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How to Use AutoCAD with ACTi Project Planner

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Introduction

AutoCAD is the de facto standard software used in building layout design. The Floor Plan Creator module from the Project Planner Suite displays cameras over map images to help layout design. This creates an intuitive overview on surveillance coverage and camera location.

This document will describe how to combine these two powerful tools to use AutoCAD layouts in Project Planner. When installers receive layout drawings of the target area, they may be in one of three formats:

1. Physical printout on sheets of paper
2. PDF files exported from AutoCAD
3. AutoCAD drawing electronic files (in DWG / DXF format)

For the first two formats, you should convert them into images then load into Project Planner. For the AutoCAD Drawing files, we have provided you with an AutoCAD LISP macro to help you export a proper image.

Importing Map Images for Project Planner

When importing images to Project Planner, you need to consider image size and scale ratio. Images for project planner are limited in size to 16 million pixels. In practical terms, this means no larger than 4096 x 4096 pixels when the image is square, or other combinations of length

and width that does not go over the allowed total area.

Listed below are the maximum dimensions for a few popular and commonly encountered aspect ratios.

Aspect Ratio	Max Width (pxls)	Max Height (pxls)
2:1	5792	2896
16:9	5456	3069
3:2	5016	3344
4:3	4728	3546
1:1	4096	4096

Project planner keeps an internal conversion factor that matches the corresponding actual distance and the image pixels. For general image files, you may use our built-in scale bar to rescale the whole background image.

Converting from Physical Printouts

Many installers will encounter Physical printouts and be required to put together a bid from this info. To use Project Planner, you need to convert the printout into an image. You should use a scanner to scan this printout into an image. You should then resize the image to no larger than the limits in the table above.

Step 1: Connect your computer to a scanner. Many all-in-one office machines offer scanning function now. Consult your scanner manual for details.

Step 2: Scan the printout into image file. This can be either .JPG or .PNG format.

Step 3: Crop or resize the image so that it fits within the limits listed in the table above.

Step 4: Add map image to Project Planner‘s Floor Plan Creator module

Converting from PDF files

Adobe PDF is another popular format used to convey building plan. To use this in project planner, you need to convert it to images. You may open the PDF file in Adobe Reader and

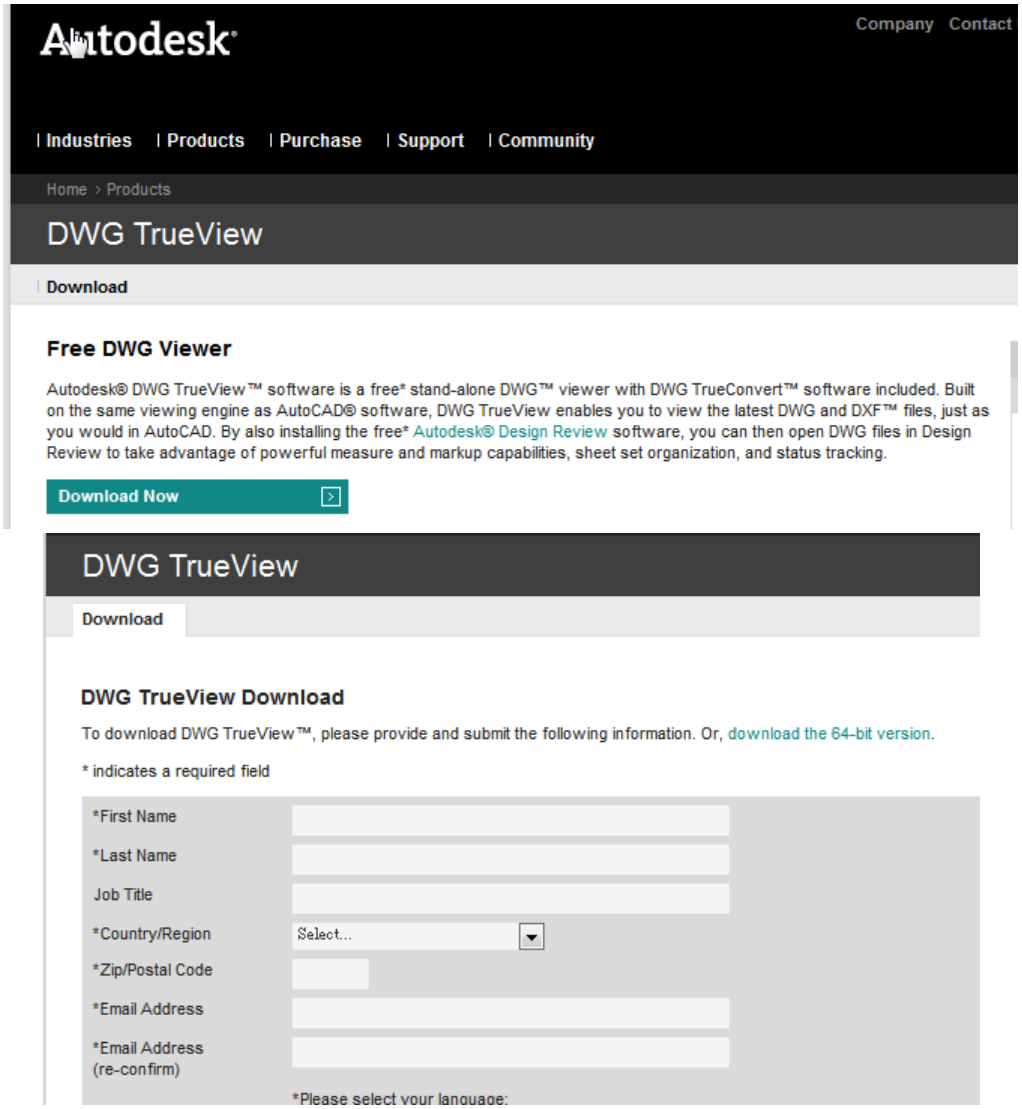
take screenshots, or search online for tools to convert PDF into .JPG / .PNG images.

