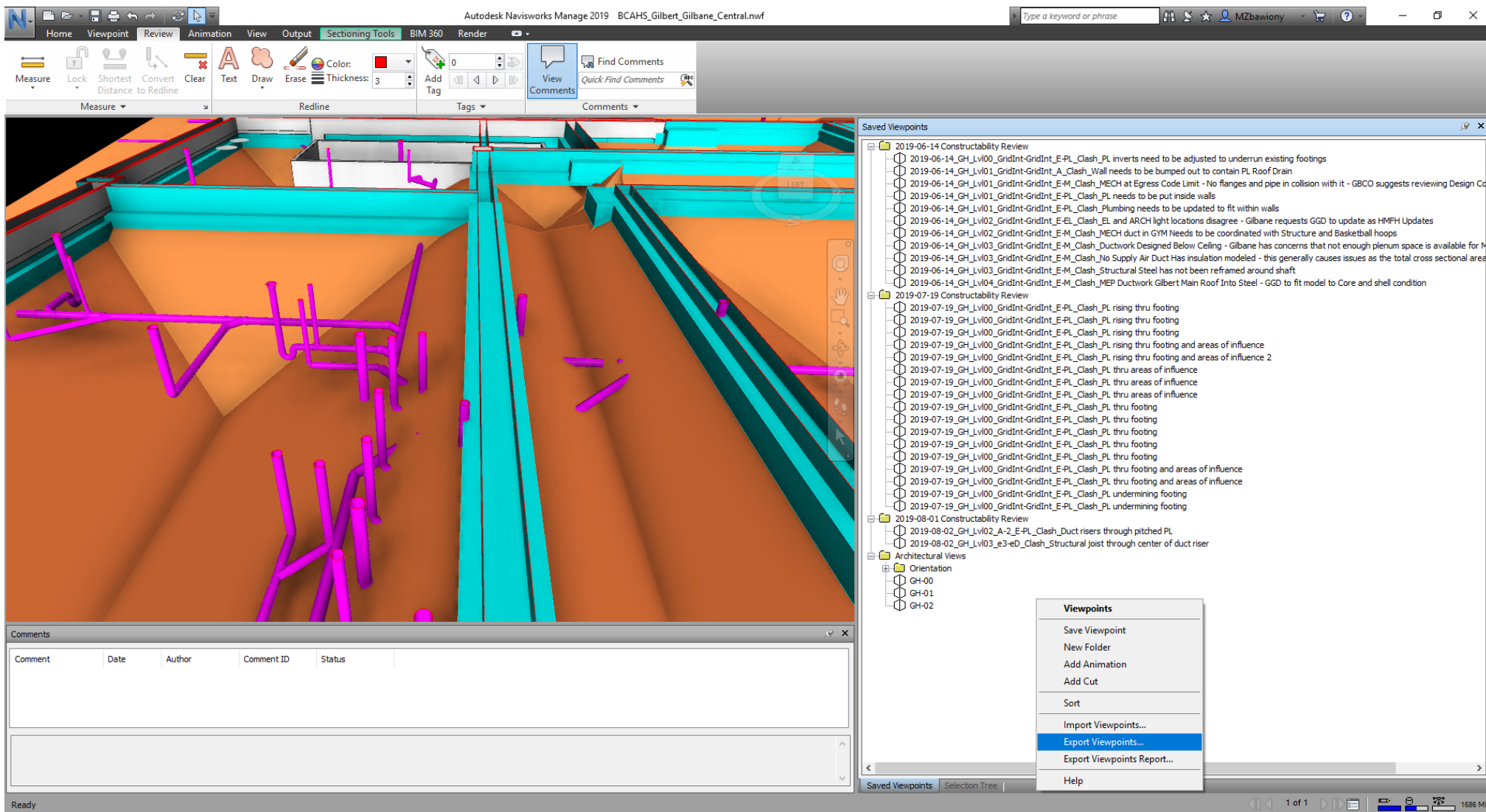
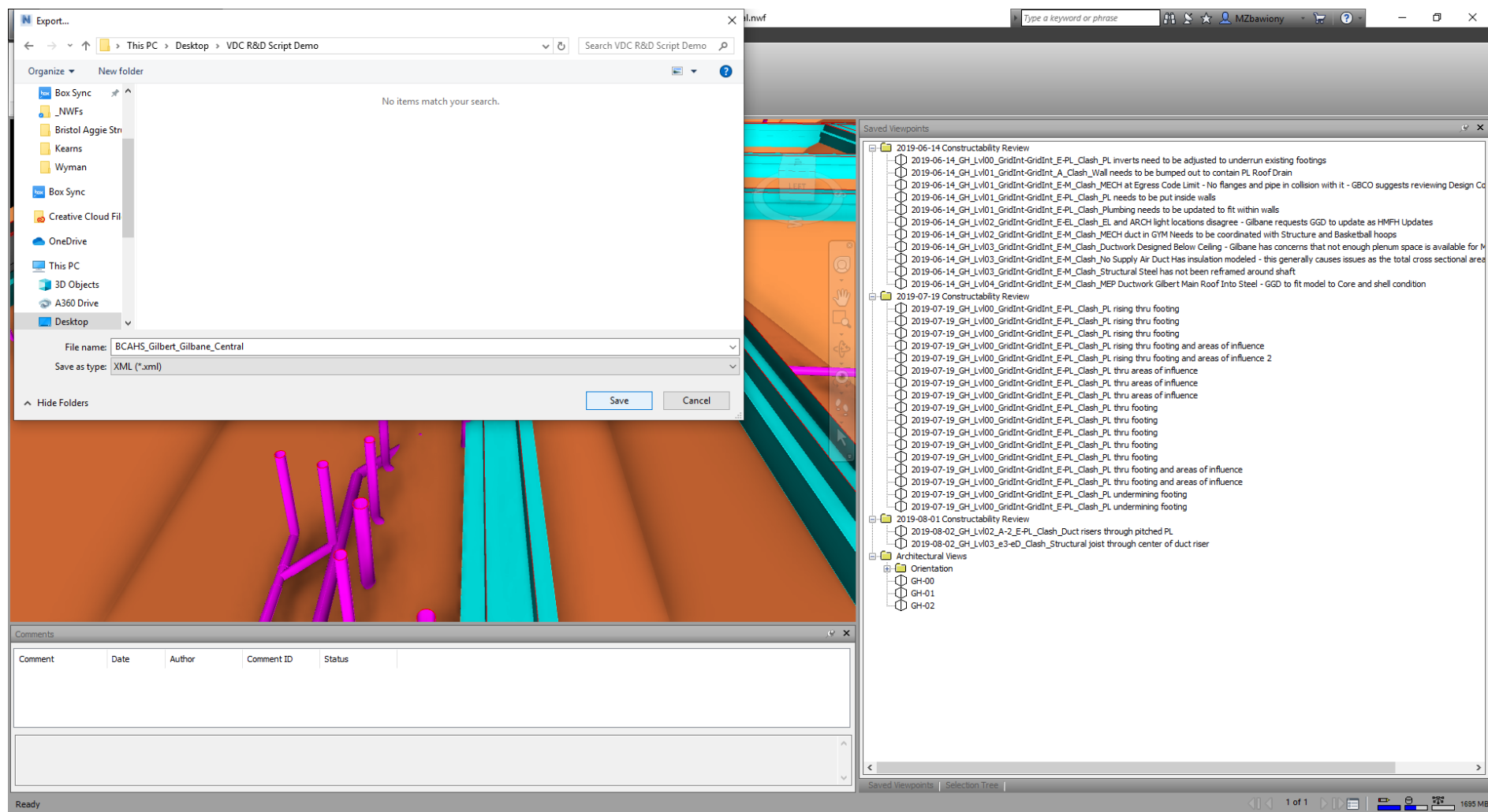




