



BEST PRACTICES FOR USING BIM 360 TEAM AND COLLABORATION FOR REVIT

Realizing the benefits of
cloud-connected collaboration



The benefits to a cloud-connected BIM project team are quantifiable. Take a deep dive into how you can benefit from improved collaboration in the design phase using Autodesk BIM 360 Team and Collaboration for Revit.



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1. How to reduce project error and minimize data friction

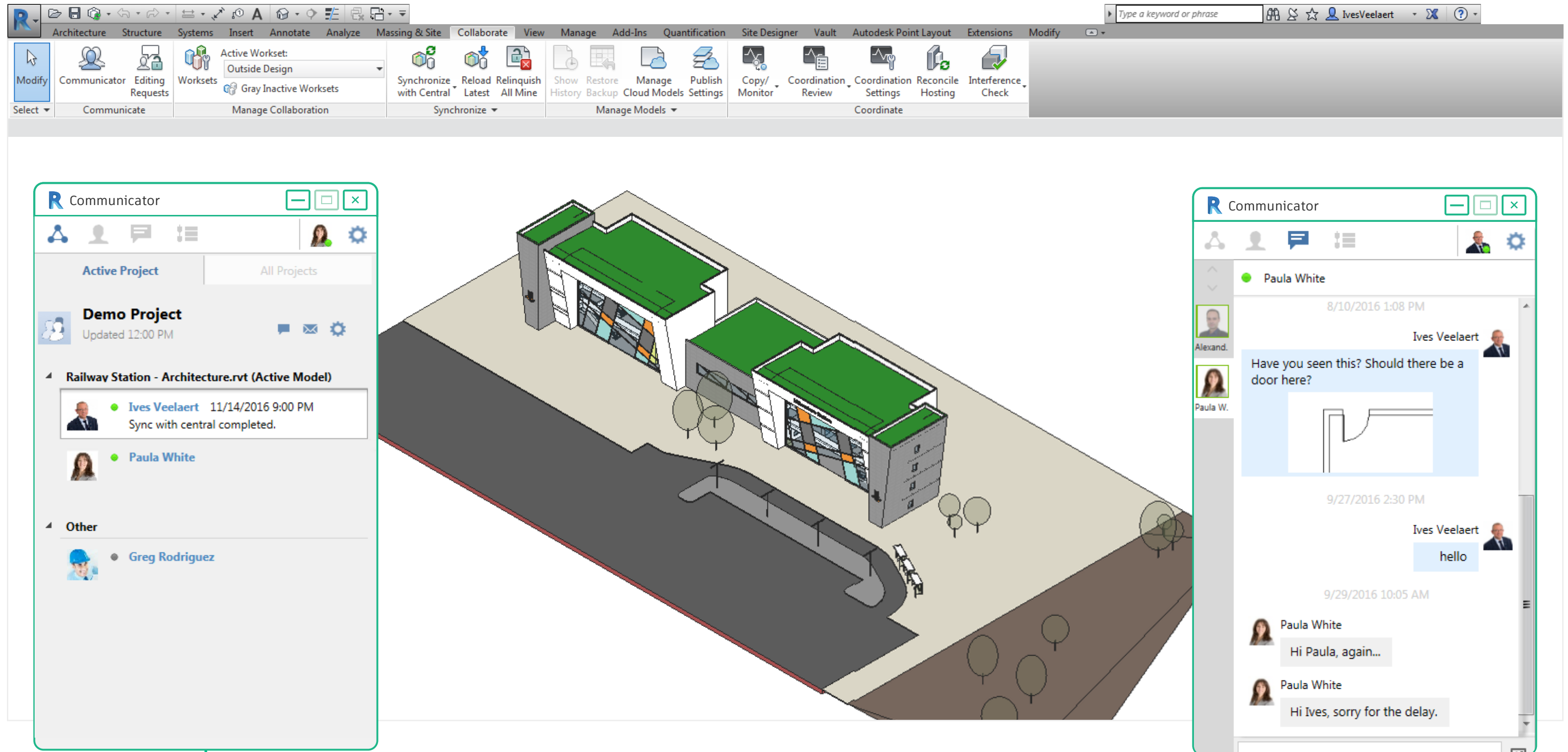
Revit users are familiar with worksharing, a design method that lets multiple team members work on the same project model at the same time, which is critical for collaborative design in BIM. However, a key part of collaboration is person-to-person communication, and the more dispersed teams are, the more important efficient communication becomes. Good communication means you not only chat between designers, but also that you have near real-time understanding of the changes that all designers on a BIM project are implementing. Communicating in real-time can reduce project error by helping you resolve issues as they occur, rather than collecting and waiting to address them later.

This communication is enabled in Collaboration for Revit via the Communicator, a chat-based communication platform integrated within Revit. It allows you to not only communicate with individual designers, but also to share information with the whole design team, share screenshots of key discussion areas in the design, send emails, and more. Even better, Communicator is integrated within the

worksharing mechanism in Revit, which means that Communicator will inform all designers working on the project when someone uploads design changes to the central, cloud-based model. This ensures that everyone is informed as design changes occur. No more versioning control headaches!

Even non-Revit users –such as the project/building owner–can access model information without the need for data translation (for example, .rvt to PDF) via BIM 360 Team. BIM 360 Team lets you share your design and project files with designated project members, without the need for Revit or additional software. This reduces the threshold to implement a cloud-based collaborative environment and helps you deliver the right data, at the right time, to the right people.





When design changes are uploaded to the model, the Communicator automatically updates users on the project.

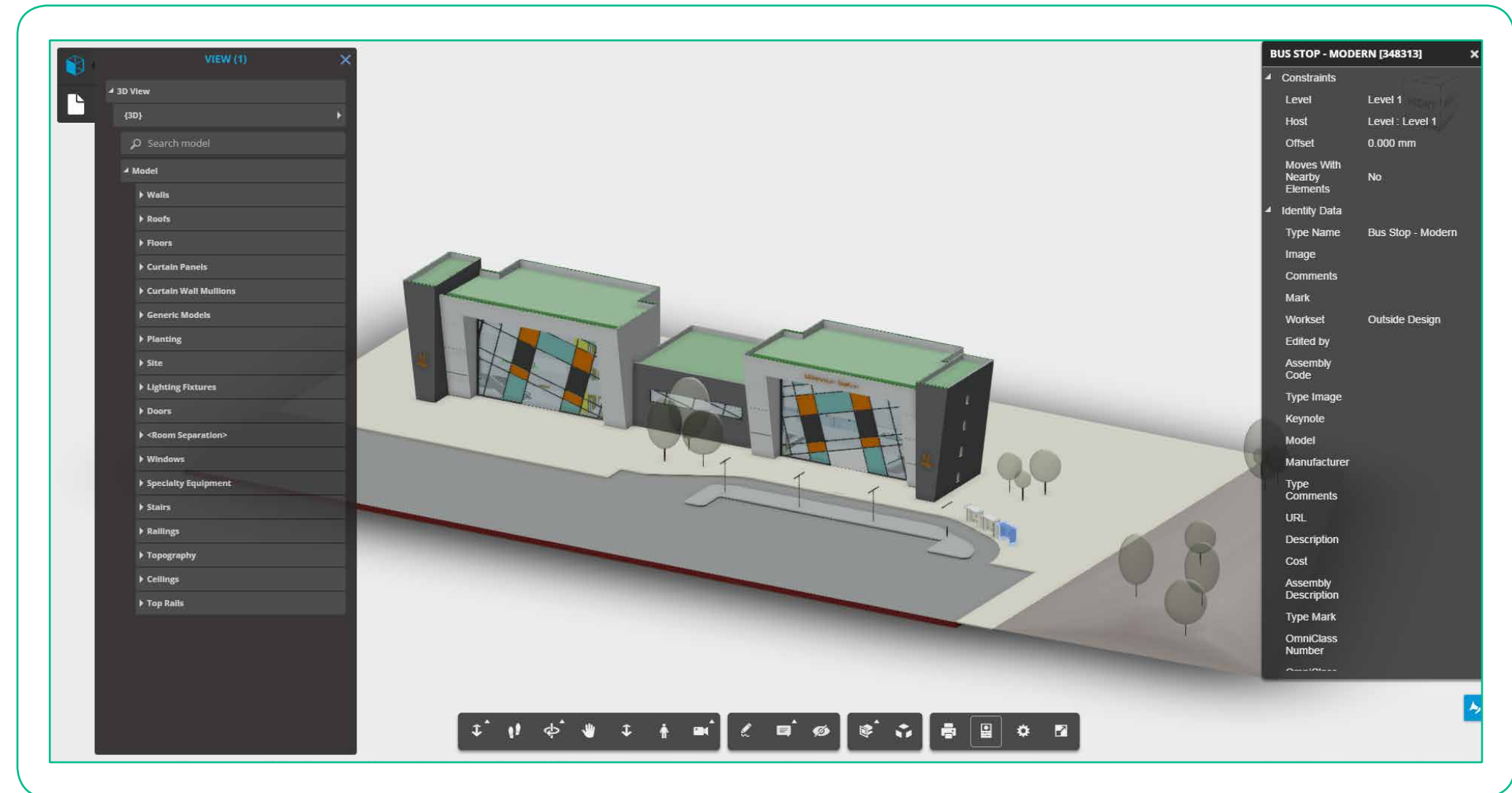
The chat function in the Communicator enables you to talk and share information with individual designers or the whole team.

