ASGARD
MODULAR MANUFACTURING

THE INTEGRATION OF BIM360 AS A CDE TO IMPROVE WORKFLOWS IN A MANUFACTURING FACILITY.

Presented by: Billy Keating

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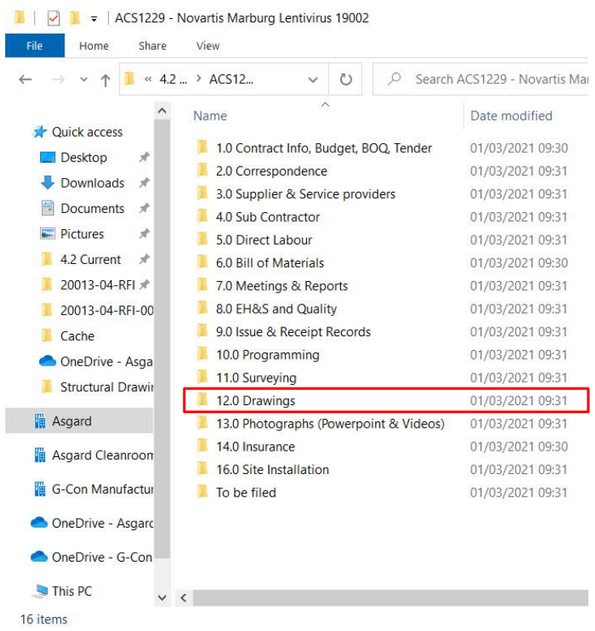
The integration of BIM360 into Asgard Modular Manufacturing workflows.

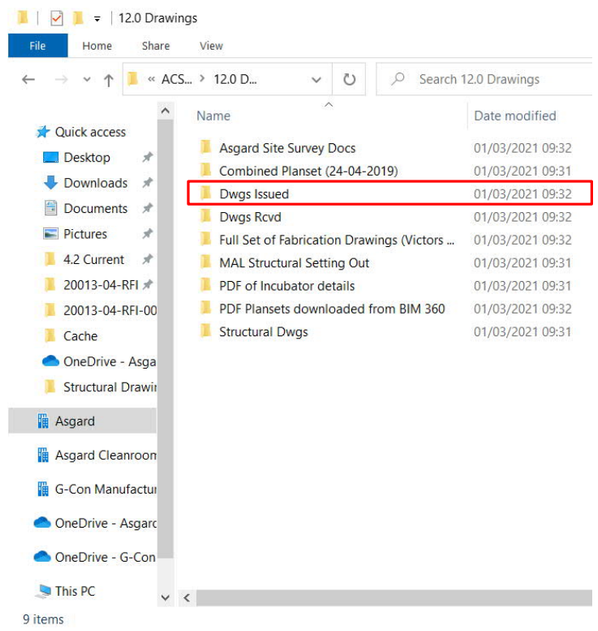
BIM360 has only recently been adopted by Asgard Modular Manufacturing and has led to a completely new workflow across the board. The presentation will take you through the evolving workflow for the management and coordination of sub-contractors and the future plans for the CDE.

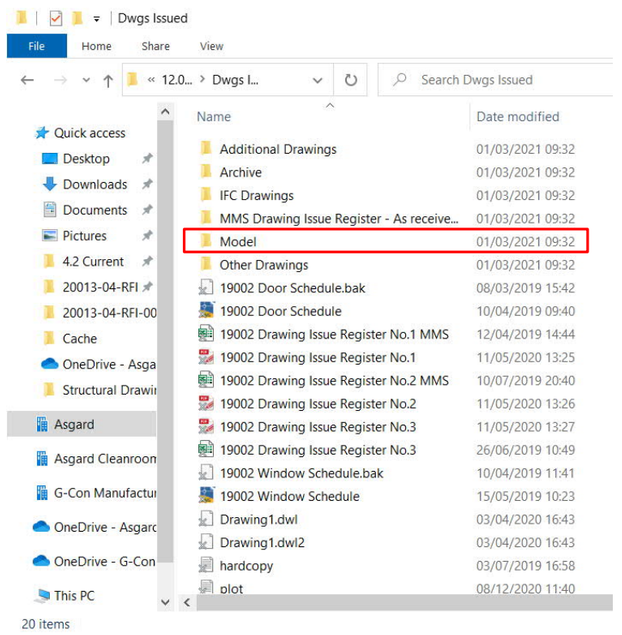
Old non CDE Workflow

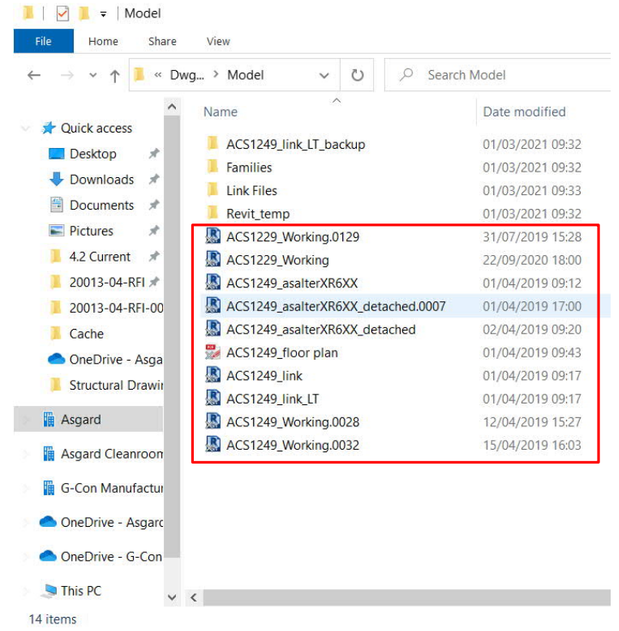
Asgard Modular WIP/Construction Models are stored in a folder on a private server.

No revision management is used & there is no way of tracking when files are shared with sub contactors.





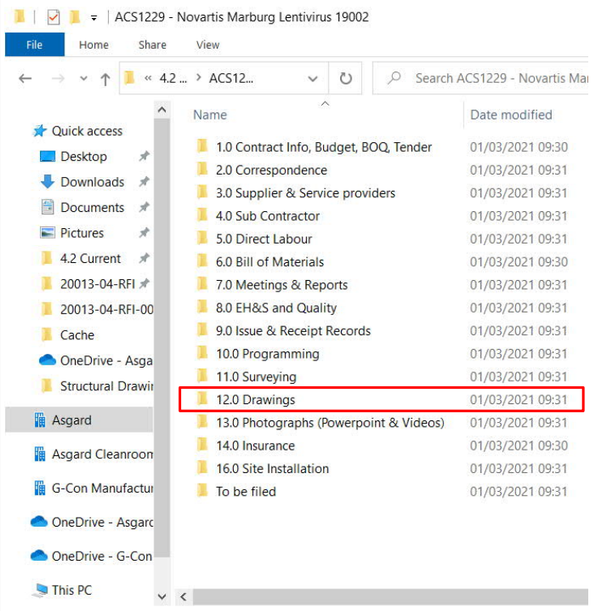


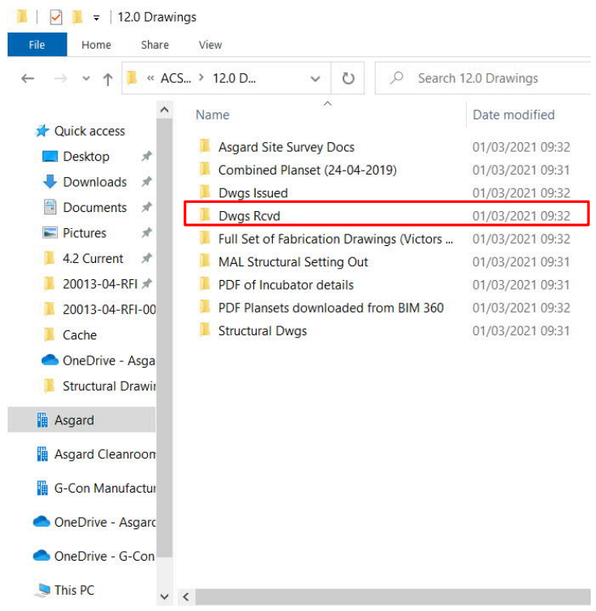


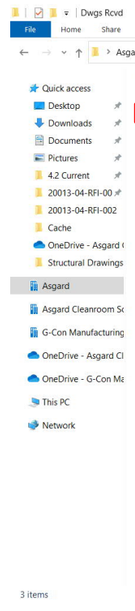
Old non CDE Workflow

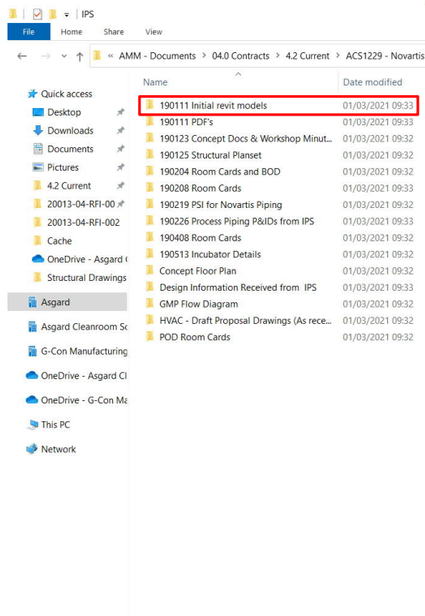
Incoming Models are stored in a folder on a private server.

