BEST PRACTICES COURSE – WEEK 18 – Complex Projects PART 5 - Multi-Building Projects

Welcome everyone to the ArchiCAD Best Practices course lesson, Week 18, part 5 on Multi-Building Projects. I am going to do a very simple building here. We'll put two buildings side-by-side and talk about some of the issues that you may need to deal with. I am thinking that I will do an L-shaped building. We'll go down. This is going to be a very simple demonstration. Sometimes, simplicity allows you to focus on not the architecture but the mechanics of things. [0:00:45]

So I have one building outline there, and we have another one going over here. This is interesting here. If you end up with a wall like this that is wrong, I can delete it, but I can also go here and add a node. If I add the node and I want it to be straight up, then I can go from this point. And instead of clicking, I can press and drag upward. That gives me the blue guideline. When I let go it becomes an orange guideline. If you are before ArchiCAD 15, then you would hover over that point and a guideline would appear. You can then go to that one. [0:01:33]

Now again, I want it to be in line with this, so I am going to press and hold down while dragging over the mouse. That gives me the blue guideline, or you could just hover over that point if you were in ArchiCAD 14 or earlier. Now I can find this point here. You can see how it broke up that one diagonal wall into two pieces that are precisely lined up. So we now have a first floor. I am going to go to select all of these here and copy them. We'll go to the second floor and paste here. And actually, let's go to the story structure, story settings here. [0:02:14]

We'll say that we want to insert above. I am not going to name them; I am just going to create three floors all at that 10' level here. Now there is an option here, if I right click on this, instead of going to story settings, there's 'Edit Elements by Stories'. This brings up a dialog box that used to be integrated into the story settings. At some point, maybe around ArchiCAD 13 or 14, they changed it. So now I can actually say from the second floor, I want to copy here. So I am going to copy all the elements on the second floor and paste them on the third floor. [0:03:00]

I could do it for multiple stories here. This is a slightly different format it used to be. You can choose what elements you want. You don't have to bring in certain elements. If you don't want to bring the dimensions along, you can turn those off and things like that. Let's say OK. At this point, it says that some elements have been created on stories that we're not looking at. I am looking only at one story and I have created elements on multiple stories. So that is not telling me anything. If I go to 3D here, we are going to see that I have two buildings of different heights. [0:03:38]

I am actually - we'll just get rid of the upper part of this story here and also this one. So we'll end up with two buildings of different heights. Now at this point, if I go down to the ground floor, we are seeing all of

the information here. We're in the same project, these are two different buildings. Now the first thing that I am going to talk about in terms of multiple buildings is that in some cases, you can have multiple buildings on the same site and just work on them in the same file. For early work, and for certain simple cases, it's perfectly fine and the right way to do it. [0:04:24]

You can put them on the same file and place them on the sheet. If the buildings are large, you may want to place part of one building on one sheet and part of the other building on a different sheet. And you can organize your layout book for whatever makes sense for you. But there are times you want to break up the multiple story structure or multiple buildings into different files. Let's look at some of the things that can cause you to want to break it up. [0:04:56]

Now if I put in let's say just some windows along here, and say take this window and stretch it wider. I will multiply out a couple of copies along here. Now I am going to put in a couple of windows here. Now we have five windows: three of that type and two of that type. If I go to a schedule for windows, we will see that we now have "window 01" which is 5' wide. I guess it's also adding the frame, I'm not sure. Then we have 2 and 3 because I put them in separately. Now if I say 'Show uniform entries not as a single entry' by unchecking this, then we can see these together. [0:05:55]

Sometimes you want to have all the windows in these two buildings on one schedule, and sometimes you might want to divide them up. In other words, you want a schedule for this building separate from a schedule for that building. So here is one way that you can do it. In the scheme settings, you can call this window schedule "Building A". And I am going to add a criteria that says the Element ID starts with "A". Now I am saying that I want a list in this particular schedule of the windows that start with A and their ID. I will then duplicate this and call it "Building B". This one, which is now highlighted, will start with B. [0:06:53]

When I say OK, we are going to see all of these disappear. These windows are no longer meeting the criteria. But if I go back to the floor plan and select these three windows and give them the same thing. Let's say that this building here is 'BW-01' or something like that here. I will take these two and this will be 'AW-03'. I won't worry about renumbering it right now. This will be 'AW-02'. Now if I go back to the schedules, one of them is going to list the A windows and the other one will list the B windows. Let me make that bigger so you can see that more easily. [0:07:56]

That is one question that would sometimes come up when you have multiple buildings is how do you separate it? You would use the same strategy for scheduling windows or doors on a particular story. Let's say you have a hospital and it's a very complex building. You want to show the door schedule for a particular story. You can add a criteria here for any particular schedule that says that the home story of the element is a particular floor. I am going to cancel that, because it's not important for now. But it's the same thing that you would do in a complex project; to have a door schedule for each story if you wanted to do that separately. [0:08:38]

