Design, Camera, ACTION: Set Design with Point Clouds, Revit, and 3ds Max for Films

Tarua Rivera, Ryan Salvador

Set Designer BIM/ IT Manager

AUTODESK UNIVERSITY

About the speakers

Taura C.C. Rivera

Taura C.C. Rivera graduated from the University of New Mexico with a degree in architecture. She has practiced architecture since 2004 in both New Mexico and New York. In 2014 she began working in the film industry beginning with the Santa Fe Film Festival where she now serves on the Board of Directors. She has worked as a set designer on shows such as Better Call Saul, Preacher, Whiskey Tango Fox Trot, and 12 Strong. She is a strong advocate in the nonprofit sector and has worked to incorporate various 501(c)(3) organizations for film, education, and animal humane. She currently resides in Albuquerque, New York City, and Los Angeles. .

About the speakers

Ryan Salvador

I have been involved with the Architectural industry over 16 years, first entering the industry as a systematic student, then staying involved by becoming an part-time educator of the various AEC software while maintaining a full-time status as an IT for a community college. Further advancing my architectural career with an opportunity to work with a local Architectural firm now going on 14 years of day to day excitement where I continue to polish my skillset in various software applications such as, but not limited to, Autodesk Revit, AutoCAD, 3ds Max, FormIt, Recap, Adobe Illustrator, Photoshop, InDesign, and a collection of other products used in the AEC industry for coordination purposes, as well as marketing tools and graphics. So in closing, my main passion is to share the knowledge I've gained to those willing to listen and learn from the same people their solutions and develop an atmosphere where we all become a team that discuss freely our situations and overcome them. BIM ON!. .

Design, Camera, ACTION: Set Design with Point Clouds, Revit, and 3ds Max for Films

Using Autodesk products to design sets and spaces for film and TV.

Various Autodesk products used for project coordination and delivery

AUTODESK® ARCHITECTURE, ENGINEERING & CONSTRUCTION COLLECTION

AUTODESK® MEDIA & ENTERTAINMENT COLLECTION

Team Collaboration - BIM 360 Document Management, Design Collaboration

AUTODESK® BIM 360™

Software coordination: Autodesk Recap Pro, Civil 3D, Revit, 3ds Max

Team Collaboration

AUTODESK BIM 360

COMPOSE PROJECT FOR 360 COLLABORATION

Setting up the project hub and folder structure ensures all teams and members have appropriate access to folders and the files they need to complete their tasks in one central location

APPLY PERMISSIONS FOR MEMBERS

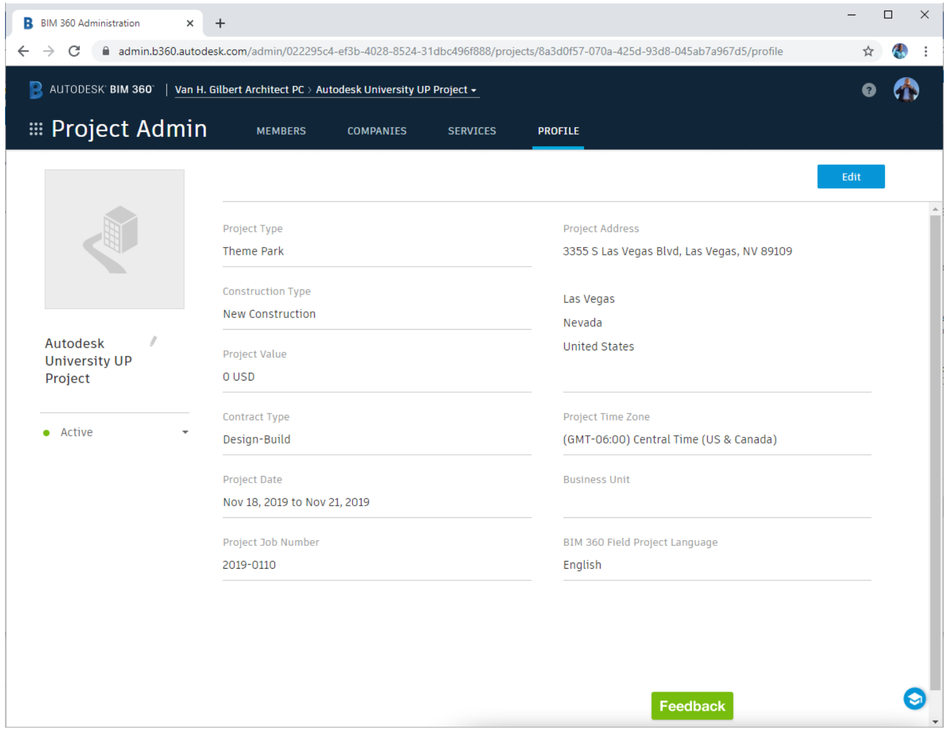
Assigning roles for the members keeps everyone coordinated and can have the ability to markup, edit and upload files.

