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BIM 360™

# Coordination

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# Introduction

Coordination is one of the keys to delivering a successful project! When you harness the power of the cloud, coordinating designers and trades no longer needs to be a drawn-out process. By automating coordination tasks, teams can quickly identify and resolve problems between disciplines, leading to increased efficiency, improved quality, and reduced risk.

The following guide introduces the BIM 360 suggested coordination workflow and gives context to the different capabilities built into the product, including step-by-step starter guides.

## Autodesk BIM 360

BIM 360 improves the process of construction by supporting informed decision making throughout the project lifecycle. It does this by centralizing all project data in a single data repository and connecting project stakeholders and workflows— from design to construction to operations, from the field to the office and back.

Visit BIM 360 Site 💡

*Please note that the capabilities outlined in this guide are reflective as of July 2019 and will continue to undergo improvements. Additionally, some capabilities are only available in certain countries. For more information on product updates and capabilities please visit the BIM 360 Product Release Notes.*

# Table of Contents

# Suggested Workflows
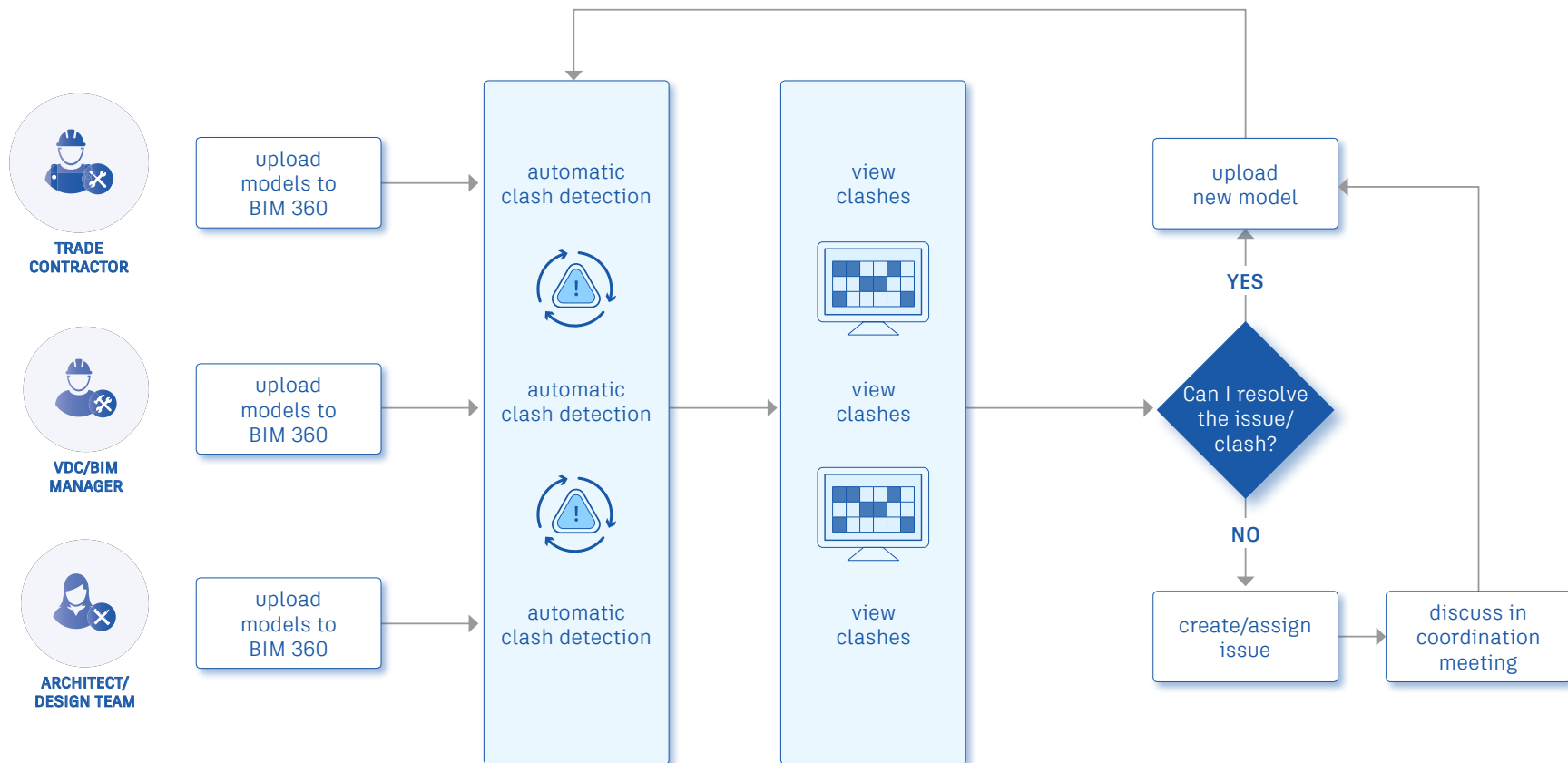
# Model Coordination Workflow

Simplify clash detection and view aggregated models using an automated workflow. The graphic below outlines the suggested model coordination workflow using BIM 360.

## Why follow this workflow?

- Automate clash detections
- Easily sort and filter clashes
- View and share models across multiple disciplines

## BIM 360 capabilities used

- Coordination spaces
- Automatic clash detection



**TRADE CONTRACTOR** → upload models to BIM 360 → automatic clash detection

**VDC/BIM MANAGER** → upload models to BIM 360 → automatic clash detection

**ARCHITECT/ DESIGN TEAM** → upload models to BIM 360 → automatic clash detection

view clashes → view clashes → view clashes → Can I resolve the issue/ clash?

YES → upload new model

NO → create/assign issue → discuss in coordination meeting
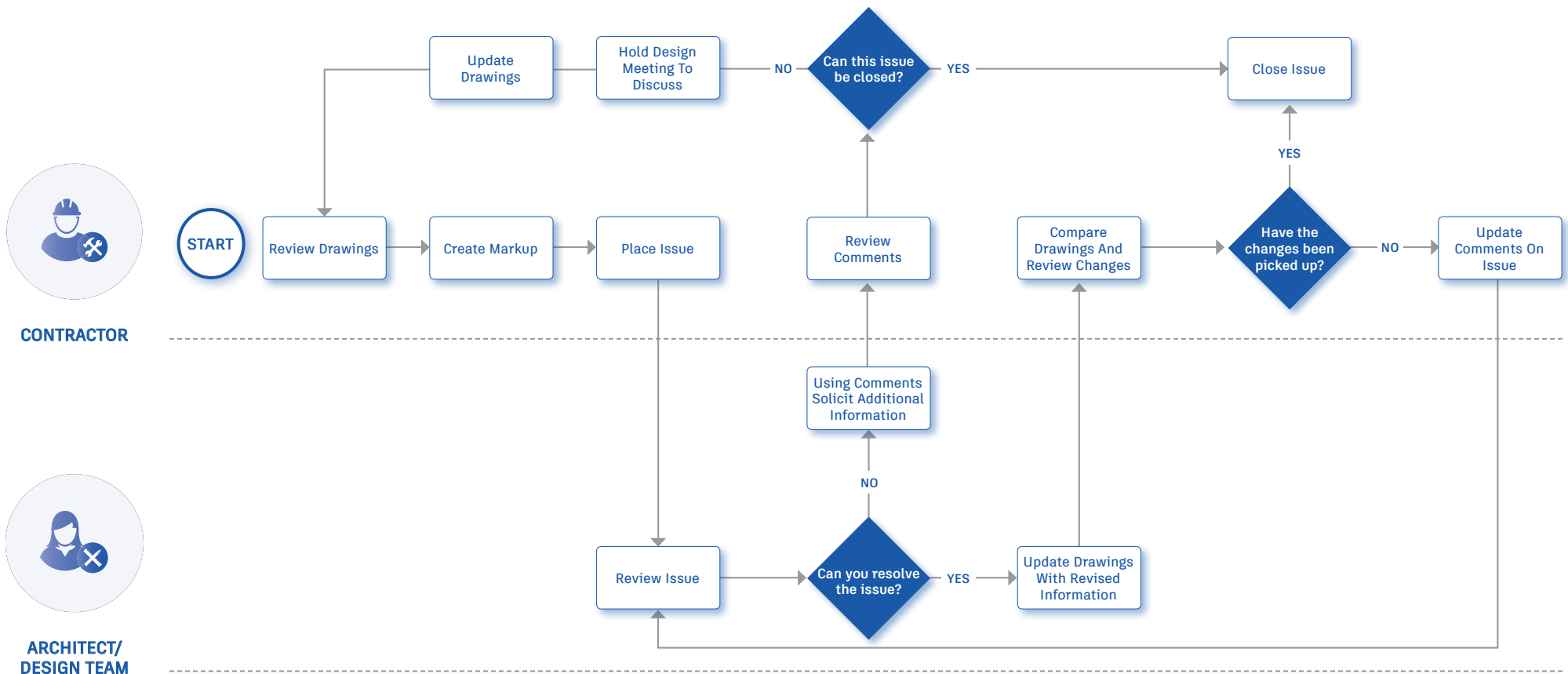
# Design Review Workflow

Easily collaborate with the team during the design review process by implementing a streamlined workflow. The graphic below outlines the suggested design review workflow using BIM 360.

## Why follow this workflow?

- Streamline design reviews across team members anytime, anywhere
- Aggregate comments and markups in a single location
- Easily compare versions for both 2D & 3D drawings

## BIM 360 capabilities used

- 2D & 3D viewing
- Document compare
- Markups
- Issue management

**CONTRACTOR**

**ARCHITECT/ DESIGN TEAM**

START → Review Drawings → Create Markup → Place Issue

Update Drawings → Hold Design Meeting To Discuss → NO → Can this issue be closed? → YES → Close Issue

Review Comments

Review Issue → Can you resolve the issue? → YES → Update Drawings With Revised Information

Can you resolve the issue? → NO → Using Comments Solicit Additional Information → Review Comments

Compare Drawings And Review Changes → Have the changes been picked up? → YES → Close Issue

Have the changes been picked up? → NO → Update Comments On Issue
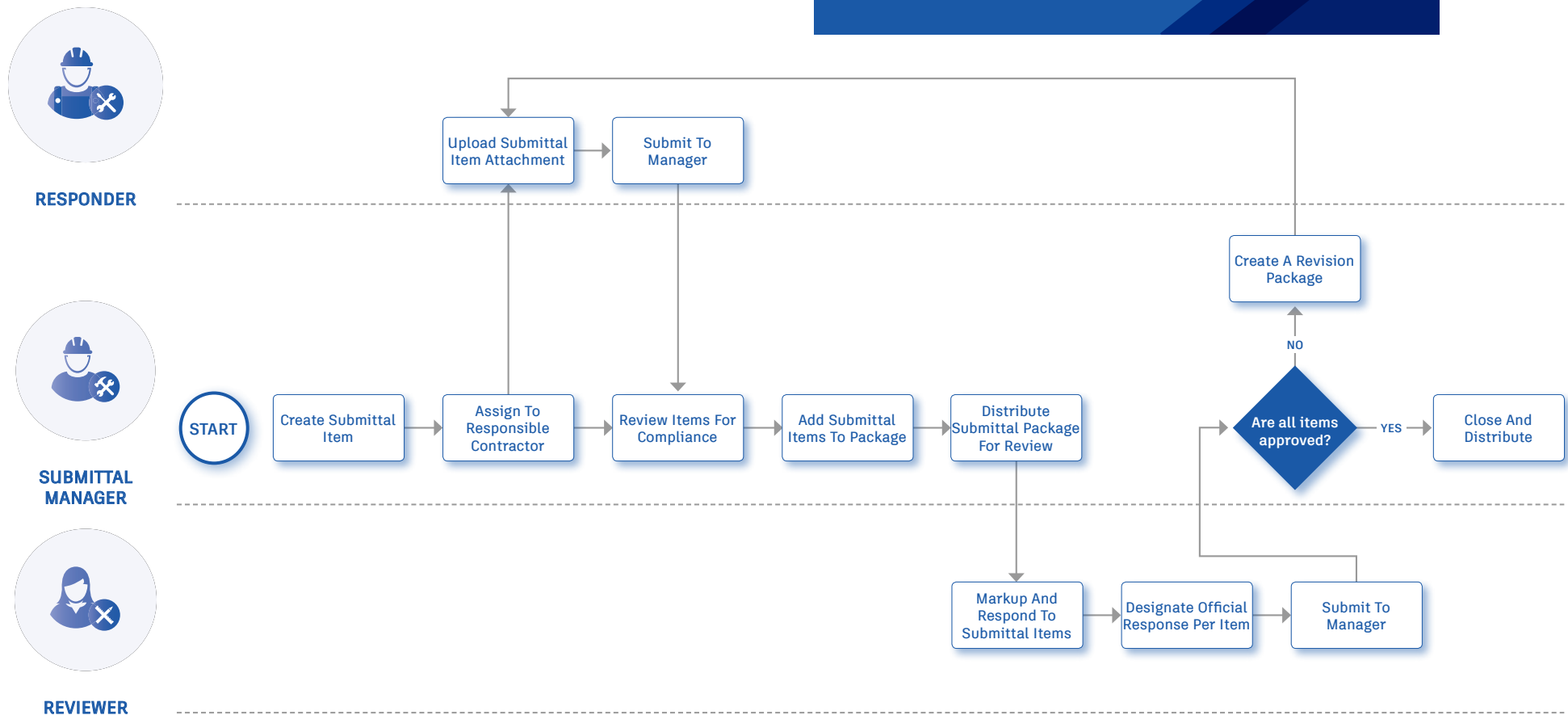
# Submittal Workflow

Create submittals packages, track the flow of approval processes, and manage all information in a single document library. The graphic below outlines the suggested submittal workflow using BIM 360.

## Why follow this workflow?

- Easily package all submittal items into a single submittal package
- Track and review the status of submittals
- Distribute and control reviewer privileges

## BIM 360 capabilities used

- Submittal management

**RESPONDER**

**SUBMITTAL MANAGER**

**REVIEWER**

START

Create Submittal Item

Assign To Responsible Contractor

Upload Submittal Item Attachment → Submit To Manager

Review Items For Compliance

Add Submittal Items To Package

Distribute Submittal Package For Review

Markup And Respond To Submittal Items

Designate Official Response Per Item

Submit To Manager

Are all items approved?

NO

Create A Revision Package

YES

Close And Distribute

# Coordination
# Capabilities

# Coordination Spaces

Built on a common data platform, the Model Coordination module enables multiple trade teams to review and analyze their models in the context of a unified project model. By defining a coordination space in the Document Management module, teams can create dynamic 3D views combining multi-trade models and review automatic clash detection results. With simple navigation tools, 3D model access gives the whole team visibility into coordination decisions and impacts.

## 1 | Create coordination spaces

- In order to utilize the appropriate revisions of design and fabrication models, the Model Coordination module must be configured to work with content within a relevant folder in the Document Management module. This requires the creation of "coordination spaces."

- Coordination spaces are created within the Project Admin module under the Services tab, Model Coordination. Select "create" and enter a name for the coordination space and then navigate to a folder, in the Plans folder in Document Management, that you want to use for coordination.

- Models in the selected folder and any subfolders are included in the coordination space. All the models are listed alphabetically in a single, flat repository structure.
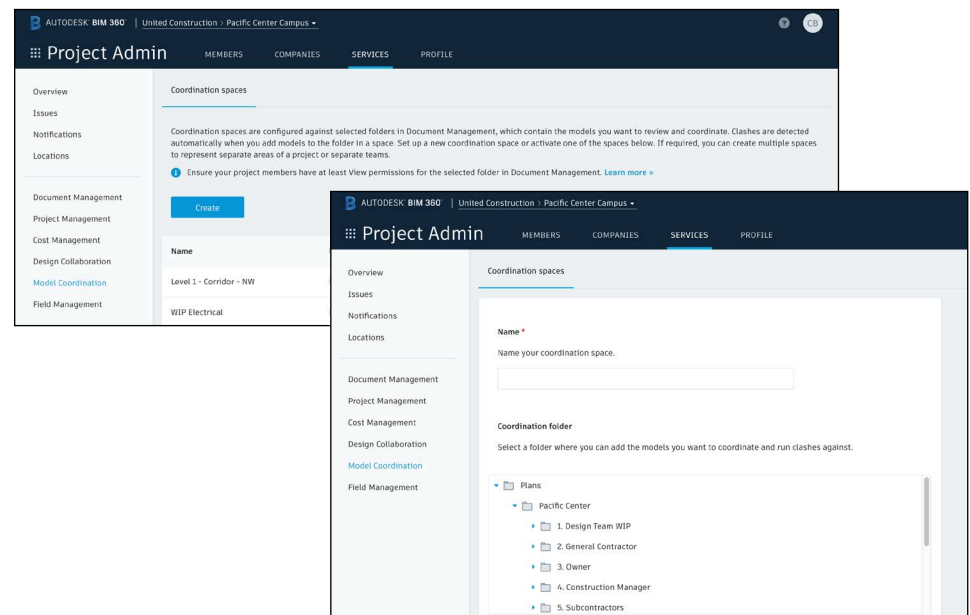


PRO TIP: Teams can set up multiple "coordination spaces" to allow for individual teams to have 'private' spaces as well as 'shared' spaces for multi-disciplined teams.