That is one thing that is pretty easy to deal with. Therefore, why would you need to break these up into two different project files? Well, let's look at another thing. Suppose if I go to 3D and I will select all of these elements, maybe all of these elements were - the site is sloped. So they are going to be up a little higher. So I will go here and take any one of these points and move it up. Let me rotate this around and take this up so I am on the axis line. [0:09:15]

I am on the Z line. Let's take the distance 3' up. So now all of these have moved up. We do have a bit of an issue - the windows are now sticking up out of the wall. But we can say we want to relate them to the wall base and that the sill is 2' above. Or maybe we want to say the header to the wall base is a certain distance. There is the 7' there. Let me switch this to axo view, and here's a nice, little thing. We can go to the View menu, 3D Navigation Extras, Look to Perpendicular of Clicked Surface. Click, and now I am looking at an elevation. [0:10:08]

It's actually still a 3D view, it has shading and things. And it's fully editable as you would expect, but it's pretty much the same as that south elevation. When I go back to the first floor, everything looks fine, but sometimes that might be more extreme. So we could go and select all of these things here. And let's say that all of those elements with the heavy marquee, I will go to the Edit menu and Elevate them up another 10' or something like that. Now there is an option here that I see in this version of ArchiCAD. I am not sure when it was added, but you certainly would want to pay attention to this. [0:10:54]

Would I want these to show up? In other words, if I move them up a story relative to the rest of the building, would I want them to show up parallel to elements that are in the other building? Will the ground floor of this one be shown on the floor plan of the second or upper floor of the other one? That is a good question. Sometimes you may want to do that. If the buildings are side by side, or very close, you would. In other cases, you may want to say "this is the ground floor," just like the other one has a ground floor, even if it happens to be higher in elevation. [0:11:30]

So right now I am going to leave it. The home story of the walls is still showing based on it being the ground floor. So I say OK, and you can see the walls still show, but they are showing in a faint line because they are above the cut plane. They are considered overhead. So that is an issue. We aren't even seeing the windows here, because the cut plane is now showing that information the way you may want. So depending on how much of a height difference there is on the site, this could become an issue. One solution to this would be to work on this building in a separate file. [0:12:18]

Another reason that you might want to work in a separate file is that I could work on this building and you could work on the other building. And we could essentially work independently without having to do anything with teamwork. Now if you do do that, we are going to look at ways that you can combine the two buildings into one file for study, presentation, and possibly for some construction document usage. But let's explore this a little further without leaving the single file to see how we can work around it. [0:12:54]

I will remove the marquee and go to 3D. We will see that the building has moved up just fine. If I wanted to, I could take a view of this that showed different information. For example, I could create a view in the view map instead of working with the first floor plan here. This is what we are in. let me create a new view here. In this new view that I am creating, I didn't change the settings of it. I clicked on the button to save a new view. Now I could call this 'First floor building B'. And I could say that the floor plan cut plane settings are actually going to be much higher. [0:13:49]

I am going to make it 12' above the current story, and I will show up to two stories above or something like that. I will show down to here. We'll just see what this does. I will say OK and create. Now when I did that view, it changed it so that we are seeing both of these buildings in a funny way. But let's go in here and say that the floor plan cut plane to current story, 12'. I raised this up. Let's see what the heights of these elements are. I will go back to 3D and select this. So this is up at 13 to 10. So 12' was underneath the window, which is why that was showing funny. [0:14:38]

So if I take the settings here and we take that cut plane up to 16' or something like that here, now if I double click on this, there we go. It's now active. You can see that this view here, even though it's considered the first floor, is showing a different cut plane on it. So we could either put these two, the original first floor view here combined with the other one there, and we could put them onto the same sheet, or we could put them in different sheets. So again, while it can cause issues if these things are at different heights, there are ways to deal with it in terms of the view settings in the floor plan cut plane. [0:15:25]

Another thing that might happen is that the stories might have different heights. I will go to 3D, and let's say that I select these walls here. You can see there are six of them selected even though there were only two of them visible. It selected all the ones that were in that area. And let's say that I wanted to make them taller. So in other words, I am going to change the link here and maybe make them taller; so it would be 12' high. When I do that, they are coming up into this area here. Now I will go to the floor plan and go to the next floor up. [0:16:20]