Converting from DWG/DXF files – via Autodesk DWG TrueView

DWG / DXF files are the universal file formats for AutoCAD drawings. Autodesk provides a free tool to view DWG / DXF drawings without using the costly AutoCAD software.

Step 1: Download TrueView from AutoDesk

Please go to www.autodesk.com and look for DWG TrueView in the Products list for the download link. You will need to enter some information to proceed with the free download.

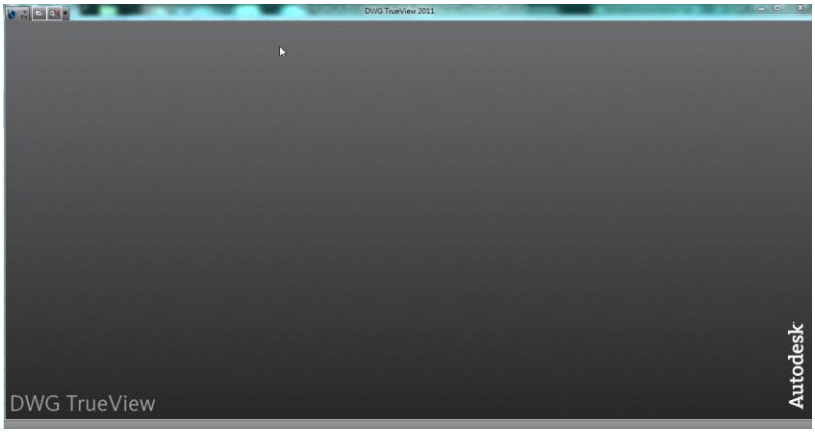


Step 2: Install TrueView

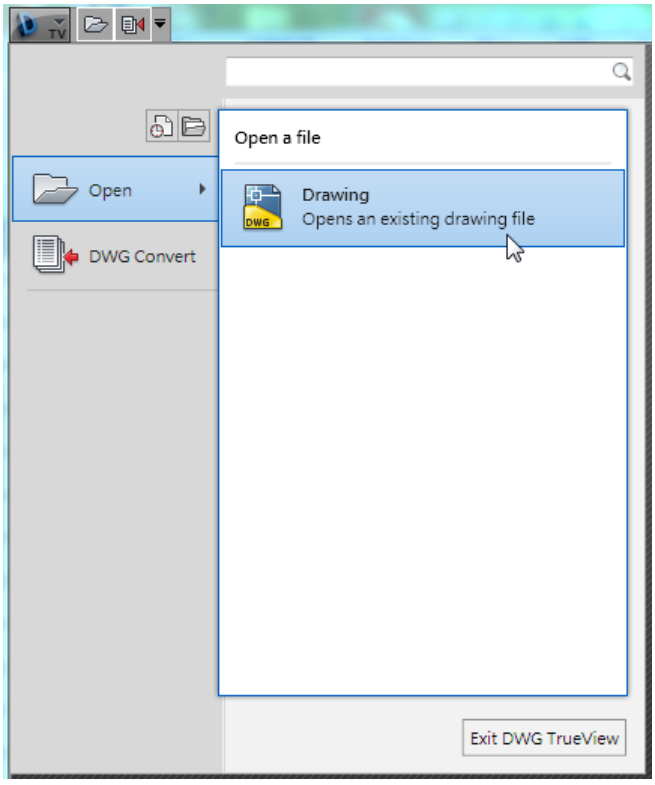
After downloading the proper install file from autodesk, please install it in your computer by following the instructions. Use the default setup options.

