



Autosign

by **CGS Labs**



Instructions for Customized Traffic Signs (Autosign installed on BricsCAD)

Tutorial





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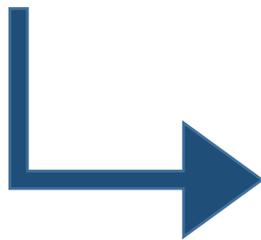
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Table of Contents

INTRODUCTION	3
Step 1 – Drawing preparation	4
Step 2 - Drawing a traffic sign	5
Recommendations for drawing.....	6
Objects to use and not to use.....	6
Colors and fillings	7
Drawing	8
Step 3 - Position.....	9
Step 4 - Creation of picture of the signs.....	9
Step 5 - Add traffic sign into the library	10
Step 6 - The use of a traffic sign	11

INTRODUCTION

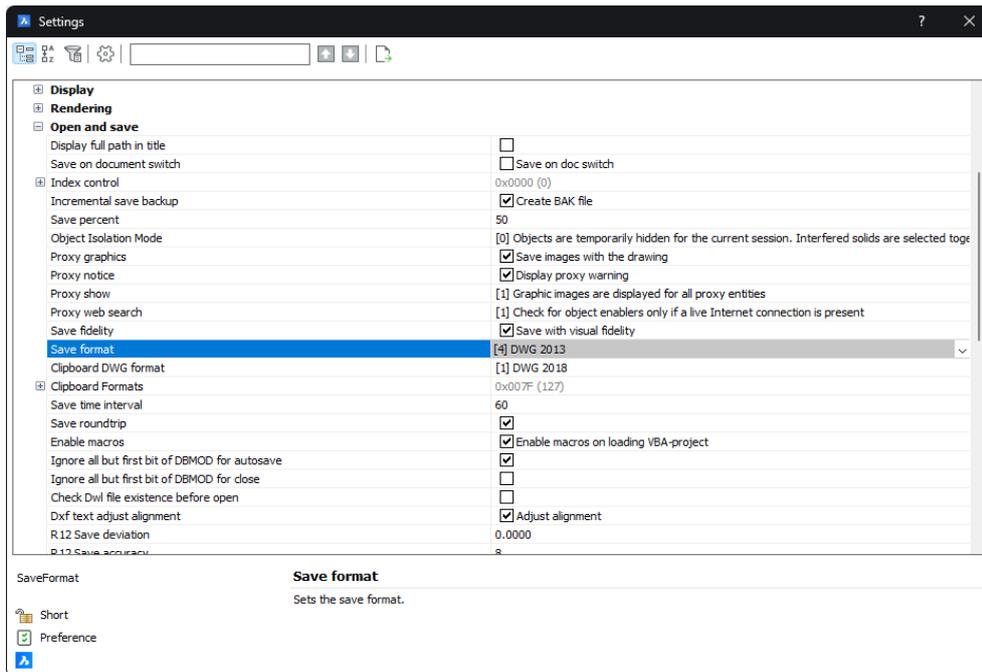
This document aims to provide helpful guidelines for easily and precisely creating traffic signs that can be saved in the Autosign library. These signs can be inserted as 2D traffic signs or converted into 3D with just one click.