I will select these walls here and we'll take them up and start them at 15' here. I am not sure, I am messing some things up. Let's take these up to be at 15' here. At some point, we may end up with walls that have different structure. So I am not demonstrating that very well, but I am sure you understand that some buildings will have different floor-to-floor heights. And this could cause issues in terms of the cutting planes. You may simply be able to resolve it the same way that I resolved the earlier one where on the floor plan I can choose either one setting for one building or a different setting for the other building. [0:17:13]

So there are ways to deal with it in terms of just simply selecting elements, moving them up or down in space, changing the height of the walls as needed, and then creating views potentially at these multiple elements. I think I have shown most of the stuff that would relate to doing this in a single file and getting

around some of the issues that can happen if your story heights are different or the elevation is different, or if you wanted to have schedules that show different buildings uniquely. [0:17:49]

Now let's talk about some of the reasons that you might want to have these in separate files. One would be that I could work on one and you could work on another. Another is that even if it is the same person, maybe you just want to have a smaller file. Maybe they are both large buildings and you want to focus only on one and get the construction drawings for that together. Maybe they are being built at different times. There are different phases, and you want to have different construction drawing sets. You want one that has one building and one that has another. Maybe they are being permitted at different times or there are other reasons to do them separately. [0:18:29]

So by putting them in separate files, it just becomes straightforward to deal with that. Then the question is, if they are in separate files, how would you combine them in terms of a single file? How would you put them together when you have a site plan, when you want to show a 3D view of the entire setup? And maybe it's not just two buildings, maybe it's three. Maybe it's a subdivision with a hundred different properties on it. What are some of the options you have to do this? Let's take a look at how I can create that. [0:19:11]

I will create a new file here, and launch a new instance of ArchiCAD so I can keep this one open. We'll open this up. I would like to see if any of you have been working in multi-building projects, just to see while I am opening this if you have any comments on whether you have broken them up into separate files or kept them together in the same file. So if any of you have some experience with this, I would like to see that while we are working. Tom D. says, "No multi-building projects." Okay, I appreciate you writing a comment there, so I know you heard me. [0:19:50]

Let's see if anyone else has done multi-building projects. It could of course be commercial buildings or residential subdivisions. There are many different contexts that I could imagine. You might even have a context that you do in one project file and the new construction in another one. David S. writes, "Have been working in multiple buildings in separate files." Okay, excellent. So let's take a look. I am going to go between this one. Let me save the one I have been working on. I will save it as 'Multi-building A'. On the floor plan, I will select these here and copy them. [0:20:48]

We'll go to the other one here and paste. They came in with the elevations being raised, so I will select them. They are 13 here; we'll take them down to zero. Now they are going to be down at the base of this project file. Let's do something where I copy these. They are up at 12'. We'll make it simple, at 10' here. I will copy those and go to the second floor. Let's not deal with different story - so I will copy and paste. There we go. So now in this file, you can see what we have here. [0:21:42]

How can we bring this over from one file to the other? The last lesson that I taught was on hotlinked modules, and that's a great way to do this. I can save this project and call it "Multi-building B" here.

Remember, this is a .pln file, so I can actually link in the entire file. So let's go to the other file here. I will get rid of all the stuff that was there. I will use the heavy marquee and delete, and that will get rid of all the stories. If I go to 3D, you'll see that we now have just the one building there. [0:22:31]

I am going to go to the File menu, External Content, Place Hotlinked Module. I will select or choose a hotlink, because we have never done this before, and I will say 'New hotlink from file'. I will browse for this building here, 'Multi-building B'. It says, "Do you want to get all stories, or just a single story?" We'll start out with the simple case, and go with multi-story and say OK. We will have a layer that will be the master that we can turn on or off if we want to. Then we can go ahead and place it. There is an option here in 17 about the top link of the stories, which we could work with. [0:23:21]

These will have some subtly different effects. We'll leave this alone for now; I think this might be the default. I will say 'Place the module'. It says, "Which one corresponds?" We're on the first floor, and the first floor corresponds. We'll say OK, and click here. Now let's put it back to our normal view. So we now have this normal view here. If I select an element here, it selects the entire group of walls. In fact, it selects all twelve walls. Remember, there are two stories involved. And although I can move them, I can drag this around like that; I can't actually edit the contents because it's linked. [0:24:06]

You can see how the pet palette doesn't have any of the other options. I can't work with that. So these are all linked together. This is an entire building. We go to 3D and we'll see the two-story building. Remember, I put in windows or I copied the lower floor windows. So this is the new version there. When I brought that in, if we look at the elevations here, that's interesting; it did not bring in the other elevations. That something a little different than what I expected. I brought in that .pln, and of course remember from the other file there were these four elevations. [0:24:48]

So one of the things that I half expected was that it would bring in the building plus the elevation markers, but in fact, the hotlinked module does not bring in those elevation markers. I believe if you copy and paste contents, then elevation markers will come across. But I guess Graphisoft decided that bringing in an extra elevation or section markers might not work because the contents of those windows won't come across anyway. It would just be a marker. So that at least means that you don't have to worry about that. [0:25:27]