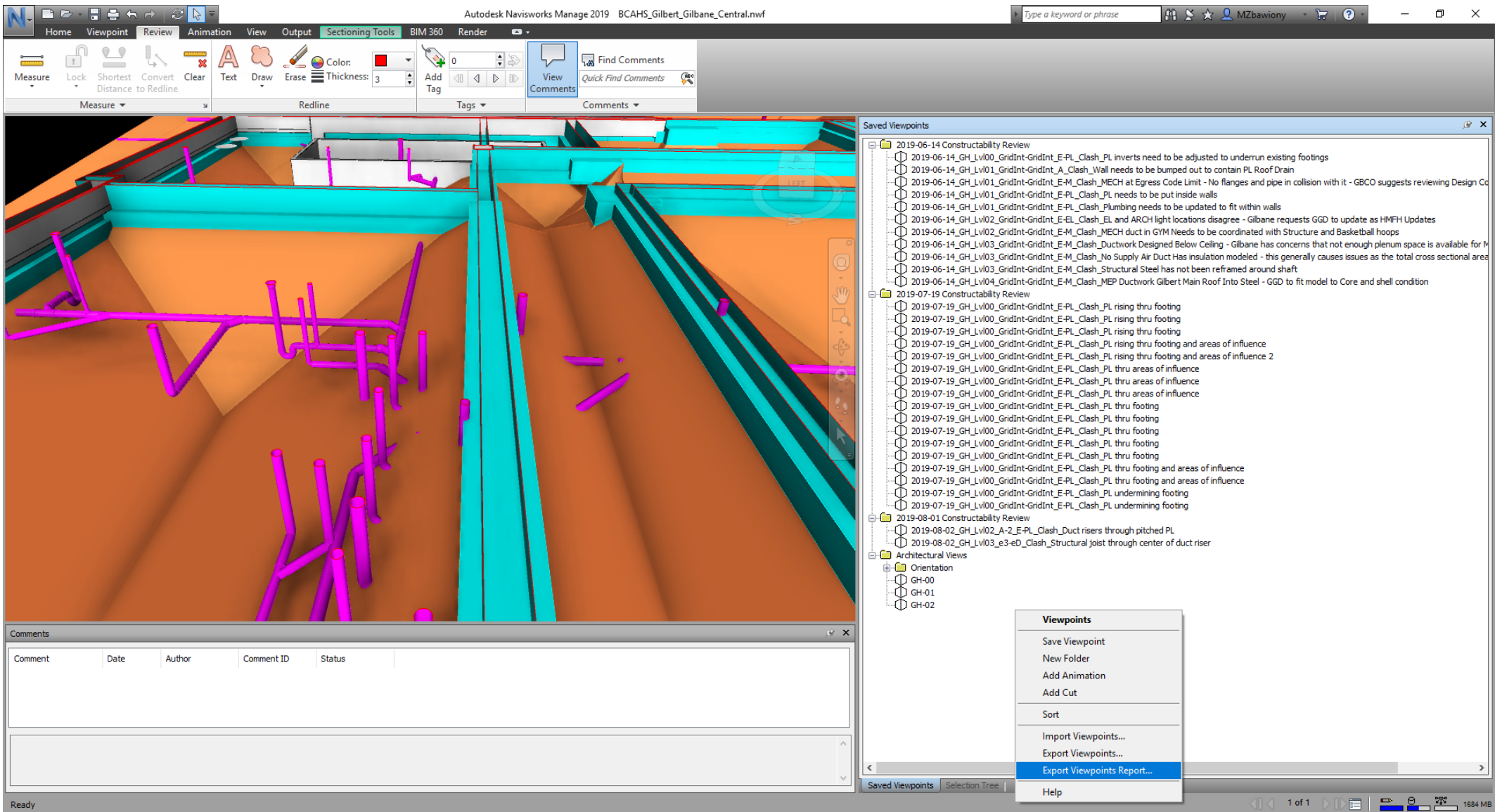
Gilbane VDC R&D Script



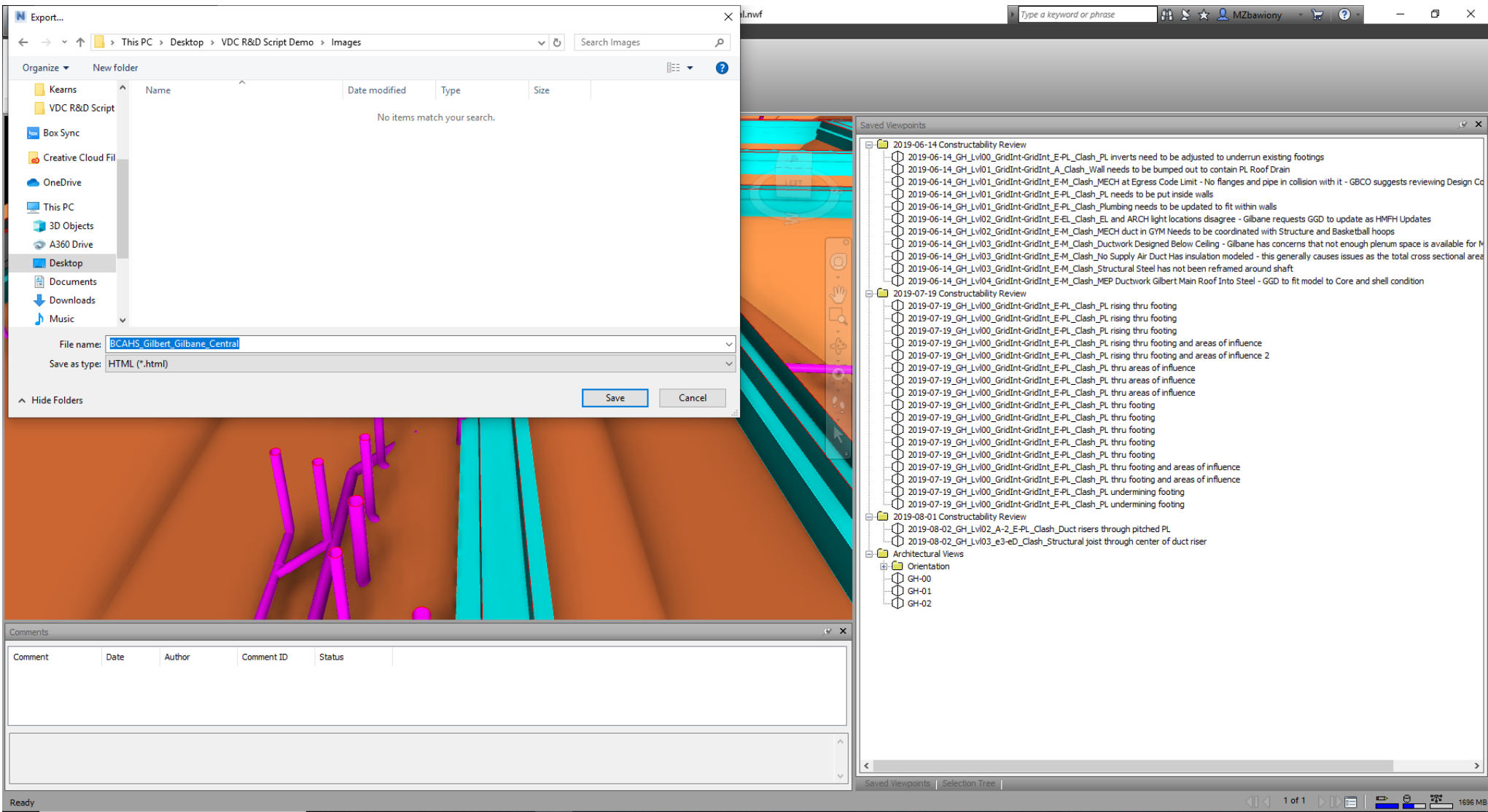
In Navisworks, export an XML of viewpoints by right-clicking inside the “Saved Viewpoints” tab and selecting “Export Viewpoints...”.



Choose a place to save the XML file, and then click “Save”.



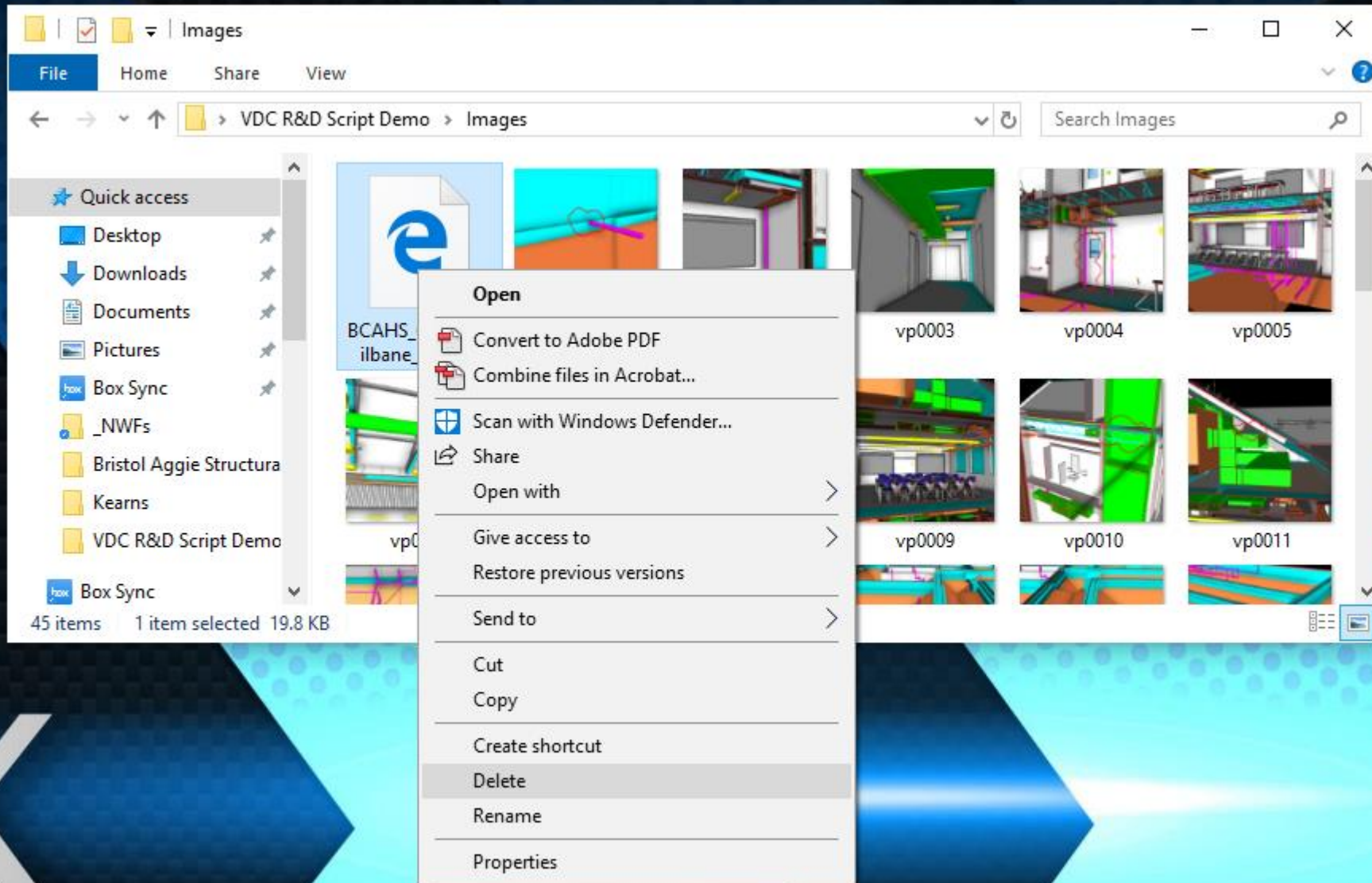
Next, export a viewpoint report by right-clicking in the “Saved Viewpoints” tab and clicking “Export Viewpoints Report...”



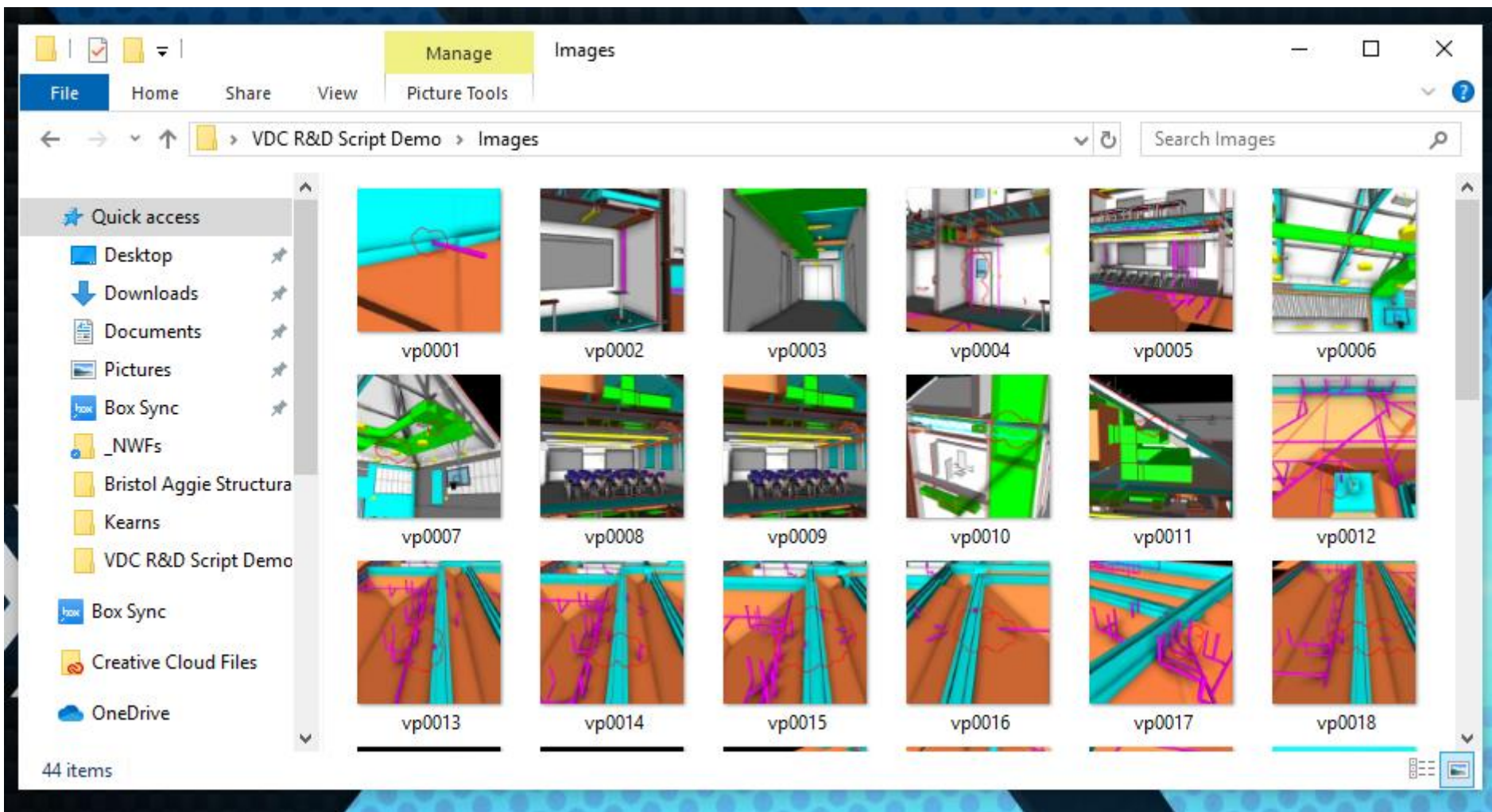
Create an empty folder wherever you want to save the images and hit “Save”

