

Walk-in Slide: AU 2014 Social Media Feed

1. Click on the link below, this will open your web browser

<http://aucache.autodesk.com/social/visualization.html>

2. Use “Extended Display” to project the website on screen if you plan to work on your computer. Use “Duplicate” to display same image on screen and computer.

BIM 360 Field, Barcodes, and the Power of a Door Frame

Chris Patton - McCarthy Building Companies, Inc.

Ryan Moret - McCarthy Building Companies, Inc.



Chris Patton

VDC Manager

Responsibilities: Management and implementation of McCarthy's VDC process for projects within the Texas Division. He leads a team of engineers who create models for site logistics planning, estimating, self-perform work, constructability reviews, and MEP coordination. Chris manages the VDC process, becoming an integrated member of the project team and making sure team members' models and deliverables meet specific requirements. In addition, he focuses on development of VDC project strategy, field personnel training, BIM execution, and research & development of new BIM technology. His emphasis over the last few years has been to survey all of the various technological tools on the market and leverage them to cut down on wasted time and improve quality of work.

Recent Project Experience: Ft. Bliss Hospital Replacement in El Paso, TX; DFW Airport Terminal Renovation and Improvement Project; 1920 McKinney Ave. Office Tower in downtown Dallas; Sands Convention Center Expansion in Las Vegas.

Education: Received his B.A. in Architecture from the University of Kansas and has worked in the AEC industry for over 10 years.

Knowledge: AutoCAD, Revit, Navisworks Manage, BIM 360 Field, BIM 360 Glue, Infracore 360 and ReCap.

Hobbies: skiing, biking and the occasional brewery tours





Ryan Moret

Assistant Superintendent

Responsibilities: His first assignment after graduation from Texas A&M was at the Carl R. Darnall Army Medical Center project as a new Project Engineer and over the course of 4 years worked his way to become a Project Assistant Superintendent, he recently transitioned to the Preconstruction Department. He provided jobsite level support and implementation for BIM 360 Field for this pioneer project within McCarthy and opened doors for further implementation. Ryan continuously seeks for ways to leverage technology to create a leaner, more efficient, and less problematic jobsite. He utilized equipment tracking within BIM 360 Field to efficiently track materials, installation, and quality issues throughout the jobsite.

Recent Project Experience: Carl R. Darnall Army Medical Center in Fort Hood, TX and MD Anderson Alkek Expansion in Houston, TX

Education: Graduated from Texas A&M University's school of Architecture in Construction Science in 2010

Hobbies: biking, going the gym, watching movies, and all you can eat salad bars



Class Summary

This lecture will consist of a walkthrough of the door frame barcoding process and the integration with BIM 360 Field Issue & Equipment Tracking. We will take the class through a step-by-step process of Project Understanding & Setup, BIM 360 Field Information Inputting and Setup (2 options), On-site tagging and finally Issue and Equipment tracking using BIM 360 Field and the Barcodes.



Key Learning Objectives

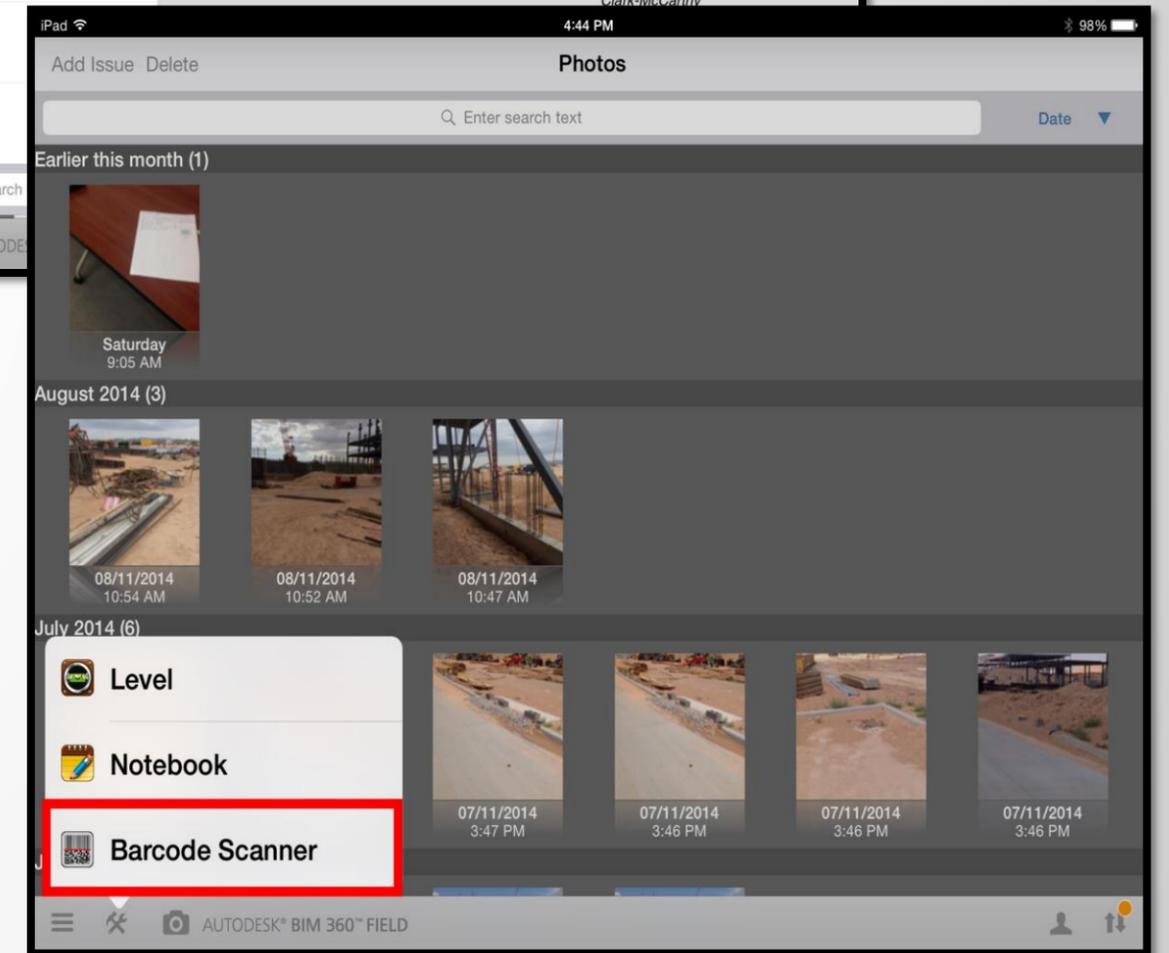
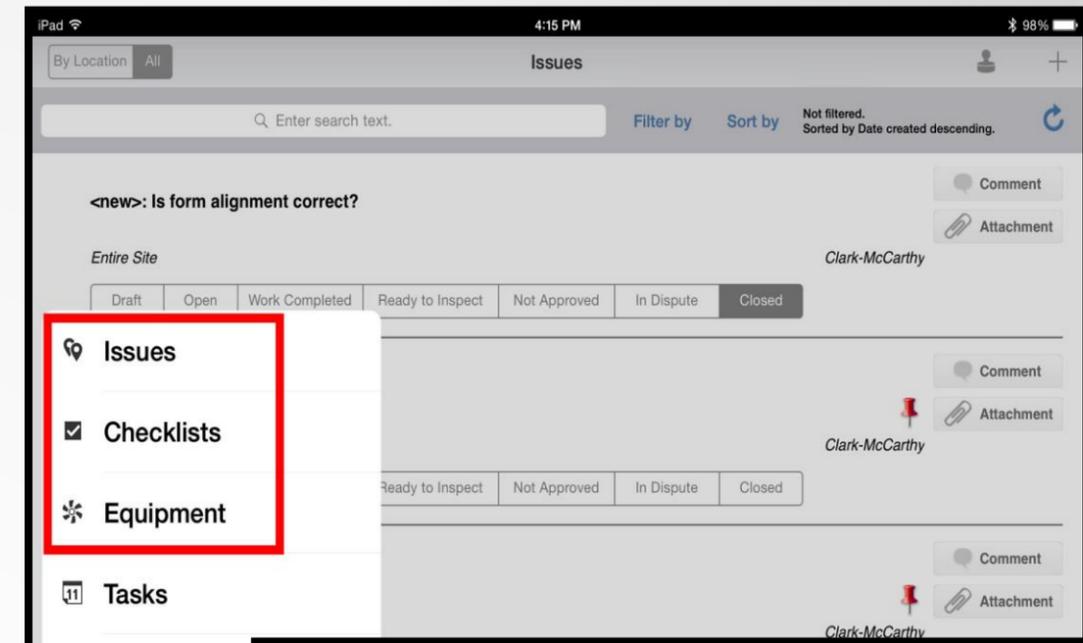
At the end of this class, you will be able to:

- Understand on-site implementation of this process and process origin
- Understand issue tracking using BIM 360 Field software and barcodes
- Learn how to set up, create, and produce barcodes for door frames on a project
- Understand and learn how to communicate efficiencies gained by this process to company and project stakeholders

Class Overview

Class Overview

- Issue Tracking, Equipment, Checklists and the Barcoding modules of BIM 360 Field.
- While not a prerequisite for the understanding and implementation of this process, this class does assume that attendees have a basic understanding of BIM 360 Field. The class will not cover the overall setup from scratch of a new project in BIM 360 Field.

