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CS124194

Fieldtrip!! Let's take tablets to the BIM 360 Field and Glue them to work.

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AECOM Hunt

Learning Objectives

Identify the process of using iPads in the field.
Perform the functions of the program by putting pushpins in the plans in BIM 360 Field.
Address the issue of syncing viewports between BIM 360 Field and BIM 360 Glue.
Doing photography like a pro by using an external light source in BIM 360 Field.

Description

In the construction industry we have found that using iPads have become extremely useful. However most of the time we give an iPad to a new user and decide they know how with very little training. In this class we are going to discuss using a tablet such as an iPad to do the work of BIM 360 Field and BIM 360 Glue. First we are going to familiarize ourselves with the programs. Then we are going to use some of the hidden tools available with BIM 360 Field and Glue. For instance we may want to put pushpins in our documentation and have those sync up between users. We would also like to explore getting viewports to sync up in both Field and Glue. Lastly we would learn how to take pictures in dark rooms using the flashlight on the iPad. At the end of class you will be a more proficient user of BIM 360 Field and BIM 360 Glue.

Speaker(s)

Norm Akin is a kayak fisherman, cigar aficionado, and uber-geek. Currently he is the BIM Manager for the Central Region of AECOM Hunt and has spent 30 years using Autodesk, Inc., products. He has a varied background in construction, architecture, manufacturing, and training. Because he can coordinate all aspects of a project he works together with architects, engineers, and contractors to guarantee a successful project. In addition to his work at AECOM Hunt, he works as one of the AGC BIM trainers on a national level. Just like fishing, BIM is a passion for Norm and he is always trying to improve the process by adding new technology such as drone capture or LIDAR scanning or even designing the perfect lure. Thanks to Norm's vast background, he can quickly identify process problems, create solutions, and instruct others within the company culture.

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Identify the Process of using iPads in the Field

Tablets are quickly becoming the standard way to construct buildings in our new BIM environment. As tablets get more sophisticated our processes become more complex but our job performance becomes more critical. Projects are on a fast track. If you were in my class yesterday we discussed building a baseball stadium in five months. All of the information is readily available to us via electronic mediums such as iPads or other tablets. We are going to focus on some uses of the iPad since that is what AECOM Hunt uses on all of our field projects.

Identify what hardware you need

With so many iPads available it is a tough decision on which one do you purchase. As with any purchase make a checklist of what features you want and what uses for the iPad you will have. In BIM 360 Field the documentation will live and can always be brought back up depending on the circumstance. Every new person that is added can now request an iPad for their specific job function.

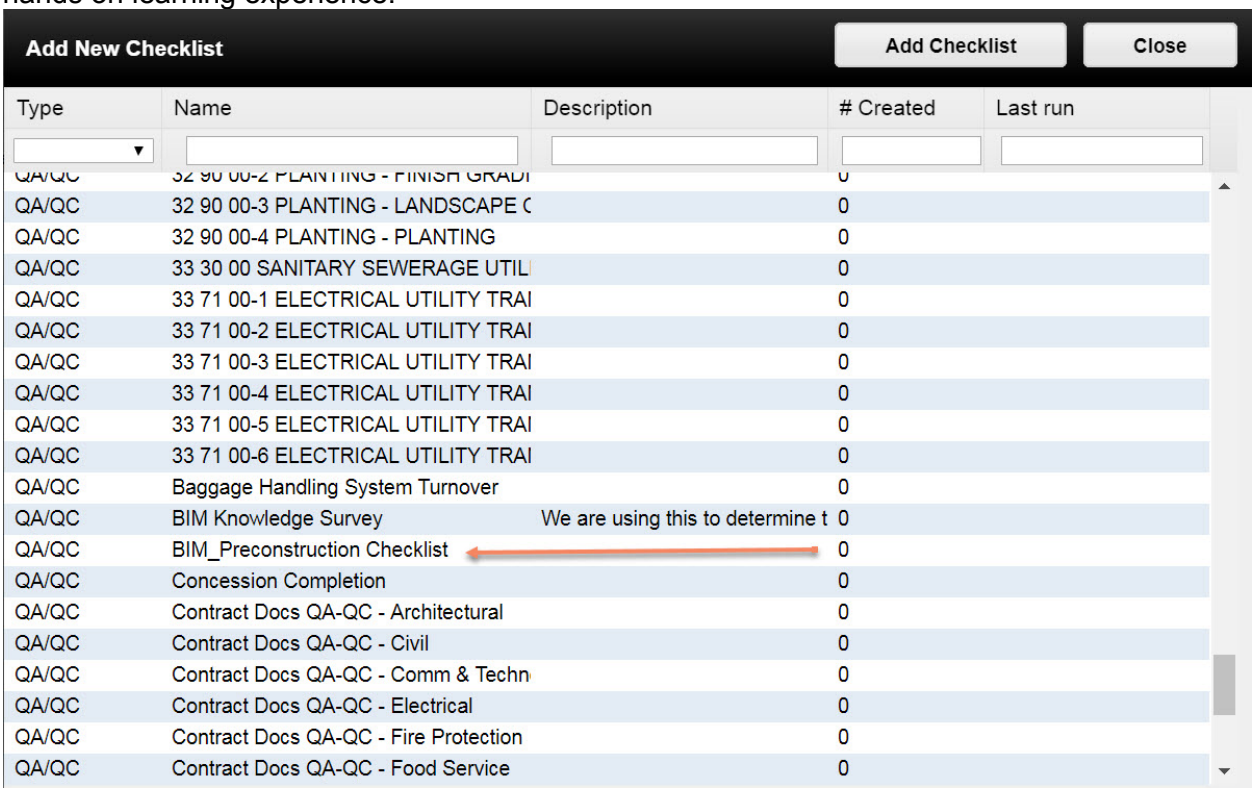
Download Software

Once you have purchased the tablet you desire then you need to go to the App store and download the correct software. I have added some basic software that needs to be downloaded for proper use of the Field tablet. I use an iPad Air 2 with a cellular connection. Some of the Software I use are BIM 360 Field, BIM 360 Glue, and BIM 360 Plan. I have others for the drone we use as well. This iPad was picked because of its cellular connection.

Write a process for training

Write up processes for training and checklists as well. The thing about writing a checklist is it will reside in BIM 360 Field for all project participants and can be included in the training. Plus there will be record of who has taken the training and who has not. The training program we offer to our employees is based on this principle as well as a

hands on learning experience.



Checklist_Details.pdf UAS Flight Record.pdf

Implement the process on site

The process is well intentioned and works well in the office now it's time to take it to the guys who are delivering the final product or the building we are construct. Set up the coordination with the field guys and subcontractors. Hint - a box of donuts goes a long way to getting people on board with the new technology. Train the onsite people the same way you train the office people with a checklist. After they are comfortable walk the site and have them fill out an issue or add equipment. Make sure the process is flexible and can be changed if the need arises. As general contractors we sometimes forget that our job is to determine means and methods and the subcontractors execute means and methods. They may have insight into the functions of our process that we have not considered. Always be flexible to others and avoid the conflicts.

