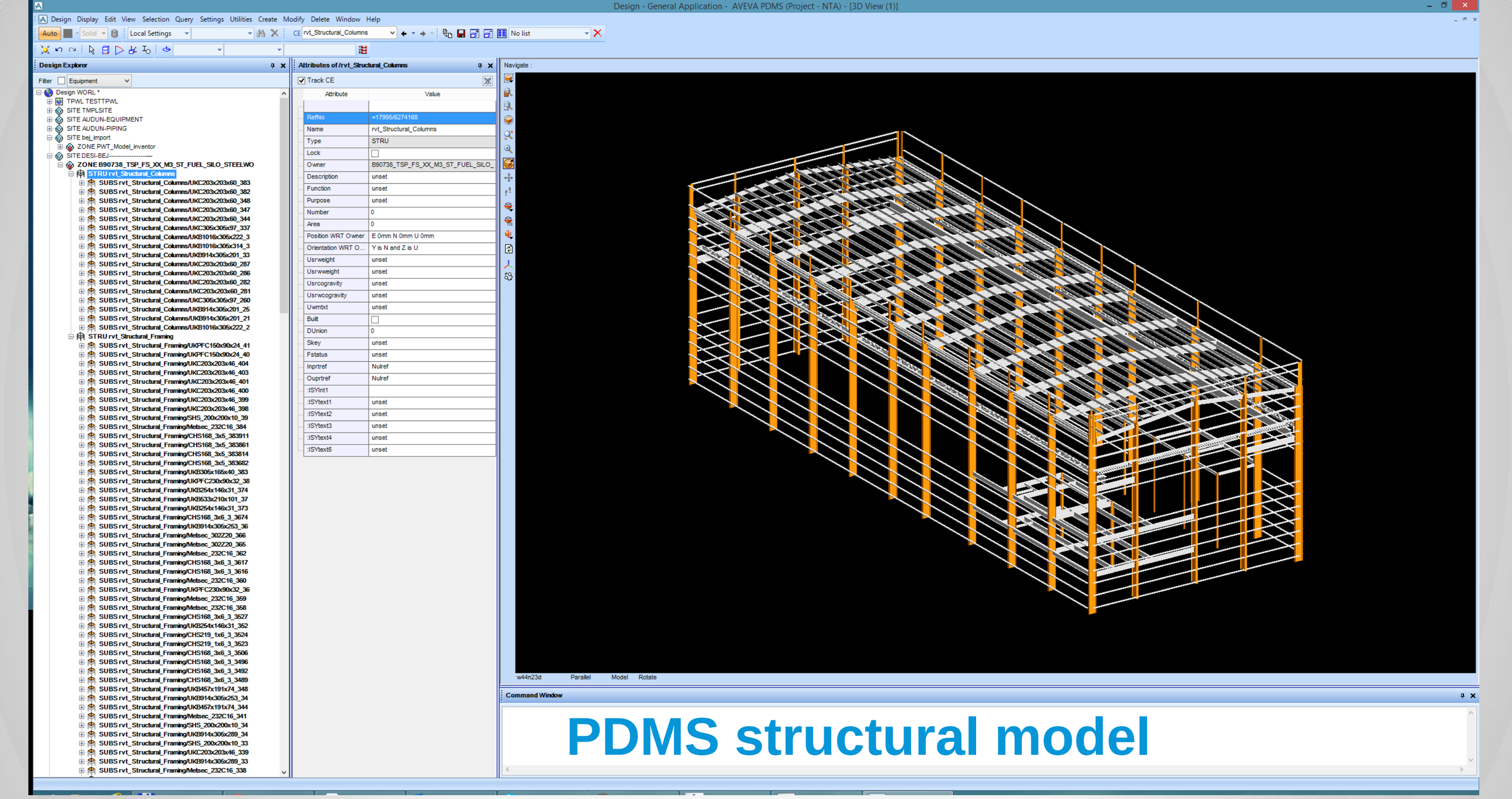
PDMS process plant into revit


Autodesk Revit Structure 2015 - Not For Resale Version - B90738-TSP-FS-XX-M3-AR-SHELL-2015-08-21 - 3D View: {3D}
Structure Architecture Insert Annotate Analyze Massing & Site Collaborate View Manage Add-Ins Modify
Modify
View Templates
Visibility/ Graphics
Filters
Thin Lines
Show Hidden Lines
Remove Hidden Lines
Cut Profile
Render
Render in Cloud
Render Gallery
3D View
Section
Callout
Plan Views
Elevation
Drafting View
Duplicate View
Legends
Schedules
Scope Box
Sheet
View
Title Block
Revisions
Guide Grid
Matchline
View Reference
Viewports
Switch Windows
Close Hidden
Replicate
Cascade
Tile
User Interface
Select
Graphics
Create
Sheet Composition
Windows
Properties
3D View
3D View: {3D}
Edit Type
Graphics
View Scale 1 : 100
Scale Value 1: 100
Detail Level Fine
Parts Visibility Show Original
Visibility/Graphics Overrides Edit...
Graphic Display Options Edit...
Discipline Architectural
Show Hidden Lines By Discipline
Default Analysis Display Style None
Sun Path
Identity Data
View Template <None>
View Name {3D}
Dependency Independent
Title on Sheet
Extents
Crop View
Crop Region Visible
Annotation Crop
Far Clip Active
Section Box
Camera
Rendering Settings Edit...
Locked Orientation
Properties help
Apply
Project Browser - B90738-TSP-FS-XX-M3-AR-SHELL-2015-08-21
Views (not on sheets)
Structural Plans
Floor Plans
-01 - Lower Ground Bunker
00 - Ground FFL (+26.900)
01 - Switch Room Level
02 - Hopper Deck Level
03 - Top of Storage Wall
04 - Crane Gantry
05 - Top Of Roof
06 - Top Of Parapet
Roof Plan
Site
Ceiling Plans
3D Views
Elevations (12mm Circle)
East
North
South
West
WWWEST ELEVATION (SECTION 73 PLANNING APPI
Sections (Building Section)
A-A
B-B
C-C
D-D
E-E
Section 1
SECTION A-A (SECTION 73 APPLICATION)
SECTION B-B (SECTION 73 APPLICATION)
SECTION C-C (SECTION 73 PLANNING APPLICATION
FRONT
RIGHT
1 : 100
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.
Main Model
Revit arch. source model (contractor)