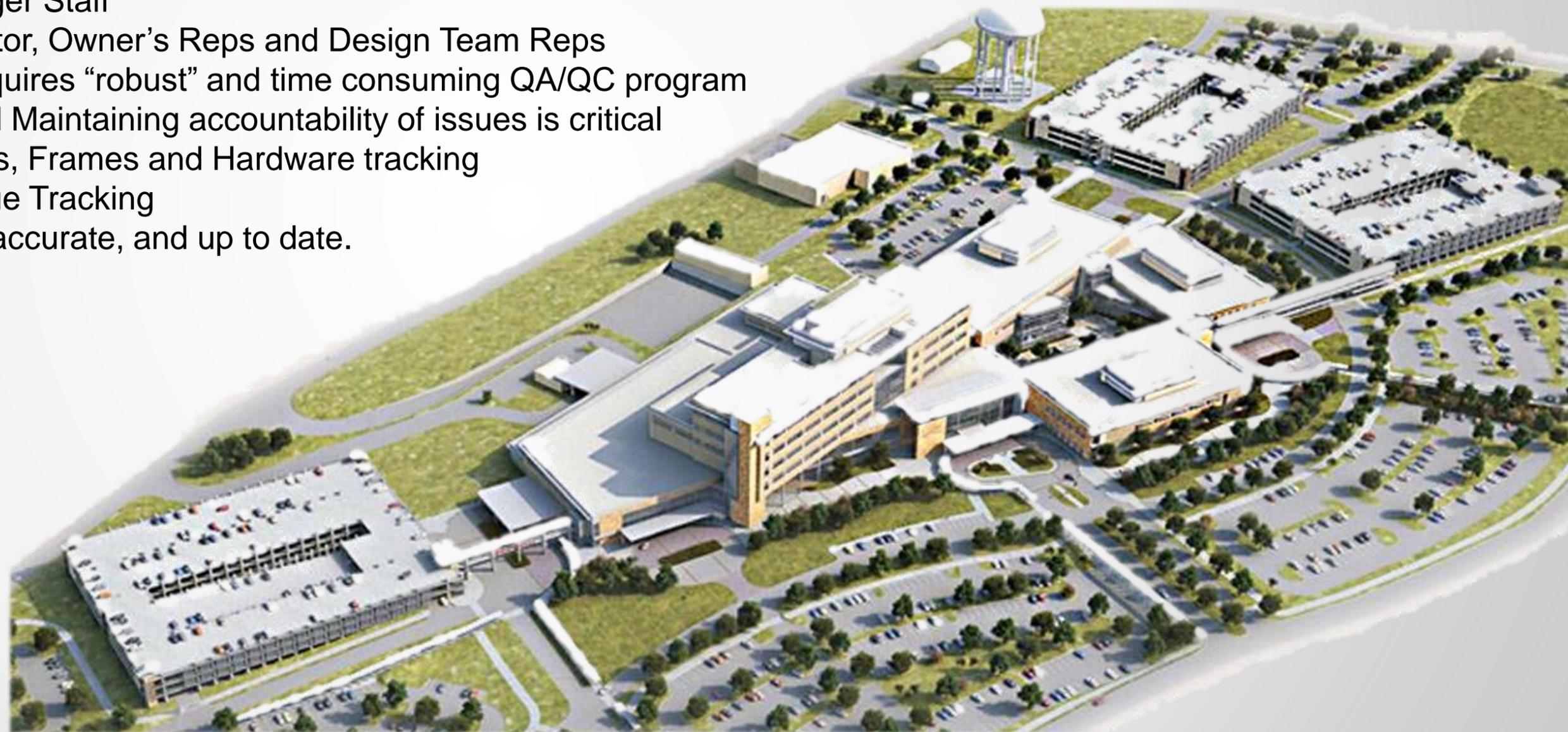


Process Development

Carl R. Darnall Army Medical Center Replacement

Killeen, Texas

- \$536 million / 1 million SF / funded by Federal ARRA funds
- Design – Build / HKS / Corps of Engineers
- 3,000+ rooms (each with at least one door)
- 50+ Construction Manager Staff
- Additional – Subcontractor, Owner’s Reps and Design Team Reps
- Federal Government requires “robust” and time consuming QA/QC program
- Identifying, Tracking and Maintaining accountability of issues is critical
- Started solely with Doors, Frames and Hardware tracking
- Evolved to Location Issue Tracking
- Kept reporting uniform, accurate, and up to date.



Door Frame Barcode Utilization in BIM 360 Field

Location

- **Issue Tracking**

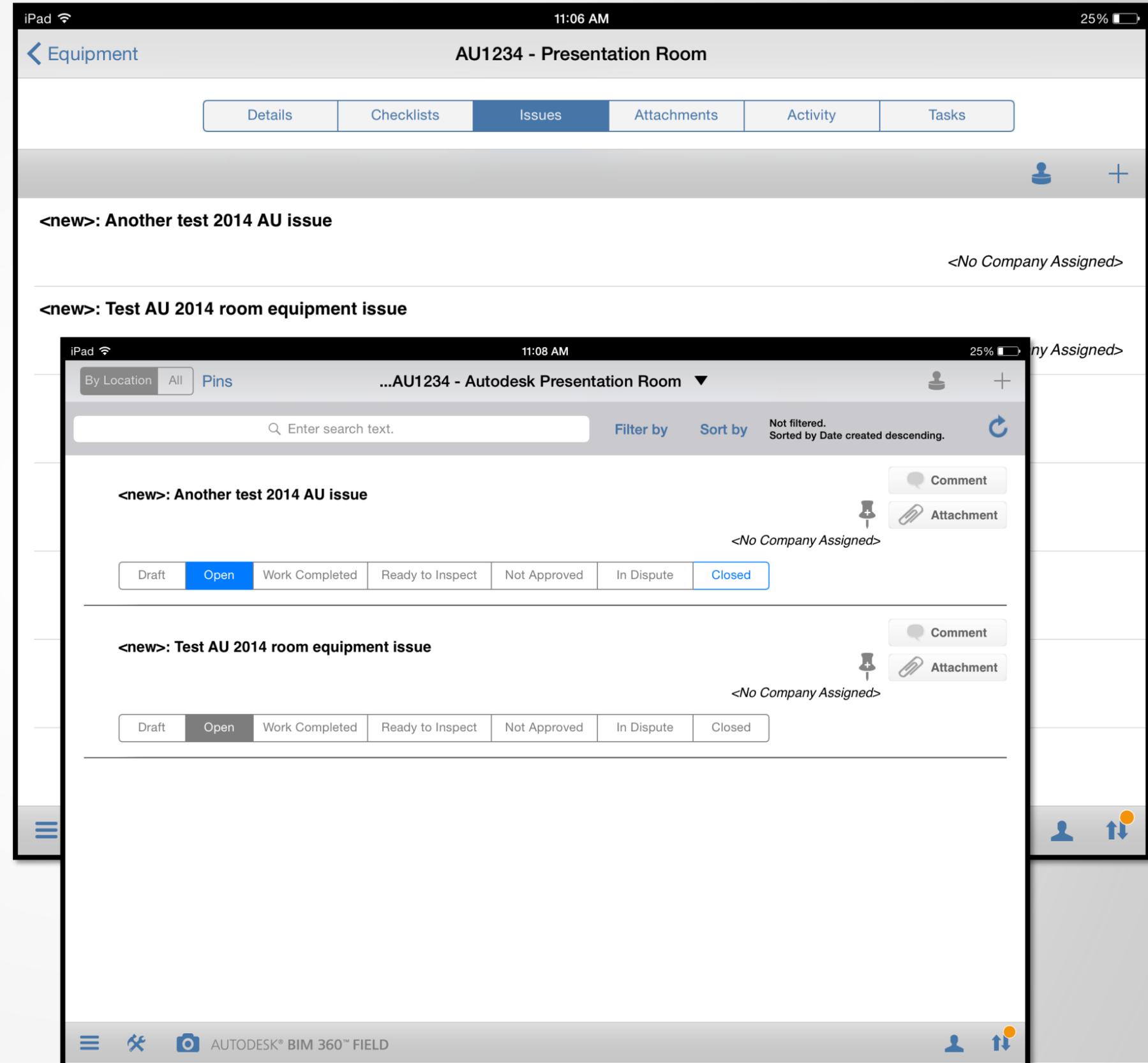
Vs.

