

Newsletter 13

Dear Customers,

2008 was characterized by extensive business activity based on two fundamental principles: technological innovation and new business partnerships.

Sivan Design joined Microsoft Certified Partner Program as a Certified Partner, ensuring a high degree of competency and expertise with Microsoft technologies, enabling better demonstrative ability and proficiency in its products. Sivan Design is also Autodesk Authorized Developer, developing its products on the Autodesk platform.

In 2008 the company signed a cooperation arrangement with geo-Fennel enabling a common platform for both products to work together. The Supplementary software **CivilCAD 2008 Survey™** by Sivan Design will be delivered with Geo-Fennel's surveying equipment 'total station' enabling the user to connect the instrument to a CAD system, for all the Civil Engineering applications.

Sivan Design listens to its customers, and in 2008 important improvements were made, such as:

- Enhancement and flexibility in earthworks calculations which provide an accurate report
- An ability to design several types of pipelines (Water, drainage, sewage, cables) in one project

New features were added to CivilCAD 2008 many capabilities, like:

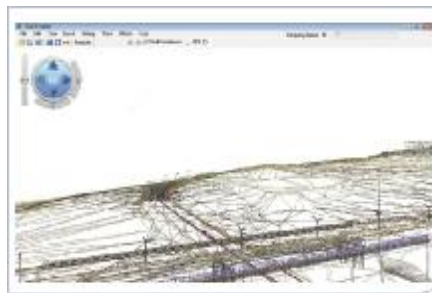
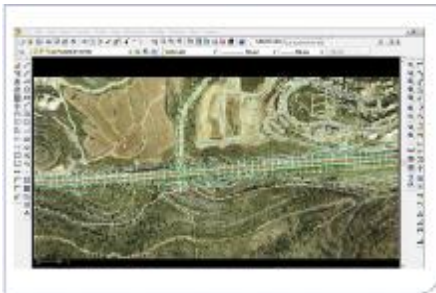
- Defining styles to DWT layers in propose to fit the design to the authorities demands
- Design alternatives for vertical alignments in the same drawing
- Exclude ditches in roads earthworks report- enables calculating each phase in the work process

In mid 2009 Sivan Design is about to release **CivilCAD 2010** providing water and roads infrastructure design modifications and new additional improved features.

Sivan Design participated at the Autodesk University exhibition in Las Vegas and presented **Civil Simulate**. The 3D Simulation software made quite an impression among road planning designers and AutoCAD Civil 3D distributors. Civil Simulate is powerful 3D interactive simulation software, which transforms AutoCAD Civil 3D or **CivilCAD** projects into highly sophisticated 3D simulation.

The software enables bridging the gaps between the virtual and reality. Changes can be made on the spot with a click and therefore save time and money.

Turn CAD into a 3D simulation-



Please continue reading and learn more about all **CivilCAD 2008** improvements and new features. We will always be happy to receive your inputs.

Sincerely,
Shlomi Sivan, CEO

CIVILCAD 2008

The new CivilCAD 2008 is not available for download from our website. A full installation CD is required. To receive a CD please contact us and we will supply it to you. Upgrades are available from Sivan Design website <http://www.sivandesign.com/Downloads.asp>

In the installation process it is strongly advised to follow the installation instructions and go through the entire 'Setup completion wizard' steps to fit the software to personal working methods.

Supporting AutoCAD 2009 version

CivilCAD 2008 supports AutoCAD 2009 version and earlier versions of AutoCAD. Sivan Design will support every new version of AutoCAD in the future.

This document presents the software's major improvements and new features. The changes are serially listed, and divided into the following subjects:

- SURVEYING
- EARTHWORKS
- ROADS / DITCHES
- PIPELINES


Note: Some paragraphs have been included under a certain subject ("ROADS" for example) can be useful for other users of the software (Surveyors for example). It is advised to go through the entire paragraphs included in the document; either if they are not directly refers to your specific field of interest.