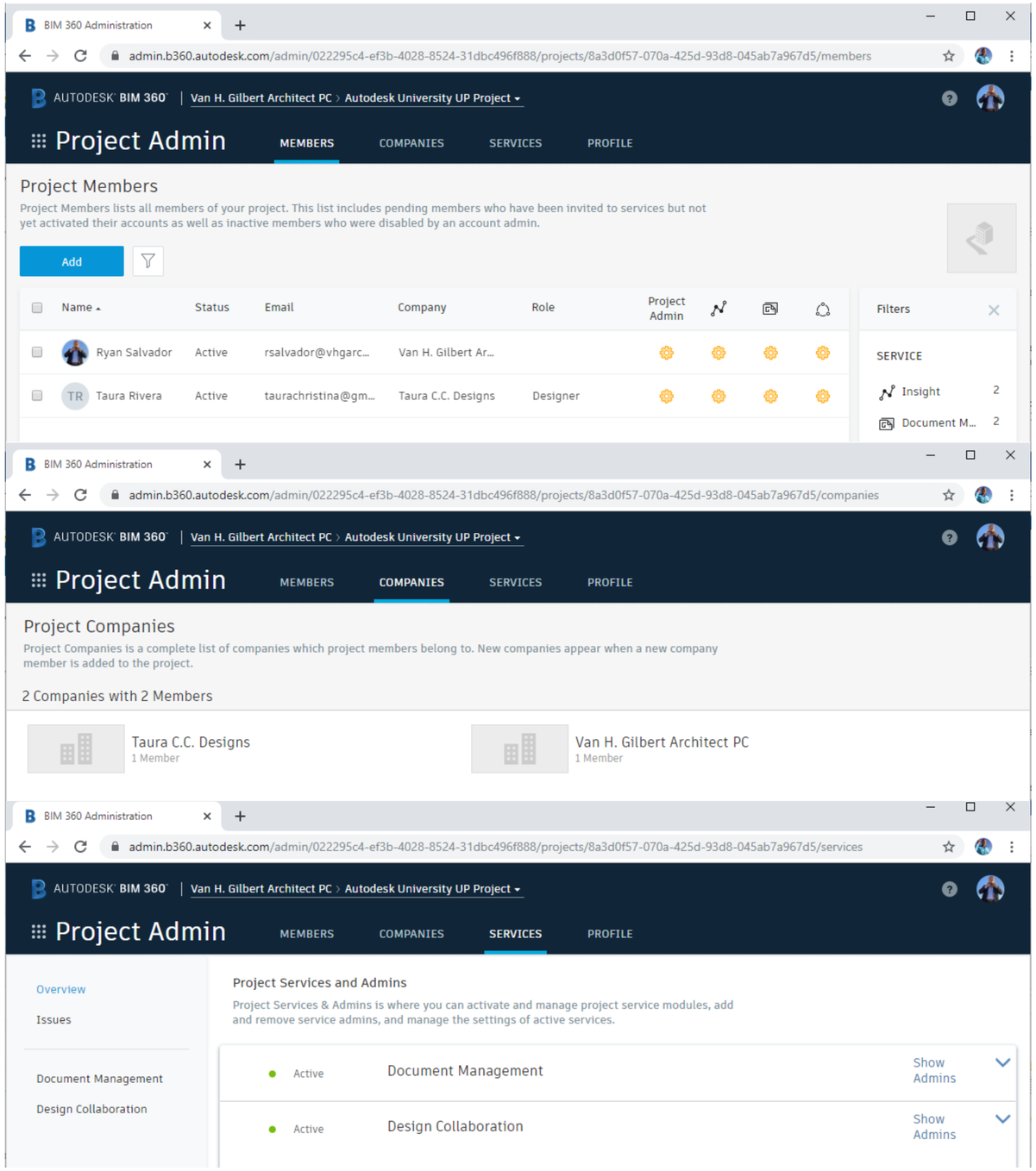
INVITING MEMBERS

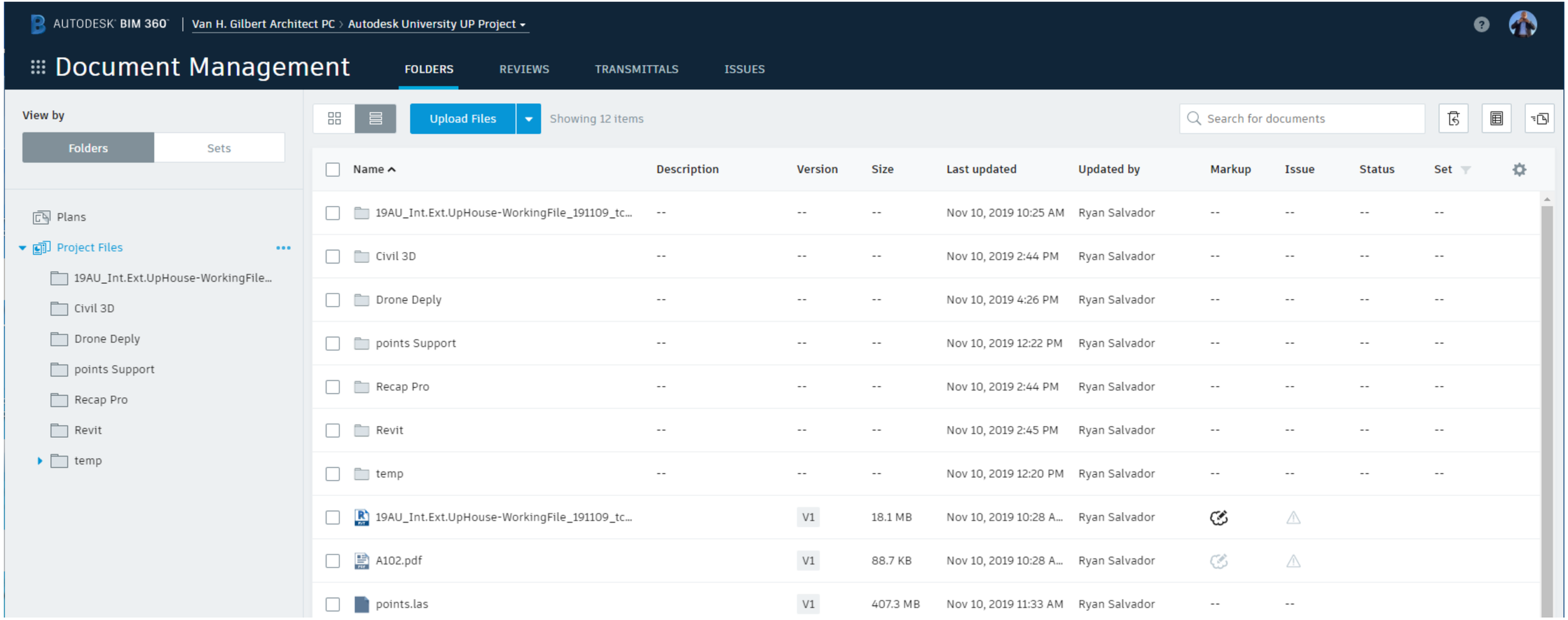
Invite all members that will be collaborating on the project, others can be added as needed. Assign members to the appropriate collaboration hubs, such as Document Management and/or Design Collaboration

A360 Project Setup

Project administrator will setup the project profile, add members, list companies, and assign the appropriate services.



