



Plateia

by **CGS Labs**



Labels
Tutorial



CGS Labs d.o.o.

Brnčičeva ulica 13

1000 Ljubljana

Labels

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T: +386 1 235 06 00

E: info@cgs-labs.com

Internet: www.cgs-labs.com

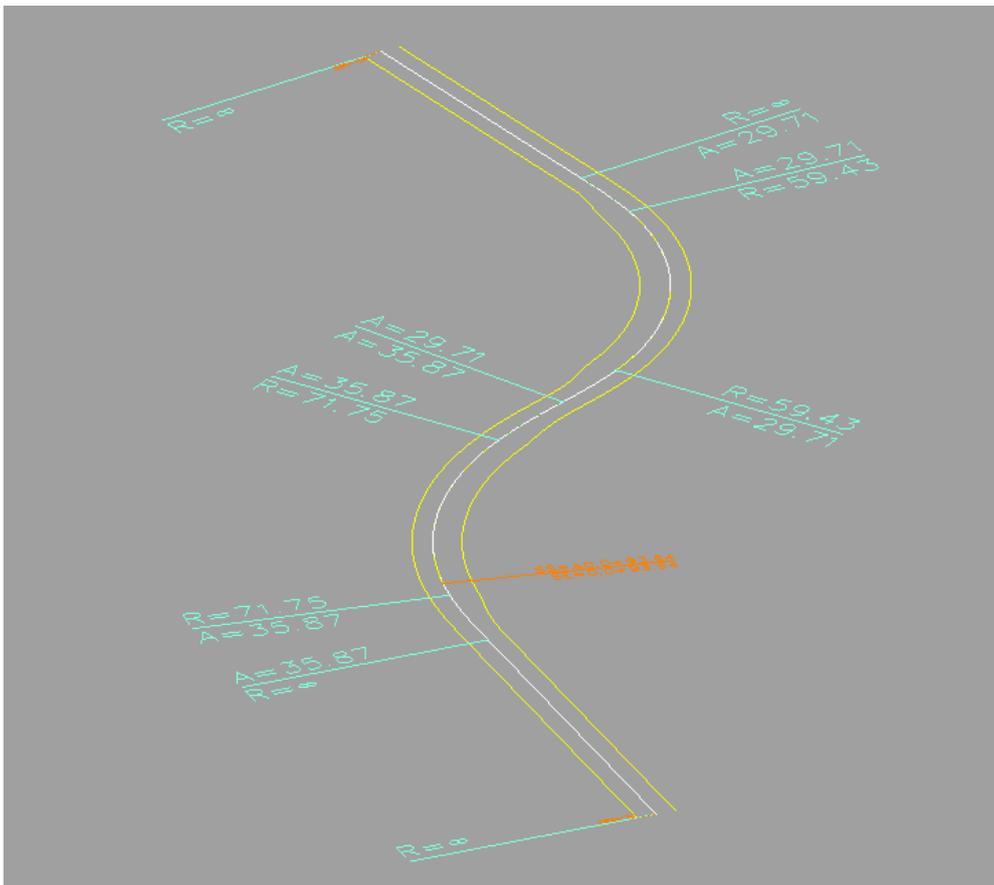
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Introduction

What are labels?

Labels are graphical representation of geometric or other data of user defined elements in a drawing. Labels give us information about entities that are attached to. This can be numeric values (such as radius of an arc) or string values (such as names of topographic symbols related to CGS points).



New labels in CGS software are created as CAD blocks. These can be different types such as Standard blocks, Dynamic blocks (AutoCAD) or Parametric blocks (BricsCAD). These blocks are stored externally (outside of software code) which gives the user possibility to prepare and use their own block, or to use functionalities of dynamic and parametric blocks.

This tutorial shows the following:

- How to use default labels that come in CGS software,
- where the labels are stored,
- how to change prefixes and suffixes in regard to labels,
- how to change existing label properties,
- how to hide, freeze, lock label layers,
- how to add custom label to a new drawing,
- how to add custom label to an existing drawing.

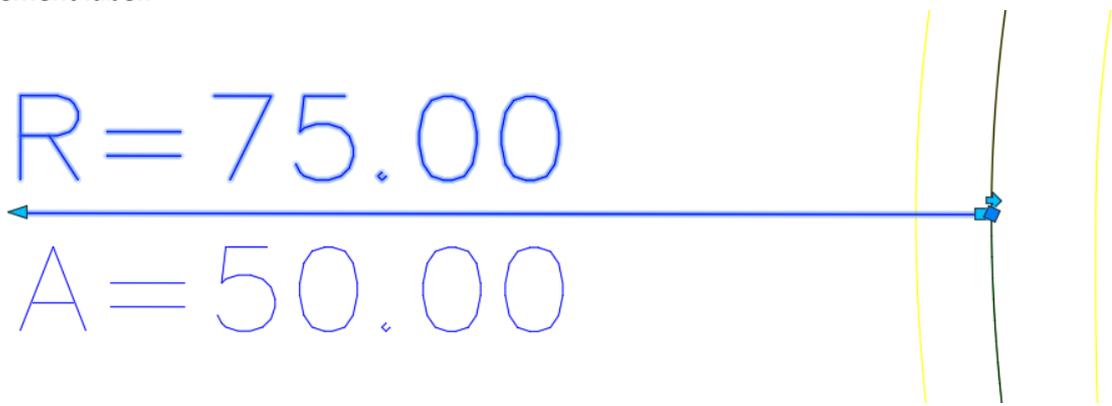
1. Labels functionality

All of the new CGS labels are made as dynamic or standard blocks. With dynamic blocks you have different functionalities such as movement grips, flip, multiple nested blocks, ... which change the appearance of a block based on rules and restrictions what we set.

CGS Labels are created with graphic entities (such as line, circle, arc, ...) and attributes (which hold information of a label).

We will take a look how the labels for main elements are created. Different labels have different options and are also dependent on the settings within CGS software.