So I brought in that .pln. we could have also saved the contents of that .pln as a mod file perhaps. But in this case, I am leaving it as a .pln. so of course, if I go to an elevation here, we are going to see the two buildings that we would expect. I can select things and get information. So right now, if I select it, it selects the whole building. If I suspend groups, I can select this window and see information about it. If I put it in a schedule the same rules would apply that we had earlier, which is that we can link them all together in one schedule or segment them based on some criteria including the ID that might be part of it. [0:26:19]

So what happens if we want to raise this building up? If the site was sloped, we can grab this. If I have groups active, I can select one element and it selects the whole thing and I can drag it up say, 3'. The same thing applies in terms of the floor plan view. If I go back to the elevation and drag it up a little bit further, say 2' here, now you see the windows are straddling. I will go to the third floor plan. That's interesting. It's actually avoiding that problem, simple because those walls are set to show only on the main story, the home story. [0:27:22]

But these walls now of course show up within the upper - they are showing up as an overhead line. Again, we have the same issues in terms of that. In general, when you are bringing in another building here, I imagine that sometimes you don't need to have the third floor and the third floor on the same plan. In the simple case, you are doing a set of drawings on one building and a set on the other. And you are not saying, "Here is the third floor, next to the third floor of that." now of course, there may be some bridges between them, there may be some other infrastructure that connects them, in which case it gets a little more complicated. [0:28:12]

Let's actually move this down a bit. I will put it back down here. Let's talk about the infrastructure and how these might connect on a plan. I will do something very simple, but we can extend the concept easily. I am going to draw a slab underneath here, and let's say we had a walkway between these two buildings. I will do a cutout here between the two buildings like this, and then I will put in another slab here. Let's make them both with something simple like concrete here. I will make this one have a surface that is painted a color. I will override the top surface and say that it's going to be painted orange. [0:29:26]

Now if we go to 3D, we are going to see the site here. Let's say that this was ramped, because I raised the building up. So instead of it being flat, I want it to have a mesh. I will create a mesh here. I will do something similar. We'll draw a mesh, and let's get rid of the slab that was there. For this mesh, I will take the top up to 6' on here. I will make a very simple slope there. If I go to 3D, we'll see that we have the terrain sloping here. Perhaps I will use the trick that you may have seen me do in some other trainings, where I take the top up to 10' and make the thickness 15'. So I am going to make this piece of slab here that is going to be a ramp. [0:30:45]

We'll make this locked one color. I will go and use the design menu and use solid element operations. This becomes the target, because I had it pre-selected. Select this one and use it as the operator. Then I will do an intersection. That means that only the part of the orange piece that intersects with the green will be shown. You can see how it now is cut in there, but both elements overlap each other. Now I am going to select this piece and make it the operator. I will select the mesh as the target, and instead use subtraction. So now I am going to basically cut out a hole in this mesh, based on where this ramping piece is, and execute that. [0:31:43]

So now we have a very clean result, because the orange has been told not to go outside the boundaries of the original terrain, and the original terrain has been cut out to make it go. Now if I actually take this and do a little curve, you will see that it very nicely extends. I will go and take this edge and curve it the other way so we can have something more complex. Do whatever we want here for that. That is a separate little modeling trick that is explained in some of my videos on site modeling that you might want to check out if you haven't seen it. [0:32:28]

What I do want to say is that if we need to be able to see this in order to be able to place say a doorway here in the right location; or something more complex that would actually really be engineered to fit to the site or to some other facilities. We need to be able to see this when we are working on this building. And remember, this building lives right now in this other file where we are not seeing that. So I am going to something that I did in the last lesson, and I will show you in this context. So I will save this, and now go back to the other one and place a hotlinked module for the original file, 'Multi-building A'. [0:33:21]

I will select and say we are going to bring in all stories. Or maybe I only want the ground floor, because I don't really need that. Let's see what happens if I do a single story here. I have an option to skip nested modules. So although I am brining in that lower story, and that lower story has this building in it, it's not going to bring the building in again. It's not going to do a loop back. So I will place this module in here. You can see how it's brought in the ground floor of this plus the site. I can go in now and put in a double door that would open onto that. We'll pick a double door and pop this in. [0:34:09]

Now if I save this and go back to this one, and we go to our hotlink manager, you can see that this has been modified, and I can update it here. Now I do have a question, because this now refers back to the original file, and I don't have the option to skip nested modules. So I am not quite sure what will happen here, but let's just say OK. It's going to be updated. We are not seeing that, maybe because it's raised up. Let's look in 3D. So we do have a problem where it's come in multiple times. Now I am going to actually select this module, which has the recursive problem where it's bringing in itself more than once. [0:35:14]