Creating Your Coordination Space ▶

# Coordination Spaces

## 2 Upload models for coordination

- Once the project admin sets up the coordination space(s), any 3D models uploaded to the specific coordination space folder within Document Management will be instantly available for viewing in the Model Coordination module.

- When models are uploaded to the folder they're coordinated and automatically checked for clashes.

**Upload Model** ▶
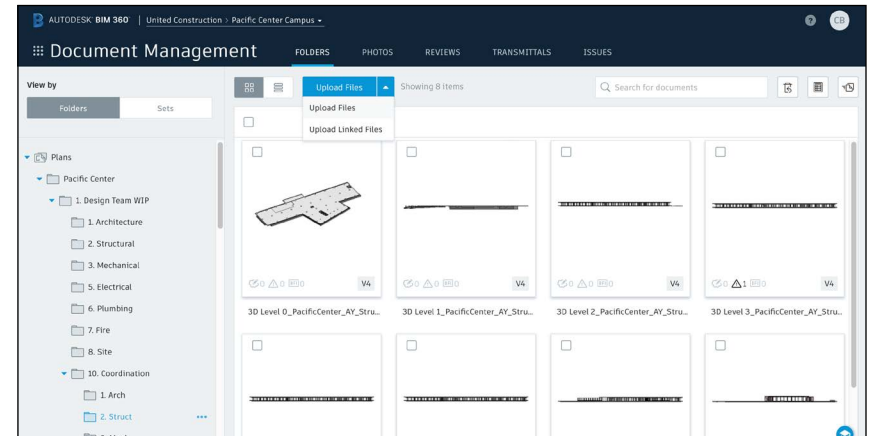


## 3 View 3D models

- Within the Model Coordination module use the drop-down on the far right to select the coordination space you want to view. A list of the models within that space will appear, click a single model to open and view.

- Use the search feature, or the filters in the right-hand panel, to refine the model list. You can filter to see only your models, clashes with your models, or by the contributor, company, or date last updated.

- The right-hand column on the Models tab shows the number of objects within each model that clash with the other listed models. Select this number and the multi-model view will load, displaying the associated clashes for review.
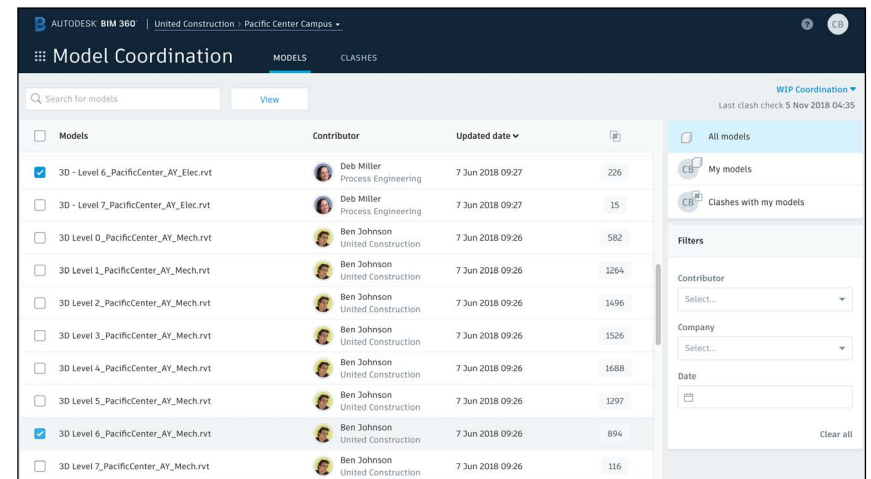


PRO TIP: Filter the Models tab to limit the models you want to review, and the clash number will auto-adjust to that context.

PRO TIP: When you organize models, best practice is to structure data by floor and then by discipline. For very large models, it is useful to structure more granularly, such as by wing or project phase, providing greater flexibility when creating aggregate views.

# Coordination Spaces

- Multi-select models and click the "View" button to open an aggregated 3D view.

- When viewing you can turn models on and off using the left panel, orbit/pan/zoom/walk, cut sections and measure and view element properties.

- Click "add/remove models" to easily adjust the models displayed in the viewer.

- Click the X in the top-right corner to exit the viewer and return to the model list.

## Saved Views

Model Coordination makes it easier to focus coordination activities on a project subset. Saved Views act as a shortcut to a group of models, typically aligning with a project location, which can be shared across project members to aid in multi-disciplinary coordination activities.

- Select the models you wish to view. In the viewing window select "save view" to save the views as a subset.

- Add a title, description and select the privacy settings (published provides access to all project members in the coordination space). Select "save view."

- You can reference all saved views in the views tab. Select the view title to open the view or click the row to access the details box.

PRO TIP: Saved views can be modified and saved again when you open them.
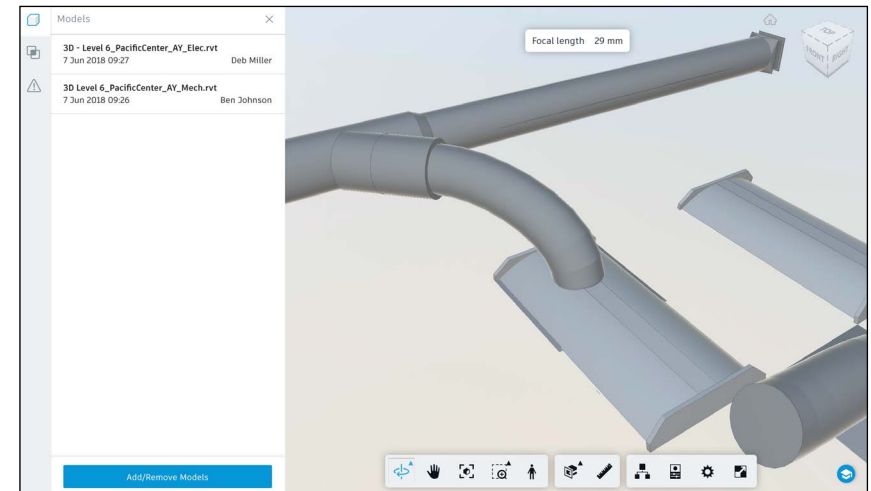


PRO TIP: Use the icons on the left side panel to switch between a list of the selected models, and the clash groups for each of the models. You can also view any issues associated with the selected models by clicking the issues icon.
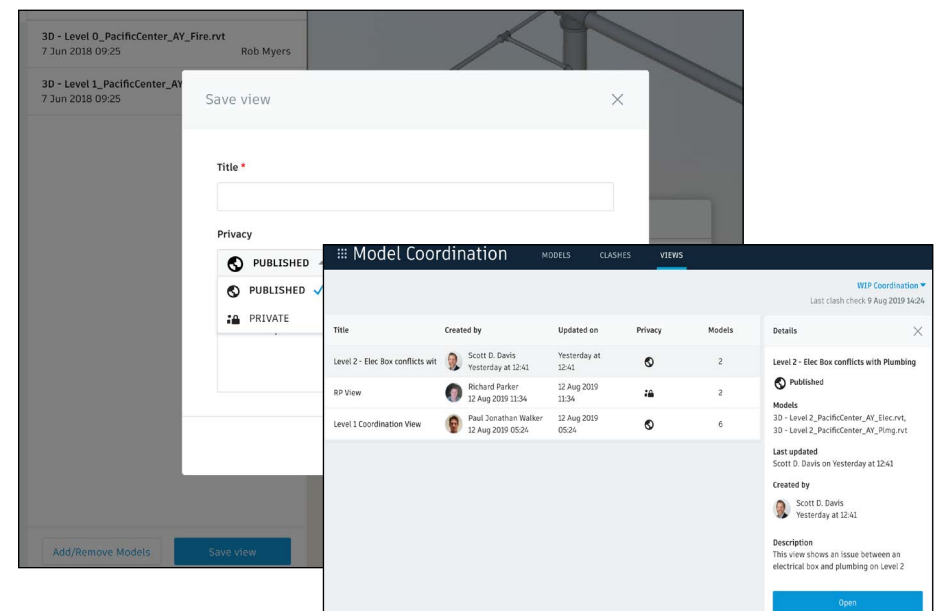
# Coordination Spaces

**4** **IFC file support**

- Model Coordination supports the use of Industry Foundation Class (IFC) files as an industry standard file format.

- Users can import ArchiCad, Revit, and Tekla files in IFC format, ensuring that data from a comprehensive range of sources can be included in the integrated project model.
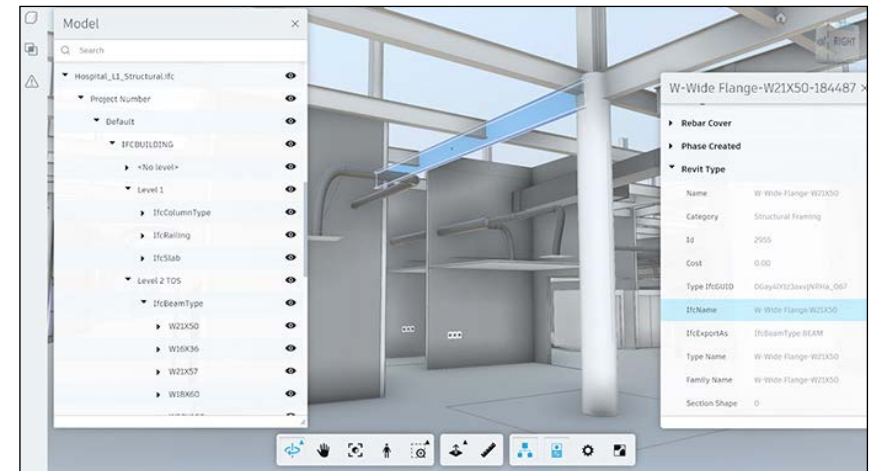


IFC File Support Blog

# Automatic Clash Detection

Clash detection runs automatically against model changes, providing ongoing visibility of constructability issues before they become problems in the field. Model Coordination enables proactive engagement of multi-disciplinary teams, helping to optimize design and fabrication models to reduce surprises and waste during construction. With the ability to search and filter model views, drill down into specific clash interferences, and automatically group clashes, the entire project team and stakeholders can understand any issues without waiting for weekly coordination meetings.

## 1 Review clash matrix

- In Model Coordination, click the Clashes tab to view the clash results across all models uploaded into your selected coordination space.

- The clash matrix displays the number of clashing objects between models. The primary models are listed in the vertical column and the secondary model are the horizontal rows. The number in each cell is the number of clashes between the two models.

- The color intensity of the matrix cells signifies where the most clashes exist.

- Clash groups are the number of objects in the primary model that clash with all other models in the grid.



PRO TIP: By default you're taken to the Active sub-tab, which displays a grid of all the clashes that have not yet been reviewed. The Assigned sub-tab displays a list of clashes that have been marked as an issue, and allows you to track the changes being made to resolve the clash. The Closed sub-tab displays a list of clashes that have been marked as 'Not an issue.'

**Filter Models & View Clashes** ▶

# Automatic Clash Detection

## 2   Group & filter clashes

- Use the left-hand drop-down list to refine the models shown on the clash grid, or use the search functionality to find a specific model.

- Click on a cell number to open the intersecting model pair and review those associated clash groups.

- Click on a model in the left-hand column to open all models visible in the matrix (respecting any filters applied) and review those associated clash groups.

- Once selected the clash viewer will open. Clash groups are listed in the left-hand panel, and are prioritized by number of clashes within each group (highest number of clashes at the top).

- Expand any of the clash groups to see the individual clashing objects.

- View details of any individual clashing object by clicking the "Properties" button in the toolbar, and selecting each object in the viewer.

- When you have viewed the models and their clashes, and determined that a clash or clash group does not require any further attention, you can mark it as 'Not an Issue'.

Coordinate Models & Run Clashes 💡
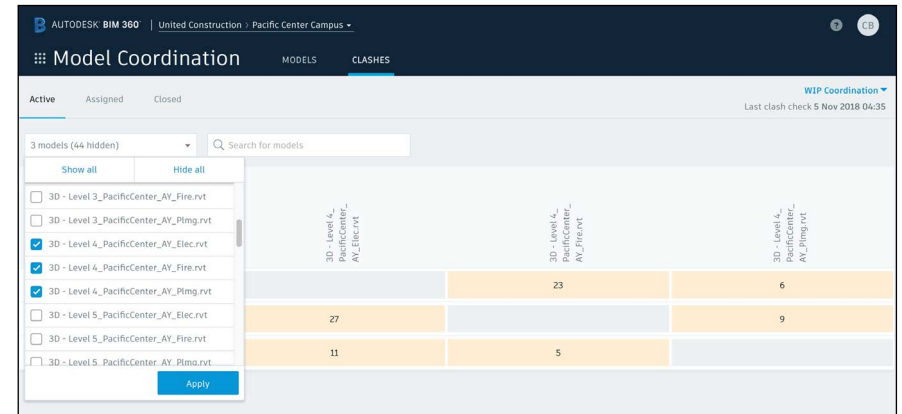


PRO TIP: Search and filter models within the clash matrix (using model naming conventions) to focus review on a specific location. Click on the row header to open and view all models and clashes within that context.
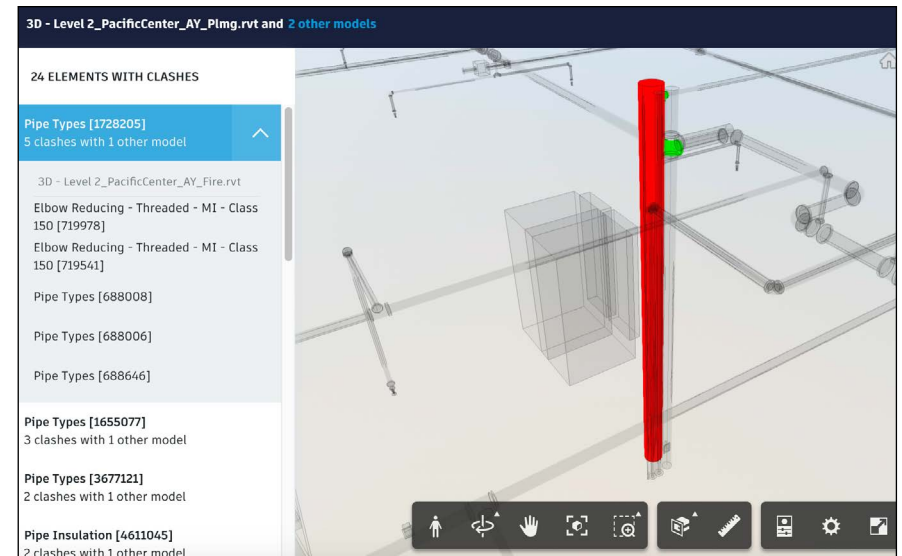


PRO TIP: Users can create groups of clashes using inherent BIM object data depending on the format type (i.e. Revit (RVT), AutoCAD (DWG) and IFC) such as System Name, Layer and Type Name.

# Issue Management

Issues are used by teams to identify and communicate areas of concern or improvement with project documents or models. The BIM 360 Issues workflow is unified into the Model Coordination module. This allows users to view issues across multiple models (i.e. clashes can be assigned to multiple models that the issue is linked to and retains the clash highlighting).

## 1 Creating an issue from a clash

- When you have viewed the project models and their clashes and determined that a clash or clash group requires further attention, you can create an issue from the clash.

- Click a highlighted clash in the model or click a check box next to a clash group in the left-hand panel to select it. If necessary, expand a clash group to select individual clashes.

- When the clash is selected an "Issue" button will appear, select it. Click to place the issue push pin.

- The title and description fields will automatically fill in but can be edited. Select the assignee using the drop-down list, and optionally choose a due date. Click "create."

PRO TIP: Custom Attributes can be added to issue types or sub-types to have entries in issues beyond the default entries such as priority. Read to find out how.

