



This Month:

Determining Worksets

Welcome to **INFOCUS**, C3 Consulting Solution's Monthly Newsletter. This month, we're continuing our look at Worksharing, focusing specifically at determining worksets.

Before getting into project criteria, it is important to understand which worksets are automatically generated by Revit as worksets are enabled. Typically, there will be two primary worksets: 'Shared Levels and Grids', and 'Workset1'. These and others can be named as you wish. Revit Families (components), Views and Project Standards each exist on a workset of their own (ie. one for each family, one for each view and one for each project standard). These are usually not shown in the Worksets dialog by default, as there are so many, and access is managed as required.

As for worksets that are to be user-created, each project will have different requirements, so there is no hard and fast rule that applies in all cases. Instead, below are some suggested practices, but you should feel free to alter these to suit your project requirements.

These will vary depending on:

- The number of users (I usually advocate a minimum of one per project team member)
- The size of the project, laterally
- The size of the project, vertically
- The extent to which the project will be modelled (will other disciplines be involved on the project, how much is modelled vs. drafted etc.)

For commercial architecture, I would usually start with some or all of:

- Exterior shell (façade)
- Interior (internal walls, partitions, fitout)
- Furniture (set to 'not visible by default' when creating this)
- Vertical circulation (lifts, elevators, stairs)
- Superstructure
- Foundations/Footings
- Siteworks (excluding substructure)
- Equipment
- Mechanical
- Electrical

Before assigning objects to worksets, it is important to clearly define (for the team) which element categories will constitute each workset. Applying consistency is important here, if only to avoid confusion later on.

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For domestic architecture (very small dwellings only), I would consider:

- Siteworks
- Structure
- Furniture

It's more likely that the number of worksets you use within your project will increase over time as your needs become clearer. It is best to seek to find a balance between the number of worksets you use and the level of complexity that users can cope with. Too few, and you have inflexibility; too many, and you have excessive complexity.

How many worksets?

Part of the way Revit manages worksets is to completely rewrite borrowed worksets back to the central file during a Save To Central (STC). While this will be discussed in more detail in the next edition of INFOCUS, suffice it so say that if entire 'chunks' of data are sent back and forth across a network, it follows that the smaller the chunk, the faster the transfer time.

Therefore, particularly on large projects, you could take this as a suggested rule to err on the side of having more worksets rather than less (as their size will be smaller). This rationale particularly holds true if you are borrowing worksets (as opposed to elements) as part of your workflow.

Establish Consistent Naming

If you do anticipate a large number of worksets being required (eg. 20 or more), it would be wise to establish a consistent naming format. In this way the workset name adequately describes its contents, which is particularly important for new team members as they get acquainted with the project.

Element vs Workset borrowing

Revit's automated element borrowing effectively eliminates the need to borrow (or 'check out') worksets. This is a tremendous productivity improvement over earlier releases, as team members can be permitted automatic access to different elements from the same workset simultaneously. In other words, Revit is effectively now the omniscient 'librarian', knowing all users borrowing activities, down to any given element.

Automated element borrowing is also part of the reason for the migration of the primary term describing this project methodology from 'Worksets' to 'Worksharing'.

This leads us to another question: "If any element can be borrowed individually, what purpose do (user-created) worksets serve?" – in other words "Why not have everything on one workset?".

Visibility

In practice, worksets will allow you to *partly* open your file (by not opening one or more worksets), which means Revit doesn't need to think about the elements within these worksets, resulting in speed improvements.

Moreover, if a workset is loaded, it can be hidden from any view entirely (via Visibility/Graphics->Worksets tab), which also improves processing speed. In this way, large portions of the model can be isolated or hidden within a few clicks of a mouse.

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Exclusive access

If any user does require unequivocal access to all elements within a workset, then it may justify opening (borrowing) that workset in its entirety, but this should be the exception rather than the rule, since it may directly impact on other team members.