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Perform the functions of the program by putting pushpins in the plans in BIM 360 Field

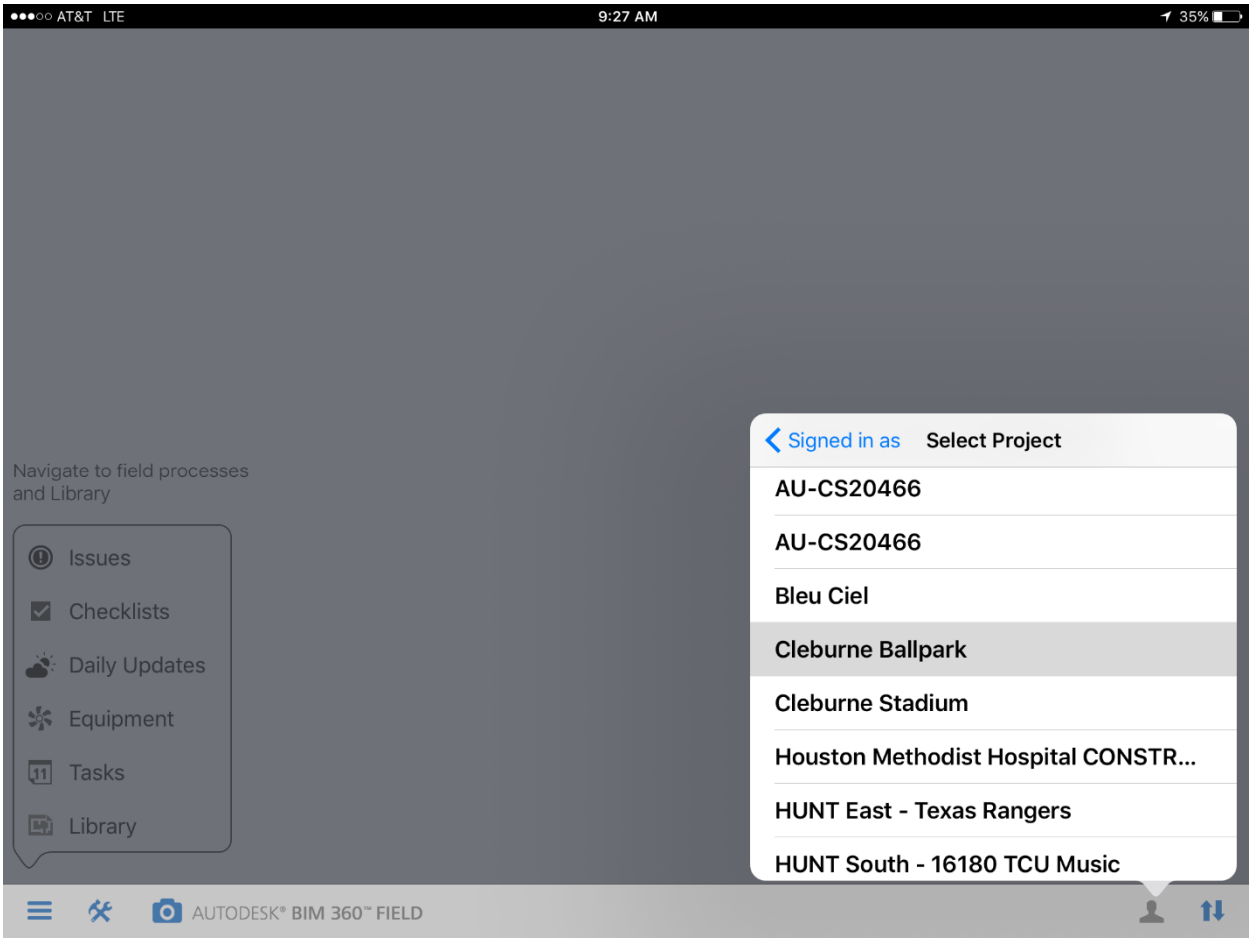
There are times when we need to mark up our plans and return to that spot the next time we need to work in that area. I'm sure we are familiar with pushpins to hold a location. Push pins are available in most windows applications as well as most Autodesk applications. The problem arises when a pushpin has been added but has not been updated. Usually the problem occurs going from the PC at the desk of our office team to the field. Coming from the field the pushpin remains. The PC will sync when the project is opened.

Resync the iPad to the project

The tablet does not automatically resync to the project. To upload field data and to download new PC data you need to resync the data. This is where a cellular iPad comes in handy. The first sync may take some time as all of the project data is being downloaded to the iPad. As a best practice sync after every checklist, daily update or any other function of BIM 360 Field is performed. By syncing often the sync time is shorter thus making production time more efficient.