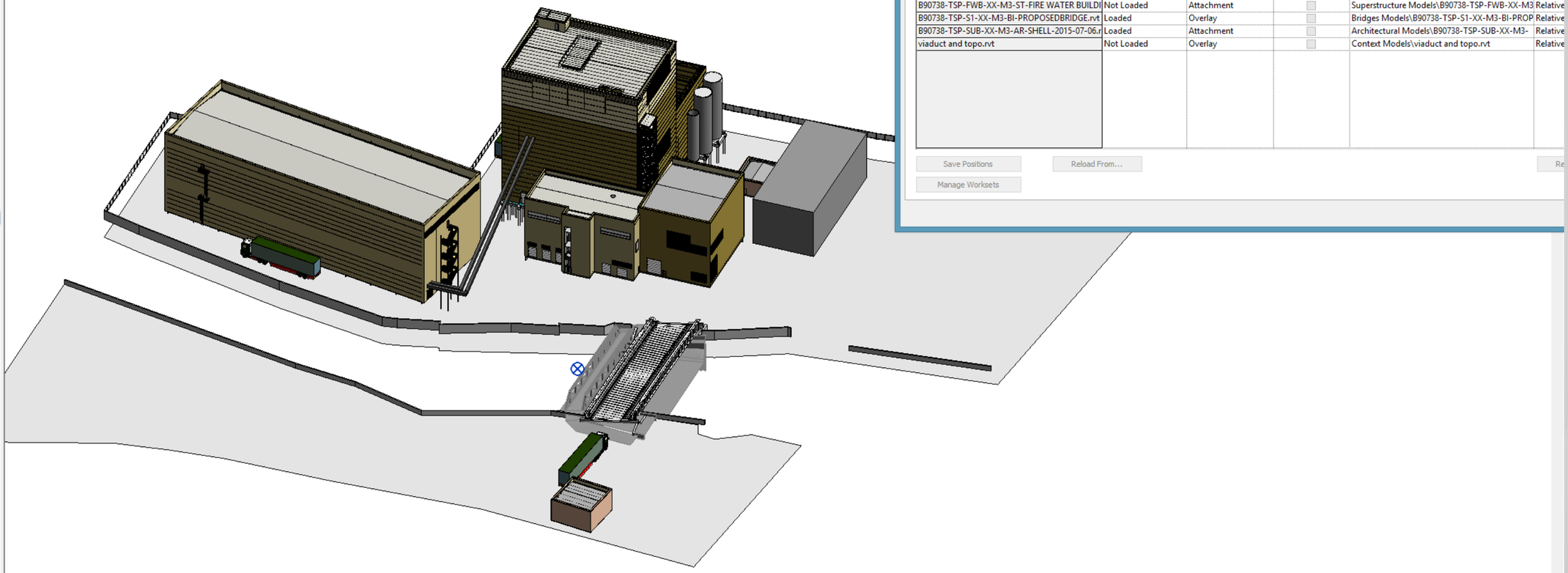

Design - General Application - AVEVA PDMS (Project - NTA) - [3D View (1)]
Design Explorer
Navigate :
PDMS arch. model
Command Window