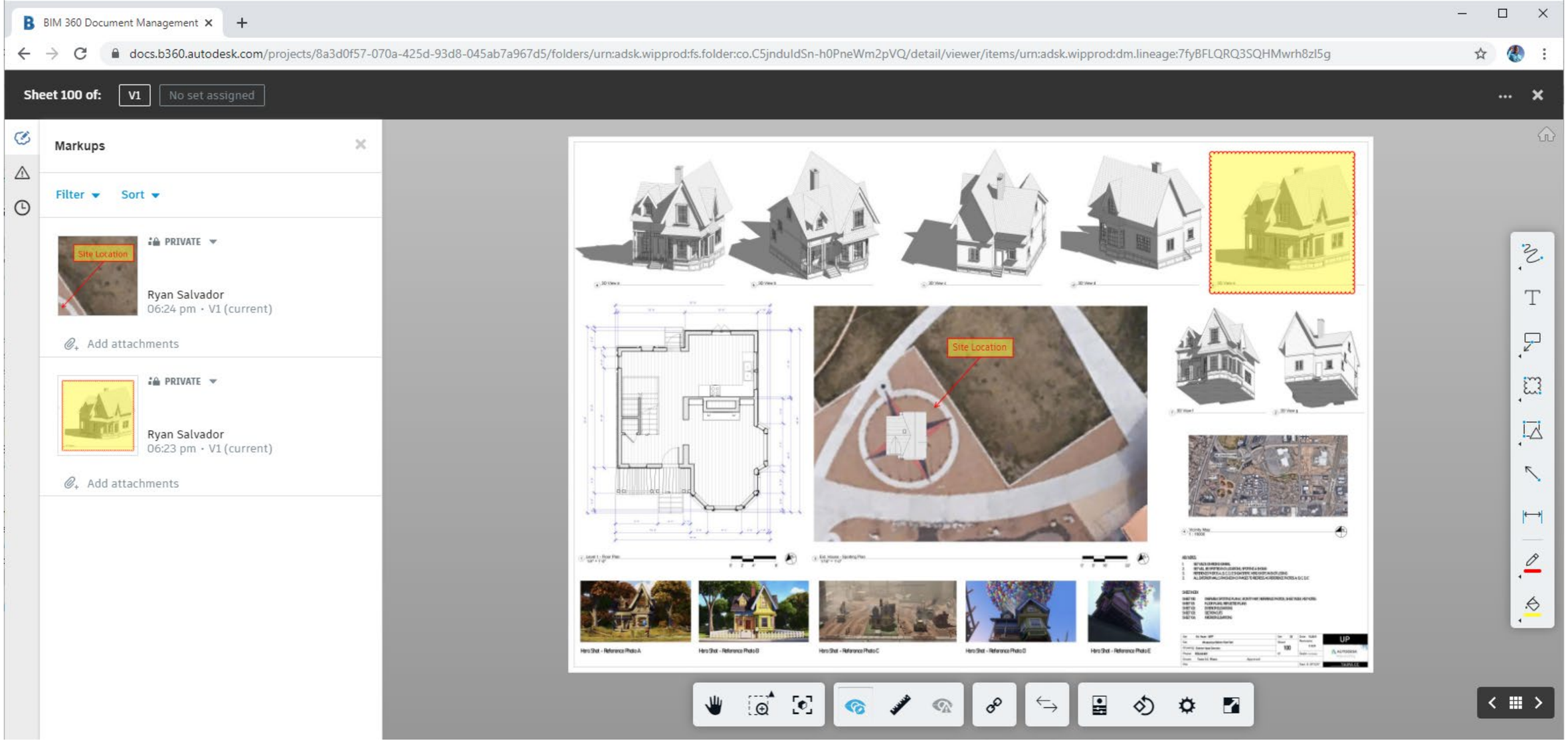




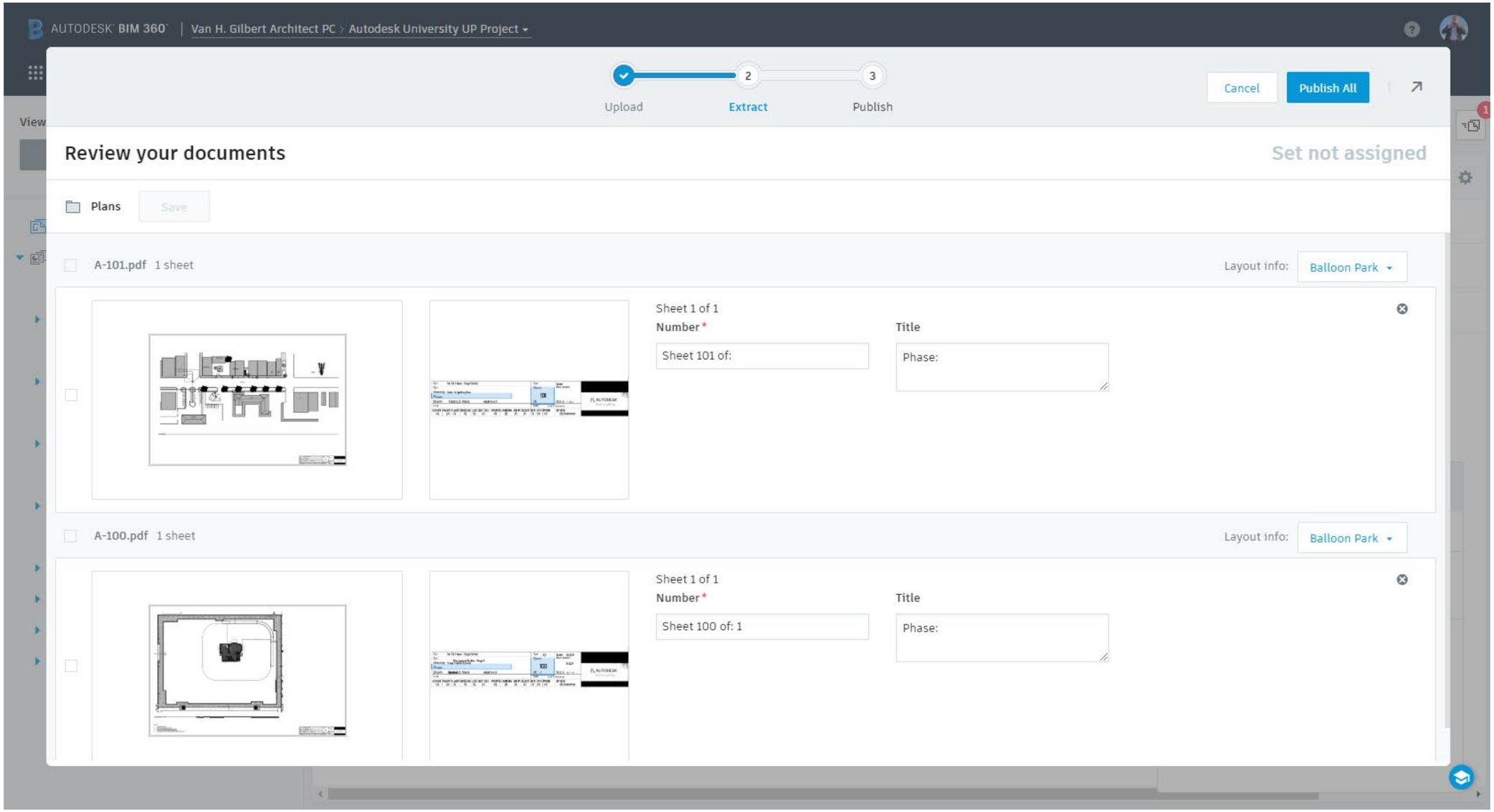
Document Management

Importing Plans and setting up the sheets are critical in keeping the team updated with current plans and any markups that the teams may have.

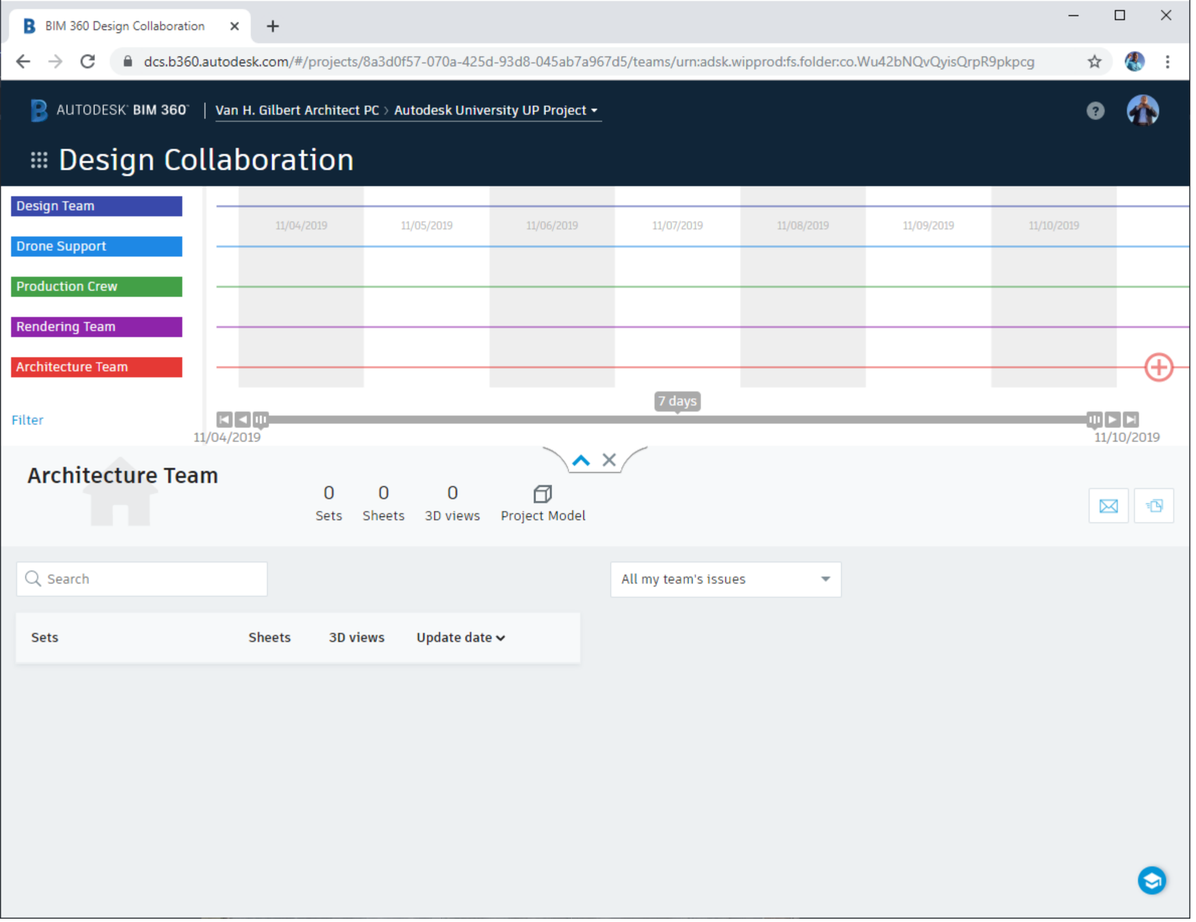
Adding subfolder to Plans and the Project Files sections keep all the files organized and document any new versions that may have occurred

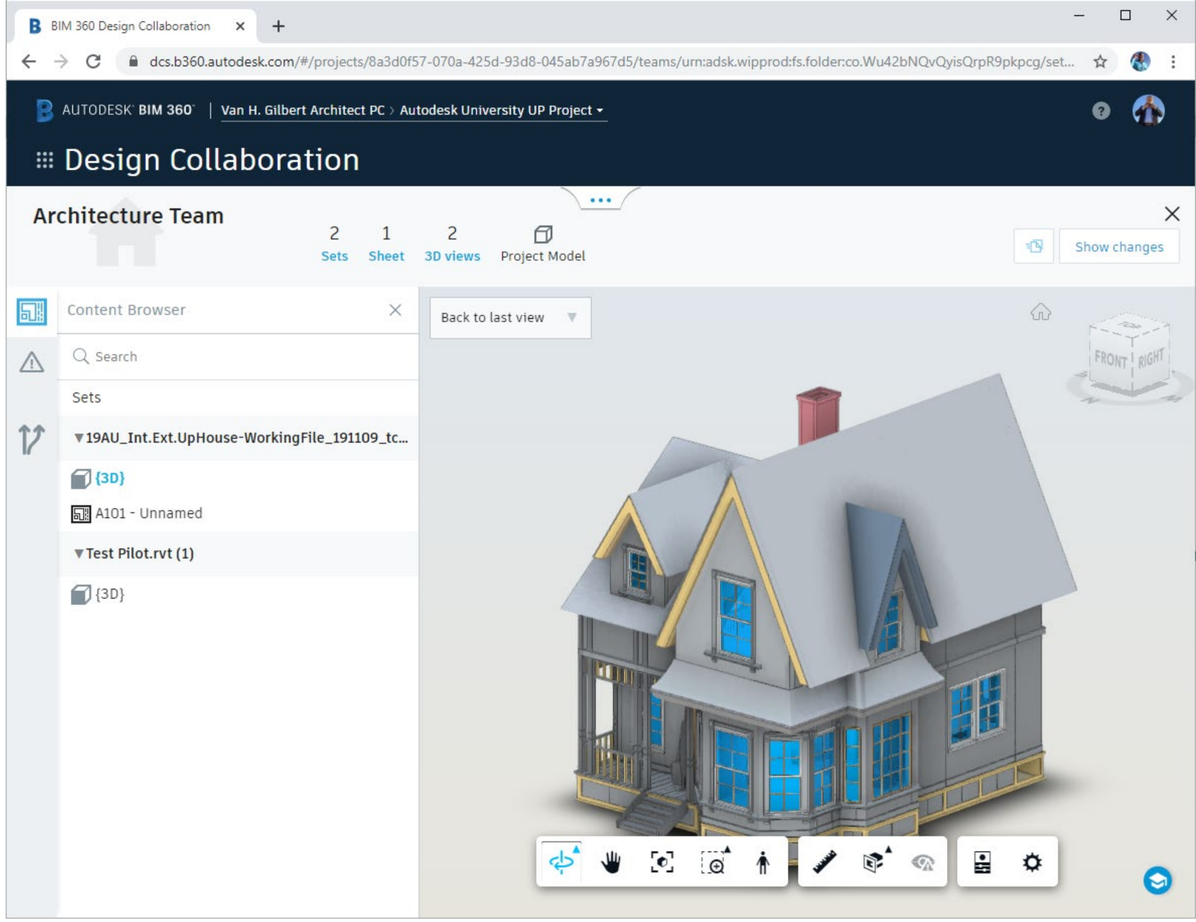


Document Management cont.



Document Management cont.