Signing in and Syncing

If you are working on multiple projects always check to see if you are signed into the correct project. Open BIM 360 Field on your iPad. Go to the lower right corner of the screen and select the project. After the project is selected you want to go ahead and sync up. Make it a habit to always sync before you do anything especially if it has been some amount of time since you last opened the project. This may take a while depending on how much data has been added to the project since your last log in.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Houston Methodist Hospital CONSTR...
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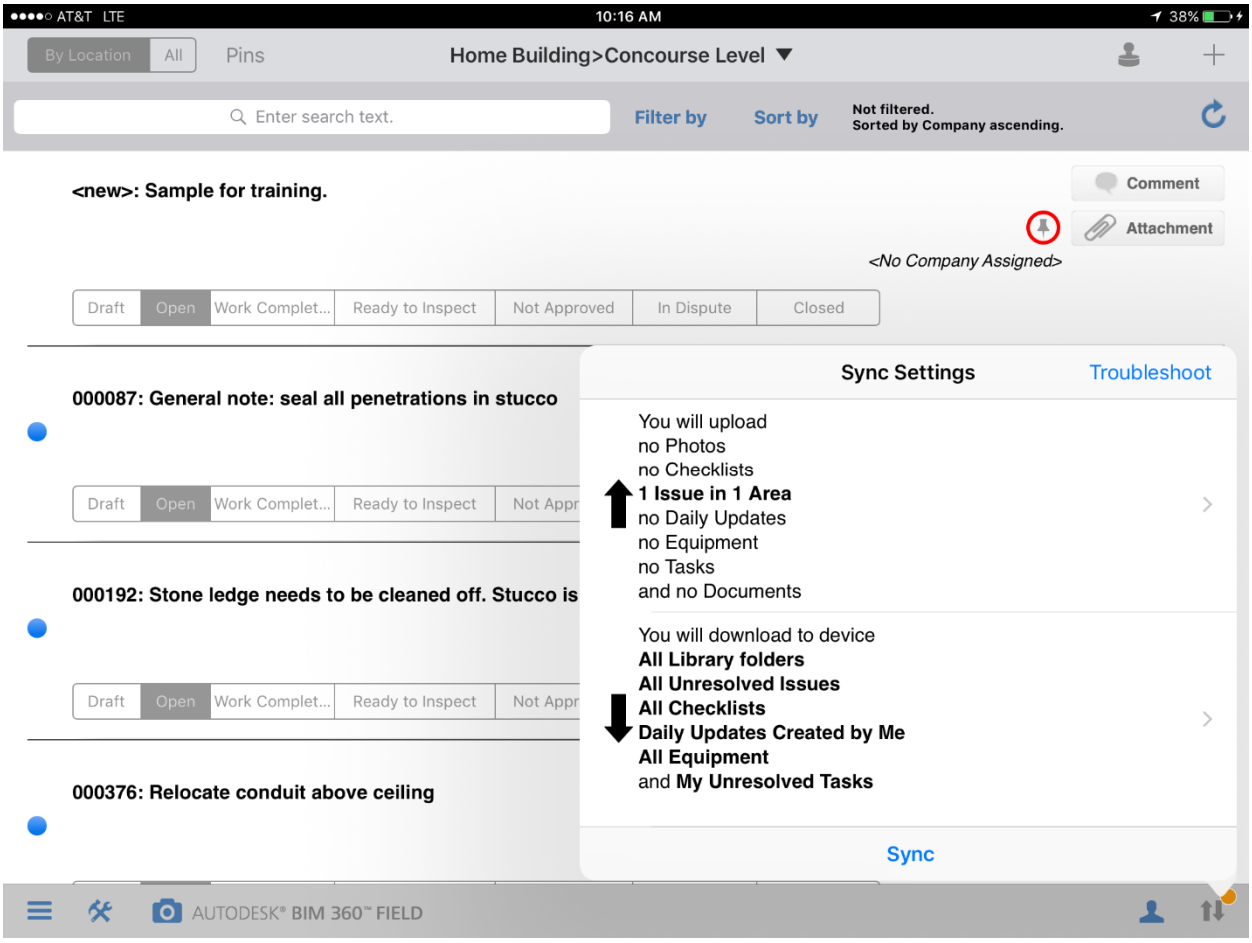
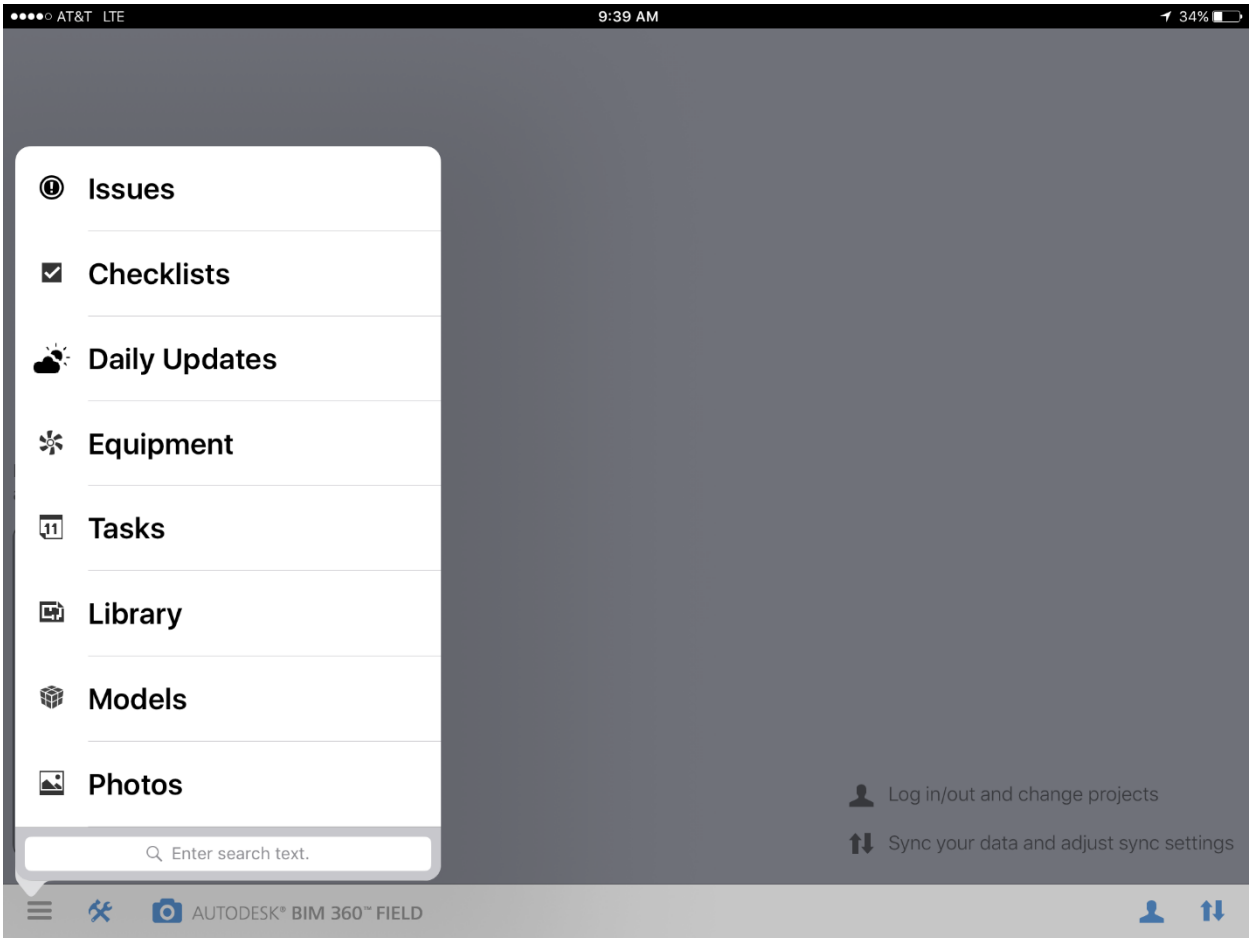
HUNT South - 16180 TCU Music
AUTODESK® BIM 360™ FIELD



Adding Pushpins to Issues

After you are synced up go to the lower left corner ad find the button that opens up the functions of BIM 360 Field. If you can't find it look for a stack of pancakes. Click on that to get the full list. Find the one that says issues and click it. After the tab has been opened all of the active issues will be opened. These can be viewed or edited depending on the permissions you have in field. If you want to add an issue simply click on the add button. The same goes for checklist, equipment, and daily reports. To add a pushpin to an issue click to add. After adding a pushpin find the location of where you want the pushpin to reside. Resync the iPad to the desktop to see the pushpins on the desktop, In addition to the desktop every PC will have the current information on sync up.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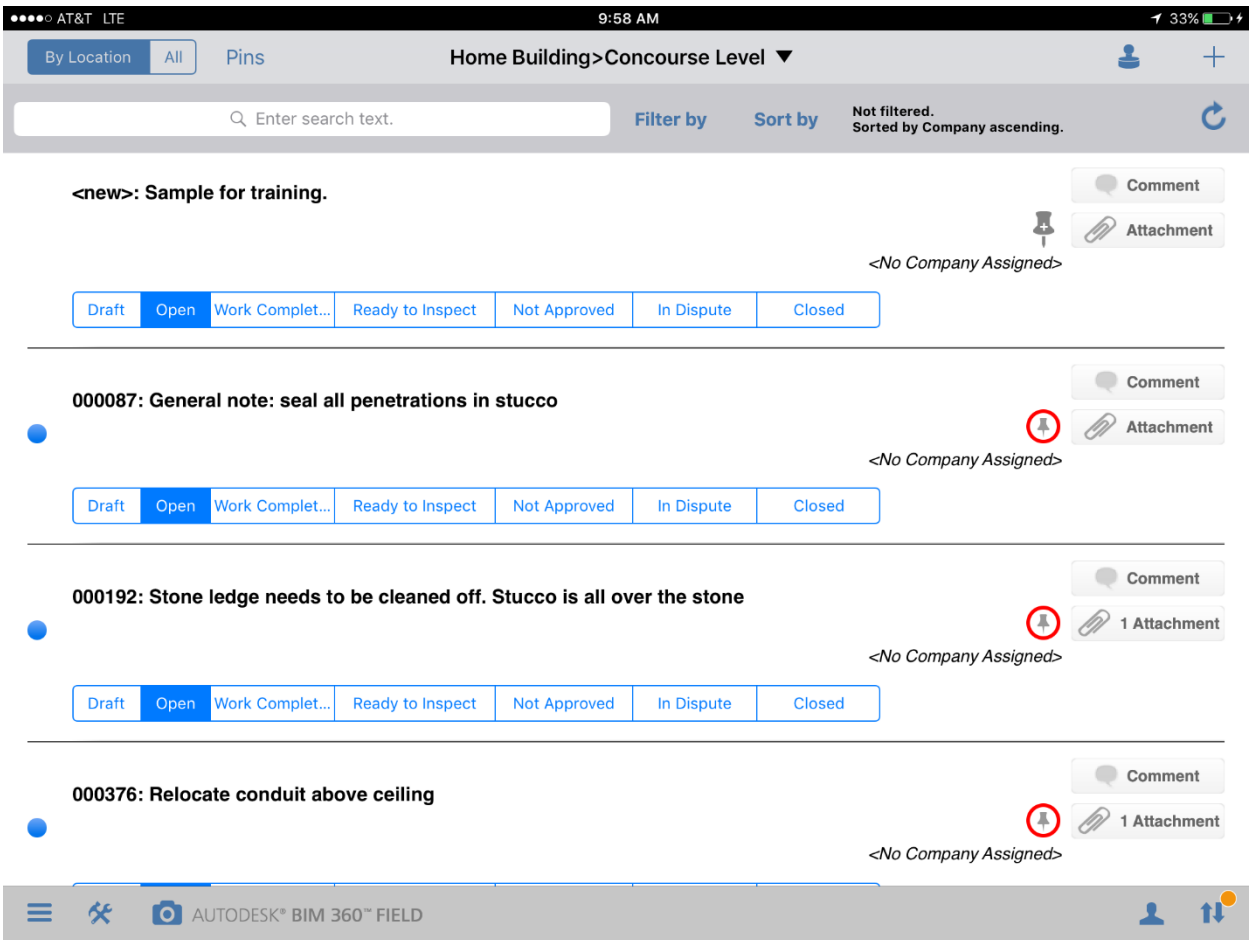
Issues
Checklists
Daily Updates
Equipment
Tasks
Library
Models
Photos
Enter search text.
Log in/out and change projects
Sync your data and adjust sync settings
AUTODESK® BIM 360™ FIELD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Work Complet...
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Not Approved
In Dispute
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000087: General note: seal all penetrations in stucco
Comment
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000192: Stone ledge needs to be cleaned off. Stucco is all over the stone
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000376: Relocate conduit above ceiling
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Address the issue of Syncing viewports Between BIM 360 Field and BIM 360 Glue