And in the floor plan or in 3D, I should be able to edit this module. No, we can't do it in 3D. Let's go to the floor plan. Let's select this module, and say 'Hotlinked Module Settings'. And here I can say 'Skip Nested Module'. So now it will actually remove the recursion there, and say OK. And now if I go back to 3D, you can see now we're not having that big issue that we had. We're also not seeing that layer for the site, because it was turned off. So we will go to the layer here and turn on 'L-SITE'. And now if we go to 3D we will see that. And this door was up high. That was my problem, was that the door was put on the wrong story. [0:36:15]

So I will go back to this one and pick up the settings of this and go down to the lower story, where we pop it in and go back up here. We don't really want a door up here. So now, if I am looking at the ground floor, we are seeing that. I can save this, go back over to this one, and let's see if there is an option if I

select this. There is no option here to update here directly. If I go to the floor plan and select it, there's 'Hotlinked Module Settings'. If we do that, there is nothing here that says 'Update'. So that's a bit of a missing part of the interface there. You have to go to the File menu, External Content, Hotlink Manager, and then say that we would like to update this. And we will see the door. [0:37:13]

We can look in 3D and we will see something a bit more sensible going on. So what I have shown you is how you can have the two buildings in separate files. We can focus in this file here just on what we want to do with the layout book and schedules and all of that for this building. And then we can have, on the main one here, we can have possibly an entire building and site, or maybe we'll only have the site in this file. And we'll have each of these buildings be a separate hotlink. And you can have two or three or maybe 100 buildings each created in separate files, and combine them into one site file that only has the landscaping information related to the terrain. [0:38:09]

You could do site plans, you could do overall 3D presentations, possibly some combined sections where you are cutting through multiple buildings, things like that. Let me take a moment to pause and continue on with the next section. I see some comments from earlier, John W. saying, "I'm working on a residence with a detached garage right now." So I guess the detached garage could be done in the same project or separately. Buzz B. says, "Presently doing a multiple building project renovation of four existing buildings, but hoping to build on your experience." That's good; you have four buildings to work on with renovations. [0:39:06]

So that's interesting. I'm sure there are some good challenges there. So in both of those cases, we would have to make an assessment. Is it better to put them all into one file and just work on it there, or are there some advantages of breaking them up into two or more separate files, and having each one a little simpler and combining them into one large file. Now I am going to show you some other options for bringing files in. these can be applied in some cases that you might find useful. Let's go back to this one here, and I am going to go up to the second floor. [0:39:51]

Interesting, did I bring this in at the wrong story? Okay, I'm not going to worry about that for now. Maybe I put that on the wrong story. Let's just delete this, and we'll bring it back in again on the ground floor. Go to External Content, Place a Hotlinked Module. It actually still remembers this, and I am going to put it on this story here. And if I go to 3D, we are now seeing just the lower story in that context. It looks a little odd because of the height relationship, which is not set correctly. So I can say that in relationship to this building, this should be brought down some distance. [0:40:46]

Let's just drag it and take it down 3' I think is what we had. And that's at least a bit closer to what it needs to be. Of course, I could have the entire building in here referenced, or just a single story. Now if I am on the floor plan and I want to hide this, I can hide the single layer that I had as the reference layer. This is the master layer; and if I turn that off, even though none of the elements are on that layer, the walls are on their own wall layer and the site is on the site layer. But this reference layer is the master

layer, so if I turn it off, now this disappears. So to actually create construction documents or view this building in isolation, all you need to do is have layer combinations that turn off that particular master layer. [0:41:39]

Now that I am looking here, let's just say that I am on the second floor, and I will go to the Roof tool and do a simple roof here. Let's go to 3D and make sure I have the roof set at a reasonable height. It needs to be up a little higher, so I will take this up 2'. So I am not sure whether that's perfect, but it's good enough. I can continue this process of linking in with the hotlinks, but there is another alternative to know about because sometimes it can be even more effective for projects that have many buildings. [0:42:24]

You can save this entire building as an object. So how would you do that? Well, we want to turn on just the layers we need. For example, we may not need the interior fitout. We may not need the walls and equipment and other things, sinks and cabinets and things like that. So just turn on only the layers that you need and select everything in 3D. Go to File menu, Libraries and Objects, Save Selection As, Object. I Now I am in an odd view here. and what it says is the top view will be used as the floor plan view of your new object. [0:43:06]