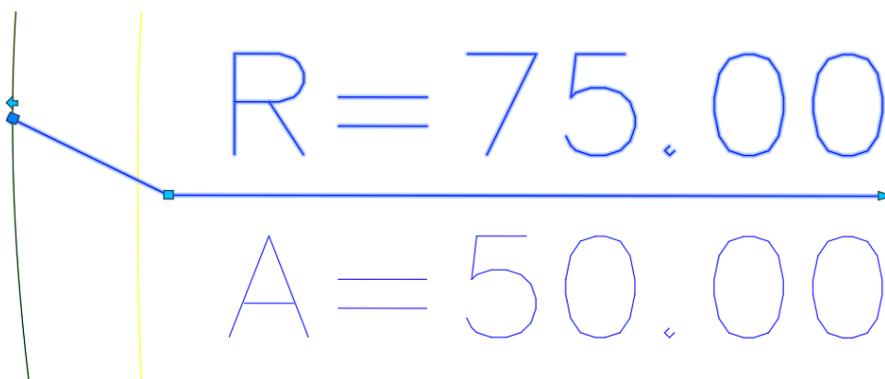
Main Element label:



Here we can see there are 4 points on the block element. 3 of them are dynamic grips and 1 is insertion point for the block. With dynamic grips we can interactively change label appearance; Label can be lengthened to a specific distance, it can be moved to a different position or it can be flipped to other side of CGS alignment.

All of those options are also present in custom properties of a selected block. If we need to change properties for multiple labels we can select any number of them or we can select one of them and use command "SELECTSIMILAR" to change the properties as we wish. For Main element labels these changes are also stored on main elements, so alignment changes do not reset user defined changes.

Example of a moved label:



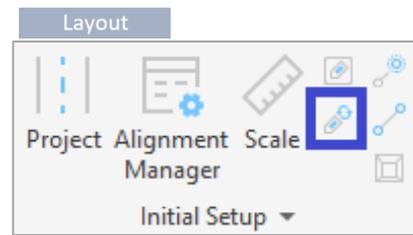
Custom properties for CGS Main Element Label Block (default position):

Block Reference	
General	
Color	ByLayer
Layer	20_AXIS_0_ME_LABELS
Linetype	ByLayer
Linetype scale	1.0000
Plot style	ByColor
Lineweight	ByLayer
Transparency	ByLayer
Hyperlink	
3D Visualization	
Material	ByLayer
Geometry	
Position X	-43657.6029
Position Y	26261.4310
Position Z	0.0000
Scale X	0.5000
Scale Y	0.5000
Scale Z	0.5000
Misc	
Name	LABEL_Plateia_MainElement_Left
Rotation	292d51'48"
Annotative	No
Block Unit	Unitless
Unit factor	1.0000
Custom	
Flip Horizontal	Left
Linear Distance	45.0000
Position1 X	-0.5000
Position1 Y	0.0000
Block:LABEL_Plateia_MainElement_Left	
MainElementStart	R= 75.00

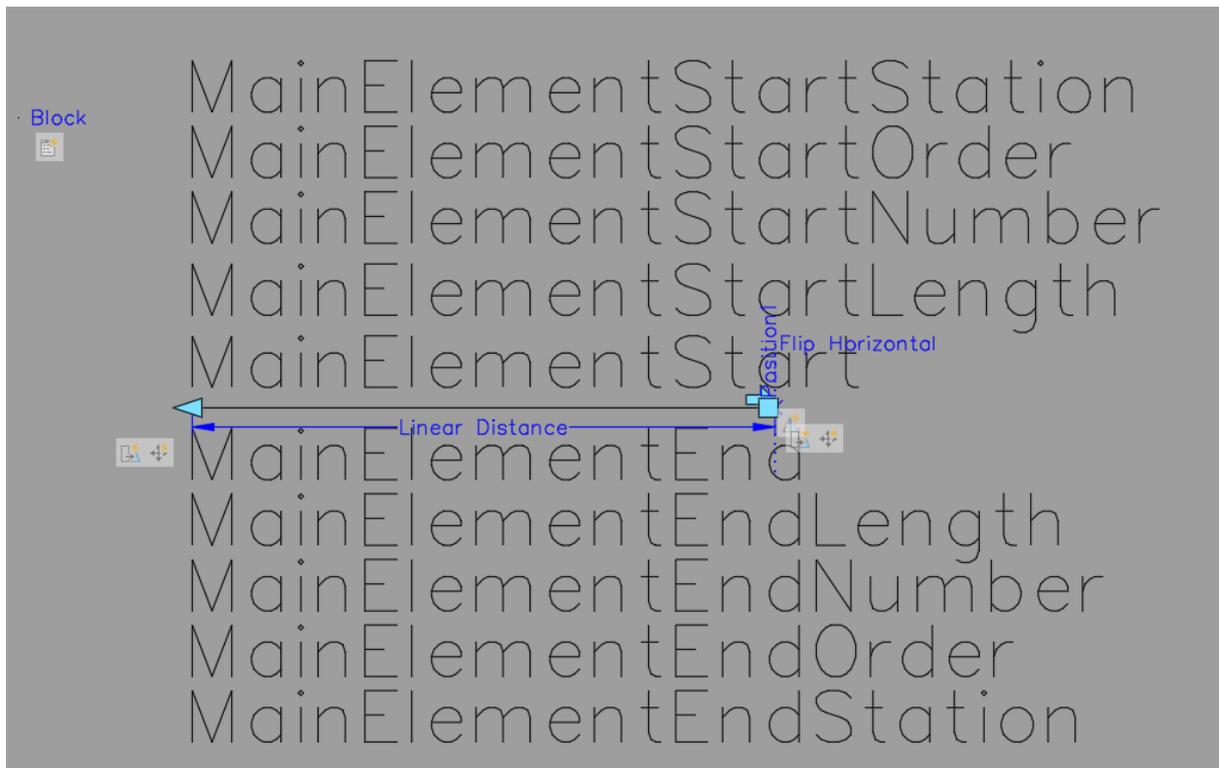
Custom properties for CGS Main Element Label Block (changed position):

Custom	
Flip Horizontal	Right
Linear Distance	28.0000
Position1 X	6.0000
Position1 Y	-3.0000
Block:LABEL_Plateia_MainElement_Left	
MainElementStart	R= 75.00

All changes to dynamic blocks (changing custom properties or making changes with grips) can be reset to default block position by using command "RESETBLOCK" in command line or in the CGS Ribbon .