CivilCAD 2008

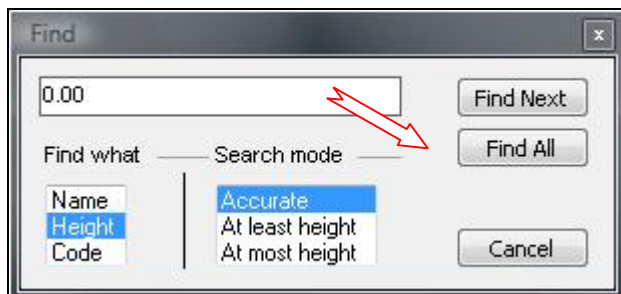
SURVEING

1. Prism height definition for 2D surveying

In the new version, in case 2D surveying is required (Coordinates that needs to appear on drawing without being considered at interpolation), the user can define prism height as **-99** in the total station and when he will perform traverse adjustment, all coordinates with prism height -99 definition will be recognized as 0.00.


To locate all points with height 0.00 in coordinates list, click on 'Find' button .

In 'Find' Window, define search by accurate height, type 0.00 or 0 and click 'Find All' button.



All points with 0.00 heights in coordinates list will be marked in blue.


Mark 'V' in 'Block' checkbox (on the right side of coordinates list) and click 'Freeze current

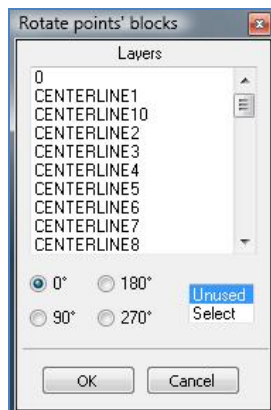
line\block' button . <Fr.> symbol will be added to selected point's names.

This operation will freeze the selected points and they will not be considered at interpolation

2. Rotate points by line at layer

In the new version, we added a new option to rotate points in association to an auxiliary line at layer.


- Go to 'Topography à Coordinates' or to 'Design à Coordinates'.
 - Click on the 'Rotate points' button  and select 'Rotate by line at layer' option.
- 'Rotate points' block will open:



- Select the desired layer from the Layers list or click 'Select' and select the layer from the drawing.
- Select the desired angle and click 'OK'.

3. Supporting GeoFENNEL 3DR05 total station

The new version supports GeoFENNEL 3DR05 total station.

- Click on 'Distomat' button . 'Distomat' window will open.
- Select the 'GeoFENNEL 3DR05' total station and then click 'Send' or 'Receive' (Make sure that your station is connected to the computer).

4. Quick design section





We have improved the Quick design section accuracy and level of details. CivilCAD 2008 supports the creation of sections upon existing and designed G.L., designed roads and designed planes.

For example: roads and planes design in the same project.

- Draw a line through designed roads and planes.
- From CivilCAD main menu, go to 'Design à Section'.
- Click 'Select', mark the line from the drawing, click 'Enter' and 'Apply'.
Quick section will appear on screen displaying the roads and planes.
- Another option is to click 'Pick' and mark two points that are the two ends of the section on the drawing.
Quick section will appear on screen displaying the roads and planes.

5. Defining styles to DWT layers in Layers Control

The new software version includes a new feature for defining styles to DWT layers in Layers Control

- From CivilCAD main toolbar, click on 'Layers Control' button . 'Layers Control' window will open.
- On the right side of the screen, click on 'Layers Settings' button .
- Define a style for each DWT layer, by choosing it from the styles list.
- Click on  button to save the styles definitions.
- Click on  button to load the styles definitions in a new project.

EARTHWORKS

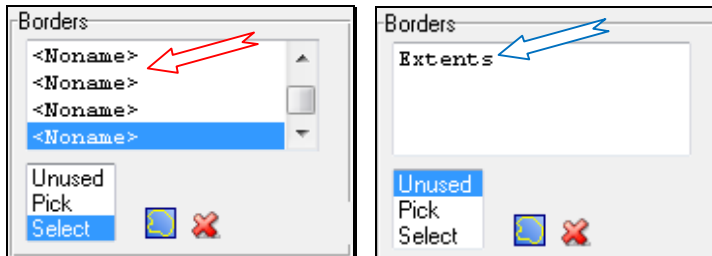
6. Earthworks Grid By Defining And Selecting A Border

The new software includes an improvement for earthworks grid by defining a border in which earthworks will not be calculated.

In addition to picking 3 points option, earthworks can be calculated only on desired area by creating a border around the area, which will not be calculated (such as road), and selecting the border.

