

## Introduction

This Guide is broken into three groups and provides best practices for all Model Viewer users.

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## BIM Manager

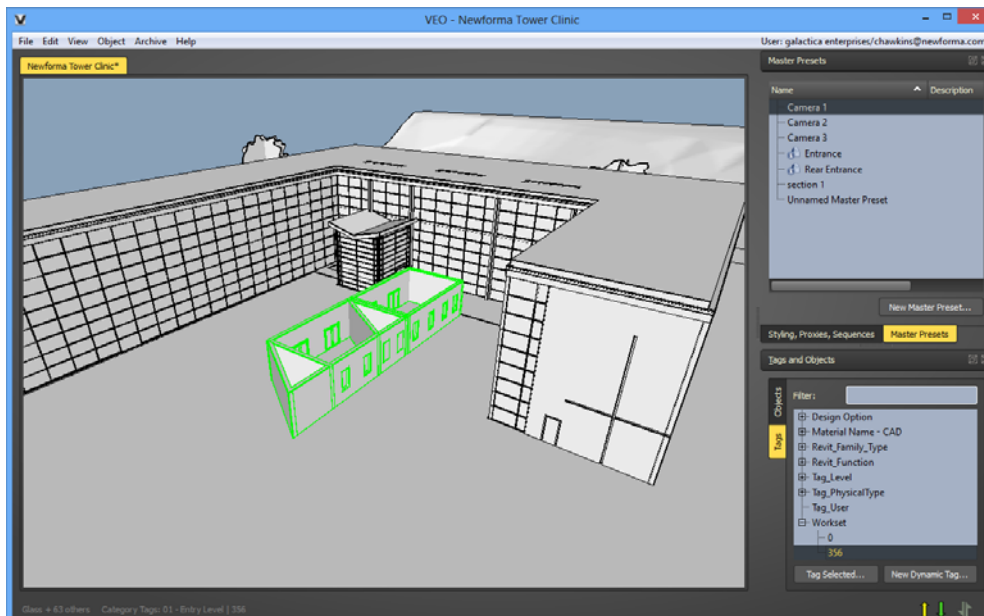
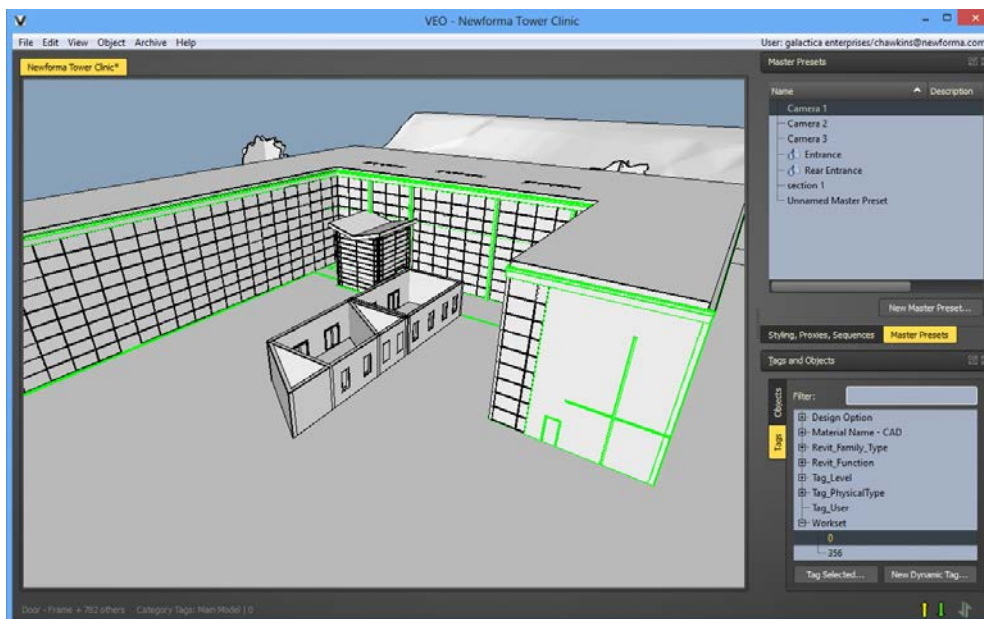
### BIM Standards

The Newforma Model Viewer can aid in reviewing how well a project is adhering to your company's BIM standards.

1. Scrolling thru tags (Revit categories) allows the user to verify model structure standards (worksets, phases, design options, etc.)