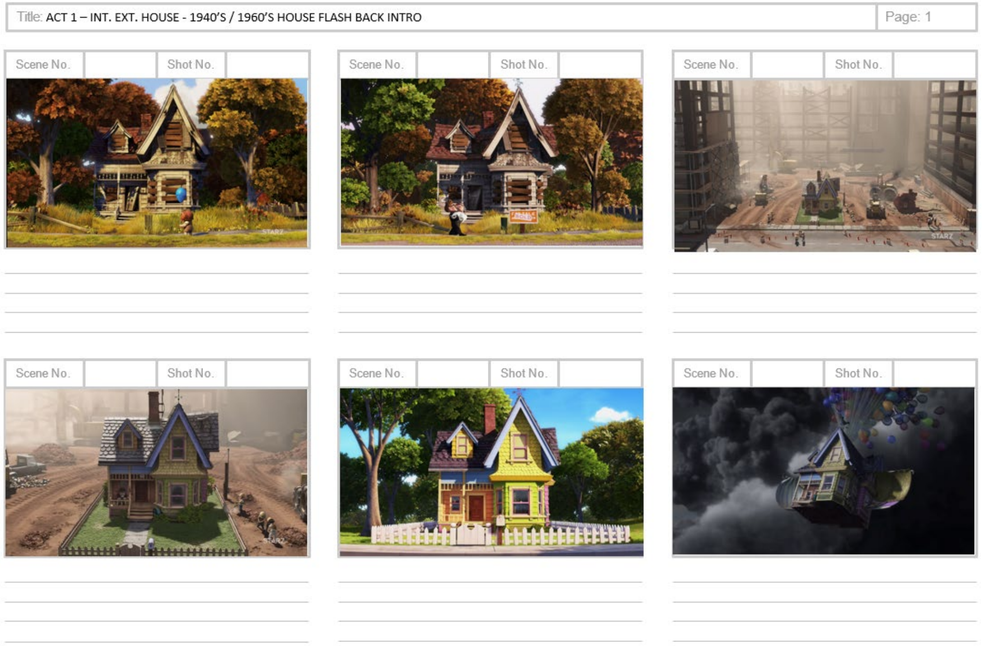
Design Collaboration

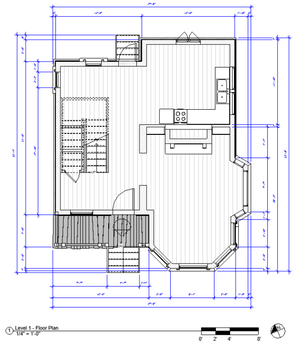
Uploading models, setting up sheets, views, and sets within the revit project keeps everything coordinated for the Collaboration teams and allows for redlining, commenting, and version control.

Follow the Story – setting up the stage

STORY BOARDS

Using story boards assisting the design further in the details needed for the designers, site, exterior, interior and also assist in where special graphics are needed.





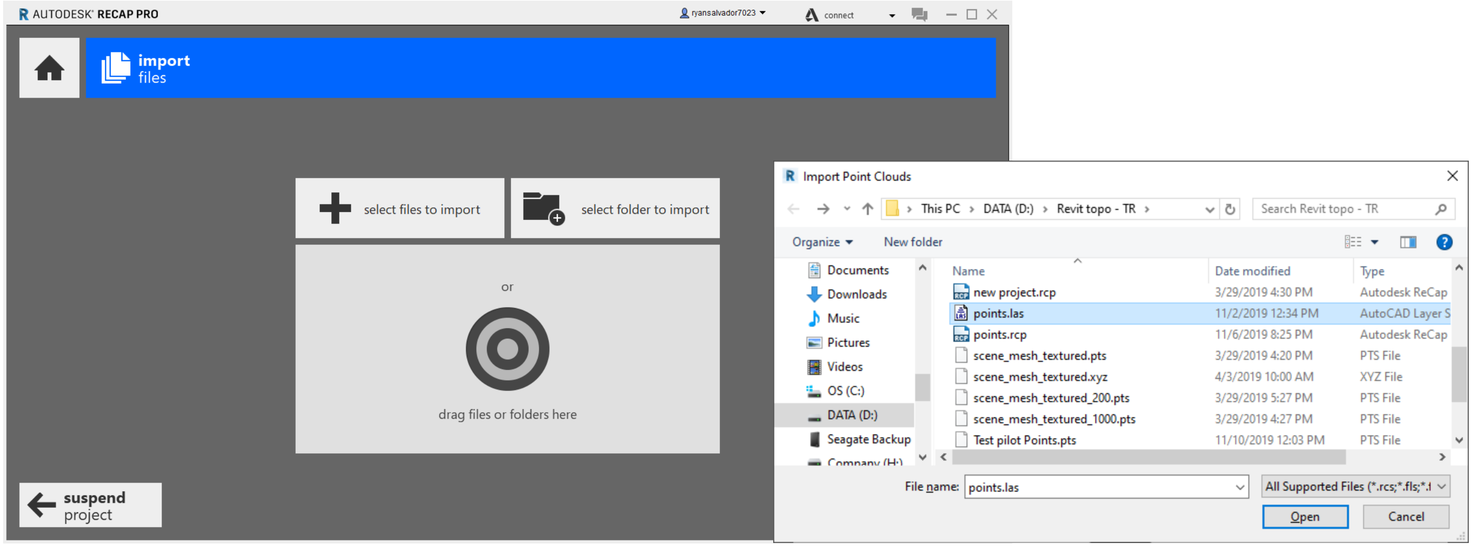
SIZING FOR EQUIPMENT

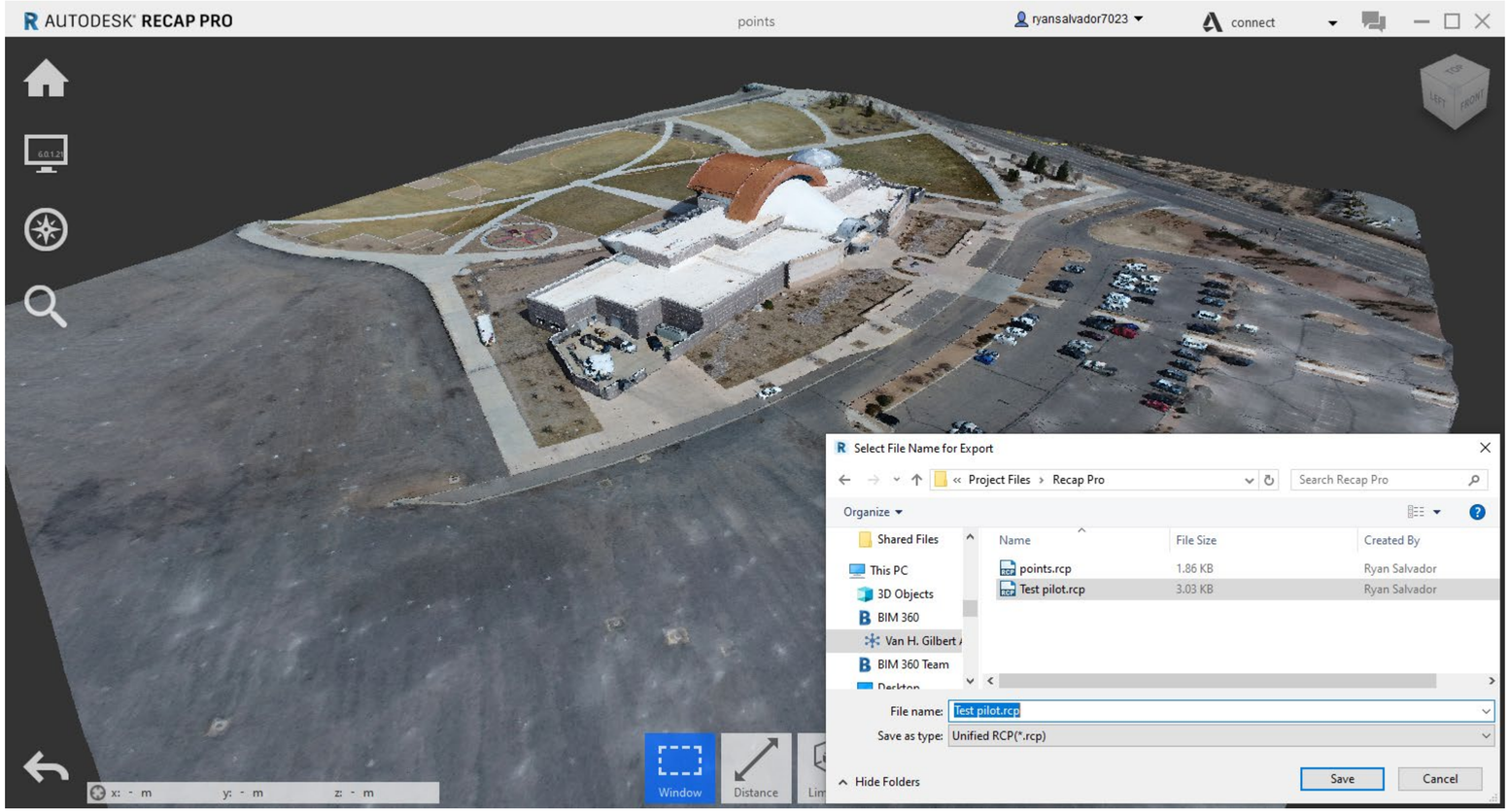
Sizing the building properly allows precise coordination of special equipment needs on the set

Recap Pro

Importing a points file from a drone survey is the first of several steps to have the design team get started working.