To use this feature:

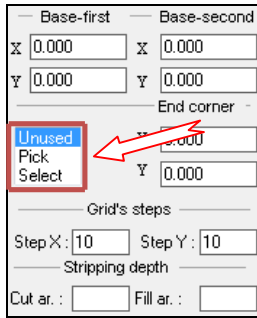
- Create a border on the drawing by Polyline.
- From CivilCAD main menu, go to 'Earthworksà Grid'.
- On the upper right side of the window, click on 'Select' and select the Polyline.



Note : If a border is selected, the Borders table will be filled with 'Noname' (red arrow) and the grid will be created according to the 3 points but the area outside the border will not be calculated.

If the border is not selected, the Borders table will be filled with 'Extents' (blue arrow) and the grid will be created only according to the 3 points, meaning the whole area within the grid will be calculated.

- At the middle right side of the window, click on 'Pick' to create 3 points or 'Select' to select the border for the earthworks calculation.



Note: the grid, made by 3 points (Pick option) or Polyline (Select option), must include the whole area for calculation (including the border made by Polyline or Pick option).

If no border has been defined as a specific area to be calculated, the calculation will include the whole area according to the grid!

7. Selecting multiple roads for earthworks report

The new software includes an improvement for roads earthworks report.

Earthworks report can be performed on selected roads from a list.



- From CivilCAD main menu, go to 'Roads → Earthworks'. 'Roads → Earthworks' will open.
- Click 'Select', mark the desired roads for earthworks calculation and click 'OK'.
- Click on 'Apply' button to perform roads earthworks report.

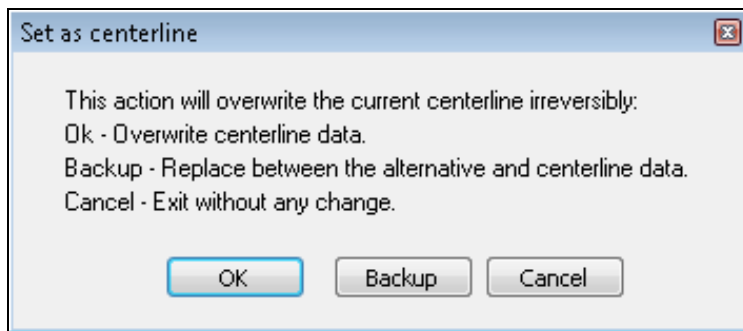
ROADS / DITCHES

8. Design alternatives for Vertical Alignment

The new version includes a feature for designing alternatives for vertical alignment.

To use this feature:

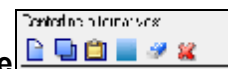
- From CivilCAD main menu' go to 'Roadsà Vertical Alignment'.
- Click on 'Add new alternative' button  and enter a name to the alternative (e.g. Alternative1).
- Click 'OK' and then design the alternative vertical alignment.
- To define the alternative as the centerline, click on the 'Set as centerline' button . 'Set as centerline' window will open.
- Click on the desired operation:






Note: The alternative layer will remain 'VerEdit' but clicking on 'Apply' button will update only the alternative table and drawing.

To also update the Cross sections, the alternative must be set as centerline.

- Some buttons will be enabled only after designing an alternative



- Every alternative will appear at the 'Layer Properties Manager' window in a separate layer according to the alternative's name.
- To erase an alternative, click on the 'Erase current alternative' button  and click 'OK'.
- To delete all alternatives, click on the 'Delete all alternative' button  and click 'OK'.
- To copy/paste data between alternatives/centerline, use the 'Copy/Paste' buttons .

9. Close Design To Existing In Each Cross Section Separately

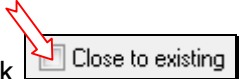


The new version includes a feature to close Design G.L. to Existing G.L. in each cross section separately.

To use this feature:



- From CivilCAD main menu' go to 'Roadsà Cross sections'.

Note: The default setting in 'Options' window is Close design to structure , meaning that the Design G.L. will continue the structure slopes based on the parameters in the Structure table.

This option affects the entire cross sections and does not apply to a single cross section.

- To close Design G.L. to Existing G.L. in a single cross section, check Close to existing checkbox in the Design G.L. table and click on the 'Apply' button. 
- In order to send this definition to other sections, right click on the checkbox. 'Send to' window will open.
- Select the section or sections that the definition will be sent to or click on 'All' button  for sending the definition to all sections.
- Click on 'Interpolate empty sections'  button to update the drawing in the cross sections window.
- To restore default definition, uncheck Close to existing checkbox in the Design G.L. table and click on the 'Apply' button.
- In order to send this definition to other sections, right click on the checkbox.


