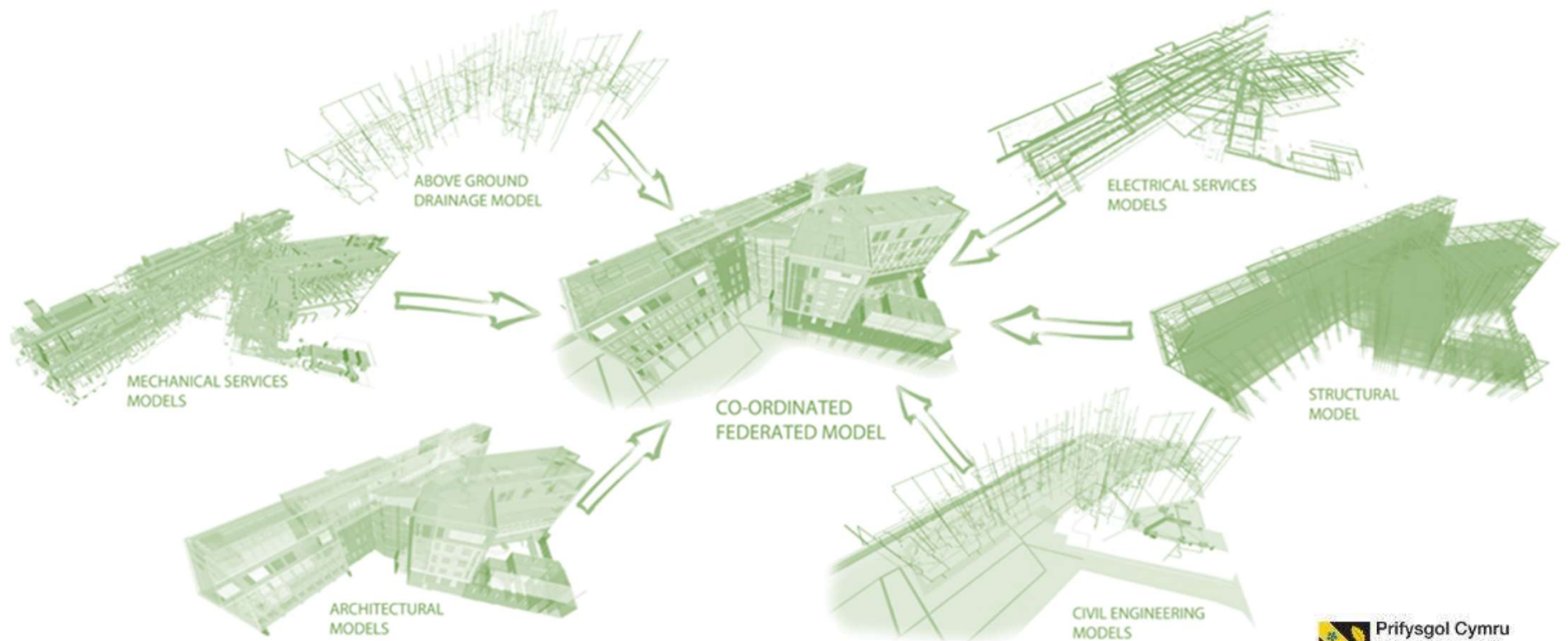


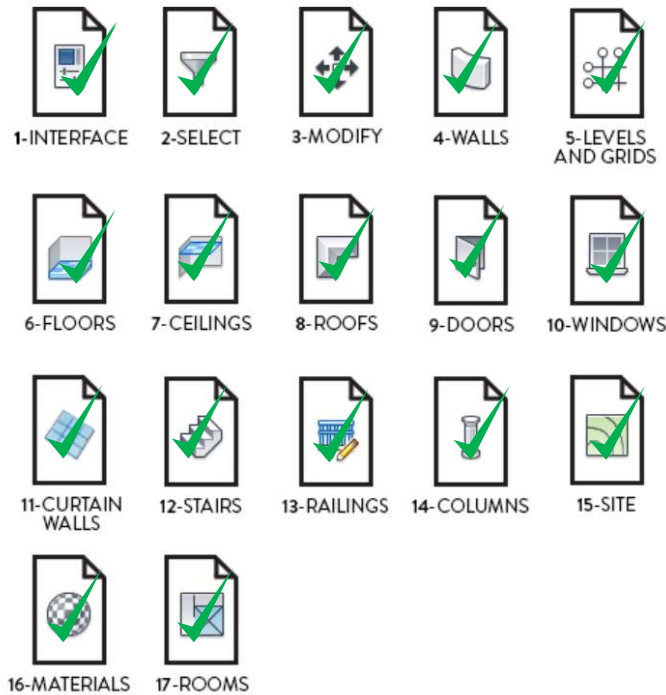
Building Information Modelling



www.onecreativeenvironment.com

AUTODESK® REVIT® the basics

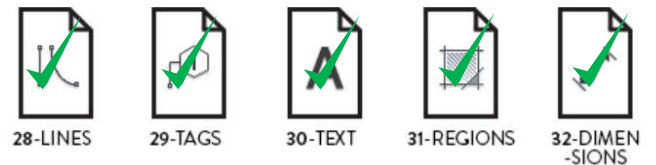
PART 1: MODEL



PART 2: VIEWS

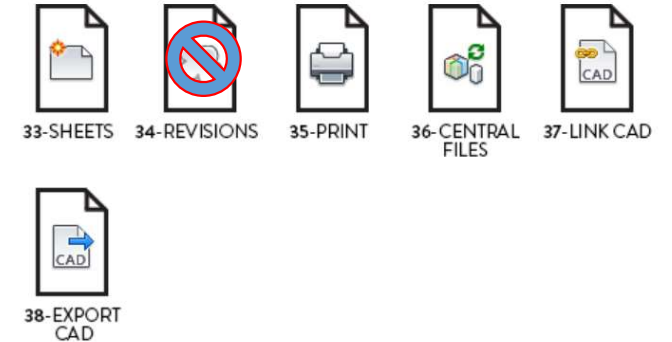


PART 3: ANNOTATE

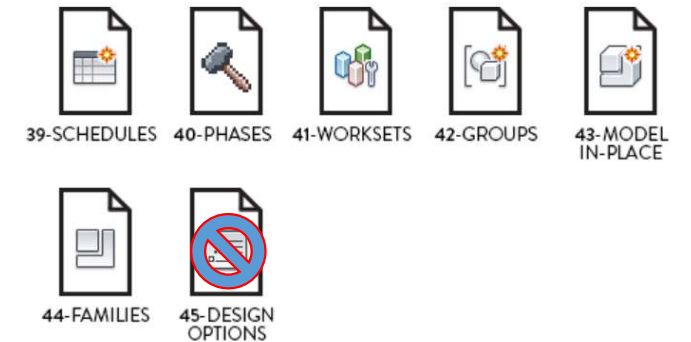


Covered in notes:

PART 4: PUBLISH AND COLLABORATE



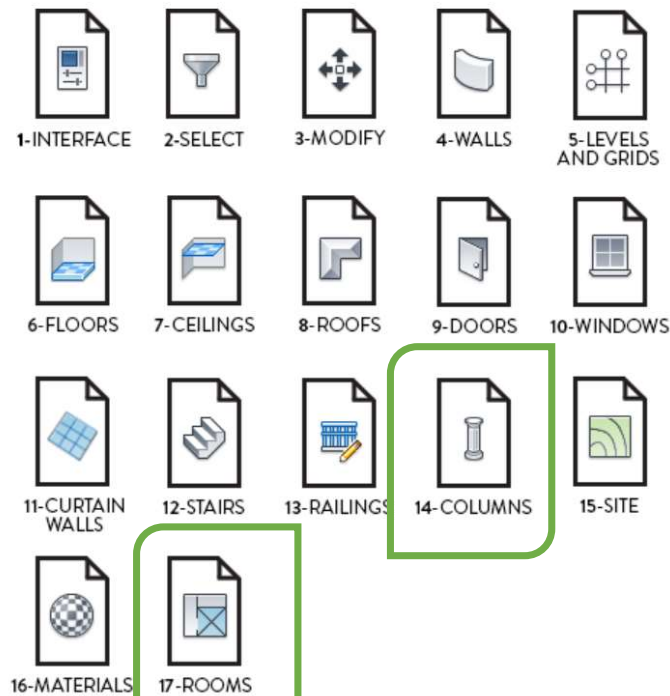
PART 5: ADVANCED TOOLS



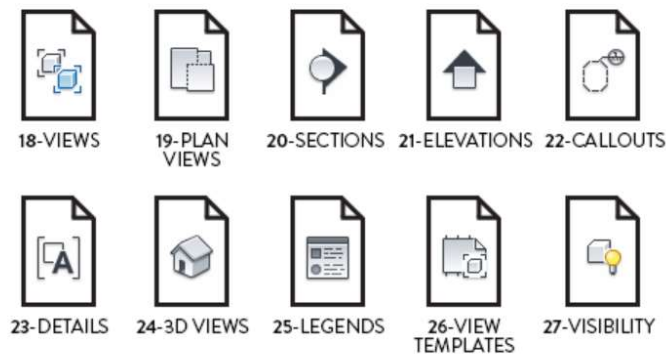
<https://revitpure.com/basics>
<https://academy.autodesk.com/>

the basics: plus

PART 1: MODEL



PART 2: VIEWS



PART 5: ADVANCED TOOLS



- Creating Schedules for pricing
- Phased Works
- Central Models / Worksets / Federated Models
- Families
- Advanced Modelling: Sweeps Reveals and Model In Place
- Collaboration and interoperability
- VR Visualisation