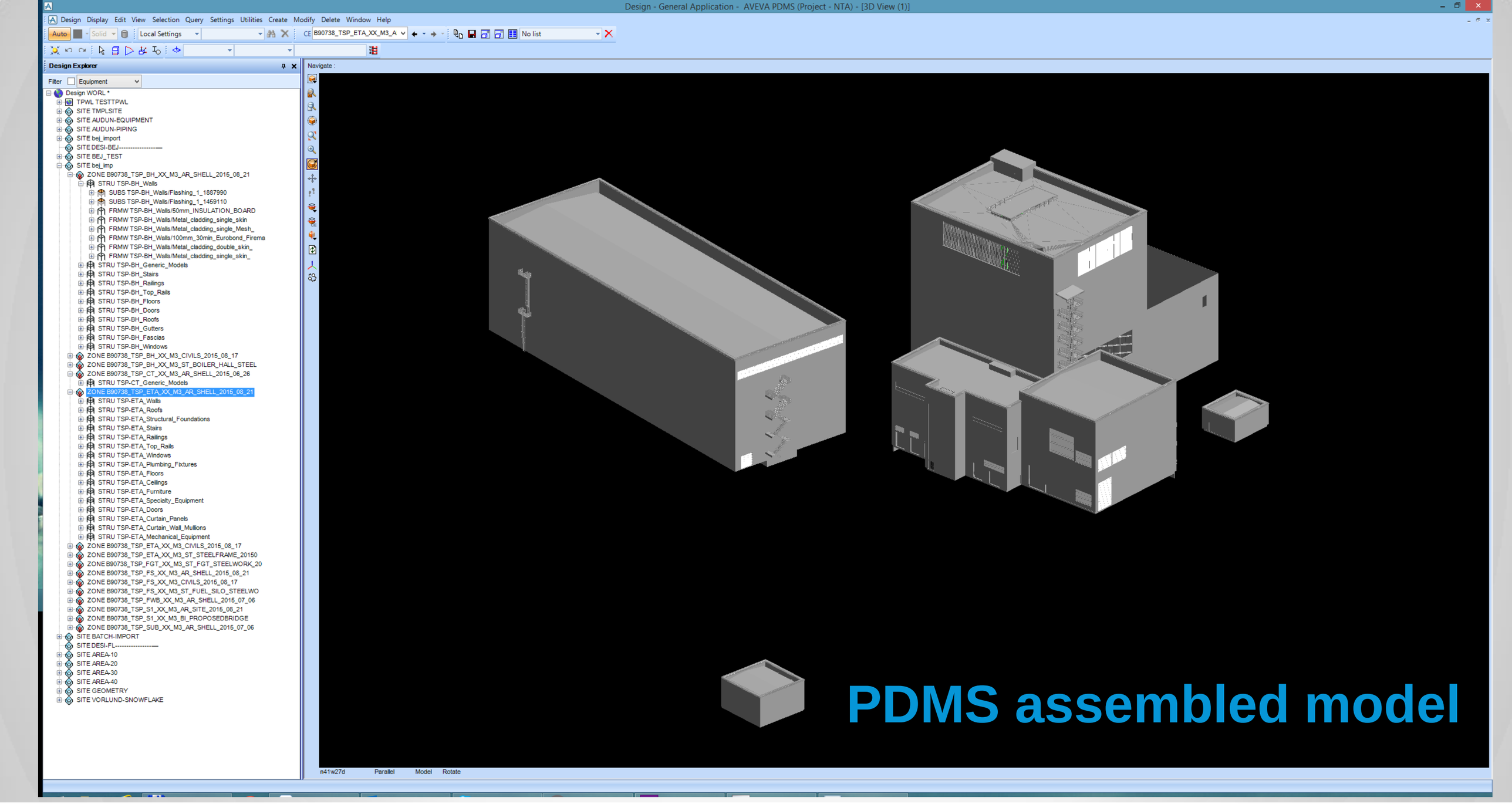
Revit structural model


Design - General Application - AVEVA PDMS (Project - NTA) - [3D View (1)]
Design Explorer
Attributes of /rvt_Structural_Columns
Track CE
Attribute
Value
RefNo
=17995/6274168
Name
rvt_Structural_Columns
Type
STRU
Lock
Owner
B90738_TSP_FS_XX_M3_ST_FUEL_SILO_
Description
unset
Function
unset
Purpose
unset
Number
0
Area
0
Position WRT Owner
E 0mm N 0mm U 0mm
Orientation WRT O...
Y is N and Z is U
Usrweight
unset
Usrwweight
unset
Usrcogravity
unset
Usrwcogravity
unset
Uwmtxt
unset
Built
DUnion
0
Skey
unset
Fstatus
unset
Inprtref
Nulref
Ouprtref
Nulref
:ISYInt1
:ISYtext1
unset
:ISYtext2
unset
:ISYtext3
unset
:ISYtext4
unset
:ISYtext5
unset
Navigate :
w44n23d
Parallel
Model
Rotate
Command Window
PDMS structural model

Revit assembled model



Link Name	Status	Reference Type	Positions Not Saved	Saved Path
B90738-TSP-BH-XX-M3-AR-SHELL-2015-08-07.rv	Loaded	Attachment		Architectural Models\B90738-TSP-BH-XX-M3-A
B90738-TSP-BH-XX-M3-CIVILS - 2015-08-03.rvt	Loaded	Attachment		Civils Models\B90738-TSP-BH-XX-M3-CIVILS - 2