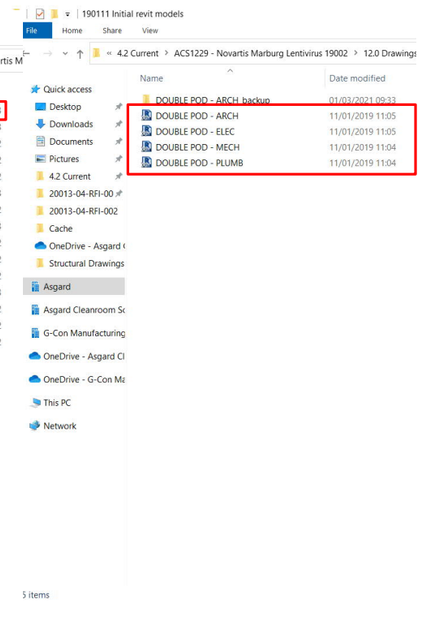
New incoming models save over the previous version, leaving no paper trail of dates they have been shared and no copies of previous revisions.





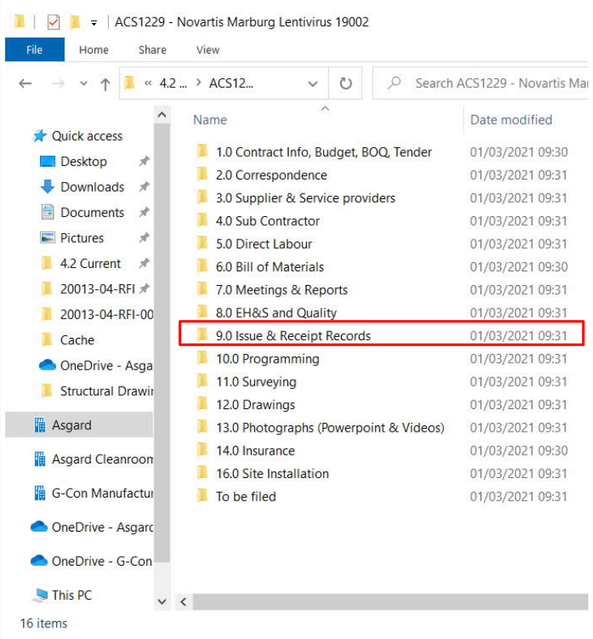


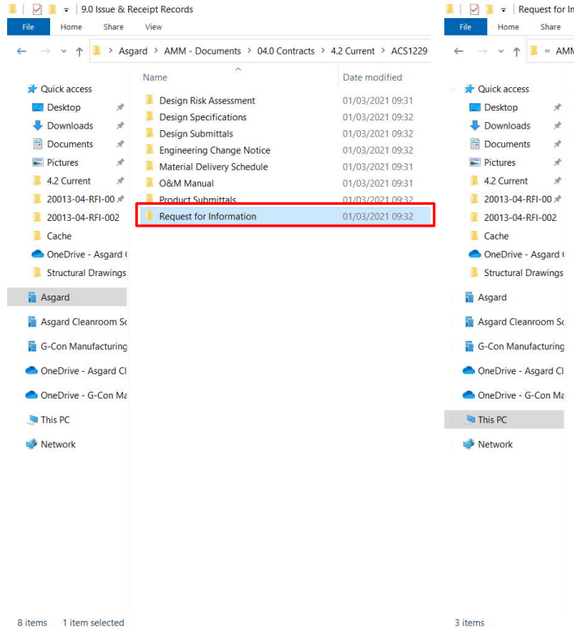


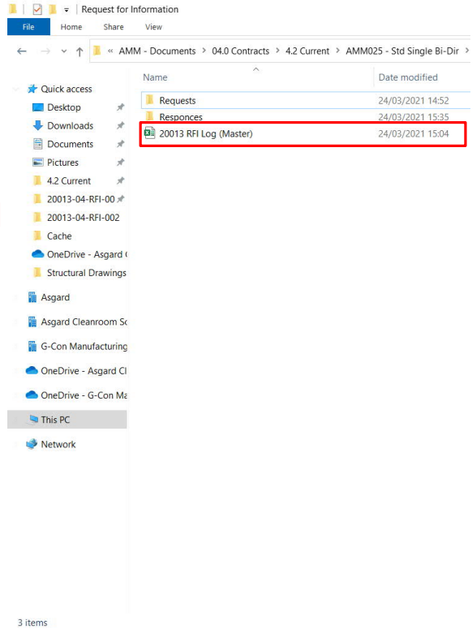


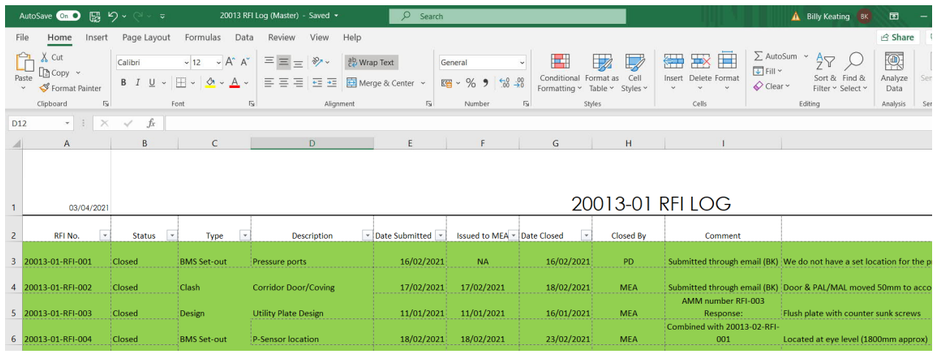
Old non CDE Workflow

RFI are also stored in a folder on a private server. These are sent to Asgard Modular via Email using a RFI template. The status of the RFI is managed using an excel doc tracker.