PART 5: ADVANCED TOOLS



39-SCHEDULES



40-PHASES



41-WORKSETS



42-GROUPS



43-MODEL
IN-PLACE



44-FAMILIES



45-DESIGN
OPTIONS



- Creating Schedules for pricing
- Phased Works
- Central Models / Worksets / Federated Models
- Families
- Advanced Modelling:
Sweeps Reveals and Model In Place
- *Collaboration and interoperability*
- *VR Visualisation*



Exercise 5

PHASING:

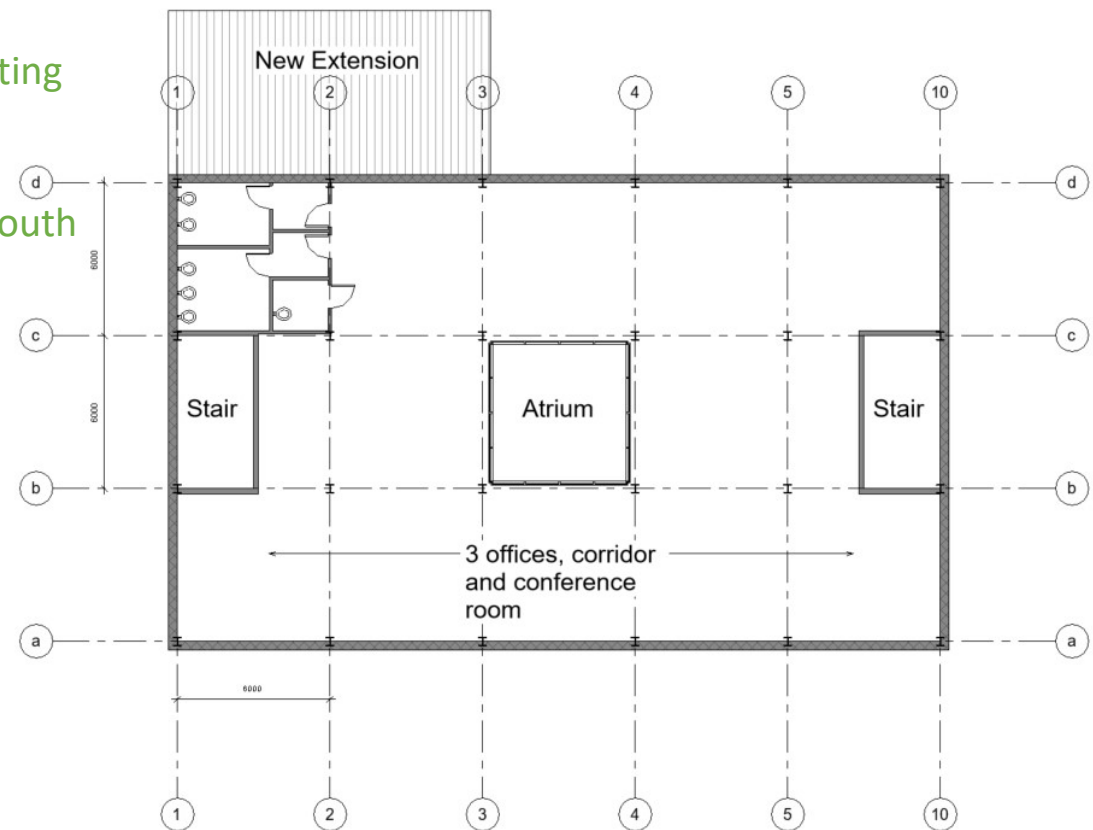
2 storey Office block refurbishment and extension.
Remove existing WC from ground and first floor to creating work open plans office space. New WCs and Kitchen /breakout facilities on both floors of the extension.
3 new offices access corridor and conference room to south elevation with conference room.

Set up your levels in Elevation view.
Distance between levels of 3500mm

Set up Phasing (existing proposed and works plans)
Set up Grids

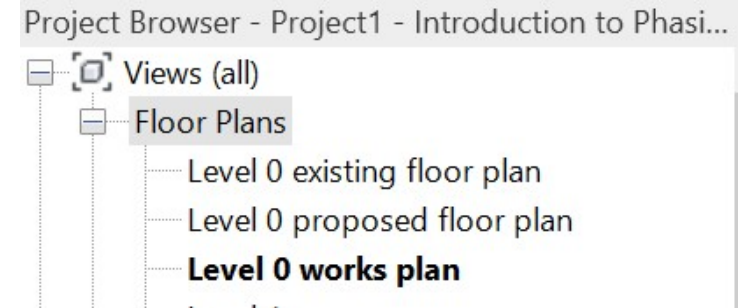
Assumptions:

External walls your choice.
Flat roof. External Windows distributed evenly per bay.
Framed structure with columns at 6m centres
Staircase at either end with central glazed atrium.
Apply, room names, legends, grids. create plans, section and elevation views. 3D views existing and proposed

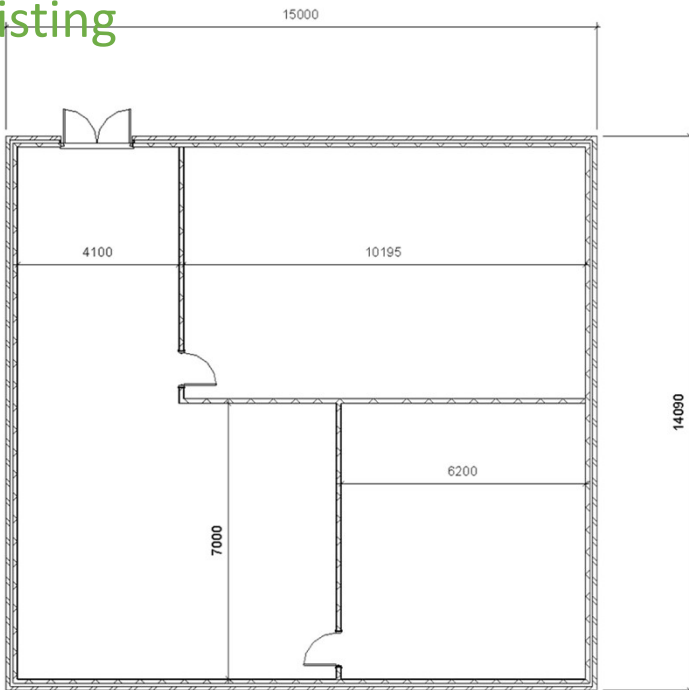


RECAP on Phasing

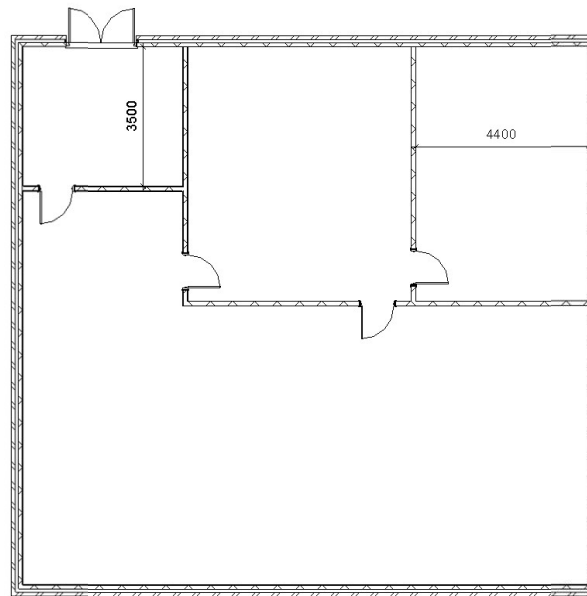
Revit enables you to show both existing and proposed plans using Phase Filters and Graphical Overrides