All images must be saved in an empty folder for the script to work

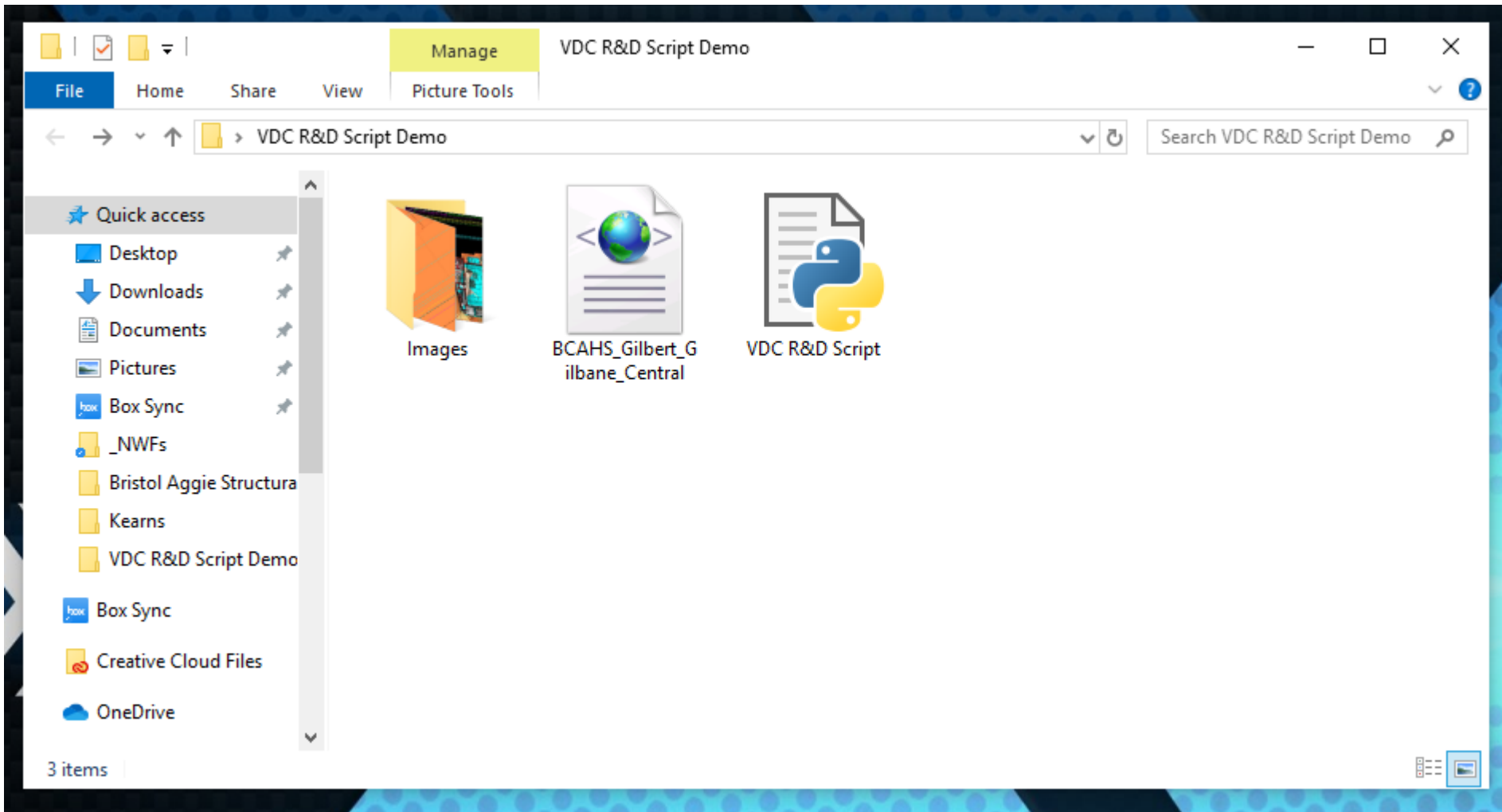
I suggest creating a new folder named “Images” or “Images to Upload” in the same place you saved the XML File and then saving the images to that folder.



After saving all the images, open the new folder and delete the “.html” file inside. This file should be the first file in the folder.

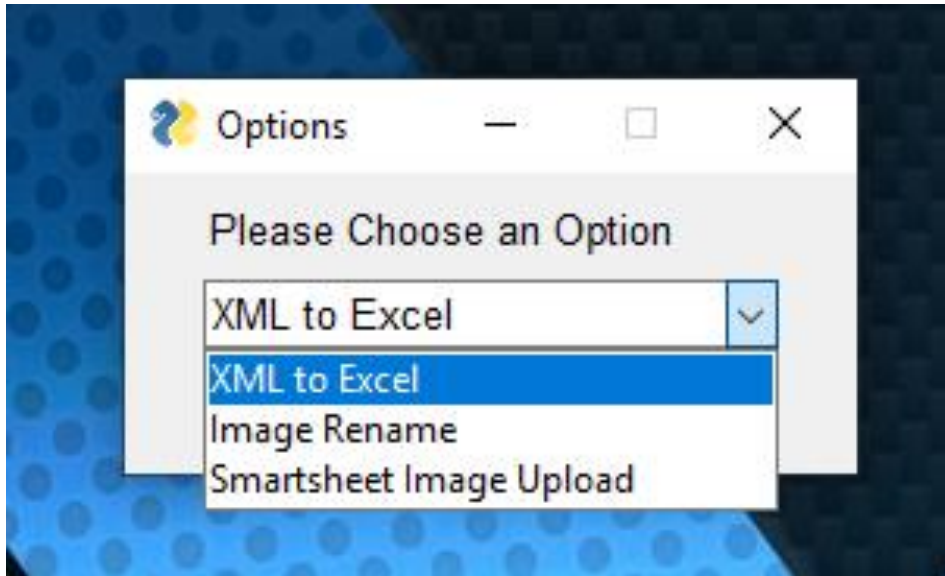


After deleting the “.html” file, here is what your image folder should look like. This folder should only contain the images from the viewpoint report.



I suggest saving everything in one place and then moving it once you are done. Here is what my working folder looks like at this point in the process.

- 1) I have a folder strictly filled with images from the viewpoints report
- 2) I have an XML File
- 3) I have the Python script for easy access



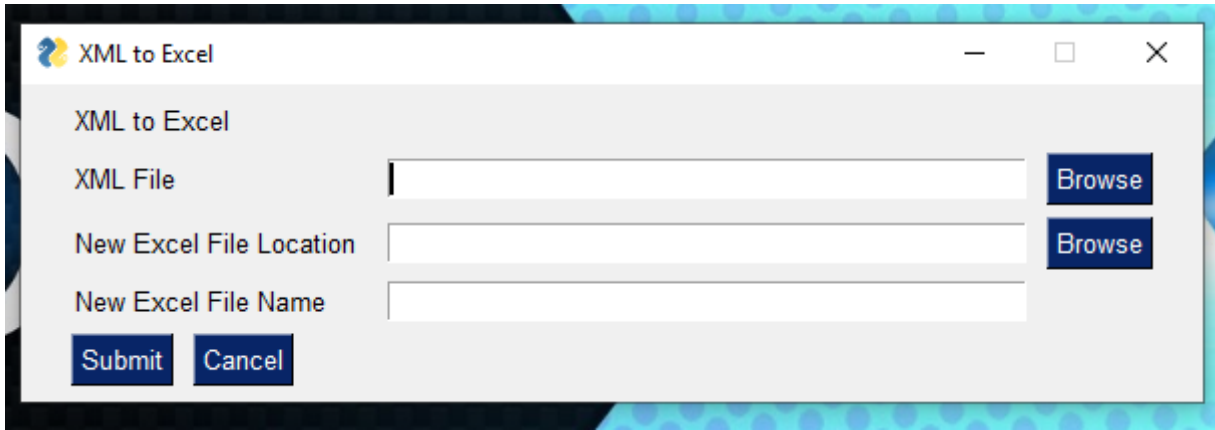
Now that you have exported everything from Navisworks, open the script.

If prompted, choose to open this file with “Python”.

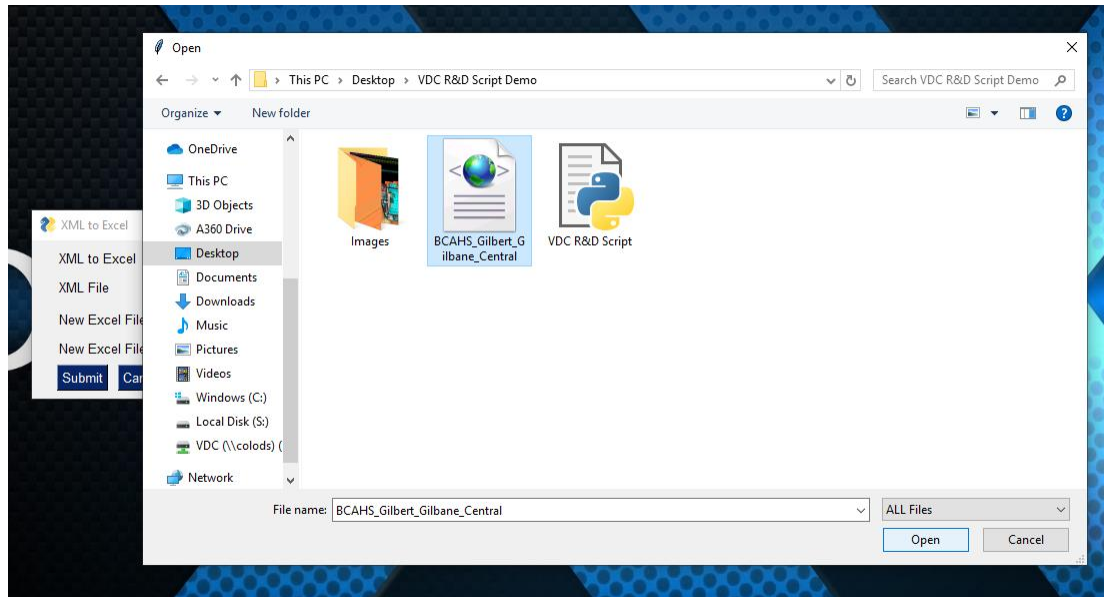
There are 3 options to choose from when you open the program.