2. How to finish projects faster

Getting design feedback from co-workers, co-designers and the whole project team is critical. The sooner feedback gets to the designers, the faster they can take corrective actions, making sure minor problems don't expand into costly rework.

In the past, providing data to reviewers meant sending files by email, FTP or similar means. There was the risk that the person reviewing didn't have the native design software, which meant the designers had to spend time translating the file into another format like PDF. The era of connectivity requires a tool that allows you to communicate in real-time, without the hassle of translating or sending packets of information.

Because Collaboration for Revit stores its data in BIM 360 Team, you can share project data with anyone, simply by inviting them into the project. They can use the viewer in BIM 360 Team to view, rotate, zoom into, and even search within the model. There's no need to download any software or use Revit: the data is simply available in the cloud to be viewed by all invited.

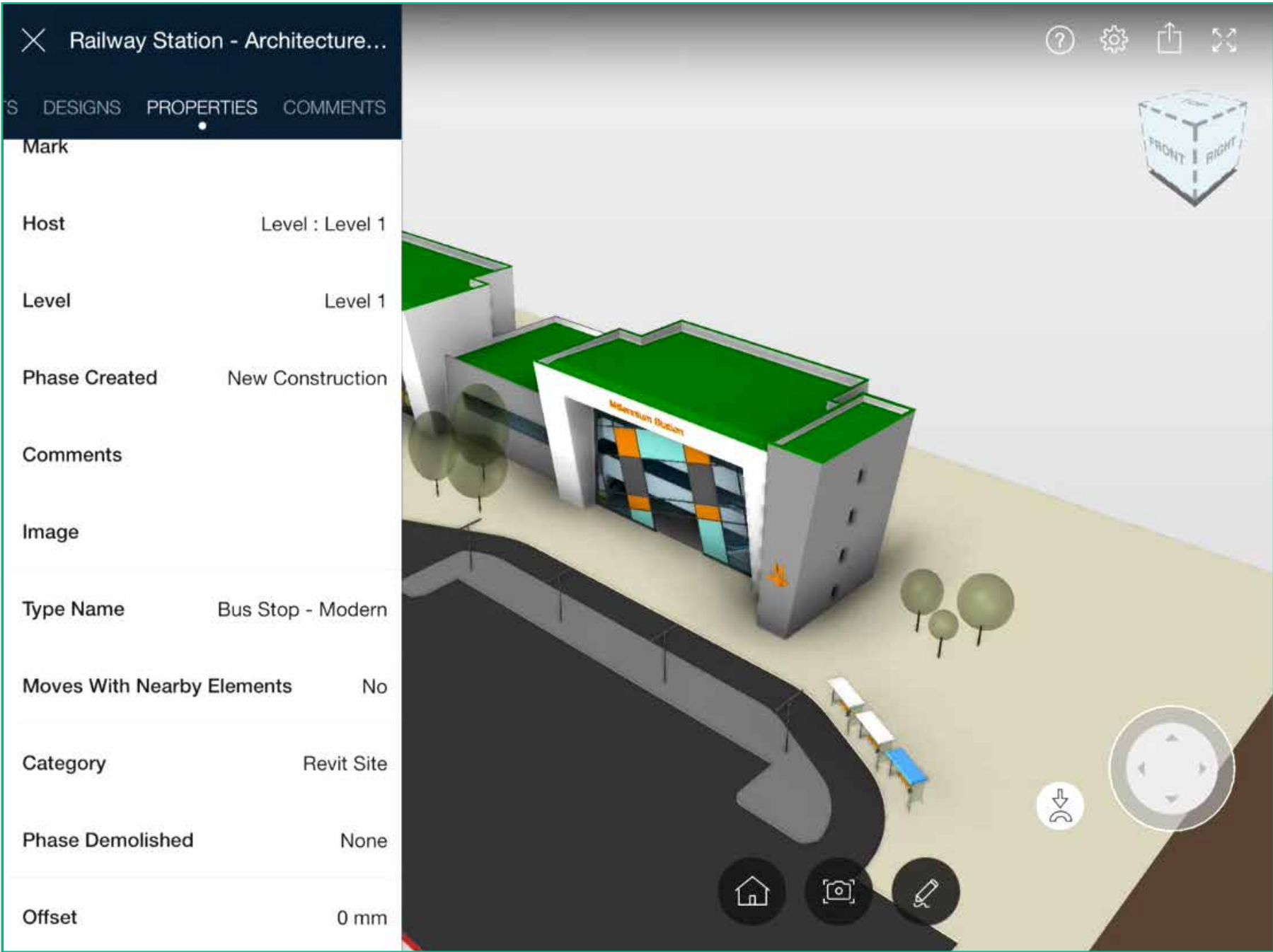


In BIM 360 Team, anyone can view, rotate, zoom into, and even search within the model.

Both the web interface and mobile app let you add and view mark-ups, so you are always communicating on the latest version of the data.

Not only does this cloud-based workflow allow for immediate feedback, it also alleviates the problem of having to dedicate time to frequent live meetings between project members just to cover small issues that could be more easily resolved with a cloud-connected workflow. All of these features enable designers to focus on their primary task: designing. It means less hassle and time spent on organizing meetings, converting files, manually uploading information etc. - and more time to dedicate to finishing high quality projects faster.

You can also add and view mark-ups from a mobile device via the app.



3. How to work from anywhere

Bringing people together on an AEC project helps you deliver projects faster and minimize errors.

With Collaboration for Revit and BIM 360 Team, all it takes to bring a team together is creating a project within BIM 360 Team and inviting people into it. Since the whole interface is web based, it doesn't matter where each person on the design team is physically located: the single source of truth for the project is the data in the BIM 360 Team Hub.

Create Your New Project

Project Name(required)

You have 40 characters left

DESIGN COLLABORATION





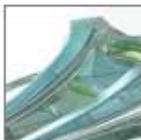





Project Purpose(optional)

You have 102 characters left

Work from anywhere

Choose a Project Avatar(required)

Upload Your Own



Cancel

Create Project

You can quickly create new projects and label them with background information.

Who do you want to invite to this project?

Email addresses or names of the people you'd like to invite(required)

Access Level

Tom Anderson X

Greg Rodriguez X

Editor

(Don't use mailing lists.)

Project Contributors are allowed in this Project.
Users you invite will be invited as Project Contributors into this hub.

Cancel

Send Invitations

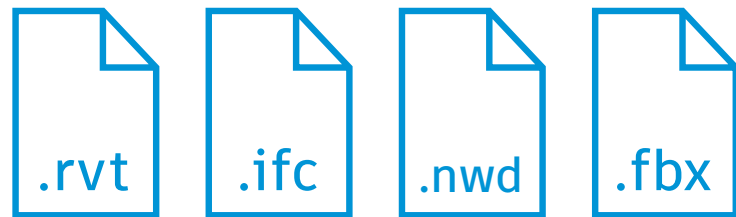
These projects can then be easily shared with your team.