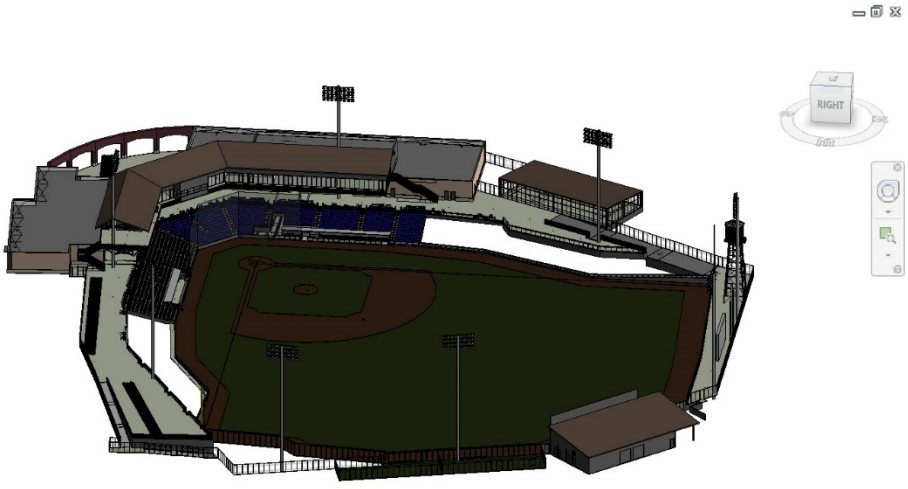
One thing to keep in mind when using new software is making sure the software properly "speaks" to itself. Related to this, one of the questions I have been asked by field personnel is: How do the views I create in BIM 360 Glue sync up with BIM 360 Field? Let's attempt to answer this question in three ways, with views created in Revit, Navisworks, and BIM 360 Glue.

Create the view in related software to be synced.

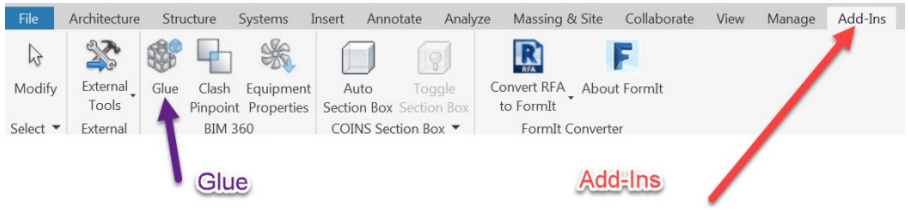
One of the ways to sync the views in Revit to Glue is once they are created to sync them in Revit. There is an Autodesk add-on to Revit that makes this very easy to accomplish. Let's look at that process and determine the best ways to use this feature on our projects.

Open Revit Project

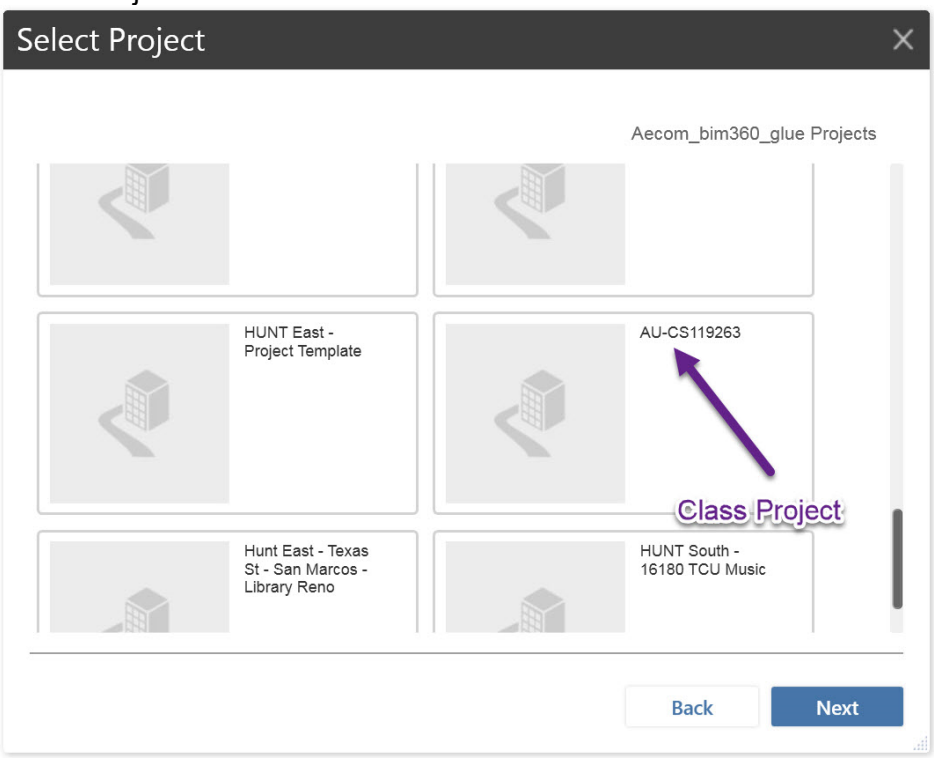
1. Open the project in Revit. Since we have been working in the Cleburne Ballpark project we will open that project.