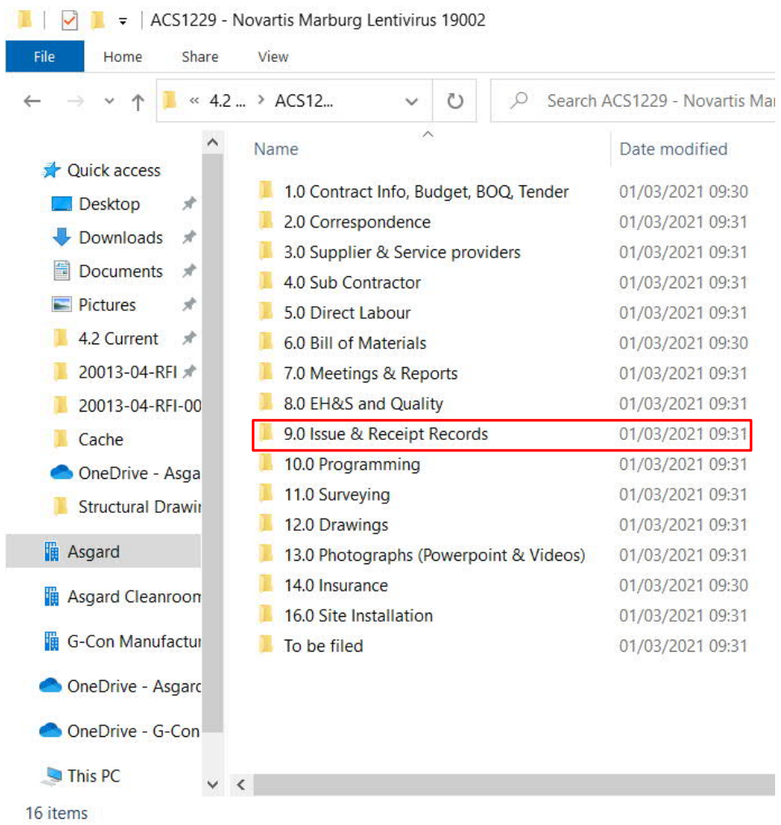


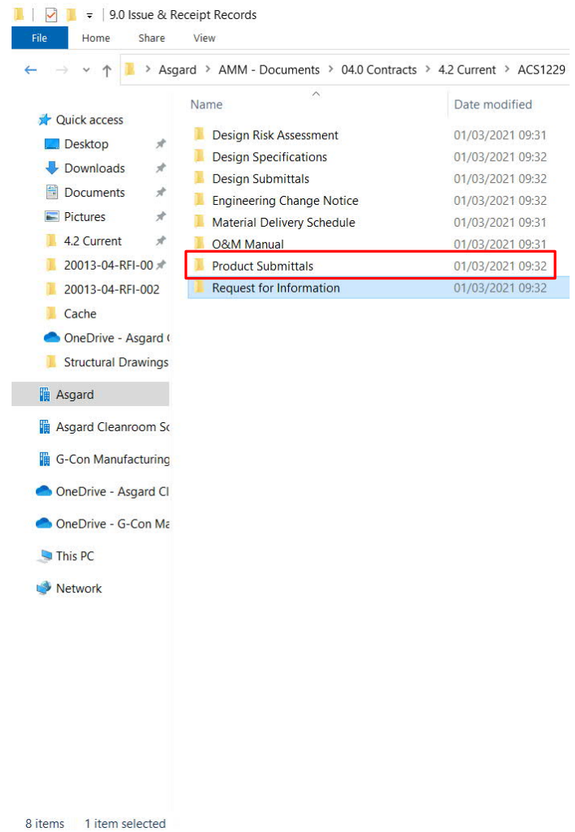


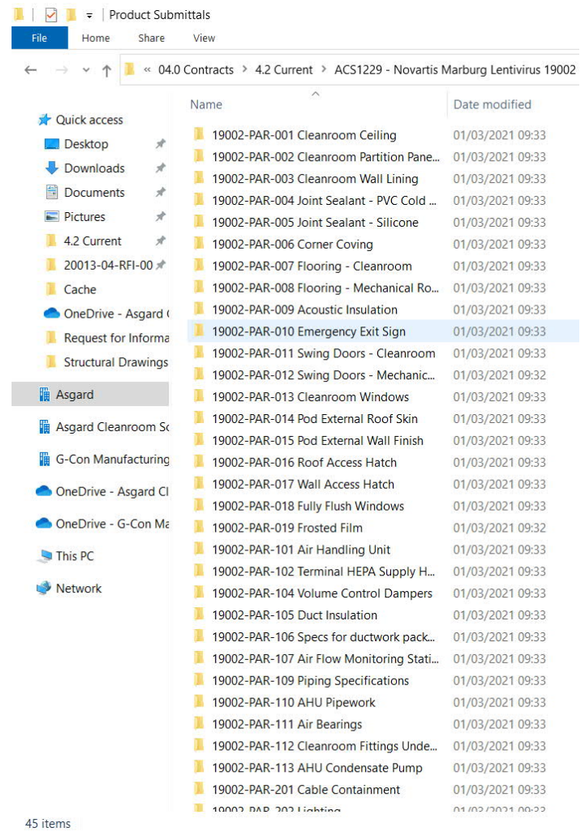
Old non CDE Workflow

Submittals are sent to a client for every piece of equipment that will be used in the POD design.

These were stored in a folder on a private server and shared with the client for approval via email. This left no record of dates and they can be lost or accidently unseen.







New Workflow inc. CDE

The first thing that was completed when the switch over to BIM 360 was confirmed was a BIM Execution Plan.

The BEP outlines:

1.0 The Project Information

2.0 Planning of Work and Data Segregation

3.0 Management

4.0 Planning and Documentation

5.0 Standard Method and Procedure

6.0 IT Solutions.

7.0 Project Objectives and Goals

The BEP is shared with all sub contactors during pricing and all steps outlined must be followed.

All of these are outlined in compliance with BS1192.

