

How to convert .SHP files into contour lines.

Civil 3D®

About

In this whitepaper we use Civil 3D® to convert in a few steps .SHP files into contour lines.

Before we can use these files, we must know if the content of the delivered files contains X, Y and Z. Normally .SHP files don't have a Z value to the 2D lines, we can use metadata inside the .SHP file to make this conversion possible.

For Civil 3D we don't have a tool to import directly so Map 3D functionality will be used.



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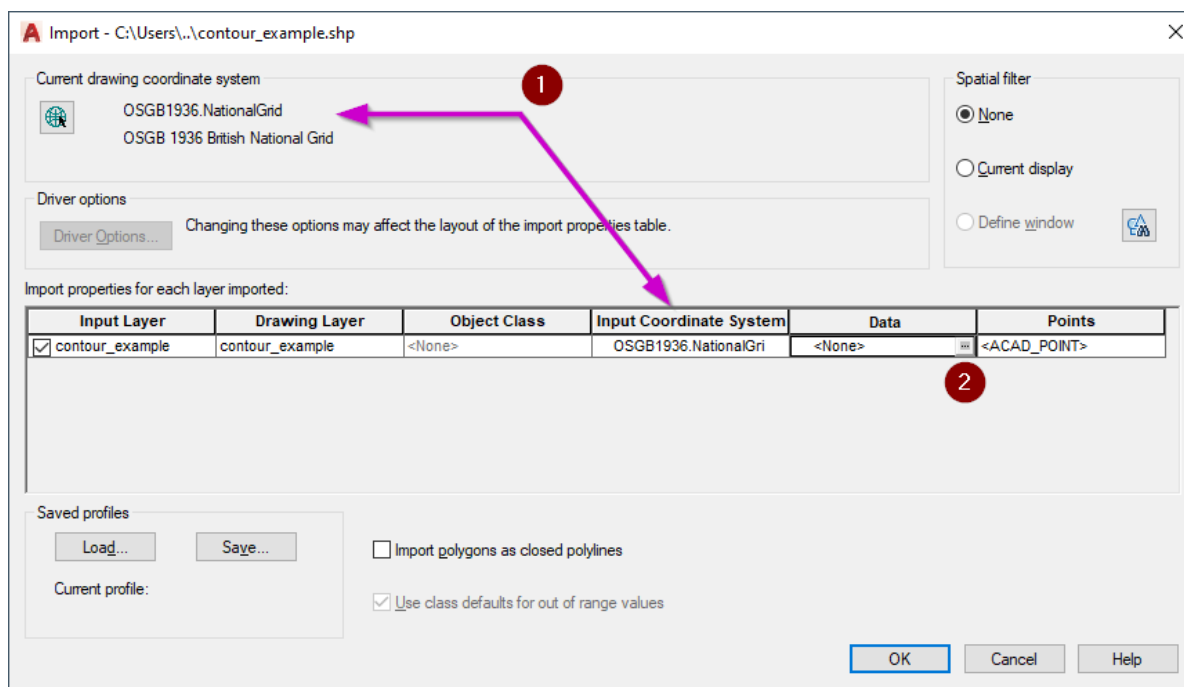


1. Import .SHP

Open a new Civil 3D drawing (empty).

Type “MAPIMPORT”, pop-up an import dialog. Search or look-up the .SHP file that you want to import.

Press “OK” to go into the next dialog.



Please set the following correctly:

1. Check the coordinate system is correct.
2. Select the field “Data” and change into:
 - a. Press the dots
3. Select “create object data” and then “Select Fields”