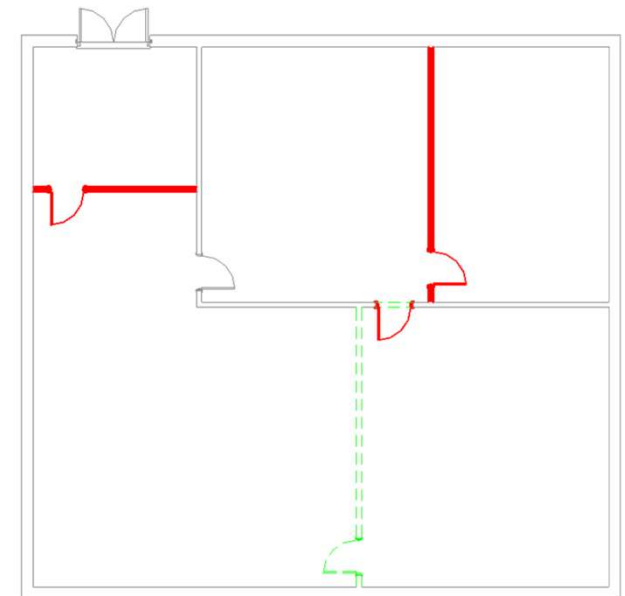
Existing



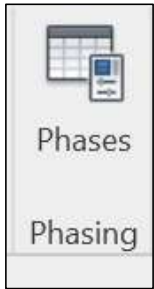
Proposed



Works Plan



Manage



Phasing

Project Phases Phase Filters Graphic Overrides

PAST

	Name	Description
1	Existing	
2	New Construction	

Insert

Before

After

Combine with:

Previous

Next

Phasing

Project Phases Phase Filters Graphic Overrides

	Filter Name	New	Existing	Demolished	Temporary
1	Show All	By Category	Overridden	Overridden	Overridden
2	Show Complete	By Category	By Category	Not Displayed	Not Displayed
3	Show Demo + New	By Category	Not Displayed	Overridden	Overridden
4	Show New	Overridden	Overridden	Overridden	Not Displayed
5	Show Previous + Demo	Not Displayed	Overridden	Overridden	Not Displayed
6	Show Previous + New	By Category	Overridden	Not Displayed	Not Displayed
7	Show Previous Phase	Not Displayed	Overridden	Not Displayed	Not Displayed

New Delete

OK Cancel Apply Help

Phasing

Project Phases Phase Filters Graphic Overrides

Phase Status	Projection/Surface		Cut		Halftone	Material
	Lines	Patterns	Lines	Patterns		
Existing				Hidden	☐	Phase - Exist
Demolished				Hidden	☐	Phase - Demo
New					☐	Phase - New
Temporary					☐	Phase - Temporary

OK Cancel Apply Help

Phasing in Revit

Revit enables you to show both existing and proposed plans using Phasing Filters and Graphical Overrides

Existing

Floor Plan

Floor Plan: Level 0 existing floor plan

Edit Type

Depth Clipping

No clip

Identity Data

View Template

<None>

View Name

Level 0 existing floor p...

Dependency

Independent

Title on Sheet

Referencing Sheet

Referencing Detail

Phasing

Phase Filter

Show All

Phase

Existing

Proposed

Floor Plan

Floor Plan: Level 0 proposed floor pl...

Edit Type

Depth Clipping

No clip

Identity Data

View Template

<None>

View Name

Level 0 proposed floo...

Dependency

Independent

Title on Sheet

Referencing Sheet

Referencing Detail

Phasing

Phase Filter

Show Complete

Phase

New Construction

Works Plan

Floor Plan

Floor Plan: Level 0 works plan

Edit Type

Depth Clipping

No clip

Identity Data

View Template

<None>

View Name

Level 0 works plan

Dependency

Independent

Title on Sheet

Referencing Sheet

Referencing Detail

Phasing

Phase Filter

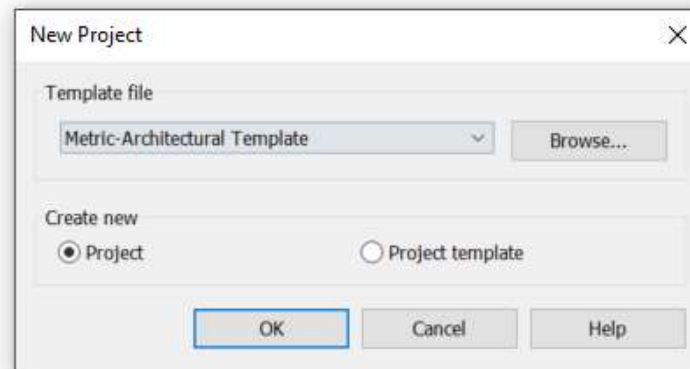
Show New

Phase

New Construction



File > New > Project



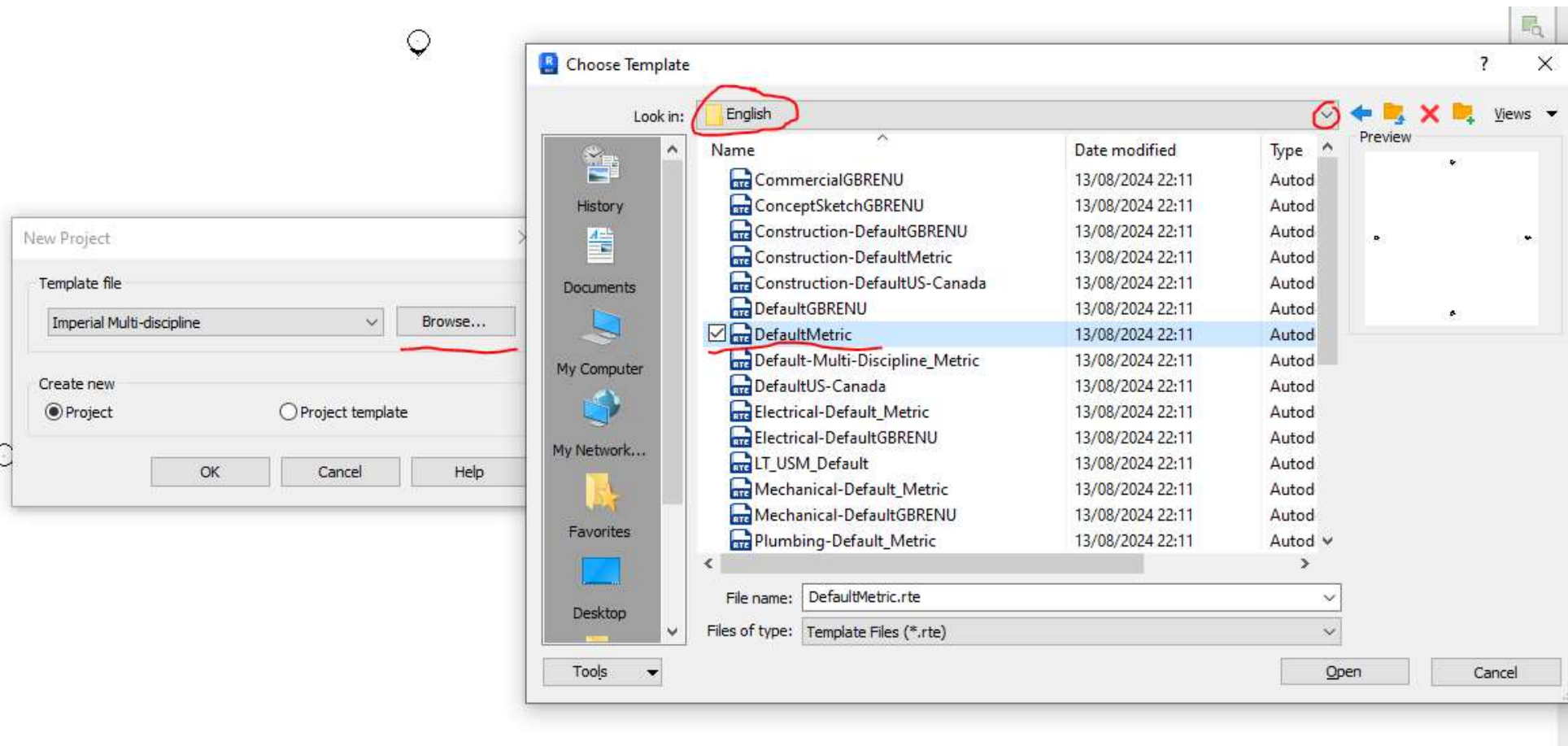
Note: Revit 2024

Default Metric
(use browse function)

Can't find the Template.