Equipment

- **Issue Tracking**
- **Checklists**
- **Construction Status**

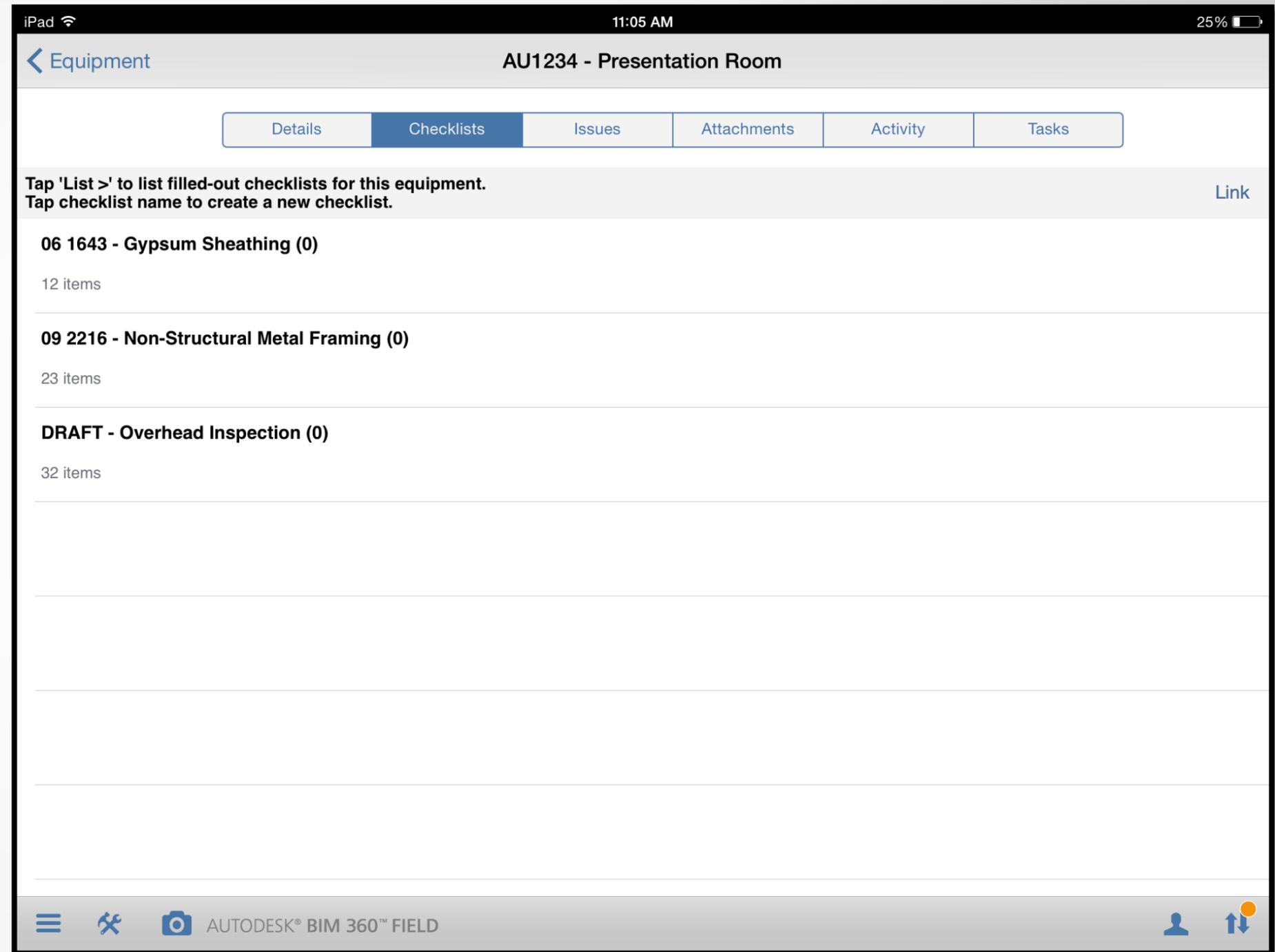
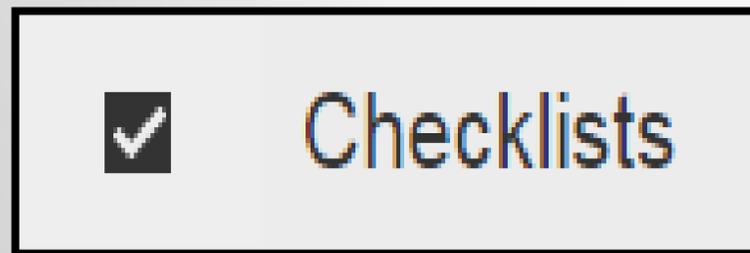
1 – Issue Tracking

- One of the most valuable features of BIM 360 Field
- Information becomes even more valuable when reported consistently and thoroughly
- Create Issues by “area”
- Pull open all issues related to an “area”
- Available in both setup options (Location or Equipment)



2 – QA / QC Checklists

- Inspection checklists allow for thorough documentation of project compliance
- Use of barcodes will allow for ease of association of checklists to locations.
- Only available when Rooms have been setup as Equipment



3 – Construction Status

- Fully customizable – Imagination is the limit
- Status of Locations
- Facilitates tracking of progress of inspections through construction and easily communicating this information to stakeholders.
- You can also create fields to track information regarding the material associated with the room.
- *To the right is an example of properties used to track information for a particular room (1133-01). You can see that important inspection dates can be tracked for that room as well as material status.*

Profile

- * Name
Room 1162-02 - Autodesk University Room
- Type
Rooms
- Description
Room 1162-02 - Autodesk University Room
- Location
1162-02 DISPLAY AREA
- Status
Released for Fab
- In Wall Inspection Date
- Overhead Inspection Date
- Owner Turnover Date
- Punchlist Date

Identifiers

- Barcode
1162-02

Implementation of Barcode System

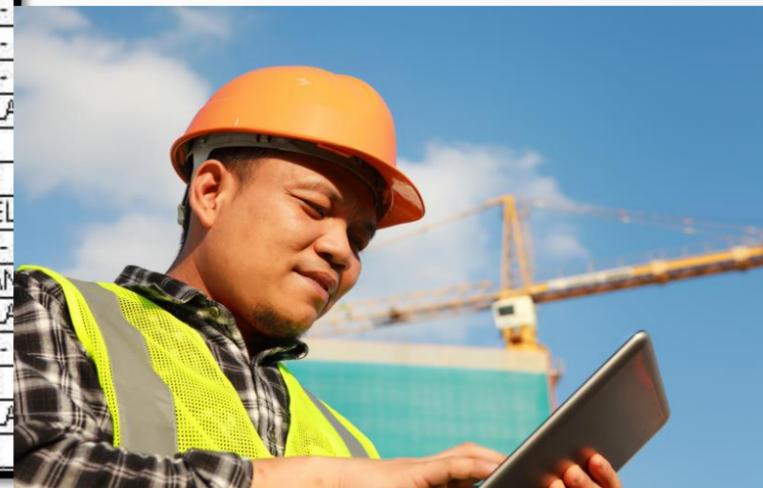
Implementation

Project Team



- “Bar Code Champion” = Not always the same job to job
- Best suited = Project Engineer or person assigned Doors, Frames and Hardware
- Tracking standpoint not Installation standpoint
- Intimate knowledge of the Door, Room and Hardware Schedules on the project.
- Contact and relationship with the Door Frame Manufacturer and secondarily the Door Frame Installer

NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	WIDTH	HEIGHT	R/O	DESCRIPTION
D01	2	1	3070	36X84X1 3/4"	36"	84"	37X85 1/2	EXT. HINGED-PAN
D02	1	1	3070	36X84X1 3/4"	36"	84"	37X85 1/2	4-PANEL
D03	1	1	3070	36X84X1 3/4"	36"	84"	37X85 1/2	HINGED-GLASS -
D04	4	1	3070	36X84X1 3/4"	36"	84"	37X85 1/2	HINGED-PANEL -
D05	1	1	6070	36X84X1 3/4"	36"	84"	73X85 1/2	HINGED-GLASS -
D06	8	1	5070	30X84X1 3/4"	30"	84"	61X85 1/2	EXT. HINGED-GLA
D07	1	1	6068	72X80"	72"	80"	73X81 1/2	SLIDER-GLASS
D08	2	1	8080	48X96X1 3/4"	48"	96"	97X97 1/2	HINGED-GLASS
D09	1	1	19080	228X96"	228"	96"	229X97 1/2	GARAGE 4-PANEL
D10	1	1	3670	42X84X1 3/4"	42"	84"	43X85 1/2	HINGED-GLASS -
D11	1	1	3070	36X84X1 3/4"	36"	84"	37X85 1/2	EXT. HINGED-PAN
D12	1	1	3070	36X84X1 3/4"	36"	84"	37X85 1/2	EXT. HINGED-GLA
D13	1	1	3070	36X84X1 3/4"	36"	84"	37X85 1/2	HINGED-PANEL -
D14	2	1	41080	29X96X1 3/4"	29"	96"	59X97 1/2	HINGED-GLASS
D15	1	1	6070	36X84X1 3/4"	36"	84"	73X85 1/2	EXT. HINGED-GLA
D16	1	1	3070	36X84X1 3/4"	36"	84"	37X85 1/2	4-PANEL



**Typical Door Schedule*

Implementation

Project Team

- Door Frame Manufacturer



- Not a necessity, but.....greatly reduces task time.
- Already applying some form of marking (Sharpie, sticker, etc.)
- Discuss either including the Construction Team's barcodes on the manufacturer stickers, or have stickers supplied by the Construction Team placed in addition to the manufacturer's stickers.

* **Tip:** If the door manufacturer is utilizing a barcode system of their own, the Construction Manager could also request the "data" behind their barcoding system to utilize the same barcodes.

Implementation

Project Team

- Door Frame / Door Hardware Installer
 - Could be your Framers, Mason or a separate Door Frame & Hardware Installer
 - **Framer:** What to do if the barcode is missing, mislabeled or damaged during installation?
 - **Hardware:** What to do with the barcode during and after hardware installation?
 - These questions should be addressed during Preconstruction meetings and in Work Plan development.



Implementation

Project Team



- **Painter**

- Tape over the barcode label prior to painting
- Discuss in Work Plan and at Preparatory or Preconstruction Meeting.
- Typically a good painter is already taping off the hinge area to prevent identification numbers from being painted over, and thus your barcode label.

Implementation

Tools and Materials



* **Tip:** Large projects should have their own printer, while smaller projects in the same city or area could share a printer and thus the cost.

- **Printer:**
 - Thermal Transfer Printer.
 - Light to heavy duty vinyl labels
 - Duralabel 300 along with 1" vinyl tape and transfer ribbon.
 - The printer itself will cost approximately \$1500 but can be incorporated into a package deal with the tape and ribbons depending on the quantity you are buying.

Implementation

Tools and Materials

Barcode Generation Websites:

- Wide range of paid and free websites
- www.serialio.com.
- Allow you to generate 100 barcodes at a time and manipulate the size of the label that is generated.
- **NOTE:** To BIM 360 field there is no difference between a QR code and a Barcode, the scanner will recognize both types. QR codes do allow for more information within the same size barcode, however this is generally not an issue for room numbers.



Implementation

Timing

- Barcode setup completed prior to the door frames showing up on site and metal stud framing starting.
- Location Tree has been imported into BIM 360 Field and ready for use so that barcodes can be generated.
- Barcodes generated and developed during the review of the door hardware submittals.



Implementation

Timing

- Once the barcode numbers are finalized, the barcodes can be printed.
- Door Manufacturer assistance vs. Applying stickers at delivery QA/QC



* **Tip:** Have a discussion with the Door Manufacturer prior to the first door submittals being turned in.

When we provided an NTP for production on a run of doors, we mailed in the barcodes . This typically includes a list of the doors released for production. We simply sent an envelope containing two sets of barcodes (one for back-up as a courtesy to the Door Manufacturer) along with it that the Manufacturer applied. Easier in the shop than in the field.

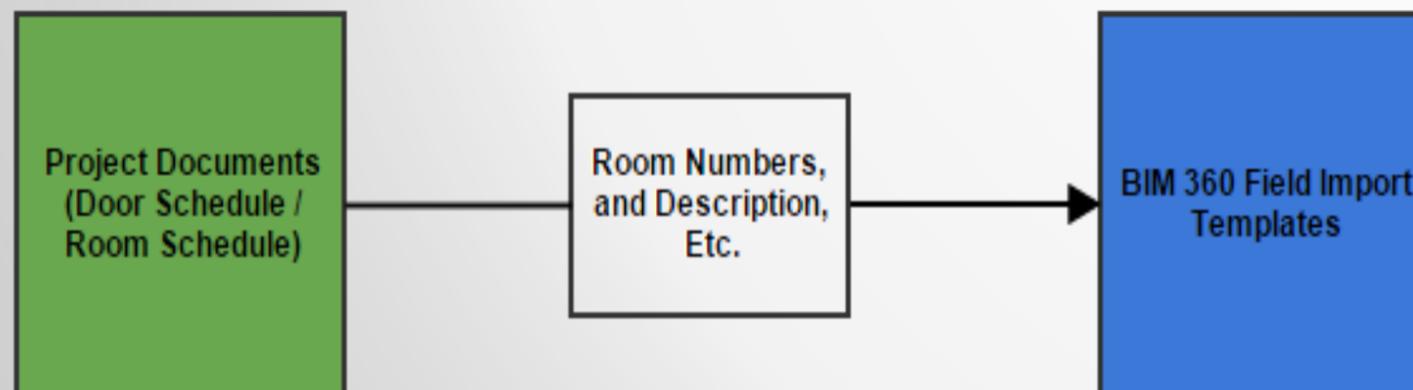
BIM 360 Field Setup & Import

BIM 360 Field Setup



Location Tree

- The Location Tree is the most important part of the BIM 360 Field setup
- The job site team should take some time and think about how they want to track issues on the job.
 - The most obvious way to track location is by room numbers
 - When you have a larger site foot print, or large open areas, you need to have some means for identification
- The first step is to gather a list of the room numbers for import to BIM 360 Field.
- BIM360 Field will have a field available for description, we suggest entering the name of the room or area.
- Then add any locations that your team developed for site or unique portions of the project.



NOTE: You must have administrator rights for your project to setup Locations and Equipment. All steps from here will assume you have logged into your project with administrator rights.

Path	Description	Status	Barcode
Required	Optional	Optional	Optional
Make sure that "parents" (e.g. Buildings) are listed before "children" (e.g. Floors)	Only appears in Setup screens - make sure Path is understandable for end users.	If filled in, must be one of the following:	Enter a barcode or QR code.
Separate levels with >		Open	When you scan the code in BIM 360 Field for iPad, we will show you information about the corresponding location.
Make sure there are no spaces around the separator character ">"		Work Completed	
Format example:		Ready to Inspect	
Building		Not Approved	
Building>Floor	Handover		
Building>Floor>Room	Post-Handover		

REMINDER: Don't delete or rename columns - the spreadsheet will not import. It is OK to c

Path	Description	Status	Barcode
Building A	Entire Building	Open	
Building A>Floor 1	First Floor	Open	
Building A>Floor 1>Room 101		Open	
Building A>Floor 1>Room 102		Open	
Building A>Floor 1>Room 103		Open	
Building A>Floor 1>Room 104		Open	
Building A>Floor 2	Second Floor	Open	
Building A>Floor 2>Room 101		Open	
Building A>Floor 2>Room 102		Open	
Building A>Floor 2>Room 103		Open	
Building A>Floor 2>Room 104		Open	
Building A>Floor 3	Third Floor	Open	
Building A>Floor 3>Room 101		Open	
Building A>Floor 3>Room 102		Open	
Building A>Floor 3>Room 103		Open	
Building A>Floor 3>Room 104		Open	

BIM 360 Field Setup

Location vs. Equipment

- Two Options: Setup as Locations or Setup physical locations as equipment items.
- Each of these let you track issues by defined locations
- Setting up the room as a piece of 'Equipment' will allow you some additional options with Checklists and statuses as previously discussed, however with the downside of longer Sync times because of the increase in data this method creates.