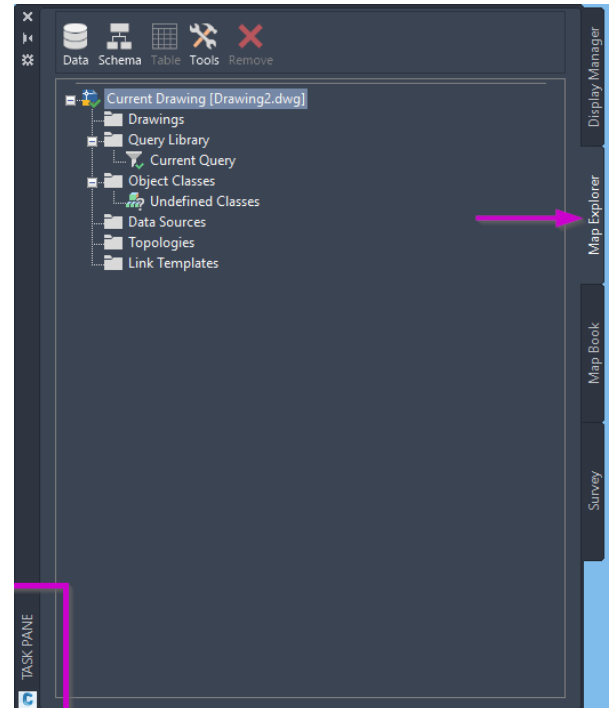
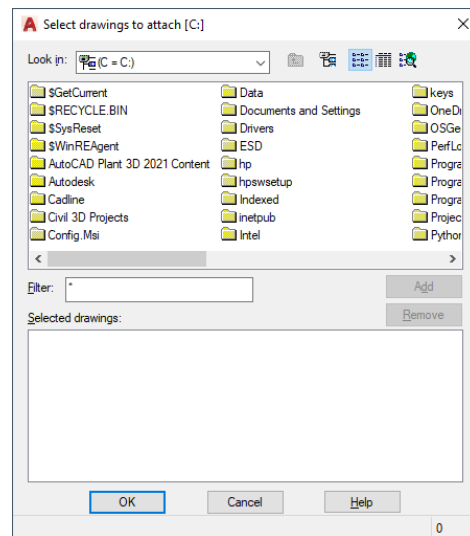


2. Transcription

Attach File

Open a new Civil 3D drawing (empty).

1. Type "Mapwspace" on the command line, set value "On". "Task Pane" toolbar will appear.
2. Select tab Map Explore
3. Select Folder Drawing, right click, Attach.
4. Search for the just saved drawing, select, and press OK.



Note: When the file is not saved local (c:), you will need to create a new "Alias", see workflow "Create Alias".

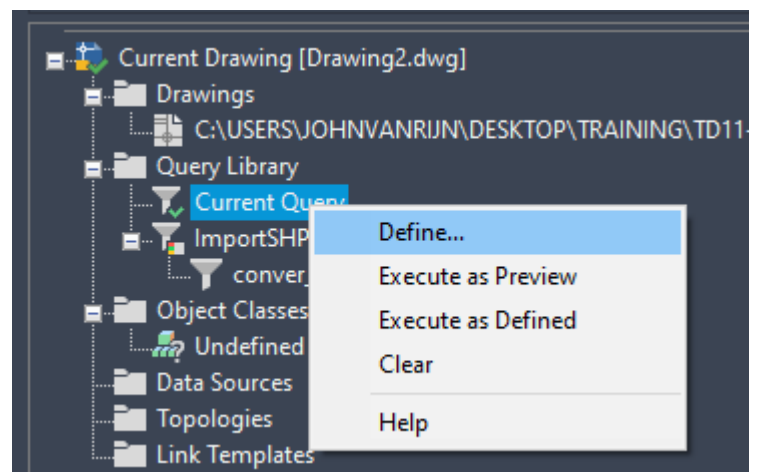
The file is attached to this drawing, if it's correct the file is not greyed out.

Define Query

In the next step we will define a routine to apply a value to an object, we call this routine a query.

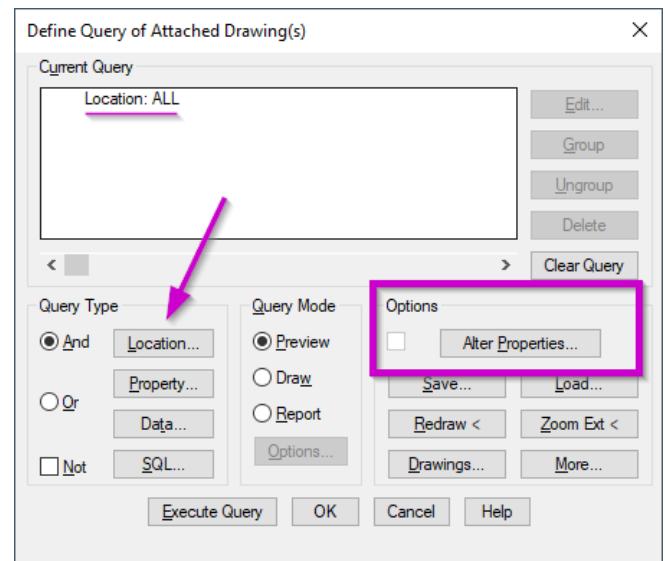
These queries can be saved, internal and external so we don't have to define every time there is a new query. To automate this, we need to confirm the property data every time, the reason for this is a missing standardisation.