Step 3: Open drawing via Trueview

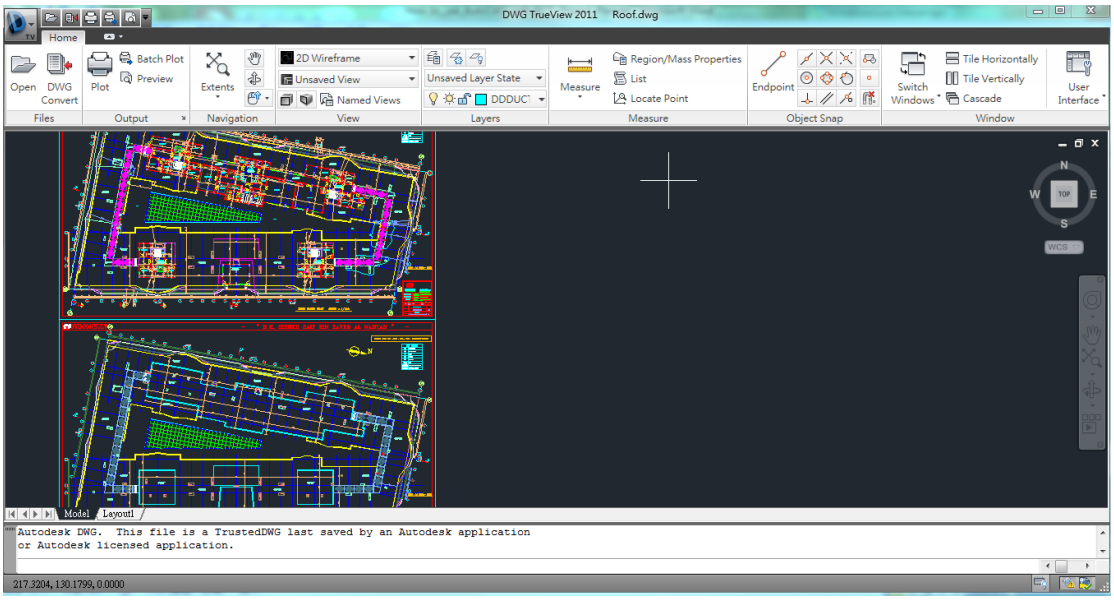
Start the Trueview Program. Click the dropdown menu on the top left, and select Open -> Drawing. Find the target drawing and open it.