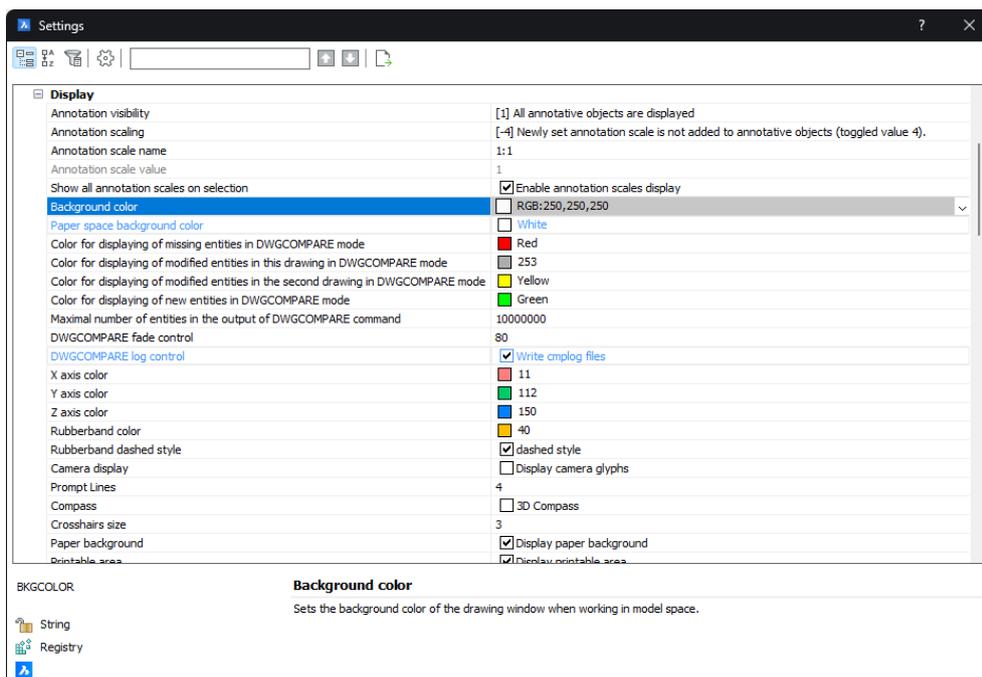
Step 1 – Drawing preparation

DWG version, Background Settings and Units

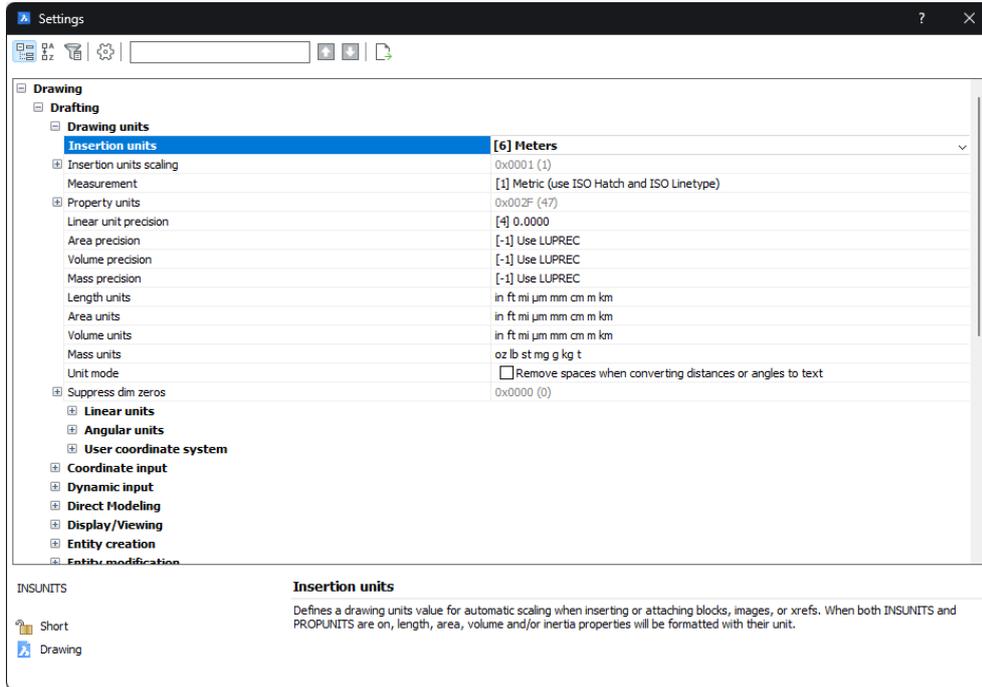
1. At the beginning open a new DWG file.
2. Then write Settings in the command line.
3. Afterward, click on Program Options -> Open and Save > Save Format, and choose **DWG 2013** from the drop-down menu.