New Workflow inc. CDE

1.0 The Project Information

Project Information

Purpose of Document

New Workflow inc. CDE

2.0 Planning of Work and Data Segregation

Planning of Work and Data Segregation

Coordination and Clash Detection

Collaboration Process

Compliance Plan

Level of Development

New Workflow inc. CDE

3.0 Management

Roles, Responsibilities and Authorities

Survey Strategy

Legacy Data Use

Approval of Information

PIM Authorization Process

Communications and Meetings

Programmed to Join with Previous Information above

New Workflow inc CDE

4.0 Planning and Documentation

Project Implementation Plan

Agreed Project Processes for Collaboration and Information Modelling

Agreed Matrix of Responsibilities Across the Supply Chain

Agreed Project Processes for Collaboration and Information Modelling

New Workflow inc. CDE

5.0 Standard Method and Procedure

Volume Strategy

PIM Origin and Orientation

File Naming Convention

Layer Naming Convention

Agreed Construction Tolerances

Annotations, Dimensions, Abbreviations and Symbols

BIM 360 Management

Model Data Validation

New Workflow inc. CDE

6.0 IT Solutions.

Software Versions

Exchange Formats

Process and Data Management Systems

New Workflow inc. CDE

7.0 Project Objectives and Goals

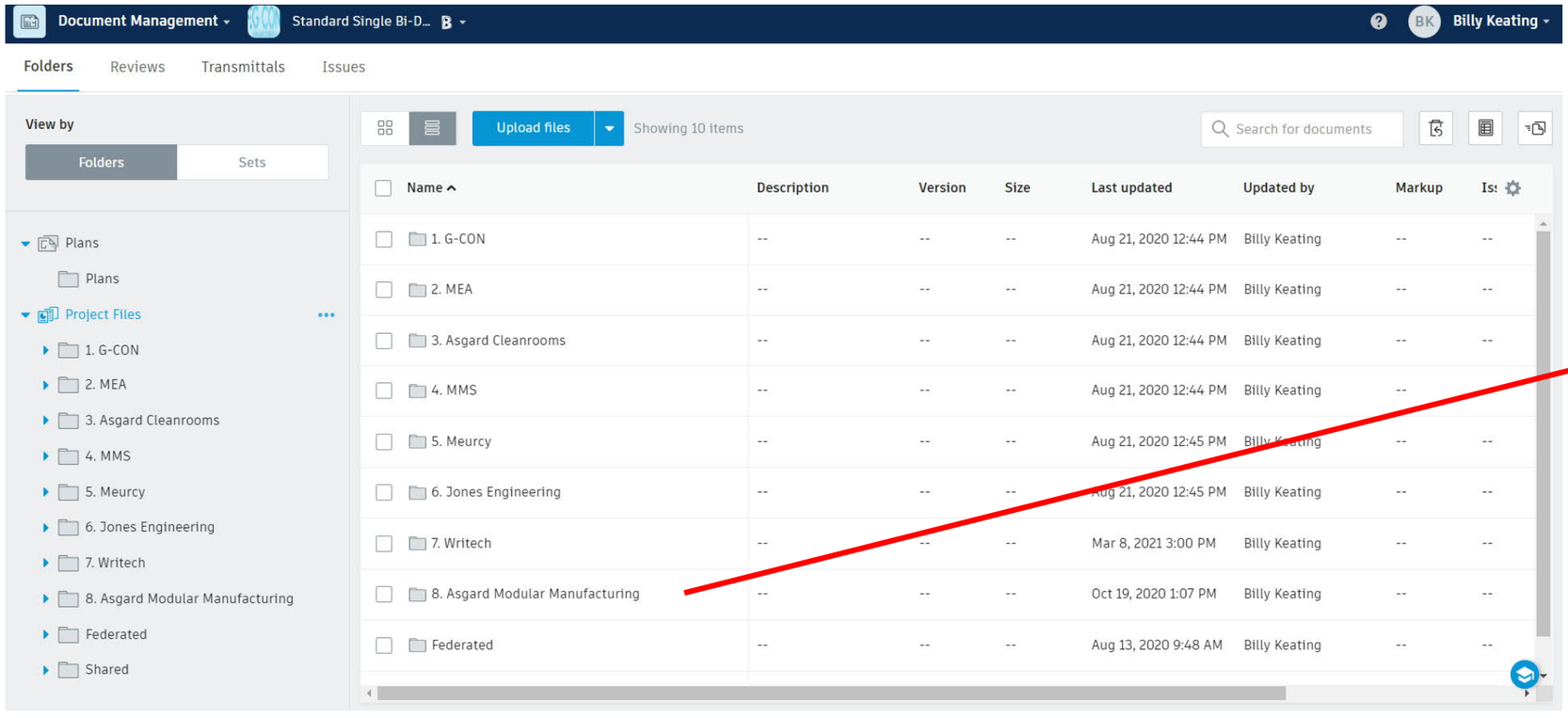
Project Objectives

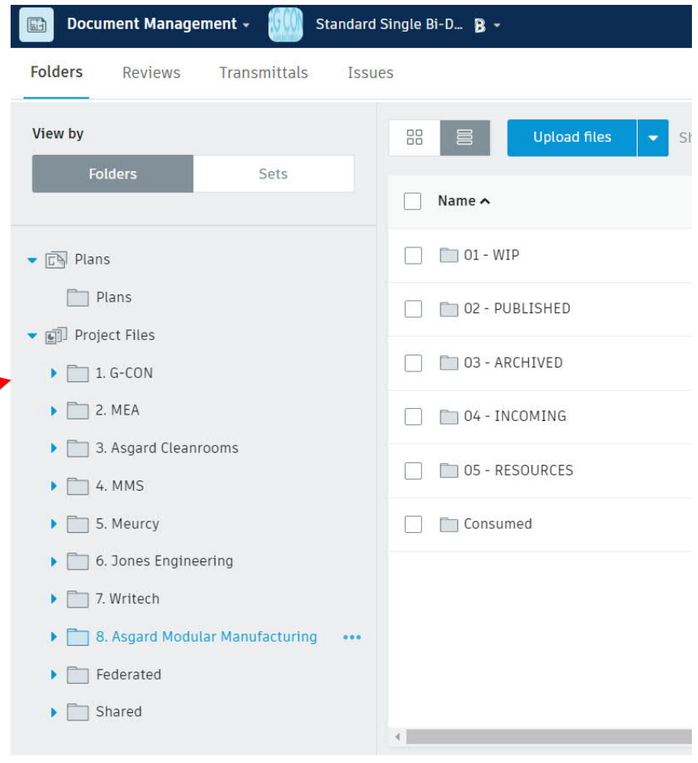
Project Goals

New Workflow inc. CDE

CDE Folder Structure

Every team involved in the job gets a WIP, Published, Archived, Incoming & Recourses Folder on the BIM 360 project. There is also a Federated folder which contains a Federated RVT and NWD which all contactors will have access to view.



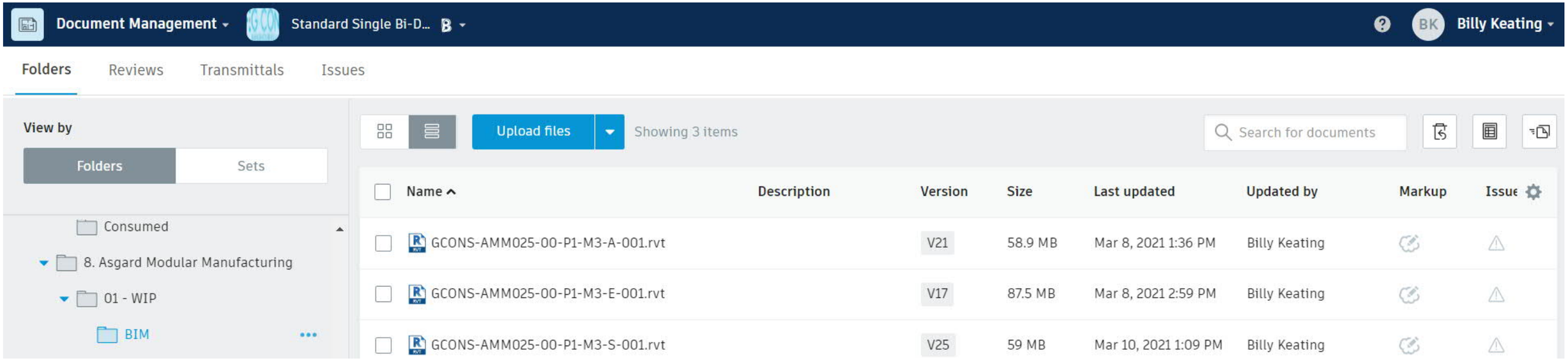


New Workflow inc. CDE

01 - Work in Progress (WIP)

Model or other file data described as Work in Progress is currently in production and has not yet been checked and verified for use outside the authoring team.

☐	01 - WIP	--	--	--	Aug 13, 2020 9:36 AM	Billy Keating	--	--

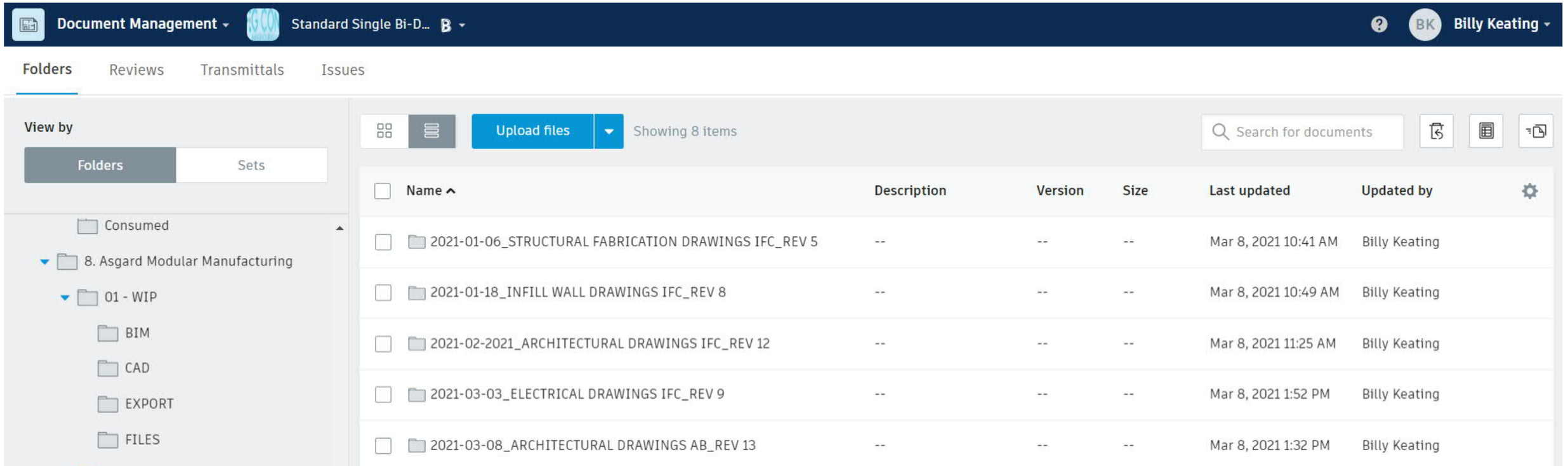


New Workflow inc. CDE

02 – Published

Published documentation is created at project milestones such as issue for approval to issue for construction or issue for construction to issue as built, this is created from the shared information.

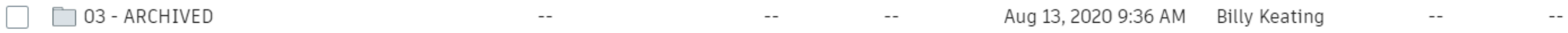
☐	02 - PUBLISHED	--	--	--	Aug 13, 2020 9:36 AM	Billy Keating	--	--



New Workflow inc. CDE

03 – Archived

Approved information shall be stored in the designated archived location, including shared, published, superseded and record information. Any archived data should clearly identify its archived status. Each time a project team consumes a model they should also make an archived file, clearly identifying the date.

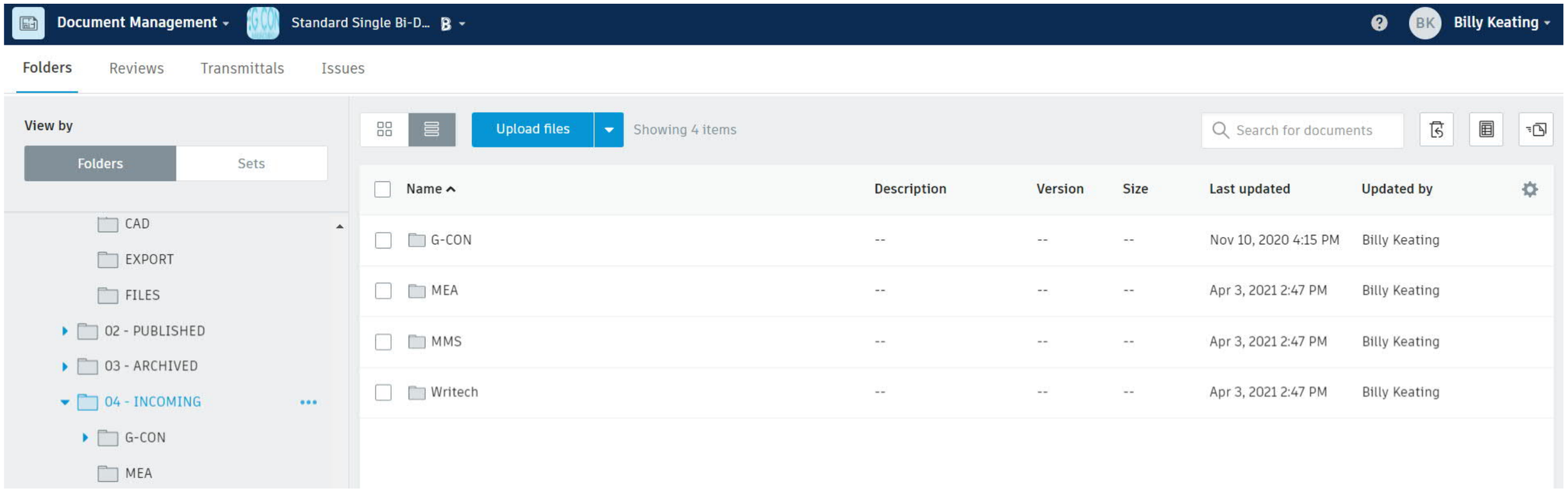


New Workflow inc. CDE

04 – Incoming

Information received from external sources such as vendor files. The files are stored here and not edited, an example of this would be an incoming CAD layout or material list from an external source.