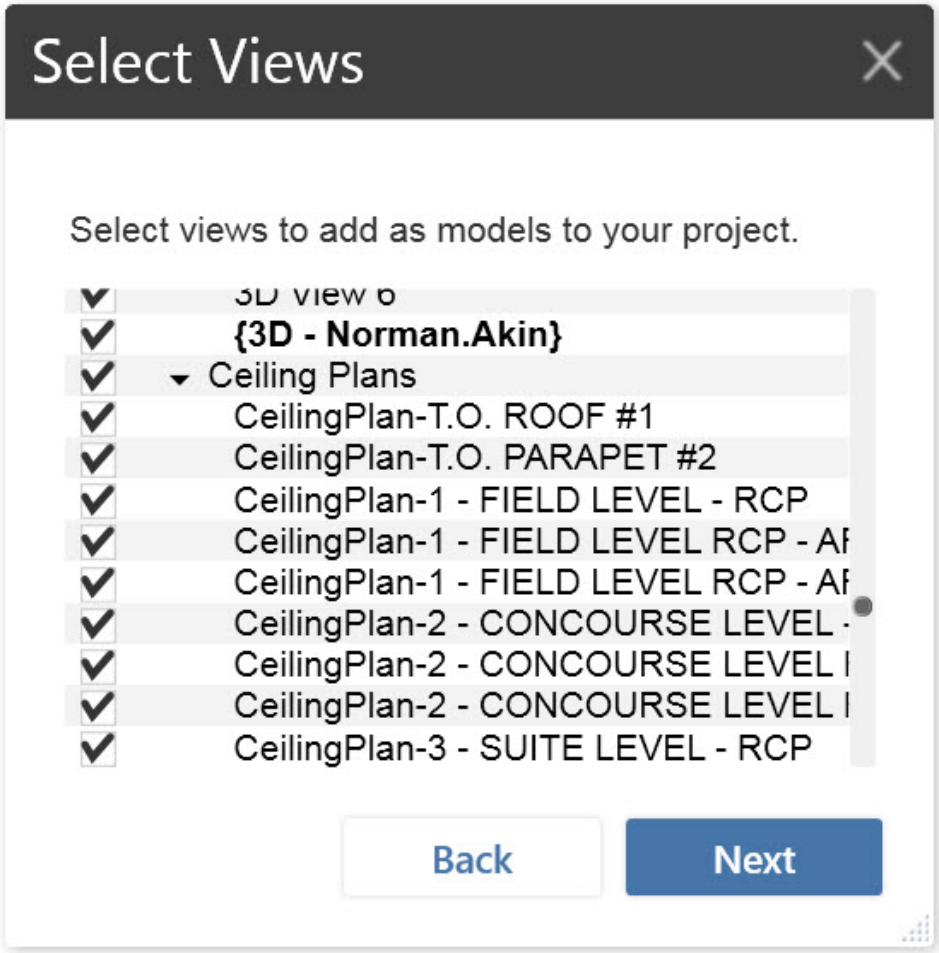
2. Before we create the views we want to share it is a good habit to sync the Revit Project to BIM 360 Glue in case it has been saved and not uploaded.
    a. Find the add-Ins tab.
    b. Click the Glue button.

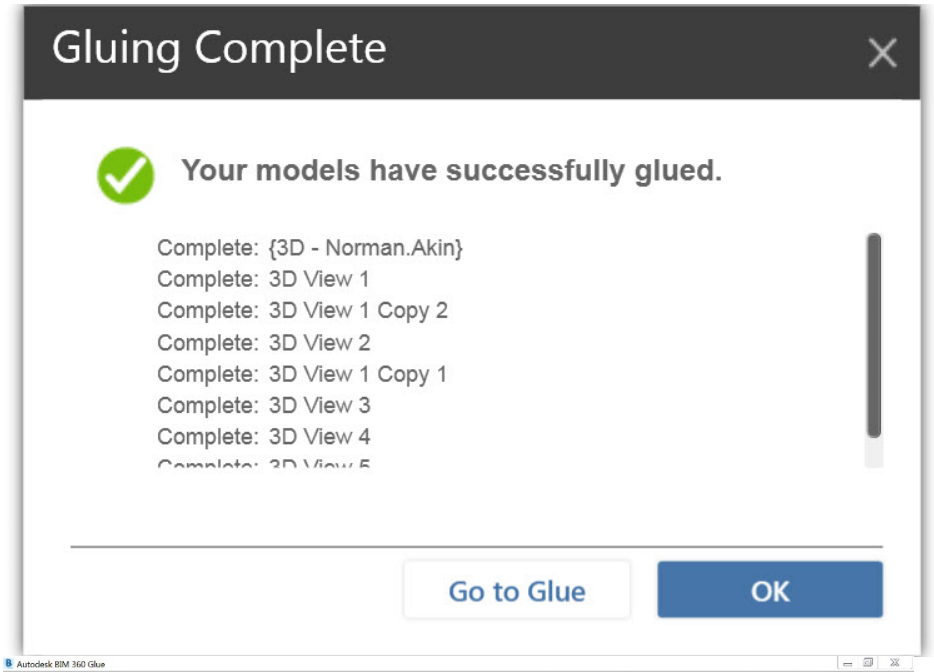


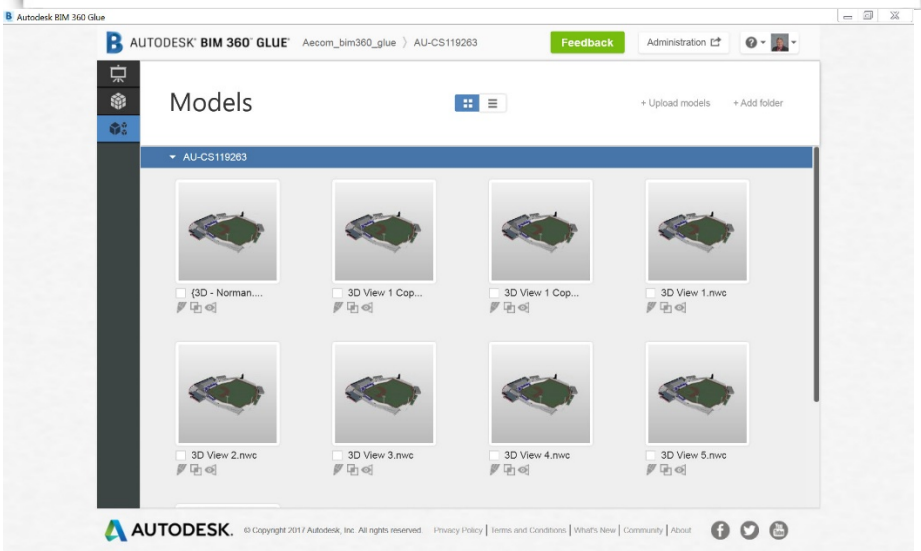
c. Select Project.



d. Select views to Sync.