Location

Vs.

Equipment

- **Issue Tracking**

- **Issue Tracking**

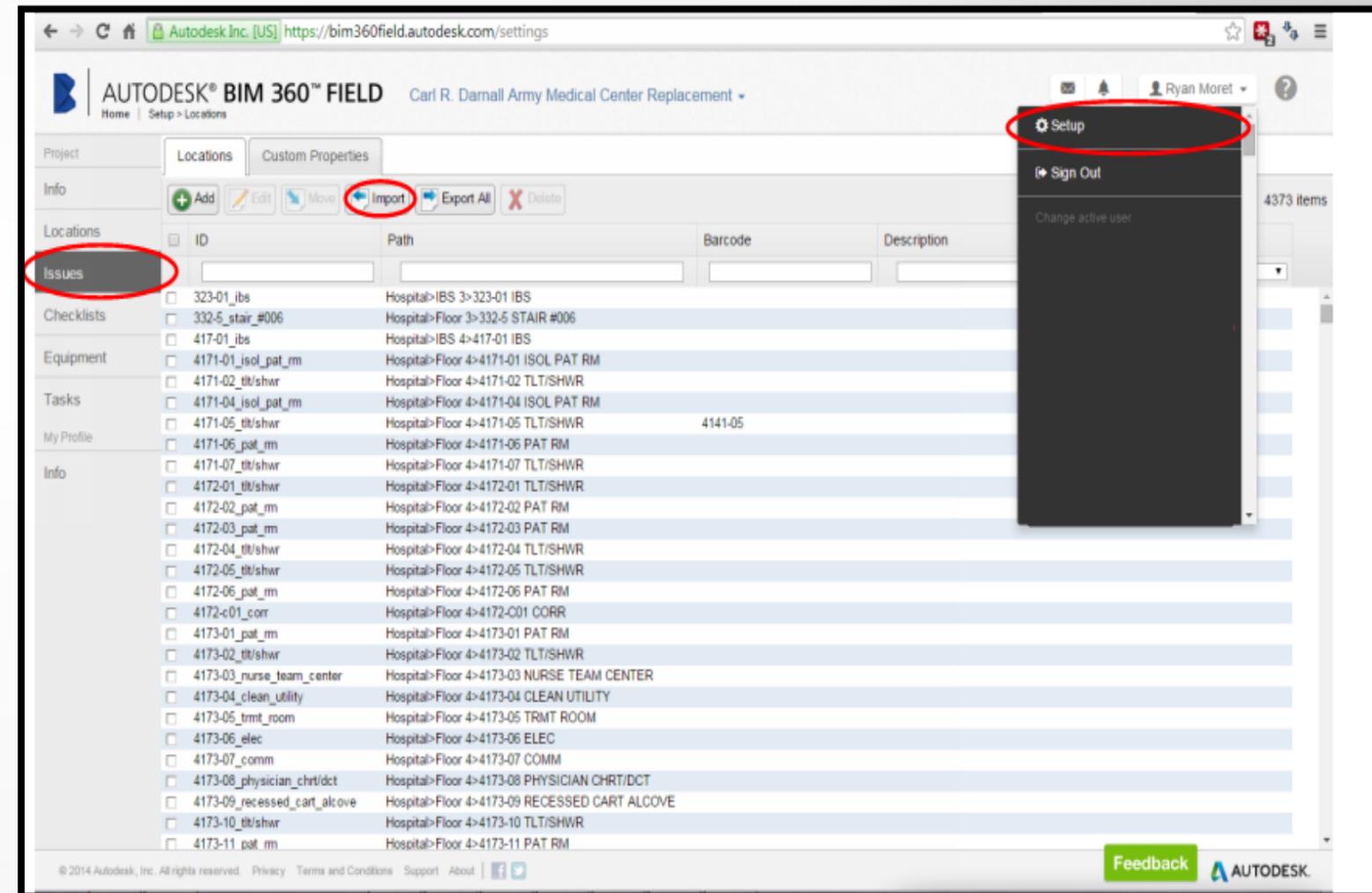
- **Checklists**

- **Construction Status**

BIM 360 Field Setup

Option #1 - Locations - This is an easier system to setup and use and is less 'bulky' in the system. At this time, it really only lets you start tracking issues by location very efficiently.

- Click your name in the top right and go to Settings > Locations > Import Locations
- Download the template for Locations import, this is an Excel file.
- The Location template has instructions for how to format locations so that they load properly into a Location Tree. For Example: Hospital > Level 1 > Room 1101-01. It is important to load the barcode number for each location you plan on using. Usually this is the room number.
- Upload the template and locations. Keep your upload templates so you can use the barcode numbers when creating the labels later.
- The BIM 360 Field system is now ready to read barcodes.



Project: Locations Custom Properties

Info: + Add Edit Move **Import** Export All Delete

ID	Path	Barcode	Description	Status
admin	Admin			Open
level_1	Admin>Level 1			Open
a1001_-_stor	Admin>Level 1>A1001 - STOR	A1001		Open
a1003_-_pub_f_l	Admin>Level 1>A1003 - PUB F TLT	A1003		Open
a1004_-_pub_m	Admin>Level 1>A1004 - PUB M TLT	A1004		Open
a1006_-_corr	Admin>Level 1>A1006 - CORR	A1006		Open
a1010_-_corr	Admin>Level 1>A1010 - CORR	A1010		Open
a1021_-_info_de	Admin>Level 1>A1021 - INFO DESK	A1021		Open
a1030_-_corr	Admin>Level 1>A1030 - CORR	A1030		Open
a1035_-_cntl_f_l	Admin>Level 1>A1035 - CNTL F LKR RM	A1035		Open
a1036_-_cntl_m	Admin>Level 1>A1036 - CNTL M LKR RM	A1036		Open
a1038_-_r_alc	Admin>Level 1>A1038 - R ALC	A1038	Third Floor	Open
a1060_-_corr	Admin>Level 1>A1060 - CORR	A1060		Open
a1070_-_vest	Admin>Level 1>A1070 - VEST	A1070		Open
a1080_-_interior	Admin>Level 1>A1080 - INTERIOR COURTYARD	A1080		Open
a1088_-_vest	Admin>Level 1>A1088 - VEST	A1088		Open
a1100_-_class/	Admin>Level 1>A1100 - CLASS/ TRAIN #1	A1100		Open
a1101_-_class/	Admin>Level 1>A1101 - CLASS/ TRAIN #2	A1101		Open
a1102_-_class/	Admin>Level 1>A1102 - CLASS/ TRAIN #3	A1102		Open
a1103_-_maps_l	Admin>Level 1>A1103 - MAPS TRAIN	A1103		Open
a1104_-_essenti	Admin>Level 1>A1104 - ESSENTRIS TRAIN	A1104		Open
a1106_-_stor_mr	Admin>Level 1>A1106 - STOR RM	A1106		Open
a1151_-_elec_m	Admin>Level 1>A1151 - ELEC RM	A1151		Open
a1152_-_elec_m	Admin>Level 1>A1152 - ELEC RM	A1152		Open
a1153_-_elec_m	Admin>Level 1>A1153 - ELEC RM	A1153		Open
a1190_-_mech	Admin>Level 1>A1190 - MECH	A1190		Open
a1200_-_conf_rr	Admin>Level 1>A1200 - CONF RM	A1200		Open
a1201_-_f_tlt	Admin>Level 1>A1201 - F TLT	A1201		Open
a1202_-_hr_tech	Admin>Level 1>A1202 - HR TECH	A1202		Open
a1203_-_stf_lng	Admin>Level 1>A1203 - STF LNG	A1203		Open
a1204_-_ofcr_ac	Admin>Level 1>A1204 - OFCR ACTIONS/SPECIAL PAY	A1204		Open
a1205_-_sr_hr_l	Admin>Level 1>A1205 - SR HR LEAD	A1205		Open
a1206_-_troop_c	Admin>Level 1>A1206 - TROOP COMM SGM	A1206		Open
a1207_-_sr_hr_s	Admin>Level 1>A1207 - SR HR SPECIALIST	A1207		Open