In earlier versions of ArchiCAD, it would say, "I can't save it as an object unless you are in a top or side view." It would just refuse to and give you a warning message. So you would have to take a top view of that. in the last few years, it changed so that now if you are in an odd view it will automatically take the top view. Part of that is important because not only is the symbol based on the top view but it will leave the elements in their normal orientation. There is a trick where if you want to flip something up, you can take a side view and do this process and it will flip it up for you so that when it becomes an object, it is standing up in a different way from where it was laying down. [0:43:58]

We are not doing that here, we are going to take the building as it is and save it as an object. It says, 'What do you want to call it?' I will call it "Building A as object" just to give it a clear name. it has some choices here, just like any time you save an object, which allows you to maybe change the materials in the object. This was something that was added in to recent versions of ArchiCAD. So I could later say that the roof has an asphalt shingle on it, and maybe I want to change it to Spanish tile. It would be surface 2 that would be the way we could change that. [0:44:43]

But for now, let's save it as an object. I don't see any change here, because we still just have the building. But if I go to the Object tool and click, we are going to see something interesting. Let's go to 3D and we will see another version of the building. It happens to be raised up off the ground because when I dropped it in, I was up on the second floor. But it still is a reasonable version of that building. Now I noticed that it has a line here, so there is a division between that. I am not quite sure why. It looks like it's not cleaning up the way this is happening. Certainly if we were to do a rendering, it would look fine. [0:45:32]

Now why would you want to save this as an object? Well, if I go and select this, having created it as an object, and copy it, I could go to the other file, or any file in fact and paste it in. when I paste it in, you can see it's come in here, and let's go to 3D. you can see how it's come in as an entire element. So as an object, we could put many of these. We could save any building we want and save the entire thing, carefully controlling what layers we want. We can turn off the interior layers if we don't need them. [0:46:23]

So you can now imagine these as monopoly elements that you can drop around a site. You can be working on multiple buildings, and each one can be turned into an object, and you can drop them in. now I am not quite sure why we have these lines here, but let's just see if I go to the south elevation here. now the south elevation doesn't extend far enough, it doesn't show that, so let's extend this over here. now we can open up that elevation. We happen to have a story line here, so we can't even tell if that line would show up. Let me drag this up in space here 2' or something. [0:47:20]

So there is an extra line that is showing up there. I am not sure how that would get resolved. Let's try a variation of this in terms of creating an object. Remember I did this in 3D view. What if I were to take the marquee tool and, with it active, go to File menu, Libraries and Objects, Save Selection As, and no, it does not allow me to save something that is in a marquee. It's not sensitive to that. now let's see. I am not sure if there is anything else that we can do, so that is something we may need to experiment with. There may be some limitations there. [0:48:07]

Let's take that building here and go to 3D. we will do a quick rendering here. let's zoom in on this here and go to photo rendering settings. This is going to be a LightWorks rendering. we shouldn't see any line for those adjoining walls. So it's a nice, clean representation. If you wanted to do a walk-through or fly-through tour of a complex site, then saving these things as objects might be a good way to do it. If the building design changed, you can resave the same information as an object and the same part of the model and that would allow you to have updated versions there. [0:49:09]

I think there is one other segment that I haven't covered that I would like to make sure is included. Let's get rid of the extra copy here, the object. And let's look at the story structure. Suppose that the story structure is quite different in this project. I will go to the Story Settings. Let's say this lower story is 15' or something like that. no, let's do it the other way. We are going to just for clarity of demonstration go into this building and go to Story Settings. Let's say this ground floor is 15', so we have a much taller story there. [0:50:00]

Now if I go to 3D, we are going to see how some interesting things happened. These walls here in ArchiCAD 17 were linked to the story height, so they got to be taller; they got to 15' whereas these walls that were a part of the module did not. Basically, there is a choice to unlink them and keep their original height. So before ArchiCAD 17, we would have had a gap with both of these, but we could easily select

this ground floor and make them taller. So this building would have a different structure than that one. And we could easily fix this. [0:50:48]

Of course we can have any design. In your design, you can have every story be what it needs to be for the story to story height and the height of each wall. so we will fix this, but in 17, because it's linked to the next story up in this case, and it is set to be a zero offset from that, which is what gave it the 15' from one story to the next. I didn't even have to adjust that. but we have a problem here. so how would we deal with it? There are two ways. In 17, we have an option for this. Let's go back to the floor plan and select the module. [0:51:56]

We will go to Hotlinked Module Settings. There is an option here to adjust the walls to match that. if I do that and go to 3D, it didn't work. Let's go to the Hotlink Manager. Maybe we need to update that link. Update the link there and go to 3D. maybe it didn't work. Let's place it in again. Or maybe in those walls were some other settings that weren't linked. We will place it in again. Place the hotlink and choose the multi-building B here and say 'Adjust to This'. Maybe I have to do it from the beginning here. I will skip the nested modules and place it on the ground floor. [0:52:46]