Security

It can be useful to borrow a workset as a user that never (or rarely) actually works on the project. An example of where this technique can be applied is as a method of protecting various elements (eg. levels and grids) within a project. While this workset is borrowed by a user (recognised by their Revit username), and NOT relinquished, other team members will not be able to edit elements within this workset. This prohibits accidental (or perhaps unauthorised, deliberate) changes, and is more secure than simply pinning the position of individual elements.

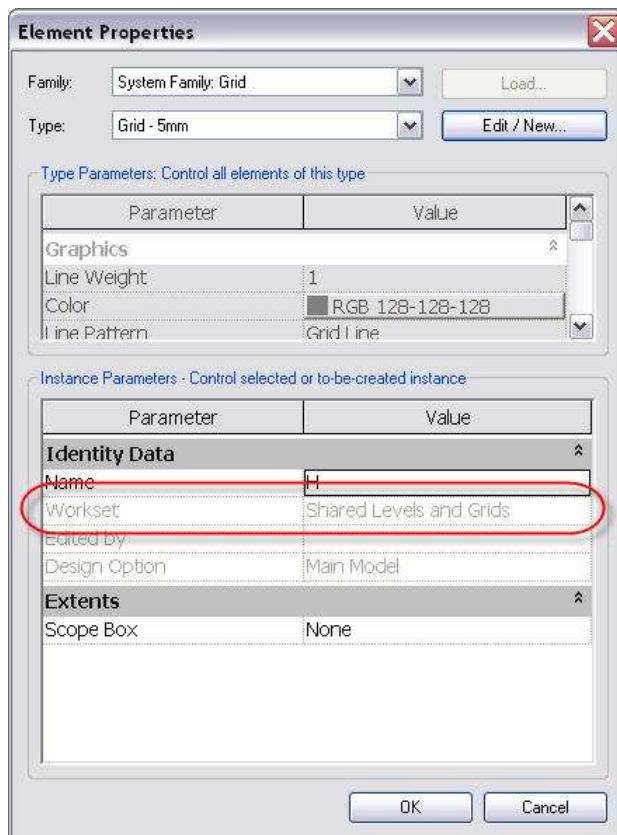
What if you make a mistake in your determination of Worksets?

Deleting worksets

You can delete a workset (if you have it borrowed), and Revit will ask you what you want to do with the elements within it. You can delete them (not usually a good idea), or move them to another workset. The latter option results in an effective merging of two worksets.

Moving elements across worksets

To move or reassign elements from one workset to another, you select the elements you wish to move, then open the element properties dialog. Look for the Workset property, and change the value.



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On occasion, you may also find difficulty in moving elements from one workset to another. One of two reasons are usually behind this.

Firstly (as in the image above), the workset parameter is greyed out within the element properties dialog. This is caused by you not already having been granted permission to edit all the selected elements. This often occurs with complex objects such as curtain walls. The solution is to change the workset property of the curtain wall objects separately, OR to 'make elements editable' before entering the element properties dialog. This essentially forces a permission request from Revit (aka the librarian) where you don't automatically receive it.

Secondly, someone else may have the elements (or workset) already borrowed out in their name, in which case you will receive a message from Revit, explaining that you have to get the element owner to relinquish those elements (or workset), and perform a Save To Central. You must then Reload Latest changes or Save To Central yourself in order to get the appropriate permission to make your changes.

Setting the Current Workset

The Workset toolbar in Revit displays the current workset, and any new elements are created on this workset (not unlike, but not to be overly equated with, the layers toolbar in AutoCAD). If users do not get into the habit of setting this as they work, they will inevitably end up with many elements incorrectly assigned to one or more worksets. For future borrowing of these elements, this is not necessarily of great consequence, however if worksets are being used to determine visibility of elements within multiple views, users may end up confused and searching for elements that they *know* they created, and yet can't see.

Summary

It is not unusual for users new to worksets to feel inhibited by, or afraid of the perceived complexity and consequences involved. Hopefully the discussion of these issues above helps to alleviate these fears. First hand experience will teach users more and more, and initial processes will inevitably be reviewed and refined from project to project. Venturing properly into Worksharing territory these days is like using Revit instead of AutoCAD – once there, you don't want to turn back.

Next month: Management of Central Files

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