- Import the .las or other point file
  - Then export a .rcp file up to the appropriate BIM360 hub for all collaboration teams.
  - This .rcp will be imported into Revit for the beginning of the site design process.

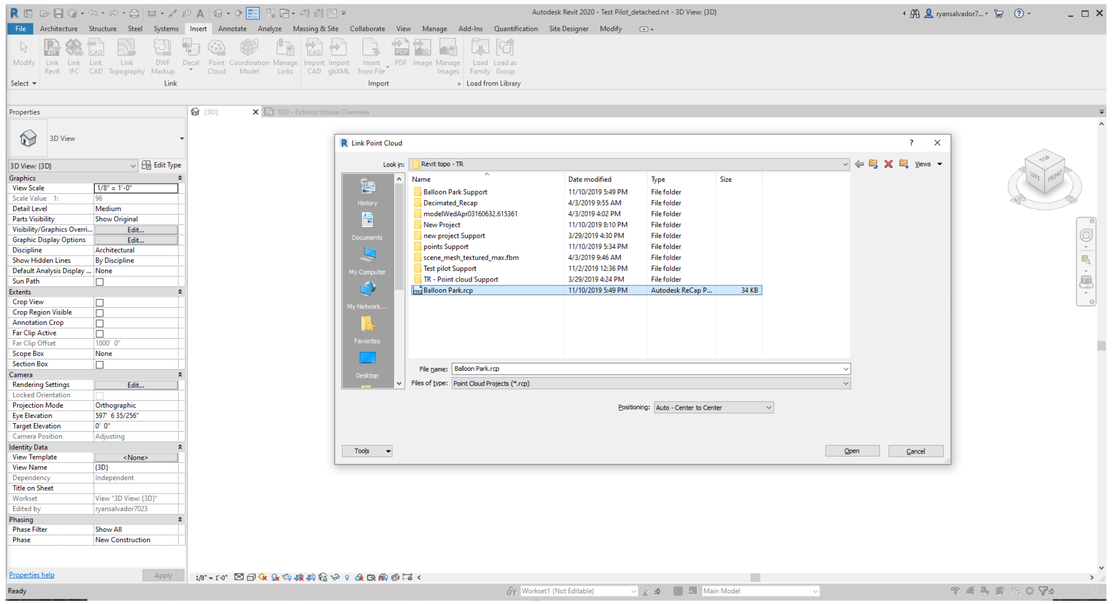


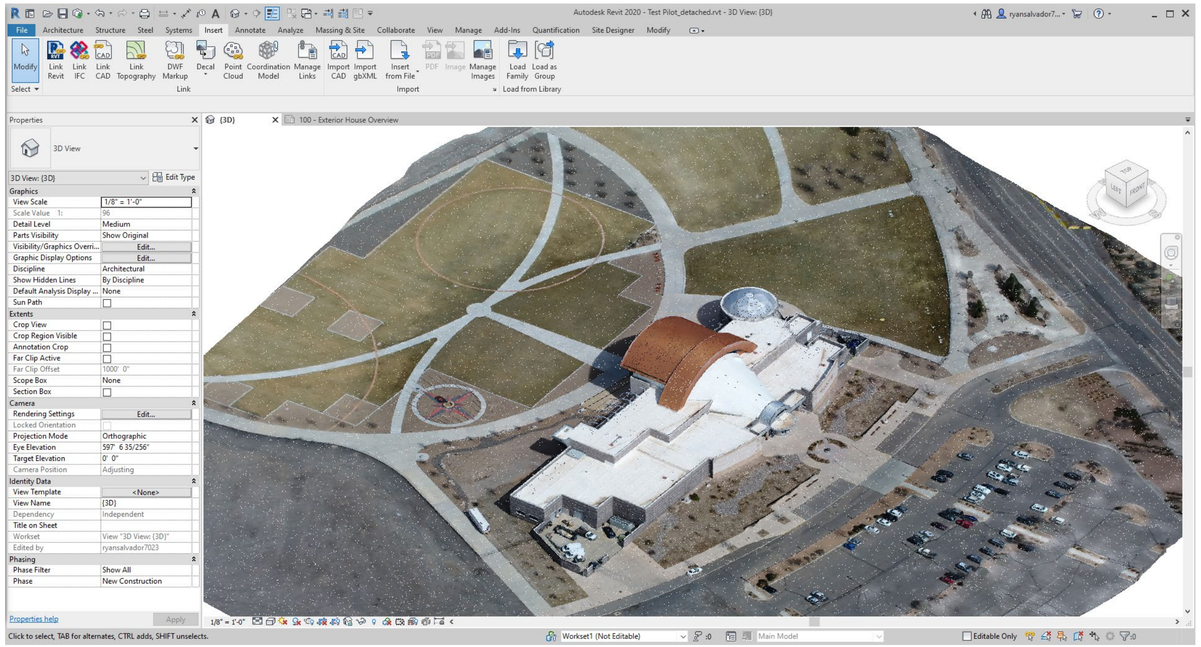


Revit – Linking .rcp

Beginning stage of site design for project locations starts in Revit linking Recap file and Linking the Revit model.

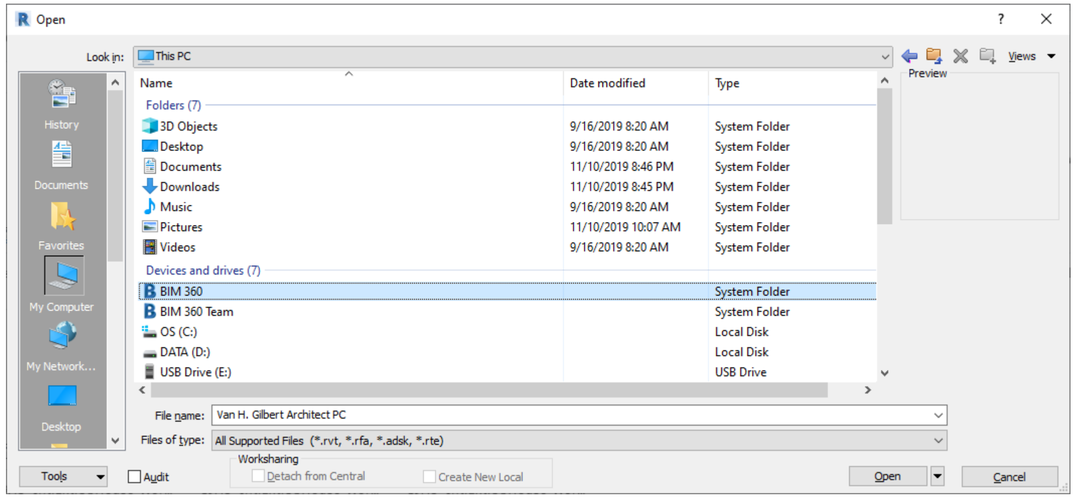
- Insert the .rcp file created from Recap pro from the Point Cloud icon and navigating to the BIM360 Hub
    - This point file is visible in all views and used for coordinating the location of the building.