B90738-TSP-BH-XX-M3-ST-BOILER HALL STEEL	Loaded	Attachment		Superstructure Models\B90738-TSP-BH-XX-M3-
B90738-TSP-CT-XX-M3-AR-SHELL-2015-06-26.rv	Loaded	Attachment		Architectural Models\B90738-TSP-CT-XX-M3-A
B90738-TSP-ETA-XX-M3-AR-SHELL-2015-08-07.r	Loaded	Attachment		Architectural Models\B90738-TSP-ETA-XX-M3-
B90738-TSP-FGT-XX-M3-ST-FGT STEELWORK-20	Loaded	Attachment		Superstructure Models\B90738-TSP-FGT-XX-M3
B90738-TSP-FS-XX-M3-AR-SHELL-2015-07-31.rvt	Loaded	Attachment		Architectural Models\B90738-TSP-FS-XX-M3-AR
B90738-TSP-FS-XX-M3-ST-FUEL SILO STEELWOR	Loaded	Attachment		Superstructure Models\B90738-TSP-FS-XX-M3-S
B90738-TSP-FWB-XX-M3-AR- SHELL-2015-07-06.	Loaded	Attachment		Architectural Models\B90738-TSP-FWB-XX-M3-
B90738-TSP-FWB-XX-M3-ST-FIRE WATER BUILDI	Not Loaded	Attachment		Superstructure Models\B90738-TSP-FWB-XX-M3
B90738-TSP-S1-XX-M3-BI-PROPOSEDBRIDGE.rvt	Loaded	Overlay		Bridges Models\B90738-TSP-S1-XX-M3-BI-PROP
B90738-TSP-SUB-XX-M3-AR-SHELL-2015-07-06.r	Loaded	Attachment		Architectural Models\B90738-TSP-SUB-XX-M3-
viaduct and topo.rvt	Not Loaded	Overlay		Context Models\viaduct and topo.rvt