DWG TrueView startup Screen

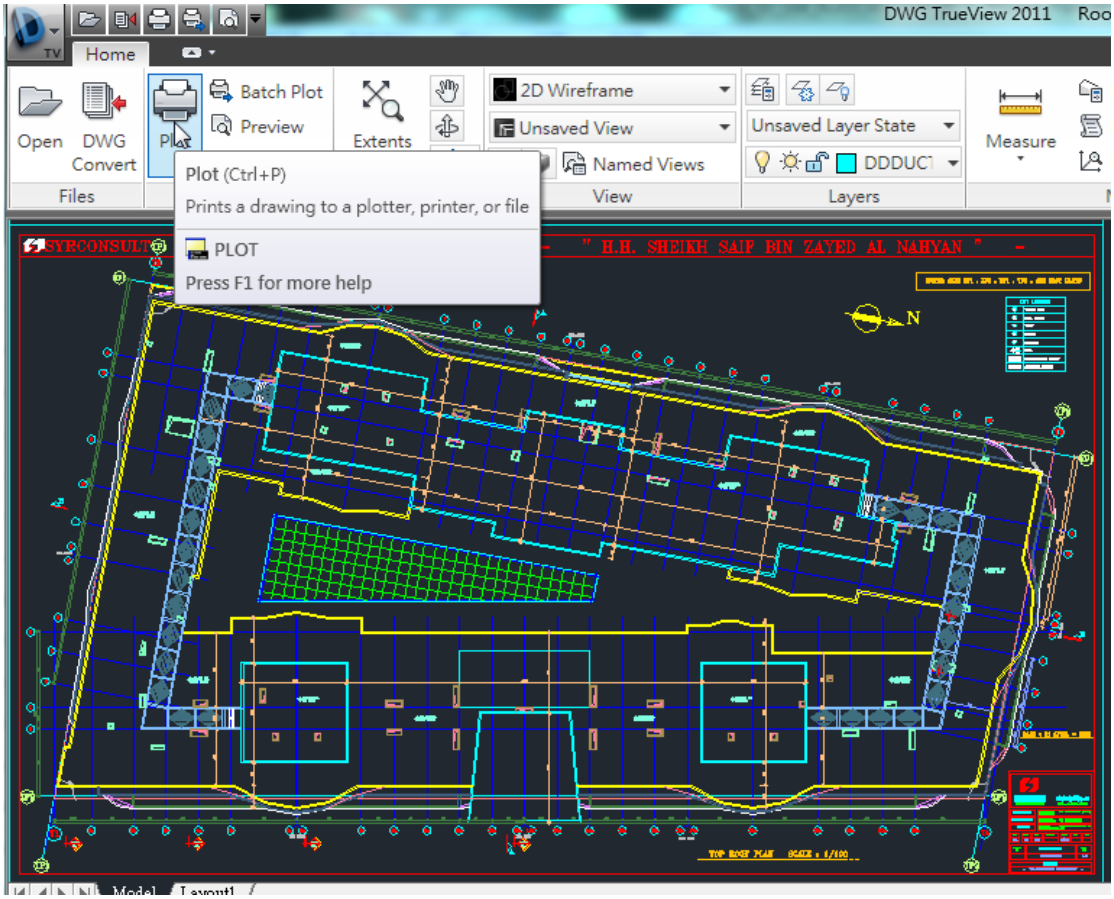


Open -> Drawing



DWG file loaded

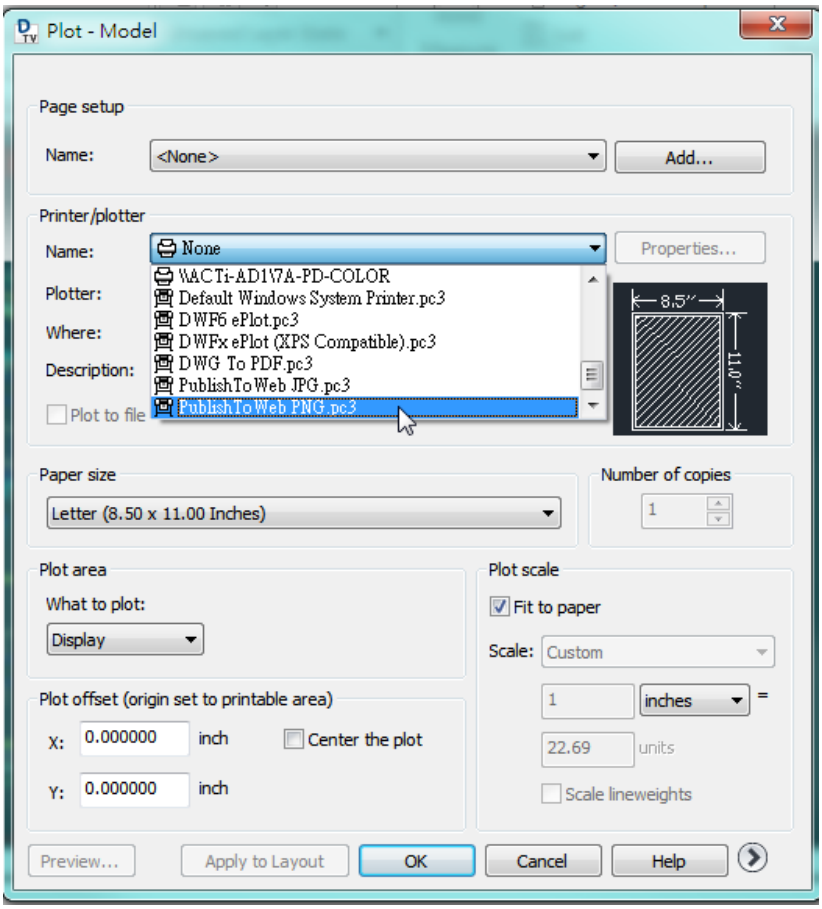
Step 4: Select “Plot” from the menu bar on top.



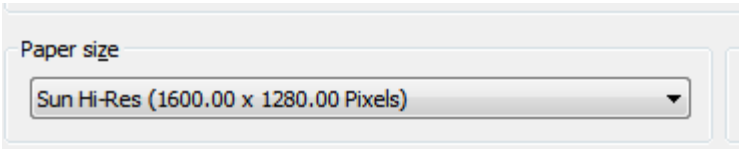
Plot

Step 5: Configure Plot Setting

You need to select “Publish to Web PNG” or “Publish to Web JPG” as the plotter. And select the output image size in the Paper size section. The largest available default size is 1600 x 1280 pixels. Click OK to print to image



Selecting Printer / Plotter



Select Paper Size

Step 6: Import the image into Project Planner and configure the scale ratio. Please see Project Planner manual for details.