4. Next, click on Display -> Background color and set it to **WHITE**. *The background color must be always white!*

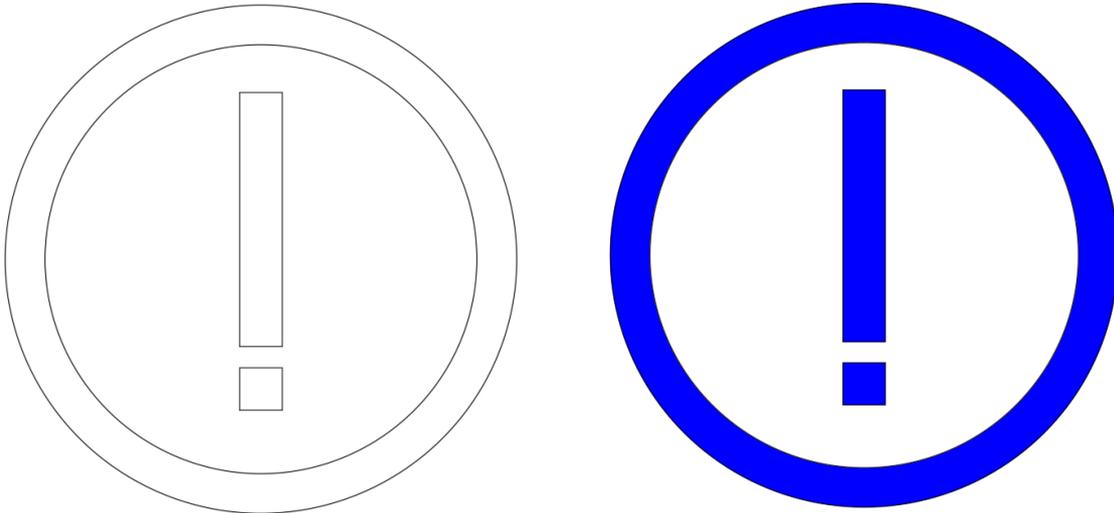


5. After that, click on Drawing -> Drafting -> Units and select **METERS**. (*The signs have to be created in METERS.*)



Step 2 - Drawing a traffic sign

Using CAD commands, you will draw a traffic sign and then draw hatches. Please consider the following recommendations.



Recommendations for drawing

Objects to use and not to use

Create the silhouettes of the elements of the traffic sign considering following recommendations.

Create signs using lines, polylines, circles and arcs (ellipses only if you set the AutoCAD variable PELLIPSE >> new value <1>).

Do not create the sign using ellipses (if variable PELLIPSE is set >> 0), splines, 2D lines or 3D lines.

To convert ellipses, splines, arcs, 2D lines or 3D lines to a polyline, select the command "PEDIT". In the command line select the option "Multiple" to edit multiple captions at the same time.

Command: PEDIT

Select polyline or [Multiple]: M

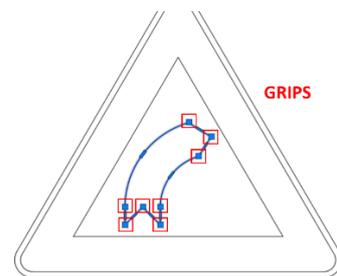
Select objects: Specify opposite corner: 6 found

Convert Lines, Arcs, and Splines to polylines [Yes/No]? <Y>

Specify a precision for spline conversion <10>: 10

IMPORTANT: If the precision factor is very high, the PLINE will be created with many grips. The grips must be separated from each other at least 1 mm in order to get a good result in 3D. This may cause a lightly lack of accuracy in small silhouettes.

In case of signs with small silhouettes, it is very important to test the sign in BCAD and ACAD after making it to avoid further problems in the future.