If we open label block in block editor we can see multiple attributes that are used for Main Element label.



In this case, the visibility of each attribute is set in settings (command Settings Axis (21A31)) of Platea/Ferrovia/Aquaterra. The only two options that are selected are labelling of the spiral, curve and tangents. This information is filled into attribute "MainElementStart" and "MainElementEnd". Because other options are not selected, other attributes are not filled in with information and are not visible in our drawing.

CGS Labs parameters

Layout-Standard: English - roads

ENG	ID & Parameter	Value
...Axes general	211201 Label spiral with A= and curve with R= (1-Yes, 0-No)	1
...Axes general - menu	211202 Label horizontal element length L= (1-Yes, 0-No)	0
...Longitudinal axes	211203 Label start- and end-point of horizontal element (1-Yes, 0-No)	0
...Cross axes	211204 Label horizontal element number (1-Yes, 0-No)	0
...Cut/Fill	211205 Label Tangents with R=unlimited (1-Yes, 0-No)	1
...Control points	211206 Label station at start and end of main element (1-Yes, 0-No)	0
...Prepare drawing for plotting		
...Border lines		
...Axis main elements-general		
...Axis main elements-Labels general		
...Axis main elements-label types		
...Axis main elements-Labels		
...Lanes		

2. Labels file location

Labels blocks are stored in an external folder:

C:\Users*"UserName"*\AppData\Roaming\CGSA\CGSApps *"Version"* *"Language"*\LABELS

(example: C:\Users\ozimekk\AppData\Roaming\CGSA\CGSApps 2023 ENG\LABELS)

You can access the folder application data folder by typing %appdata% and clicking enter.

Ime	Datum spremembe	Vrsta	Velik
Aquaterra	11. 10. 2022 09:03	Mapa z datotekami	
Common	20. 10. 2022 15:28	Mapa z datotekami	
Ferrovia	11. 10. 2022 09:03	Mapa z datotekami	
Plateia	11. 10. 2022 09:03	Mapa z datotekami	

Labels are separated by product and label type

- Axis Labels
- Design Speed
- Hectometric Label
- Main Element
- PolyTable
- Profile View
- Sample Line
- Station Control
- Superelevations

MainElement_Plateia_L.dwg
MainElement_Plateia_R.dwg

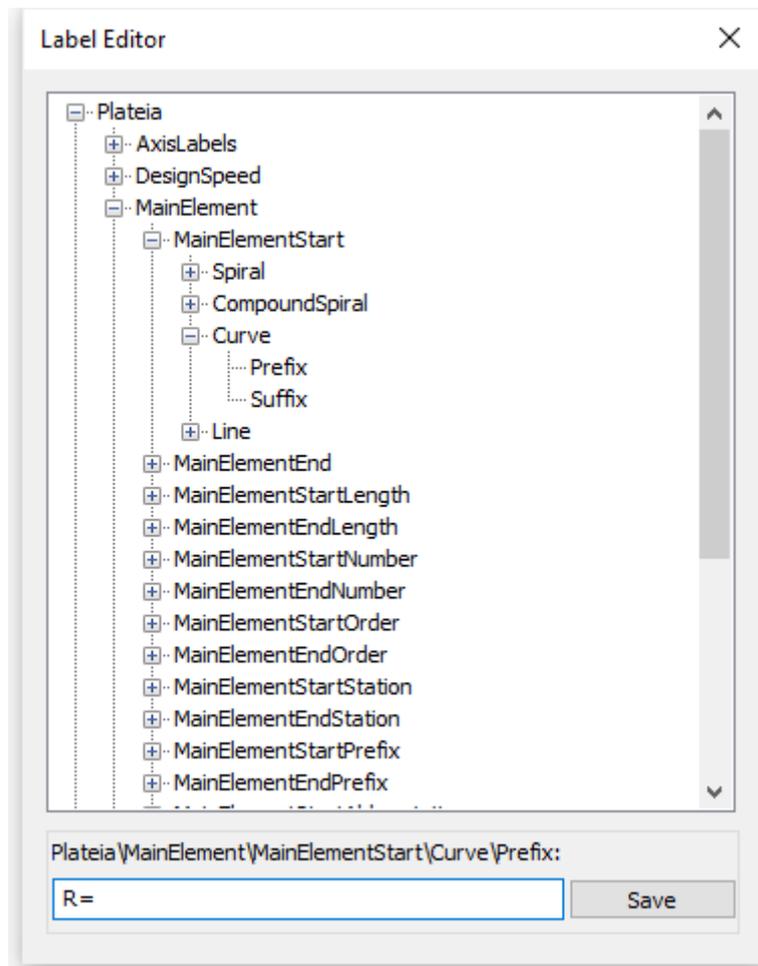
You can edit the blocks or change them with your own. If you lose default label it can be retrieved from installation folder (C:\Program Files\CGSA\CGSA 2023\PFAE\ENG\AppDataLanguageSpecific\LABELS)

If you use your own block you need to use the same name as default one (for example: *"MainElement_Plateia_L.dwg"*).

CGS Software will only recognize attribute names that were predefined. For user block we need to use the same names (for example: *"MainElementStart"*, *"MainElementStartLength"*, ...) so that information can be correctly placed.