To work in Revit directly on project models hosted in the cloud, designers need a Collaboration for Revit subscription. Then they can open cloud-workshared files from within Revit. Cloud-based Revit worksharing frees Revit users to work from anywhere, eliminating the barriers of firewalls or limited access.

You can view, share, and review over 100 file formats in BIM 360 Team without the need to download and use the native authoring tool.

100+

FILE FORMATS SUPPORTED

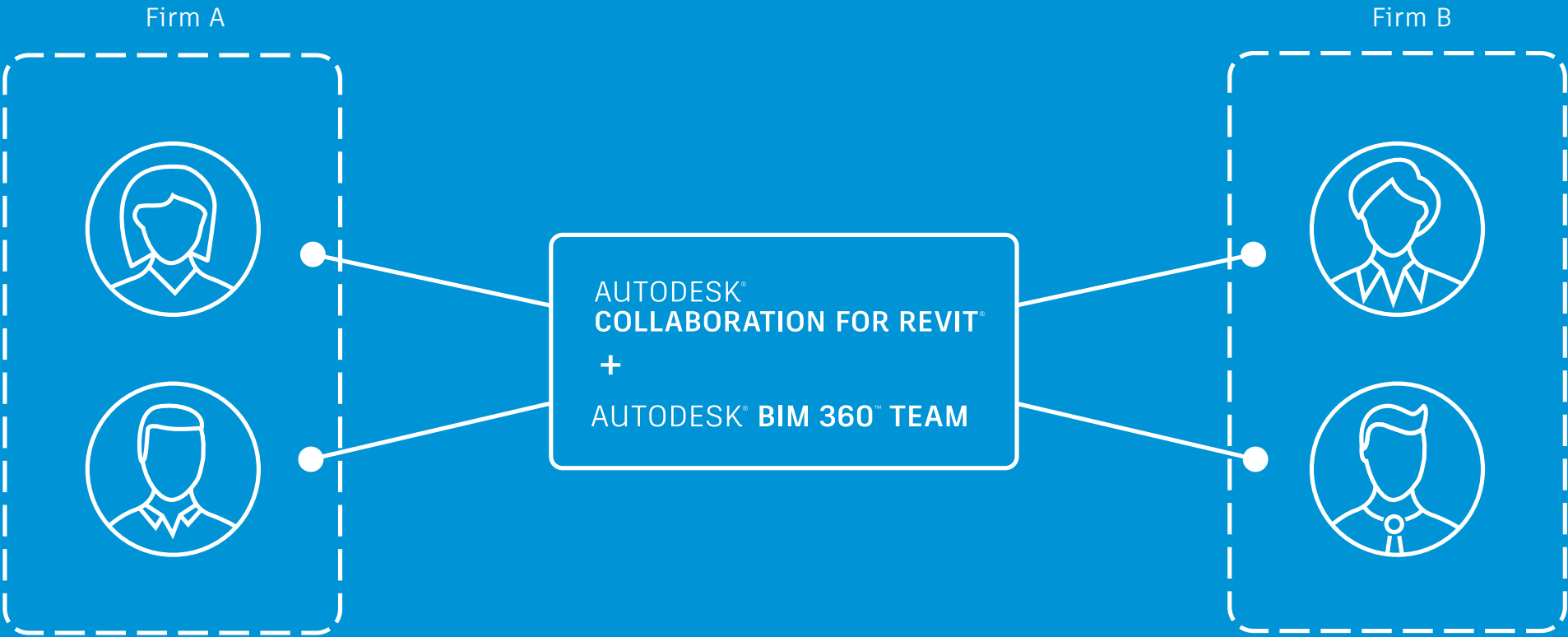


4. How to spend less on IT

So if everyone is working on the same model at the same time, how are these changes being communicated to the other members of the team? The idea is to create a master project model, known as a central file, situated in a location that is accessible to everyone. Each designer creates and works on a local copy, which then communicates with the central file.

Collaboration for Revit puts the central file in the cloud (within a project hub on Autodesk's BIM 360 Team) and the local copies communicate with it. This means that the design company/companies do not need to manage the server, nor do they have to open firewalls, setup policies, etc. The only thing each user needs is a subscription to Collaboration for Revit.

Combined with the fact that there is no investment or setup required on the server side, a company can easily switch to Collaboration for Revit and start communicating with all stakeholders as soon as entitlements have been assigned to the designers.



By hosting in the cloud, design teams can avoid server maintenance costs while enabling access for everyone.

5. How to co-locate virtually

The cloud-connected BIM workflow lets you co-create, no matter where you are, and proactively provide real-time feedback without waiting for data to be sent by drafters and engineers. But how do you follow up on and make decisions about incorporating feedback? When project teams are physically located in the same room, it's easier to sit down together and explain mark-ups and get clarification, but what if the whole team is geographically dispersed?

You can specify who can review information and who can also manipulate and modify the source data. The viewer role can look at information and mark up the documents, but they can't edit the files themselves. This supports a workflow in which data is created, then passed on for review after which editors update the design files accordingly.






Virtual co-location is a huge time- and cost-saver; people don't need to spend time and money traveling and teams have less need to rent and furnish physical offices. Collaboration for Revit and BIM 360 Team were designed to bring design teams together virtually, bypassing the need for expensive office or IT infrastructure.

MANAGE PROJECT MEMBERS

Project Members

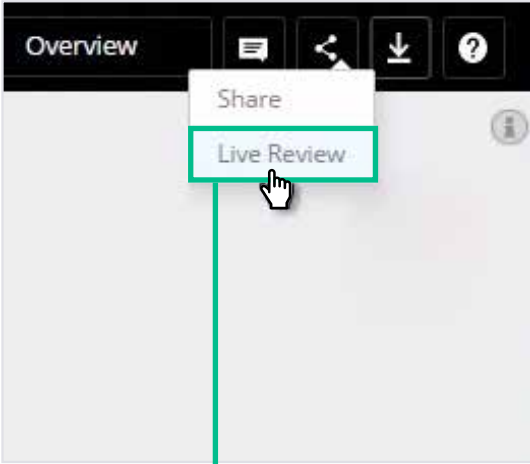
Join Requests

Invite

NAME AND EMAIL	TITLE	COMPANY	ROLE ?	
 <div>Greg Rodriguez greg.rodriguez@ssttest.net</div>	Test		Editor ^	
 <div>Paula White paula.white@ssttest.net</div>	MEP Designer		<div><div>✓ Editor</div><div>Viewer</div><div>Project Admin</div></div>	
 <div>Ives Veelaert ives.veelaert@autodesk.com</div>	Electrical Engineer	Autodesk		