☐	04 - INCOMING	--	--	--	Aug 13, 2020 9:36 AM	Billy Keating	--	--

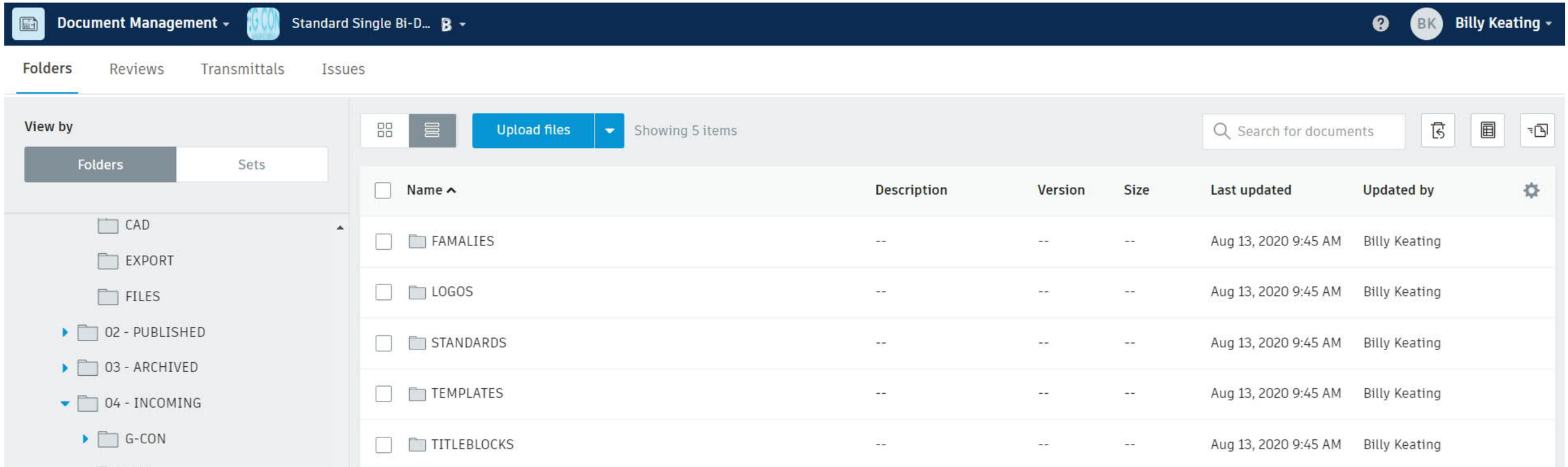


New Workflow inc. CDE

05 – Resources

This is the project BIM resource library as well as other useful company documents. A copy of the BIM Execution Plan for the project will be stored in the resource folder.

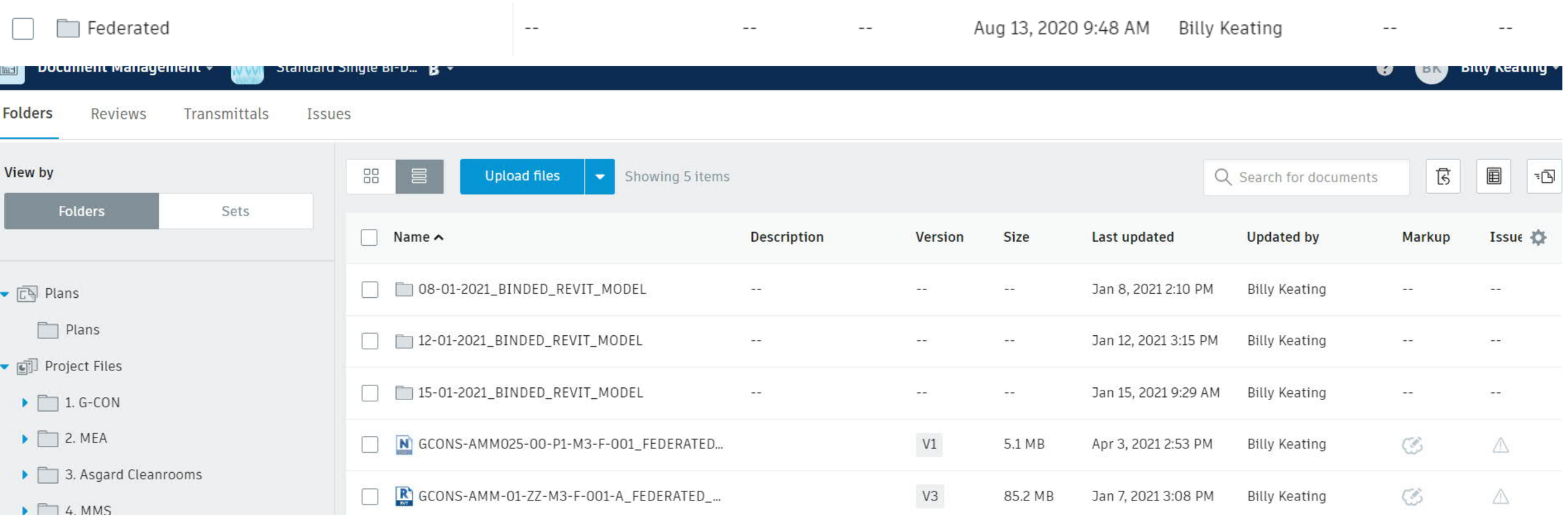
☐	05 - RESOURCES	--	--	--	Aug 13, 2020 9:42 AM	Billy Keating	--	--



New Workflow inc. CDE

Federated

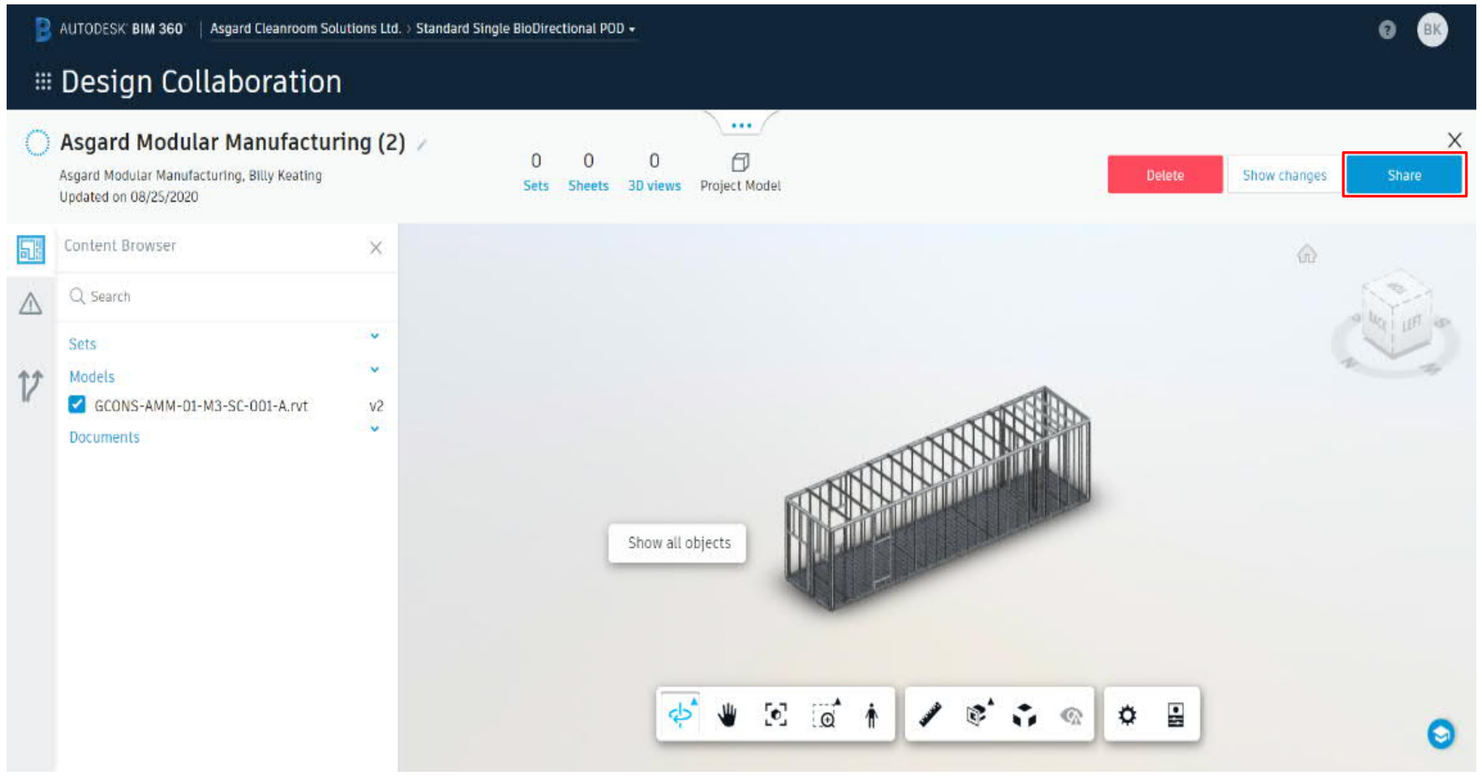
A federated model is a combined building information model that is compiled from several BIM models from different disciplines into one. The input models will be read-only and will use a free viewer to allow all project members to monitor the BIM process at all stages of the project. The federated model will compromise of information from the shared folder and will also be used to assign issues and mark ups throughout the project.