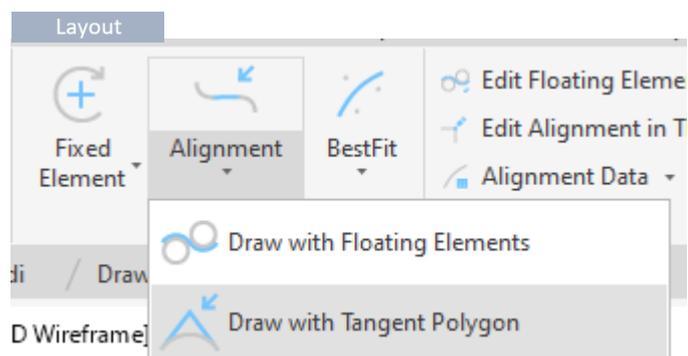
3.Label prefixes/suffixes

Label prefixes and suffixes are read externally in XML file which we can change. You have an option to change it within CGS Software by using command Label (21A7).



3.1 Changing label prefix/suffix:

1. Open new drawing and create a new Plateia alignment. Run command Draw with Tangent Polygon (21E3) and create an alignment.



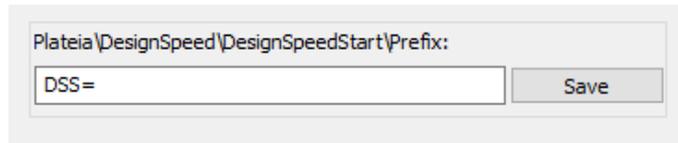
2. At the start of an alignment there should be label for design speed definition. We will change this to "Design Speed" with "km/h".



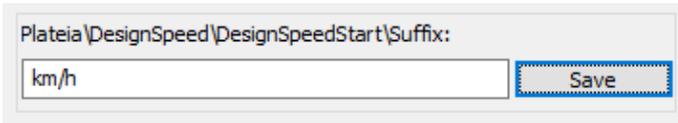
3. Run command Label (21A7) to open window for Label prefixes and suffixes. Search for design speed label (or corresponding name in your language) and click "Prefix".



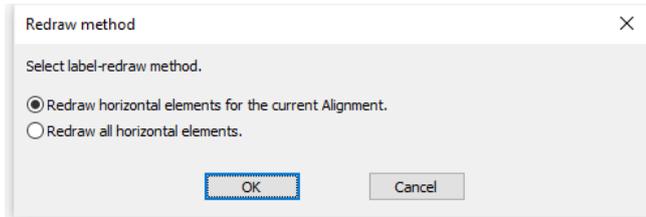
4. The bottom message should be unlocked and can be renamed. Write "Design Speed=" instead of "DSS=" and click Save, so that the value is stored.



5. Do the same thing for Suffix. Default should be blank but we can write "km/h" to display the suffix and click Save.



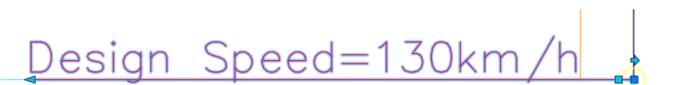
7. Now the label needs to be refreshed. Different labels are refreshed differently but all alignment labels can be refreshed with command Refresh Labels (21F7).



8. After refreshing the label should look something like this.



9. We can move the label with dynamic grip or in the properties.



We can do this for any label in the label command window. All the changes will apply also in new projects and other drawings.

4. Labels properties

Label properties such as scale, colour, size and other can be changed by changing the block itself or using other CAD functions such as BATTMAN (Block Attribute Manager). We can change individual attributes of a block or a whole label block.

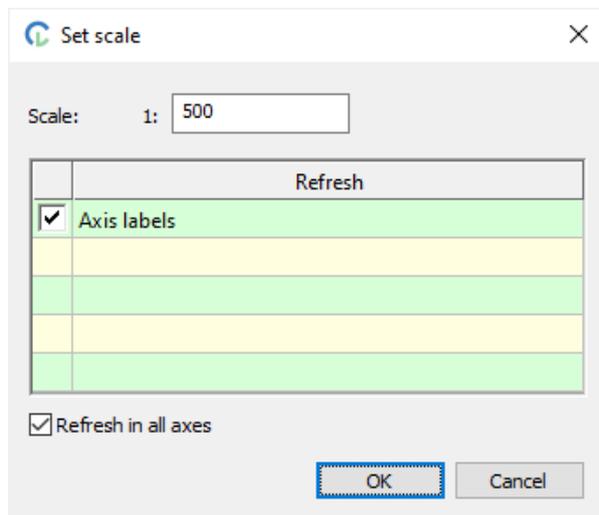
4.1 Block

4.1.1 Scale

Scale for labels in the plan view can be defined by using command Scale (21B).



To change existing and new Axis labels we need to check “Axis labels” mark. Without checking the mark only the newly drawn labels will be in a new scale. Scale command will change scale property of the blocks and remember the settings when refreshing the labels.



Geometry	
Position X	-32029.0192
Position Y	27744.8905
Position Z	0.0000
Scale X	0.5000
Scale Y	0.5000
Scale Z	0.5000

4.1.2 Colour

Colour of elements within a block can be set **ByBlock**, **ByLayer** or with **predefined colour**.

If it is set by **predefined colour**, then the element colour in our drawing will always stay the same irrelevant to the layer or block defined colour.

Otherwise elements in the label block should have the colour defined “**ByBlock**”. With this setting, we can change the colour of a block reference in the drawing and it will affect the elements within. If we set colour of a block reference “**ByLayer**” (leaving elements within “**ByBlock**”) then we can change layer colour which will affect all the labels of specific type.



