

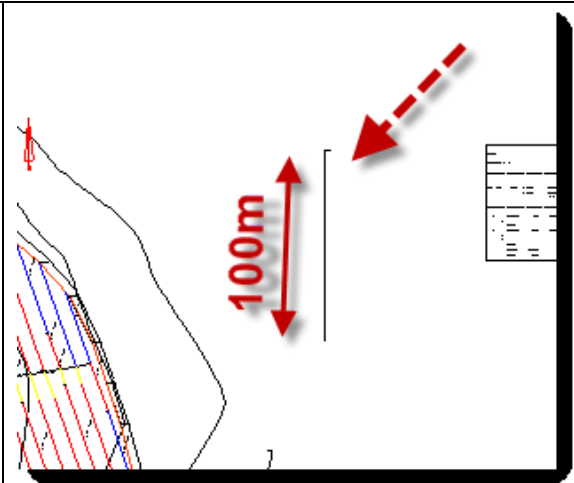
How import your WCADI and other designs into Model Maker

Watch the video here: <https://youtu.be/-HLeJaOYVKk>

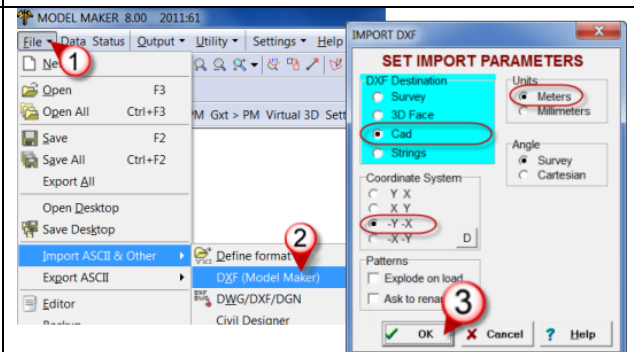
I often have clients who have designs in WCADI (and other CAD type design formats) that want to convert it into a format that can be used in Model Maker (MM). MM cannot import the actual design detail of WCADI but it can bring the DXF file created by WCADI into MM. In this way the designs that were originally done is still available "on plan" and all that need to be done in MM is to place valves on the CAD valve positions, each one with its own demand pressure and flow. The designer can then simulate the main line in MM and even expand the design further in MM. I always say, what is done is done, so why change it, let's expand on it!

Step 1: in WCADI, Open your existing project, draw a line north south in WCADI somewhere on the job that is 100m long, then export a DXF file.

Tip: We will use the 100m line to scale and rotate the drawing in Model Maker. If you have a copy of the original survey in Model Maker or two points in WCADI that match with the survey, this tutorial can be adapted to the survey rather than the 100m line. For now you may want to write down the co-ordinates of the two end points of the 100m line for later use.



Step 2: In MM, load the DXF using **File (1) – Import ASCII & Other > DXF (Model Maker) (2)**, set the import settings as shown and hit **OK (3)**.



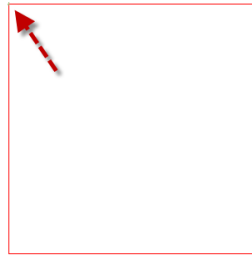
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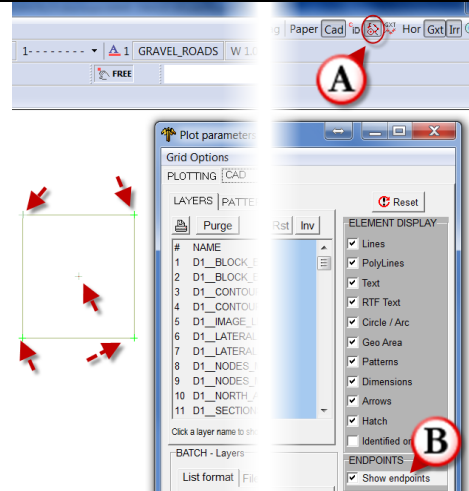
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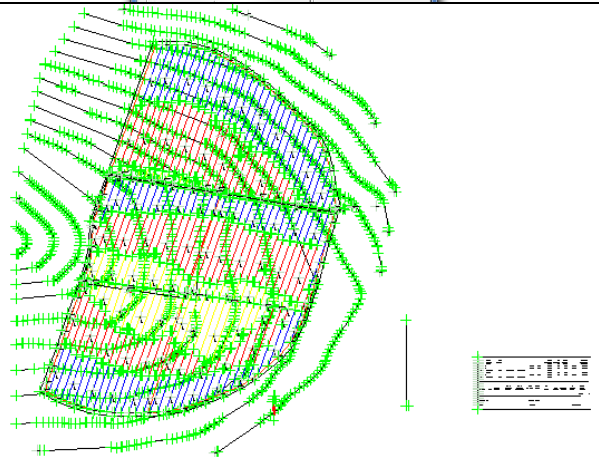
Once MM has loaded the data, all the data may or may not be visible, this is because of the scale difference of the CAD you imported. You may even see a CAD line around everything and the actual drawing that you are looking for is invisibly small in one corner.