Converting from DWG/DXF files – via AutoCAD to PP2 Converter LISP Script

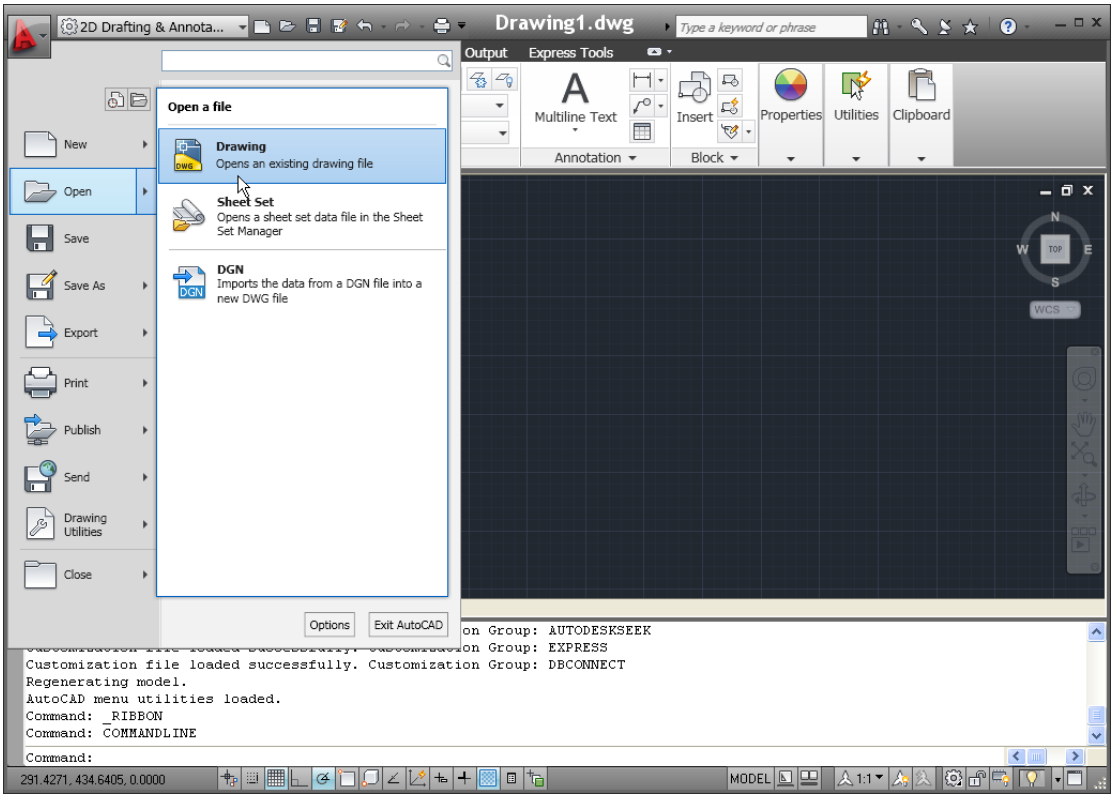
For users who have the full version of AutoCAD and can obtain DWG/DXF file from your designers, we have created a powerful little utility for you.

Included in the Project Planner 2 Floor Plan Creator pack is a file named: "**AutoCAD to PP2 Converter.fas**". This is a Fast-Load AutoLISP file with a custom script built by ACTi.

This tool helps you select an area within AutoCAD to export as image, with the scale ratio embedded in the file name. When you load image file created with this utility into Project Planner, the Map name and Scale ratio will be automatically calibrated for you to save time. The image exported is fixed at 1600 x 1280 pixels. When printed at 300dpi resolution, this image will correspond exactly to the scale ratio.

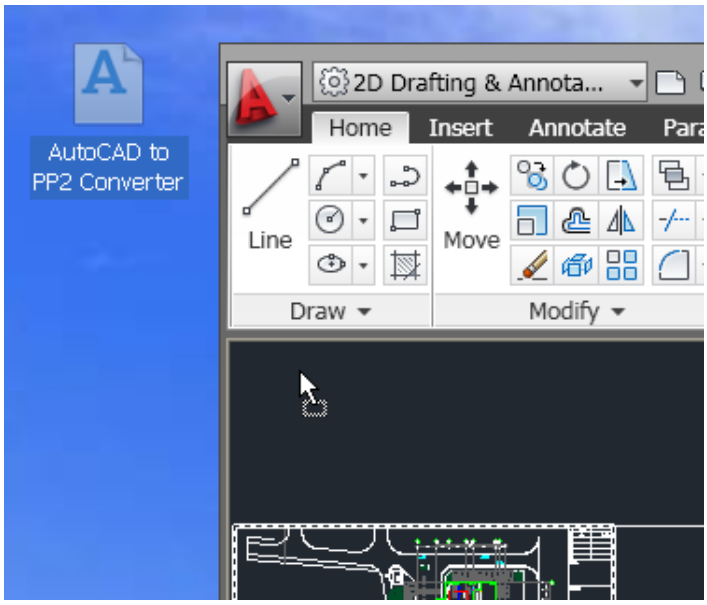
Here's how this wonderful tool works:

Step 1: Open AutoCAD and load your drawing file.



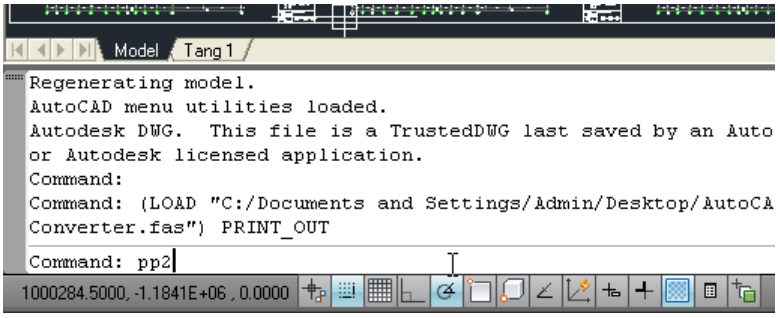
Loading Drawing

Step 2: After You've loaded the drawing, drag and drop the "AutoCAD to PP2 Converter.fas" file into AutoCAD.