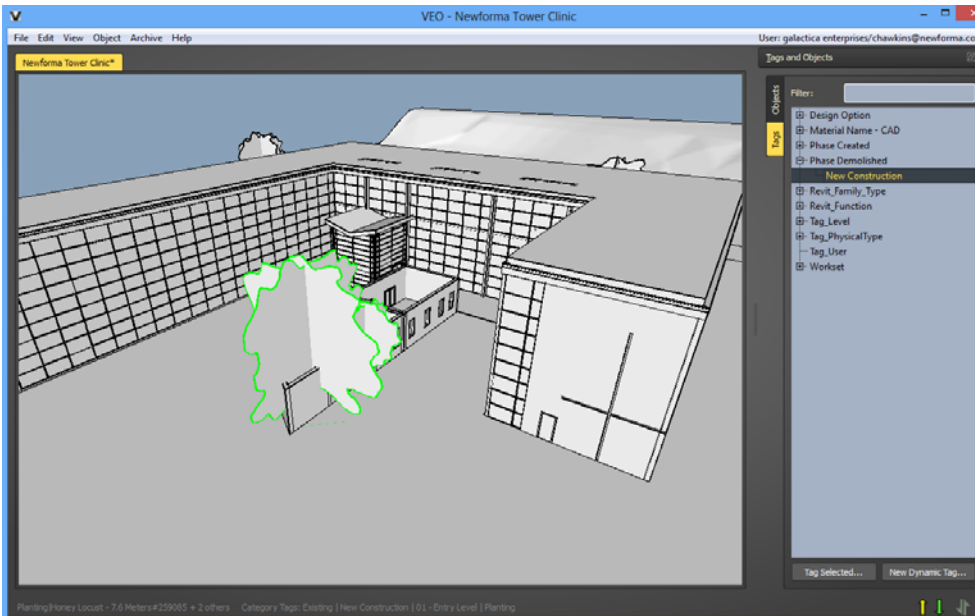
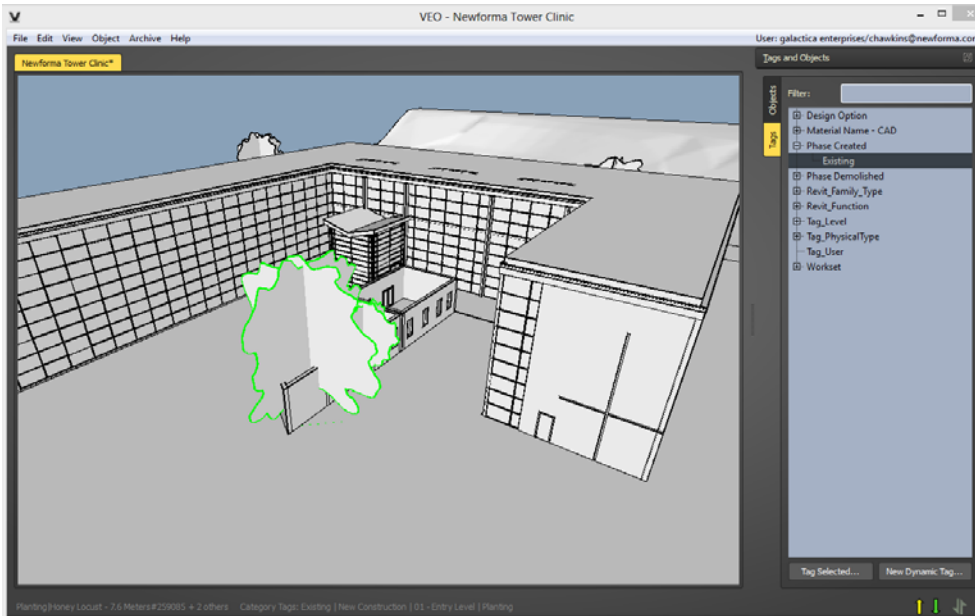
 Only parameters from the Door, Window, Wall and Planting categories were exported for the following examples.

### Worksets



## BIM Standards (cont.)

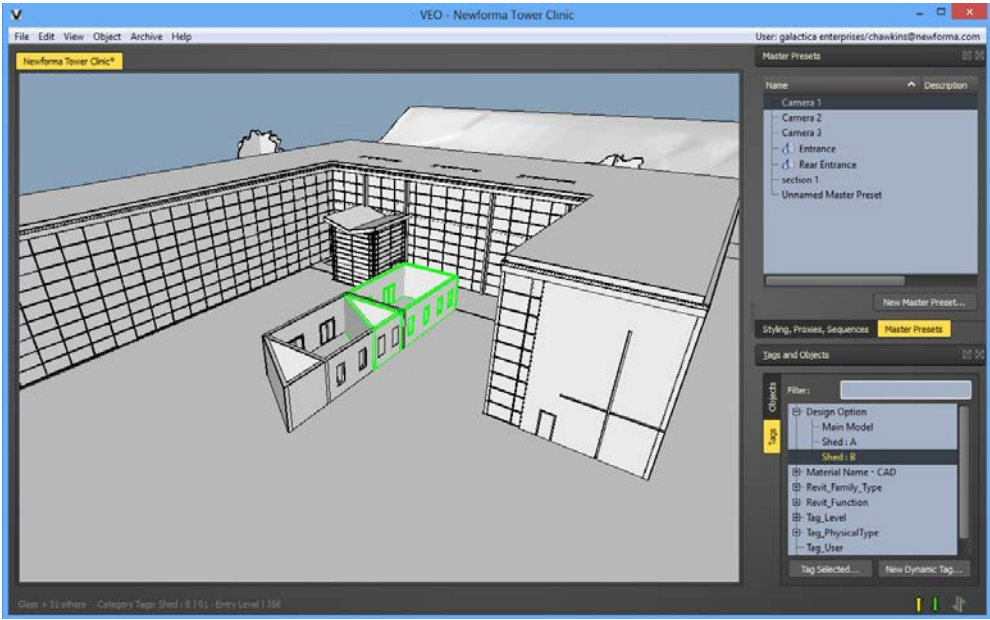
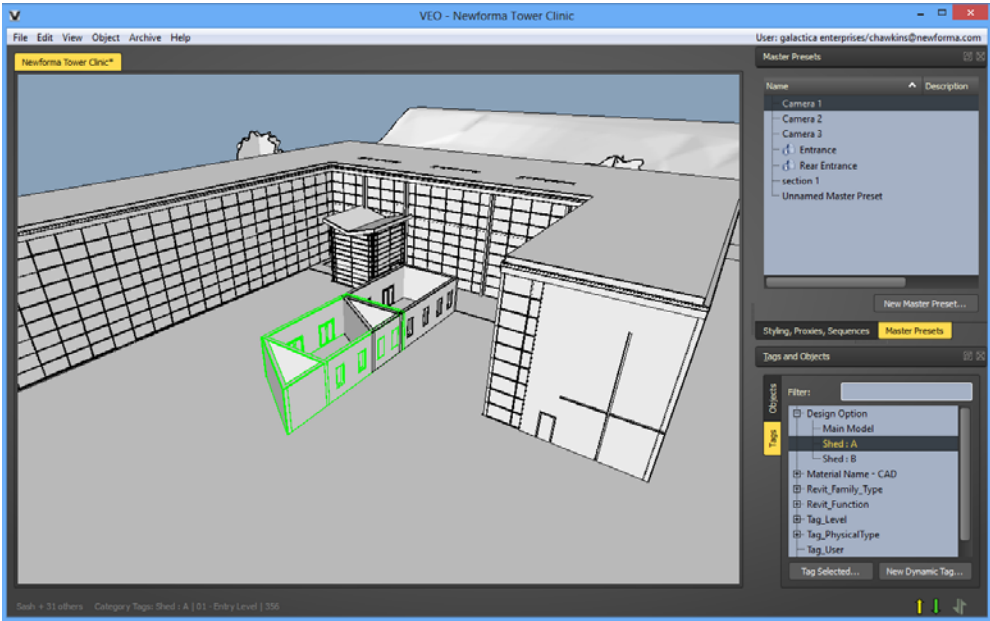
### Phases