Click Browse and use the dropdown menu to select – ENGLISH (folder)

Select 'DefaultMetric.rte'



Exercise 5

PHASING:

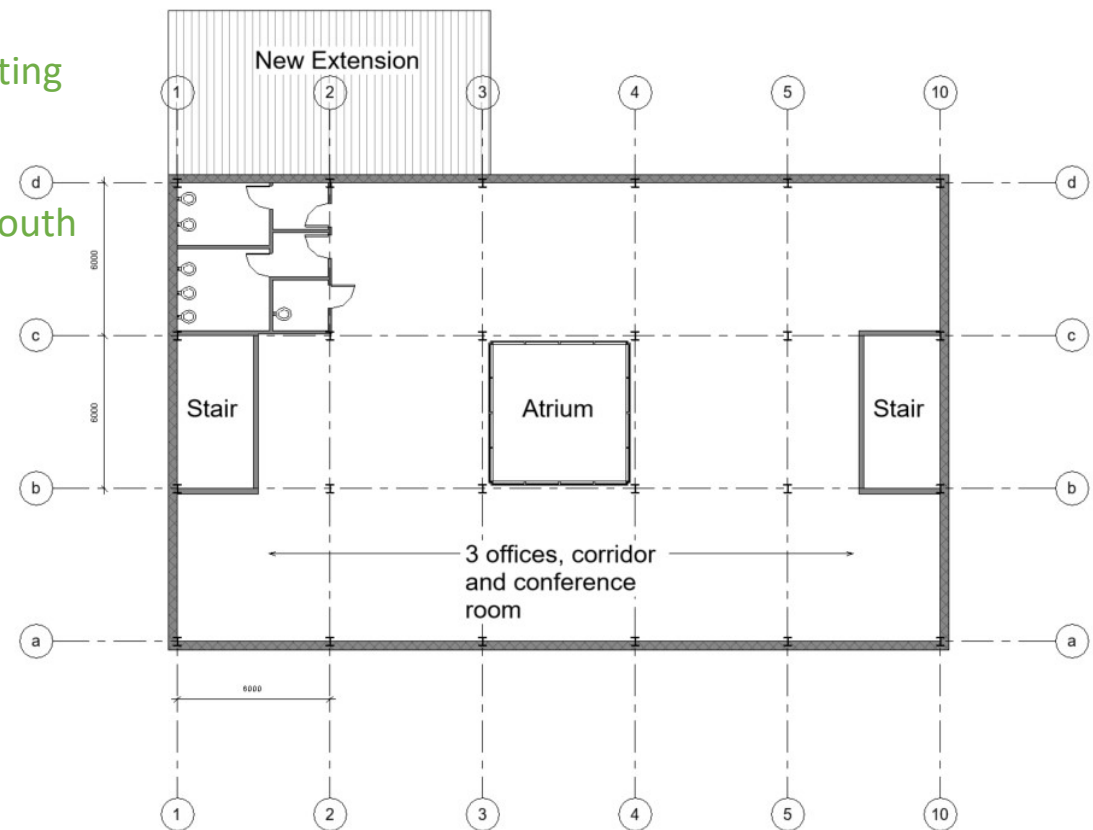
2 storey Office block refurbishment and extension.
Remove existing WC from ground and first floor to creating work open plans office space. New WCs and Kitchen /breakout facilities on both floors of the extension.
3 new offices access corridor and conference room to south elevation with conference room.

Set up your levels in Elevation view.
Distance between levels of 3500mm

Set up Phasing (existing proposed and works plans)
Set up Grids

Assumptions:

External walls your choice.
Flat roof. External Windows distributed evenly per bay.
Framed structure with columns at 6m centres
Staircase at either end with central glazed atrium.
Apply, room names, legends, grids. create plans, section and elevation views. 3D views existing and proposed



PART 4: PUBLISH AND COLLABORATE



33-SHEETS



34-REVISIONS



35-PRINT



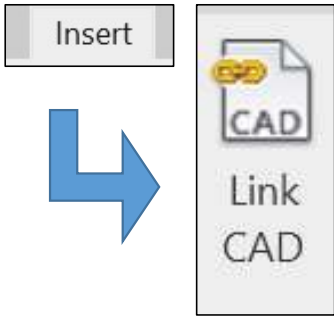
36-CENTRAL
FILES



37-LINK CAD



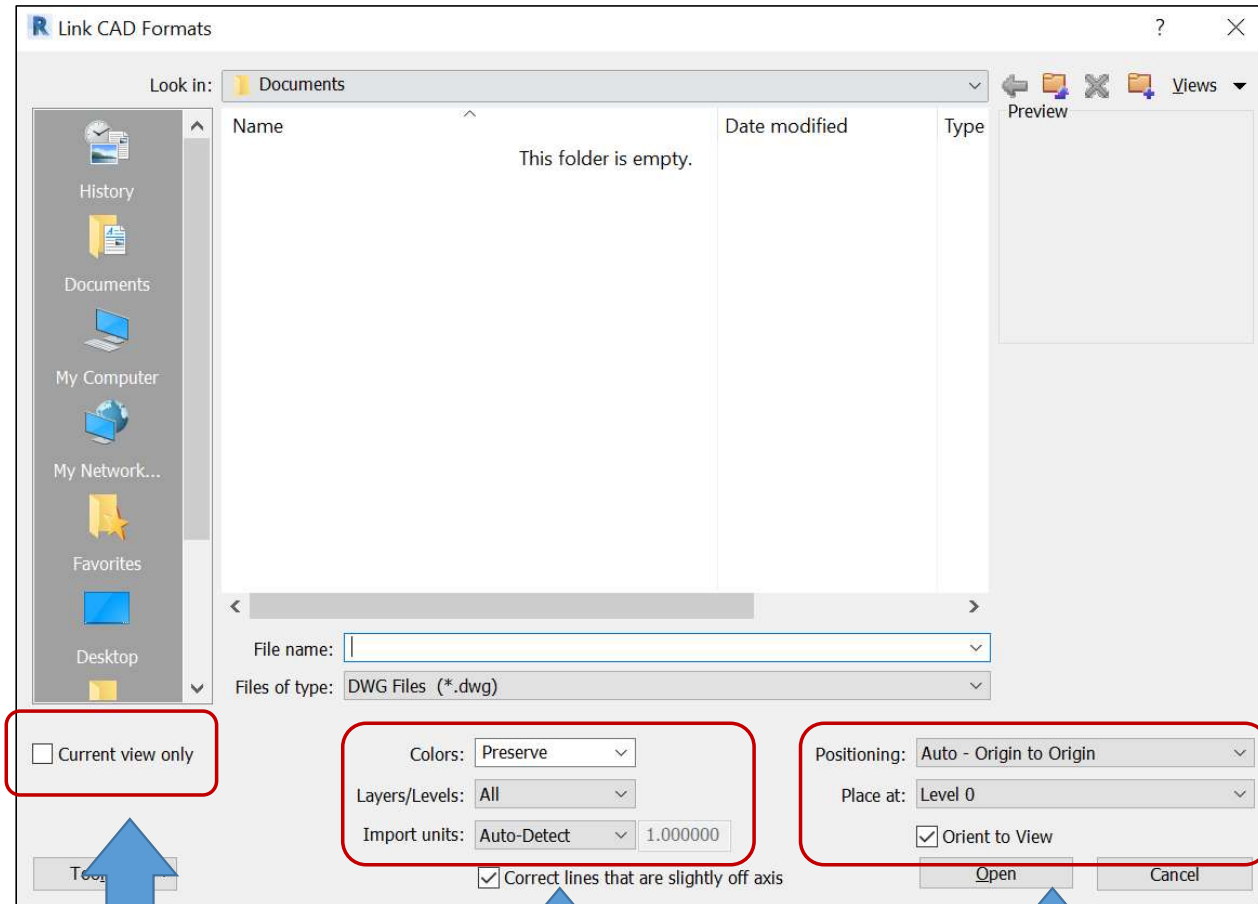
38-EXPORT
CAD



CAD files

Cad files can be linked to Revit through the Insert Menu.

Check the fields highlighted before importing files.



Manage Links

RevitIFCCAD FormatsDWF MarkupsPoint CloudsTopography

Link Name	Status	Positions Not Saved	Size	Saved Path	Path Type
OSMAP BoatHouse.dwg	Loaded	☐	161.9 K	C:\Users\g.traylor\OneDrive - Univers	Relative

Save Positions

Reload From...

Reload

Unload

Import

☒ Preserve graphic overrides

OK

C

Manage Links to unload / load updated linked files



Visibility of Links from Visibility / Graphics – Imported Categories. CAD Layers can be switched on and off.

Visibility/Graphic Overrides for Floor Plan: Site

Model CategoriesAnnotation CategoriesAnalytical Model CategoriesImported CategoriesFilters

☒ Show imported categories in this view

If a category is unchecked, it will not be visible.