Drag and Drop Converter file into AutoCAD to load

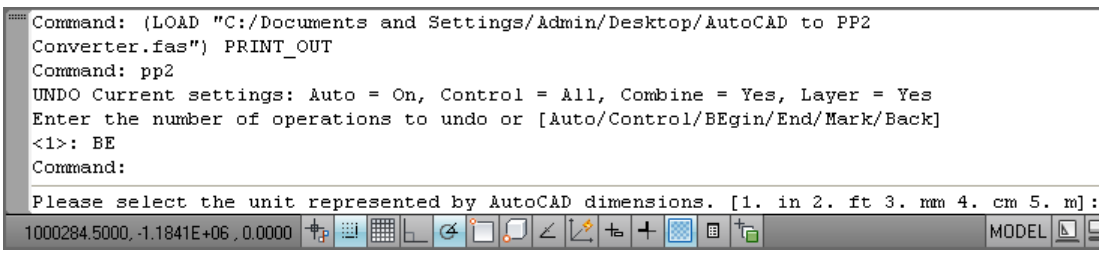
Step 3: Type "pp2" In the AutoCAD command line to call upon this script.



Enter PP2 into Command Line to run script

Step 4: Select the Unit represented by AutoCAD Dimensions.

AutoCAD drawings are purely numeric and does not contain units. To convert them to physical dimensions, you need to identify unit used by this drawing.



Select Unit for Drawing

Step 5: Select Scale Ratio

You may either select a scale ratio from the list, or choose to Customize and type in your own. For Standard Units, you will see scale ratios from 1: 50 up to 1:2000. For Imperial Units, you will see scale ratios from 1/64 in: 1ft up to 1 in: 1 ft.

```
Please select the unit represented by AutoCAD dimensions. [1. in 2. ft 3. mm 4.
cm 5. m]:3
Please select scale ratio. [1. 1:50 2. 1:100 3. 1:200 4. 1:500 5. 1:1000 6.
1:2000 7. Customize]:5
```

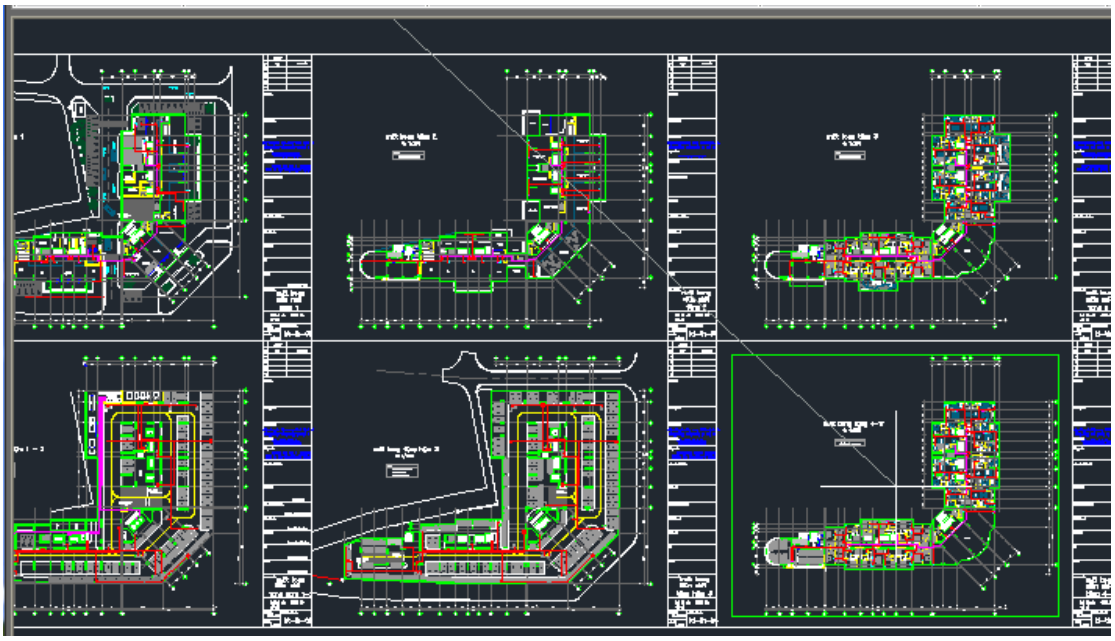
Standard Unit Scale Ratios

```
Please select the unit represented by AutoCAD dimensions. [1. in 2. ft 3. mm 4.
cm 5. m]:1
Please select scale ratio. [1. 1/64in:1ft 2. 1/32in:1ft 3. 1/16:1ft 4.
1/8in:1ft 5. 1/4in:1ft 6. 1/2in:1ft 7. 1in:1ft 8. Customize]:8
Please input the scale ratio 1/X inch:1foot. X=
```

Imperial Unit Scale Ratios

Step 6: Select the area to export

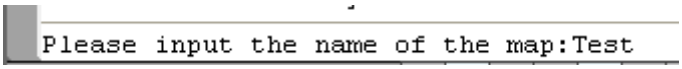
Once you selected a scale ratio, a green floating rectangle will appear in the AutoCAD Model area under your cursor. Move your cursor around and click to select the area to be included in this export image. If you find the area to be too small, you can press “Esc” key to cancel this function then start over again. The larger the number you enter in “Customized”, the larger the area to be included.