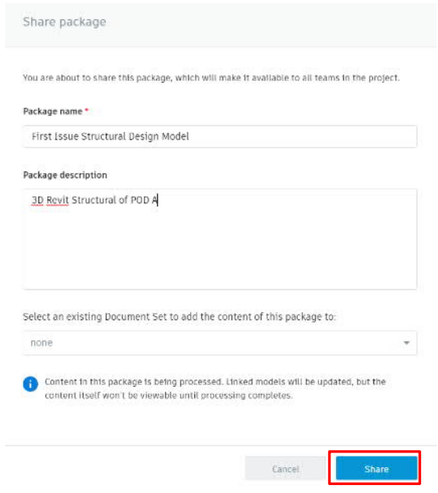


New Workflow inc. CDE

Design Collaboration is used To share models between disciplines, meaning you must submit a package. This is done to avoid other project teams linking to a WIP model which might be incorrect or under change.

Using design collaboration a contactor submits a set of drawings and a BIM model to the other disciplines, the other disciplines can then choose the accept or reject this model. After the model is accepted it can be used as a linked file.

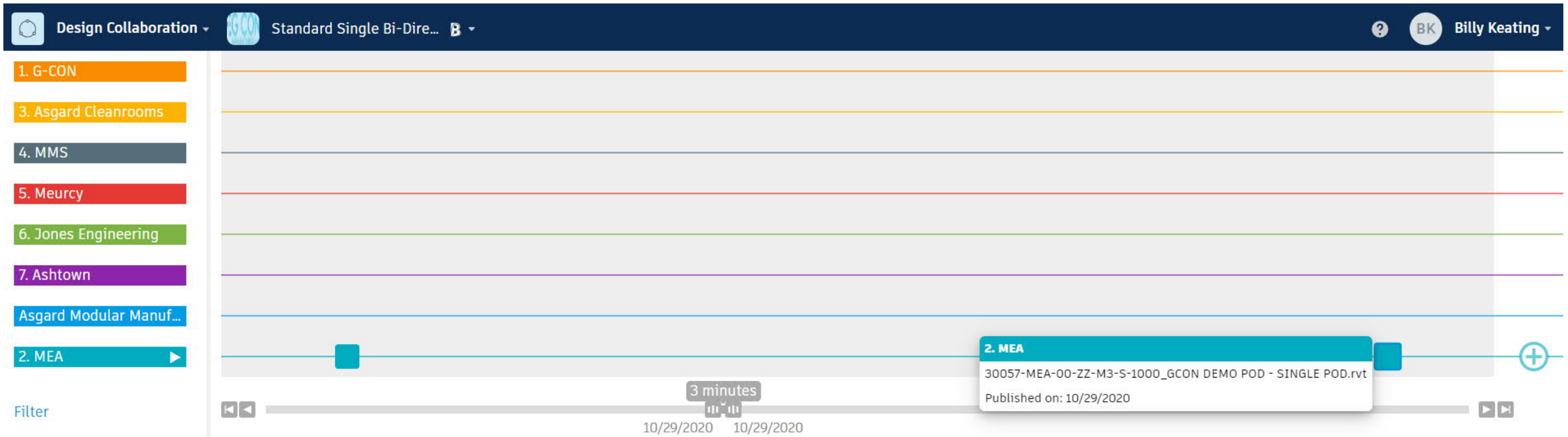




New Workflow inc. CDE

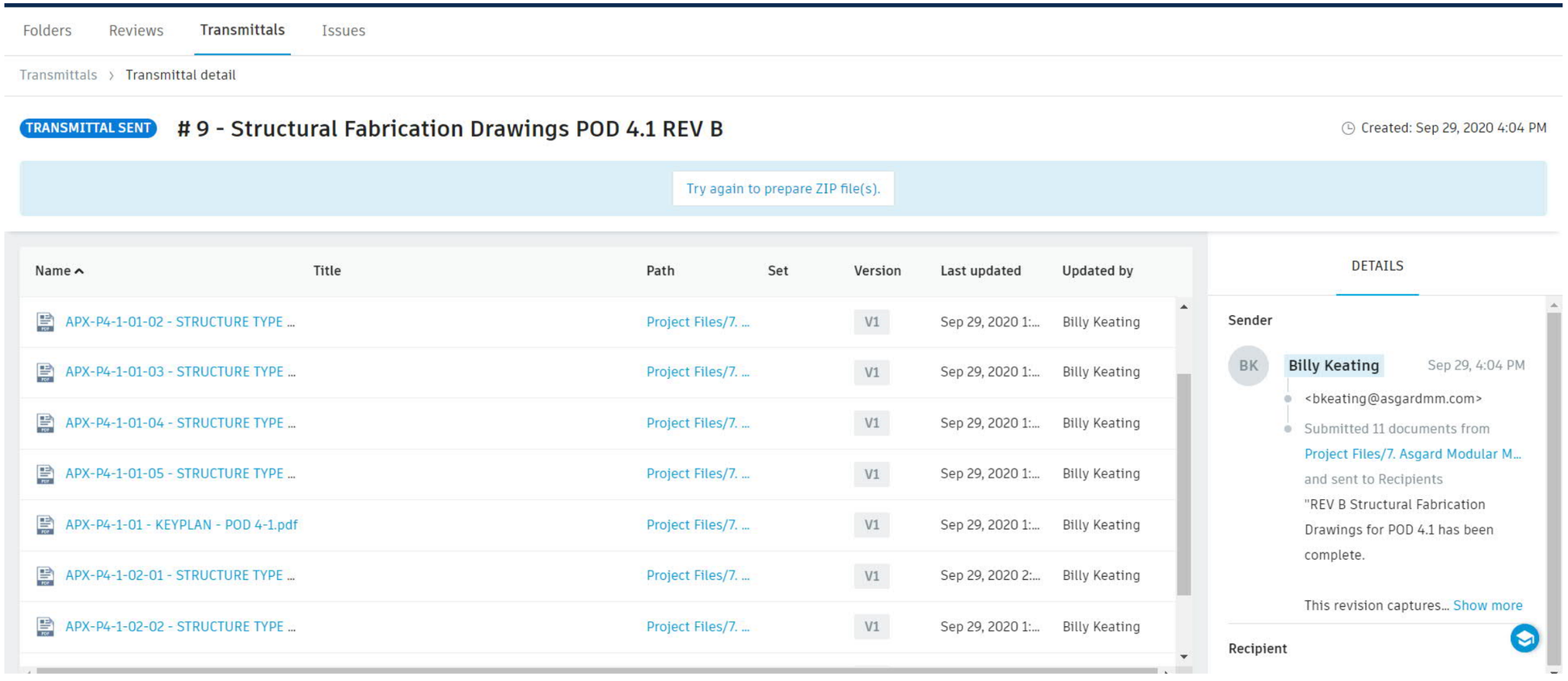
Design Collaboration also keeps a time stamp of when all models are shared, accepted or rejected.

This is important as it holds all subcontractors accountable to milestone dates and allows us to keep a record of dates.