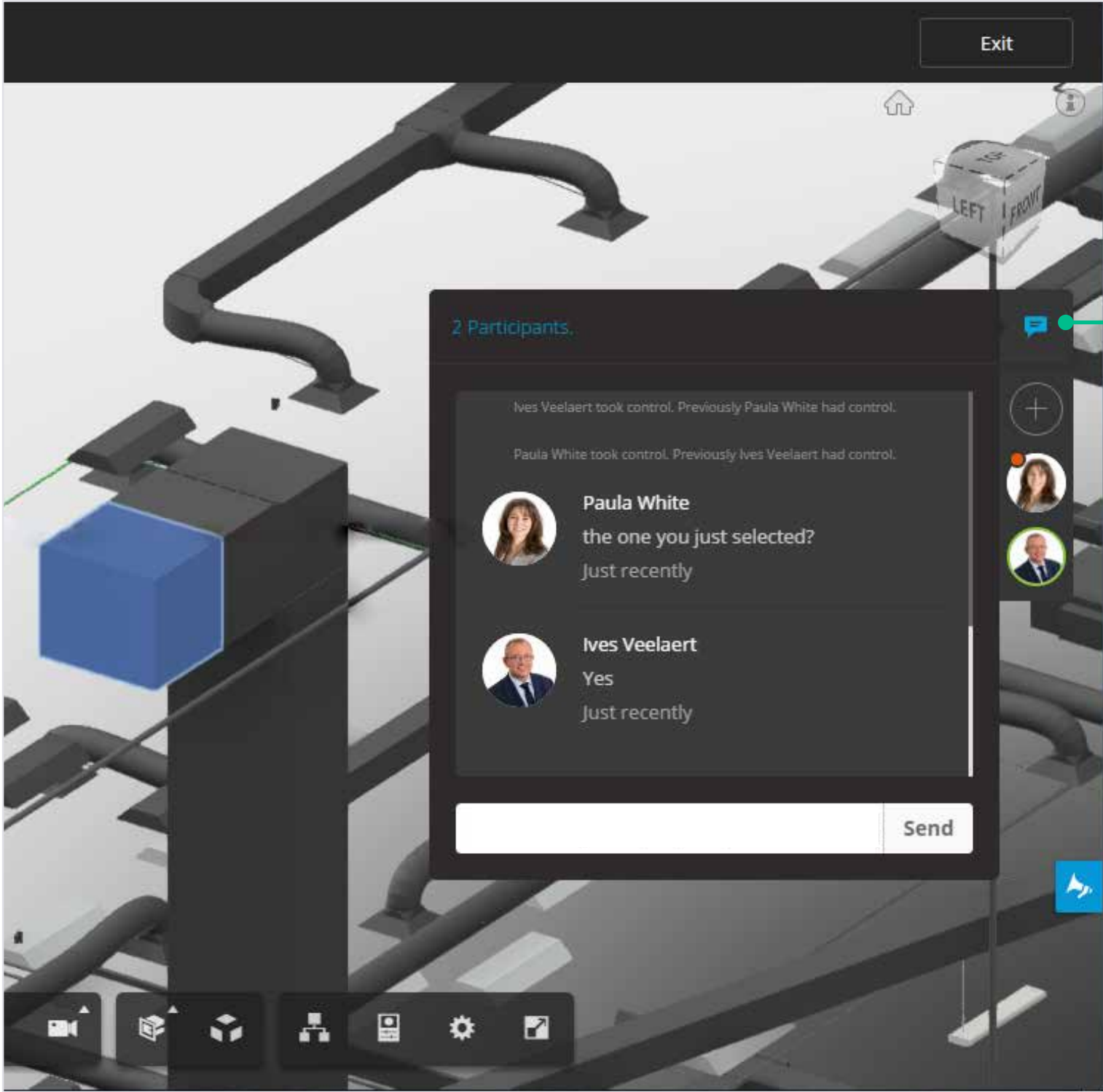
With the role function, you can specify who can review information and who can manipulate and modify the source data.

Live Review



Live Review enables multiple people to discuss files using the same shared view.

Live Chat



Real-time communication means that collaboration can be achieved regardless of physical location.

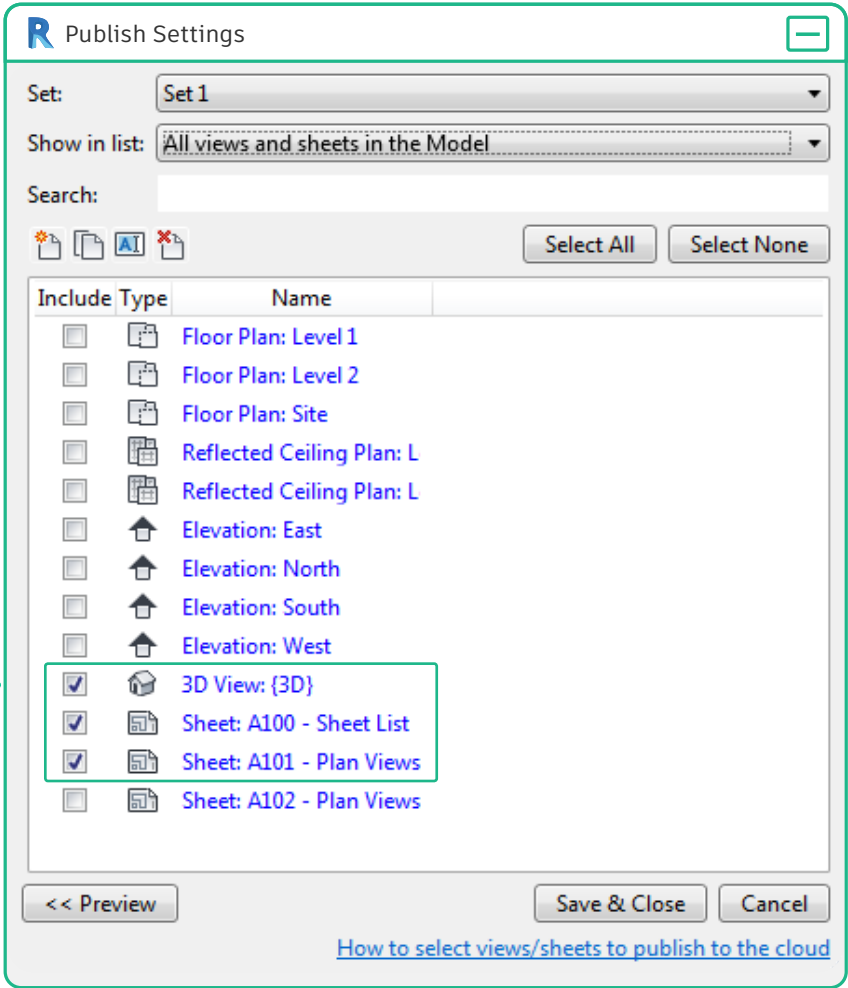
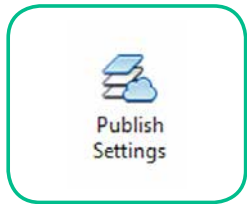
6. How to spend less time coordinating, more time designing

Let’s face it – designing is cool, but translating the design into 2D PDF sheets for others to view and review isn’t so interesting. We’d rather just have people review the data as it becomes available.

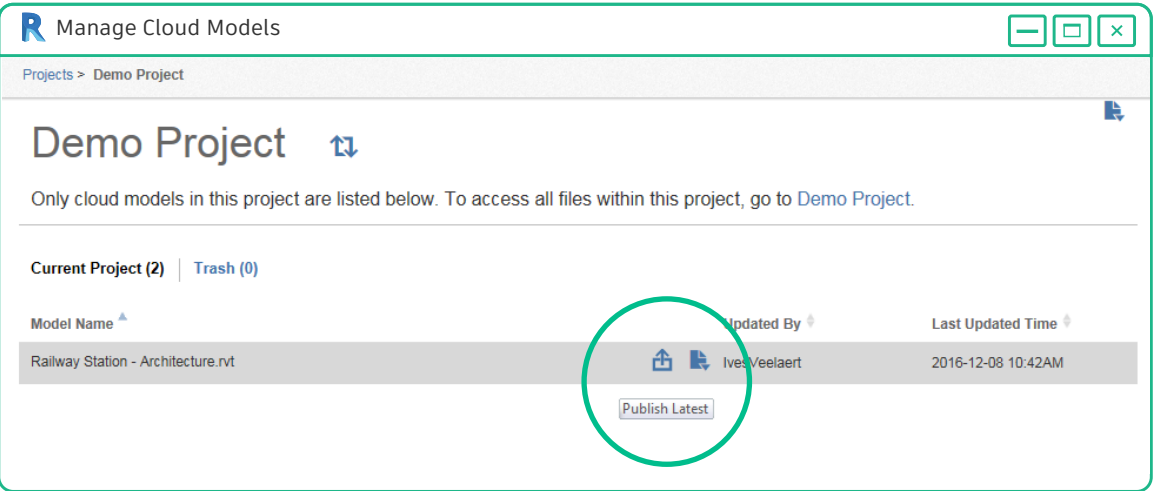
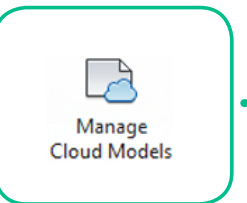
As a designer, you get to decide what you’d like to have reviewed. The whole project, or 2D information as it becomes available? 3D Views? With Collaboration for Revit the designers get to choose what’s available for review. Designers work on a ‘live’ model of the project, which remains a hidden file on BIM 360 Team. When the design team is ready to communicate their ideas, they publish their model to a visible file on BIM 360 Team, ready to be reviewed by others.

Before publishing, you can decide which views and sheets should become part of the published project by selecting the appropriate views in the ‘Publish Settings’ Dialog box.