Model Coordination Issues Blog
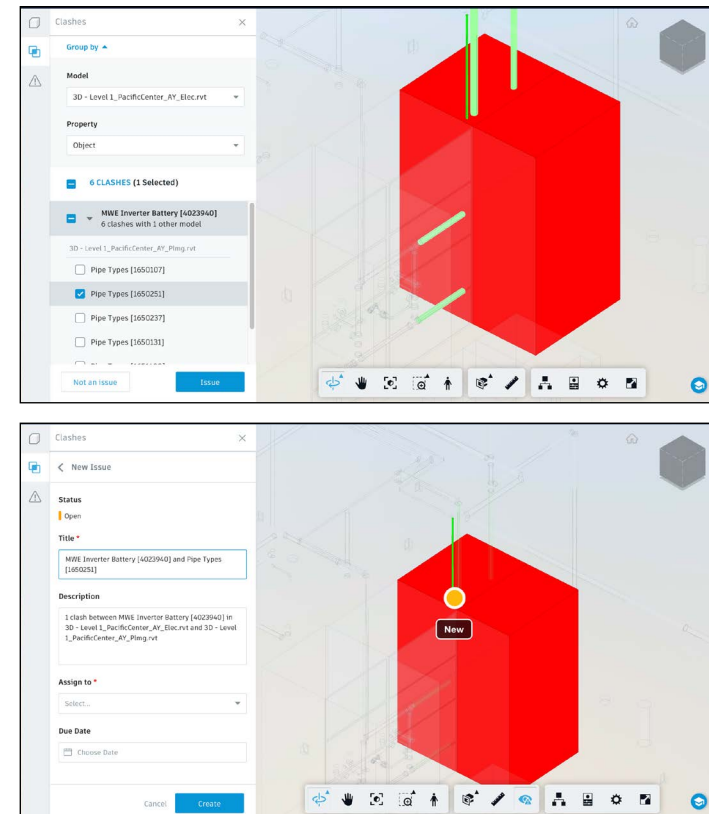
# Issue Management

**2**

## Issue assignee view & respond to issues in Model Coordination

- Issues created from clashes within Model Coordination move to the "Assigned" sub-tab, and an email notification is sent to the assignee.

- Open the email notification and click Issue or view in the Assigned sub-tab. Sort the columns by issue status, ID, title, assignee, company and due date.

- Click the link in the Linked Models column to see an aggregated view of the clashing models in the viewer.

- With the viewer open use the toolbar to take measurements and inspect model properties to help you understand the issue and how to resolve it.

- In the Issues panel view the issue details including the model names, ID numbers of the clashing objects, the due date, and location.

- When you have decided what action is required to resolve the clashes, you can make changes to the affected models and upload updated versions to the coordination folder.

- Use the Attachments tab to attach documents or images to demonstrate the changes made or required.

- Use the Activity tab to add comments or @ to tag another project member and ask a question or prompt them to take action. They will receive an email notification.

- When the clashes have been resolved, use the Status drop-down list to change the issue status to Answered.



PRO TIP: All issues related to the models in the viewer are displayed in the Issues panel, including issues not created in Model Coordination. If you select one of these issues, the push pin is shown in the viewer, but the models are not highlighted.

**Issues in Model Coordination**
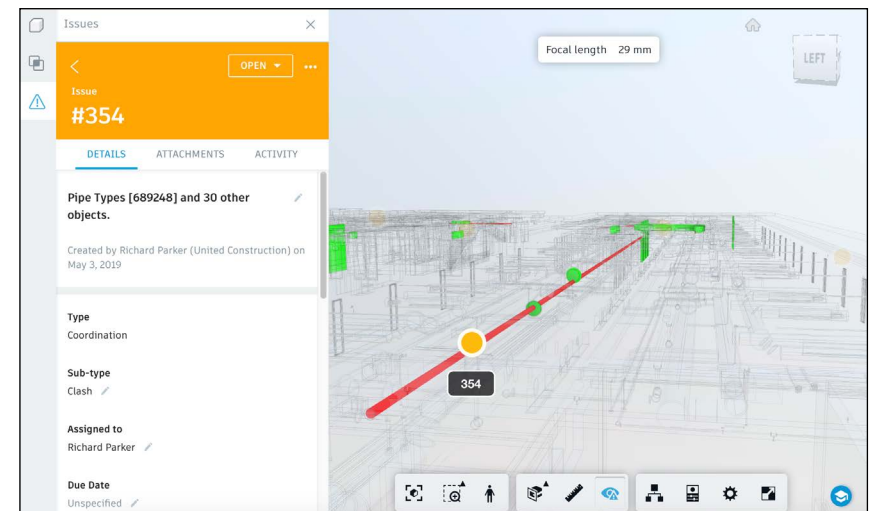
# Issue Management

**1** 

## Issue owner view & respond to issues in Model Coordination

- Locate issues of interest in the Assigned sub-tab. If further action is required, you can change the status of the issue back to Open.

- Use the Details tab of the issue panel to change the assignee, use the Attachments tab to attach documents or images, use the Activity tab to add comments or @ to tag another project member.

- When you are satisfied that the required changes have been made and there is no longer a clash, change the issue status to Closed.
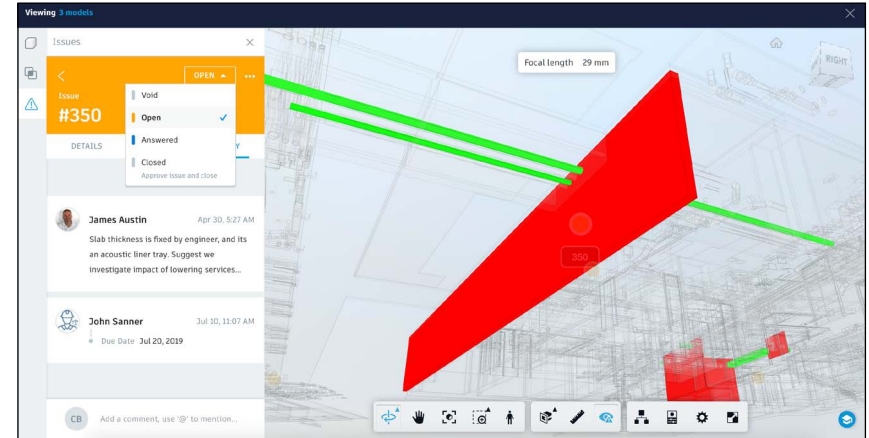


PRO TIP: Only the issue owner, or project members with Full Control, can close or void issues.

**1**

## When a clash isn't a clash

- With clashes being generated automatically some may not need to be addressed. If this is the case use the 'Not an issue' workflow.

- With the clash, or group of clashes selected click the "Not an issue" button.

- Add a title, select the reason, and include comments for further explanation before clicking "Ok."

- All clashes identified as 'Not an Issue" move to the "Closed" sub-tab and will not re-appear as further model iterations are published.
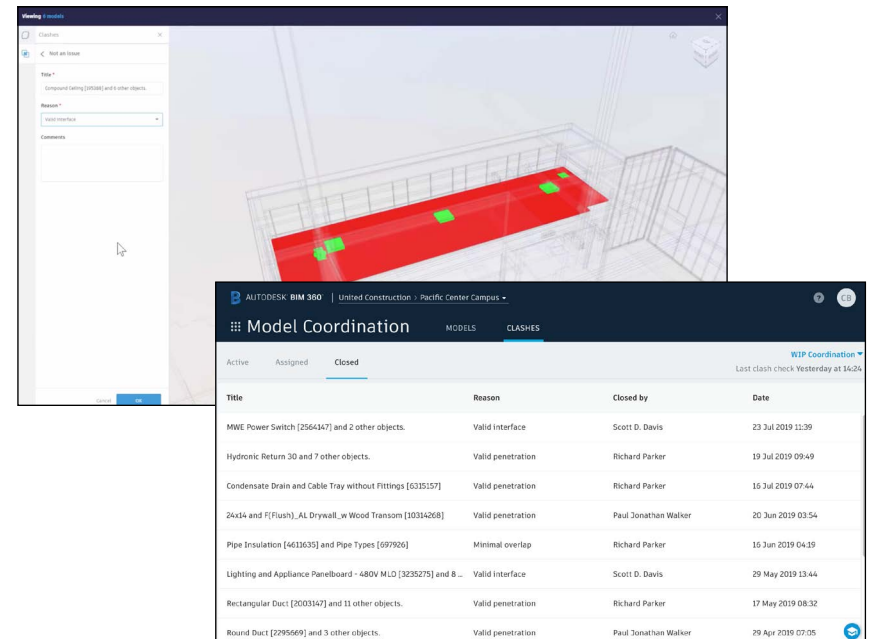
# Issue Management

## 1 — Creating document or model based issues in Document Management

- In the Document Management module, open a 2D document or 3D model and select the Issue icon on the left sidebar.

- In the Issue panel, select "Create Issue" and click where you want to place the issue. An issue push-pin will appear.

- Enter a title and complete all desired fields including Issue Type, Sub-type, Location, and Root Cause. Select "Create" to save.

Creating Issues ▶
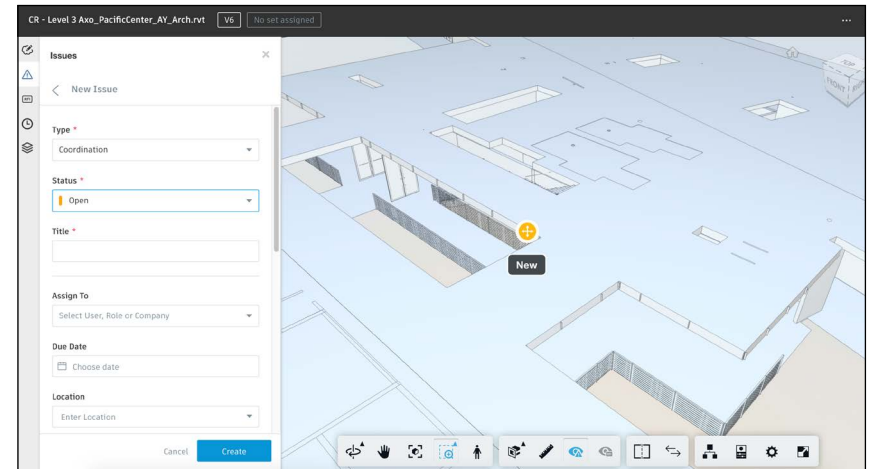


PRO TIP: Custom Attributes can be added to issue types or sub-types to have entries in issues beyond the default entries such as priority. Read to find out how.

## 4 — Review & respond to issues in Document Management

- If you're the assignee, open the email notification and select "View the Issue."

- Or within the Document Management module, select the Issues tab and search for the issue.

- Once in the issues panel, select "Activity" and respond to the issue using the comment box.

- For document- or model-based issues, click the link under "Document" to view the associated documents.
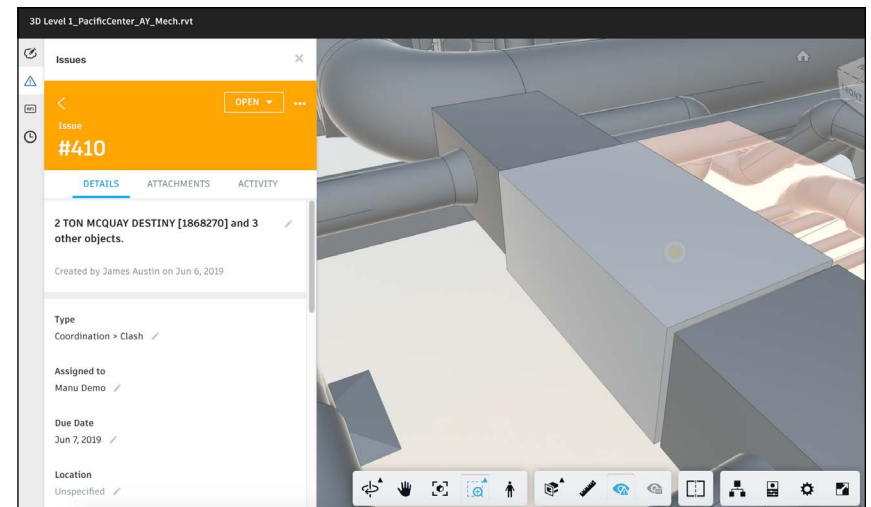


PRO TIP: Only the issue creator or project admin can set the issue as closed.

# Issue Management

**5** ## Filter/sort/export issues

In Model Coordination module:

- The Assigned sub-tab displays a list of clashes that have been marked as an issue. Sort by clicking the column header. Sort the columns by issue status, ID, title, assignee, company and due date.

- Select the linked model to open a clash and cick the More menu to export the issue as a pdf.


In Document Management module:

- Select the Issues tab to display a list of all project issues.

- To filter select the filter icon and one or more criteria using the drop-down lists such as type > coordination or clash.

- To sort, click the column headers.

- To export, select the "Export" drop-down lists.

- Use the "Search" bar to do a keyword search.

- On your mobile device, you can filter document-based issues by status, assignee, or due date.
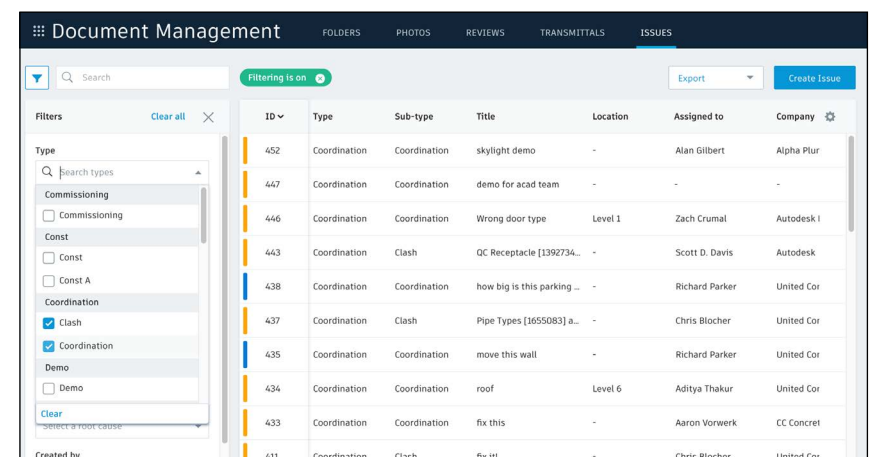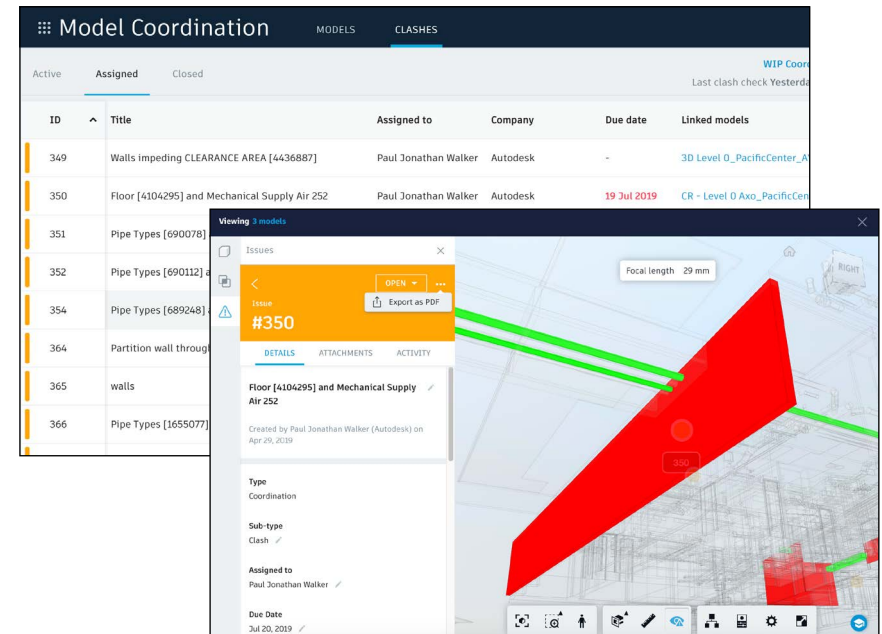




PRO TIP: You can filter, sort, and export directly from a 2D document or 3D model via the Issues panel.

# Markups

Markups speed up the decision-making process with the ability to instantly communicate questions, changes, and other information regarding the project drawings and models. The measurement tools enable project team members to accurately verify dimensions and areas. Document managers can organize project drawings and link them to other project drawings or documents, ensuring that the project team has a complete and easy-to-navigate package of construction documents.

## 1 Create a markup

- Within the Document Management module, open a 2D document or 3D model.

- Use the "Add New Markup" tool in the toolbar to create a markup using shapes and text fields.

- Before you click "Done," be sure to check off if you want the markup to be public (shared with everyone) or private (only visible to you) using the lock/globe icons.
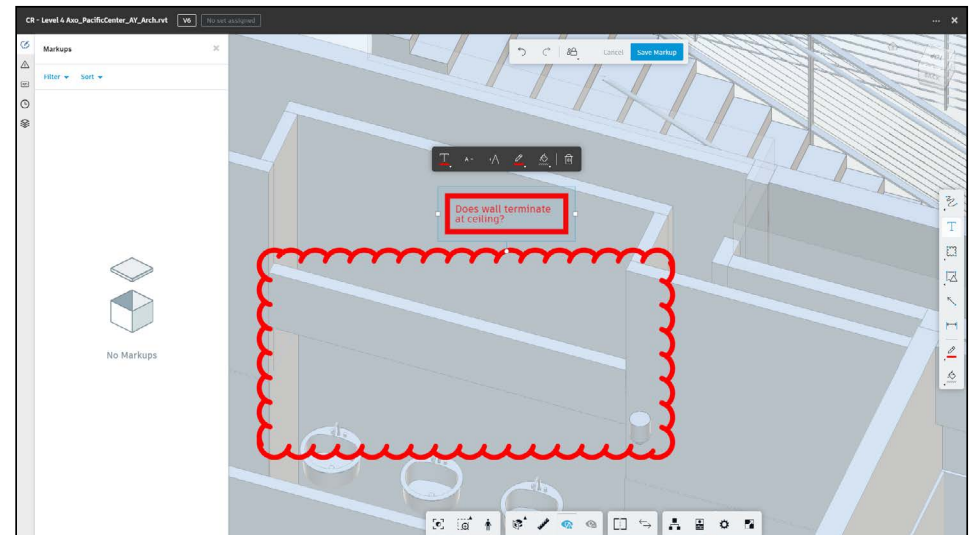
# Markups

## 2  Publish/edit/delete markups



- Change the viewing status from private to public by clicking the markup icon on the left panel to view all markups and using the drop-down list at the top of the listed markup.