Note that phase tags don't directly control when an element's visibility within the model. By exporting phase tags from Revit, you're able to track what elements are associated with each phase in the Revit model. Subsequently, you can utilize the Model Viewer to address these elements as desired.

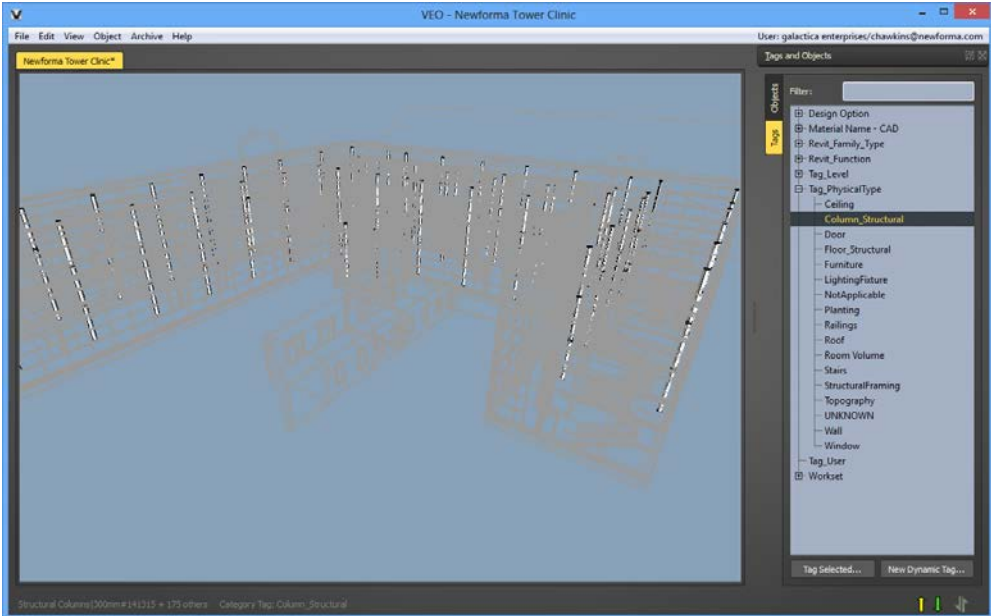
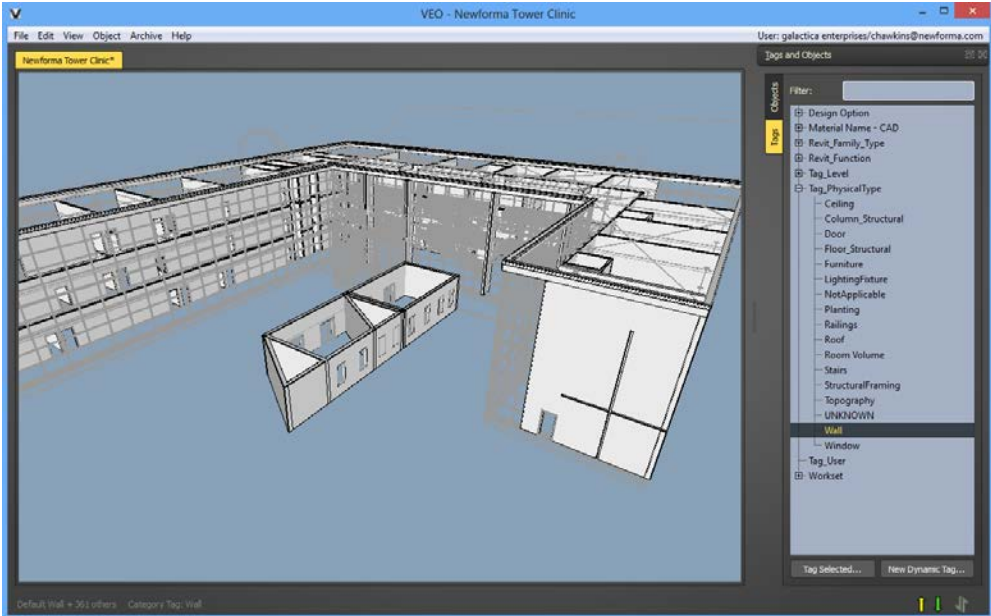
BIM Standards (cont.)

