

Newsletter 12

The entire members of Sivan Design D. S LTD wish all our valued customers worldwide with a happy new year 2008.

We appreciate your choice of CivilCAD as your working tool. In a continuous effort to provide you with a perfect and effective tool, we have improved CivilCAD from previous versions based on your feedbacks. The new version called **CivilCAD 2008**.

At the end of the year 2007, we recorded a growth of 70% in sales volume, and have exceeded 4500 users, and over 1500 customers worldwide. We have participated in worldwide exhibitions such as InterGEO (Germany), Autodesk University (USA) and InterGEO east (Bulgaria).

We have opened new markets, while the existing markets have continued to grow.

A month ago (February 2008), we released the new version of **CivilCAD 2008, Version 1**. The "maturity" period has ended and it's now recommended to install the 2008 version to empower your system's capability and performance.

In this Newsletter you will find important information on the latest improvements in the software. The new exciting version includes many new features, as well as remarkable improvements in the performance level.

The new **Civil Simulate** module is also available to create new standards in 3D simulation at a click (read more at <http://www.sivandesign.com/CivilCAD.asp?pid=83>). You are also invited to learn more about our new products family, **GeoERP**, a true GIS-ERP pioneer solution for Lands & Property management, Roads and Underground Infrastructures management.

As always, we are committed to quality and Innovation to the Civil Engineering CAD community.

Faithfully yours,
Shlomi Sivan, CEO
Sivan Design D.S Ltd
March, 2008

CivilCAD 2008

The new CivilCAD 2008 V1 is not available for download from our web-site but requires a CD for a complete setup. Please contact our support team to get the installation CD. Upgrades are available for download at: <http://www.sivandesign.com/Downloads.asp>.

During the process of installation it is strongly recommended to follow the installation instructions and go through the entire 'Setup completion wizard' steps to fit the software to your own working method.

This document presents the major improvements in the software from the previous version. The document does not include the list of bugs that have been fixed or minor improvements. The changes are serially listed, and divided into the following subjects:

- GENERAL
- SURVEYING
- ROADS / CANALS
- PLANES DESIGN

Note: Some of the paragraphs that 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.

GENERAL

1. Supporting AutoCAD 2008 version

CivilCAD 2008 supports AutoCAD 2008 version in addition to earlier versions of AutoCAD and will support every new version of AutoCAD in the future.

Sivan Design has signed on **ADN** (Autodesk Developer Network) agreement with Autodesk Company authorizing us to develop software applications together with Autodesk development team.

2. Working with Windows Vista

CivilCAD is fully compatible with Windows Vista.

As part of the compatibility – CivilCAD will be installed on C:\Program Files\CivilCAD 2008.

We also signed an agreement with Microsoft Company to become strategic partners developing our products in full compatibility with Microsoft's products.

CivilCAD 2008

SURVEYING

3. Adding an angle to coordinates


In the new version, we added a new option to add an angle to coordinates.

- Go to topography coordinates table (Topography→Coordinates) or to design coordinates table (Design→Coordinates).
- At the coordinate's editor line, after the code datum enter an angle and click 'Enter' and then click 'Refresh'.
- If there is no code datum, at the coordinates editor line enter 0 and then enter an angle and then click 'Enter' and 'Refresh'.

The coordinates will rotate according to the given angles in the drawing window.

4. Scan Blocks rotation


The new software version includes a special new module to scan blocks from the drawing and update its rotation angle accordingly.

- Go to 'Topography→Coordinates' or to 'Design→Coordinates'.
- At the drawing, rotate the block from the insertion point to the desired angle.
- Click on the 'Update block's rotation' button .

The software will scan the blocks on the drawing and update the coordinates list with the computed rotation angles.


5. Rotate Points by line

We added a new option to rotate points in association to an auxiliary line.

- Go to 'Topography→Coordinates' or to 'Design→Coordinates'.
- Click on the 'Rotate points' button  at the main menu toolbar.
- Select the auxiliary line (if there isn't any line, you should draw one).
- At the command line, click 'S' for selecting the desired points for rotation or 'A' for all the points located on the auxiliary line and click 'Enter'.
- Enter the desired angle and click 'Enter'
- Click on 'Refresh' and the selected points will be rotated according to the desired angle.

6. Supporting NIKON DTM-302 Total Station

The new version supports NIKON DTM-302 total station.