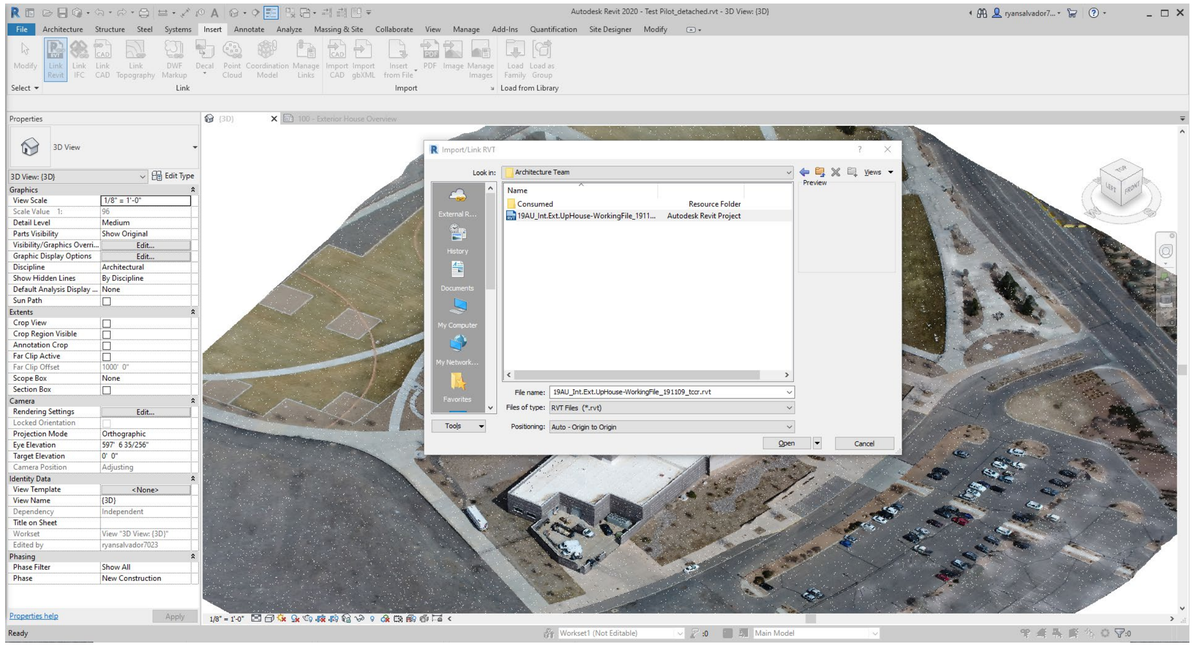


Revit – Linking .rvt

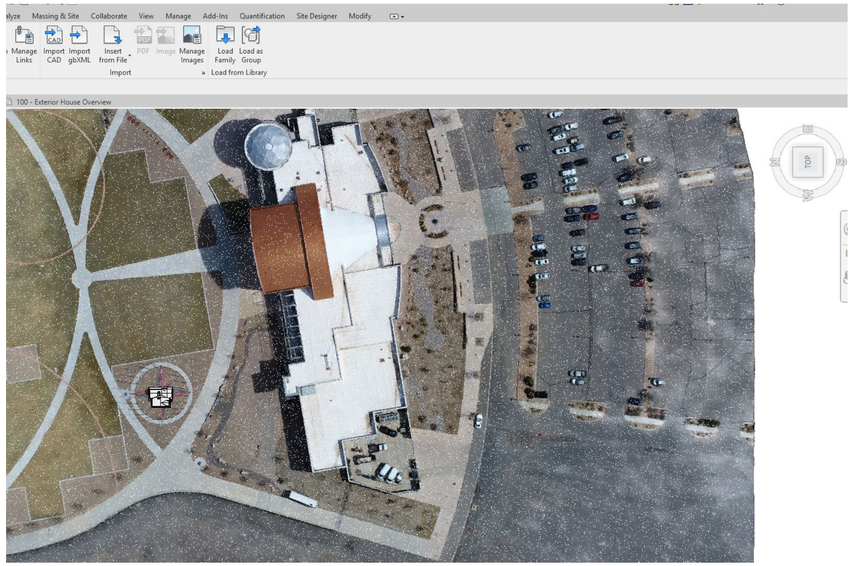
Now that the site location is link we can further link the .rvt file which contains the various models so that site coordination and development can proceed.

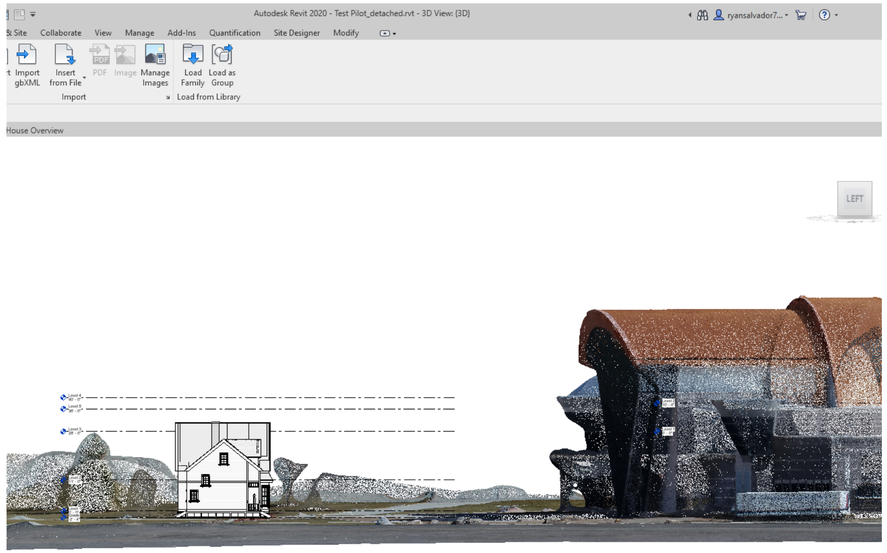


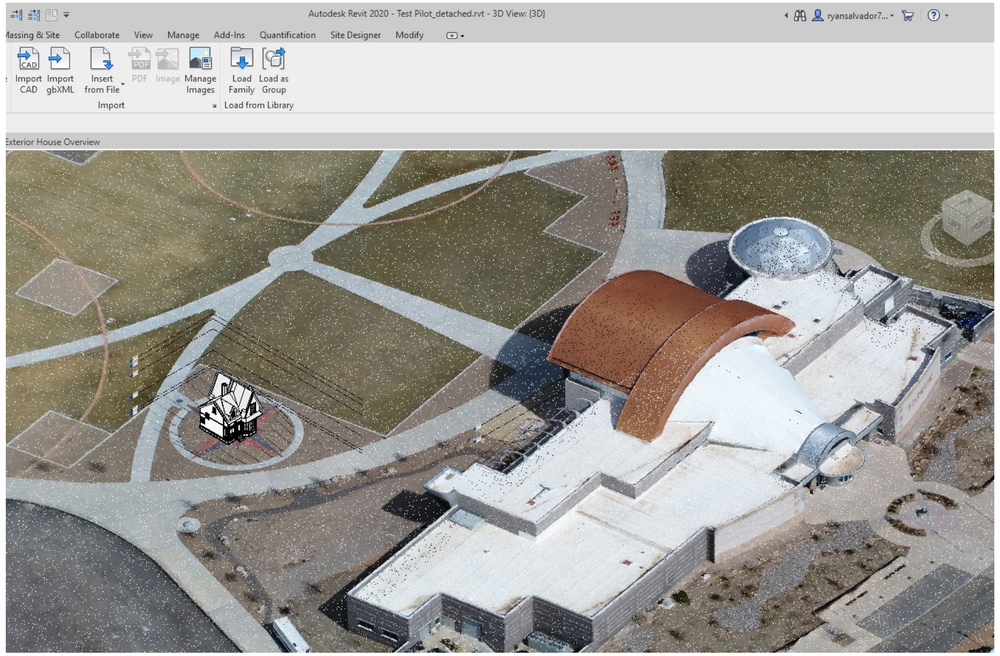
- Begin by linking the .rvt file/s from the BIM360 hub
  - Use the various views to set the .rvt file in the desired location for your set.
    - Other design options may be needed depending on the locations and layout of the buildigns