'Send to' window will open.

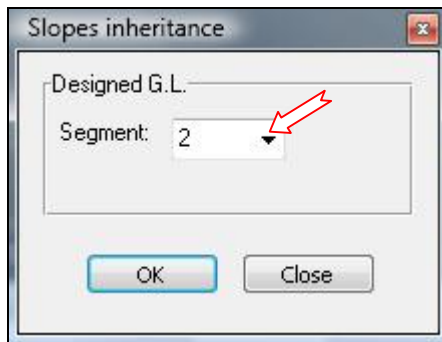
- Select the section or sections that the definition will be sent to or click on 'All' button  for sending the definition to all sections.
- Click on 'Interpolate empty sections'  button to update the drawing in the cross sections window.


10. Sending last segment's slope to the next segment in Structure\Design table

The new version includes a feature to send the last segment's slope to the next segment in Structure\Design table.

To use this feature:

- From CivilCAD main menu' go to 'Roadsà Cross sections'.
- Choose the desired table (Designed G.L. / Structure) and click on 'Slopes Inheritance' button . 'Slopes Inheritance' window will open:






- Select the segment that will inherit the slope of the prior segment.
- Click 'OK' and at the 'Send To' window, select the section or sections that the new slope will be sent to or click on the 'All' button  for sending the new slope to all sections.

11. Defining cross sections width by reference

The new version includes a feature to define the cross sections width by reference.

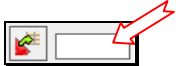
To use this feature:



- From CivilCAD main menu, go to 'Roadsà Horizontal Alignment'.
- Draw a Polyline on the desired side of the road (if there are 2 Polylines, one on each side of the road – they must be according to road's direction and in the same layer!).
- From CivilCAD main menu, go to 'Roadsà Cross sections'.
- Click on the 'Options' button . 'Options' window will open.
- Check the 'By layer' checkbox and then click on 'Get section width by layer' button . 'Width by layer' window will open.
- Select the desired layer and click 'OK' or click on 'Select' , select the desired layer from the horizontal alignment, then Press 'Enter' and 'OK'.

The software will perform filtering and the following message will appear:

Filtering was finished successfully.
If you want to return to Vertical Alignment, press OK.
To scan another layer press CANCEL and select a layer from the list.

The selected layer's name will appear near the 'Get section width by layer' button





- Click 'OK' to save definitions.
- Click on 'Get topo data for all sections' button  and click 'OK'.
- Click on 'Interpolate empty sections'  button to update the drawing in the cross sections window.

12. Depth check between Existing Road & Designed Road to determine earthworks




The new version includes a feature to check the depth between existing road & designed road for determining earthworks.

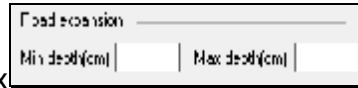
To use this feature:

- From CivilCAD main menu, go to 'Roads → Horizontal Alignment'.
- Draw Polylines which will define the existing road's edges.
- From CivilCAD main menu, go to 'Roads → Cross sections'.
- Click on the 'Get references by layers' button . 'References' window will open.
- Select the desired layer and click 'OK' or click on 'Select' , select the desired layer from the drawing, press 'Enter' and 'OK'.

The software will perform filtering and the following message will appear:

Filtering was finished successfully.
 If you want to return to Vertical Alignment, press OK.
 To scan another layer press CANCEL and select a layer from the list.

- Change one of the tables in the bottom of the window to 'References'.
- At 'References' table, define the reference as 'Break' (under the 'Cover' column).
 In order to send this definition to other sections, right click on the 'Cover' cell in the reference's line. 'Send to' window will open.
- Select 'Yes' for 'Current cell' and click 'OK'.
- Mark the section or sections that the definition will be sent to or click on 'All' button  for sending the definition to all sections.
- Click on 'Interpolate empty sections'  button to update the drawing in the cross sections window.
- To determine where earthworks will be calculated, click on 'Options' button .



- At 'Road Expansion' dialog box, define Min. and Max. depth.

The Software will check the depth between the existing road (Existing G.L.) and the designed road (Designed G.L.) in each section - right side and left side (separately) at 3 points: center point, right break point and left break point.