Design - General Application - AVEVA PDMS (Project - NTA) - [3D View (1)]
Design Explorer
Navigate :
PDMS assembled model

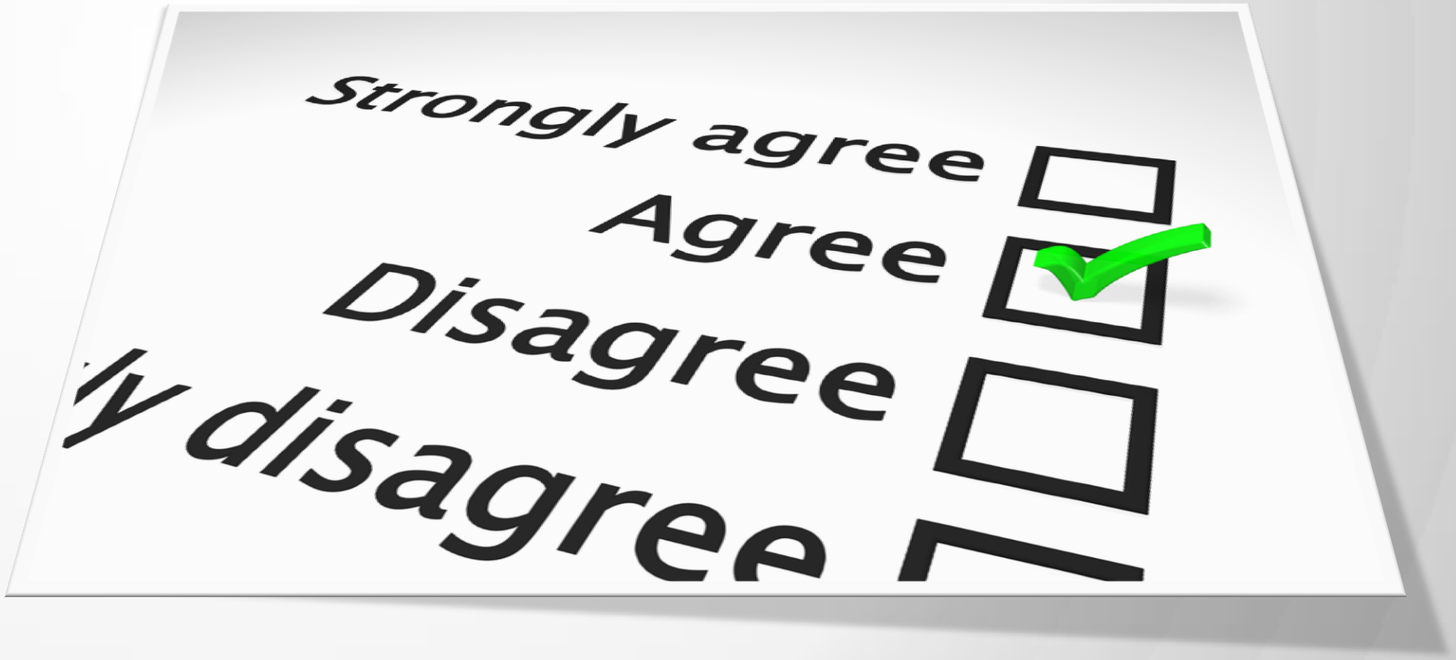
Summary

Class summary

- ISY Plant conversion software enables plant data sharing between Autodesk Plant software and AVEVA PDMS
- PDMS models, graphics and properties, may be brought into AutoCAD and Revit environment and used as a basis for new design or for drawing production
- PDMS specs. may be converted into Plant 3D. If converted specs are used in Plant 3D project, no mapping is required when converting Plant 3D models back into PDMS
- Plant 3D piping / equip may be converted into native PDMS model using XMPlant as a transfer format
- Revit models may be converted into PDMS as a combination of spec driven /non-spec driven elements into a customizable PDMS model structure
- The conversion software developed by Norconsult is currently being used in real projects.
- More information on www.isy.no

Be heard! Provide AU session feedback.

- Via the Survey Stations, email or mobile device.
- AU 2016 passes awarded daily!
- Give your feedback after each session.
- Give instructors feedback in real-time.



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