When sharing project information, you can choose which specific views you want to make available.



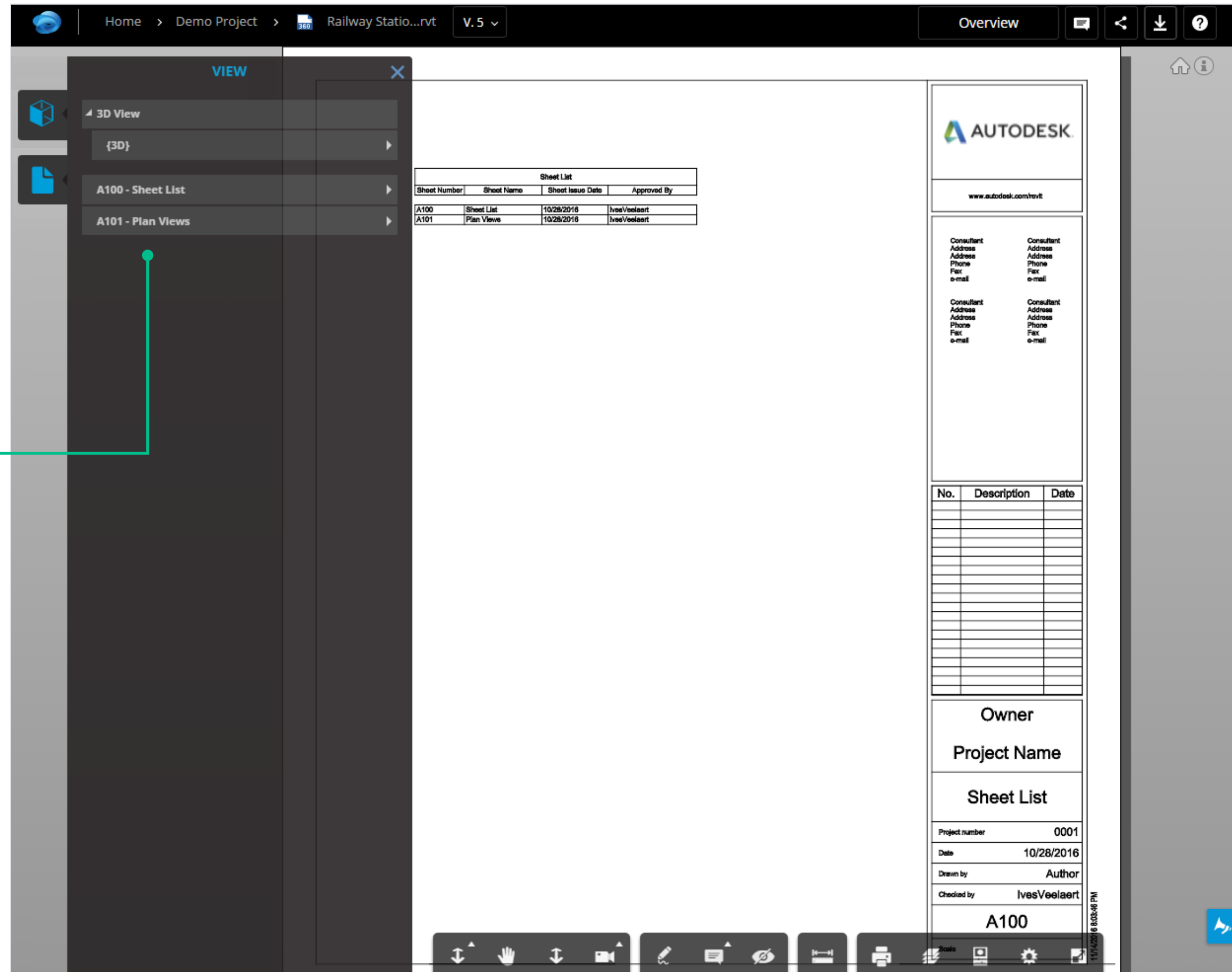
Once the views have been selected, you can publish the model in the ‘Manage Cloud Models’ dialog box.



This workflow helps you streamline the coordination between designers and reviewers: as the project progresses, more information can be added to be reviewed.

All of this happens automatically at the push of a button with no need to extract information, translate sheets or send zipped files across. This is a huge timesaver for designers, so they can focus on what really matters: developing their ideas.

The end result is a published Revit model on BIM 360 team in which only the selected (published) views and sheets can be marked up.



7. How to win more work

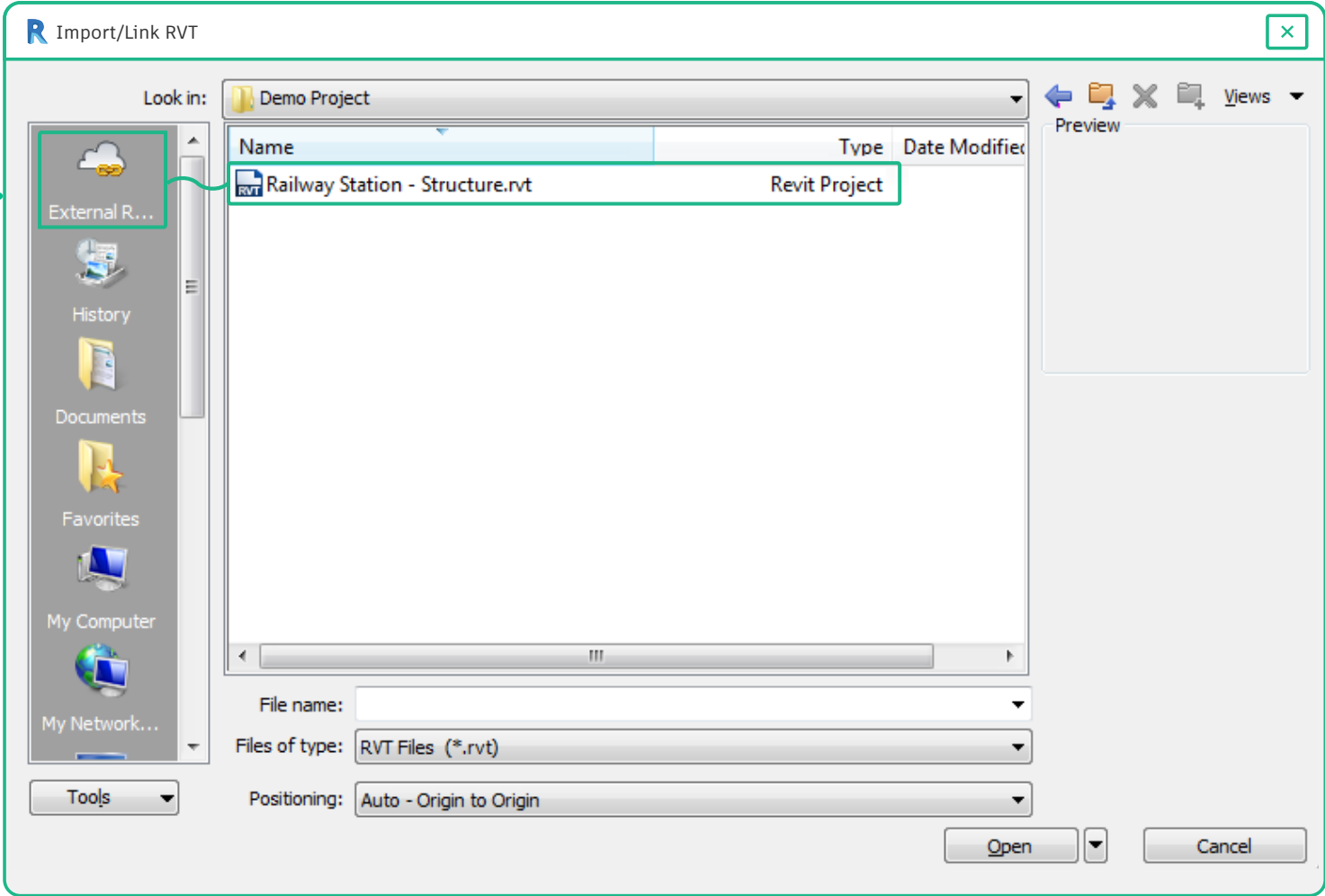
The era of connectivity means you can also harness the power of the cloud to provide incremental billable services. Building analysis, creating stunning visuals, or simulating airflows benefit from using the cloud. Achieving the best building design you can conceive can help you establish a reputation and win recurring work.