The first step should generally be “XML to Excel”

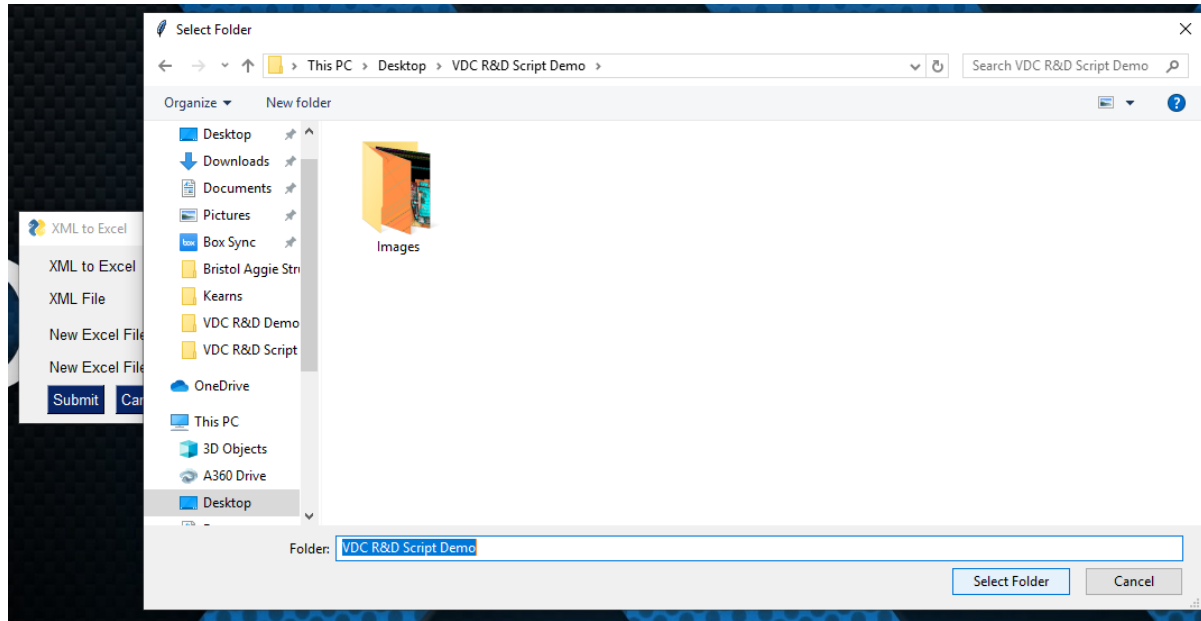
This will create a new Excel sheet that populates the Excel file with the information from your “Saved Viewpoints” tab in Navisworks



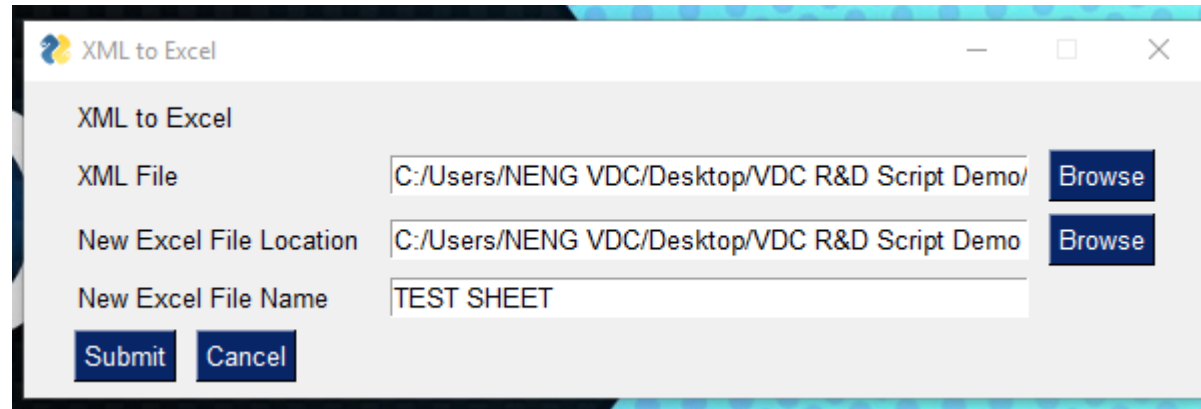
Enter all 3 sections of information, otherwise it will not work.



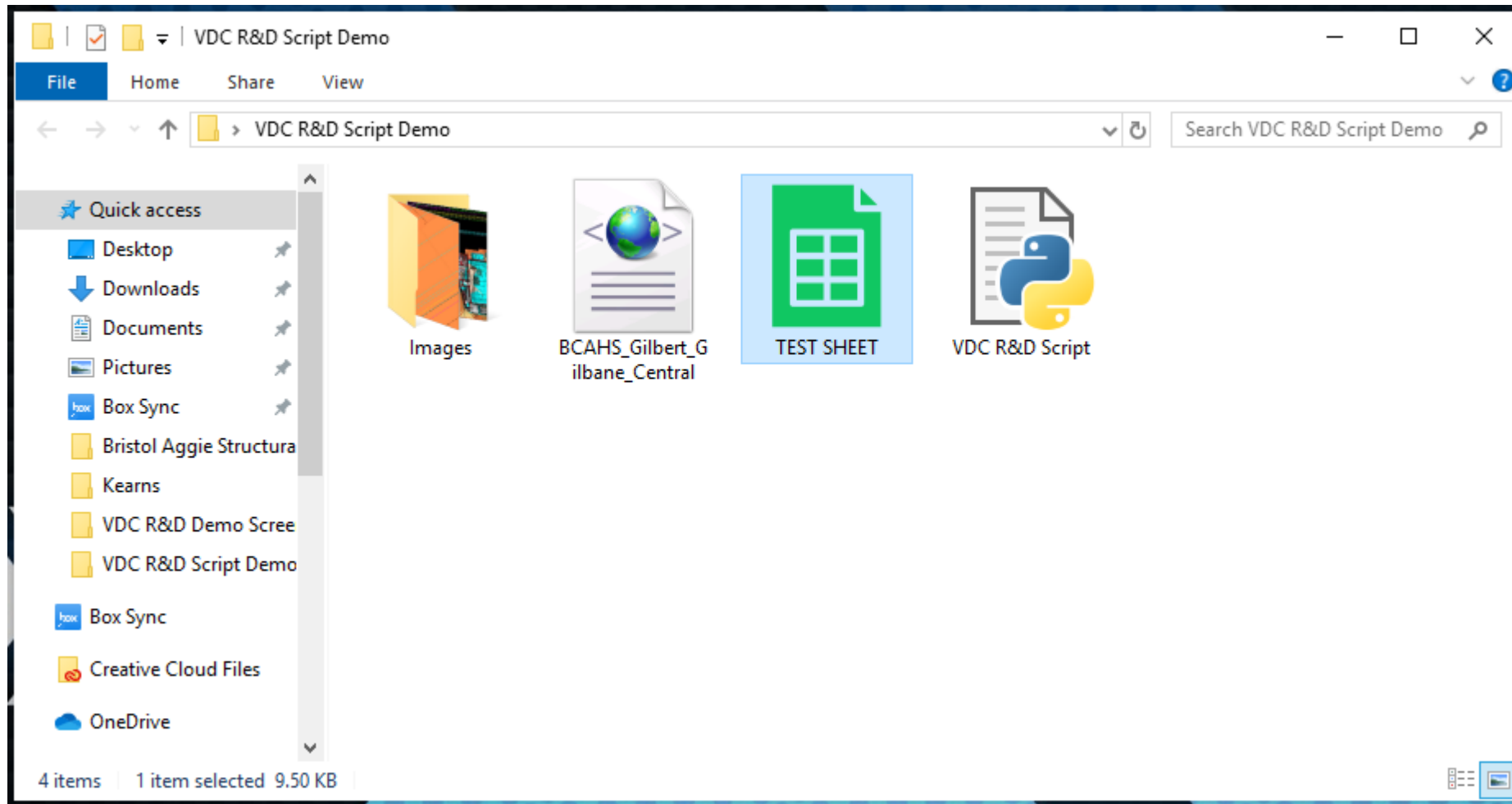
Use the “Browse” button to navigate to the XML File you exported from Navisworks and select “Open” at the bottom right.



Use the “Browse” button to select where the new Excel File will be created and click “Select Folder” when done.



Use the textbox to give the new Excel File a name. You must give the file a name or it will not save properly. When you have entered all 3 parts, click “Submit” on the bottom left. Clicking “Submit” will close the program.

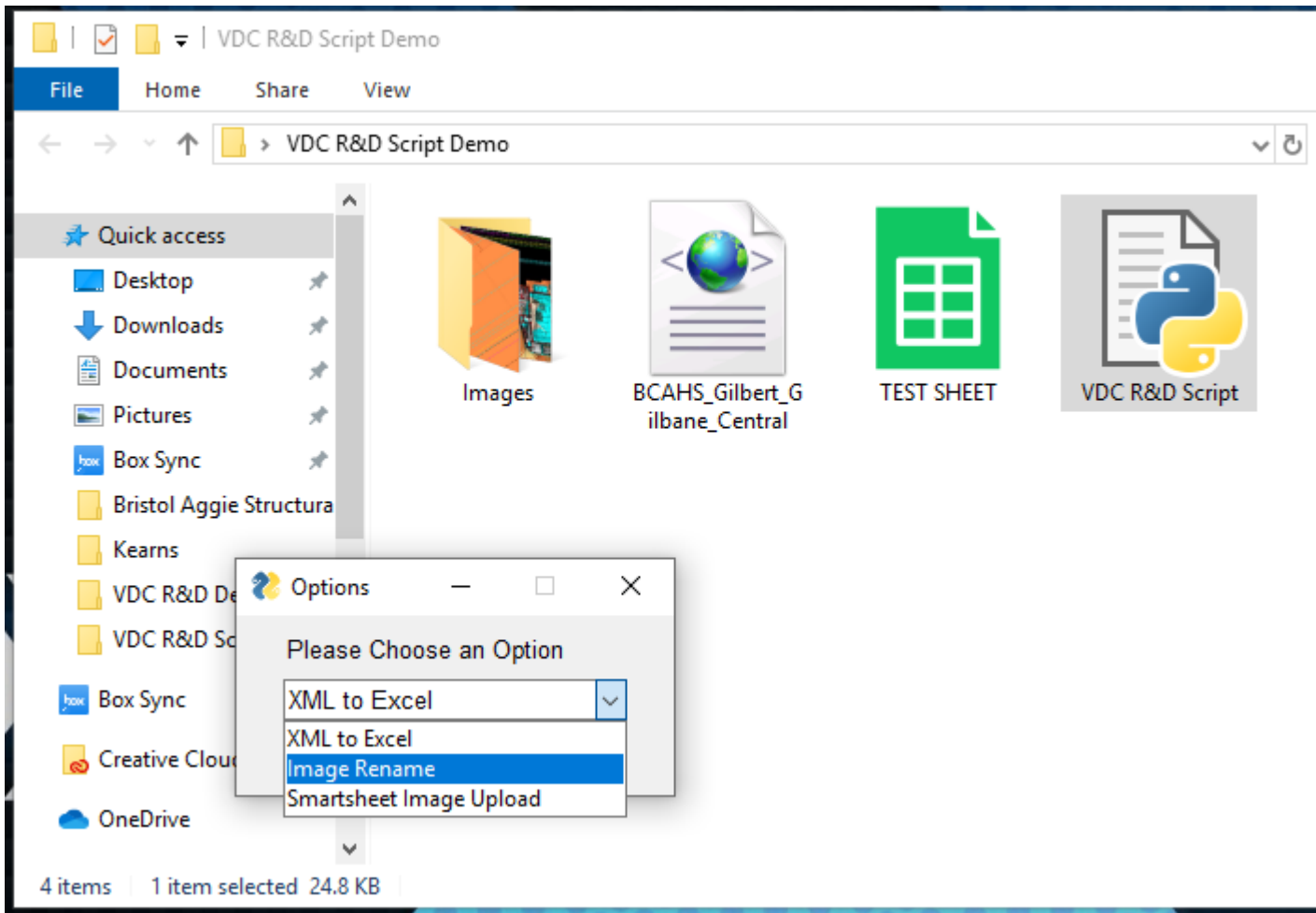


After running the program, go to the folder where you chose to save the Excel file. You should see a “.xls” file with the name you gave it. You must have Microsoft Office or an Excel Viewer to open this file.