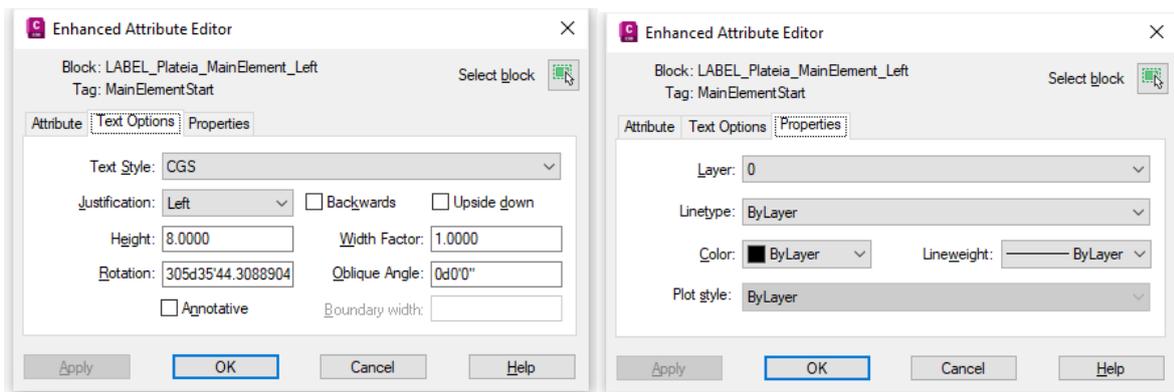
0.0 + 20.00

4.2 Attribute

Attribute is an element which holds alphanumeric value of a label. Text element holds the exact information that was given to it but the attribute element is like a variable to which the information is assigned according to conditions.

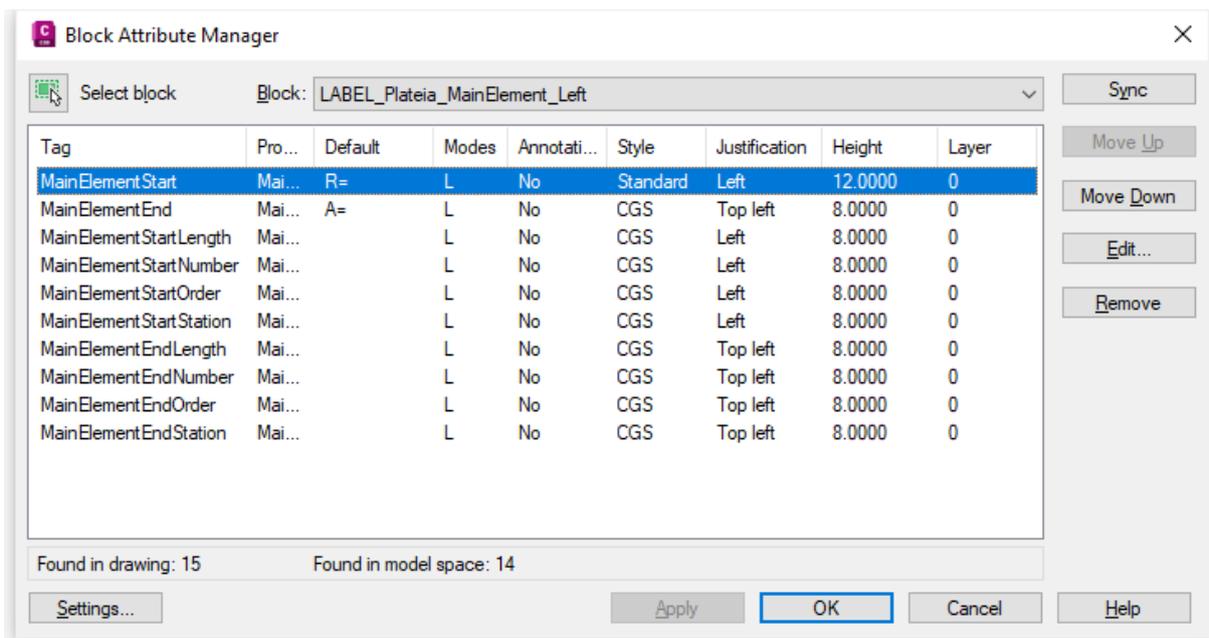
4.2.1 Single block attribute edit

To change properties of an attribute we can use Enhanced Attribute Editor by double clicking on a label block or using command "EATTEDIT". Here we can change text style, justification (position of a text), height, layer, colour and other.



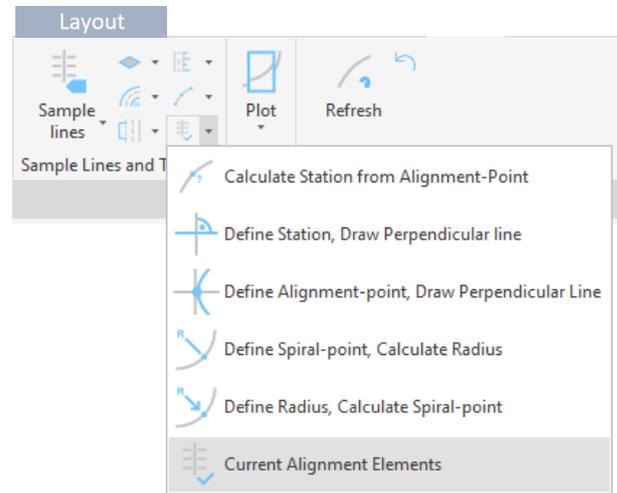
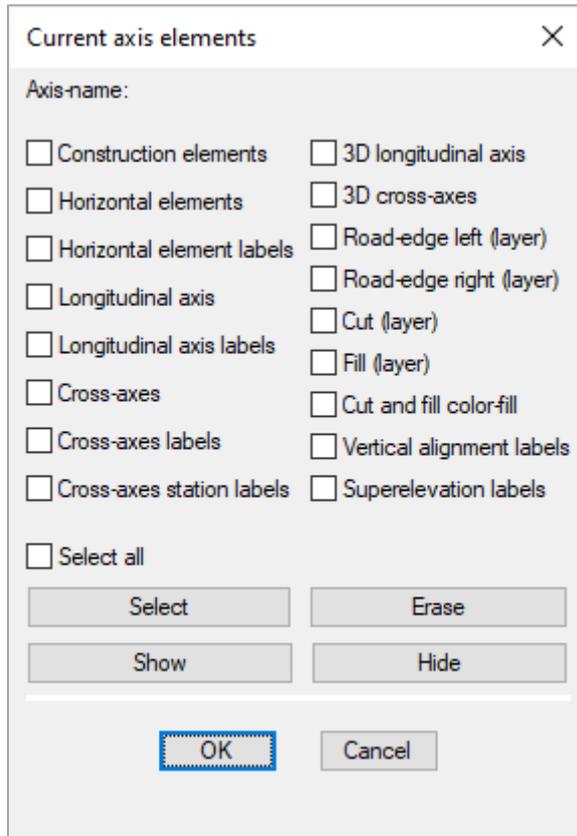
4.2.2 Multiple block attribute edit