With cloud tools, project teams can be assembled from anywhere around the globe to bring together the best team suited for a project.

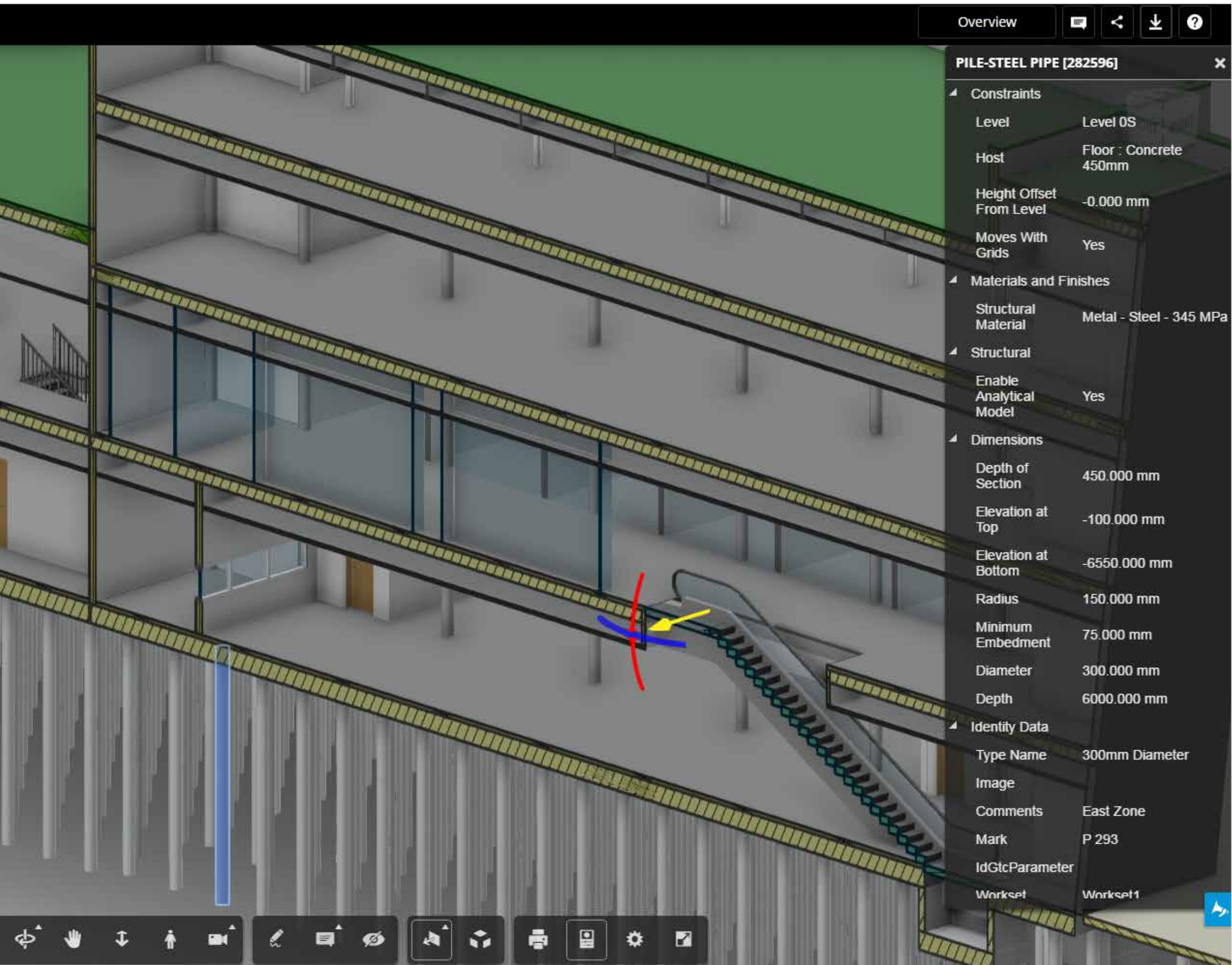
For example, if you are working in a team with different technical disciplines, Collaboration for Revit helps you communicate between these disciplines by letting you link in cloud-based Revit models from different disciplines.



Collaboration for Revit allows you to link in cloud-based Revit models from different disciplines.



You can then use 'Copy/Monitor' to follow up on changed reference elements from those other disciplines.



The master file and linked files reside in the cloud, while the project team can input data of their own and consume other disciplines' data, regardless of any participant's geographical location.

The publishing engine in the background takes all linked Revit files into account, coming up with a complete building model that shows all relevant information from all disciplines.

The cloud revolutionizes everything: not only can you use cloud computing to solve the most complex design challenges, you can team up with colleagues in other disciplines from around the world to participate in any project.

All linked Revit files are taken into account, creating a complete building model showing all relevant information from all disciplines.

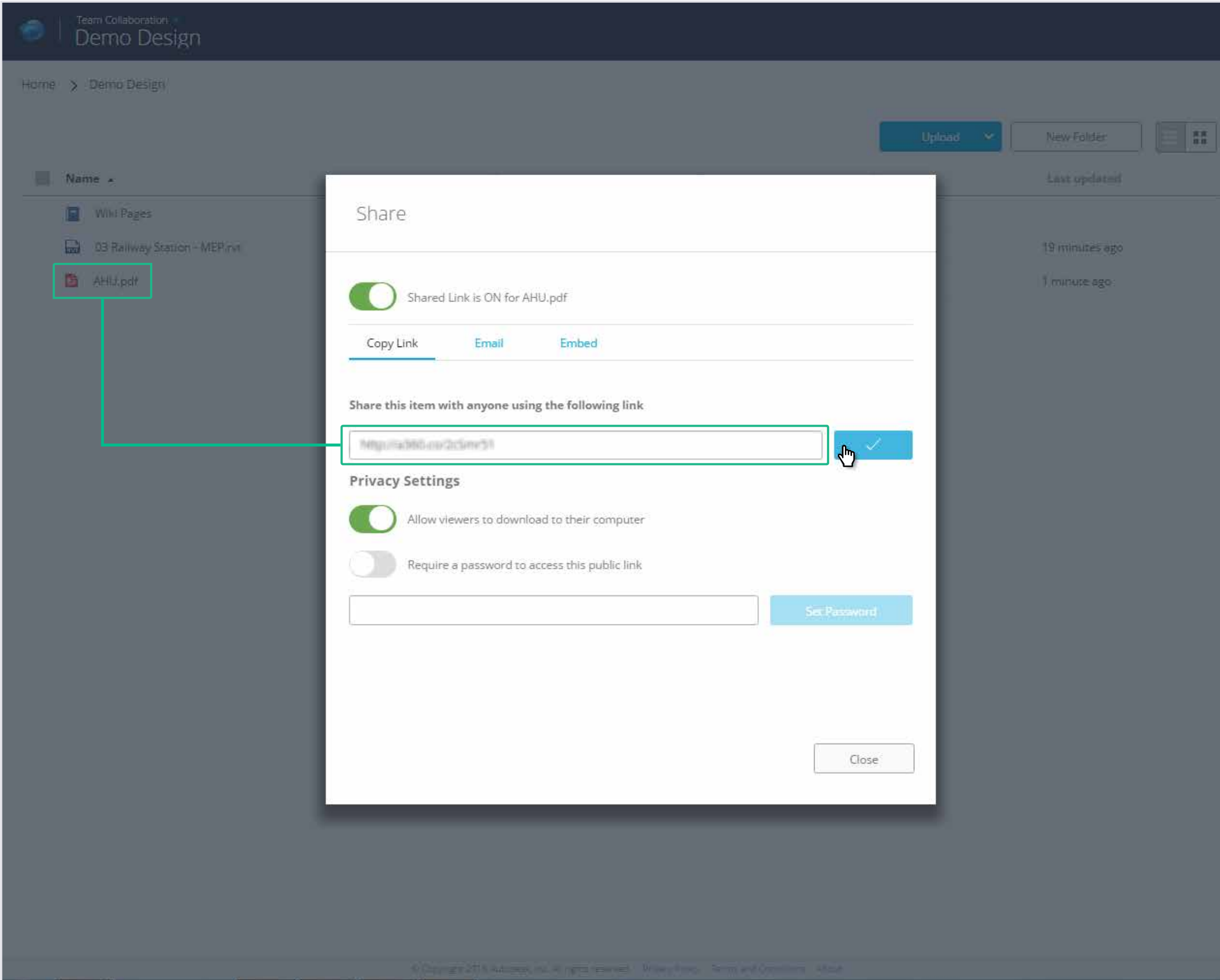
8. How to create project transparency and clarify approval lines