5. Select Query Library, open by click +, right click "Current Query", select "Define"



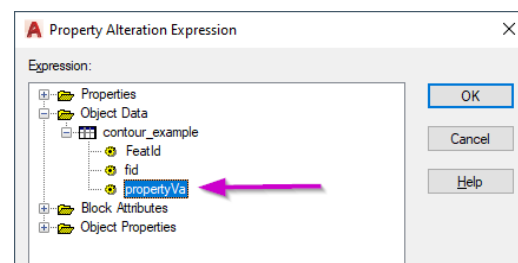
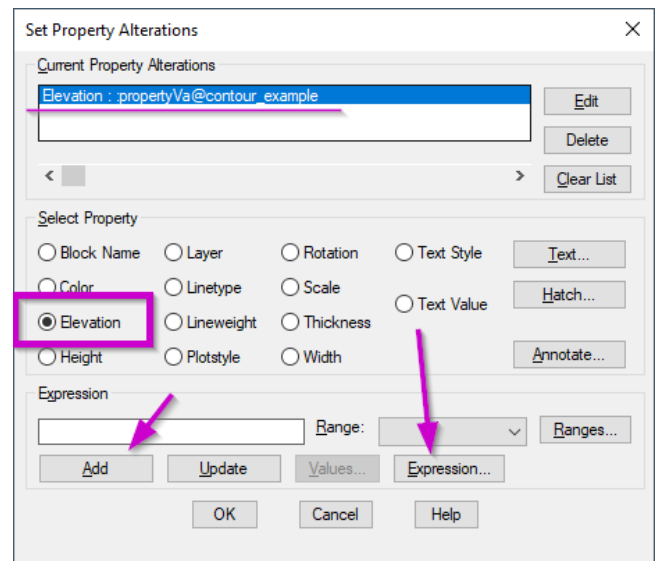
Define query tool will appear:

6. Select "Location", "location Condition" dialog appears.
7. Select and set "All", press OK.



Property Alterations dialog

8. Select "Alter properties"
9. Select and set "Elevation"
10. Select Expression button.
11. Search and select the Object Data property, (value for Z) in Property alterations Expression dialog box.
12. Press "Add" to set the value.
13. Press OK to finish

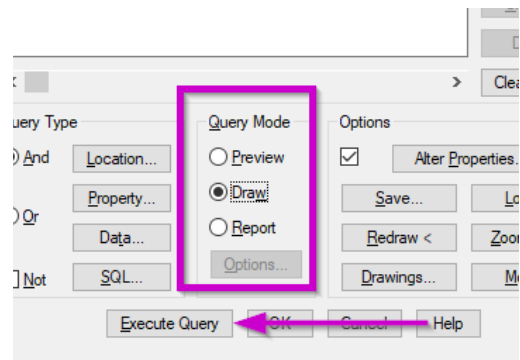


Execute Query

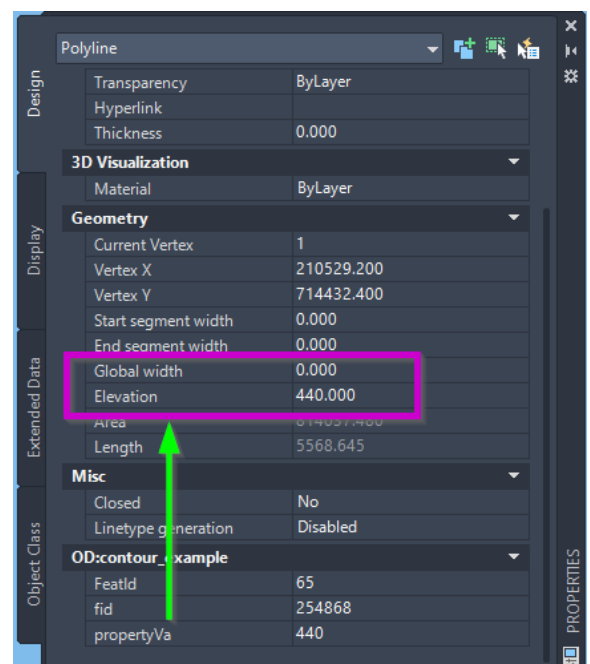
To execute this query, we need to set the query mode on “Draw” and press “Execute Query” to run.

When all steps are done correctly the result is a polyline and elevation.

The final step is to save your drawing and use this creation as contour lines to create your surface.



with




Result:



3. Create Alias

To store drawings in a location other than drive C, create a drive alias for the location.

To create a drive alias

1. In the Select Drawings to Attach dialog box, click 
2. In the Drive Alias Administration dialog box, type a name for the alias.
3. Specify a path for the new alias.
4. Click Add.