In each section, if the depth is bigger than the definition in Max depth or smaller than the definition in Min depth, the software will create Break, meaning earth works will not be calculated in the break area.

In each section, if the depth is at the range of Max depth definition and Min depth definition, the software will not create Break, meaning earth works will be calculated in the break area.

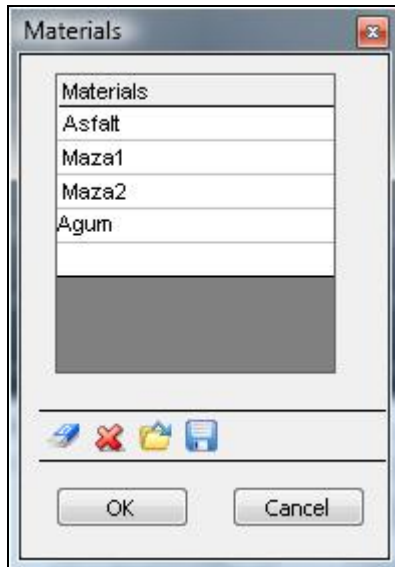
13. Building structure layers for each segment in cross sections





The new version includes a feature for building structure layers for each segment in cross sections.

To use this feature:

- From CivilCAD main menu, go to 'Roadsà Cross Sections'.
- Click on 'Options' button . 'Options' window will open.
- Click on the Materials button . 'Materials' window will open.
- Enter the elements that component the structure layers and click 'OK'.


For example:



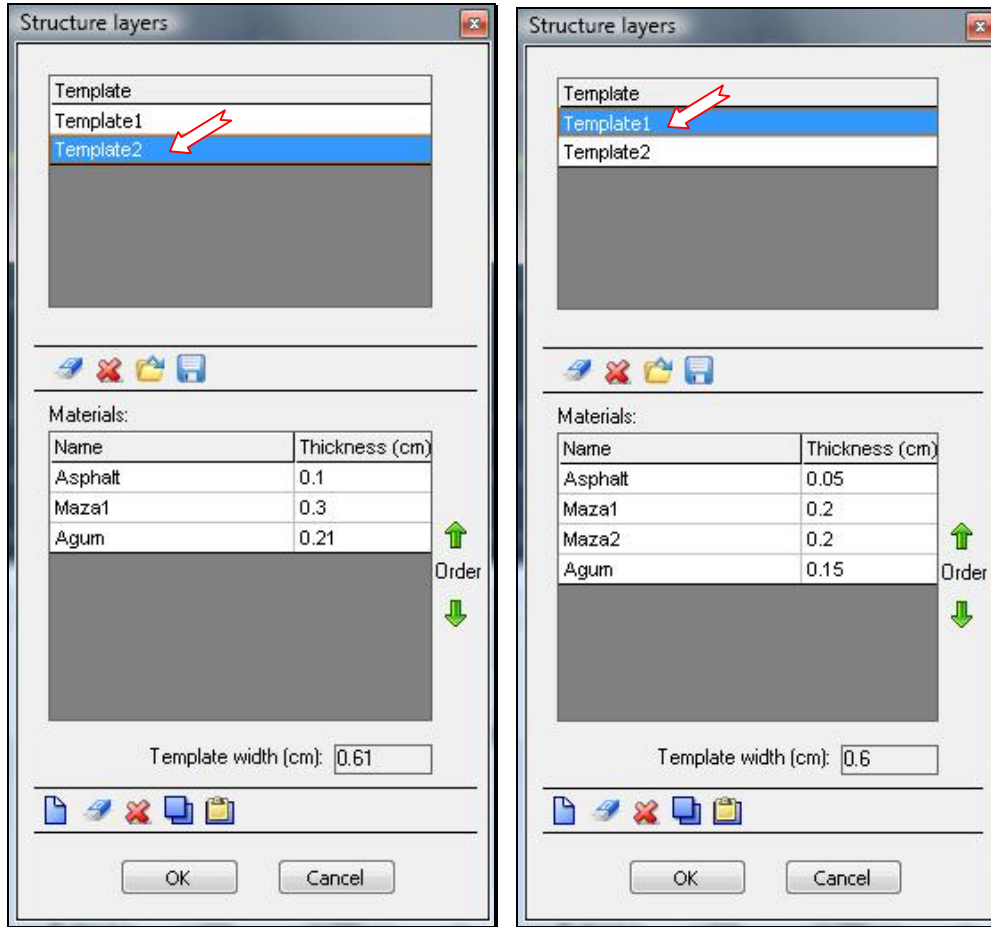
- To delete an element from the list, click on 'Delete one material' button  and click 'OK'.
- To delete all elements from the list, click on 'Delete all materials' button  and click 'OK'.
- To save elements list, click on  button, enter name and path and click 'Save'.
- To load elements list, click on  button, select the desired file and click 'Open'.