<div> </div>									
	A	B	C	D	E	F	G	H	
1	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv00 GridInt-GridInt E-PL	Clash			PL inverts need to be adjusted to underrun existing footings	
2	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv01 GridInt-GridInt A	Clash			Wall needs to be bumped out to contain PL Roof Drain	
3	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv01 GridInt-GridInt E-M	Clash			MECH at Egress Code Limit - No flanges and pipe in collision	
4	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv01 GridInt-GridInt E-PL	Clash			PL needs to be put inside walls	
5	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv01 GridInt-GridInt E-PL	Clash			Plumbing needs to be updated to fit within walls	
6	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv02 GridInt-GridInt E-EL	Clash			EL and ARCH light locations disagree - Gilbane requests GGD	
7	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv02 GridInt-GridInt E-M	Clash			MECH duct in GYM Needs to be coordinated with Structure a	
8	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv03 GridInt-GridInt E-M	Clash			Ductwork Designed Below Ceiling - Gilbane has concerns tha	
9	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv03 GridInt-GridInt E-M	Clash			No Supply Air Duct Has insulation modeled - this generally ca	
10	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv03 GridInt-GridInt E-M	Clash			Structural Steel has not been reframed around shaft	
11	2019-06-14 Constructability Review	Orientation 2019-06-14		GHLv04 GridInt-GridInt E-M	Clash			MEP Ductwork Gilbert Main Roof Into Steel - GGD to fit mode	
12	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL rising thru footing	
13	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL rising thru footing	
14	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL rising thru footing	
15	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL rising thru footing and areas of influence	
16	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL rising thru footing and areas of influence 2	
17	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL thru areas of influence	
18	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL thru areas of influence	
19	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL thru areas of influence	
20	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL thru footing	
21	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL thru footing	
22	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL thru footing	
23	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL thru footing	
24	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL thru footing	
25	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL thru footing and areas of influence	
26	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL thru footing and areas of influence	
27	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL undermining footing	
28	2019-07-19 Constructability Review	2019-07-19		GHLv00 GridInt-GridInt E-PL	Clash			PL undermining footing	
29	2019-08-01 Constructability Review	2019-08-02		GHLv02A-2	E-PL	Clash		Duct risers through pitched PL	
30	2019-08-01 Constructability Review	2019-08-02		GHLv03e3-eD	Clash	Structural joist through center of duct riser			
31	Architectural Views	East							
32	Architectural Views	Front							
33	Architectural Views	Home							
34	Architectural Views	North							
35	Architectural Views	Northeast Isometric							
36	Architectural Views	Northwest Isometric							
37	Architectural Views	South							
38	Architectural Views	Southeast Isometric							
39	Architectural Views	Southwest Isometric							
40	Architectural Views	Top							
41	Architectural Views	West							
42	Architectural Views	GH-00							
43	Architectural Views	GH-01							
<div> < > Sheet 1 + </div>									

Open the Excel file and ensure that the information matches up. If it does not, it is usually all there, just shifted due to a formatting error in Navisworks. You can copy and paste this information straight from the Excel File to Smartsheet.com

I would suggest selectively copy and pasting information after checking if it is correct.



To rename all images with their corresponding viewpoint name, open the Python script and choose the “Image Rename” option at the first screen.

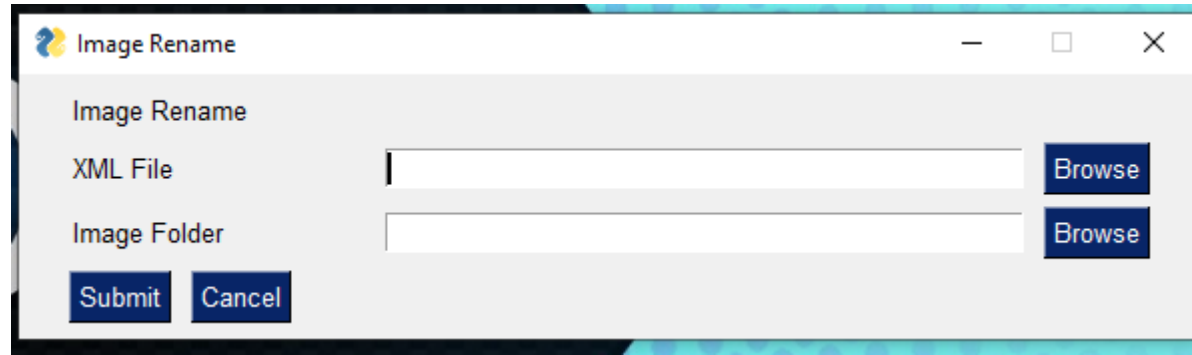
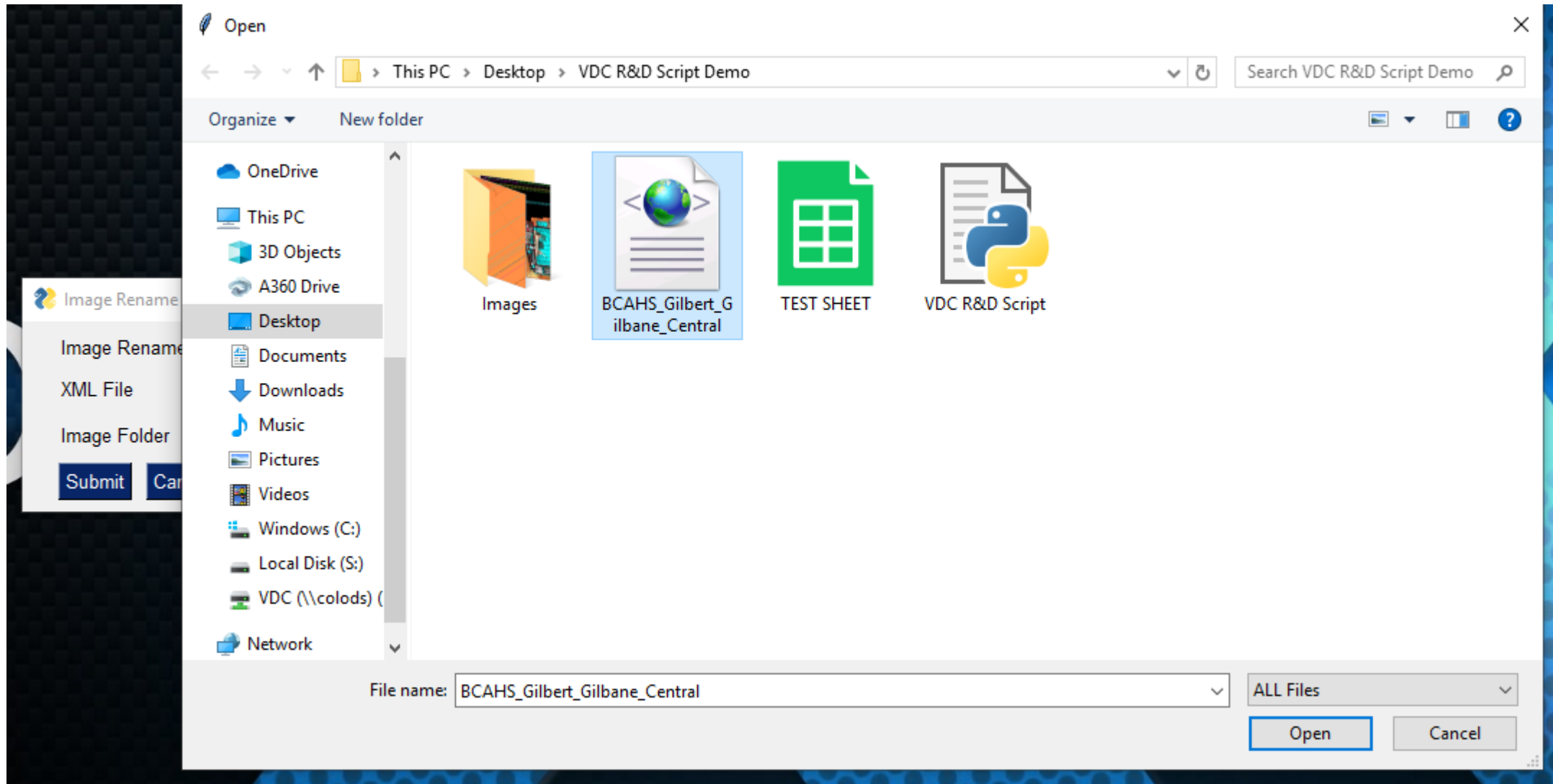
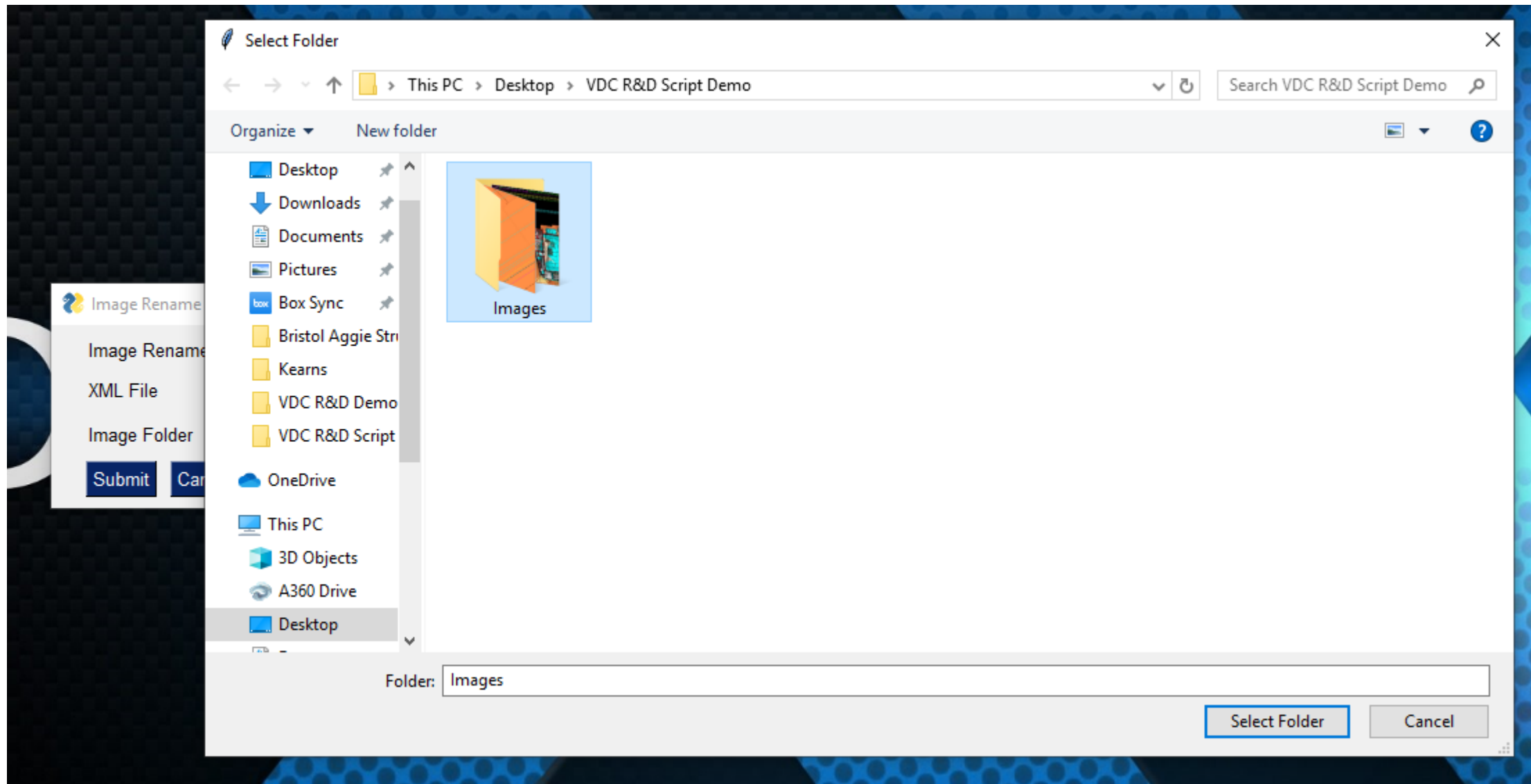


Image renaming only needs two pieces of information.