Now let's go to 3D. interesting, it still didn't do that. let's check in this other file on the ground floor. Are these walls set? They are not linked. So that is the issue. It was just simply that they weren't linked. So I need to make all of these walls linked to the second floor. Now I will go back to 3D to make sure this looks okay. We will go back and save this. Now we will go back to the other one and update that. we will go here to Hotlink Manager and Update. And now if we go to 3D you can see how that worked. I would want to make this take the base up to 3' or something like that there, or whatever distance it needs to be. [0:53:53]

Actually, I think I didn't elevate it vertically. So let's take this and say elevate 3' here. now if we go to 3D, there is an issue because the door is now set to be linked to the story rather than to the wall. so we would need to make sure that worked. But let's take a look at the story structure in this file. If I go to the story settings, let's say that I took this up to be 20'. You will see both buildings got taller. Now this building should not get taller. It should stay at its original height. So we don't want it to be linked, even if the main building did have that change there. [0:54:54]

We will go to the Hotlinked Module settings. We will remove this, and use the original height. Say OK and go to 3D. we are going to see now it's not getting big, but we do have this funny offset. So in one case, the building stretched, which was totally wrong, and in the other case, the building is broken apart which is also totally wrong but now we can fix it. We can bring them in one story at a time. So what I will do is delete this and start over on the ground floor and place a hotlinked module. I will choose a hotlink, but instead of taking the multi-story one, I will choose a new one of the same file. [0:55:43]

So this is 'Multi-building B', but I will say that I only want a single floor. Say OK and I will just keep the original height here. so it's not going to adjust based on the story structure of this file. I will place it, and then I will go up to the next story, and place a new single story here. say 'Place Hotlinked Module' and choose this story again. This time, we are only going to choose the second floor. Now I have the second floor here unlinked. So it's going to keep its story structure. Place the module here. and now in 3D, we are going to see these don't look correct, but now I can adjust them individually. [0:56:36]

I can drag them up 3' there, and take this one down to here. so because these are separate stories, because this is one module and this is another, I can place them on whatever they need to be to make this building work. And this of course the story structure here is set to be much taller. So that is the way that you would work around the issue of having buildings with different story structures linked into a file. Maybe you have five buildings and three of them have common story structures, and two of them have different story structures. [0:57:28]

No problem. The ones that have different story structures, you would just bring in one story at a time. This wouldn't be great if you had a 20, 30, or 50 story building, because that would be awkward. In that case, you would probably want to bring it in as an object and have that come in as a single entity. But by doing it with the stories, you could have them potentially combined into a single door or window schedule. If you wanted, you could do area calcs, and basically all the elements are in there and have information for data that you could work with. [0:58:10]

Let's see if there are any questions. We've gone just a little bit over an hour. I see Ken B. says, "Do I understand that it's feasible to have one file as a site plan, and then have as many separate files, each a building, and import them as hotlinks?" Yes. That is exactly what I am saying. You can have one file that is the site, and if you wish, you can have the building or buildings each in another file. Then hotlink in the entire building or hotlink in each story of the building if you need to. [0:58:44]

The simplest is to hotlink in the entire .pln, but if you need to, you can bring them in a story at a time which will allow you to control the heights. Now, you may recall that when I was working in the previous lesson about hotlinked modules that I saved a unit plan, just a simple office, as a hotlinked module. Now, you may want to combine that concept with this one, and I will tell you why. Suppose I go to the first floor here and put in some interior walls. We will put them on the interior wall layer and zoom in. let's make this roof not show up on all stories. [0:59:34]

Right now, it's saying 'Show on home story and one story down'. Let's just say 'Home story only', so it's not showing up there. I will create an interior 2x4 here. I am going to create some interior partitions; maybe a couple other rooms here. I will put in an object. We don't want the building as an object. Let's go into cabinet. I will put in a simple cabinet here. so what I have now is this building which has interior stuff. If I save it here and go back to our combined one and go to the ground floor and update this

through the hotlink manager, I will say that I want this to be updated. We are seeing now these interior walls. [1:00:55]

I guess that layer that I placed this on, I wasn't paying attention. It's on the equipment layer. That's not a bad choice, but if I go back in here, it looks like the equipment layer is not turned on on the floor plan. I am not quite sure why. But if we did have this on here, then we would see that element. Suppose that we wanted this linked in, so that we could see certain things, but we didn't want to include the interior information. So maybe there is a lot of detailed interior information with dimensioning, there are all sorts of stuff. [1:01:30]