To change properties of an attribute for all of the same label type we can use Block Attribute Manager by using command "BATTMAN". In the new window we first select the label block and change the desired property and confirm by clicking Apply.

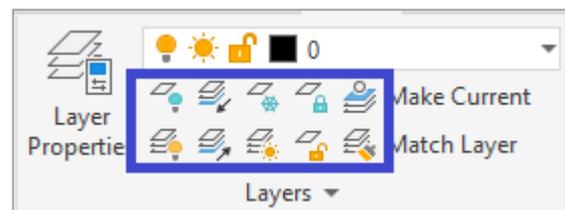


4.3 Freeze/Hide/Lock

We can hide CGS elements in two ways. In Plateia we can use command Current Alignment Elements (21R8) to choose which elements should be hidden or shown on a current selected axis.



We can also use CAD commands such as LAYOFF, LAYFRZ, LAYLCK to change label layers.



If there is an issue of CAD command not working, then we need to change command setting.

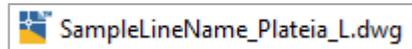
```
Select an object on the layer to be turned off or [Settings/Undo]:
LAYOFF Layer "0" is current, do you want to turn it off? [Yes No] <No>:
```

In that case use CAD command (any of LAYOFF, LAYFRZ, LAYLCK), select "Settings", select "Block selection" and select "None". Now there should not be a problem of hiding, freezing or locking label layer when selecting label block.

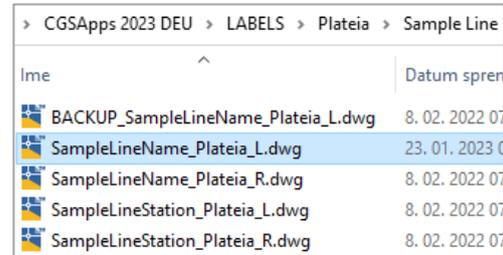
```
Select an object on the layer to be turned off or [Settings/Undo]: S
Enter setting type for [Viewports/Block selection]: B
Enter Block Selection nesting level [Block/Entity/None] <None>: N
```

5. User label in a new drawing

1. Download included block ("SampleLineName_Plateia_L.dwg") or create your own.

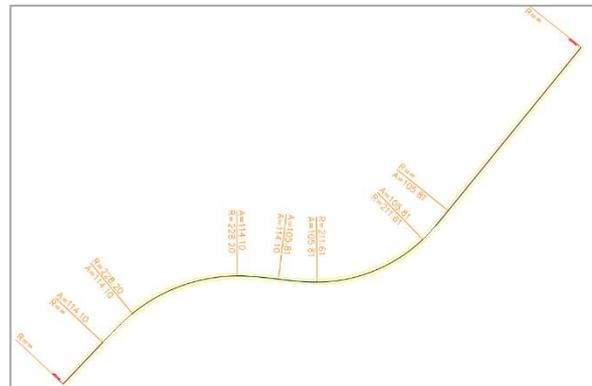


2. Copy the block to correct folder location: ("C:\Users\user\AppData\Roaming\CGSA\CGSA pps 2023 ENG\LABELS\Plateia\Sample Line")

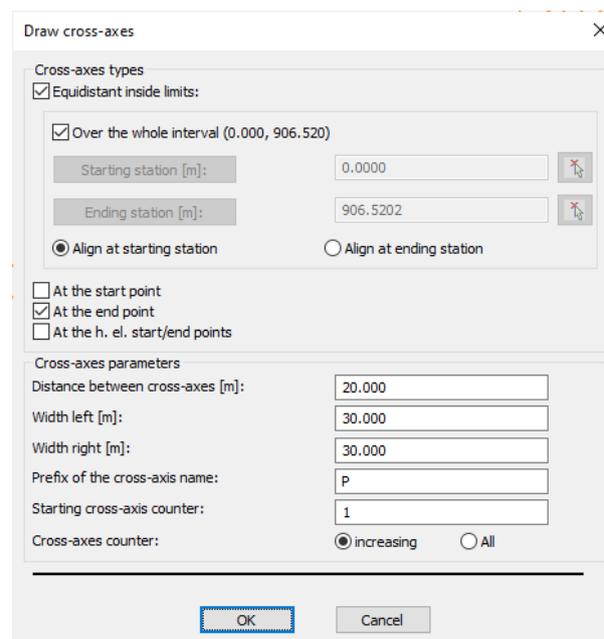


Rename default block to any other name (for example: BACKUP) before copying the new dwg.