Setup

Sign Out

Change active user

3855 Items

Path	Description	Status	Barcode
Required	Optional	Optional	Optional
Make sure that "parents" (e.g. Buildings) are listed before "children" (e.g. Floors)	Only appears in Setup screens - make sure Path is understandable for end users.	If filled in, must be one of the following:	Enter a barcode or QR code.
Separate levels with >		Open	When you scan the code in BIM 360 Field for iPad, we will show you information about the corresponding location.
Make sure there are no spaces around the separator character ">"		Work Completed	
Format example:		Ready to Inspect	
Building		Not Approved	
Building>Floor	Handover		
Building>Floor>Room	Post-Handover		

REMINDER: Don't delete or rename columns - the spreadsheet will not import. It is OK to c

Path	Description	Status	Barcode
Building A	Entire Building	Open	
Building A>Floor 1	First Floor	Open	
Building A>Floor 1>Room 101		Open	
Building A>Floor 1>Room 102		Open	
Building A>Floor 1>Room 103		Open	
Building A>Floor 1>Room 104		Open	
Building A>Floor 2	Second Floor	Open	
Building A>Floor 2>Room 101		Open	
Building A>Floor 2>Room 102		Open	
Building A>Floor 2>Room 103		Open	
Building A>Floor 2>Room 104		Open	
Building A>Floor 3	Third Floor	Open	
Building A>Floor 3>Room 101		Open	
Building A>Floor 3>Room 102		Open	
Building A>Floor 3>Room 103		Open	
Building A>Floor 3>Room 104		Open	

BIM 360 Field Setup

Option #2 - Equipment - This really lets you be more 'creative' with the use of the barcodes. This will give you locations in addition to letting you status various information for each location. This will require that the location tree be setup prior. Do not input barcodes into the location tree if using the equipment option.

- a. We recommend making a type of Equipment for locations. If your project chooses to implement the equipment tracking for actual owner equipment, this will give you an easy option to filter out all the locations.
 - i. Click your name in the top right and go to Settings > Equipment
 - ii. Change the Category to Architectural and type 'Locations'. Hit the Green Plus Button
 - iii. Under the Standard Properties tab, enable the barcode label.

Visible	Label	Type
<input checked="" type="checkbox"/>	BIM Unique ID	text
<input checked="" type="checkbox"/>	Description	text
<input checked="" type="checkbox"/>	Location	drop-down
<input checked="" type="checkbox"/>	Name	text
<input checked="" type="checkbox"/>	Status	drop-down
<input checked="" type="checkbox"/>	Type	drop-down
<input type="checkbox"/>	Asset identifier	text
<input checked="" type="checkbox"/>	Barcode	text
<input type="checkbox"/>	Expected life	numeric
<input type="checkbox"/>	Install date	date
<input type="checkbox"/>	Purchase date	date
<input type="checkbox"/>	Purchase order	text
<input type="checkbox"/>	Serial number	text
<input type="checkbox"/>	Submittal	text
<input type="checkbox"/>	Tag number	text
<input type="checkbox"/>	Warranty end date	date
<input type="checkbox"/>	Warranty start date	date

AUTODESK® BIM 360™ FIELD

Carl R. Darnall Army Medical Center Replacement

Home | Setup > Equipment

Models | **Types** | Statuses | Standard Properties | Custom Properties

Info

Locations

Issues

Checklists

Equipment

Tasks

My Profile

Info

Categories are used to organize your equipment types. Edit your Categories first, then add Types to those categories. Equipment Type Preview shows how the Equipment Type menu will look.

Categories: Architectural

Types: Doors and Hardware, Glazed Assemblies, Rooms

Equipment Type Preview: Architectural (Doors and Hardware, Glazed Assemblies, Rooms), Equipment (Electrical, Fire Protection, Mechanical, Plumbing), Other (Other)

Feedback | AUTODESK

Autodesk Inc. [US] https://bim360field.autodesk.com/settings

AUTODESK® BIM 360™ FIELD Carl R. Darnall Army Medical Center Replacement -

Home | Setup > Equipment

Project

Info

Locations

Issues

Checklists

Equipment

Tasks

My Profile

Info

Models | Types | Statuses | **Standard Properties** | Custom Properties

Check properties to show on Equipment forms. Uncheck to hide. Properties with a lock icon are required by the system.

Visible	Label	Type
<input checked="" type="checkbox"/>	BIM Unique ID	text
<input checked="" type="checkbox"/>	Description	text
<input checked="" type="checkbox"/>	Location	drop-down
<input checked="" type="checkbox"/>	Name	text
<input checked="" type="checkbox"/>	Status	drop-down
<input checked="" type="checkbox"/>	Type	drop-down
<input type="checkbox"/>	Asset identifier	text
<input checked="" type="checkbox"/>	Barcode	text
<input type="checkbox"/>	Expected life	numeric
<input type="checkbox"/>	Install date	date
<input type="checkbox"/>	Purchase date	date
<input type="checkbox"/>	Purchase order	text
<input type="checkbox"/>	Serial number	text
<input type="checkbox"/>	Submittal	text
<input type="checkbox"/>	Tag number	text
<input type="checkbox"/>	Warranty end date	date
<input type="checkbox"/>	Warranty start date	date