New Workflow inc. CDE

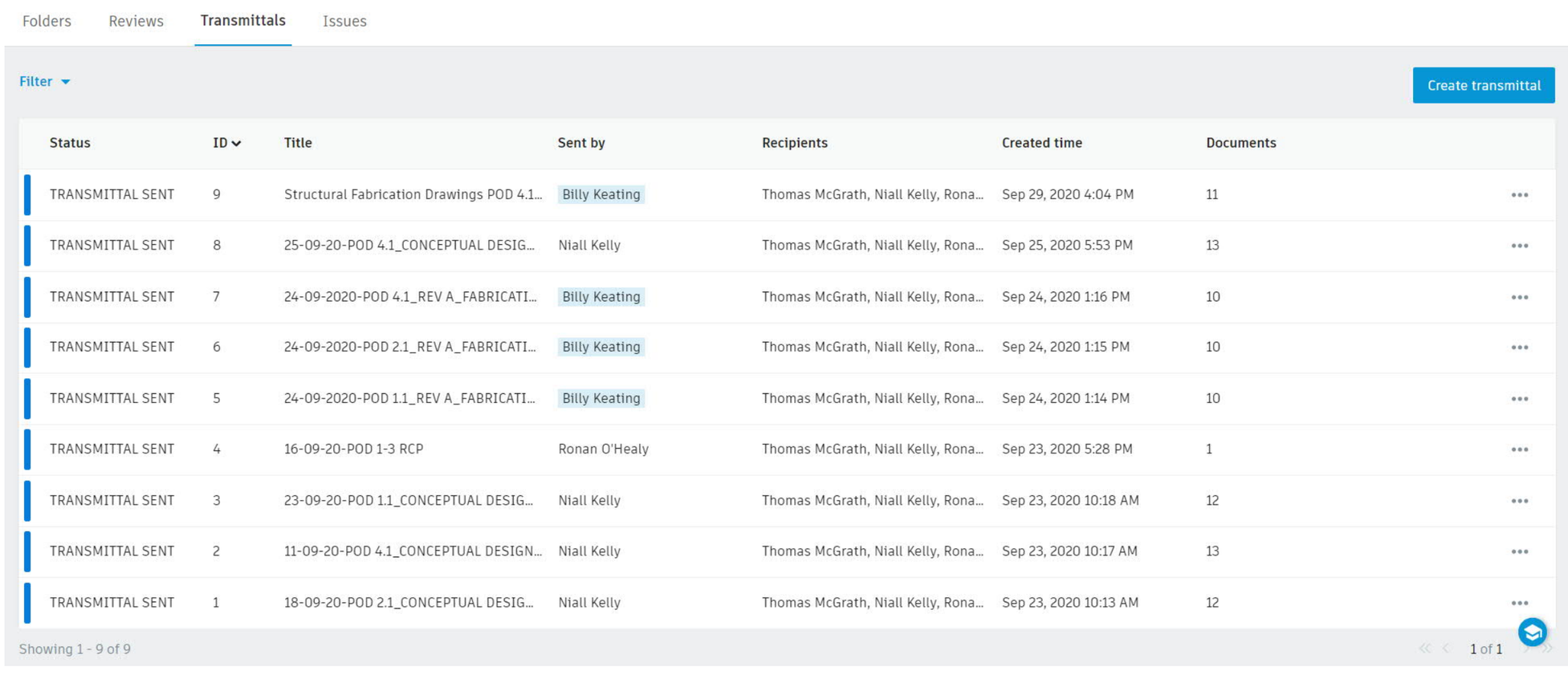
Files such as submittals and drawings are shared via BIM 360 transmittal. This method keeps a record of when the submittal is issues and who too. Using this over email avoids any confusion as it is saved per project, you also receive an email informing you that there has been a transmittal sent on the BIM 360.



New Workflow inc. CDE

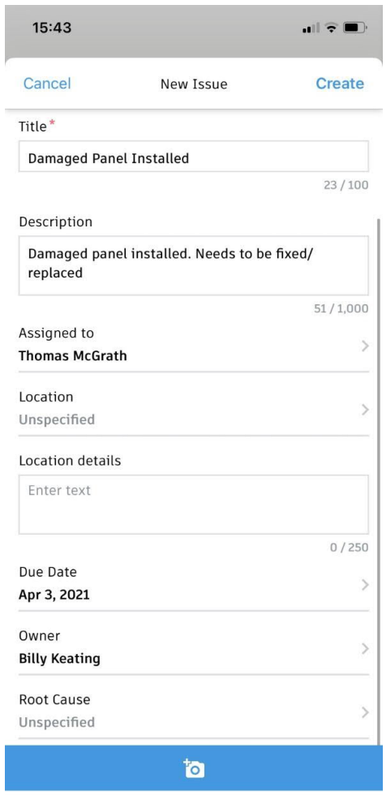
BIM360 also keeps a time stamp of when all transmittals are shared.

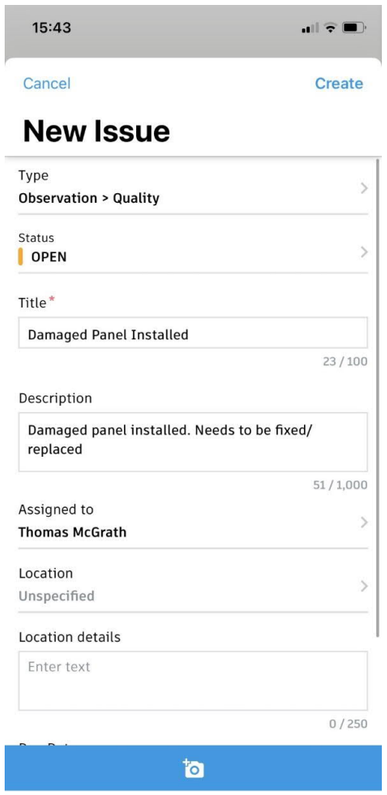
This is important as having the dates and recipients keeps you covered if anyone claims they are missing information.



New Workflow inc. CDE

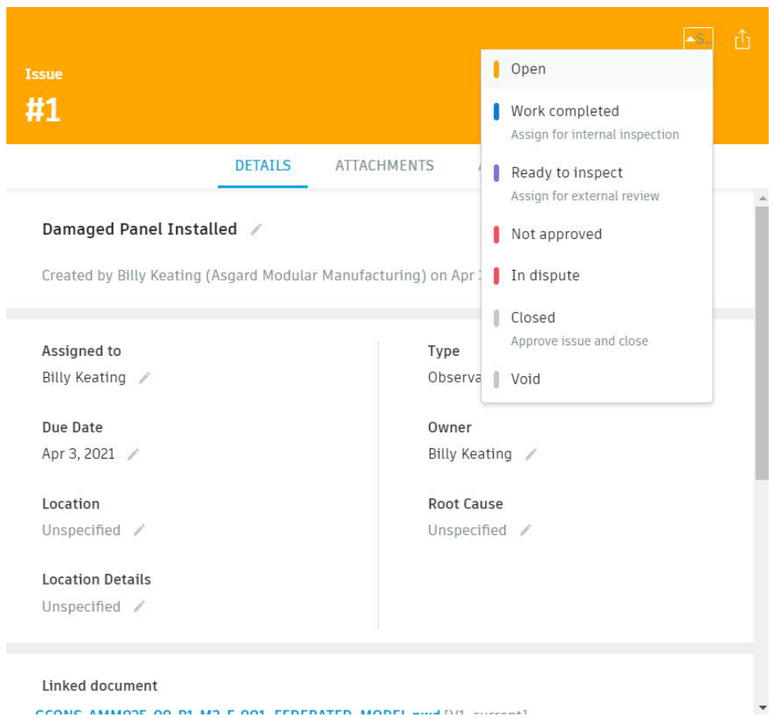
Following completion snags are now done using BIM mobile app. The construction supervisors bring an iPad down to site and walk the finished job, any work found not up to standard is raised as an issue inside the model.





New Workflow inc. CDE

When the issue is raised who ever it is assigned is informed by email. It then goes through the Open to Work completed and finally to Closed.



OPEN

ID	Type	Sub-type	Title	Location	Assigned to	Company	Due date	Linked document		
1	Observation	Quality	Damaged Panel Installed	-	Billy Keating	Asgard Modula...	Apr 3, 2021	GCONS-A...L.nwd	0	0

WORK COMPLETED

1	Observation	Quality	Damaged Panel Installed	-	Billy Keating	Asgard Modula...	Apr 3, 2021	GCONS-A...L.nwd	0	0

CLOSED

1	Observation	Quality	Damaged Panel Installed	-	Billy Keating	Asgard Modula...	Apr 3, 2021	GCONS-A...L.nwd	0	0

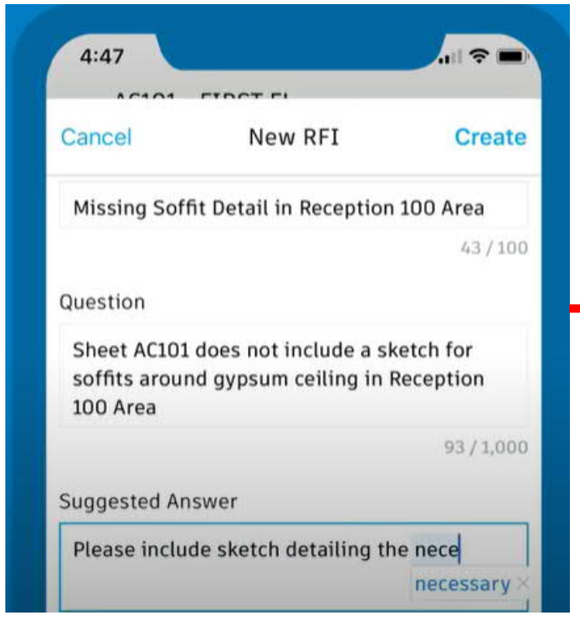
Future Plans for CDE Workflow

RFI's can be created and managed easily via BIM360. Currently we still use an excel tracker stored on a private server, which is not ideal.