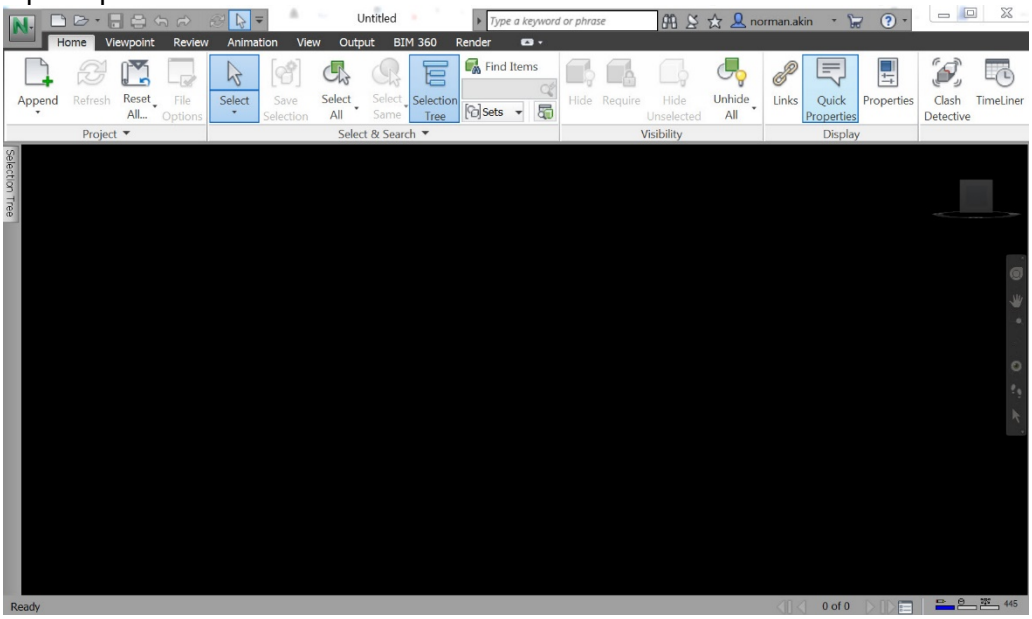


e. The views that are chosen to sync are uploaded as NWC models. All the models that I loaded are of the same scene. If options want to be added this is one of the easier ways to explore them.

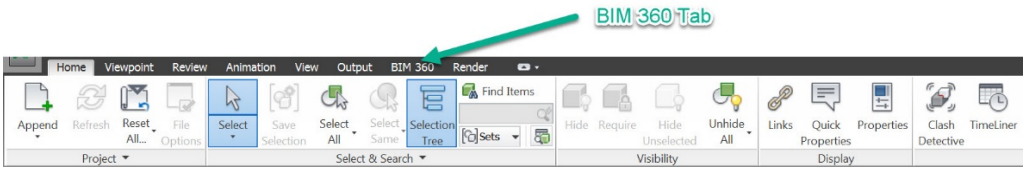
Open project in Navisworks.

This is one of the easier ways to sync the Navisworks file to Glue as you are actually opening the Glue model in Navisworks.

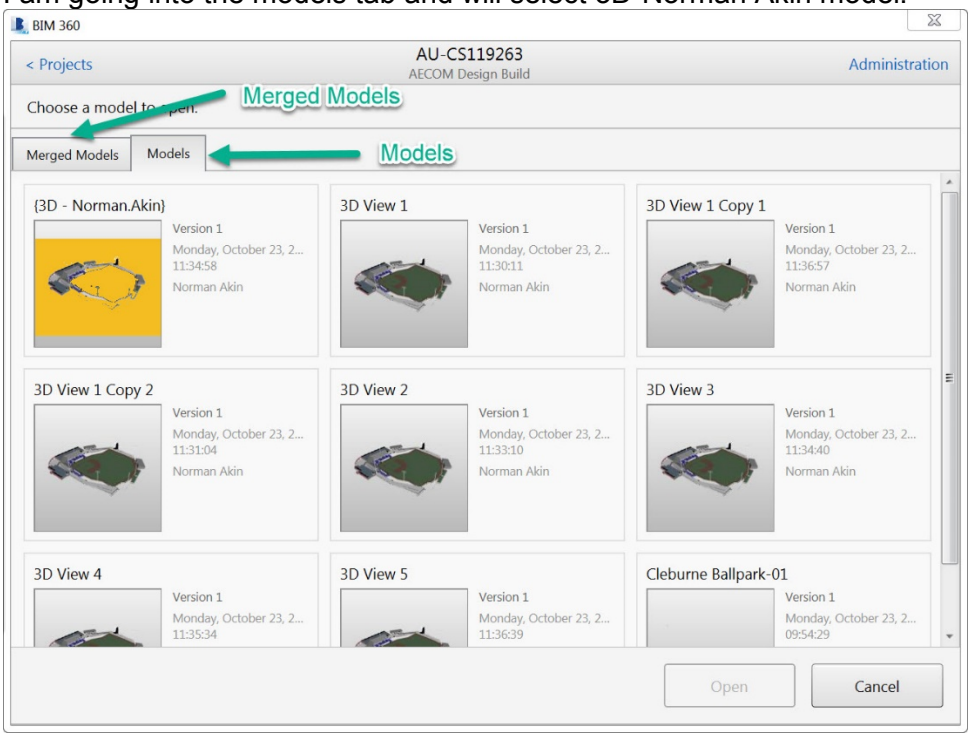
1. Open up Navisworks.



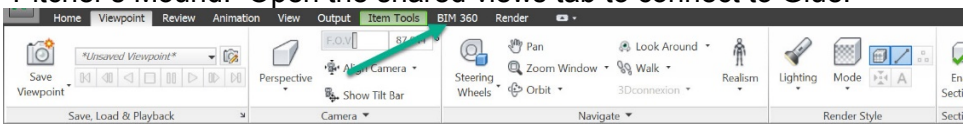
2. Go to the BIM 360 tab.



3. Select Project. Notice that either Merged Models or Models tab is selectable. I am going into the models tab and will select 3D-Norman Akin model.



4. Once opened create a new viewpoint from the BIM 360 tab and name it "Pitcher's Mound. Open the shared views tab to connect to Glue.



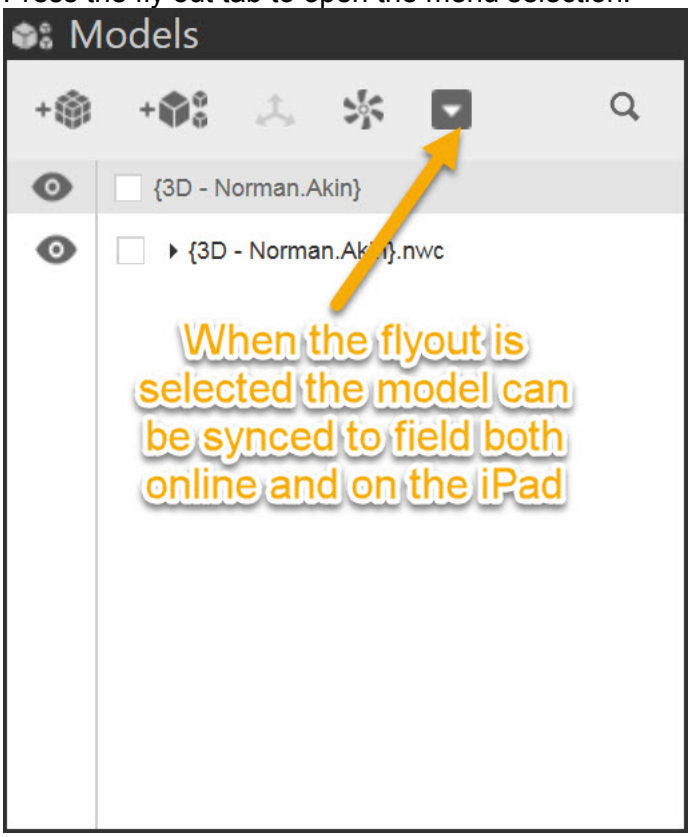
5. Save back to Glue. Notice the only folder that it can be saved is the merged folder but once it is saved a new Merged Model has been created.

Sync to BIM 360 Field

This would be one of the simplest part of the process. The Glue model is now ready to be synced to the BIM 360 Field project. By syncing early the changes and updates to the field will be fast and the people building the project will have the most up to date information.