- From the markup panel on the left, click the three-dot icon next to the markup to edit or delete.

- Add an attachment to the associated markup by clicking the "Add Attachments" paperclip in the markup panel on the left.
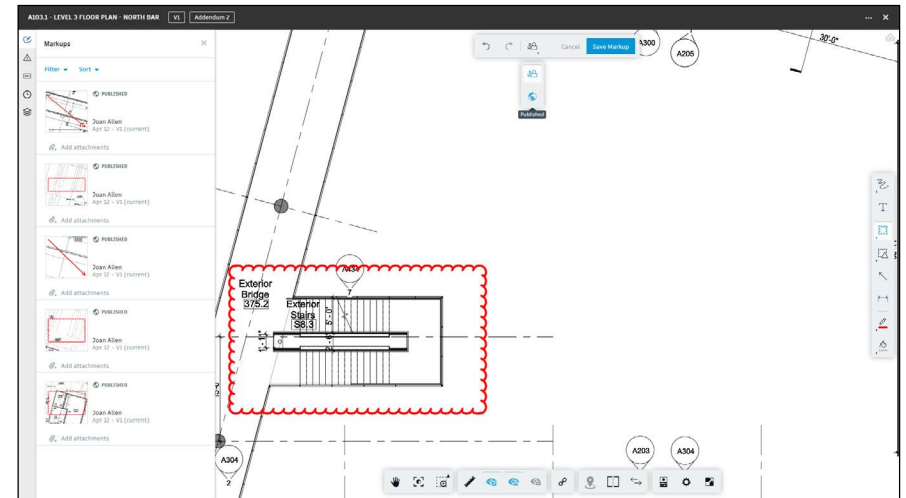
## 3  Review markups

- Click the markup icon on the left panel to see a list of all markups for a particular drawing.

- Use the filter/sort functions to change the list view and narrow down the relevant markups to review.
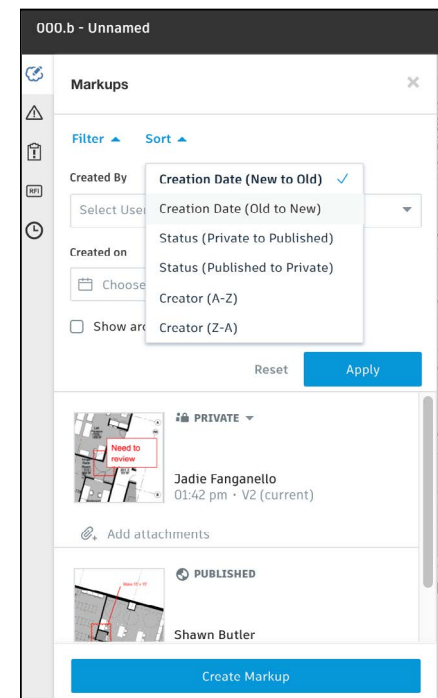
Adding Markups ▶



PRO TIP: In addition to creating markups, you can measure and calibrate distances as well as add hyperlinks in a 2D drawing or 3D model.

Measurements

Adding Hyperlinks

# 2D & 3D Viewing

Construction teams can now easily access thousands of 2D drawings without carrying around heavy sets of paper. When it comes to 3D viewing, teams have access to models anytime, anywhere, including all embedded rich metadata, without needing expertise in Revit or Autodesk® Navisworks® software. With an easy-to-use toolbar, the entire project team can gain visibility into design details and view both 2D and 3D models simultaneously.

## 1 Viewing 2D & 3D files

- Within the Document Management module, open the file you want to view. Note: Revit files can be viewed in both 2D and 3D formats, and PDFs can be viewed in 2D.

- View files from a desktop or via mobile in the field using the iOS or Android apps.

- Use the viewer toolbar to zoom, pan, add hyperlinks, measure, mark up, etc.

Viewer Toolbar ⌾
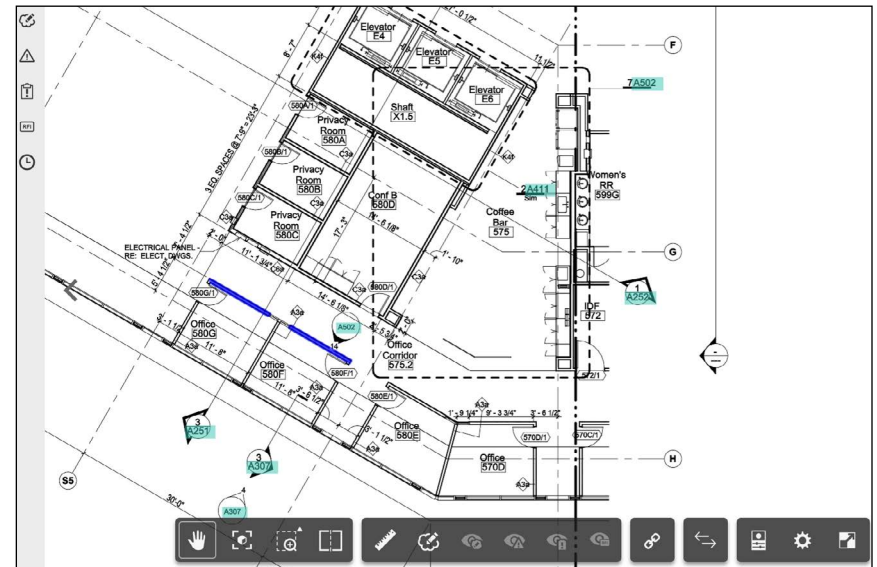
PRO TIP: You can change the settings by folder to improve viewing Project Files outside of BIM 360. You can also search for text within the document, download, and print from PDF's.

PDF Viewing ⌾

# 2D & 3D Viewing

## 2 Split screen views

- When viewing a Revit model or extracted sheet, you can click the "Split View" mode in the toolbar to see both views at the same time.

- Select an element in the 2D sheet to see it highlighted in the 3D model.

- See detailed properties of the item selected by clicking the "Properties" icon at the bottom of the 3D view panel.
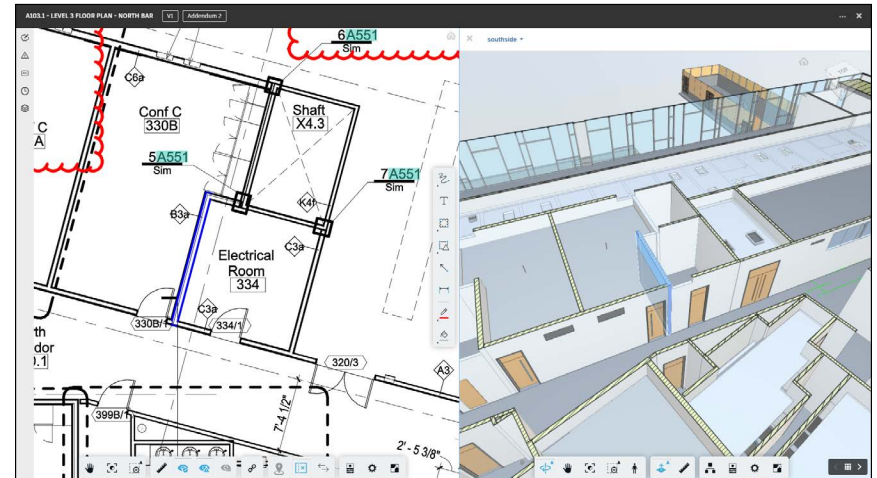


PRO TIP: In the 3D view panel you can select the drop-down list to see any other view that was published from the Revit model.

PRO TIP: Teams who are used to working in 2D drawings can now access rich model object data.

## 3 3D viewing orientations

- Click the "ViewCube" on the top of the 3D view panel.

- Choose from three view orientations:
  - **Orthographic.** shows the building model in a 3D view where all components are at the same depth.
  - **Perspective.** Orients the view to a perspective view that portrays height, width, and depth.
  - **Perspective with Ortho Faces.** Orients the view to a perspective view.

- To define a view as the home view, click the "ViewCube" and set it to "Current View as Home."

View Orientations

# Document Compare

Tracking multiple iterations of documents and visualizing edits from one version to the next can be time-consuming. With the document compare and version control features built into BIM 360, teams can ensure they are viewing the latest version and quickly compare one version to the next to gain insight into how changes impact scope, schedule, and budget. The ability to instantly conceptualize changes helps ensure teams are all on the same page, maximizing time and minimizing rework.

## 1 Compare 2D drawings

- Once you are viewing a drawing, click the "Compare" icon in the toolbar at the bottom.

- Use the version drop-down list to select the two versions you want to compare and click "Compare."

- By default, drawings are overlaid on top of one another with differences shown in blue and red.

- To compare side by side, click the "Overlay" icon, change the view to "Side-by-Side," and drag the slider bar to see difference.

**Compare 2D Drawings**
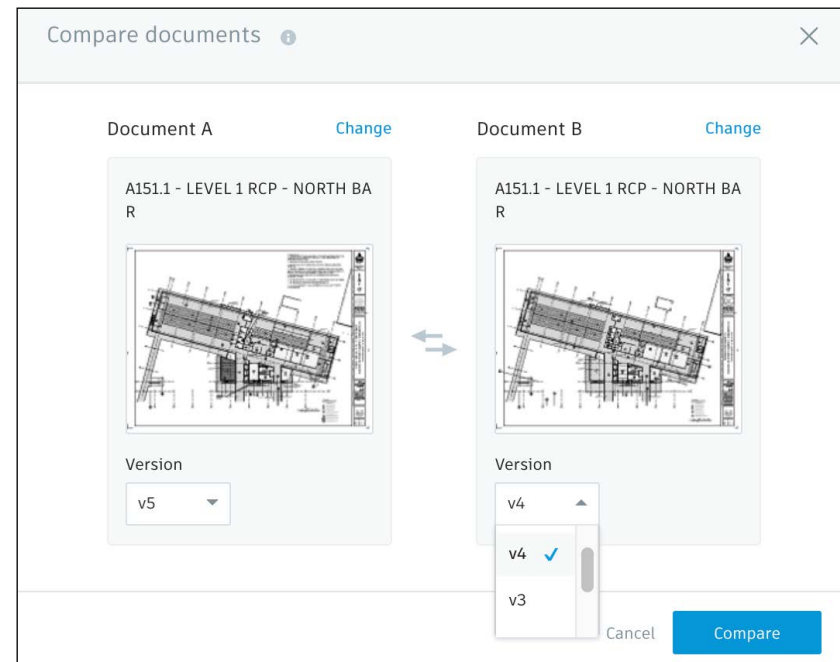


PRO TIP: With 2D compare, you can compare two versions of the same drawing or model or two entirely different drawings. For example, you could compare drawings from two different disciplines.

# Document Compare

## 2 | Compare Revit files–2D & 3D

- When comparing Revit files, you can view object-level information, like what has been added (green), removed (red), or modified (yellow).

- Turn on or off different filters to view specified changes.

- Select specific version changes to get more details behind the change.

Compare 3D Drawings
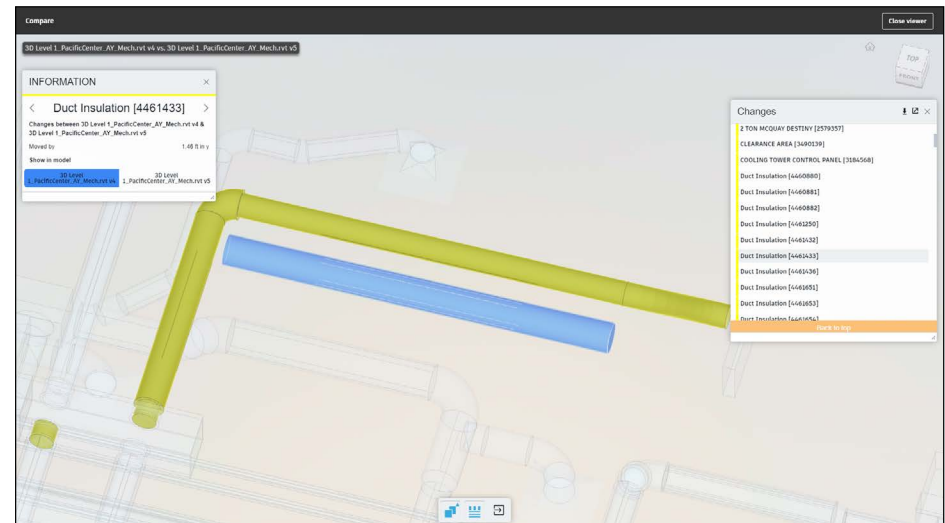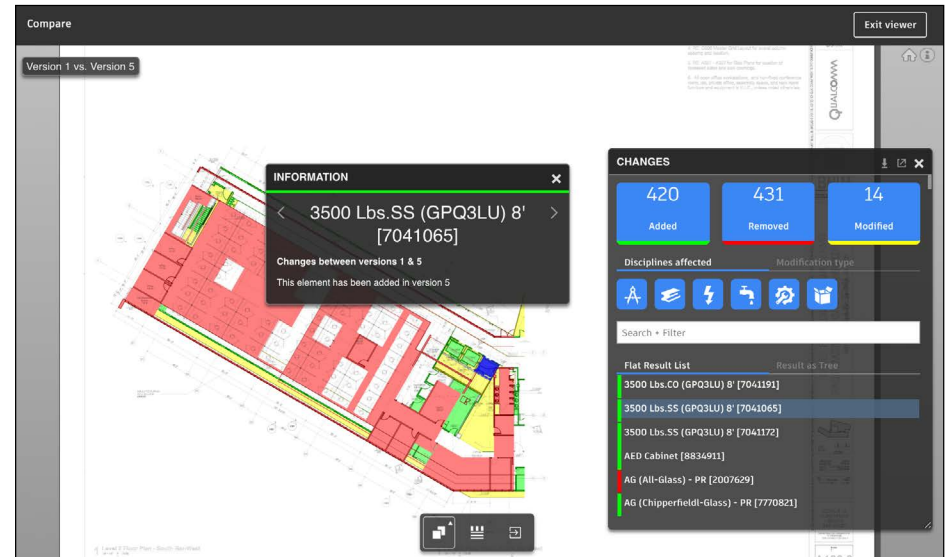
# RFI Management

Enhance your RFI workflow by automatically posting RFIs to 2D documents and 3D models. Create accountability by designating "roles" to keep the process moving. Initiate requests and manage reviews and approvals from any device. And by publishing and storing this information in a single cloud-based repository, you can maintain a full audit trail.

**1** Activate the Project Management module

- A project admin needs to activate the Project Management module.

- Click the module selector for Project Admin, select the Services tab, and click "Overview" in the left sidebar.

- In the Project Management row select "Activate" and designate at least one project admin.
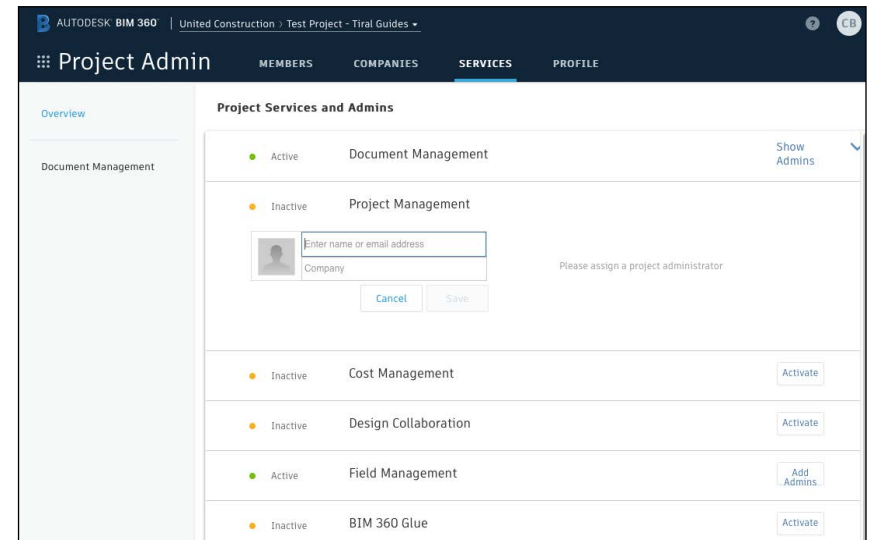
# RFI Management



## 2 Setting up the RFI workflow

- In the Project Admin module, select the Services tab.