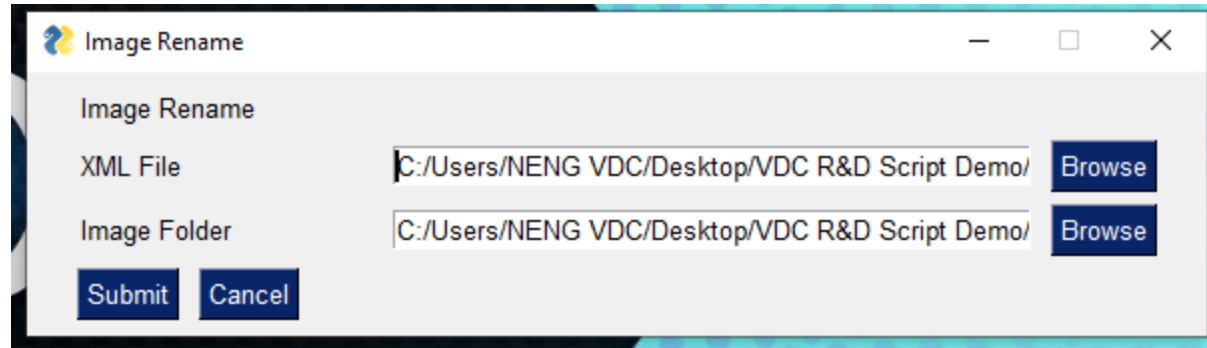
- 1) The XML file from Navisworks
- 2) The folder that contains all exported images from Navisworks
 - 1) REMEMBER: the “.html” file still needs to be deleted



Use the “Browse” button to select the XML File from Navisworks and then click “Open” at the bottom right.

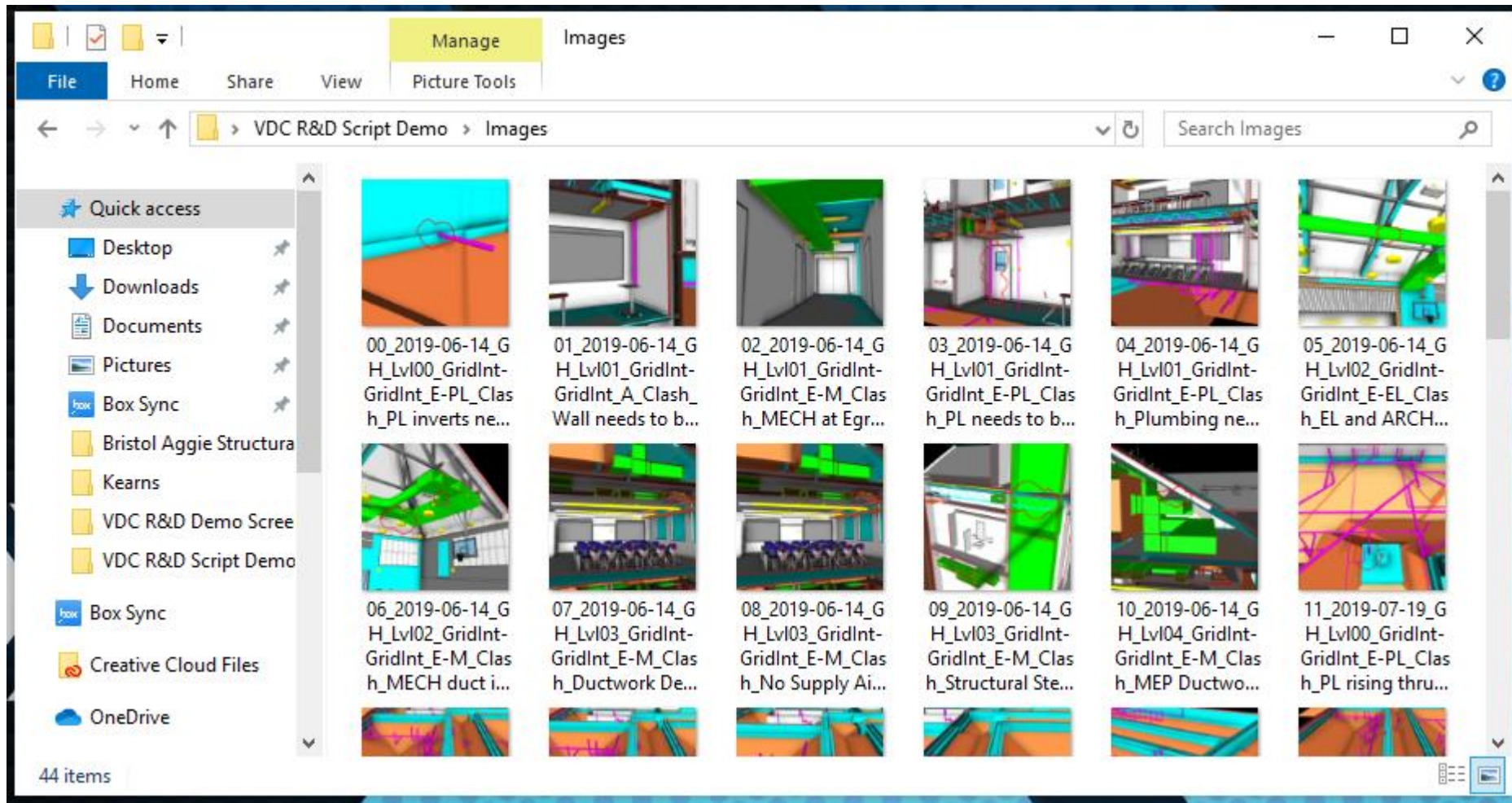


Use the “Browse” button to select the “Image Folder” and click “Select Folder” when ready.

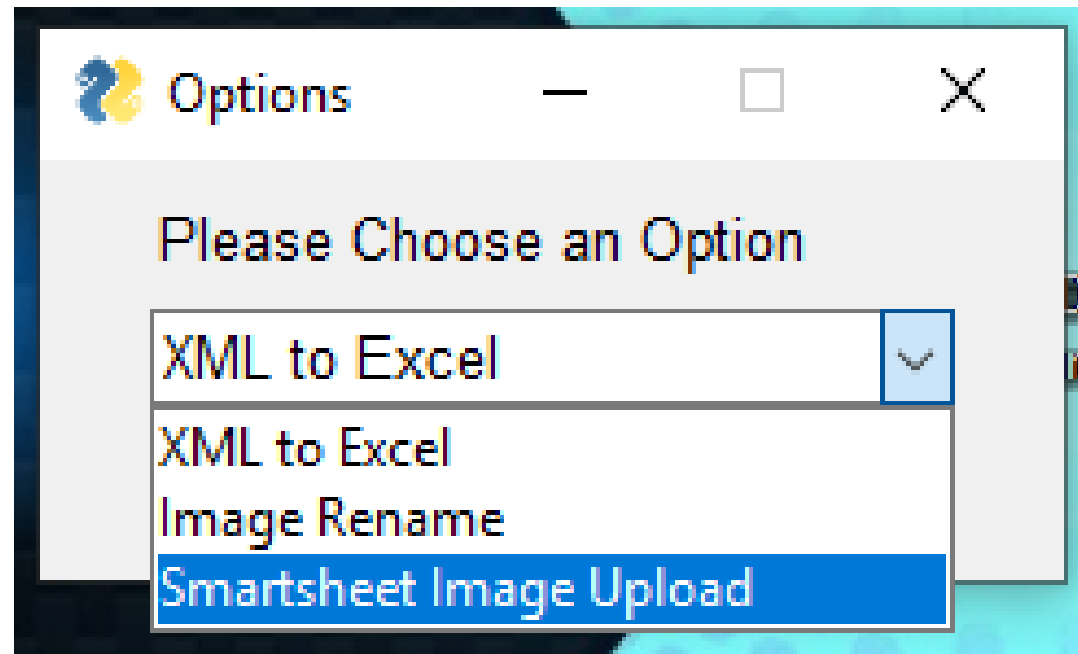


Here is what your program should look like.
If you add, remove, or change any viewpoints you must re-export both the image folder and the XML file.

When you are ready to rename the images, click “Submit” at the bottom left.



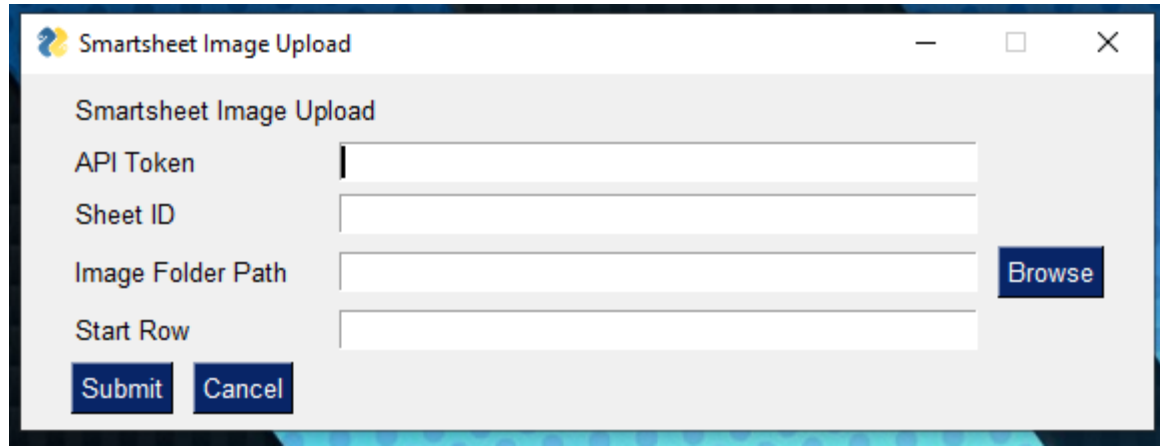
Here is what your image folder should look like. Each image is given a prefix with a number to ensure the order is the same as it appears in Navisworks



Now that your Smartsheet is populated with the information from the Excel file and all your images are renamed, it is time to upload the images to Smartsheet.

I highly suggest creating a “middle man” Smartsheet to provide quality control between this program and your “master”

Smartsheet. You can copy entire rows from one sheet to another inside of Smartsheet



A screenshot of the 'Smartsheet Image Upload' dialog box. The dialog has a title bar with the Smartsheet logo and the text 'Smartsheet Image Upload'. Inside, there are four input fields: 'API Token', 'Sheet ID', 'Image Folder Path', and 'Start Row'. A 'Browse' button is positioned to the right of the 'Image Folder Path' field. At the bottom left are 'Submit' and 'Cancel' buttons.