Design Options




BIM Standards (cont.)

Categories

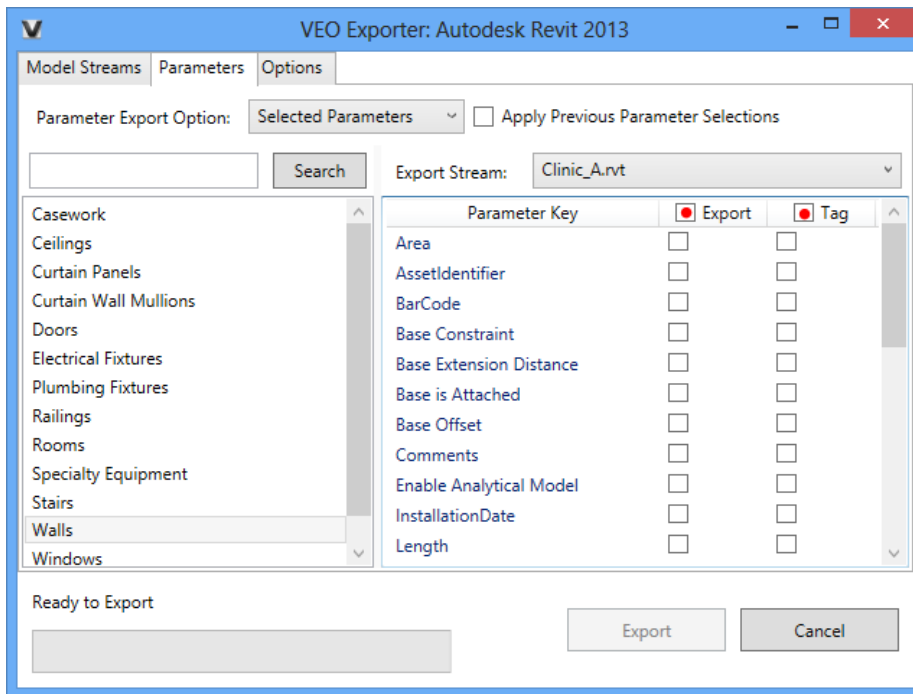


## Exporting

The export process utilizes the current user's 'My Documents' folder. The location of this folder will impact the export process. The export process is most efficient when the user's 'My Documents' folder is located on the local computer as opposed to a server.

 See Cache section for additional information.

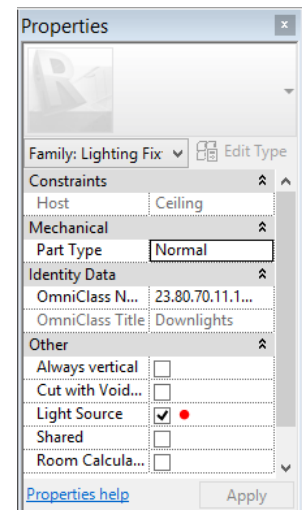
- Parameter Keys - Select the Export checkbox to enable the display of object information (cost, manufacturer, etc.) when pressing Control + I. Select the Tag checkbox to enable selecting items in the model by the element's Tag (level, phase, workset, etc.).



- Revit Light meshes - When upgrading a project from Revit 2012 to 2013 you lose the Light mesh, making them impossible to turn off in Newforma Model Viewer without hiding the entire fixture. To easily remove these in Newforma Model Viewer you must turn the analytic light source off in Revit family. Light meshes in Revit 2013 & 2014 projects are turned off by default when exporting to Newforma Model Viewer.


Turn off light source in Revit:

1. Open the light family
2. Uncheck the "Light Source" option in the Properties dialog
3. Reload family into project
4. Re-publish project to Newforma Model Viewer



## Project Access in Model Viewer

When loading a project in Newforma Model Viewer for the first time, it is often the case that no projects will be listed as available to load. This is due to not having access to the project(s).

-  It may be beneficial to create a 'dummy' project in Newforma Model Viewer that will be immediately available to users. This project could contain model text that directs users to email their Newforma Project Center admin (the person from which they received a Model Viewer-related Newforma Project Center workflow item) in order to gain access to the required project(s).

## Archive Module

Object selection in the model is greatly impacted when the Archive module is open (Document Viewer and Library). Keep this module closed until needed and ensure it is closed when finished.

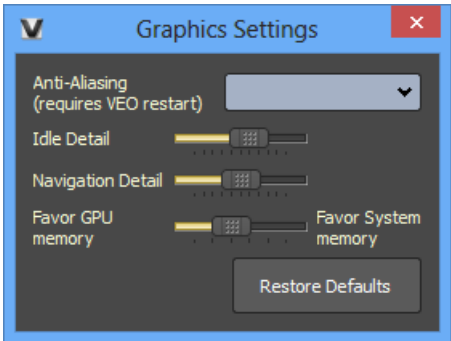
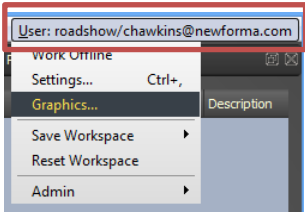
## Cache