Setup

Sign Out

Change active user

Architectural

- Doors and Hardware
- Glazed Assemblies
- Rooms

Equipment

- Electrical
- Fire Protection
- Mechanical
- Plumbing

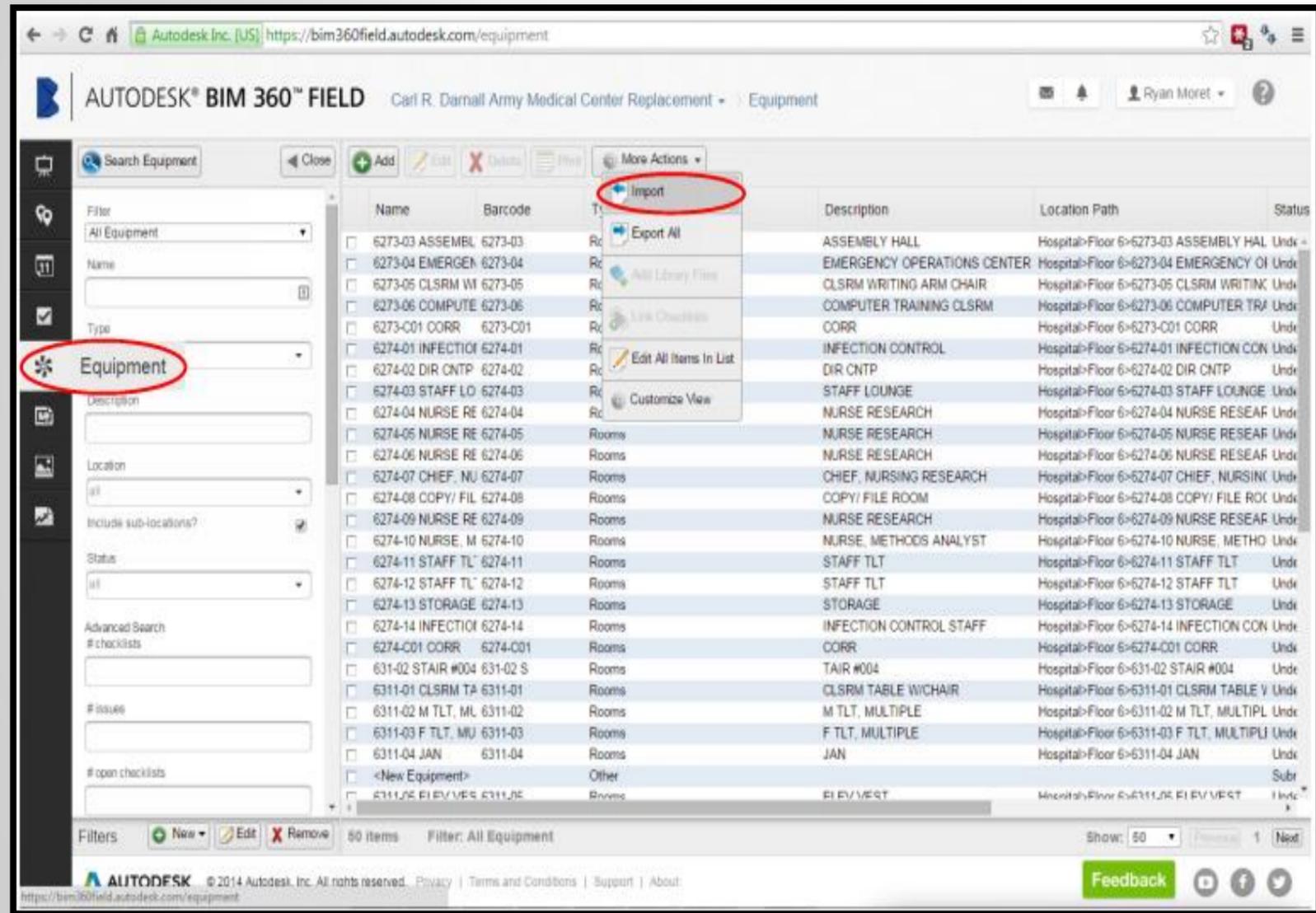
Other

- Other

© 2014 Autodesk, Inc. All rights reserved. Privacy | Terms and Conditions | Support | About | Feedback | AUTODESK.

BIM 360 Field Setup

Option #2 - Equipment - This really lets you be more 'creative' with the use of the barcodes. This will give you locations in addition to letting you status various information for each location.



- 1) Return to the Home Page and navigate to the Equipment Tab.
- 2) Download the Equipment Template for import, again it is a simple Excel file.
 - Be sure to fill out the barcodes and Location fields for each equipment.
- 3) The template has instructions for how to format locations so that they load properly into a Location Tree. For Example: Hospital > Level 1 > Room 1101-01
- 4) Upload the template.
- 5) The BIM 360 Field system is ready to read barcodes and load them as equipment items.

Search Equipment

Filter: All Equipment

Name

Type: **Equipment**

Description

Location: all

Include sub-locations?

Status: all

Advanced Search

checklists

issues

open checklists

Name	Barcode	Type	Description	Location Path	Status
6273-03 ASSEMBL	6273-03	Rooms	ASSEMBLY HALL	Hospital>Floor 6>6273-03 ASSEMBLY HAL	Unde
6273-04 EMERGEN	6273-04	Rooms	EMERGENCY OPERATIONS CENTER	Hospital>Floor 6>6273-04 EMERGENCY OI	Unde
6273-05 CLSRM W	6273-05	Rooms	CLSRM WRITING ARM CHAIR	Hospital>Floor 6>6273-05 CLSRM WRITING	Unde
6273-06 COMPUTE	6273-06	Rooms	COMPUTER TRAINING CLSRM	Hospital>Floor 6>6273-06 COMPUTER TR	Unde
6273-C01 CORR	6273-C01	Rooms	CORR	Hospital>Floor 6>6273-C01 CORR	Unde
6274-01 INFECTION	6274-01	Rooms	INFECTION CONTROL	Hospital>Floor 6>6274-01 INFECTION CON	Unde
6274-02 DIR CNTP	6274-02	Rooms	DIR CNTP	Hospital>Floor 6>6274-02 DIR CNTP	Unde
6274-03 STAFF LO	6274-03	Rooms	STAFF LOUNGE	Hospital>Floor 6>6274-03 STAFF LOUNGE	Unde
6274-04 NURSE RE	6274-04	Rooms	NURSE RESEARCH	Hospital>Floor 6>6274-04 NURSE RESEAF	Unde
6274-05 NURSE RE	6274-05	Rooms	NURSE RESEARCH	Hospital>Floor 6>6274-05 NURSE RESEAF	Unde
6274-06 NURSE RE	6274-06	Rooms	NURSE RESEARCH	Hospital>Floor 6>6274-06 NURSE RESEAF	Unde
6274-07 CHIEF, NU	6274-07	Rooms	CHIEF, NURSING RESEARCH	Hospital>Floor 6>6274-07 CHIEF, NURSING	Unde
6274-08 COPY/ FIL	6274-08	Rooms	COPY/ FILE ROOM	Hospital>Floor 6>6274-08 COPY/ FILE ROO	Unde
6274-09 NURSE RE	6274-09	Rooms	NURSE RESEARCH	Hospital>Floor 6>6274-09 NURSE RESEAF	Unde
6274-10 NURSE, M	6274-10	Rooms	NURSE, METHODS ANALYST	Hospital>Floor 6>6274-10 NURSE, METHO	Unde
6274-11 STAFF TL	6274-11	Rooms	STAFF TLT	Hospital>Floor 6>6274-11 STAFF TLT	Unde
6274-12 STAFF TL	6274-12	Rooms	STAFF TLT	Hospital>Floor 6>6274-12 STAFF TLT	Unde
6274-13 STORAGE	6274-13	Rooms	STORAGE	Hospital>Floor 6>6274-13 STORAGE	Unde
6274-14 INFECTION	6274-14	Rooms	INFECTION CONTROL STAFF	Hospital>Floor 6>6274-14 INFECTION CON	Unde
6274-C01 CORR	6274-C01	Rooms	CORR	Hospital>Floor 6>6274-C01 CORR	Unde
631-02 STAIR #004	631-02 S	Rooms	TAIR #004	Hospital>Floor 6>631-02 STAIR #004	Unde
6311-01 CLSRM TA	6311-01	Rooms	CLSRM TABLE WCHAIR	Hospital>Floor 6>6311-01 CLSRM TABLE V	Unde
6311-02 M TLT, ML	6311-02	Rooms	M TLT, MULTIPLE	Hospital>Floor 6>6311-02 M TLT, MULTIPL	Unde
6311-03 F TLT, MU	6311-03	Rooms	F TLT, MULTIPLE	Hospital>Floor 6>6311-03 F TLT, MULTIPL	Unde
6311-04 JAN	6311-04	Rooms	JAN	Hospital>Floor 6>6311-04 JAN	Unde
<New Equipment>		Other			Subr
6311-05 ELEV VEST	6311-05	Rooms	ELEV VEST	Hospital>Floor 6>6311-05 ELEV VEST	Unde

More Actions

- Import
- Export All
- Add Library File
- Link Checklists
- Edit All Items In List
- Customize View

Name	Type	Description	Location Path	Status	Barcode
Required	Required	Optional	Optional	Required	Optional
COBle-standard field	COBle-standard field Must exactly match an equipment type on the project. TIP - Set up your equipment types first, before you import.	COBle-standard field	If filled in, must match location on project. Separate levels with > Make sure there are no spaces around the separator character ">" Format example: Building Building>Floor Building>Floor>Room	Must exactly match an equipment status on the project. TIP - Set up your equipment statuses first, before you import.	COBle-standard field

REMINDER: Don't delete or rename columns - the spreadsheet will not import. It is OK to delete the rows below, including the sample data.