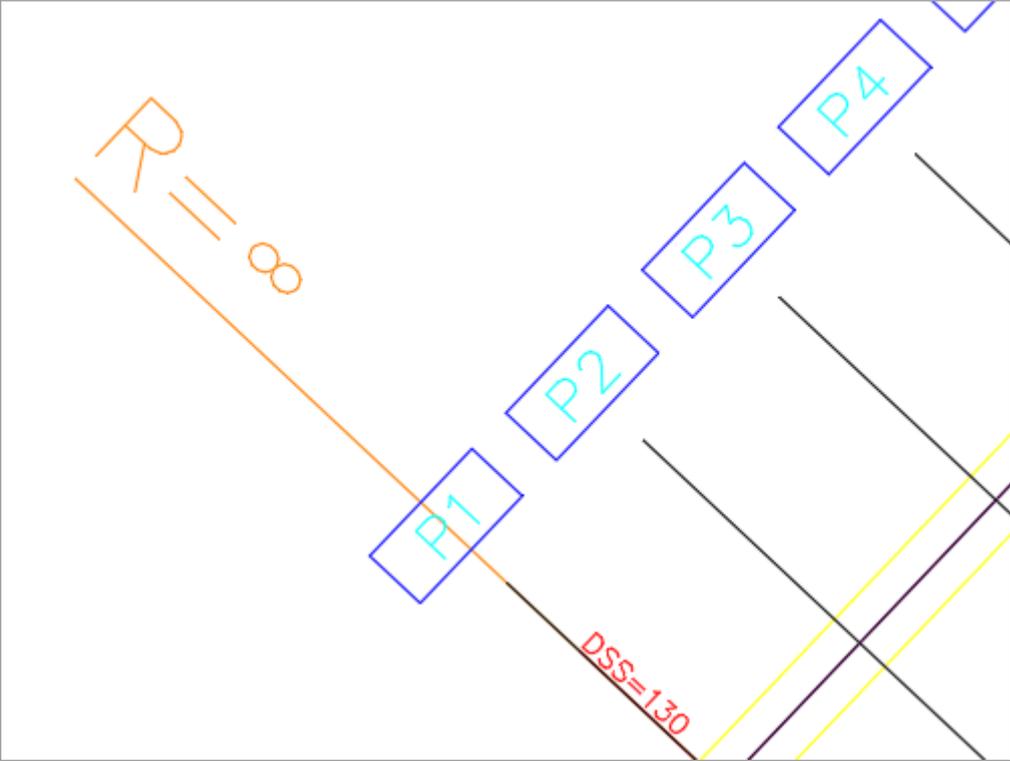
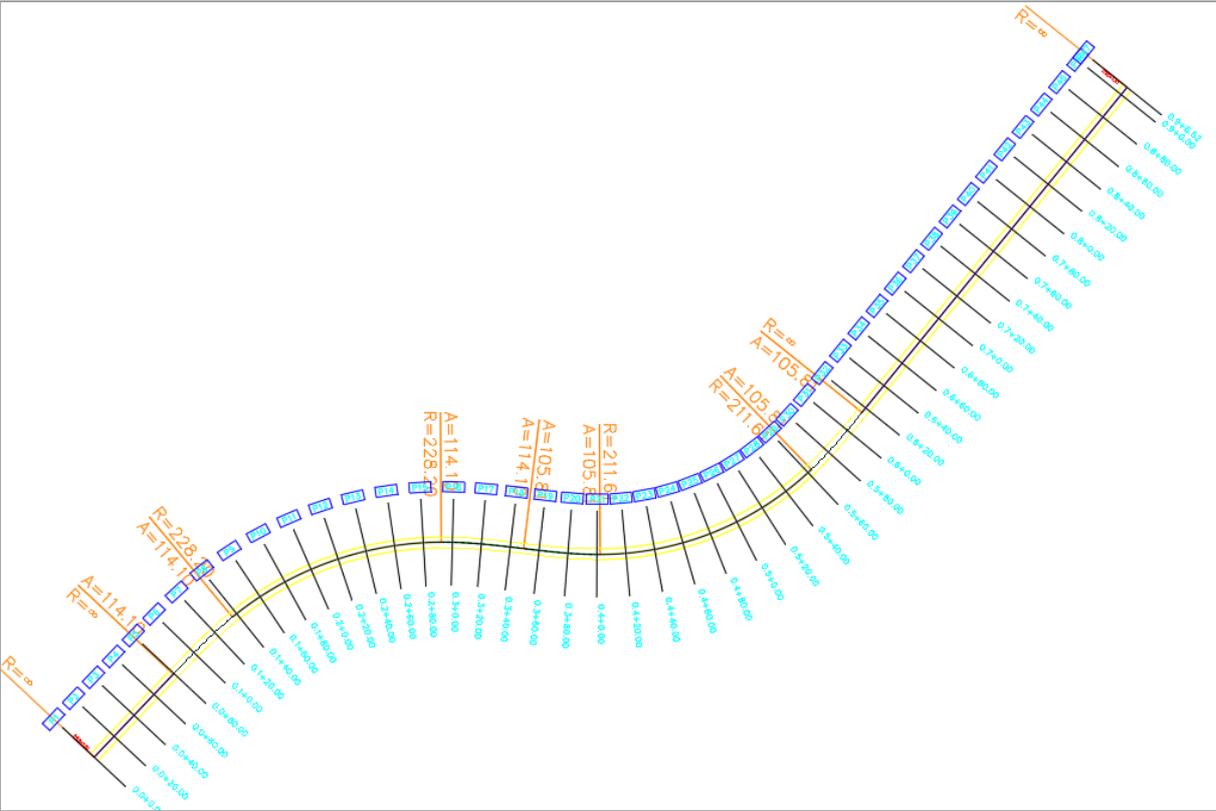
3. Open drawing "Label - ENG - New Drawing.dwg" (if you are using ENG version).



4. We can now insert the new label block for sample lines. Use command Draw Sample Lines (21H1)



5. New labels for sample line names will be drawn. We can prepare the block as we want.



6. User label in an existing drawing

Skip step 1. and 2. if you have already done it in previous chapter!