- On the left sidebar, click "Project Management" then "RFIs."

- Click "Change Workflow" to select an RFI workflow. The workflow determines the RFI actions for individual project users.

- Click the drop-down list to assign user/role/company for each workflow role in order to start using RFIs.
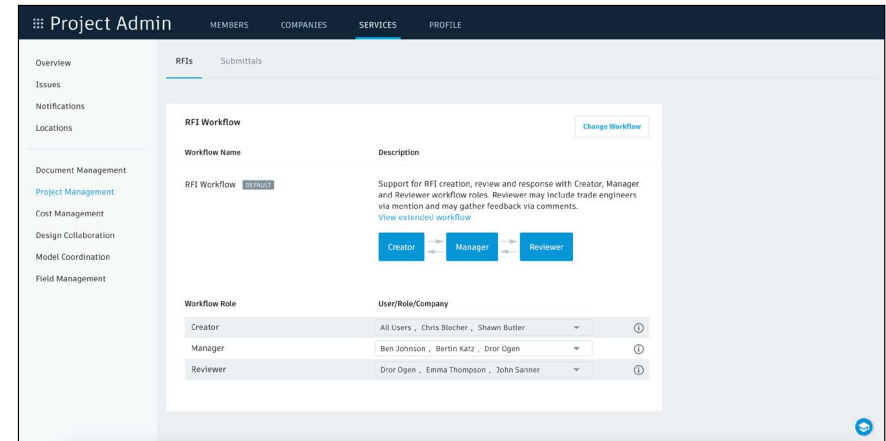
Set Up the RFI Workflow ▶

## 3 Creating RFIs associated with a document or model

- In the Document Management module, click to open a 2D document or 3D model.

- In the RFI panel, select "Create RFI." Click where you want to place the RFI and an RFI pushpin will appear.

- Enter a title and complete all necessary fields. By default, the RFI status will be set to Draft. When ready to assign, set to Open.

- Note: Any members selected as a co-reviewer can add comments, markups, and attachments. Those chosen for the distribution list will be aware of the RFI but are not expected to comment.
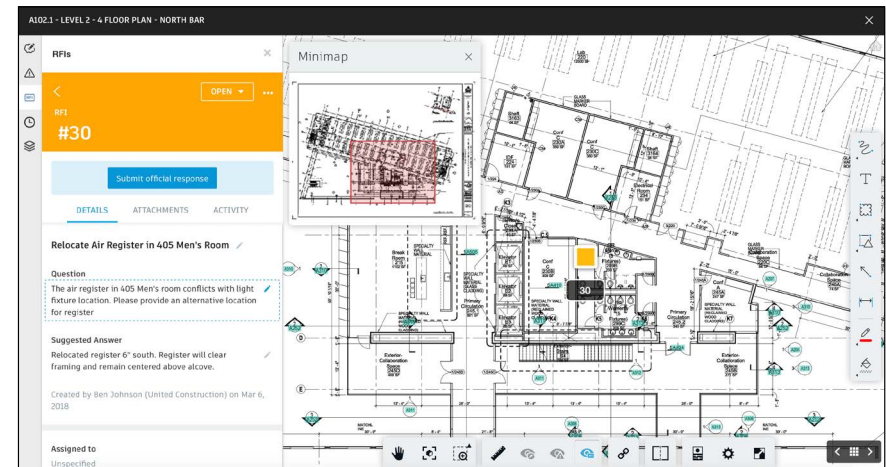
Creating RFIs ▶

# RFI Management

## 4 Creating project-level RFIs

- Project-level RFIs are RFIs not associated with a document or model.

- In the Project Management module, select the RFIs tab and click "Create RFI."

- Once the "Add New RFI" box opens, enter a title and complete all necessary fields. By default, the RFI status will be set to Draft. When ready to assign, set to Open.

- RFI's will generate automatic numbering or can be given custom numbers to match an exisiting numbering system.

- Note: A member selected as a co-reviewer can add comments, markups, and attachments. Those chosen for the distribution list will be aware of the RFI but are not expected to comment.

PRO TIP: You can create a project-level RFI and then associate it to a document or model by using the "Linked Documents" option.

## 5 View/edit/submit RFIs

- View all project-level RFIs in the RFIs tab. Click to open the RFI and use the pencil icon to edit any necessary fields.

- For document or model-based RFIs, under "Details" click the document hyperlinks to open the associated document. Or when viewing a document or model use the RFI panel to navigate to the RFIs.

# RFI Management

## 6   Review & respond to RFIs

- Depending on where you are in the RFI workflow, the relevant assignee will receive an email notification.

- Open the email and select "View the RFI." You will be directed to the RFI and associated documents.

- The reviewer can add additional co-reviewers, comment, attach documents, and submit the official response.

- You can also review and respond to RFIs using the RFIs tab within the Project Management module.

- The RFI manager will review the response and set it to closed.

  PRO TIP: Project Admins have permission to add a response to an RFI on behalf of a Reviewer. In the activity log, the action will reflect that the Admin "acted on behalf" of the assigned Reviewer.
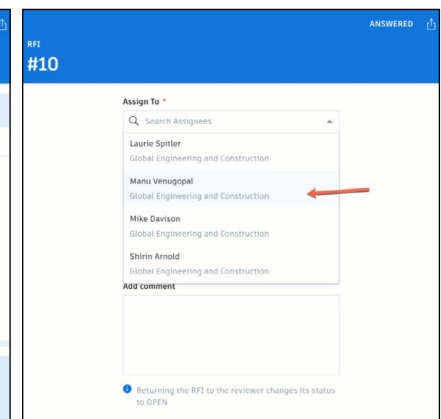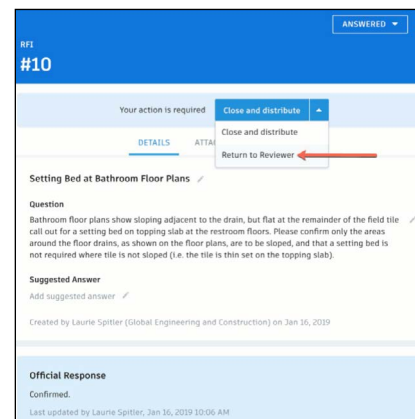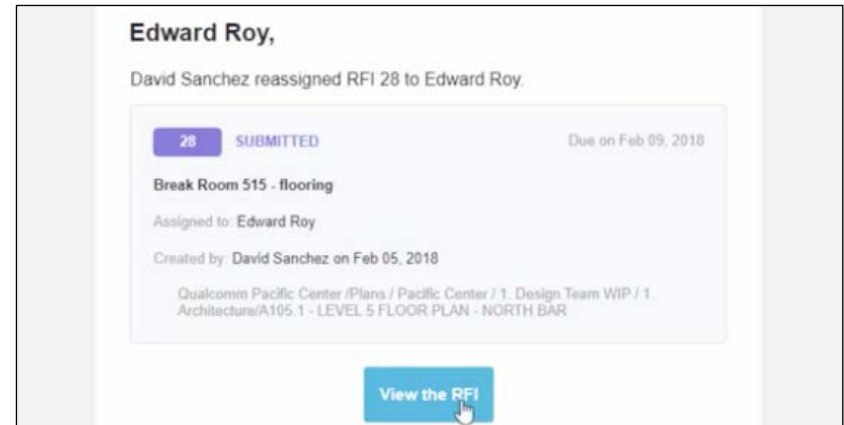
## 7   Re-open answered RFI

- Re-open RFI is intended as an administrative override to revert an RFI to the Reviewer's court if the answer is incomplete in some way. It is not intended to act as a revision process.

- When an RFI Manager receives a response that is incomplete, they have the option to Return to Reviewer. Use the drop down to select "Return to Reviewer."

- Select who to assign the RFI to. The Reviewer will see the RFI back in their court, and will be able to view the previous official response and select "submit official response" to send a new response to the Manager.
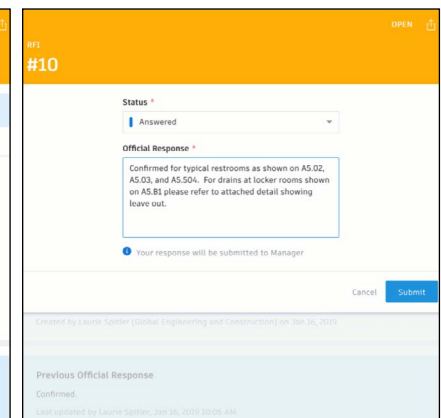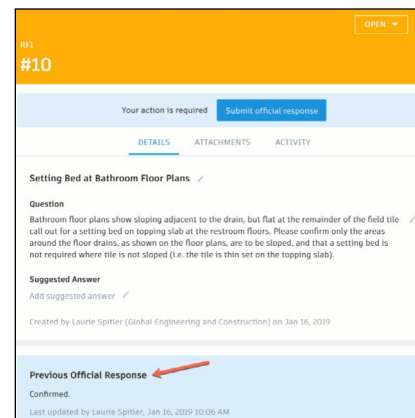
# RFI Management

## 8   Filter / sort / search

- On a mobile device, tap "RFI" then use the filter option to filter by status, assignee, or due date.

- On a computer select the Project Management module then the RFIs tab to filter with the drop-down lists or sort by clicking the column headers.

- Use the search bar to search for keywords within an RFI title or question field

- You can also filter and sort directly from a document or model-based RFI via the RFI panel.
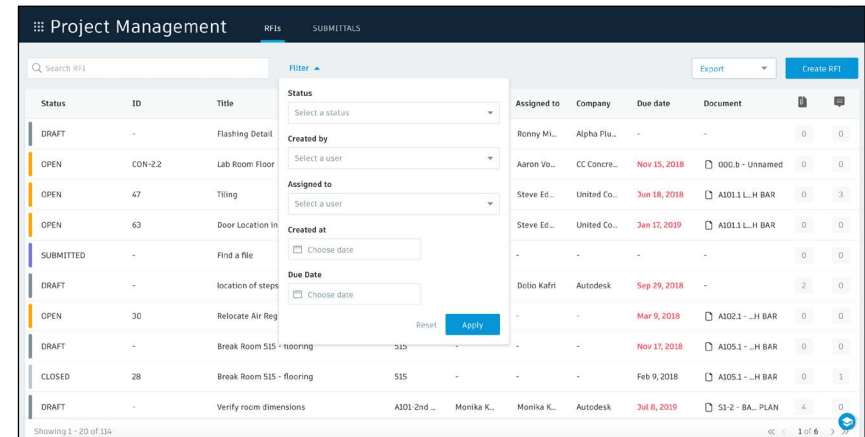


## 9   Exporting reports

- On a computer select the Project Management module then the RFIs tab.

- To export a summary report of all RFIs click the "Export" drop down list. You can optionally edit the report title and add a message. Select "Create Report" and the report will be emailed to you.

- To export a detail report of an individual RFI select  to open the RFI. Then click the folder icon in the top right corner. The report will be emailed to you.

- You can also export directly from a document or model-based RFI via the RFI panel.
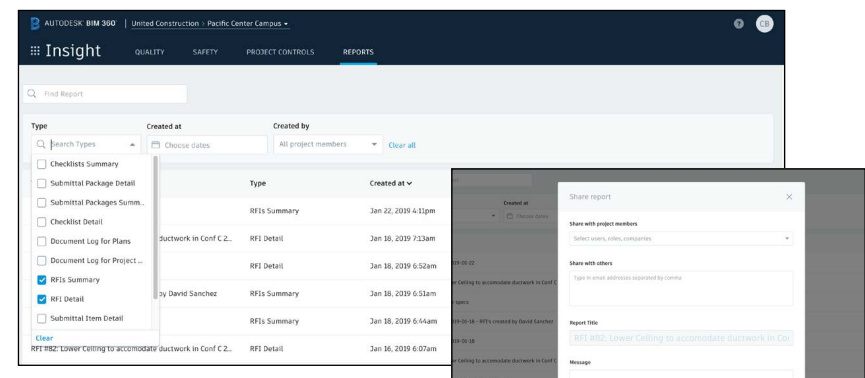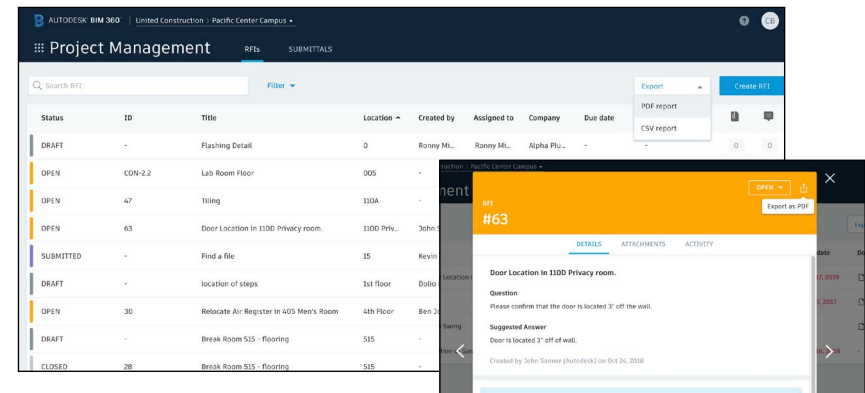
PRO TIP: Use the reports tab in the Insight module to access all exported summary and detailed RFI reports. You can filter the reports by type, creation date, and creator in order to quickly find the report you need. You can download the report or share it with team members by clicking the three dot icon.

# Submittal Management

Submittals are an essential part of any construction project, and effectively organizing and managing your submittals is vital. With the Submittal workflow, you can efficiently create, coordinate, and manage all submittals in a single document library anytime. Initiate requests, manage reviews and approvals, and sync critical information to mobile devices for offline use.

## 1 Identifying submittal manager

- To identify a submittal manager the Project Management module needs to be activated.

- In the Project Admin module, select the Services tab.

- On the left sidebar, click "Project Management" then "Submittals."

- Enter member, company, or role to act as manager.

**Add a Submittal Manager** ▶
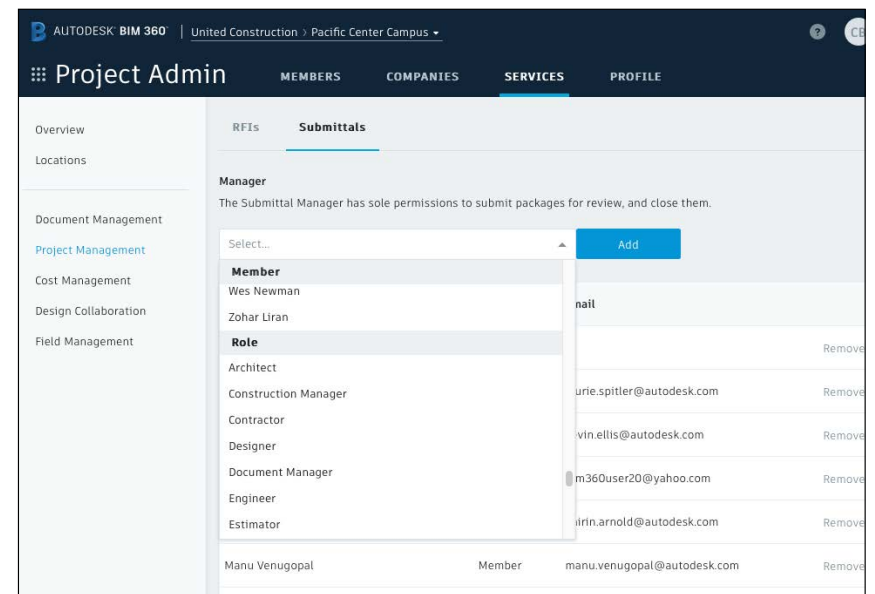
# Submittal Management

## 2 Creating submittal items
(submittal manager)

- In the Project Management module, select the Submittals tab.

- You can import submittal items using the import button or select "Create new item."

- Enter all necessary information, including:
    - **Spec Section:** Select a spec section or create a new one. For example, furnishings, equipment, finishes.
    - **Title:** Enter a descriptive title to identify the item.
    - **Type:** Select a type, for example, samples or product data.
    - **Assign to Responsible Contractor:** Select the responsible subcontractor.

Creating Submittal Items ▶        Importing Submittal Items ▶

## 3 Creating submittal packages
(submittal manager)

- You can create a submittal package from an open submittal item or in the "Submittals" tab under "Packages."

- Select "Create new package." Complete the required fields and select one or more reviewers (architect) and co-reviewers/distribution list (engineers, consultants, stakeholders, etc.).

Creating Submittal Packages ▶

# Submittal Management

### 4  Adding submittal items to package
(submittal manager)

- In the Submittals tab under Item, select a submittal then "Add to package."