Let's go back here and put in some dimensions. I will do a dimension here, and one here. now I have some dimensions. I will save this and go to the other file. We will update this. You can see it has all of these dimensions, but maybe I don't want to show the interior stuff. So one option that you may want to consider instead of hotlinking in the entire .pln is that from the other file, you basically create a new layer combination where I turn off the layer dimensions, and I turn off the equipment and the interior walls. We will call this "New Hotlink Layers". [1:02:32]

I have just created a new layer combination that has only the simple building in here. now I will go to the marquee tool, draw a marquee around this with a heavy border, and go to File menu, External Content, Save Selection As, Module. We will call this "Building B Shell", because it's only going to have the shell here. I will save this as a .mod file. I don't want to replace the selection with this module file, I want to leave it intact to work on, but there will be a copy of it saved over here. [1:03:19]

So now that I have done that, I will go back to the other file. I will delete this whole module, and let's place it in again, but this time we are going to go in to choose the hotlink, which is going to be a new hotlink here, and choose a module file, and choose this shell. Again, I may do a single floor and then the other floor here, and say that I would like to put this in here. remove the top link so that the walls keep their original heights, skip the nested modules, and place this. There we have a version of the building, but it's only the shell, because I had saved that out. [1:04:14]

If I go up to the upper floor, what is this? This is still on there. What went wrong here? Hotlinked Module settings. Multi-building B, .pln. so I guess I didn't delete that. Oh, that's the upper one, which I hadn't actually deleted because it was a separate thing. So now we go to 3D, it will still be alright. I just need to take this module, which I just brought in, and raise it up to the 3' distance. So now, it looks like I didn't quite get it in line there. Let's make sure the angle, distance 3, angle 90. So there we go. You can see that from the prompt popup that this is a hotlinked module from the .mod file, whereas this one is a hotlinked module from the .pln with the upper section. So you can mix and match if you need to. [1:05:30]

Probably you would use the same thing. I would actually get the upper story of the .mod file if I wanted to not have to maintain two separate things. Let's see if there are any questions on that. I think that is a very important option to be aware of that you don't have to hotlink in an entire .pln, you can select part of it, and even do multiple stories with a heavy marquee by turning on the layers that you want to use, and then saving that out as a .mod file for reference into another file. [1:06:07]

The only other thing that just occurred to me that I haven't covered here is the idea of a subdivision project where you have variations. In other words, you have buildings that are linked in that are of the same design that are mirror images. With a module, you can mirror that module and the whole thing will flip over nicely. We covered the options for rotation and similar things in the previous lesson on modules. There is the option potentially for having some components where you might have a different version of the roof, or you might have a different version of the kitchen or other things where you have the same shell but a different interior fitout. [1:06:52]

Maybe you have different materials or something more extreme. So you can combine multiple pieces together in your file by hotlinking those in. so combinations of these hotlinks referencing will give you quite a bit of flexibility to essentially focus your design efforts where you want, in terms of creating base designs, then placing them in a site with possible multiple versions, but keeping them all up to date. So as you add more information, or redesign, change things, they will all carry the latest version of the information. [1:07:38]

Ken B. says, "Rich with possibilities. I am glad we are saving this as a module. Haha!" Yes, it will be there so you can watch it. And Iain D. says, "Do storylines show on the elevation from each file?" Good questions. When you bring in the building, let's say 'Building B' into the site model, the story lines don't come across. We just have building elements like the walls at whatever height they are. So you don't carry across story lines. So whatever story lines you have chosen for the site file will be available. Of course, if you do have a sloping site and you want to do an overall section or elevation, and one building is at one height and other buildings are at different ones, then I would suggest not using the built in story lines. [1:08:40]

So if I go to this south elevation here, instead of using these built in story lines, I might go and say 'Hide the Story Lines' in the section or elevation. Then I would manually go and place some references. So we would use potentially the dimension tool here, choose to make it a vertical arrangement, choose multiple ones here. and choose perhaps the marker style, something like this. I will go in here and find the snap point for these and pick some things arbitrarily like that. so these things then can have the heights automatically done, and then we could have text. [1:09:35]

It just says, 'Second Floor' or 'First Floor', things like that. so instead of doing it with story lines, you would do it with dimensions. There are some limitations; it won't put in the name of the story here, you will have to put that in with text. And also it won't do it as a dashed line. I don't think these - I will select

it here, can I change the witness line here? there is nothing that allows me to change it here to dashed, so you might want to make it - I can say, take off the witness lines. We now just have some basic lines. And you could use the Line tool to pick some type of a dashed line, and do something like that. so you can create your own version of it as you need to. So that at least would give you some reasonable results there. [1:10:51]

Good question Iain. Okay, thank you all for joining me today. I look forward to getting your comments and questions on the page down below. This has been Eric Bobrow, thanks for watching.

[END OF AUDIO 1:11:05]