Smartsheet Image Upload

API Token

Sheet ID

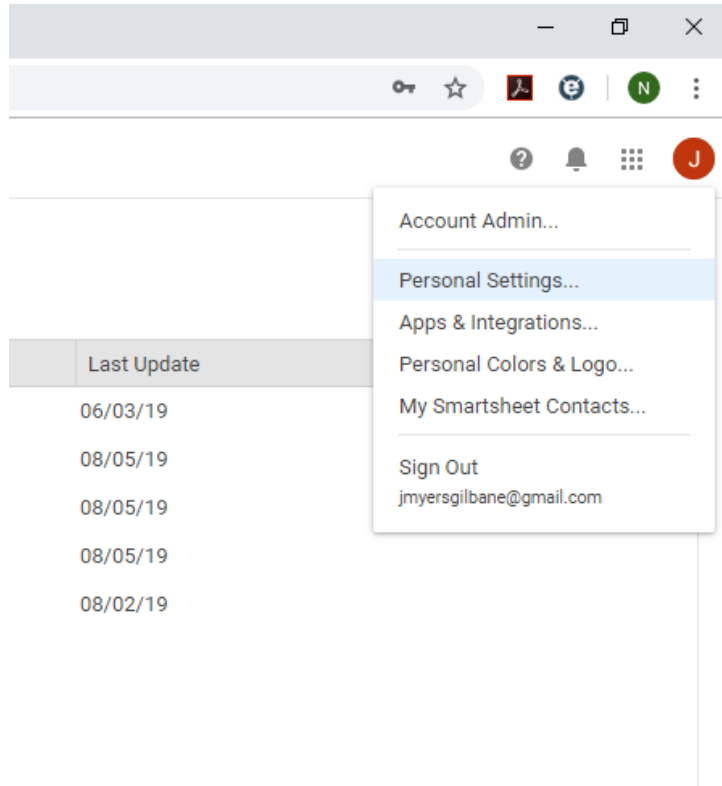
Image Folder Path

Start Row

Submit Cancel

Browse

Here is the information needed to upload images to Smartsheet.



A screenshot of the Smartsheet web application interface. The top navigation bar includes a search icon, a star, a PDF icon, a gear icon, and a user profile icon with the letter 'J'. A dropdown menu is open from the user profile icon, showing options: 'Account Admin...', 'Personal Settings...' (highlighted), 'Apps & Integrations...', 'Personal Colors & Logo...', 'My Smartsheet Contacts...', 'Sign Out', and 'jmyersgilbane@gmail.com'. Below the menu, a table with the header 'Last Update' is visible, containing several rows of dates.

Account Admin...

Personal Settings...

Apps & Integrations...

Personal Colors & Logo...

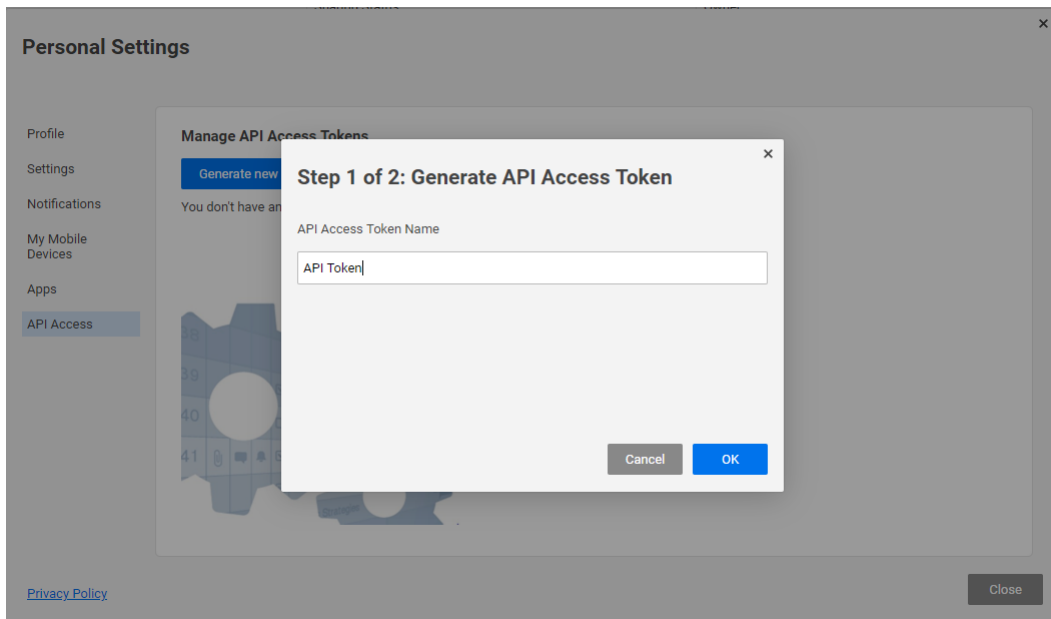
My Smartsheet Contacts...

Sign Out

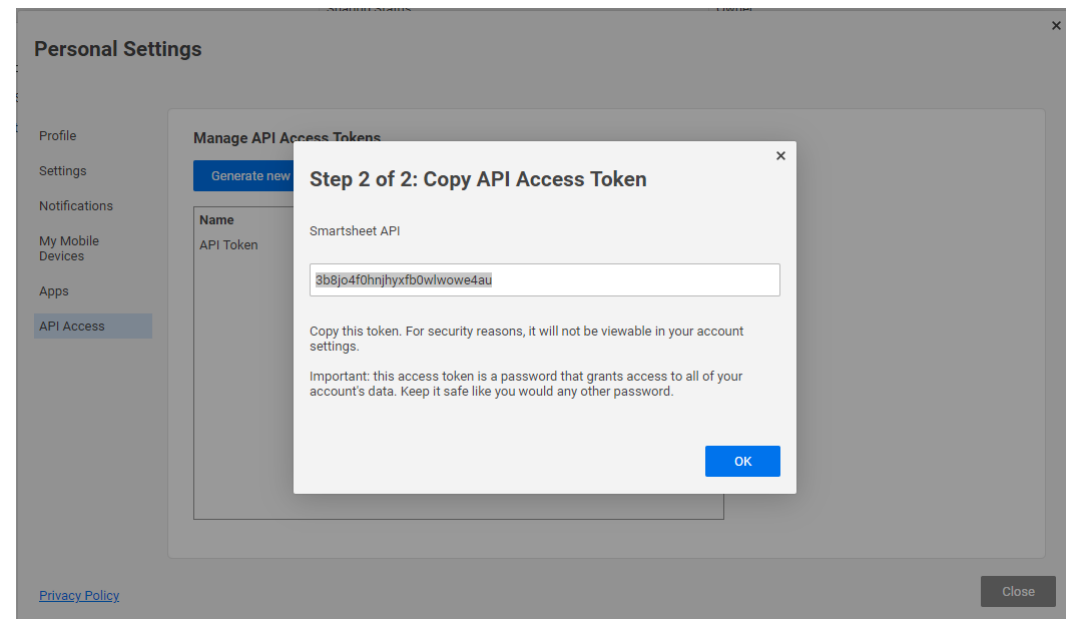
jmyersgilbane@gmail.com

Last Update
06/03/19
08/05/19
08/05/19
08/05/19
08/02/19

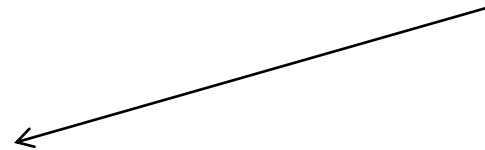
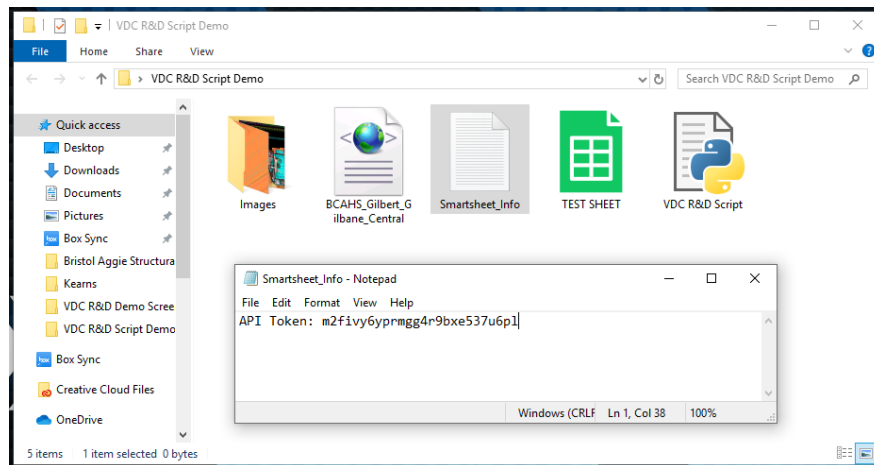
To create an API Token, go to Smartsheet and go to “Personal Settings” under your account. This is near the top-right of your screen.

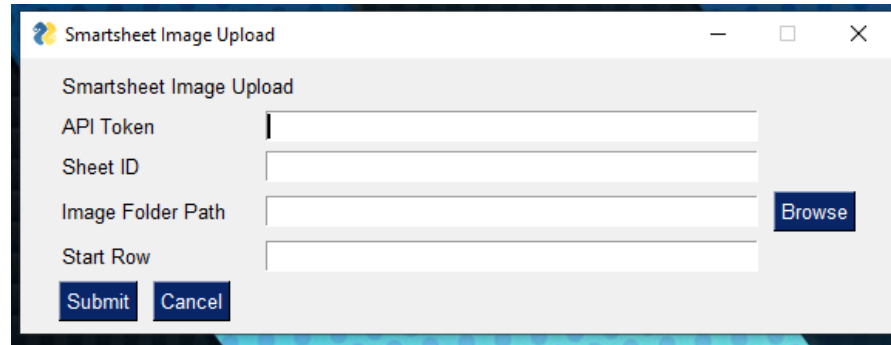
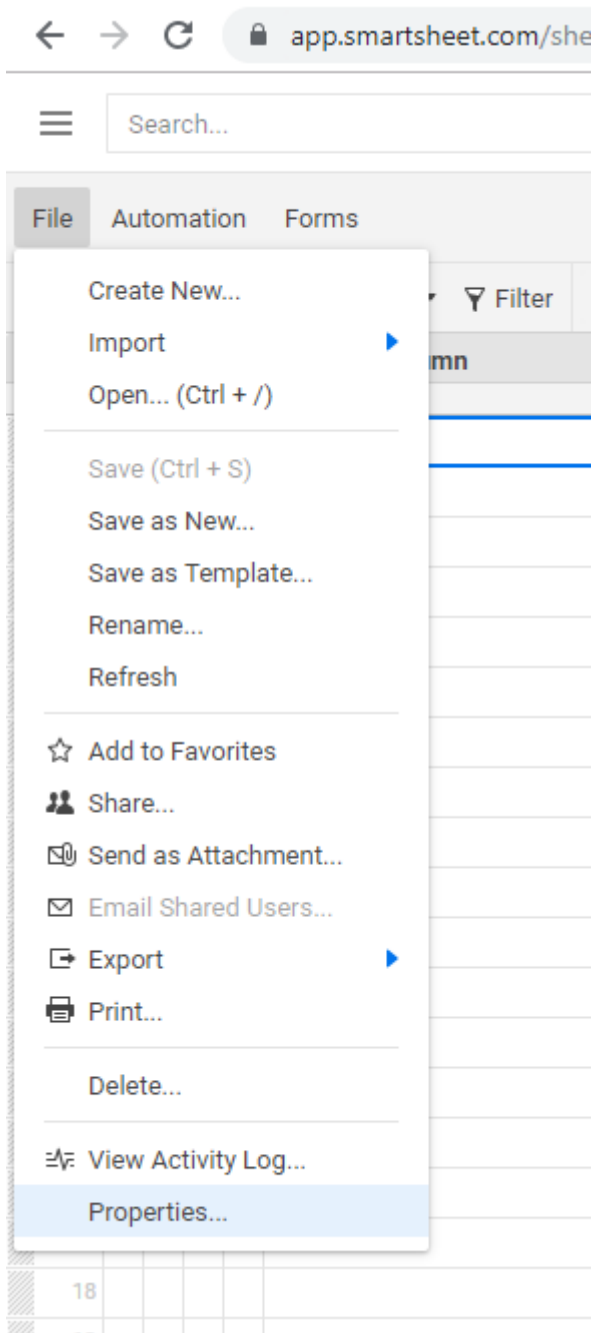


Under “Personal Settings”, go to “API Access” at the bottom of the list. Enter a name for the API Token, this has no impact on anything other than giving it a name.