- Select an existing package or choose "Create submittal package" to create a new package.
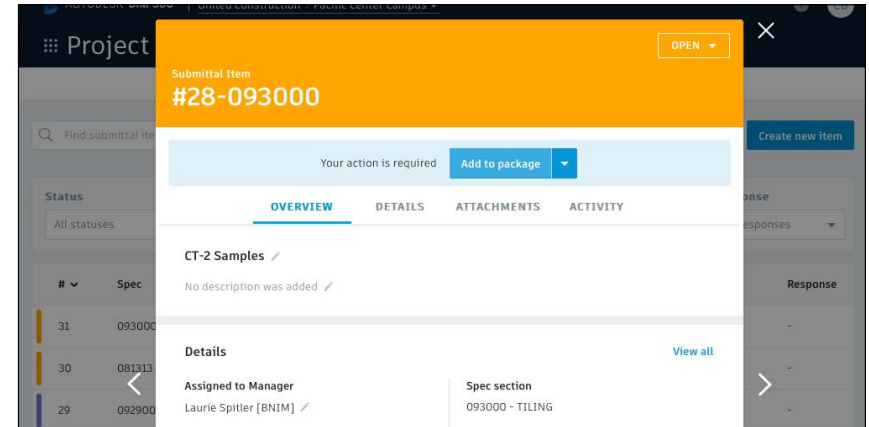


### 5  Creating spec sections
(Submittal manager)

- In the Submittals tab, select "Spec Section" then "Create spec section."

- Enter the spec number and title, then click "Create."

- Note, you can create a spec section when entering a new submittal item by clicking "Create New" above the "Spec Section" drop-down list.
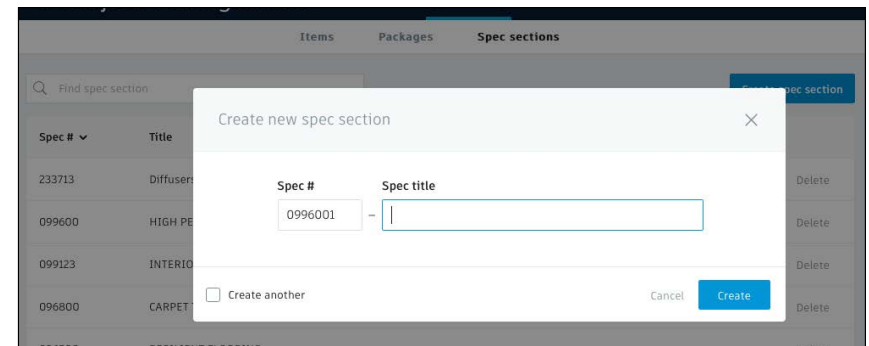


### 6  Submitting packages for review
(submittal manager)

- Open the package you want to submit and select "Submit to Reviewer."

- Select the reviewer, add co-reviewers, due date and notes if needed.
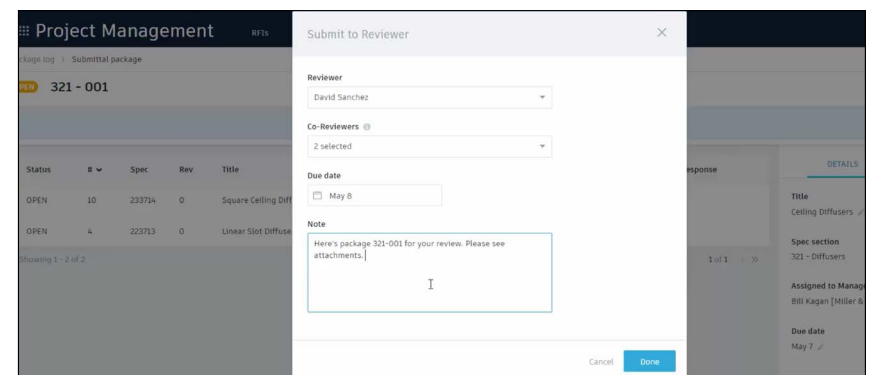
# Submittal Management

## 7 Reviewing submittal items
(reviewer)

- Click to open the item(s) for review within "Attachments."

- Designate office response using the drop-down list next to "Your response is required."

- Upload any official response attachments and submit back to the manager.

PRO TIP: Project Admins have permission to act on behalf of Reviewers in the Submittal module. Allowing Project Admins to enter responses on behalf of reviewers provides project teams with flexibility of process while allowing the correct reviewer to be displayed in the Reviewer field and in reports.  Note that the activity log will identify that the Project Admin logged the response.
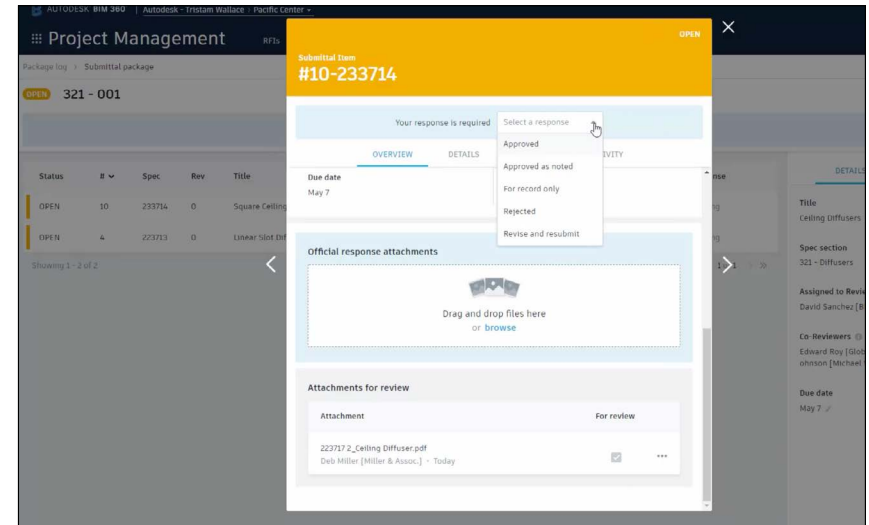


## 8 Creating a revision package
(submittal manager)

- If a reviewer responds to a submittal item with "Revise and Resubmit" or "Rejected," the manager needs to create a revision.

- Open the submittal package and select "Create new revision."

- Include the responsible contractor, due date, and notes.

- Note: Creating a new revision will only affect items with responses of "Revise & Resubmit" and "Rejected." All other items will be closed.
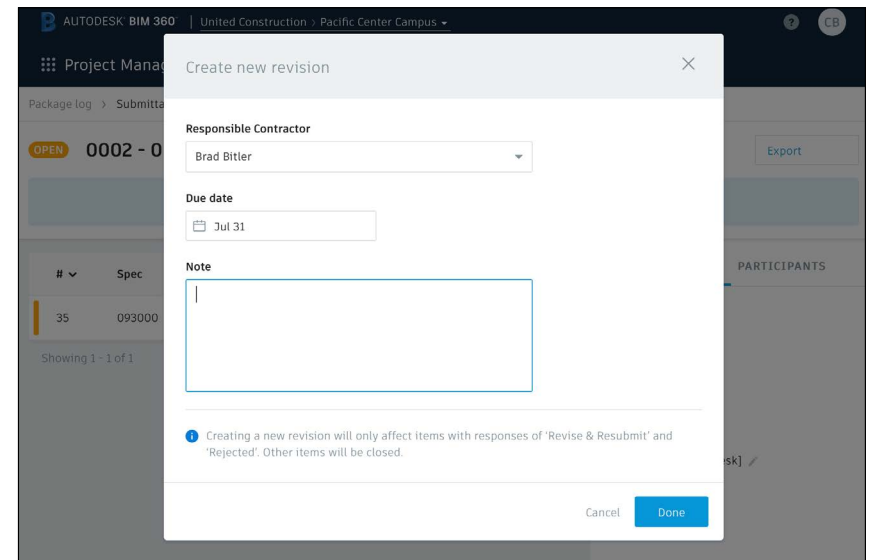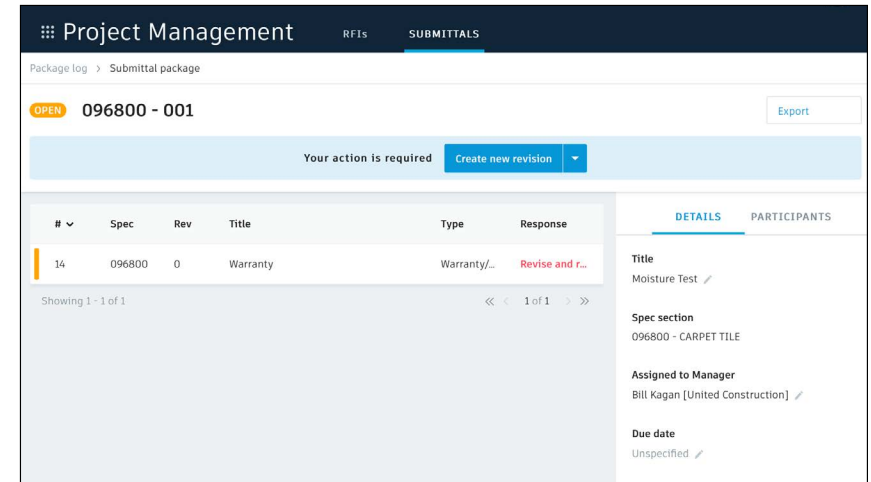
# Submittal Management

### 9 Responding to a revision package
(responsible contractor)

- The contractor will be notified of the revision.

- Open the submittal, item and in "Attachments" upload the revised documents.

- Once attached, the document will appear with the "For review" box checked.

- Close and select "Submit to Manager."

- The manager can now send the revised item(s) to the reviewer.
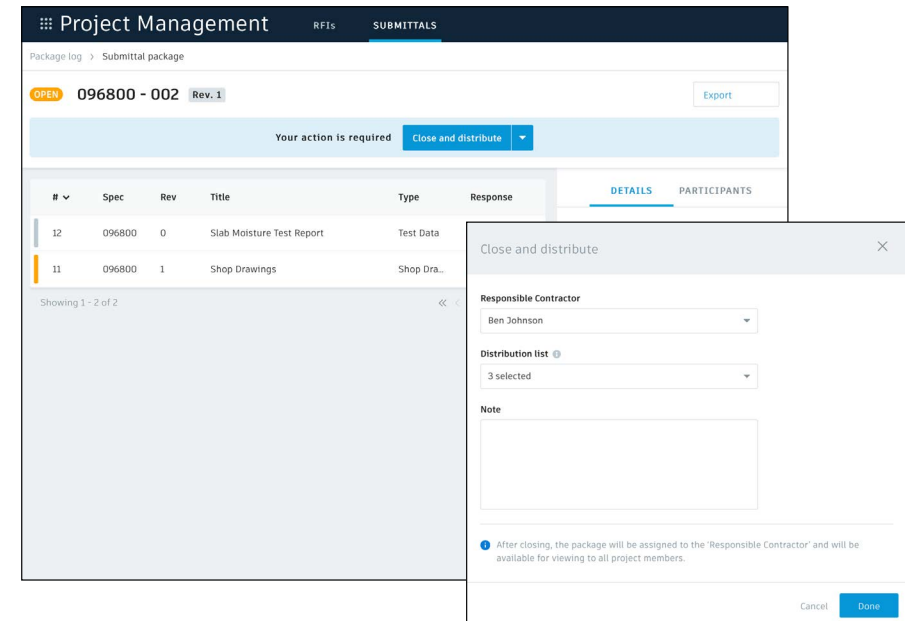


### 10 Closing submittal packages
(submittal manager)

- Once the package is approved by the reviewer, the submittal manager needs to close it and distribute it to the responsible contractor.

- In the Submittals tab under "Packages," open the package and select "Close and Distribute."

- Include the responsible contractor and in the distribution list identify team members who should be aware of the closed submittal package.

# Submittal Management

## 11 Filter and sort

- You can filter and sort in the Submittals tab.

- Select either "Items," "Packages," or "Spec Section."

- To filter "Items" and "Packages," use the drop-down lists associated with each criteria. For "Spec Section" you can't filter but you can search using the search field.

- To sort, select the column headers.
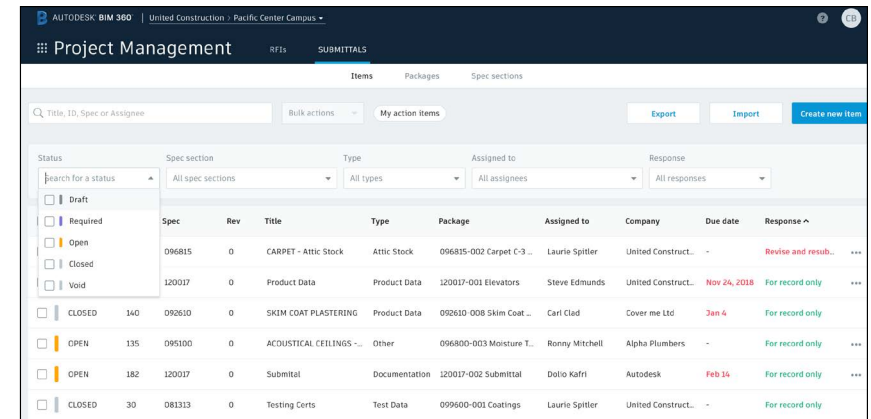


## 12 Exporting reports

- To export a summary report of all Submittal packages click the packages tab then "Export." The report will be emailed to you.

- To export a detail report of an individual submittal package select to open the package then click "Export". The report will be emailed to you.
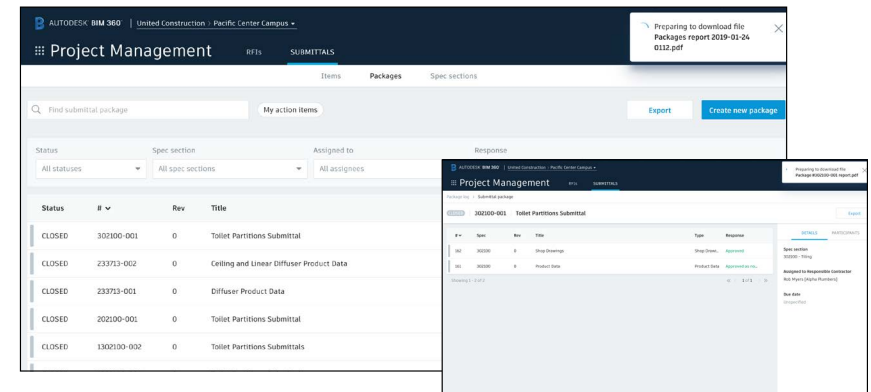
PRO TIP: Use the reports tab in the Insight module to access all exported summary and detailed submittal reports. You can filter the reports by type, creation date, and creator in order to quickly find the report you need. You can download the report or share it with team members by clicking the three dot icon.
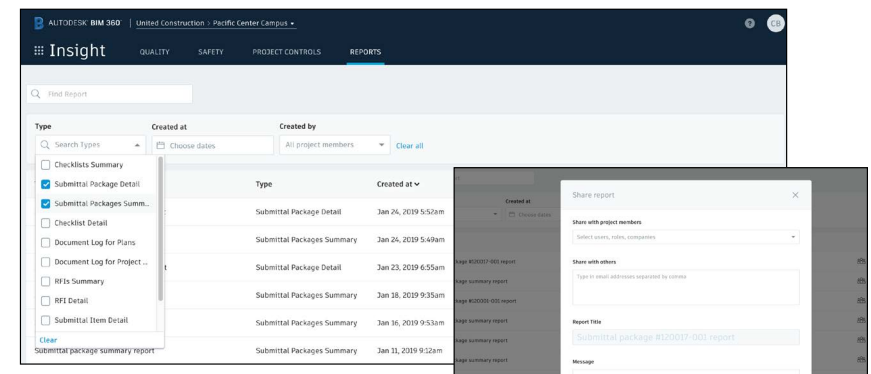
# Prediction & Analytics Capabilities

# Prediction & Analytics

At its core, BIM 360 is built to help construction teams better visualize and take daily action to minimize project risk. Whether it is risk associated with safety, quality, or project controls, BIM 360 allows teams to streamline workflows to improve project outcomes.

The prediction and analytics ecosystem enhances the BIM 360 platform with a deeper understanding of project performance, prioritized daily activities, and instant visibility into project risk, giving teams the information they need to avoid costly mistakes and further improve risk mitigation.

## 1 Project Home

- Project members can see a snapshot of a real-time "to do" list as well as leverage risk prediction assistance through the Project Home module.

- Dashboard cards can be personalized depending on your project role by selecting "Customize" on the top left and clicking on the "Card Library."

- Click any of the links to drill down and get more information on a specific item and take immediate action.

- Use the expand arrows to open the card to full screen to see more information.