Tip: To aid you in locating the CAD on screen, display the CAD line endpoints using the display toggles on the top right of your screen (A), or press "L" on your keyboard to display the Layer menu (or **F8** then **L**), then enable "**Show Endpoints**" (B). You will see small crosses appear on all CAD line end points and text origin positions. The crosses are a fixed scale and will always be visible no matter what the scale of the CAD. (You can disable this option in the same way by de-selecting the "**Show Endpoints**" option later.)

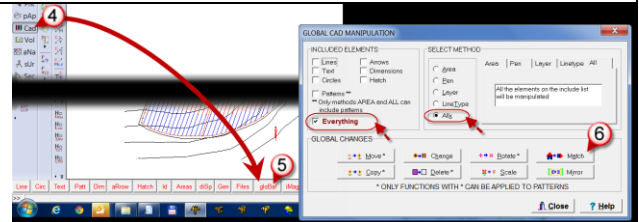


Step 3: Zoom right in on all endpoints on various positions on your screen until you locate the plan you expect to see. **Delete** the not-needed CAD using the **normal CAD functions** until only the WCADI CAD design remains. When you press **Normal**, MM will fill the screen with your plan. Notice how the scale is completely wrong by measuring distances with the measure tool.

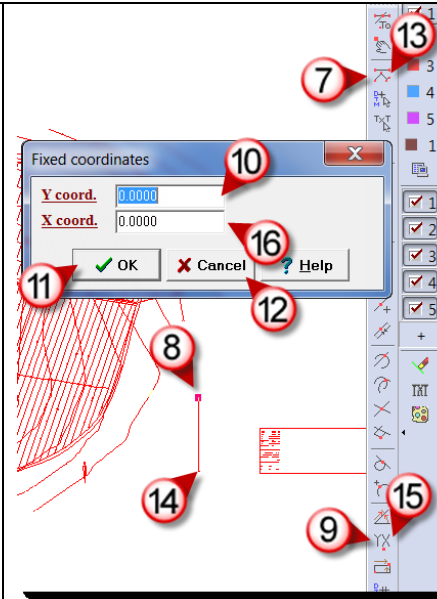


Tip: Press **F6** to measure distances

Step 3: To scale the drawing to the correct proportions, use **CAD** (4) > **Global** (5) > **Match** (6). Make sure "**Everything**" & "**Allx**" is selected.

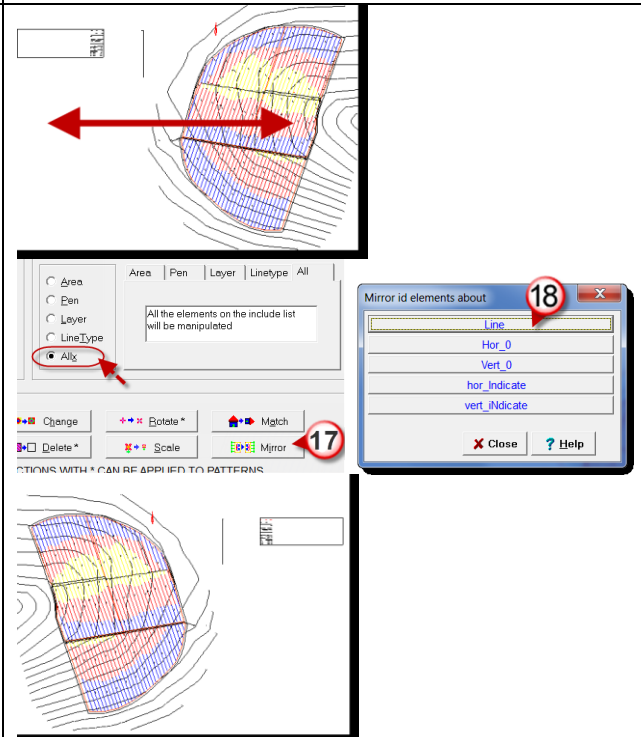


Step 4: (follow these steps exactly) Use the **line endpoint snap** mode (7) to select the top end (on screen) of the 100m line (8) you drew in WCADI. Select the **YX snap** mode (9) and **enter** the **co-ordinate** "0Y, 0X" (10) and hit **OK** (11) then **Cancel** (12) to remove the dialog when it pops up again. Now use the **line endpoint snap** mode (13) again and use it to select the bottom end (on screen) of the 100m line (14), then select the **YX snap** mode (15) again and **enter** the **co-ordinate** "0Y, -100X" (16), hit **OK** > **MOVE** > **CLOSE** > **Right Click** on mouse > **CLOSE** to exit the global functions menu.