Visibility	Projection/Surface		Halftone
	Lines	Patterns	
☒ Imports in Families	Override...		☐
☒ OSMAP BoatHouse.dwg			☐
☒ 0			
☒ Building_Line_Division			
☒ Building_Line_Outline			
☒ Buildings_Or_Structure_T...			
☒ General_Feature_Line			
☒ General_Surface_Line			
☒ General_Surface_Text			
☒ Inland_Water_Line			
☒ Inland_Water_Text			
☒ Landform_Line_Bottom_...			
☒ Landform_Line_Top_Of_...			
☒ Road_Or_Track_Line_Pub...			
☒ Road_Or_Track_Text_Roa...			
☒ Roadside_Text			
☒ Structure_Text			
☒ Terrain_and_Height_Poin...			
☒ Terrain_and_Height_Text			

All

None

Invert

Expand All

Categories that are not overridden are drawn according to this project's Imported Object Style settings.

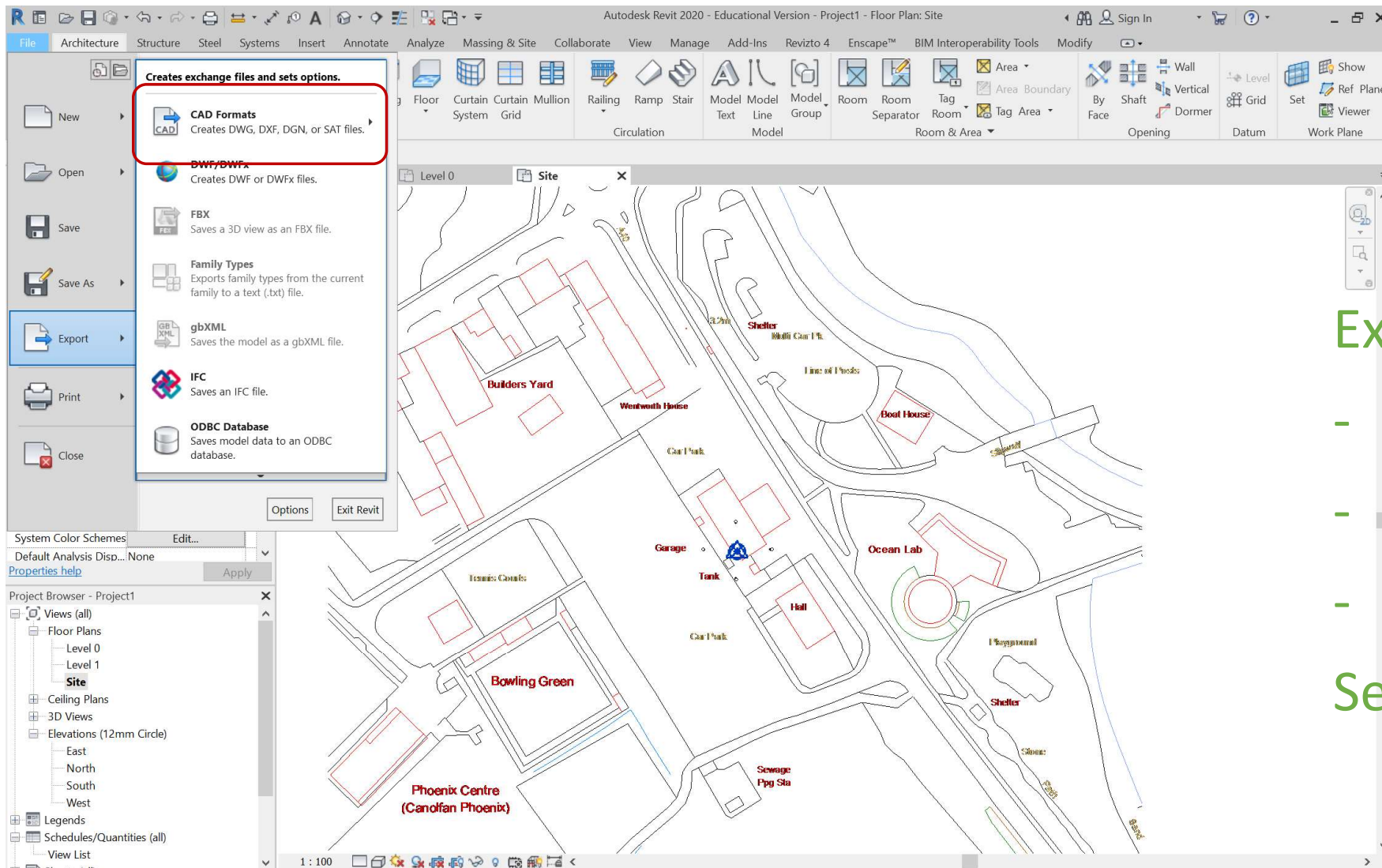
Object Styles...

OK

Cancel

Apply

Help

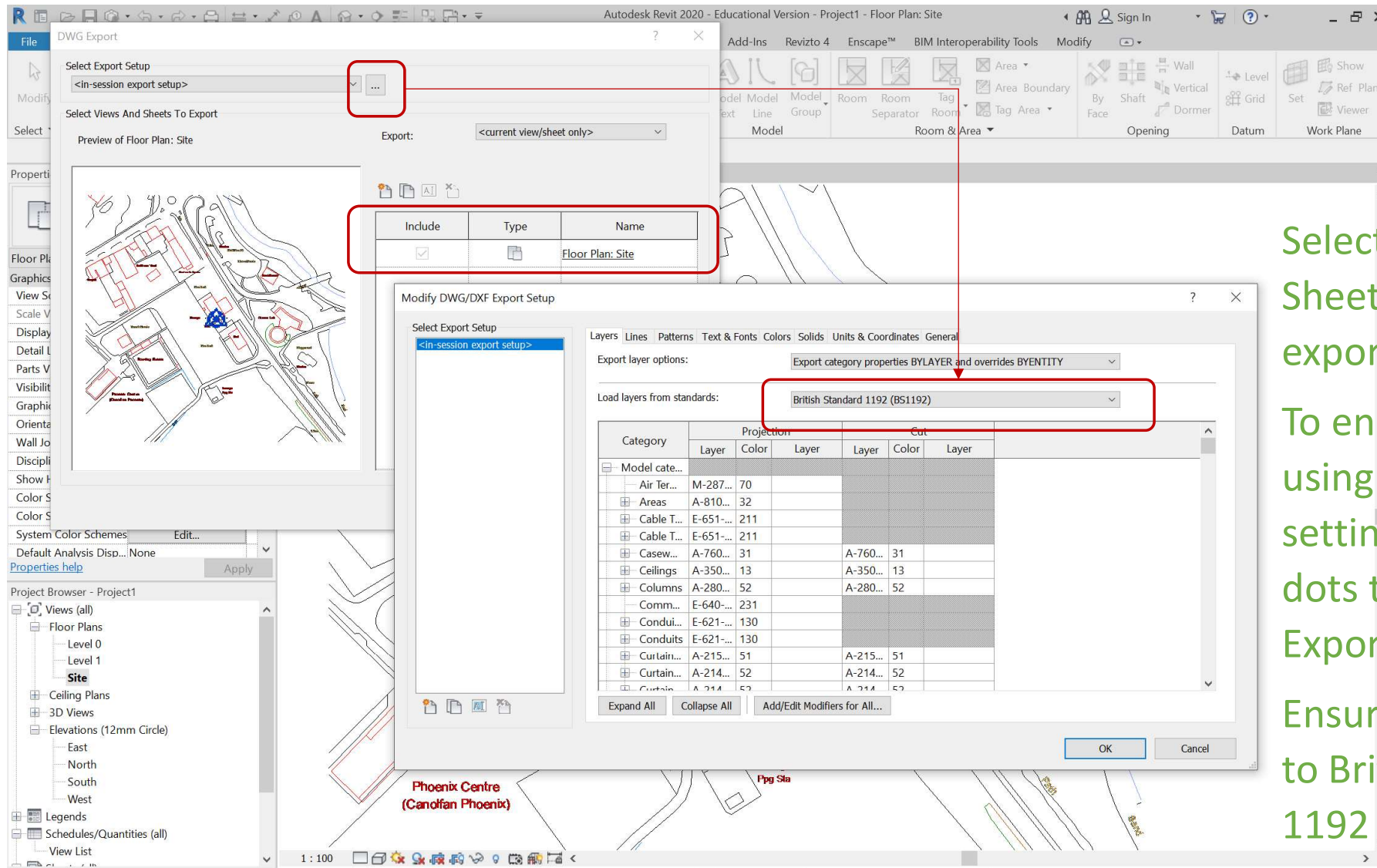


38-EXPORT
CAD

Exporting Files

- File
- Export
- CAD Formats

Select DWG



Select the View / Sheet you wish to export.