Name	Type	Description	Location Path	Status	Barcode
AU1234 - Presentation Room	ROOMS	Presentation Room 1	Hospital>Level 1>AU1234 - Presentation Room	Under Construction	AU1234
AU5678 - Presentation Room	ROOMS	Presentation Room 2	Hospital>Level 1>AU5678 - Presentation Room	Under Construction	AU5678
AU9112 - Presentation Room	ROOMS	Presentation Room 3	Hospital>Level 1>AU9112 - Presentation Room	Under Construction	AU9112
AU3456 - Presentation Room	ROOMS	Presentation Room 4	Hospital>Level 1>AU3456 - Presentation Room	Under Construction	AU3456
AU7890 - Presentation Room	ROOMS	Presentation Room 5	Hospital>Level 1>AU7890 - Presentation Room	Under Construction	AU7890

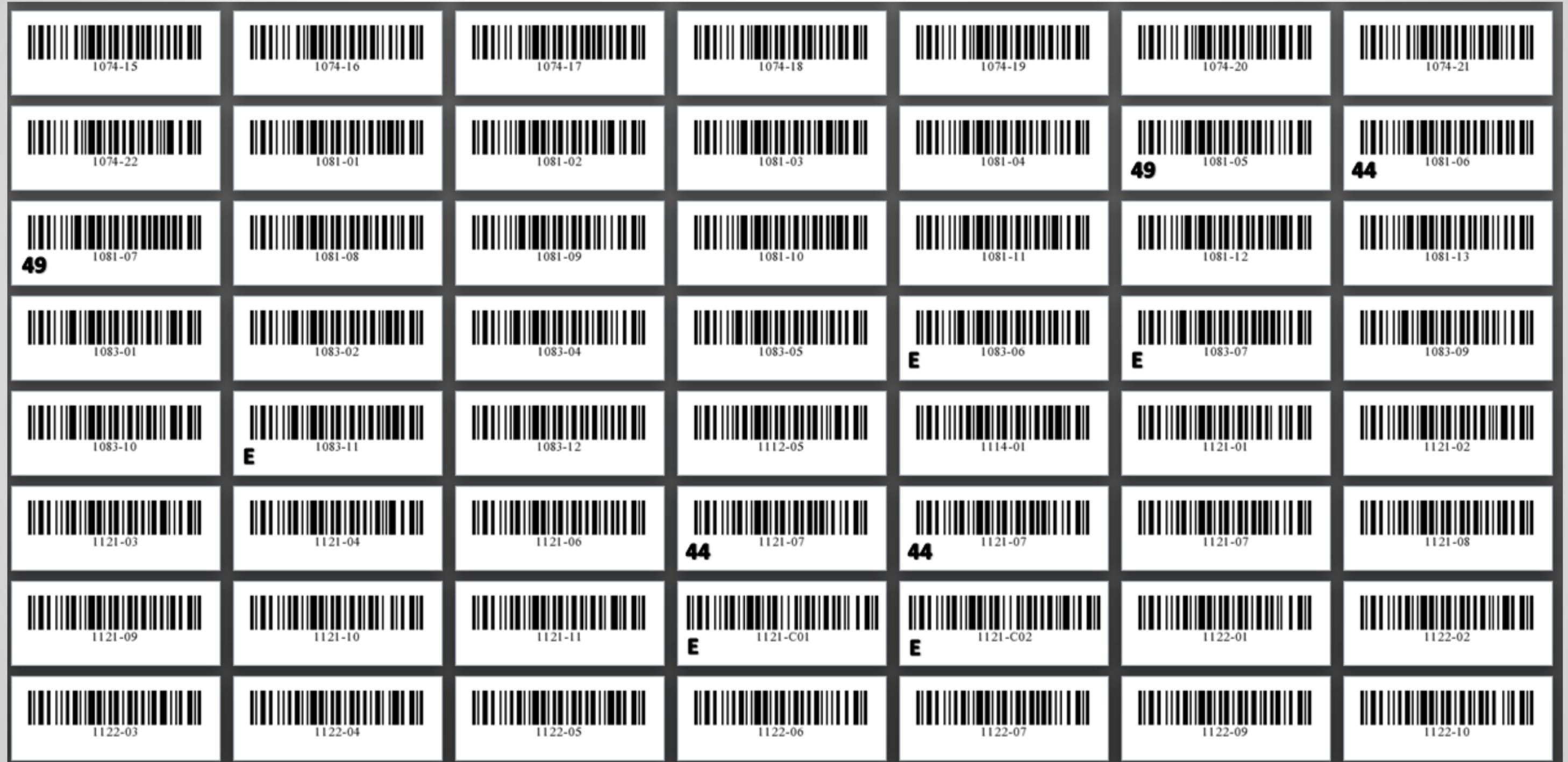
Creating Barcodes and Labels



- Using the barcode column from your upload templates, those numbers should be copied into a barcode generator.
- Reminder: Many free ones, find one that does batch generating
- Copy the barcodes into Microsoft Word where your template for printing labels has been configured. **Hit Print.**

PRO TIP: This is a great opportunity to include some information for the door frames. We added notes for Fire Ratings, STC, Electronic Frame preps onto the labels so that they could quickly be checked in the field. This allowed us to find any issues with the door frame preps before they were installed in their openings.

Creating Barcodes and Labels



What Does this look like in the Field?

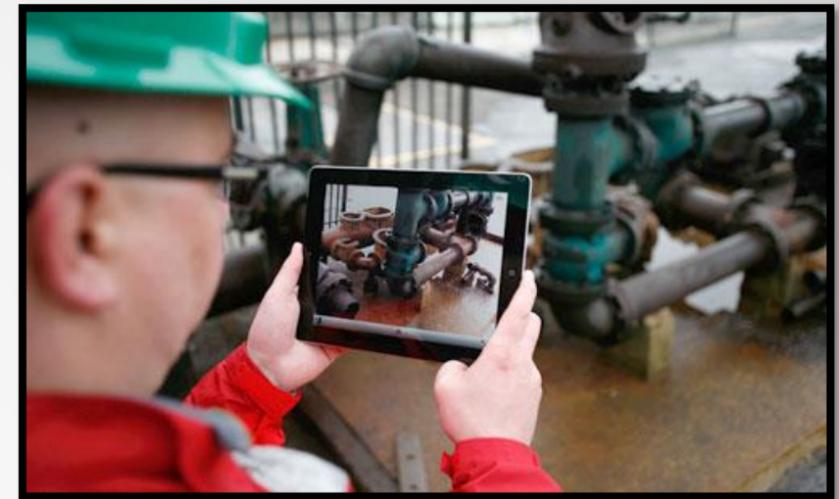
Why Do We Do This?

- Consolidate project issues onto a single issue list and provide documentation for inspections.
- Typically jobs have issues spread out across multiple trades, inspectors, and managers.
- Provides a comprehensive report with locations and aging reports.
- Open issues much faster as you no longer have to navigate to a new location every time you change rooms.
- When a system is easier to use, it is more likely to be used by the project staff.
- Won't have to look up any room numbers and your barcodes can/will provide room numbers for other trades to reference as they see fit.
- **Essentially the barcodes create an opportunity for access points to make a 'smarter' building that can interact with the jobsite management and coordination software.**

Additional Applications to Consider

Additional Applications to Consider

Equipment Commissioning Tracking



- Arduous Task
- End of job, loss of focus = longer durations,
- Poor communication or protocols in place with the Commissioning Agents = longer durations
- Commissioning Agents will need to be given Project Admin rights within the system so that they can start and complete Checklists.
- Barcodes will need to be setup under the Equipment module and assigned to each piece of equipment on the job that goes through the Commissioning process.
- Typically the Contractor will end up being the person applying the barcodes to the equipment at installation or first inspection; there are probably too many pieces of equipment coming from too many different suppliers to handle this task on the front end like the door frames.

Additional Applications to Consider

Material Tracking

- Any material on a jobsite can be tracked.
- Example: Owner Supplied Contractor Installed Medical Equipment.
- Owners will typically wait until the last minute before purchasing so that they can purchase the latest and greatest equipment.
- 360 Field allows the team to keep current status of each piece of equipment so that Owners can have a clear picture of what still may need to be purchased, to what has arrived and what still needs to be installed.
- Contractors can clearly communicate to subcontractors when equipment will be on site and when it is scheduled to be installed and if those activities are going to take place when the schedule shows them to.



Additional Applications to Consider

Atypical Surfaces

- Example: Structural Steel
- Typical printed barcode sticker would either not stick or fall off sooner
- The barcode system could still be used and the structural steel still tracked as Locations (column grids) or as Equipment (by piece at a grid location)
- But..... How do we apply the barcode?



Questions?

We are interested in the potential use of Field for storing Commissioning information for our mechanical equipment, as well as O&M's, Submittals, Maintenance schedules, etc. Can you show how this can be achieved and then turned over to the building owners/building maintenance crew?

Best practices for door frame barcodes and what materials work best in your experience?

**Discuss barcodes versus QR codes and will
Field provide that as an option?**

How to simplify / streamline things by using bar codes.....does this additional planning and work really pay off long term in savings or is it just a neat bell and whistle?

Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2015 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time







Students, educators, and schools now have

FREE access to Autodesk design software & apps.

Download at www.autodesk.com/education



Earn your professional Autodesk Certification at AU

Visit the [AU Certification Lab](#)