1. In the opened Glue model open the models tab.

2. Press the fly out tab to open the menu selection.

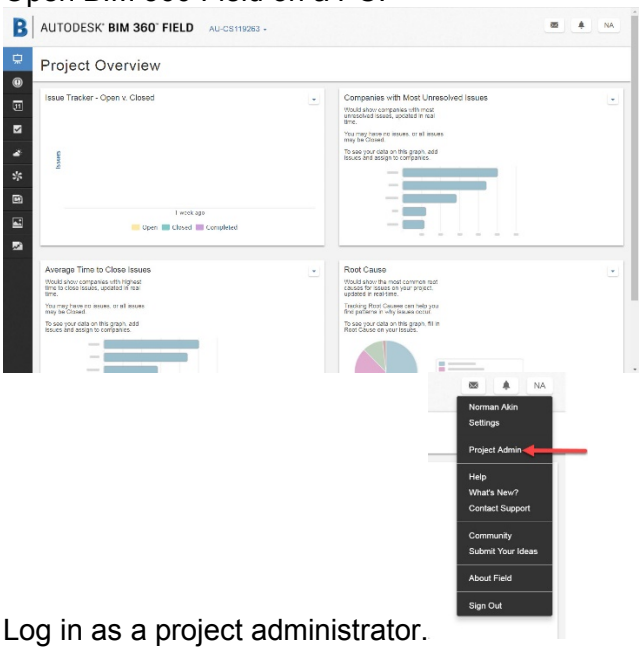


3. Select Share with Field then select Yes.

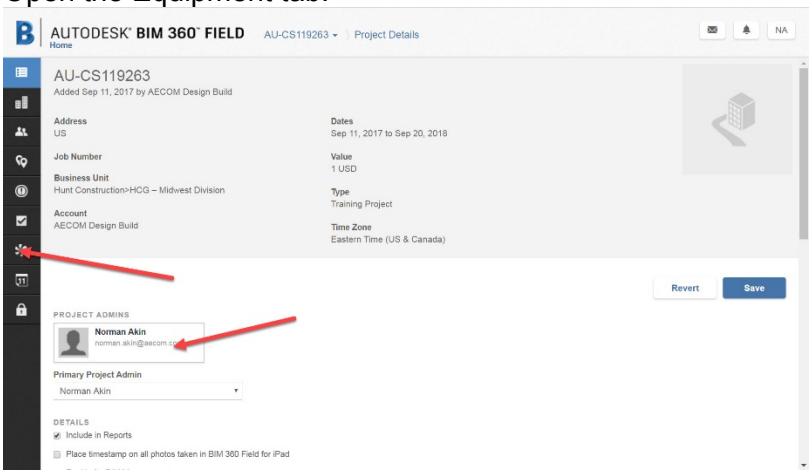
Add to BIM 360 Field

Since the model has already been added from Glue it is just a matter of adding to Field. Just make sure an admin is logged in to be able to add the new model.

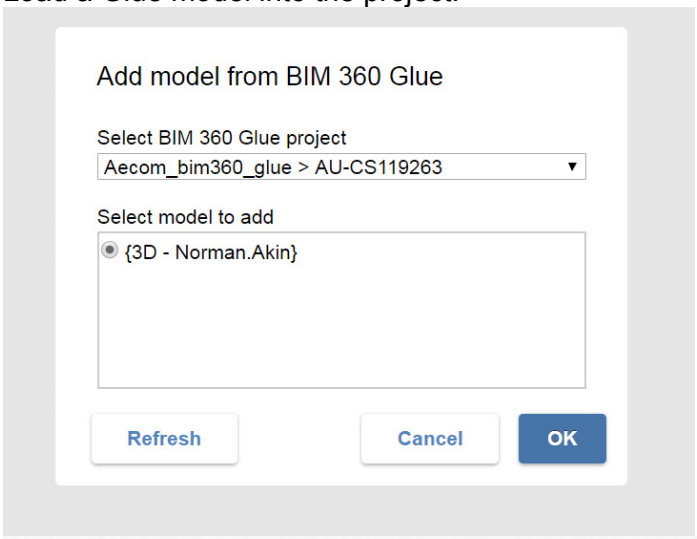
1. Open BIM 360 Field on a PC.

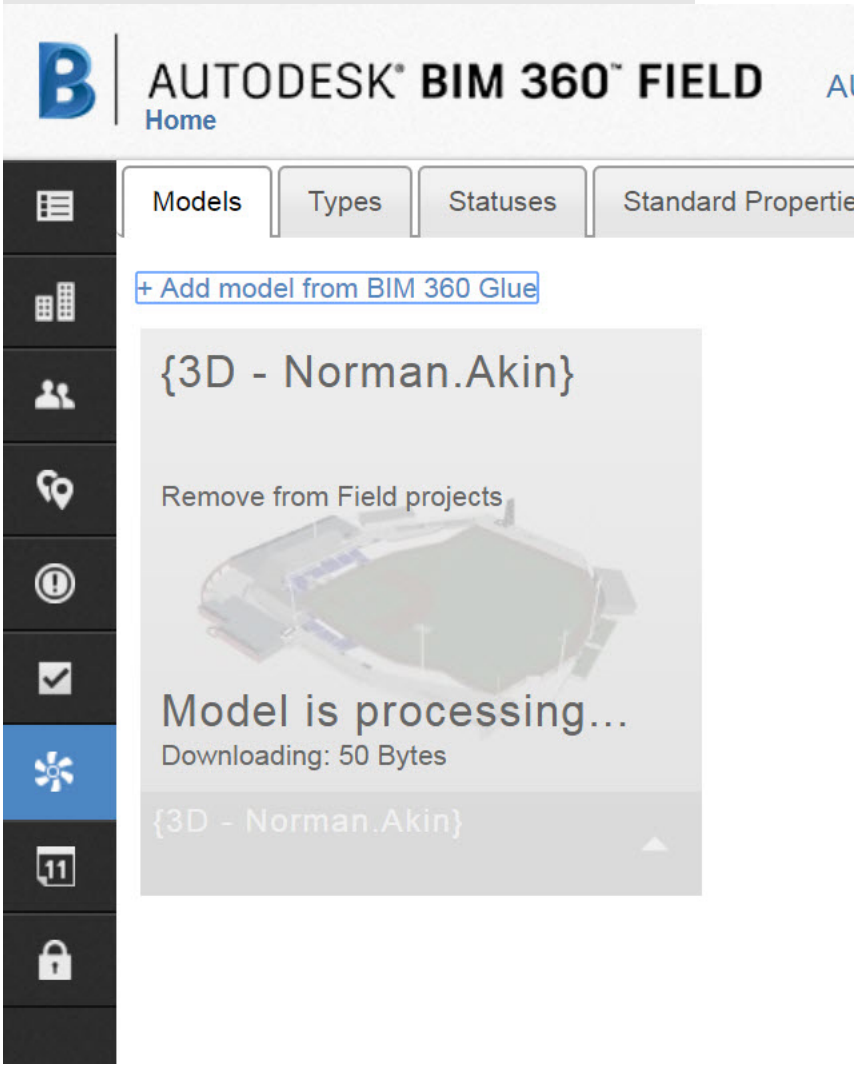


2. Log in as a project administrator.
3. Open the Equipment tab.



4. Load a Glue model into the project.





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Doing photography like a pro by using external light with BIM 360 Field

The ability to take photos with an iPad and then post them to BIM 360 Field is very useful. However BIM 360 Field does not come with an adjustable camera so a couple of workarounds had to be created to accommodate the camera that is available in the program. Add to this that most iPads don't have a flash and can only be adjusted manually. There are several camera apps available to download. If you are lucky enough to use an iPad pro you will have a built in flash.