Next, copy the generated API Token and save it somewhere you can find later. I like to create a new text document and just paste it in there. You could add it to a sticky-note or anything. Just put it somewhere you can find it and copy it later on.

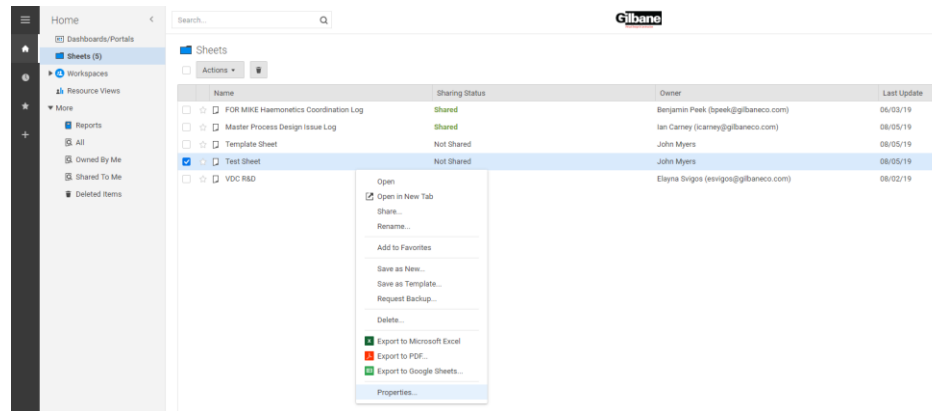





Paste your API Token in the first box labelled “API Token”


Next, get the Sheet ID of the sheet you want to upload your images to.

The Sheet ID can be found under “Properties” either through “File >> Properties” while viewing the sheet, or by right-clicking on the sheet name on the Smartsheet homepage.



 **Test Sheet** ×

Sheet Name: Test Sheet


Location:  [Sheets](#)


Permissions: Owner

Owner: John Myers (jmyersgilbane@gmail.com)

Created By: John Myers (jmyersgilbane@gmail.com)

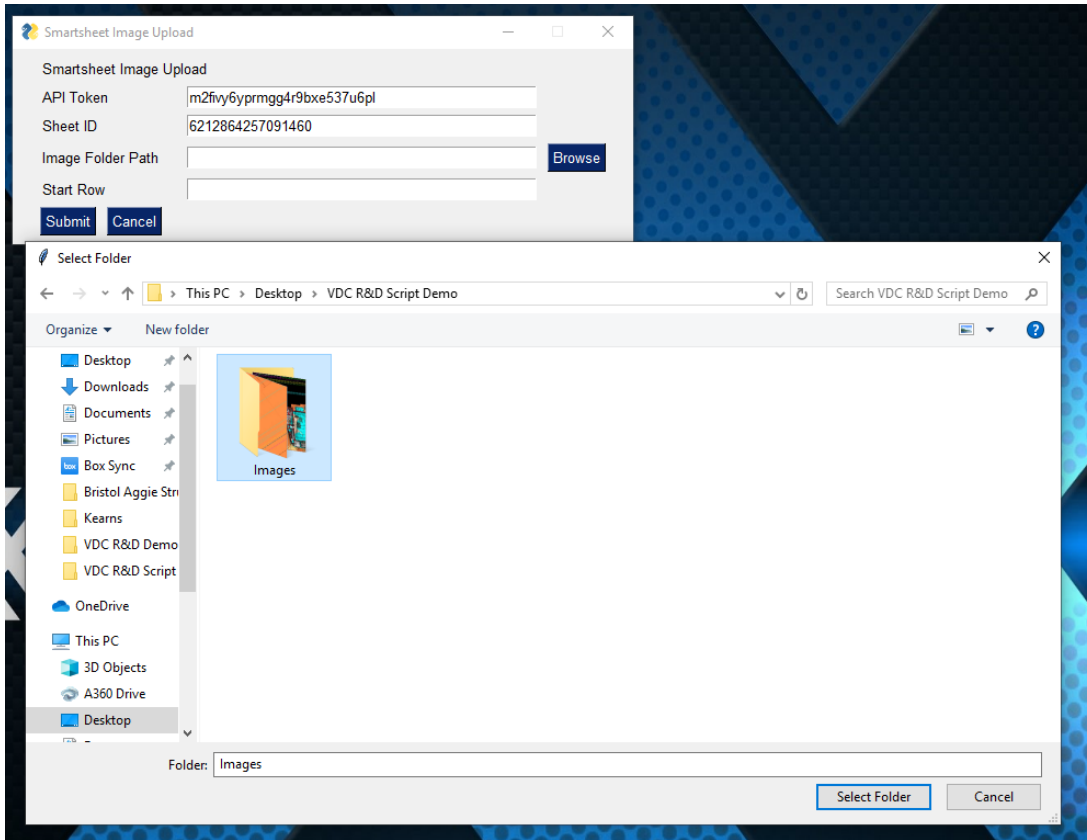
Created: August 5, 2019 12:53 PM

Sheet ID: 

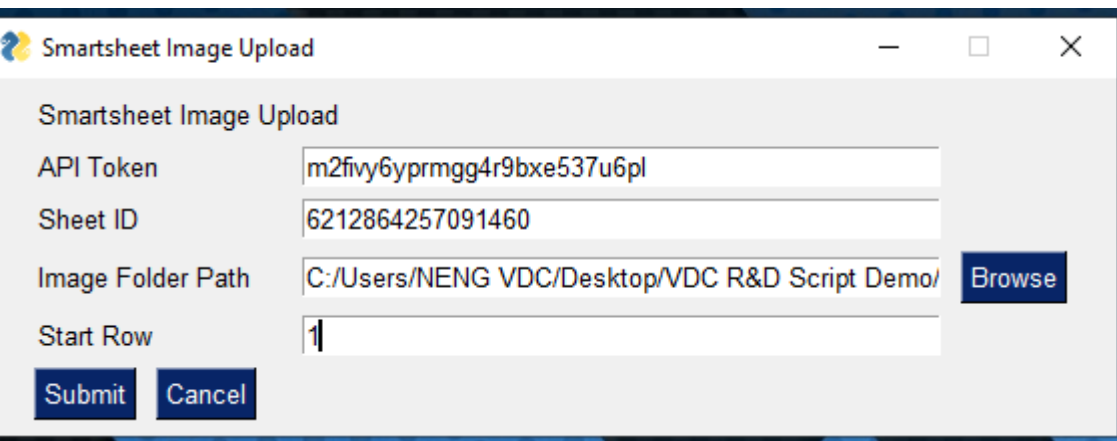
Sheet Link: 

Close

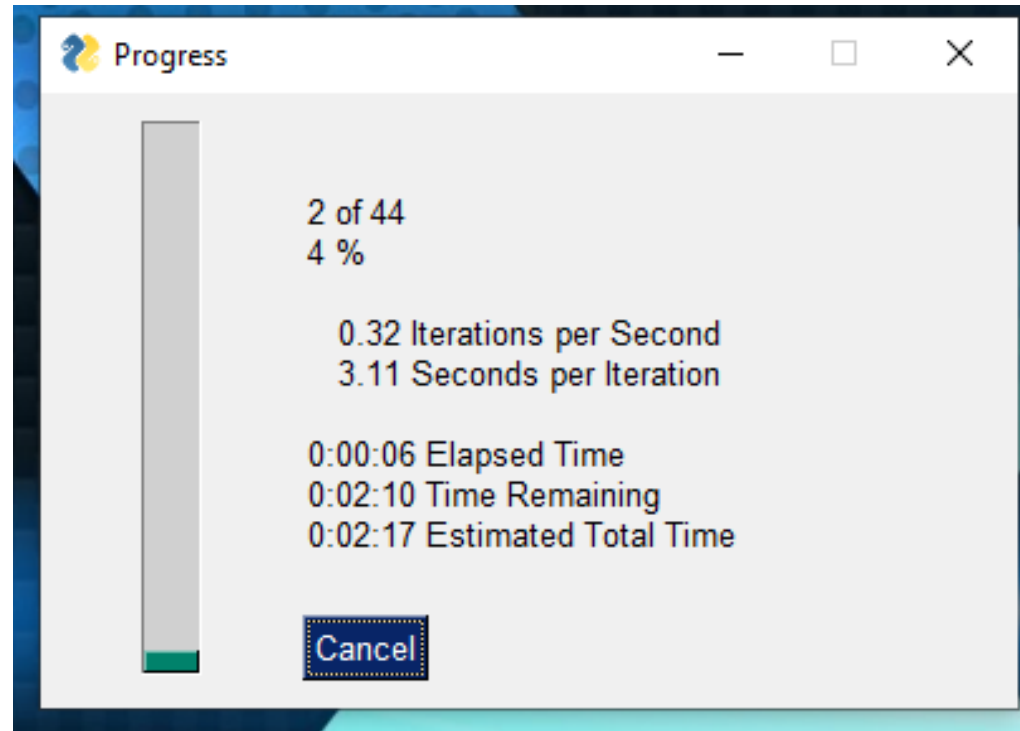
After going to sheet properties, the Sheet ID will be towards the bottom of the pop-up window. You can save this in an easily accessible place for later. I suggest putting it in the same place that you saved your API Token.



Next, use the “Browse” button to select the folder containing all the images to be uploaded. Click “Select Folder” when ready.



Determine what row to start the upload. Row 0 does not exist, so row 1 is the lowest you can go. All images are uploaded sequentially, so your smartsheet should have all the viewpoint information already documented before you try to upload any images using this tool. If you upload images to blank space, it will run out of rows to upload to and it will fail.



When you are ready, hit “Submit”. The previous window will close and the window pictured above will appear after 5 seconds. This window updates every 5 seconds after an image is uploaded. It takes 5 seconds for each image to be uploaded, but you can just minimize this progress meter.

Gilbane

Search...

File Automation Forms

Test Sheet

Share

		Primary Column	Column2	Column3	C...	Colu...	Col...	Column7	Column8	Column9	Column11	Column12	Column13	Column1
1		2019-06-14 Constructability Review		2019-06-14	GH	Lvl00	GridIn	E-PL	Clash	PL inverts need to be adjusted to underrun existing footings				
2		2019-06-14 Constructability Review		2019-06-14	GH	Lvl01	GridIn	A	Clash	Wall needs to be bumped out				
3		2019-06-14 Constructability Review		2019-06-14										
4		2019-06-14 Constructability Review		2019-06-14										
5		2019-06-14 Constructability Review		2019-06-14										
6		2019-06-14 Constructability Review		2019-06-14										
7		2019-06-14 Constructability Review		2019-06-14										
8		2019-06-14 Constructability Review		2019-06-14										
9		2019-06-14 Constructability Review		2019-06-14										
10		2019-06-14 Constructability Review		2019-06-14	GH	Lvl03	GridIn	E-M	Clash	Structural Steel has not been reformed around shaft				
11		2019-06-14 Constructability Review		2019-06-14	GH	Lvl04	GridIn	E-M	Clash	MEP Ductwork Gilbert Main Roof Into Steel - GGD to fit model to Core and shell condition				
12		2019-07-19 Constructability Review		2019-07-19	GH	Lvl00	GridIn	E-PL	Clash	PL rising thru footing				
13		2019-07-19 Constructability Review		2019-07-19	GH	Lvl00	GridIn	E-PL	Clash	PL rising thru footing				

COUNT: 8

Finally, here is what your sheet will resemble when done.