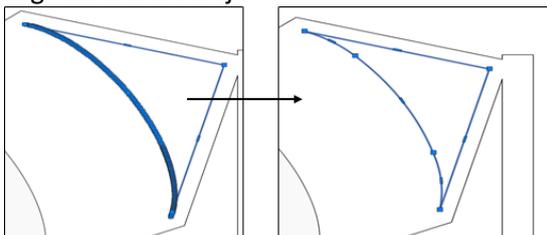


Join the polyline by selected the command "JOIN".

IMPORTANT:

- Try to have only one closed polyline for any region (note multiple lines on each other, delete extra ones),

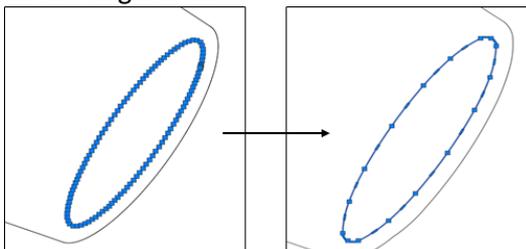
- If any curved parts are created by multiple line segments, draw it again by polylines (PLINE >> start point >> Arc >> enter) draw as fit as possible to the original one, then delete all lines segments and run join.



In case of having ellipse shape;

- In command line type (PELLIPSE >> enter new value <1>)

- After this, draw ellipse (ELLIPSE >> enter) over existing ellipse shape as fit as possible and delete all the original ones.

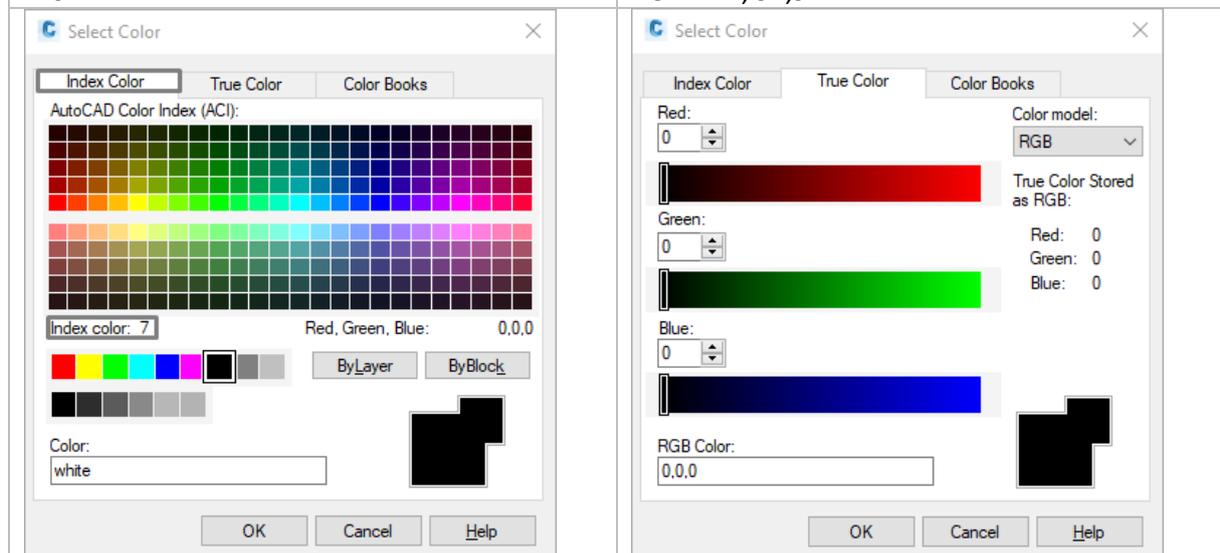


Colors and fillings

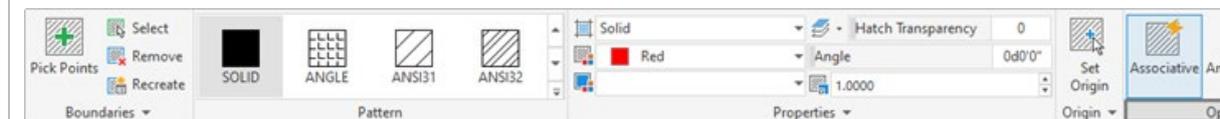
Draw hatches to fill the spaces in between the contours of the silhouettes.