- If your firm uses roaming profiles with space limitations you will need to change your Newforma Model Viewer cache to a new folder on your local drive like "C:\VEO CACHE". You do this by editing the VEO\_Settings.ini file found in "C:\Program Files\M-Six\VEO" folder.
- VEO\_Settings.ini – Cache settings will need to be edited for different user environments.
  - CacheSetting=PATH
  - CachePath=C:/VEO Cache
  - ; ---CacheSetting can be one of:
  - ; --DEFAULT (usually C:/Users/<username>/Documents/VEO\_Cache)
  - ; --PATH (an absolute path)
  - ; --PORTABLE (same folder as .exe)
  - CacheSetting=DEFAULT
  - ; ---Cache path is ignored unless CacheSetting=PATH
  - ; ---remember to use the full path and forward slashes (spaces in the path are ok)
  - CachePath=C:/Example VEO Cache
- If you will be logging into multiple accounts, it may be useful to have multiple VEO caches (rather than one large VEO\_Cache folder). For example, you want to log into accounts for Company A and Company B.
  1. Log into Model Viewer with Company A's account.
  2. Exit Model Viewer.
  3. Rename the VEO\_Cache folder (typically located at "C:\Users\<username>\Documents\VEO\_Cache") to VEO\_Cache\_Company A.
  4. Log into Model Viewer with Company B's account. A new VEO\_Cache folder is created.
  5. Exit Model Viewer.
  6. Rename the VEO\_Cache folder to VEO\_Cache\_Company B.
  7. Prior to the next time you log into VEO using Company A's account, rename VEO\_Cache\_Company A to VEO\_Cache.

### Graphic Settings

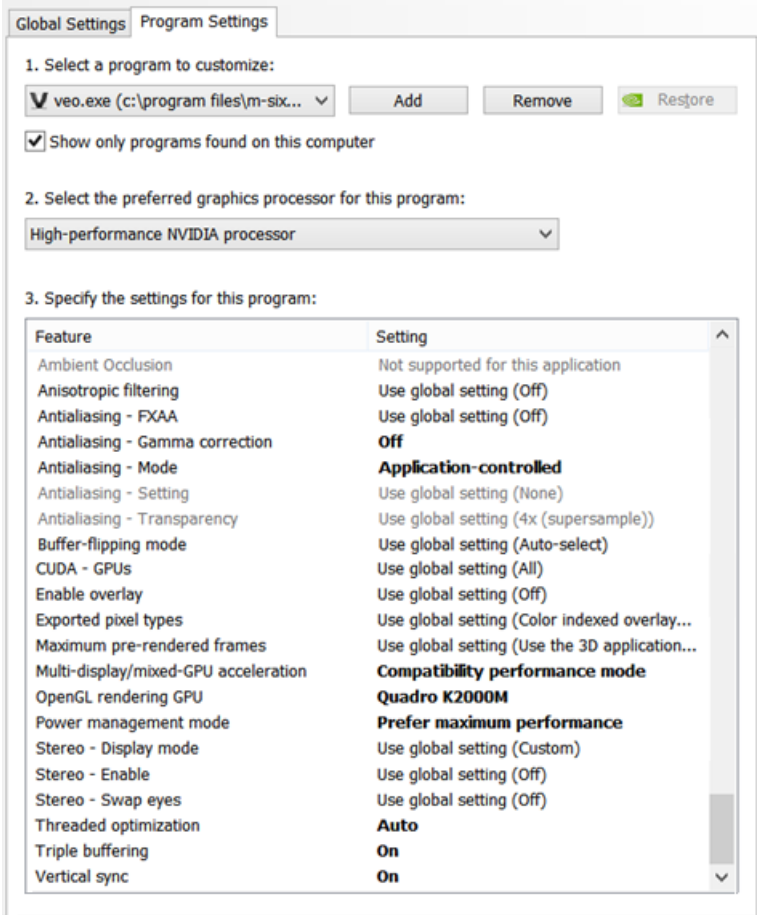
There are settings to accommodate various hardware installations that can be accessed by picking the User menu at the upper-right hand of the corner of Newforma Model Viewer and selecting Graphics.

- Anti-Aliasing – Performs the refinement of removing jaggies so lines displays as actual lines rather than small, stepped line segments.
- Idle Detail – Displays more/less model detail when model navigation is idle.
- Navigation Detail - Displays more/less model detail when navigating the model.
- Favor GPU memory – Allows the user to select whether Newforma Model Viewer favors the local system’s graphic processor memory or system memory.



### Video Cards

- NVIDIA - The following graphic card settings are recommended





## Model Viewer Champion

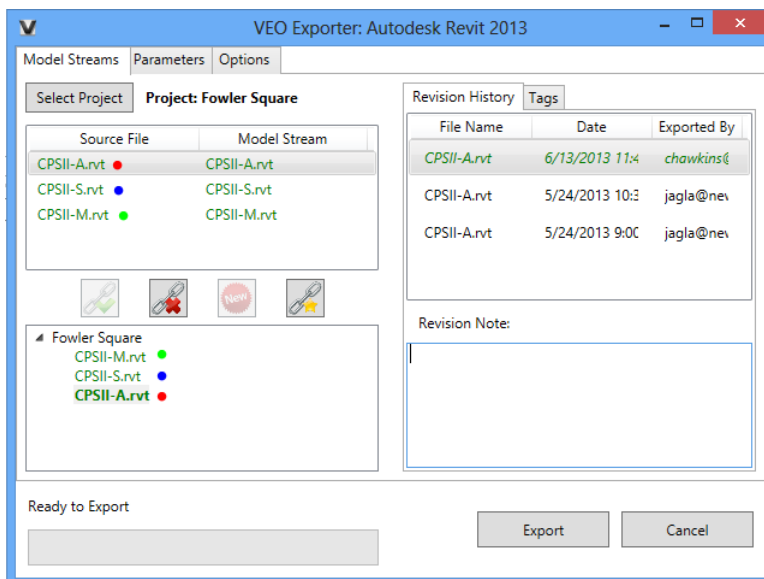
### Model alignment

Project team members with proper permissions can export/update their own models to Newforma Model Viewer. It is ideal to ensure all Model Streams align properly.