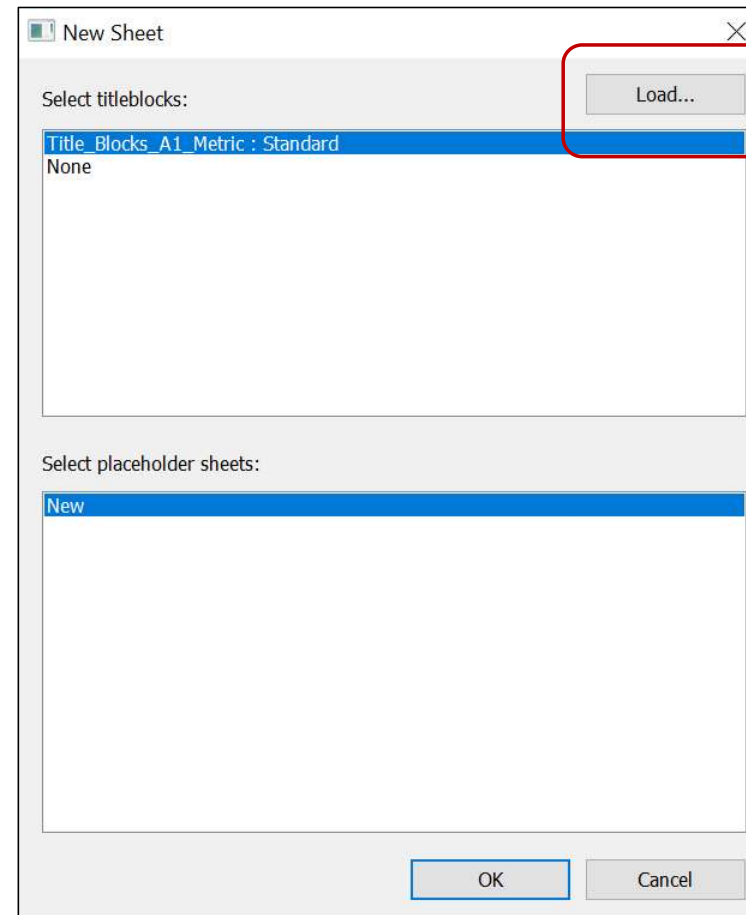
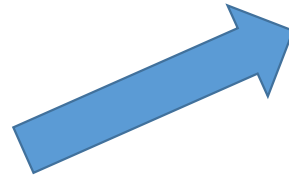
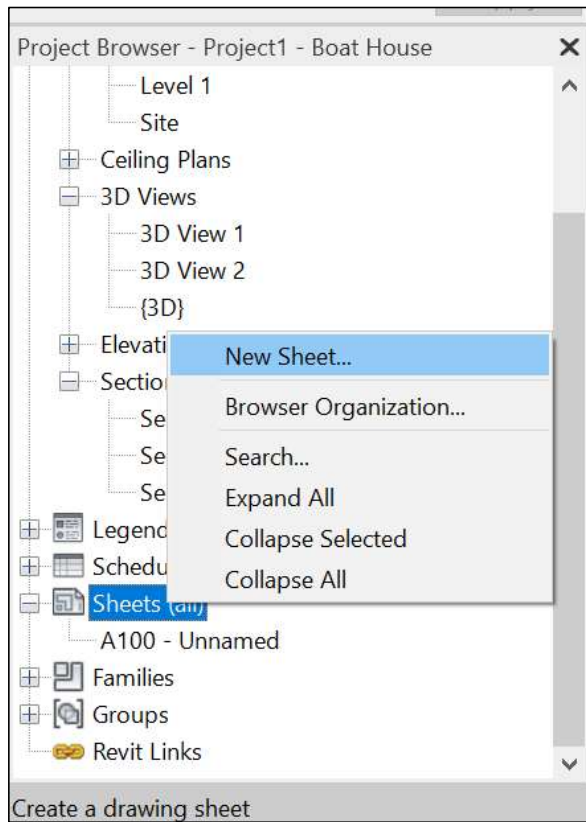
To ensure you are using the correct settings click the 3 dots to open the Export settings.

Ensure Layers are set to British Standards 1192



33-SHEETS

Download the UWTSD titleblock



Load a titleblock

PART 4: PUBLISH AND COLLABORATE



33-SHEETS



34-REVISIONS



35-PRINT



36-CENTRAL
FILES



37-LINK CAD



38-EXPORT
CAD

Conventions

UNIVERSITY OF WALES TRINITY SAINT DAVID

BIM NAMING CONVENTION GUIDE: All files: Models, Drawings & Documents

THE CODE	Project	Originator	Functional Breakdown	Spatial Breakdown	Form	Discipline	Number	Description*	Status*	Revision*
CODE LENGTH	2-6 Characters	3-6 Characters	1-2 Characters	2 Characters	2 Characters	1 Character Only	4 Characters	6-8 Characters	2 Characters	Single Character
DESCRIPTION	A single common project identifier that is recognizably distinct from any individual organization's internal job number.	The company that produced the data.	Use XX as the default. Only use Zones if project requires. This is then defined by the chosen Model segregation. There should be at least one 'zone' per role. EG, Arch Model, Mech Model, Struct Model, etc.	The level the data refers to: ZZ – Multi Level XX – No Level 00 - Ground Flr 01 – First Flr 02 – Second Flr Etc. Mezzanines M1 M2 Etc. All levels below ground floor prefix 'B' B1 B2 Etc.	This is simply the type or form of data eg: For Files: D - Drawing G Diagram I Image L List M Model T Textual V Video/Audio	A Architect / Architectural B Building Surveyor C Civil Engineer D Demolition/Dismantling E Electrical Engineer F Facilities Manager G Ground Engineering H Highways & Transport I Interior Designer K Client L Landscape Architect M Mechanical Engineer Other P Public Health Engineer Q Quantity Surveyor Project Mgmt S Structural Engineer T Planner W Water Engineering X non discipline specific Y Topographical Z Multi Discipline	This is a 4 digit code denoting drawing grouping and number. It consists of a 1 digit Drawing Group plus the 3 digit individual drawing no: Eg- 1001 Where 1 at the beginning is the drawing group and the 3 latter digits are sequential numbers.	Drawing / Model description ie. GAPLAN SITE GEO MOD SECTION SCHEMAT BREEAM FINISHES etc.	This is for the 2 digit suitability code that indicates and governs the development stages of information and documents throughout the BIM process.	The revision number of the drawing. eg: Preliminary revisions and Construction revisions as image opposite
NOTES	Use the 4 digit Company project numerics here - NB. NUMBER ONLY For Student Projects MODULE CODE ie 4005	NB. A specific unique identifier for each organisation should be defined upon them joining the project ie. Use company initials	NB. A more complex project may need to be divided into several diff zones. If so the Zone Strategy should be agreed at beginning of project	IE. Roof plan would be multi level.			Drawings Groups are as follows: 0 - General 1 - Substructure 2 - Superstructure 3 - Openings 4 - Finishes 5 - Piped & ducted services 6 - Electrical 7 - Fixtures & Fittings (Fixed) 8 - Loose Furniture 9 - External Works	There is no specific standard for description but avoid long, unwieldy descriptions as this will affect your ability to file in Windows		
EXAMPLE	4005	UWTSD	XX	ZZ	D	A	1001	GEO MOD	S1	A

* = Optional add ons within schema that we as UWTSD have chosen to include.
NB. There are other optional fields in the schema that we have opted to leave out ie: Classification (uniclass codes)