It is very important to create the hatches in a proper way, especially in order to ensure the well creation of the 3D solids afterwards.

Colors of the hatches must be same as defined:	
Black	RGB: 1, 1, 1
White	RGB: 249, 249, 249
Red	Index color: 1, RGB: 255, 0, 0
Yellow	Index color: 2, RGB: 255, 255, 0
Orange	Index color: 40, RGB: 255, 191, 0
Blue	Index color: 5, RGB: 0, 0, 255
Green	Index color: 104, RGB: 0,127,31
Brown	RGB: 122, 97,92



Every single closed boundary of the sign must have a single hatch. Do not hatch two different closed boundaries under the same hatch. In order to do that, make sure the option “Separate hatches” from the “Options” panel from the “Hatch Editor” tab is selected.



Hatches type: Solid pattern & Non-associative.

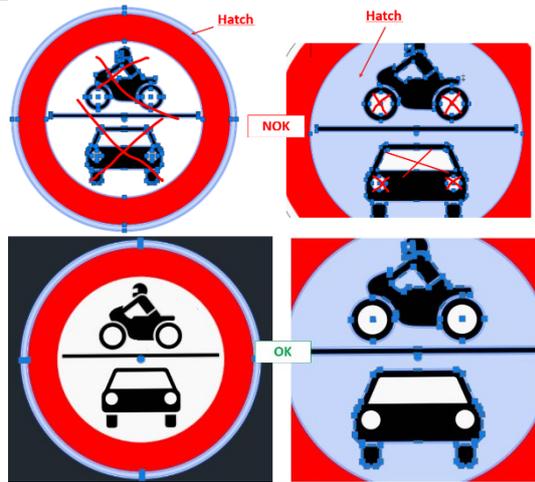


IMPORTANT: All the areas of the sign must be covered by hatches. Do not leave any space without hatch.



Be careful to not make the following mistakes, which will drive to errors when creating the 3D solids afterwards.

The hatches must only include the elements that are directly in contact with the hatched area.



Example of good result, with all the hatches isolated:



Drawing

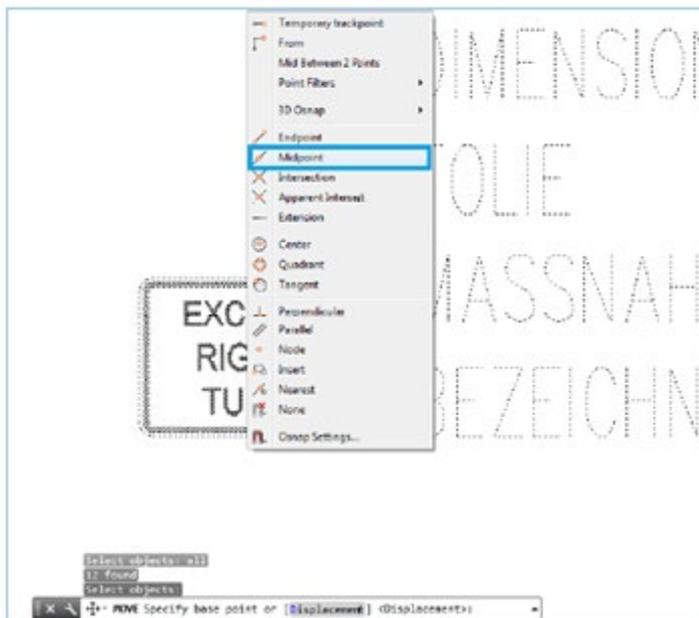
When you create custom library for testing the signs, keep in mind that every time you correct the sign and import it to the custom library again, you have to open a new drawing in AutoCAD/Civil3D/BricsCAD for changes to be seen. Those platforms remember the block definition, and even though the sign might be corrected, all those corrections won't be shown until you open a new drawing.