Selecting Export Area

Step 7: Input Map Name

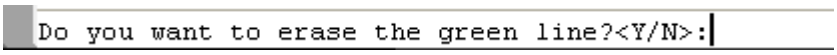
When importing image exported from this utility, project planner will automatically use the name you enter here as the map name, so you don't have to enter it twice.



Entering Map Name

Step 8: Decide to keep or erase the green rectangle line

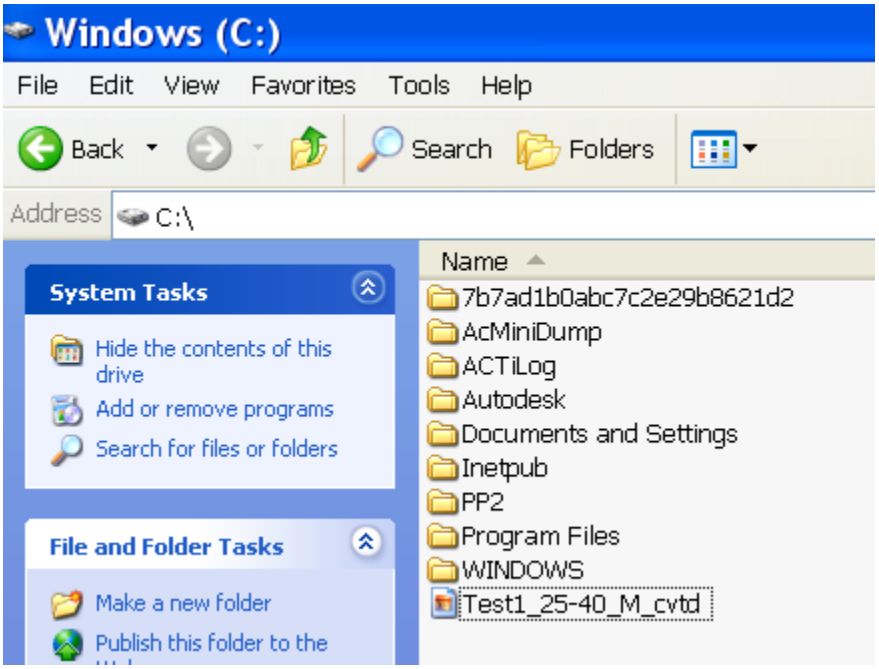
The green border you used to define export boundary can be kept in the model view, to serve as an identifier on what you've already exported. If you're not satisfied with your previous exported image, you may also reference this to change either the scale ratio or the location and export again. You may erase them at any time by clicking and deleting them.



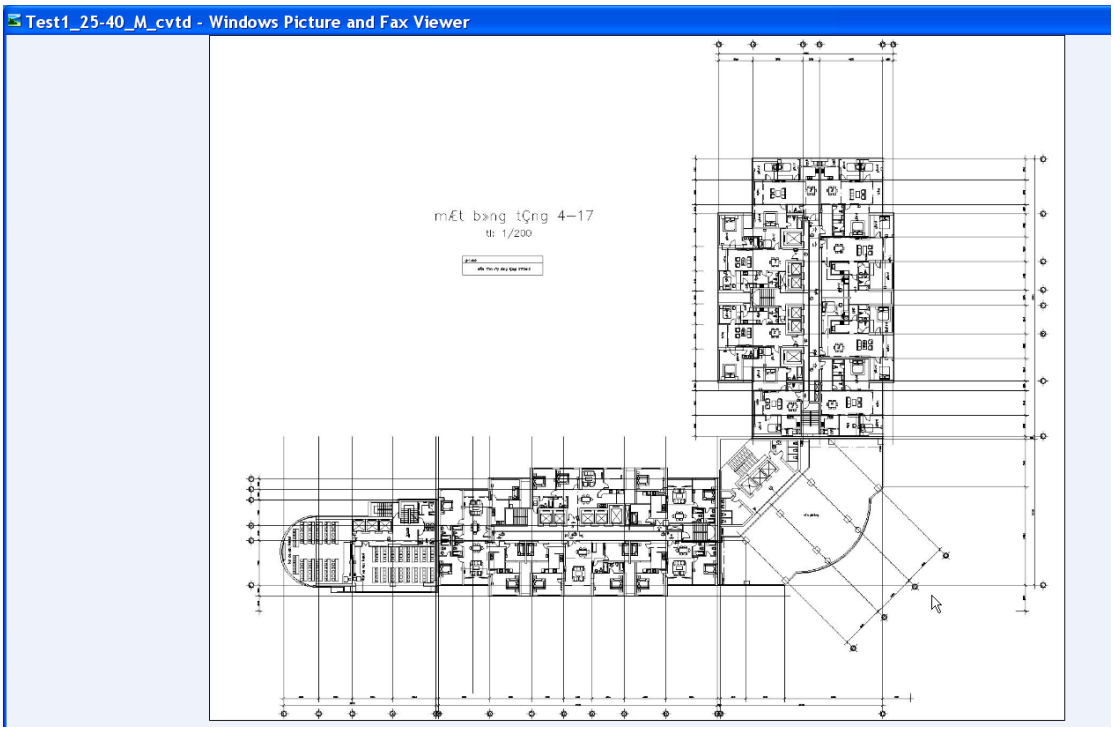
Deciding to keep or erase the boundary line.