PRO TIP: Interact with your projects plans or models through the Project Design card. This card allows you to markup or create and view issues from directly inside the card view and it integrates back to the original file in Document Management.
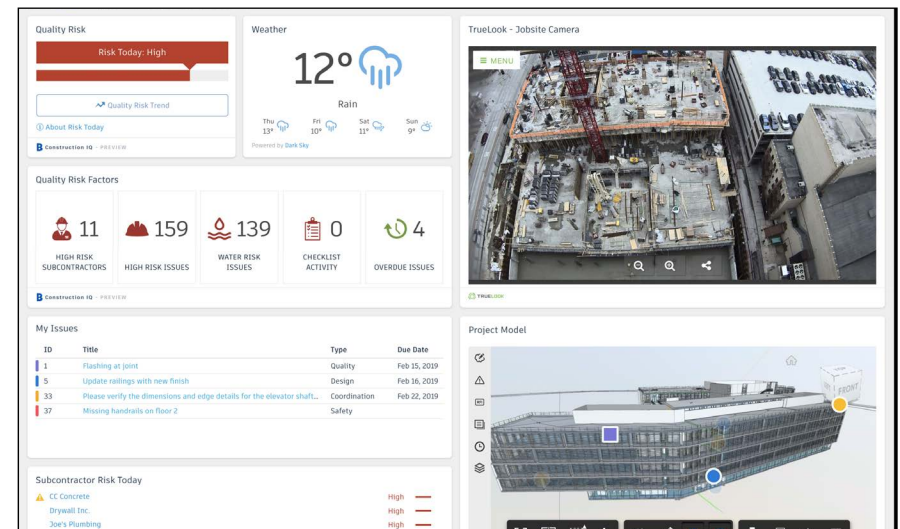
Project Home Overview

Project Home Blog Post

# Prediction & Analytics

## 2   Card Library & Partner Cards

- The Card Library gives users the ability to show information that is personalized for them.

- Click on the "Customize" icon on the top left to see a view of the Card Library.

- Filter, view, and select cards to be added to your dashboard.

  - Filter by Partner Cards to add data from any of the selected integration partners filter for a single view of all project information.

  - To view and add Construction IQ specific cards filter by Construction IQ.
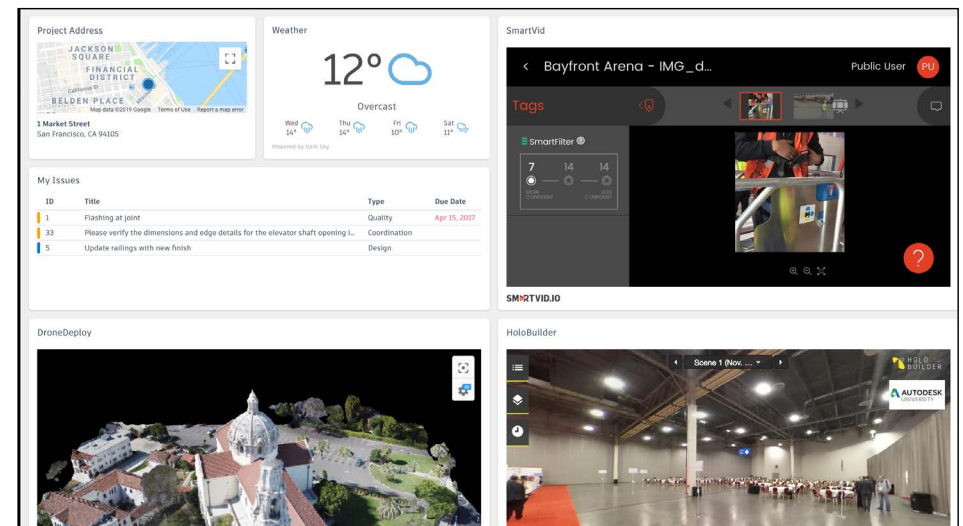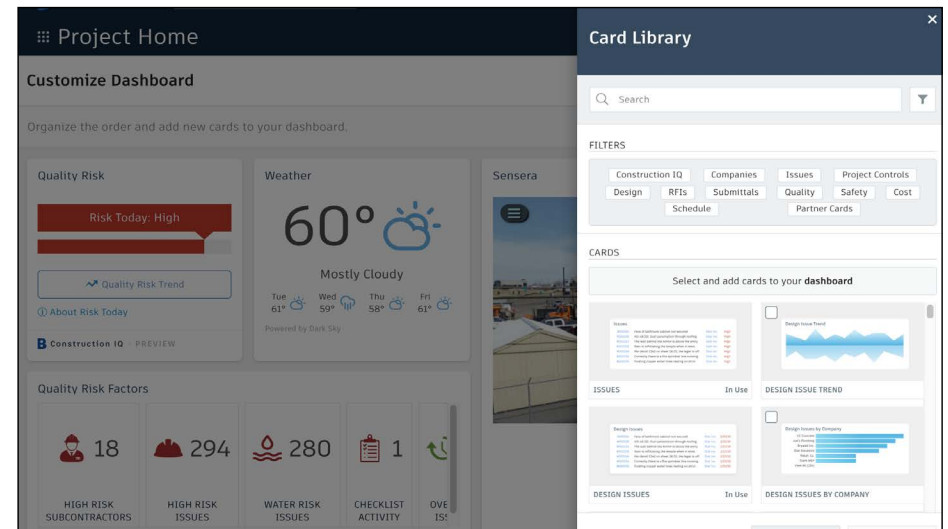




Partner Cards

# Prediction & Analytics

## 3 Quality Analytics

- BIM 360 helps predict quality related issues by visualizing high risk areas through Construction IQ and providing visibility to project data.

- Quality data is visualized on the Quality tab within the Insight module as well as through select cards in the Card Library in Project Home.

- The Risk Tab in the Insight module shows a summary of subcontractors who have the highest risk based on outstanding issues, a list of high risk issues, water related risk issues, checklist activity, and overdue Issues.

- Click on each of these quality risk factors to drill down and get more detail.

**Insights Setup**

**Insight Blog**
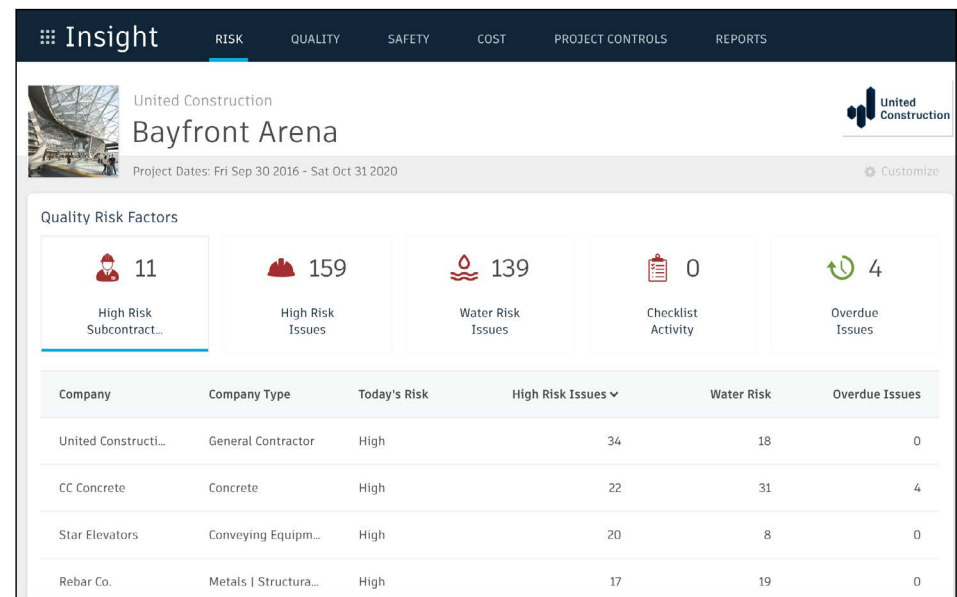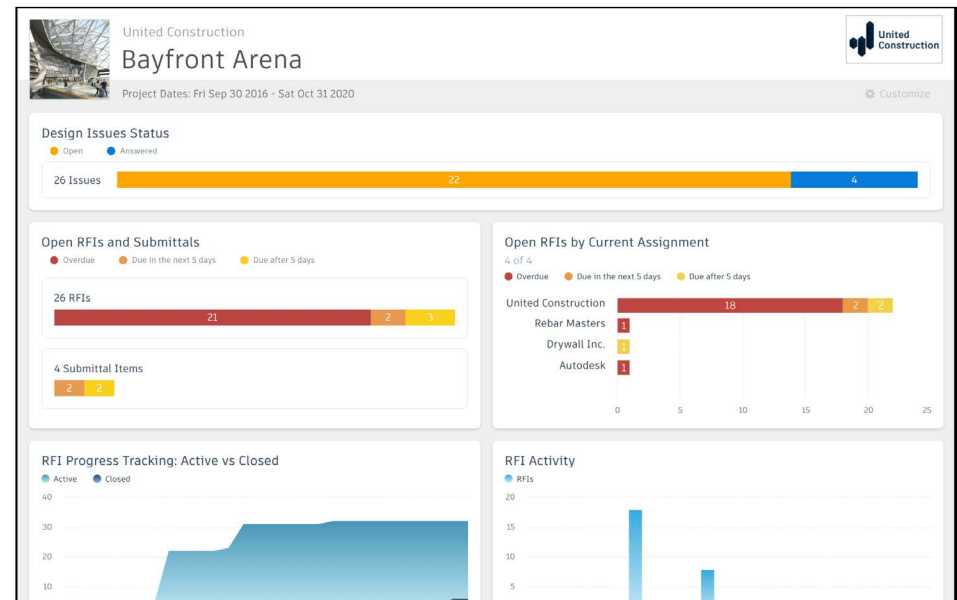
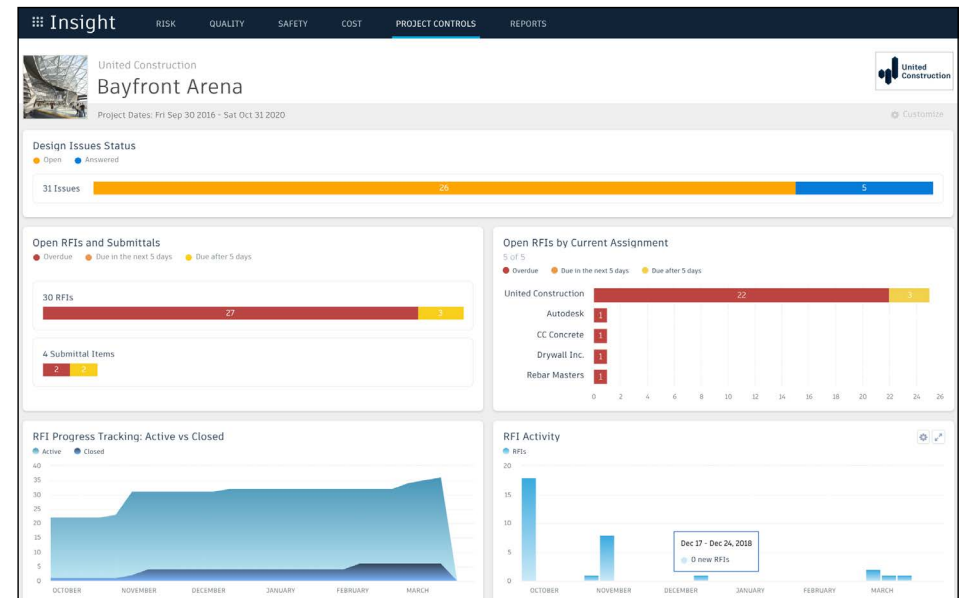# Prediction & Analytics

## 4  Safety Analytics

- BIM 360 tracks safety related data like near misses and at-risk behaviors through logged Issues, RFIs, Checklist items, etc.

- Construction IQ analyzes this data as leading indicators and helps predict safety issues before they become serious incidents.

- Data is visualized on the Safety tab within the Insight module as well as through select cards in the Card Library in Project Home.

- Integration Partner Cards also show safety related data insights through site cameras or their own AI based technology.

- Highlighted Safety Cards:
    - **Houskeeping Issues** - many safety incidents can be avoided by keeping a clean jobsite.
    - **Fatal Four Safety Issues** - 60% of all construction deaths are due to one of these four issues; fall, caught between, electrocution, struck by. See jobsite Issues that fall into these categories.
    - **Subcontractor Safety Risk** - highlights subcontractors that have issues relating to the "fatal four."
    - **Subcontractor Risk Summary** - shows subcontractors with the highest risk and drill down to see what those Issues are.
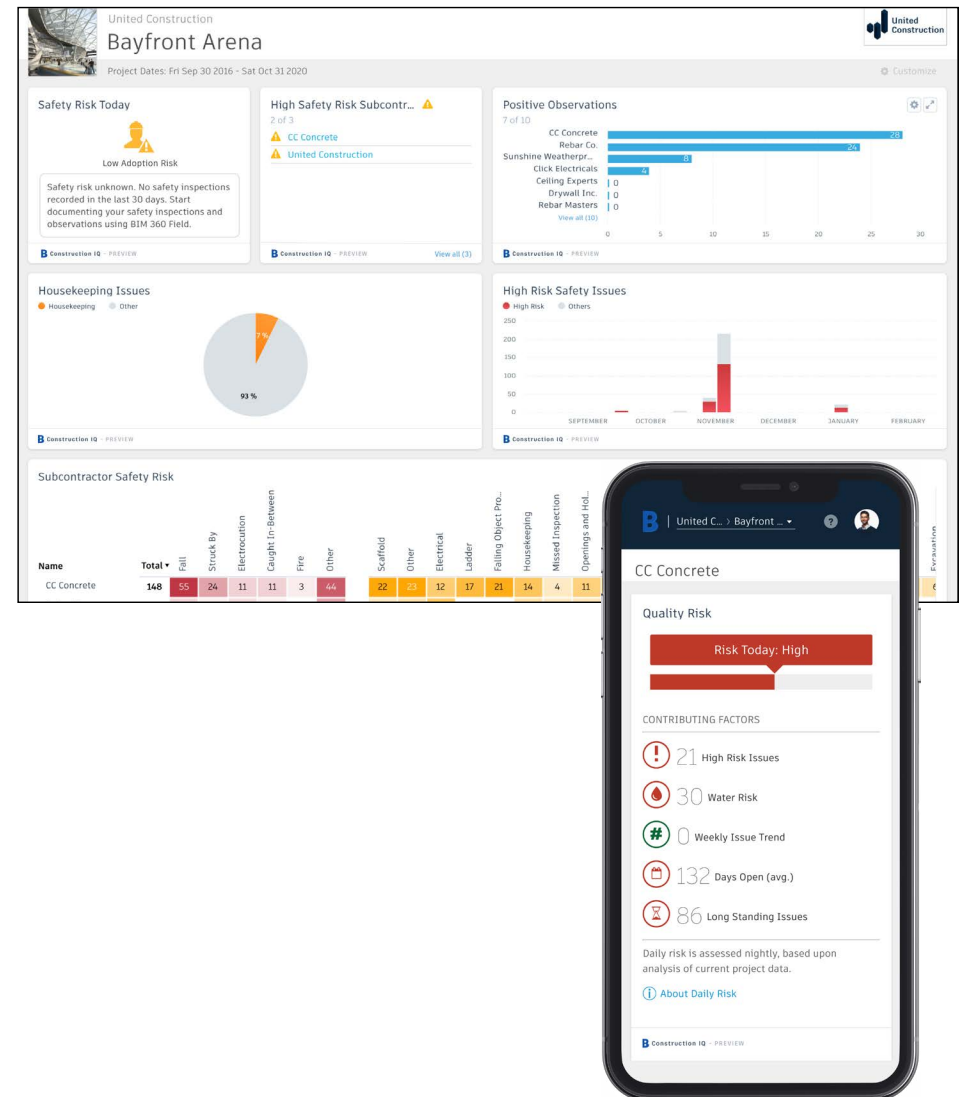
# Prediction & Analytics

## 5 | Project Controls Analytics

- The Project Controls tab in the Insight module gives visibility into managing a projects RFIs and Submittals as well as oversight of any Design Issues.

- **Highlighted Project Control Cards:**
  - **Open RFIs and Submittals -** gives a summary of the number of overdue as well as upcoming RFIs and Submittals.
  - **Open RFIs by Current Assignment** - shows a list of subcontractors and how many overdue and upcoming RFIs they have.
  - **Design Issues** - shows a summary of open Issues that are design related as well as the number of answered Issues.

- Click on each of these cards to drill down and get more detail.

# Prediction & Analytics

## 6 Reporting

- The Report tab within the Insight module shows an aggregated list of generated reports related to Issues, Checklists, Documents, Submittals, and RFIs.

- Filter reports based on type, date, or creator.

- Download or share reports with other team members.

- Create and schedule reports based on your filter criteria.

## 7 Construction IQ

- Construction IQ is a built-in machine learning and AI functionality that leverages data across the entire BIM 360 platform.

- Construction IQ sifts through millions of data points from your construction documents, issues, checklists, related meta-data and historical data, and analyzes it to identify and prioritize risks.

- Construction IQ automatically classifies items and flag issues as "High Risk."

- "High Risk" issues are items that if left open, will likely lead to bigger more costly issues down the road.
  - EXAMPLE: if flashing was marked as missing on a window, the Issue would be flagged as "High Risk" to avoid bigger water leaking Issues.