Tip: If you wrote down the co-ordinates of the line end points in WCADI before you exported the DXF file, you could have used true co-ordinates instead of the 0,0 and 0,-100 co-ordinates.

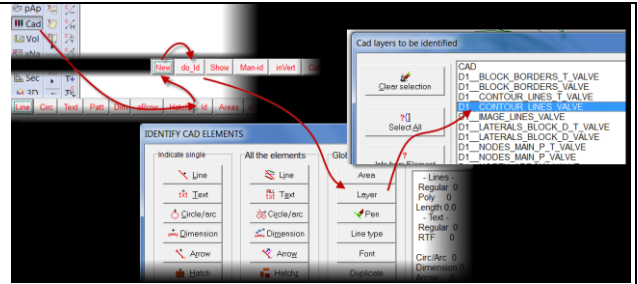
Step 5: You will find that your plan is now north facing, but it might be that your plan is mirrored about the Y-Axis at this point, to correct the mirror, follow **Step 3** above, but this time use **Mirror** (17) instead of **Match**. Then finally click on the 100m vertical line to mirror everything about the 100m **line**. When prompted, click **MOVE** then **Close**. The drawing will now be at a true scale and properly rotated.



The next step is only necessary if you don't have the original survey data or a ground contour model available in MM.

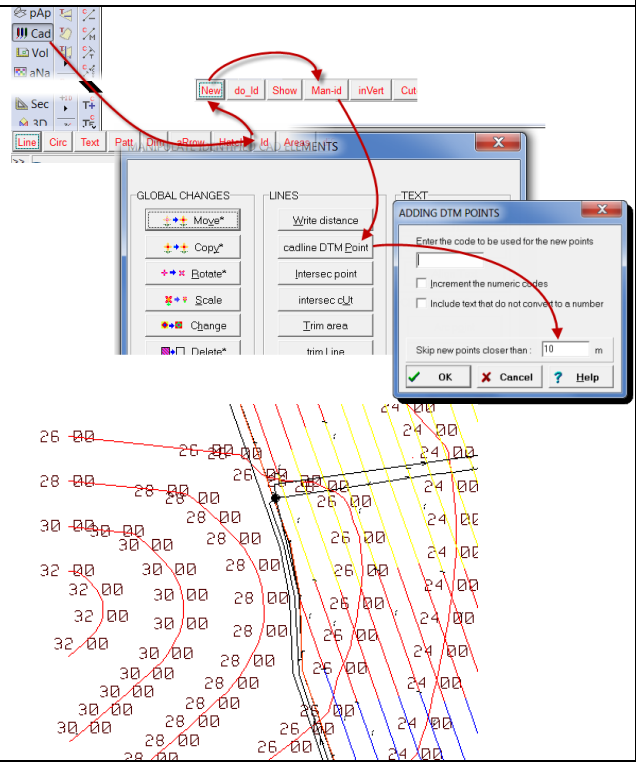
For the irrigation program to properly elevate nodes, a DTM surface (triangulation) is required. We can easily convert the CAD contour lines into a DTM. The CAD lines that come from WCADI would probably be three dimensional, in other words the line work will have Z values associated with it. MM can utilize this to quickly convert the line work to points with elevations after which we can triangulate the points.

Step 6: ID all the contour lines with **CAD > ID > New > Do_Id > Layer > Select the layer** that represent the contours in this case it was "D1__CONTOUR_LINES_VAL"



Step 7: Add points to the ID'd CAD lines using **CAD > ID > ManId > "cadline DTM points" > OK > Select a Project nr > OK**. Points will automatically be placed on the CAD lines at the correct elevation based on the CAD contour lines.

Tip: If the CAD contour lines are not three dimensional, use the **Pnt > ADD > Poly CAD line** function **instead of Step 7** where you can assign an elevation to the points for each CAD contour line.



Step 8: After all the points were added, add the triangles like you would normally do by using **Tri > Csearch**



Step 9: Finally, add the irrigation valve nodes and fittings that represent the main line and continue hydraulic design on top of the WCADI CAD drawing.

Tip: Remember to save your work regularly in a **MAL** file using **File > Save All**

Well, that is all for now. Until next time.

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