Using the camera app effectively.

The camera is the most utilized app on the iPad or cell phone. How many selfies have you taken this week at AU? It is used to take pictures of everything from goofy smiles to pro baseball players. Yet some of the most basic features of the camera never get used. Let's take a few minutes to discover some features between different tablets or in this case iPads.

If you're lucky, use an iPad pro.

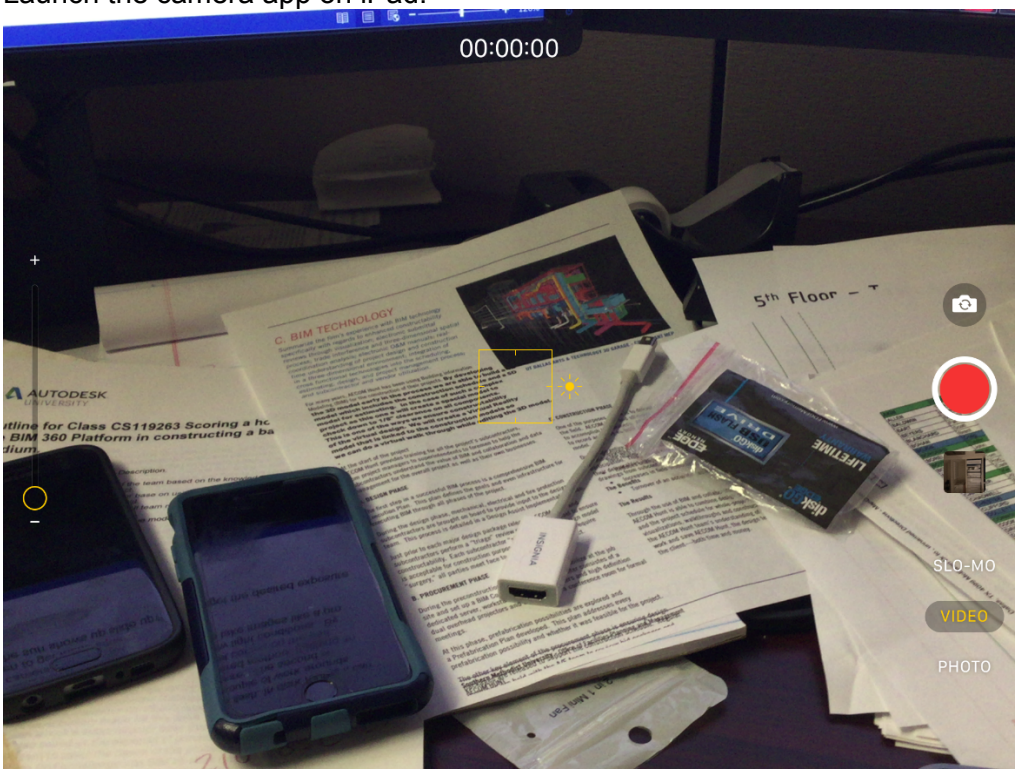
With most iPads we have discovered that there is no flash photography yet with our phones we can use flash photography all the time. With the iPad Pro this is an easy fix as the flash is finally built in.

1. Launch the camera app on iPad Pro.
2. Tap the lightning bolt on the upper left screen.
3. There are three settings – Auto, on, and off. Choose Auto.

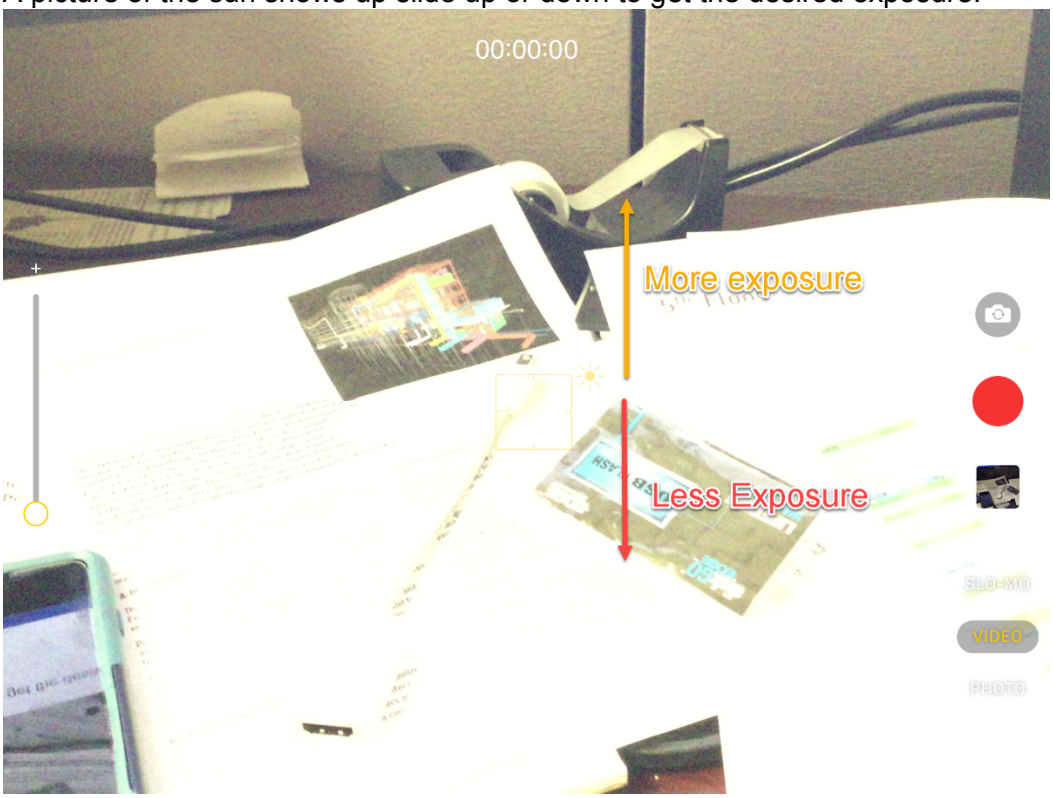
Using a standard iPad.

As we have already discovered the iPad does not come with a flash. In dark rooms it can be difficult to get a good image for coordination. There are a couple of work arounds. The first is adjusting the camera manually while taking the picture. The second is attaching an external light source which is also the most preferred method. Attaching an external light source. The second is using the camera app that comes on the pad. Unfortunately the BIM 360 Field camera does not adjust for low light conditions. By using the camera that comes with the iPad we can adjust and take images like a pro.

1. Launch the camera app on iPad.



2. Tap on screen to get focus square.
3. A picture of the sun shows up slide up or down to get the desired exposure.



Add external light source.

With the moving of technology all you need is a Bluetooth and an external flash. This is the iBlazr 2 LED flash. It comes with its own camera and software. It works as a flash and for BIM 360 Field as a light source for taking those pictures in dark rooms. Word of warning don't use this at a ballgame behind home plate.

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In conclusion.

The ability to use an iPad effectively depends on how much time a person is willing to take to learn the tools. Let's look back at the objectives just to see if we were able to answer the questions presented.

Learned Objectives

Identified the process of using iPads in the field.
Performed the functions of the program by putting pushpins in the plans in BIM 360 Field.
Addressed the issue of syncing viewports between BIM 360 Field and BIM 360 Glue.
Doing photography like a pro by using an external light source in BIM 360 Field.

Thank you for attending, remember to fill out the class survey and enjoy your stay at AU.

Music	www.royaltyfreemusic.com
Photography	Ruth Akin Photography LLC.
Technical Images	Snagit version 2017