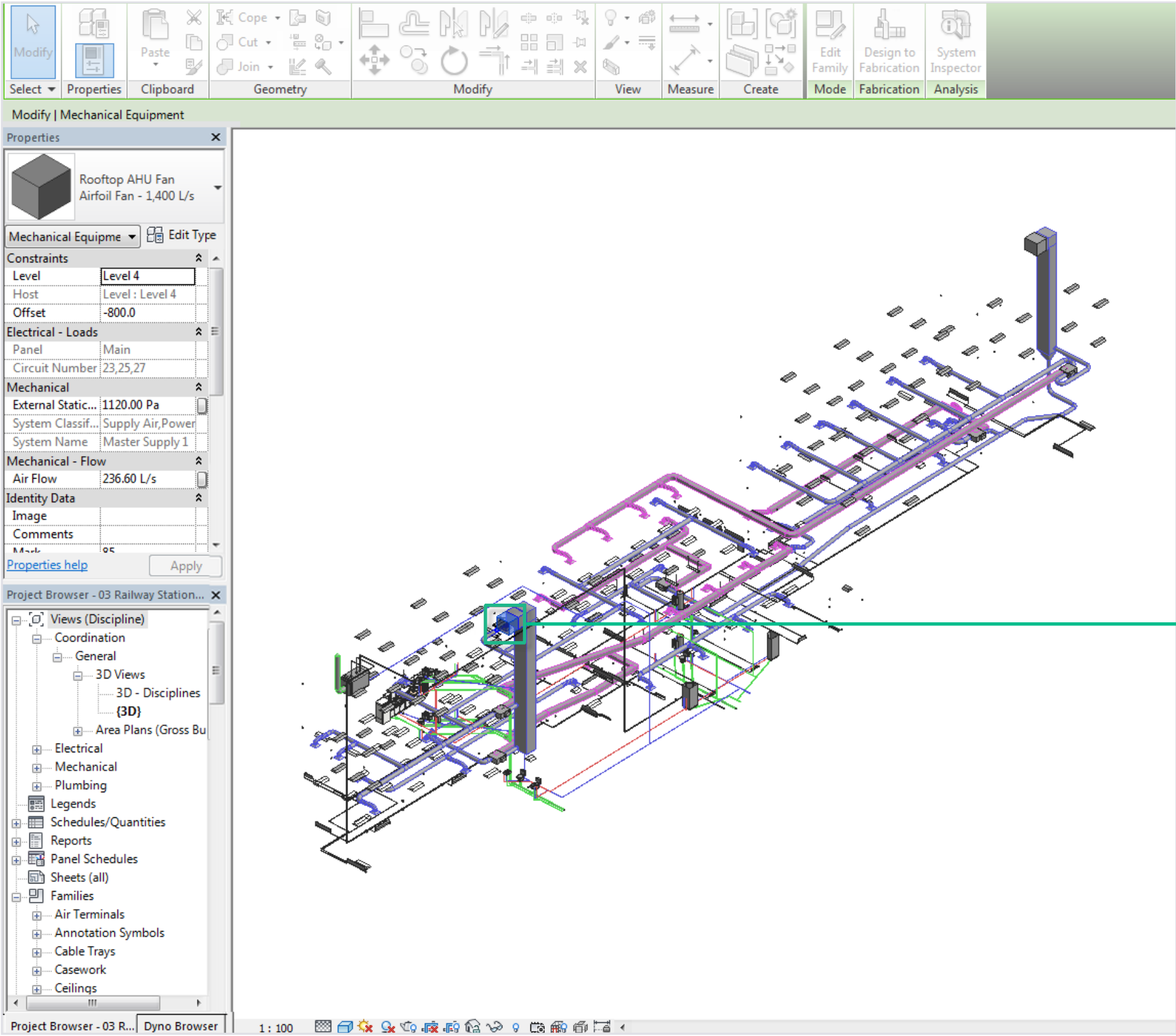
The more relevant project information shared on BIM 360 Team, the better. You can track markups, use the viewer to visualize just about any file format (including Revit files with references), and start a live review session. You can upload more or less any file relevant to the project to BIM 360 Team including tech specs, minutes of meetings, commissioning checklists, etc).

And it's easy to reference these non-design documents to technical components by copying the link to the document on BIM 360 team and then pasting it to the URL property inside of the Revit family type.



Project information can easily be made available to the team through shareable URL links.





Family: Rooftop AHU Fan Load...

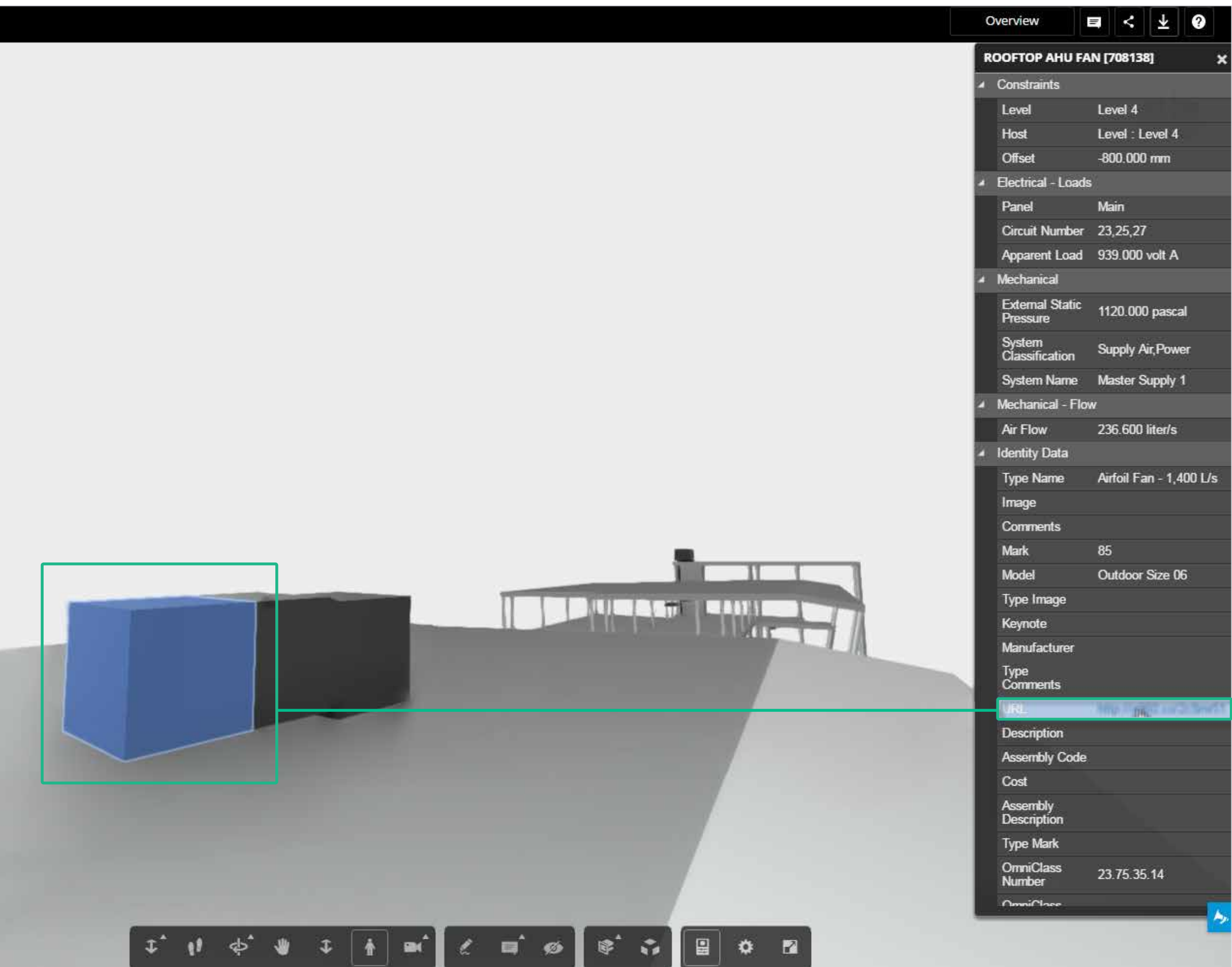
Type: Airfoil Fan - 1,400 L/s Duplicate... Rename...