UNIVERSITY OF WALES TRINITY SAINT DAVID										
BIM NAMING CONVENTION GUIDE: All files: Models, Drawings & Documents										
THE CODE	Project	Originator	Functional Breakdown	Spatial Breakdown	Form	Discipline	Number	Description*	Status*	Revision*
CODE LENGTH	2-6 Characters	1-6 Characters	1-3 Characters	3 Characters	3 Characters	1 Character Only	1 Character	6-8 Characters	2 Characters	Single Character
DESCRIPTION	A single common project identifier that is recognisably distinct from any individual organisation's internal job number.	The company that produced the data.	Use XX as the default. Only use Zones if project requires. This is then defined by the chosen Model designation. There should be at least one 'zone' per role. EG. Arch Model, Mech Model, Struct Model, etc.	The level the data refers to: ZZ - Multi Level XX - No Level 00 - Ground Fl 01 - First Fl 02 - Second Fl Etc. Mezzanines M1 M2 Etc. All levels below ground floor prefix 'B' B1 B2 Etc. If roof plan would be multi level.	This is simply the type or form of data eg: For Files: D - Drawing G - Diagram I - Image L - List M - Model T - Textual V - Video/Audio	A Architect / Architectural B Building Surveyor C Civil Engineering D Demolition/Dismantling E Electrical Engineer F Facilities Manager G Ground Engineering H Highways & Transport I Interior Designer K Client L Landscape Architect M Mechanical Engineer O Other P Public Health Engineer Q Quantity Surveyor R Project Mgmt S Structural Engineer T Planner W Water Engineering X non discipline specific Y Topographical Z Multi/Disabling	This is a 4 digit code denoting drawing grouping and number. It consists of a 1 digit Drawing Group plus the 3 digit individual drawing no. eg: 1001 Where 1 at the beginning is the drawing group and the 3 letter digits are sequential numbers.	This is for the 2 digit suitability code that indicates and governs the development stages of information and documents throughout the BIM process.	The revision number of the drawing. eg: Preliminary revisions and Construction revisions as image supports	
NOTES	Use the 4 digit Company project numbers here - NB: NUMBER ONLY For Student Projects MODULE CODE ie 4000	NB: A specific unique identifier for each organisation should be defined upon them joining the project ie, use company initials.	NB: A more complex project may need to be divided into several different zones. If so the Zone Strategy should be agreed at beginning of project					Drawings Groups are as follows: 0 - General 1 - Substructure 2 - Superstructure 3 - Openings 4 - Finishes 5 - Piped & ducted services 6 - Electrical 7 - Fixtures & Fittings (Fixed) 8 - Loose Furniture 9 - External Works	There is no specific standard for description but avoid long, unwieldy descriptions as this will affect your ability to file in Windows	
EXAMPLE	4000	UWTSO	XX	ZZ	D	A	1001	GEO MOD	SI	A
* = Optional add ons within schema that we as UWTSO have chosen to include NB: There are other optional fields in the schema that we have opted to leave out ie: Classification (uniclass codes)										

Conventions:
Working in a Common
Data Environment CDE

Status code	Which information containers should the status code be used for?	Revision
Work in Progress (WIP)		
S0	Information containers being developed within a task team	P01.01 to Pnn.nn
Shared (non-contractual)		
S1	Information containers that are suitable for geometrical and/or non-geometrical coordination by other task teams within the delivery team	P01 to Pnn
S2	Information containers that are suitable for information/reference by other task teams within the delivery team	
S3	Information containers that are suitable for review and comment within the delivery team	
S4	Information containers that are suitable for review and comment by the Lead Appointed Party (Kier)	
S5	Information containers that are suitable for review and comment by the Appointing Party (Client)	
Published (contractual)		
A3, A4, A5, A6 etc. (number correlates with work stage)	Information containers where there are no comments from the party being invited to either: - authorise them (if they are in response to a lead appointed party exchange information requirement) or; - accept them (if they are in response to an appointed party exchange information requirement)	C01 to Cnn
B3, B4, B5, B6 etc. [Deprecated]	Information containers that are partially signed off where there are comments from the party being invited to authorise or accept them	P01 to Pnn

<i>Project Name:</i>	Project Name
<i>UPRN Code:</i>	0001
<i>Originator Code:</i>	
<i>Role Code:</i>	Designer
<i>Drawn By:</i>	Author
<i>Checked By:</i>	Checker
<i>Date:</i>	01/28/21
<i>Project Status:</i>	Project Status

Conventions

5016 _UWTSD _XX _01_D _A _0001 _GenArr _AB

An 'As Built' First Floor, General Arrangement plan drawing produced by the architect.

5016 _UWTSD _XX _XX_T _QS _0001 _CostPlan

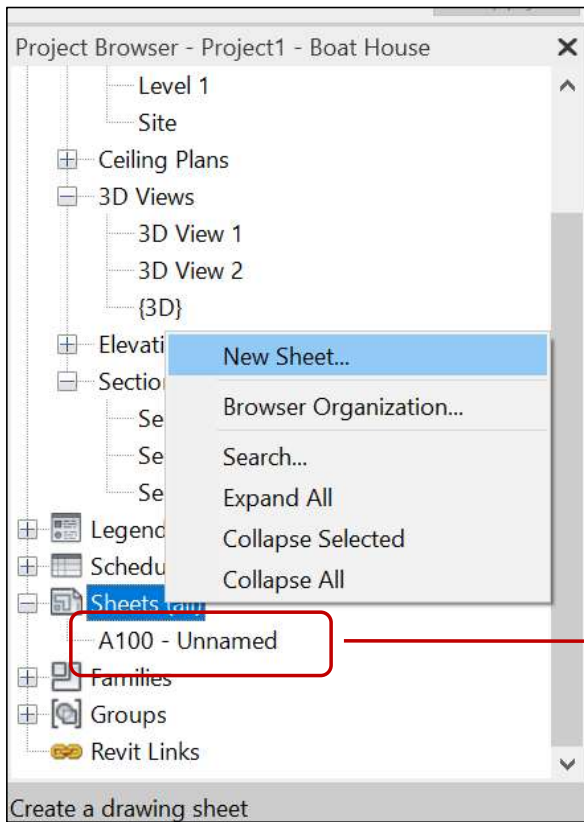
A Cost Plan suitable for construction, produced by the QS



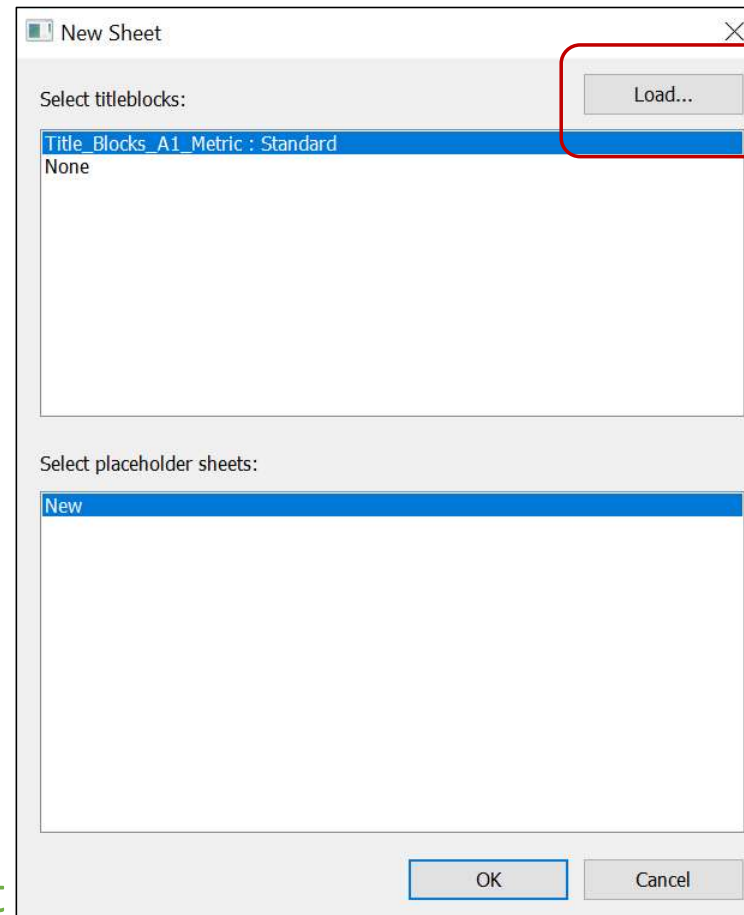
33-SHEETS

Download the UWTSD Splash Page and Titleblock from Teams

Right Click on Sheets
and select New Sheet



Right Click &
Delete
AutoDesk
Default sheet



Load:
Splash Page

Note:
Many practices use
a Splash Page to
hold common data
about the Model.