Revit – Views







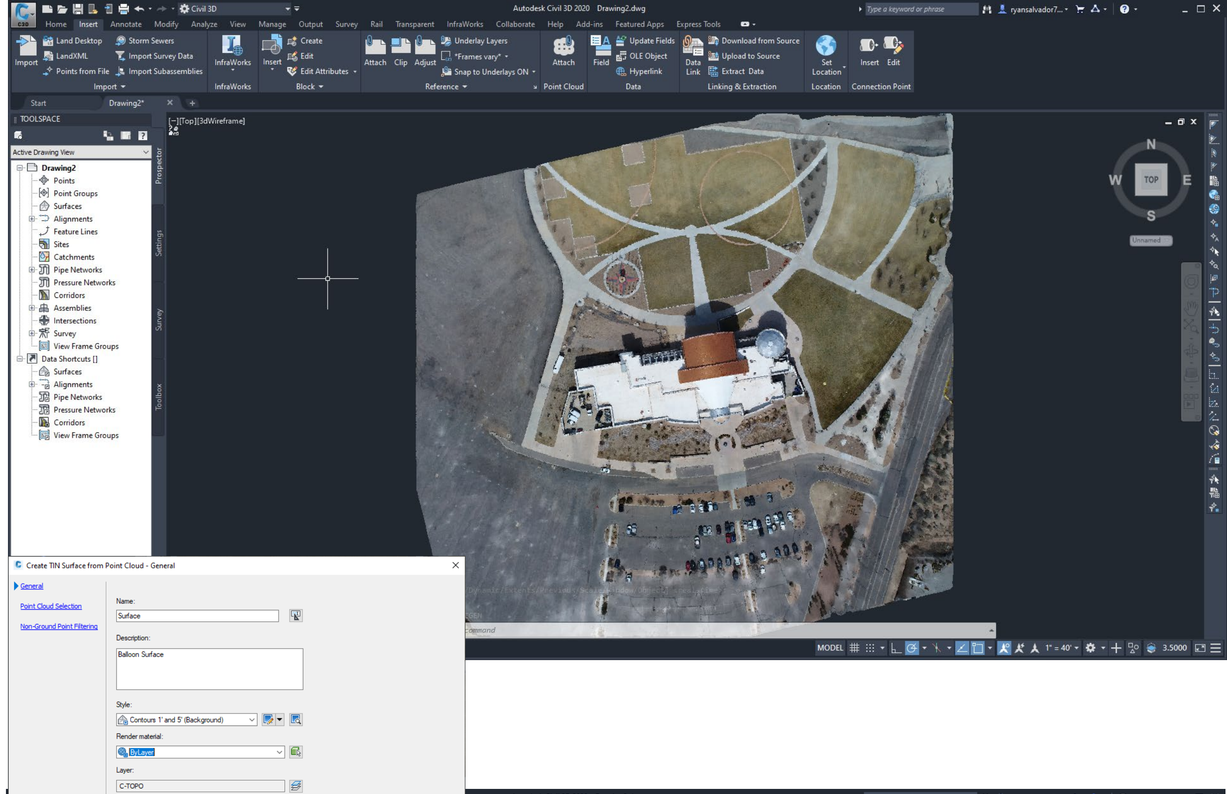
USING VIEWS

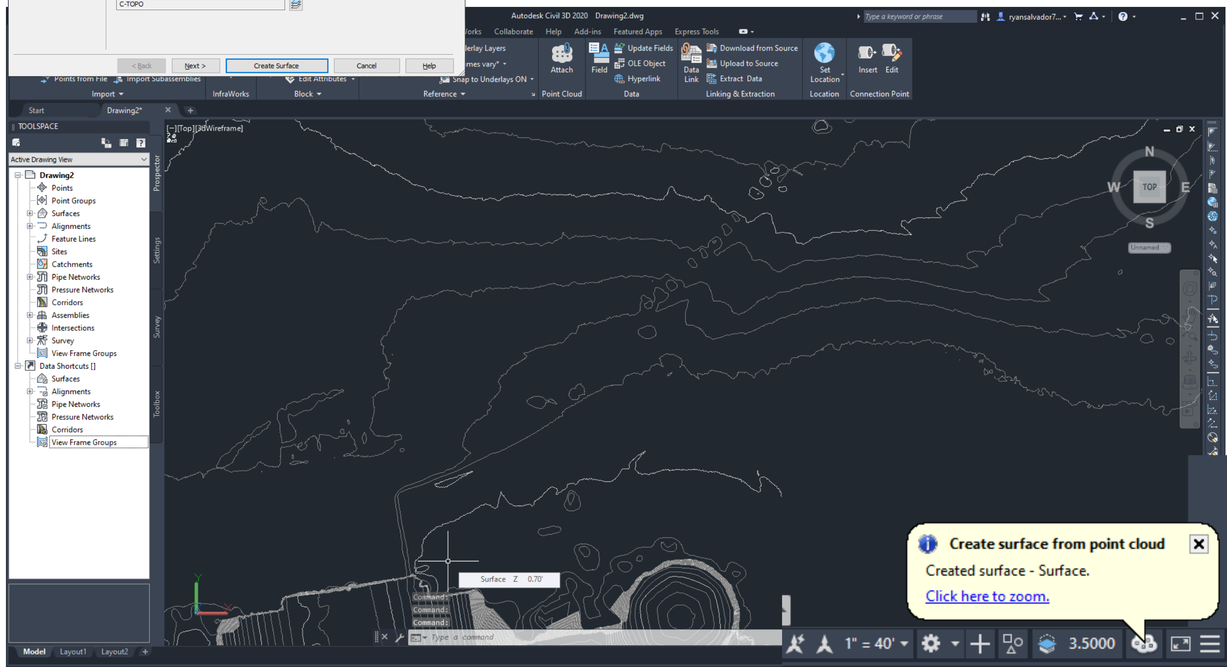
Use the various views to locate the .rvt files on the site for elevation and precise location for the set to be designed

Civil 3D

With Civil 3d the contours are needed to further manipulate the site.

- Import a .rcs file that was exported from Recap
  - Then select the point cloud file and create a surface so contours are created and then can be used to link back into revit and 3ds Max for rendering scenes
    - These contours are set between 1’ to 5’ intervals

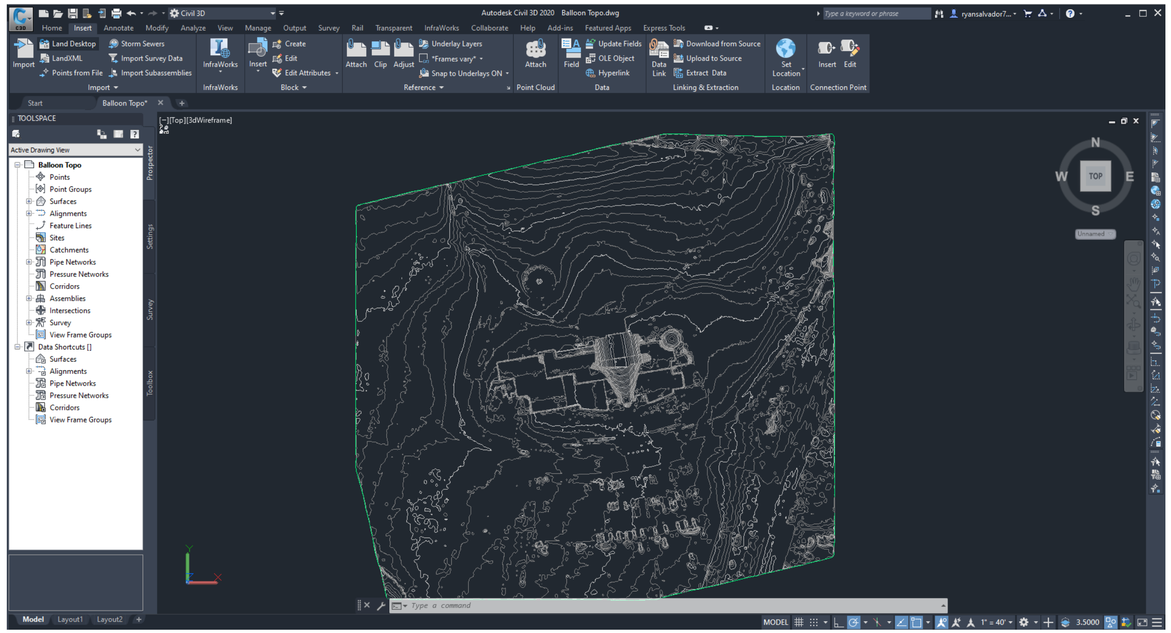


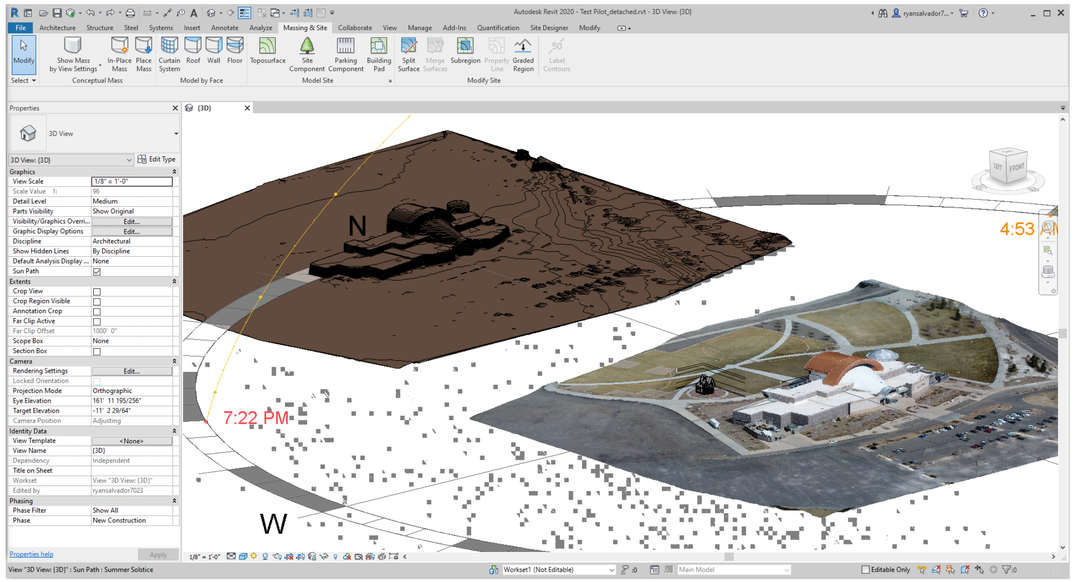


Revit , Civil 3d – Views

CREATING CONTOURS

Once a surface has been created, contours can then be created and further manipulated to fit the needs of the site