Type Parameters

Parameter	Value
Dimensions	
Unit Width	1250.0
Unit Length	1050.0
Unit Height	1100.0
Duct Width	1250.0
Duct Height	1100.0
Identity Data	
Model	Outdoor Size 06
Type Image	
Keynote	
Manufacturer	
Type Comments	
URL	http://www.bentley.com/Revit
Description	
Assembly Code	
Cost	
Assembly Description	
Type Mark	
OmniClass Number	23.75.35.14

<< Preview OK Cancel Apply

Non-design elements can be referenced by pasting the link into the URL property inside of the Revit family type.



Uploading the file to BIM 360 team exposes all parameters to the BIM 360 Team viewer, which means you can select the component within the viewer, open the property window and click on the hyperlink in the URL property. This will then open up the linked document.


When the files are uploaded to BIM 360 Team, the hyperlink to the relevant document remains available through the URL property.

Reviewers can also check the differences between versions.


BIM 360 Team keeps track of all versions uploaded to the system, so you view the history of a document and select two versions to compare, revealing what has been deleted, added and changed on a geometrical level, as well as on the metadata or information level.

Compare versions


7

Updated by Ives Veelaert
1 day ago


6

Updated by Ives Veelaert
1 day ago


5

Updated by Ives Veelaert
9:03 PM November 14, 2016


4

Updated by Ives Veelaert
9:02 PM November 14, 2016


3

Updated by Ives Veelaert
8:35 PM November 14, 2016

2

Updated by Ives Veelaert
8:35 PM November 14, 2016

1

Created by Ives Veelaert
8:13 PM November 14, 2016

Close

Choose versions

7

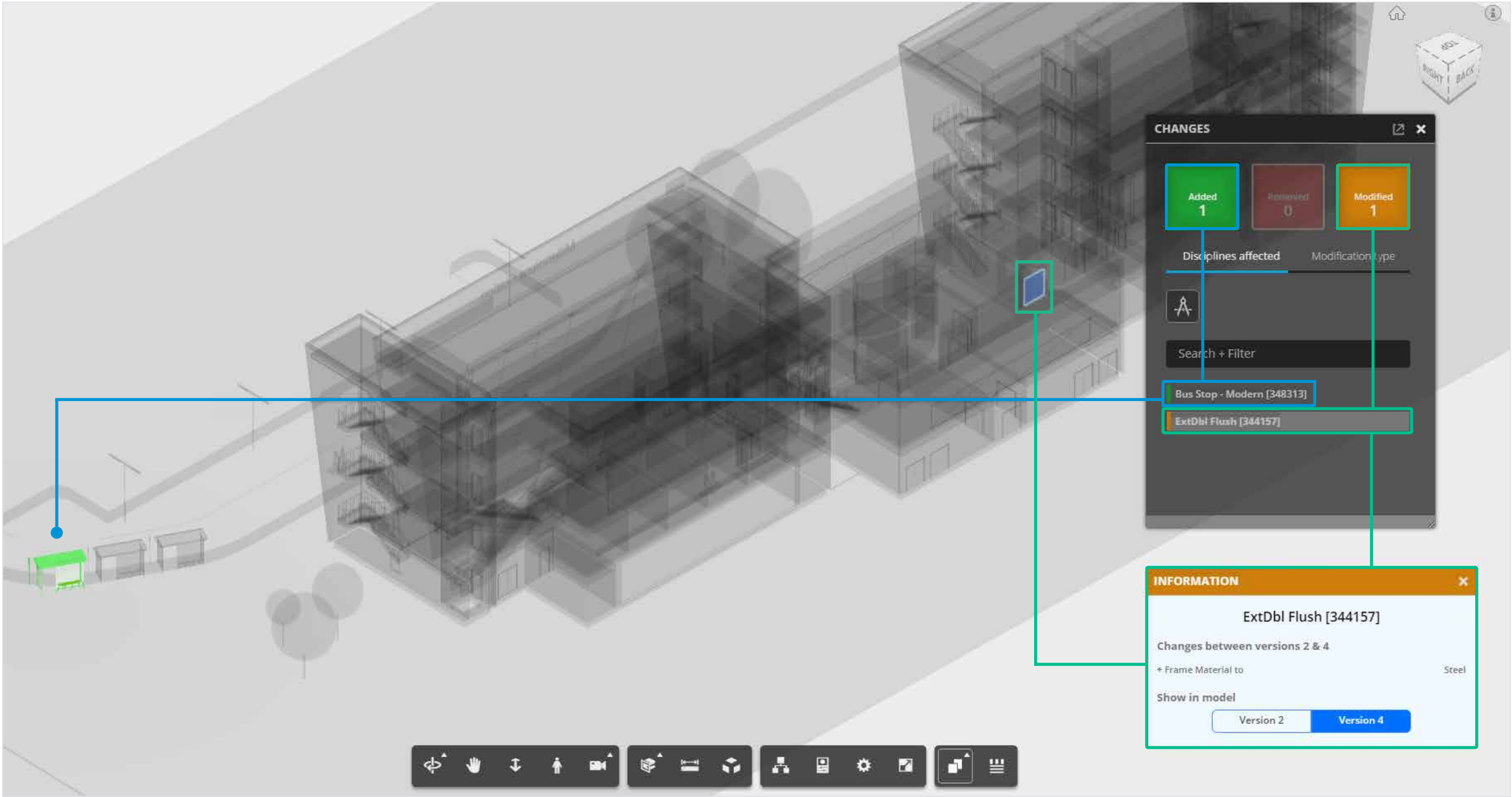
 against

5

{3D}

Close Compare

Historical versions of documents are tracked and 'can be easily compared with Version Compare.'



Linking documents and comparing versions clarifies a project's structure and provides a follow-up system in the communication between designers and reviewers.

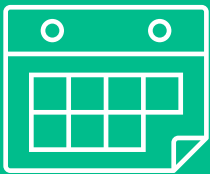
9. How to attract and retain the best talent

To build up a flourishing business, it’s important to provide your team with tools they love working with that help make their daily jobs easier, and that enable faster, collaborative workflows.

The construction industry is notorious for delivering information at given, fixed milestones. Usually design and modifications happen up to the last available minute, then the team has to create sheets in PDF format. This can require people to spend up to a full day of work before every milestone, extracting information out of a BIM model for others to review.

Beyond offering cloud-based data storage, BIM 360 Team can also be used for project delivery. BIM 360 Team lets you create wiki pages, setup project meetings through calendar invites, and define and setup discussions on topics important to the project.

You can use these features in BIM 360 Team to manage and control your project:



Use the calendar to define project milestones, organize project meetings, or detail site visits.



Define and document your BIM protocol in the wiki pages.



Create discussions on best practices, outcomes of live review sessions.



READ THE FREE EBOOK

Get up and running quickly with hands-on tutorials in the Kickstart Guide

The Kickstart Guide walks you through the basics of setting up a project in Collaboration for Revit and getting your team together. With downloadable Revit datasets and detailed step-by-step directions, the Guide provides everything you need to explore and experience how this collaboration service can work for you.

DOWNLOAD THE
KICKSTART GUIDE



About the Author



Ives Veelaert has been a data management consultant within the architecture, engineering, and construction (AEC) industry for nearly 25 years. He has advised on and set up the data management structure for many companies, including the renovation of the European Community building in Brussels. He joined Autodesk, Inc., 10 years ago and now helps AEC customers understand Autodesk's EDM (engineering data management) solutions. Ives has a master's degree in engineering.

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