Step 3 - Position

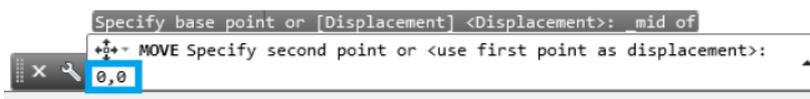
The sign base point must be positioned in the (0,0,0). The following illustrations show some examples of determining the point of entry (base point).

1. Press the command "Move".
2. Select the sign (the all option).
3. Select the "base point": press "Ctrl" and the right mouse click select "Midpoint" (see the picture below), or you can set the "Object Snap Settings".

The midpoint of the sign must be in (0,0), as shown in the picture below.



You can check the base point position with the "BASE" command, which must be set to (0,0,0).



Step 4 - Creation of picture of the signs

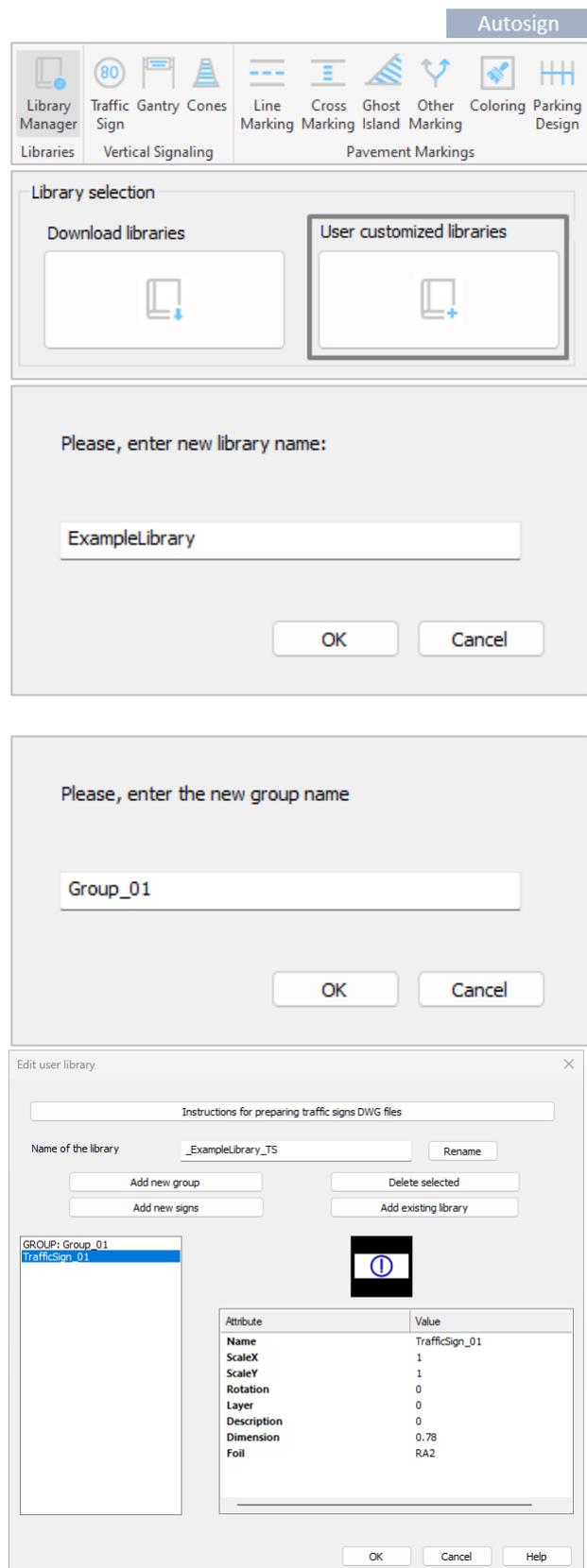
Autosign automatically creates predefined pictures for each user customized sign. However, the user is also able to create the pictures for the signs (with a higher level of quality) following the steps below.