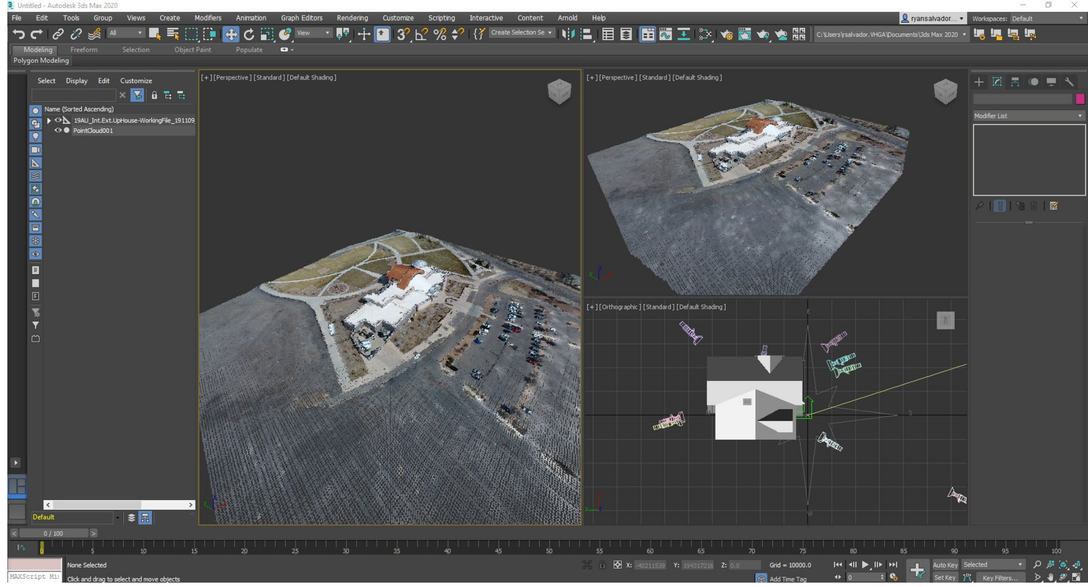




CREATING TOPOSURFACE

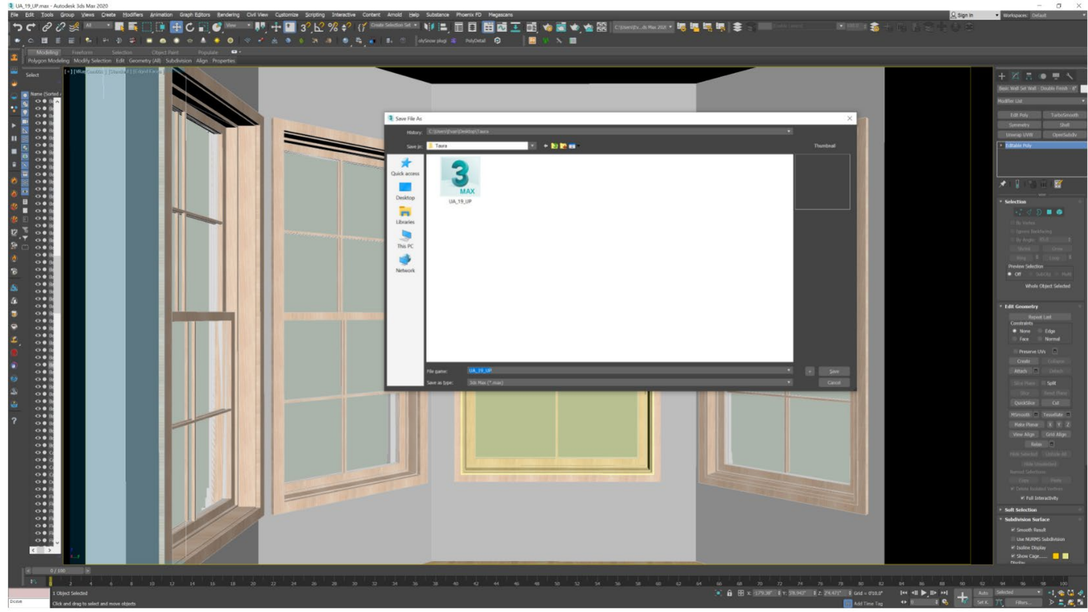
Once the topography information has been created this can be linked into revit for further site development, and placement of site components

3ds Max



With all the files exported, linked, imported, and exported, 3ds Max can then use these files to enhance renderings to demonstrate the necessary lighting, staging, and site manipulation.

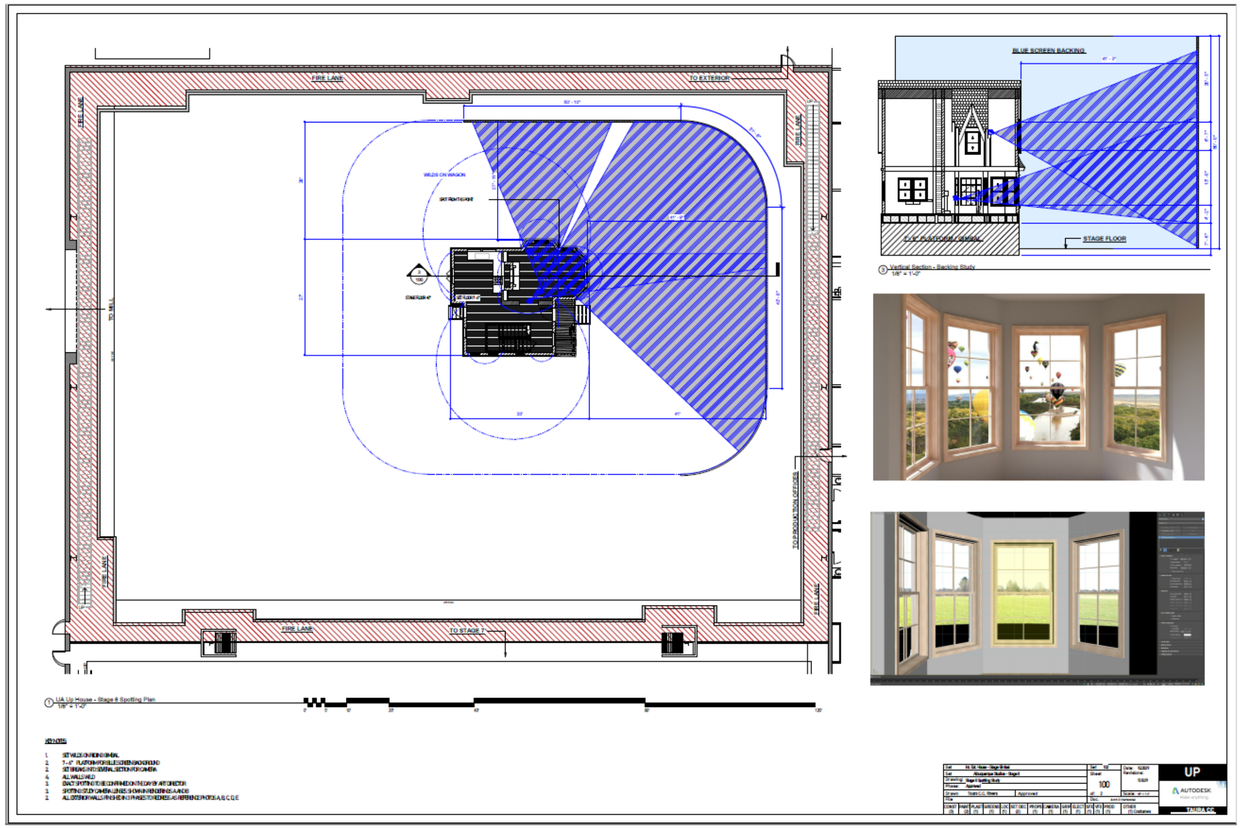
- Using point clouds within 3ds Max has some difficulties and is mainly used to create mass elements then render materials are applied, but with a revit topo surface this become easier to apply materials
  - Once the set has been designed interior renderings can move forward to further elaborate the story to be told.

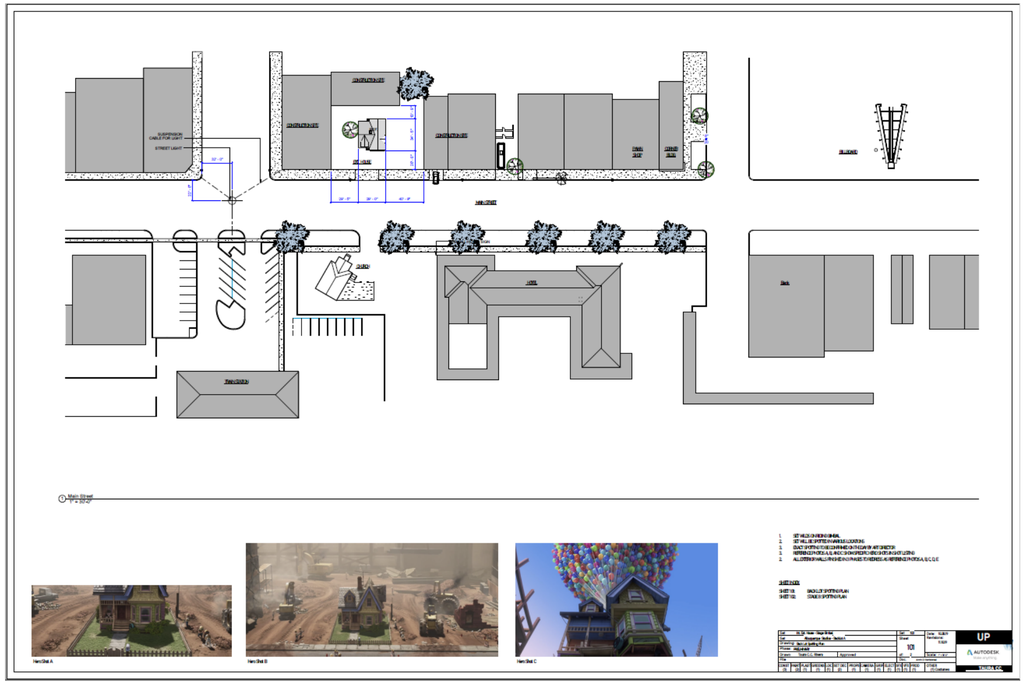


3ds Max – Revit Views

Coordination happens every step of the Film/TV process and continues at a fast pace when collaborating on BIM 360.

- Using the BIM 360 platforms the Design team can easily communicate with the Rendering team and graphics teams to coordinate views needed and the level of detail.





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The End

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