Project Name: Boat House Fishg

UPRN Code: 5010

Originator Code: UWTSD

Discipline : Designer

Drawn By: Author

Checked By: Checker

Date: 02/18/21

Project Status: S0

Project Name: Boat House Fishguard

UPRN Code: 5010

Originator Code: UWTSD

Discipline : Designer

Drawn By: Author

Checked By: Checker

Date: 02/18/21

Project Status: S0



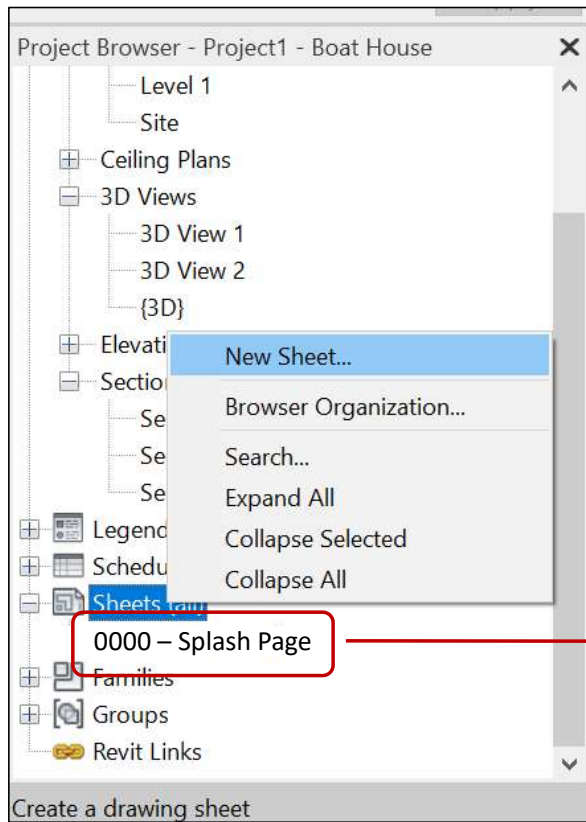
ACBA 5016
BIM : LEVEL 5

These common
BIM fields will be
transferred to all
new sheets

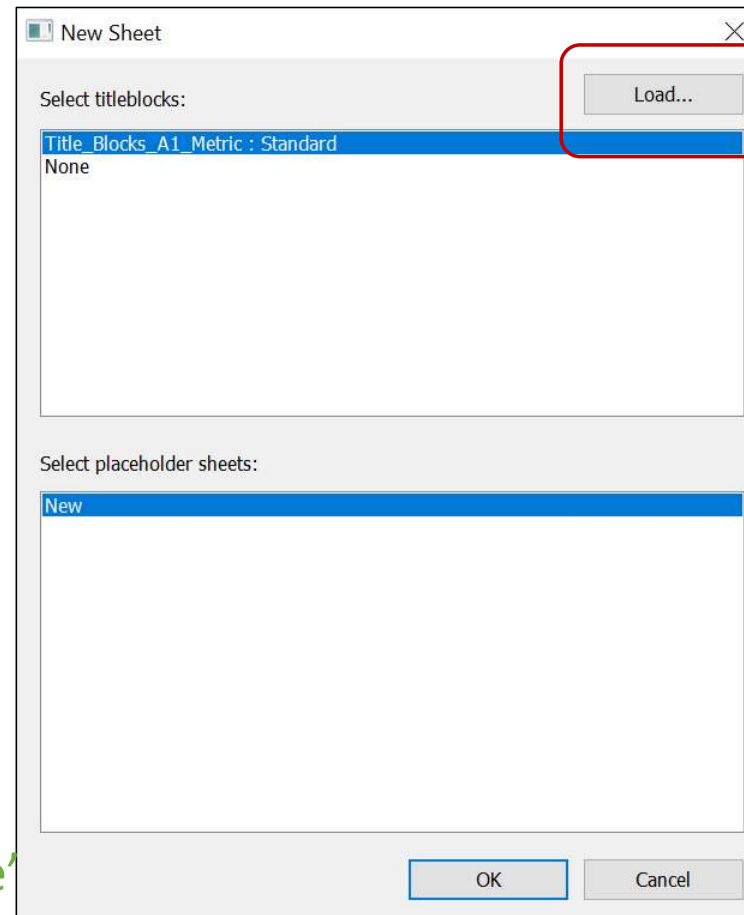


33-SHEETS

Right Click on Sheets
and select New Sheet



Right Click
and Rename
'0000'
'Splash Page'



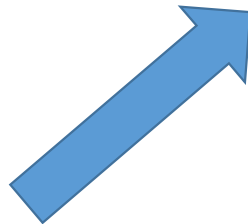
Load:
UWTSD titleblock



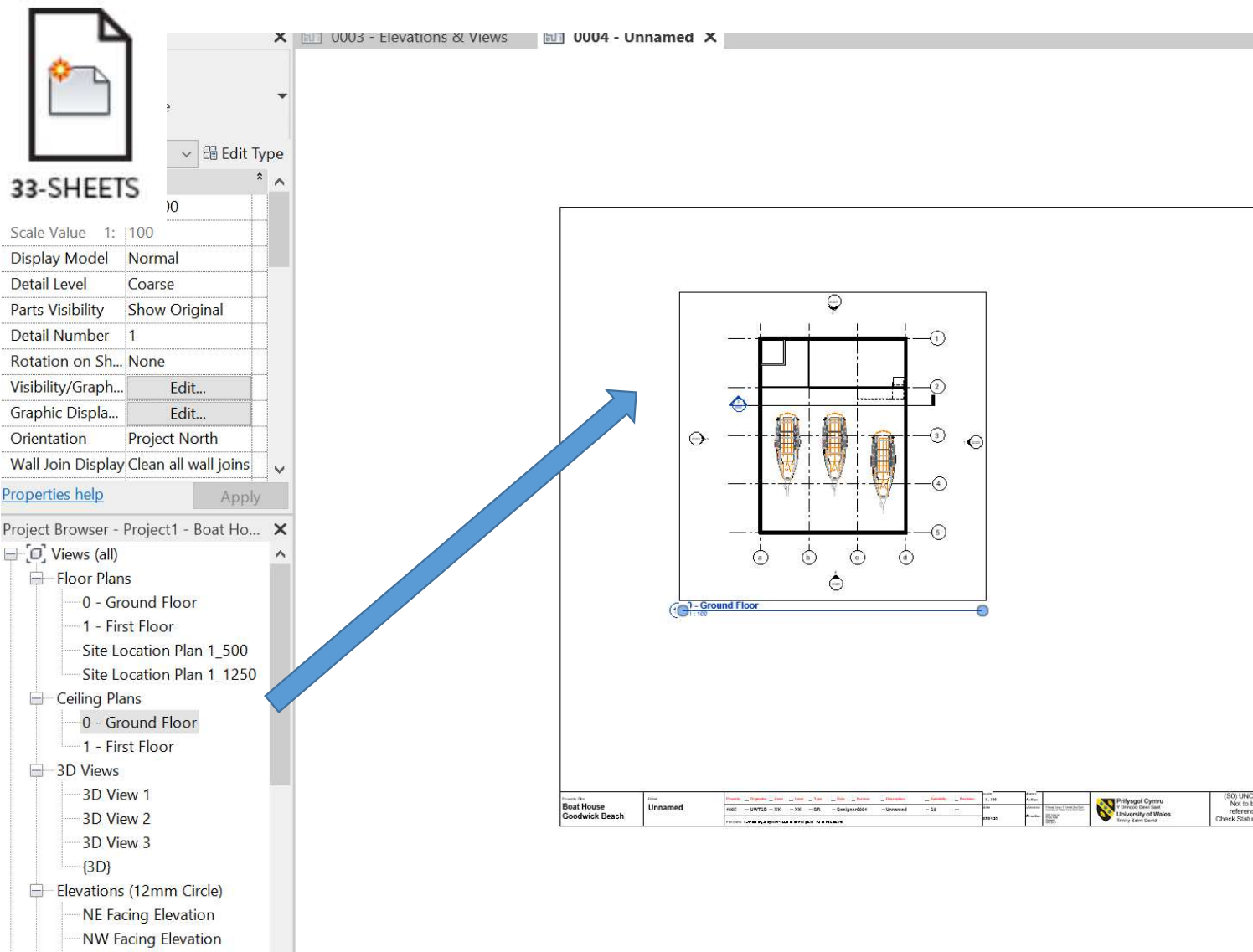
33-SHEETS

Fields can be
filled in to suit
the drawing

Property	Originator	(Zone) Functional Breakdown	(Level) Spatial Breakdown	(Type) Form	Discipline	Number	Description	Status	Revision	SC
5010	UWTSD	XX	ZZ	D	A	0001	Unnamed	S0		da



Property Title Boat House Goodwick Beach	Detail Unnamed	Property	Originator	Zone	Level	Type	Form	Number	Description	Reliability	Revision	0001	Author		 Prifysgol Cymru Y Ddrudod Dewi Sant University of Wales Trinity Saint David	(S0) UNCONTROLLED Not to be used as a reference document Check Status Before Quoting	History
		4006	UWTSD	XX	XX	DR	Designer004	Unnamed	S0			0001	Checker				History
File Path: C:\Users\j\Documents\Project - Boat House\33 - Boat House.rvt																	



Drag and drop Views from the Project Browser onto the sheet.

Note: A view can only appear on one sheet. If you want a view to appear on more than one sheet you have to duplicate the view (right click on the view – duplicate with detailing)