- View Construction IQ data through the "Risk" tab within the Insight module as well as by selecting cards tagged as "Construction IQ" in the Card Library.
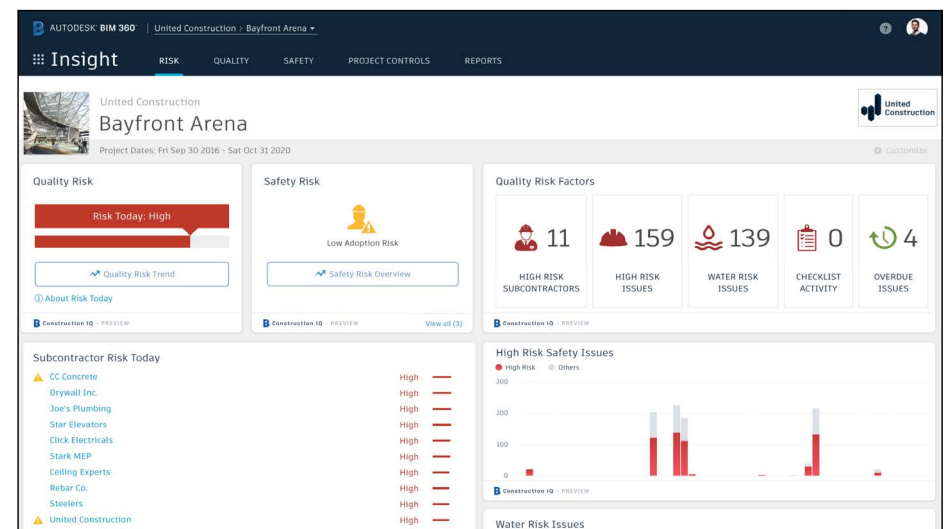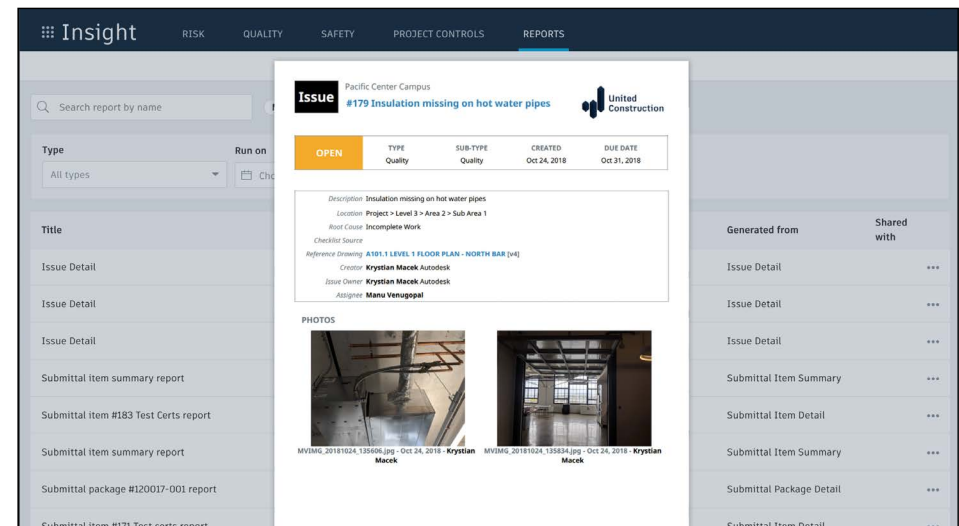




About Construction IQ

Prediction & Analytics Blog

# Prediction & Analytics

## 8   Executive Insight

- With the ability to view company-wide performance data across multiple project, executives and cross-project leaders can make more informed business decisions and gain visibility into overall risk assessment for current as well as future projects.

- Invite users with "executive overview" permission to access this view. This is a separate Insight view geared towards Executives and cross project leaders only.

- **View cross project health across tabs:**
  - **Risk** - shows projects with higher risk scores based on project data and Construction IQ capabilities.
  - **Quality** - overview of quality related checklist activity and conformance.
  - **Safety** - overview by project of safety related issues.

PRO TIP: Through the Risk tab in the Insight module, executives can get instant visibility into which projects have the highest risk levels each day. Assess the project risk overtime to see which projects remained in a "high risk" category over longer periods to determine which projects need executive level support.
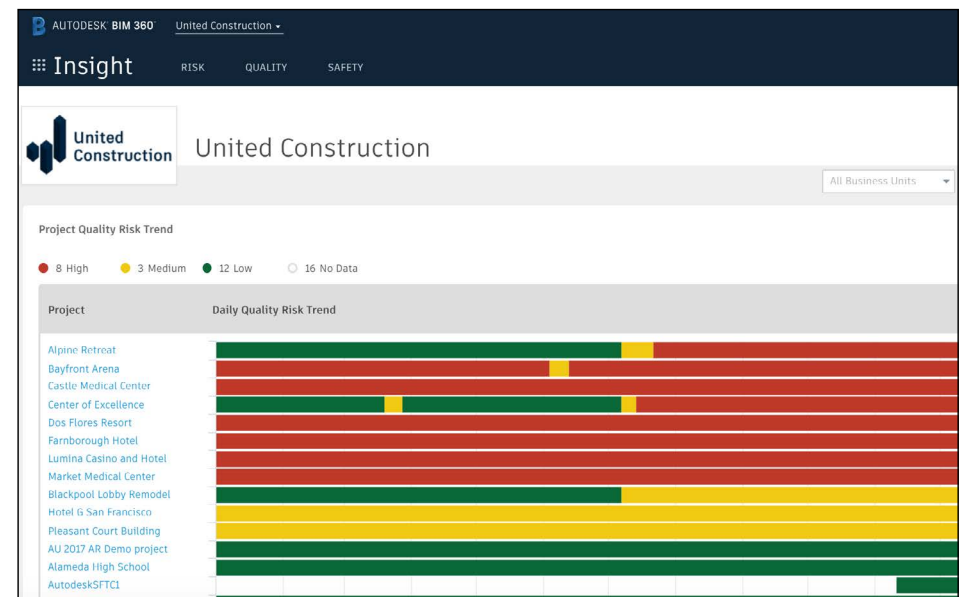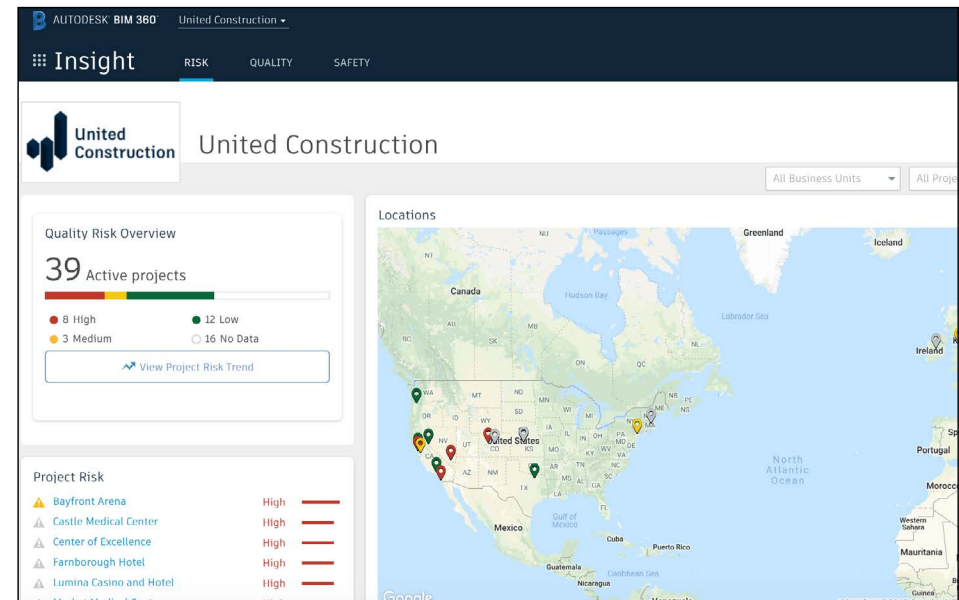
# Additional Capabilities

# Account Admin

With the project administration tools in BIM 360, you can rest assured that your project information is in the right hands. Project admins can easily invite team members to the project and define their access levels on a project-by-project basis with a simple click. BIM 360 has two levels of administration to ensure security and control across your projects: Account admins and project admins. Only account admins can create new projects and assign additional account admins and project admins.  Project admins can add and remove members, set permissions, and adjust project details.

## 1 | Create a project

- In the Account Admin module, select the Projects tab and click "Add."

- Enter project information and click "Save & Continue."

Getting Started Guide 💡     Create a Project 💡



Create Project Profile
Step 1 of 2

* Project Name
Oakwood Medical
Project name is valid.

* Project Type
Hospital

Construction Type
New Construction

* Project Value
87000000    USD
Project value is valid.

Project Image
Select image to upload
JPEG, GIF, PNG, or BMP file
(4MB max)
Browse

Project Address
560 Dockside Avenue
Address Line 2
Boston    Postal Code
Massachusetts

# Account Admin

## 2 | Activating modules

- Click "Activate" for the desired BIM 360 service.

- Assign a project admin for each service. You can add multiple admins.

- (Optional) For Document Management and Field you can copy existing project settings.

- An email invitation will be sent to the assigned project admin(s). They will need to click the link to join the project.

- Click "Finish."



PRO TIP: You have to activate Document Management first, before you can activate other next-gen services.

## 3 | Add members to directory

- In the Account Admin module select the Members tab and click "Add."

- To add an individual member, select "Add People to the Member Directory."

- To add an account admin, select "Invite Account Admins."

- To import members from a list, select "Import Members by Spreadsheet." For a first-time import, download and complete the member list template.



PRO TIP: You can change the default company and role later if necessary.

# Account Admin

**4** Adding members to a project & assigning access levels

- In the Project Admin module, select the Members tab.

- Click "Add" and use the search bar to search the member directory.

- When you find the member, select them and click "Select."

- Add their company and role. Note: Role determines their access level to all BIM 360 services.

- Click the icon(s) to overwrite the access level granted by their project role.

- Click "Add to Project."

- Update existing access levels by clicking the grayed out icon(s).



Members & Access Levels    Setup Roles

PRO TIP: You can choose from a list of preset roles or create your own custom roles as well as configure the permission and access levels by each role.

# Mobile Access

Construction doesn't happen behind a desk. Teams need access to project documents and project management tools anytime, anywhere. With the BIM 360 mobile app, teams can execute construction quality and safety workflows, including creating or editing checklists, viewing RFIs, adding or tracking issues, and managing or creating drawing markups, directly from an Android or iOS device.
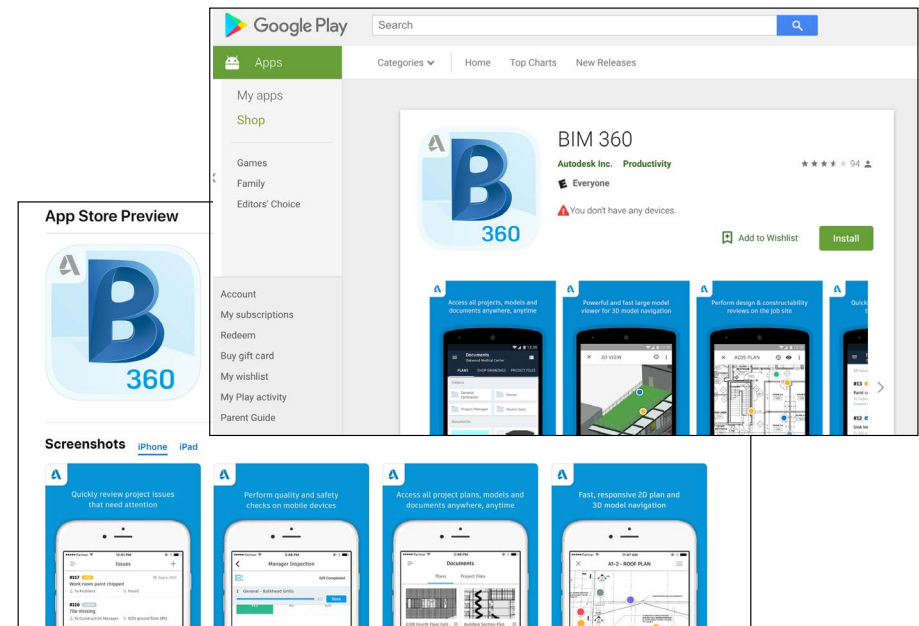
## 1 Download the BIM 360 app

- Go to the App store or Google Play store on your mobile device to download the BIM 360 app.

- The BIM 360 mobile app works with all other modules, including Document Management.

Get the iOS App

Get the Android App

PRO TIP: Stay up to date on mobile capabilities through the Autodesk Knowledge Network.

# Mobile Access

## 2 Mobile workflows

- Several workflow capabilities can be accomplished using the BIM 360 mobile apps, including Checklists, Issue Management, RFI Tracking, Daily Logs, and Markups.

- To see the differences in workflow capabilities for the BIM 360 and BIM 360 Docs apps, click the "BIM 360 Mobile Capabilities" link below.
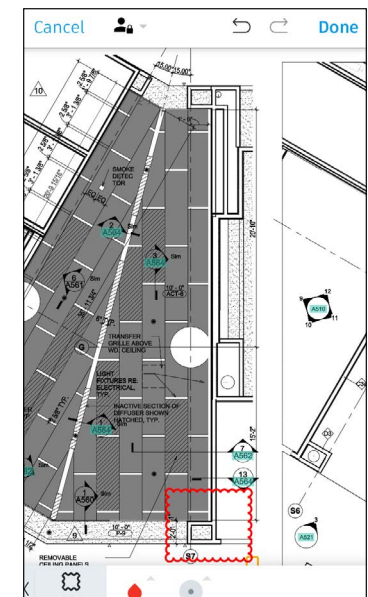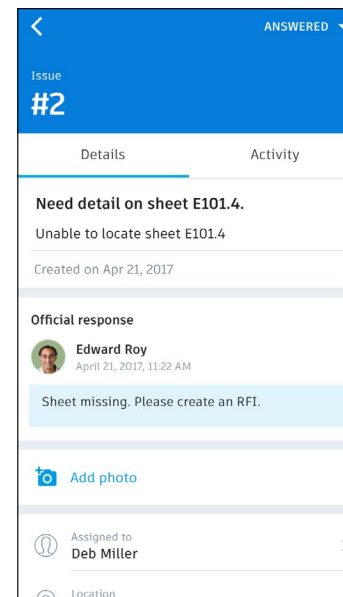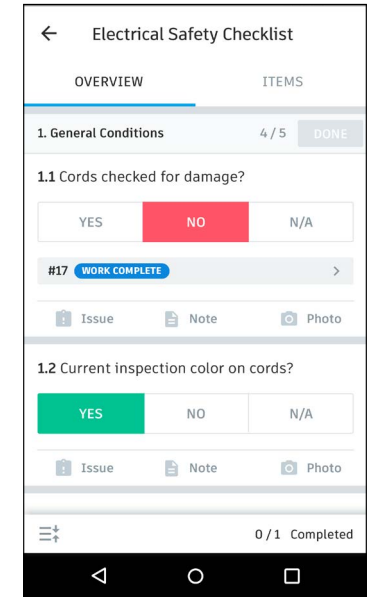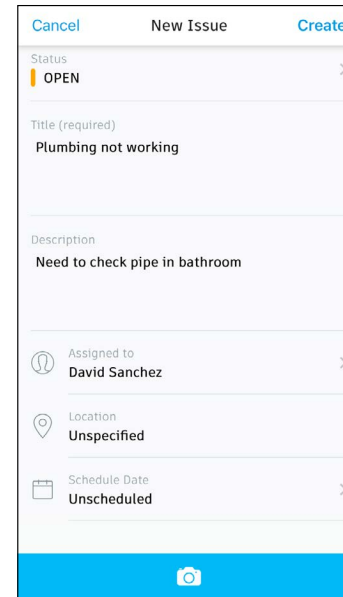
BIM 360 Mobile Capabilities

About the iOS App

About the Android App

## 3 Offline sync

- Teams are able to work on-site without Internet access.

- Teams can also download individual documents and add markups and comments when working offline. Once back online, all changes will be synced back to the cloud.

# Integration Partners

Get the most out of construction technology by integrating the software you already use with BIM 360. Built on an open and secure API platform, BIM 360 enables users to easily integrate with various other construction softwares, including drone technology, estimating and bid management, as well as safety management tools.

| | |
|---|---|
| Reality Capture | Cost Management |
| Estimating | Construction Management |
| Takeoff | Design Checking |
| Field Management | Layout |
| Bid Management | Scheduling |
| Accounting | Data Transfer |

Learn More

3DR  SIGMA ESTIMATES  eSUB construction software

Pype  SMARTBID

EGNYTE  hsbcad  STRATUS

SITEAWARE  assemble

ManufactOn  triax  hsbshare

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