1. Download included block ("SampleLineName_Plateia_L.dwg") or create your own.

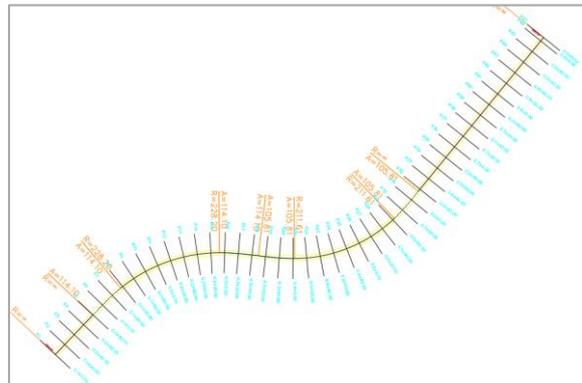


2. Copy the block to correct folder location: ("C:\Users\user\AppData\Roaming\CGSA\CGSA pps 2023 ENG\LABELS\Plateia\Sample Line")

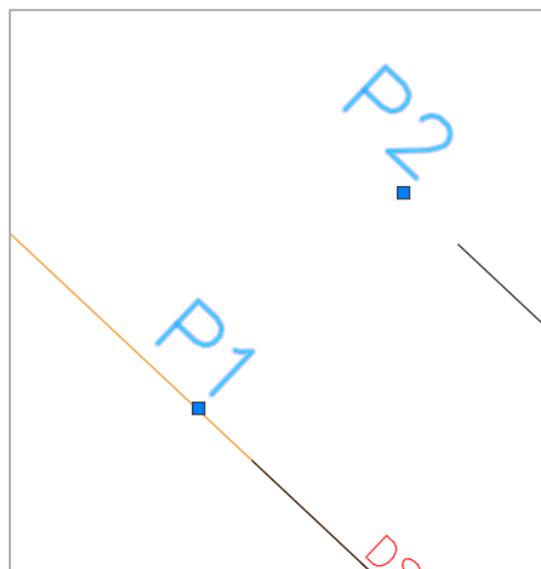
CGSApps 2023 DEU > LABELS > Plateia > Sample Line	
Ime	Datum spre
BACKUP_SampleLineName_Plateia_L.dwg	8. 02. 2022 07
SampleLineName_Plateia_L.dwg	23. 01. 2023 07
SampleLineName_Plateia_R.dwg	8. 02. 2022 07
SampleLineStation_Plateia_L.dwg	8. 02. 2022 07
SampleLineStation_Plateia_R.dwg	8. 02. 2022 07

Rename default block to any other name (for example: BACKUP) before copying the new dwg.

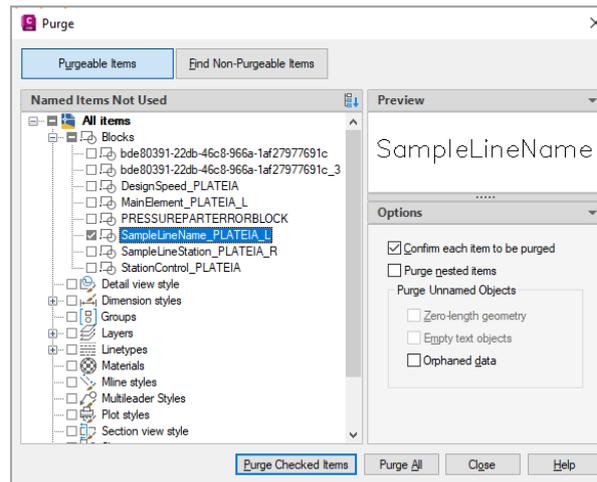
3. Open drawing "Label - ENG - Existing Drawing.dwg" (if you are using ENG version).



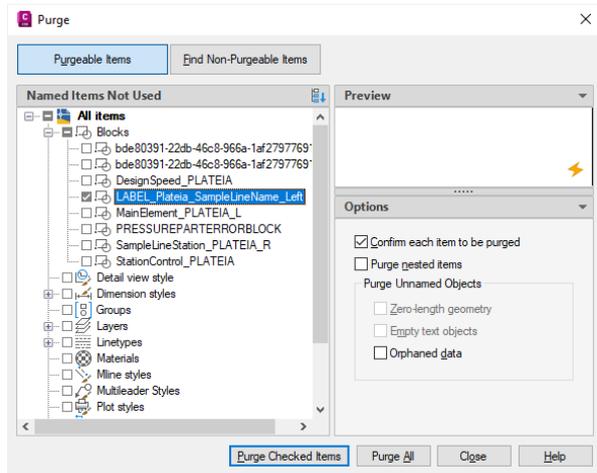
4. To add new labels we need to first delete existing ones. To delete the definition of a label we need to remove them from drawing. Select label "P1" and use command "SELECTSIMILAR" (or with right mouse button options) to select all of the labels of the same type. Delete selected labels from the drawing.



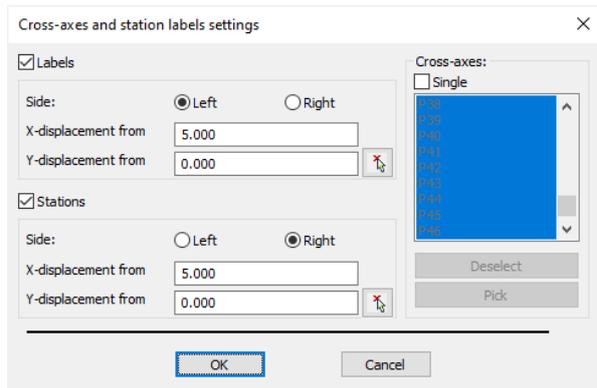
5. Label block definition is still stored in the drawing, so we need to remove it by using command “PURGE”. Open “Blocks” from a dropdown menu and select “SampleLineName_PLATEA_L” block. Click “Purge Checked Items” and confirm.



6. Nested block also needs to be deleted. In the PURGE command select block “LABEL_Plateia_SampleLineName_Left” and purge it as in the previous step.



7. To redraw only the sample line labels we can use command Sample lines Label Settings (21H5) and click OK to confirm.



8. New labels for sample line names should be redrawn.