1. Master project model (often the architectural model) contains correct project coordinates
2. Master project model is distributed to all sub consultant's project BIM lead
3. Via acquiring project coordinates from master project model, all sub consultants ensure their model aligns with master project for publishing

### Model publish

1. When you publish, first check to ensure all model(s) have their own Model Stream. To add Model Streams refer to the "Newforma Model Viewer - Your First Day" documentation.
2. Publish one or more files by selecting your Model Stream in the top-left panel and its equivalent stream below and press the chain-link icon with the green check mark.
3. To publish all your Model Streams press the chain-link icon with the yellow star.

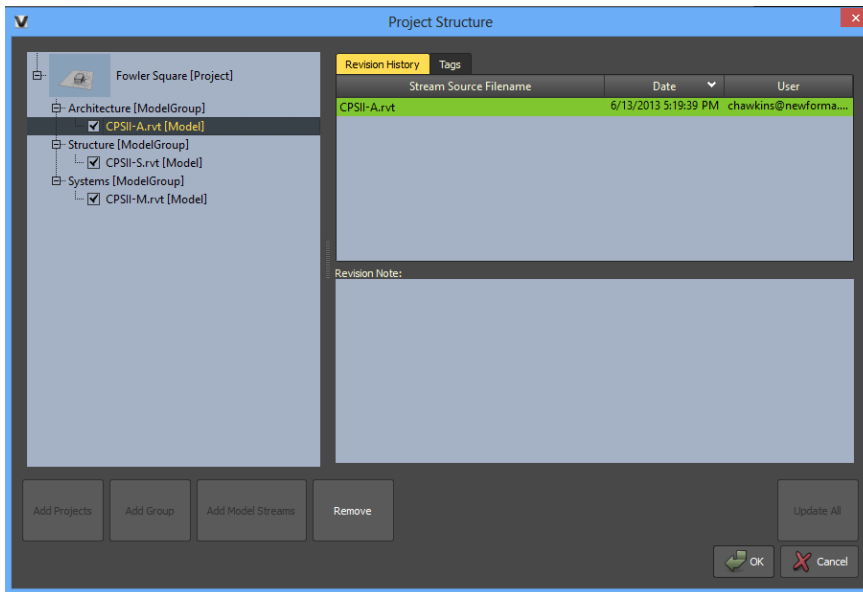


The color-coded dots depict the coordination between source files and Model Streams. They will not display in the VEO Exporter.

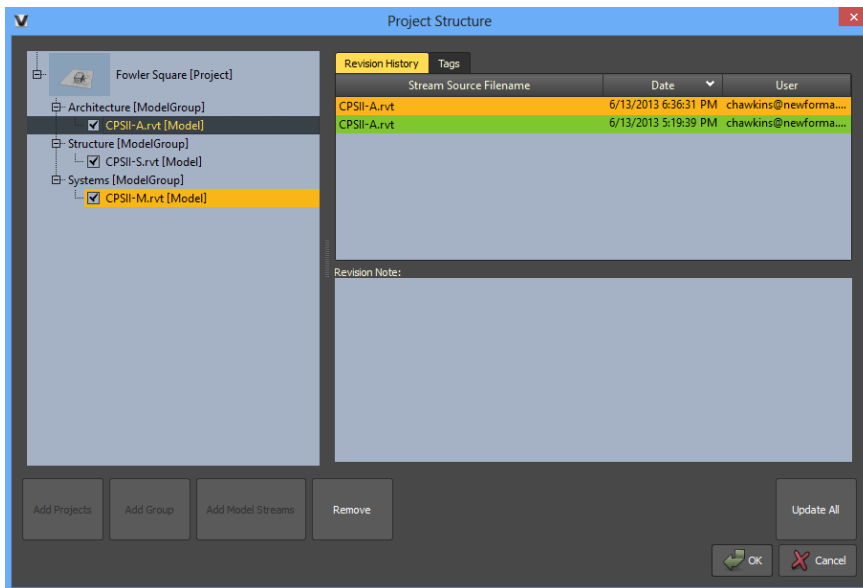
## Project Structure

Use the Project Structure dialog (under the File menu) to organize the project's Model Streams.

- You are able to group the Model Streams relative to any project-related type of organization.



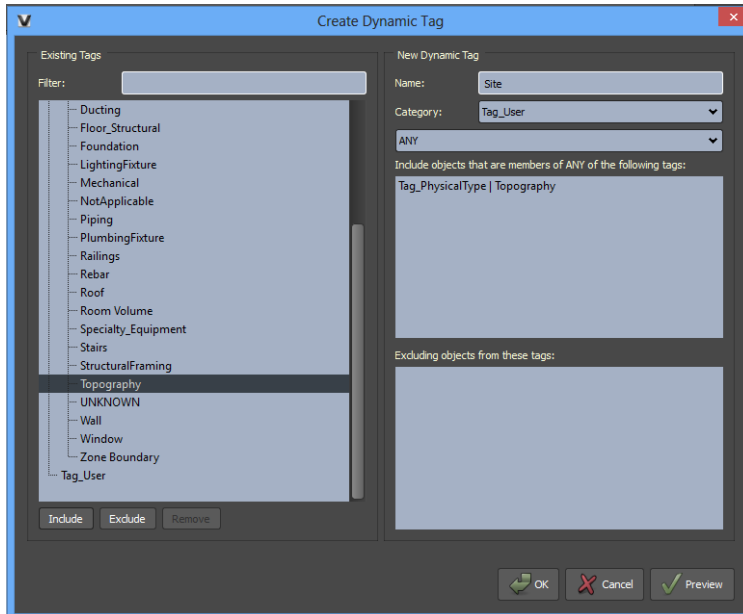
- New exports aren't automatically combined with the current Newforma Model Viewer project. Model Streams need to be manually incorporated by double-clicking the latest stream or clicking the 'Update All' button.