After defining the elements, define templates which will be attached later to segments.

You can define different elements for each template.





- Click on the Structure layers button . 'Structure Layers' window will open.
- On the upper part of the window, define list of templates (default name is Template1).
- Mark the first template and on the lower part of the window, select the elements which will assemble the current template and define each element its thickness.

For example:








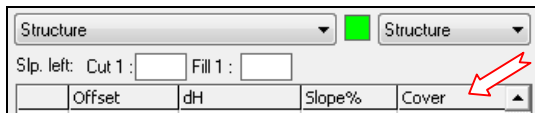
- Total thickness (in cm) will be presented in 'Template width' cell.
- In order to change the order of elements in the current template, use 'Order' arrows on the right side of the window.


Additional function buttons in the upper part of the window:

- To erase a template from the list, click on 'Erase one template' button  and click 'OK'.
- To erase all templates from the list, click on 'Clear all templates' button  and click 'OK'.
- To save templates list, click on  button, enter name and path and click 'Save'.
- To load templates list, click on  button, select the desired file and click 'Open'.

Additional function buttons in the lower part of the window:

- To erase an element from the list, click on 'Erase one material' button  and click 'OK'.
- To erase all materials from the list, click on 'Clear all materials' button  and click 'OK'.
- To copy elements from one template to another, use 'Copy/Paste' buttons  .
- In order to add new line for a new material, Click on 'New material' button .
- Click 'OK' to save definitions.
- Change one of the tables in the bottom of the window to 'Structure'.
- At the Structure table, change from 'Cover' to 'Sublayers'





- For each segment attach the desired template.
In order to send a template to other sections right click on the desired template.
'Send to' window will open.
- Select the section or sections that the template will be sent to or click on the 'All' button  for sending the template to all sections.
- From CivilCAD main menu, go to 'Roads → EarthWorks' and click 'Apply' for full report.

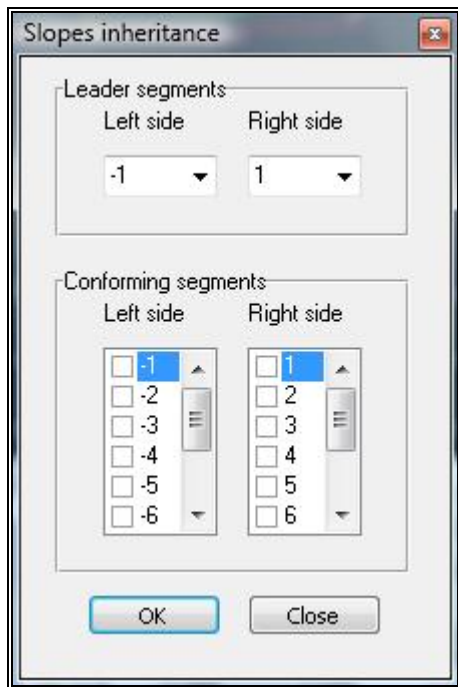
Note : In order to use these templates in future projects, create the structure layers templates in Prototype and Save.

14. Sending segment's slope automatically to other segments in Super Elevations

The new version includes a feature for sending a segment's slope automatically to other segments in Super Elevations.

To use this feature:

- From CivilCAD main menu' go to 'Roadsà Cross sections'.
- Click on 'Super Elevations' button . 'Define & Create Super Elevations' window will open.
- Click on 'Slopes Inheritance' button . 'Slopes Inheritance' window will open.