Step 9: Verify the exported image

This function will automatically export the selected area as a BMP image to C: root folder. Go there and check if you like the exported image.



Reviewing Exported Image

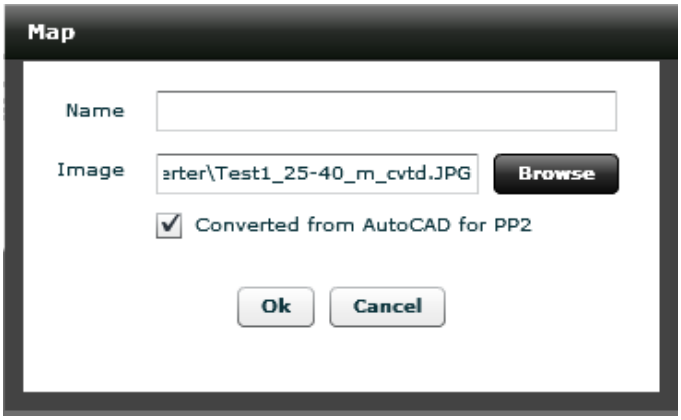


Viewing the exported image

The file name of the exported image contains both map name and map scale information. Please keep the file name for easy importing into Project Planner

Step 10: Importing into Project Planner 2

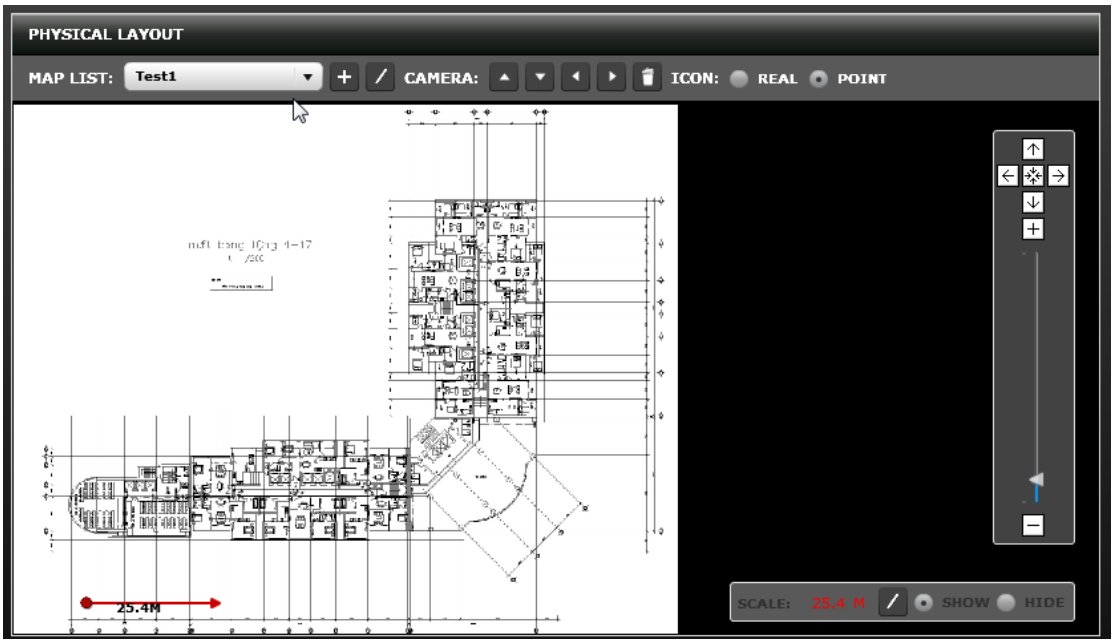
Start Project Planner 2 Floor Plan creator module. Open a project, and click on the “+” sign beside the map list to add map. In the dialogue box, select the image, and check the checkbox “Converted from AutoCAD for PP2”. Once you checked this checkbox, Project Planner will use the embedded name for this map, and will auto-calibrate the scale ratio.



Check the Checkbox for Importing to PP2

Step 11: Verify the imported image

The image imported will include the area you exported from AutoCAD, and the scale ratio bar will be calibrated automatically. You may click on the red round dot to move the scale ratio bar around, but please do NOT change the ratio nor change its length anymore.



Imported image from AutoCAD into PP2