The pictures must be a BMP file with bit depth 32 bits. Size of the picture must be 65x65 pixels. Procedure:

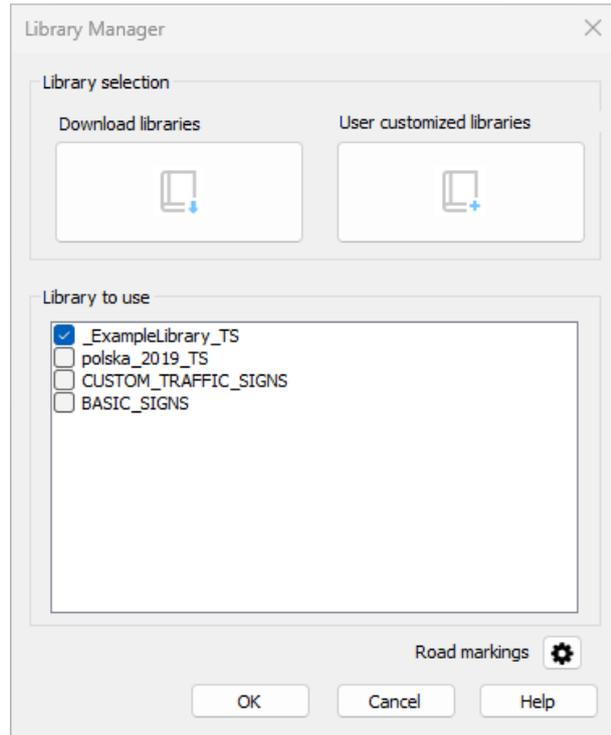
1. You run the command BMPOUT and save the drawing in the folder where the DWG drawing of the traffic sign is located.
2. Afterward, you open that drawing in an image editing software (Paint) and crop and resize it.

Step 5 - Add traffic sign into the library

1. Run the Library Manager command.
2. Click on the User customized libraries icon.
3. Click Create new library.
4. Enter new library name and click OK.
5. Select this library in the list and click Edit.
6. Click Add new group icon and enter the name.
7. Then select the group and click Add new signs.
8. Find the traffic sign and click Open. **It is important that the WMF file is located in the same folder as the DWG drawing.**
9. After that click OK to close all dialogue box.

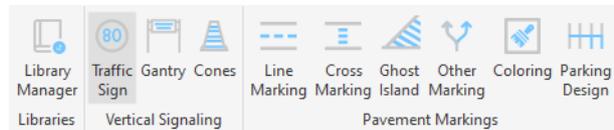


10. Then check the box at the ExampleLibrary and press OK.

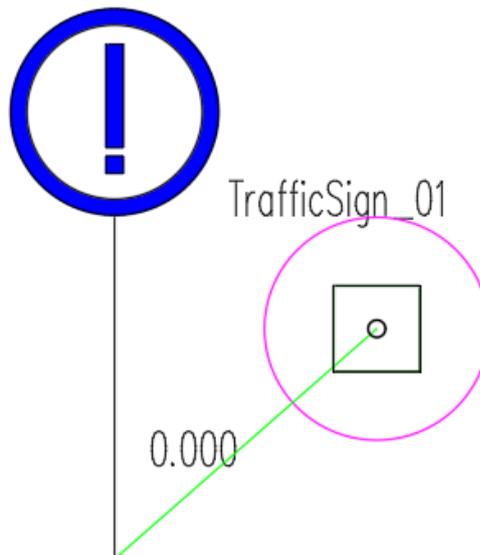


Step 6 - The use of a traffic sign

1. Run the Traffic Signs command.



2. Select the traffic sign from the list and position it in the drawing.



If you want to create a 3D model of a traffic sign, you need to have a surface in the drawing. This can also be just a 3D face onto which the 3D model is projected.