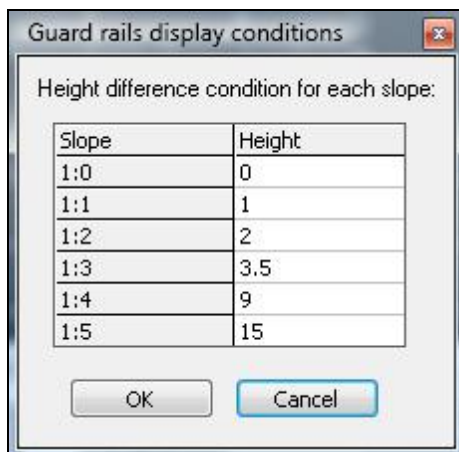
- On the upper part of the window, define the left & right leader segments.
- On the lower part of the window, check the conforming segments that will inherit the leaders slope.
- Click 'OK' to save definitions and return to 'Define & Create Super Elevations' window.
- Click 'OK' to run super elevations.

15. Guard rails definition in cross sections (In fill only)

The new version includes a feature for defining guard rails in cross sections and drawing the rail in horizontal alignment according to cross sections.

To use this feature:


- From CivilCAD main menu go to 'Roadsà Cross sections'.
- Click on 'Options' button . 'Options' window will open.
- Click on 'Guard rails display conditions' button . 'Guard rails display conditions' window will open.




- The datum under 'Height' column represents the height difference between Existing G.L. and Designed G.L. (it can be changed by the end user).

The Software will check the slope & height difference between Existing G.L. and Designed G.L. in each section.

If the height difference is higher than the datum in the table regarding the relevant slope, a guard rail will be displayed in the section.


- Click 'OK' to return to 'Options' window an 'OK' to save definitions.
- Click on 'Interpolate empty sections' button  to update the drawing in the cross sections window.

- Click on 'Create Layout' button  and 'OK' to create guard rail's line in horizontal alignment.

16. Exclude ditches in roads earthworks report

The new version includes a feature for exclude ditches in roads earthworks report.

To use this feature:

- From CivilCAD main menu, go to 'Roads → Earthworks'.
- Mark 'V' in 'Exclude ditches' option  and click 'Apply' to create roads earthworks report.

Notice that ditches volume calculations are separated from cross sections volume calculations.

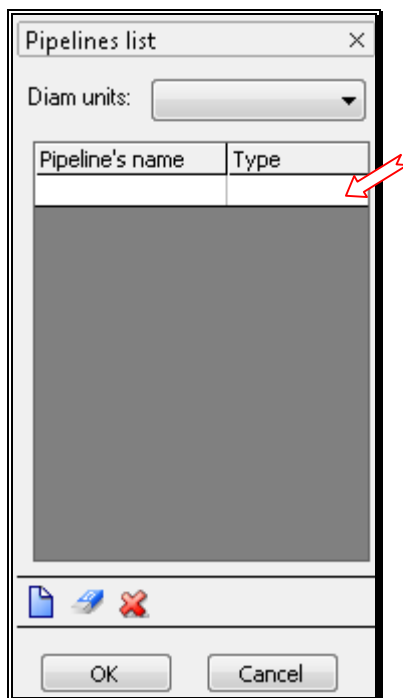
PIPELINES

17. Design different types of pipelines in the same project

The new version includes a feature for design different types of pipelines in the same project.

To use this feature:


- From CivilCAD main menu' go to 'Pipelinesà List'. 'Pipelinesà List' will open.



- Define diameter units (Mm/Cm/Inches).
- Define pipeline's name in 'Pipeline's name' cell.
- Double click in 'Type' cell and select a type from the list (Water Supply, Pipes, Sewage, Drainage, Cables).

Note: If an old project of pipelines design is loaded, its type will be automatically filled in 'Type' cell.

In order to add new pipeline to pipelines list, current pipeline must have a type definition.

- Click 'OK' to save definitions.
- From CivilCAD main menu' go to 'Pipelinesà Layout'.
- For each type of pipeline, relevant 'Option' window will open by clicking 'Options' button .

Note: in Sewage, Drainage and Cables 'Option' window an option for angle value display has been added.

- From CivilCAD main menu' go to 'Pipelinesà Sections'.

Note: in 'Water Supply' design table there are 2 new columns : 'Wall thick' and 'Receptors'.

- From CivilCAD main menu' go to 'Pipelinesà Reports'.
- Select the desired type of pipelines, the desired type of report and click 'Apply'.

Note: only one type of pipeline at a time is included in the report.