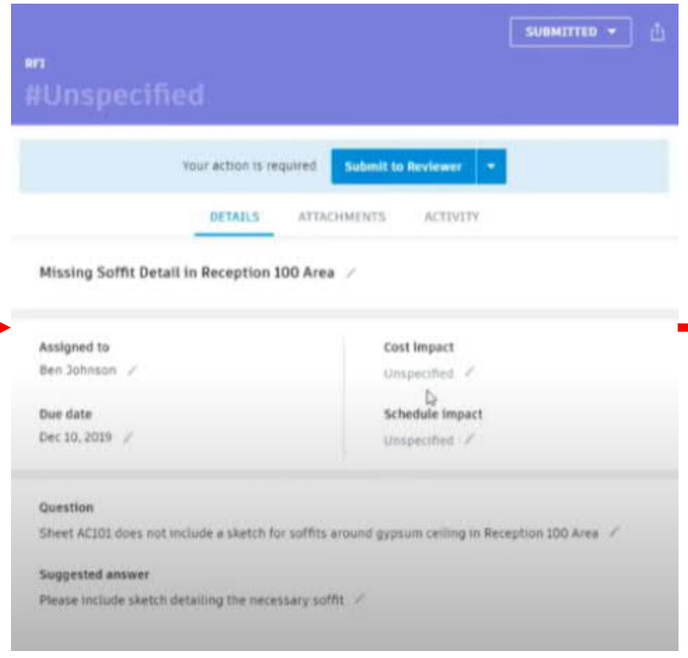
Through BIM 360 RFI can be set up to be sent by sub contactors to a reviewer and then onto a client/manager.

The workflow set up by BIM360 is very useful as it allows everyone on the project access to the answer and keeps a time stamp.

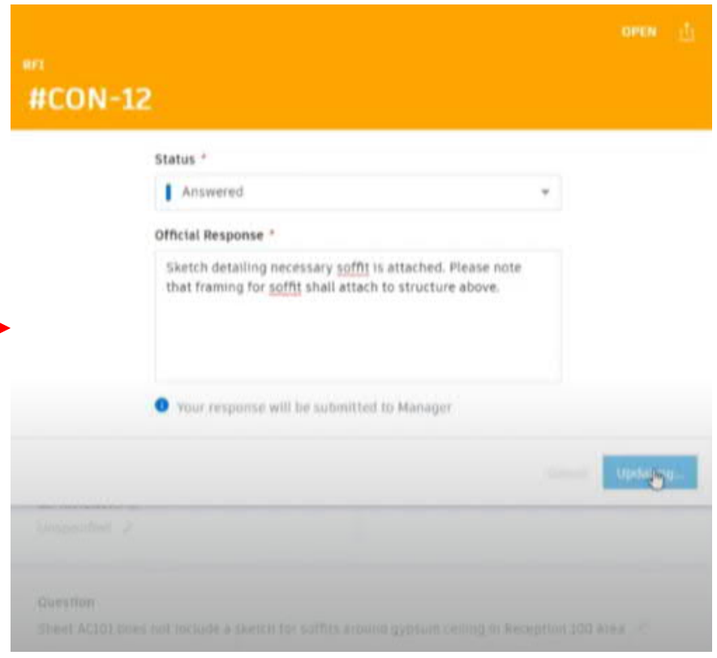
SUB CONTRACTOR



REVIEWER (ASGARD MODULAR)



CLIENT

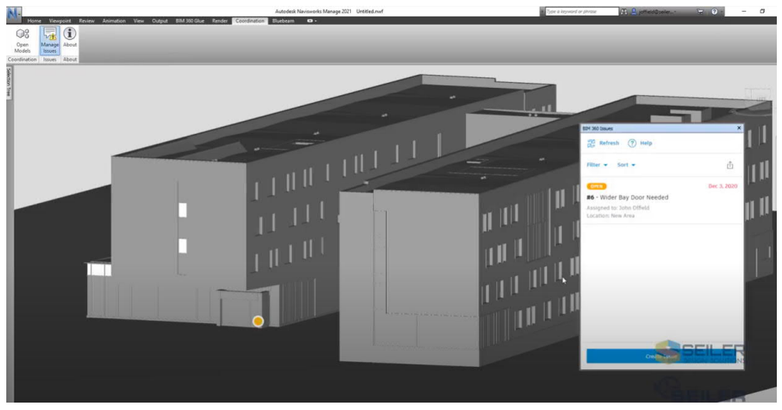


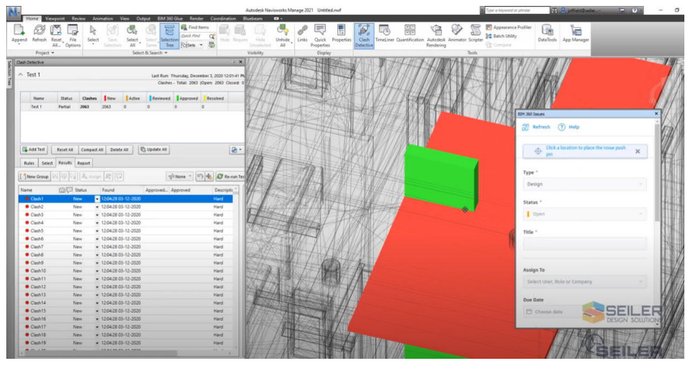
Future Plans for CDE Workflow

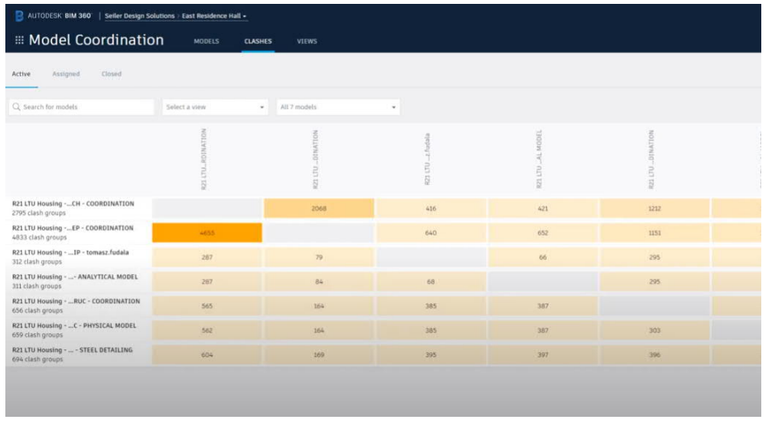
Navis collaboration with BIM360 is something we currently do not use.

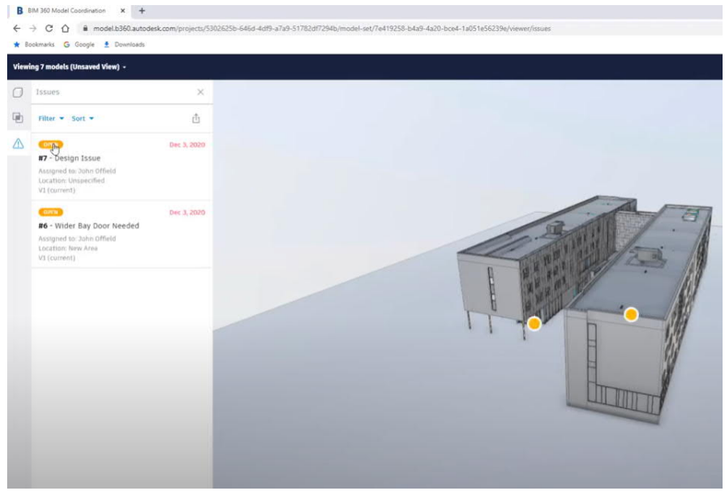
With Navis Manage you can link a NWF file to a BIM 360 project, this will allow you to manage/ assign issues in the navis file.

Through this you can assign all clashes as issue to the various sub contactors. This also creates a clash matrix which keeps a count of how many clashes are existing in a model.









Questions?