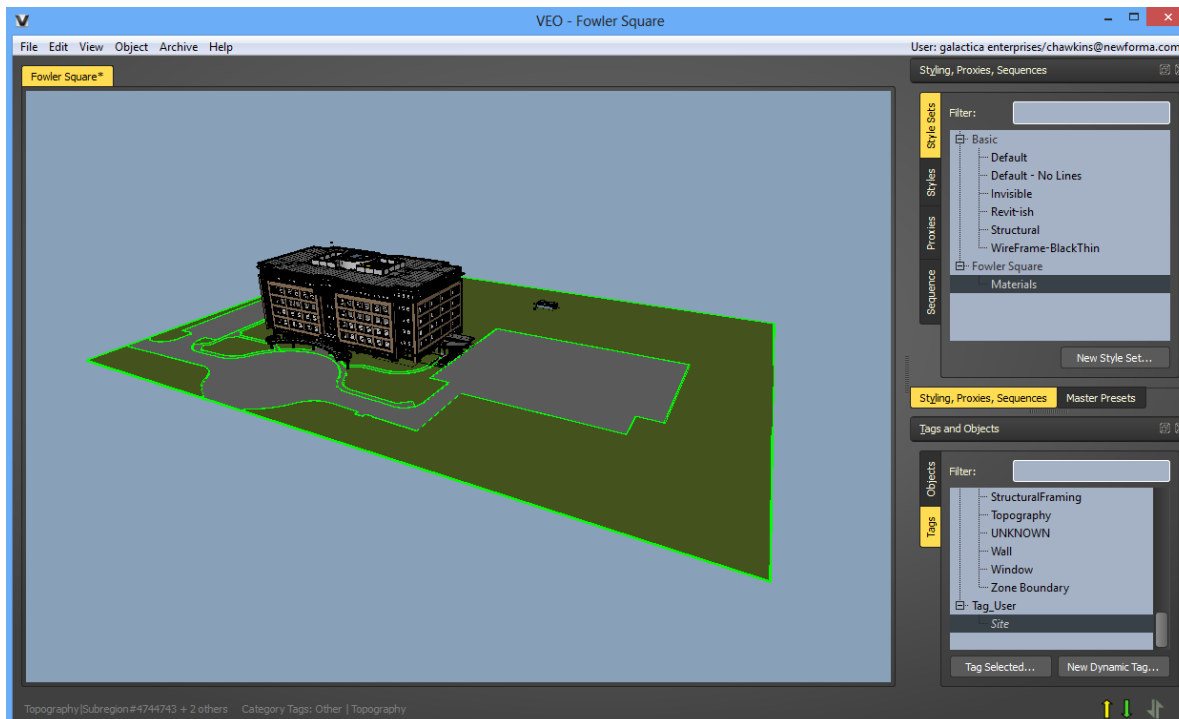
## Model Stream editing

There are some precautions to editing Model Streams in the Newforma Model Viewer.

- Use dynamic tags to control object visibility rather than deleting them.
  1. Deleting items from Model Streams (via viewer window) doesn't truly remove the objects. Rather, this will **hide the deleted objects forever**.
  2. Deleted items can't be undone.



- Use the tag to select items and press F8 to hide the selection.

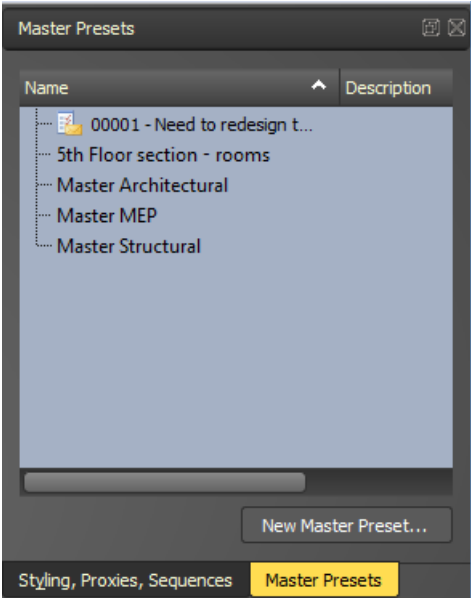


### Master preset nomenclature

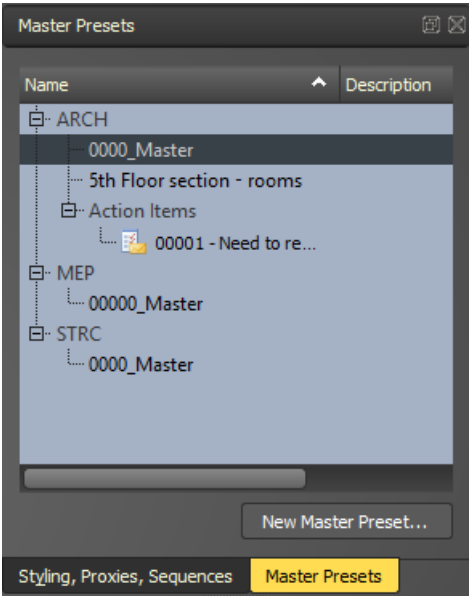
Master Presets are displayed in numerical/alphabetical order in the Newforma Model Viewer. It may be beneficial to define nomenclature to better organize presets.

**i** Term preset refers to a view of the model, however these contain preset information hence their name. Presets include camera data, styles used, sectioning information, object visibility, object selection, model visibility and workspace.

- Without additional organization



- With additional organization utilizing groups and company nomenclature




## Style Sets – Creating

It's beneficial to use the 'Invisible' style set as a basis for creating new style sets that only display a few objects.

1. Select the Basic 'Invisible' Style Set.
2. Use Tags and Objects to select the desired objects.
3. Assign Styles to the selected objects by selecting a Style and clicking 'Assign to Selected'.
4. When prompted, supply a name for the new Style Set.

## View orientation

Focal length adjustment can be found in View>Camera Settings. Adjusting the focal length to a small value is very helpful when zoomed in close or when the camera is actually in the middle of a model. Using a very high setting produces a nearly parallel projection which can be great for floor plan views.

 You can also use CTRL+ Mousewheel Scroll to control focal length.

## Model Viewer Consumer

### Navigation

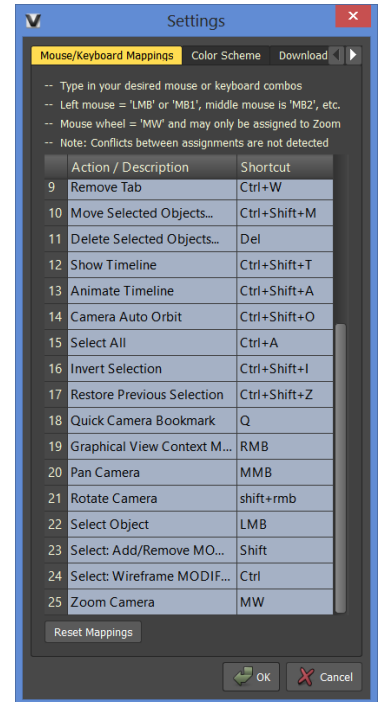


Prerequisites - Access to a project on Model viewer, completion of the Your First Day with Model Viewer Training.

### Mouse and Keyboard settings

Navigation in Newforma Model Viewer is customizable, which we will cover below. As you navigate you'll notice the file feels very light and responsive!

- **Rotate** the view by pressing and holding the left mouse button.
- **Pan** the view by pressing and holding the middle mouse button.
- **Zoom** in / out by pressing and holding the right mouse button.
- To quickly zoom and frame an object, hover over it with the pointer and double-click.
- **Select** by holding down the **ALT** key while picking or using a selection window.
- Hold **ALT** and **Shift** to pick multiple objects.
- Temporarily **Isolate** a selection by toggling the **Tab** key.
- If you're ever **disoriented** in the model **press H** to go to the **home** (initial model view).



- ① To change the navigation to mimic other applications, select the **Settings** option located under your username on the top right of the main window.

We recommend the selected items to be changed to improve navigation with a wheel mouse. For Revit users you may want to change item 21, Rotate Camera to Shift + RMB.

### Object interaction

Double-clicking an object zooms to and centers the object in the view. Doing so also sets a new center of rotation based on the object.

- Pressing the **ATL** key while clicking an object will select the object. An object can simultaneously be selected and zoomed to while pressing the **ALT** key and double-clicking the object.
- Pressing the **TAB** key while double-clicking an object will isolate the object.
- **Turn off** selected objects visibility **using F8**
- **Turn on** selected objects visibility **using F7**
- **Show All** objects using **F9**
- **Turn on** the Selection Information dialog using **CTRL+I**


The Alt key modifier is not required to zoom to an object, it is required to zoom and select the object.

### Object Selection Limitations

- Currently, objects located beyond transparent objects can't be selected.
- Currently, wild card searches aren't supported in any of the filtering tools

### First person mode

- Use the 'F' key to enable first person mode. This allows you to use the W, A, S, D keys to navigate the model (zoom in/out, left/right).
- Use the "G" key to enable gravity and collisions while in first person mode. Pressing the "G" key again turns off gravity and returns to "ghost" mode. This will disable collisions allowing you to pass through objects.

 Changing your mouse setting may impact first person mode.

## Archive Library

### Object relationship

- If you link documents to an object and the object is later removed/replaced, all document links will also be removed. These links will not be restored even if you add the object back later. For example, if you link a DOC spec to a window and swap out that window in the model, the DOC spec will not be linked to the new window.
- If you link documents to an object's tag and the object is later removed/replaced with one using the same name, all document links will be maintained. For example, if you link a DOC spec to the Window tag and swap out windows in the model, the DOC spec will automatically link to the new windows since they're associated with the Window tag.
- Due to the one to one relationship, it's best to relate documents to tags rather than model objects. If a model object is deleted or updated the links are broken.
- Maintaining Revit families in a project (vs deleting and replacing with another family) will allow tags to stay persistent in Newforma Model Viewer. In turn, this will maintain an existing relationship between an Archive Library document and object tag.

### Bulk Import

- The following extensions will be allowed during a bulk import (pdf, xls, xlsx, rvt, dwg, jpg, jpeg, png, doc, xml).

## Dual Monitors

When using dual monitors, saving Newforma Model Viewer presets with the workspace option will remember the monitor on which the preset was saved. If you switch to a single monitor configuration, the Model View moves can be lost causing you to either connect a second monitor or close/restart the application.