- Click on the 'Distomat' button .
- At the 'Distomat' window, select the 'Nikon DTM-302' total station and then click 'Send' or 'Receive' (Make sure that your station is connected to the computer).

7. Topography Flow Direction, Streambeds and Watershed

CivilCAD 2008 V1 includes a feature that displays the topography 'flow' direction, 'streambeds' and 'watershed'.

To use these features:

- Open 'Topography→Contours', click on 'Options', and in the window check the 'Show flow direction' check box.
- Press 'OK' and click 'Apply'. The software will create small arrows that show the topography 'flow' direction.
- Click on 'Options' and in the window check the 'Show streambeds and their watershed' check box.
- Press 'OK' and click 'Apply'. The software will create the streambeds and their watershed.

8. Paint Topography According To Elevation

We added a feature that paints the topography in colors according to the topography elevation.

To use this feature:

- Open 'Topography→Contours', click on 'Options', and in the window check the 'Paint according to Topo. Elevation' check box .
- Press 'OK' and click 'Apply'. The software will paint the topography in colors according to the topography elevation.

9. Adding Codes To Design Coordinates

The new version includes a feature for adding codes to design coordinates.


If the working method is in 'Standard mode' (File→Configuration→Drawing environment tab→Standard mode) and a code is given to a design coordinate (Design→Coordinates), the coordinate will change to Block.

Roads/ Canals

10. Locate Station/Add Station From The Horizontal Alignment

The new version includes a feature for locating a station along the centerline and adding a cross section station on the centerline in a desired distance.

To use this feature:

- Go to 'Roads→Horizontal alignment'.
- Click on the Pick Station button .
- Click on the centerline at the desired location.


The distance of the station from the beginning of the road will be displayed on the command line.

- At the command line, write 'A' and click 'Enter' for adding the station to the cross sections.
- The new cross section will be added to the cross sections list.
- In order to view the cross section in the layout just click 'Apply' and OK.

11. Export Cross Sections To Multiple\Single Files

We added an option to export cross sections (by paper size) to multiple files or to a single file.

To use this feature:

- Go to 'Roads→Cross sections'.
- Click on the 'Frames division' button .

- At the 'Frames division' window check the 'Model space' check box .
- Check the 'Create single file' check box for a single DXF file or 'Create multiple files' for multiple DXF files.

Checking the 'Create multiple files' check box will make several DXF files according to the paper size configuration.

Checking the 'Create single file' check box will make one DXF file that includes all the cross sections.


12. Paper Size Configuration

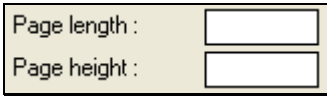
The new version includes a feature to configure desired paper size.

To use this feature:

- Go to 'Roads→Cross sections'.

- Click on the 'Frames division' button 

- Under 'Arrange by paper size' , select 'Other'.


- Define the desired paper length and height 
- Click 'OK' and save as a DXF file.


13. Paper Size Configuration At Model Space

The new version includes a feature to configure desired paper size at model space and get a preview of the sections arrangement before saving as a DXF file.

To use this feature:

- Go to 'Roads→Cross sections'.

- Click on the 'Frames division' button 
- Check the 'Model space' check box .

- Under 'Arrange by paper size' , select 'No division'.
- At the 'Save sections in DXF file' window check the 'Define arrangement' check box.

- Type the 'Sections in each columns'


Sections in each column:

- Type 'dy (cm) between sections datum lines'

dY (cm) between sections datum lines:

- Type 'dx (cm) Horiz. distance between sections datum'



dX (cm) Horiz. distance between sections datum

- Click on the 'Arrange' button  to preview the sections arrangement before saving as a DXF file.
- Click 'OK' and save as a DXF file.

14. Sending Slope Data From a Section Segment to All Sections

A very useful improvement in the new version is the capability of sending Cross-Sections segments' slope data to other sections.

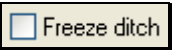
To use this feature:

- Go to 'Roads→Cross sections'.
- Left-click on the desired slope cell to select it and then right-click on it.
- At the selection window, click 'Send to' .
- At the 'Send to' window, select the section or sections that the segment's slope will be sent to or click on the 'All' button  for sending the segments' slope to all sections.

15. Freeze Ditch


We added a feature to freeze a ditch at cross sections.

To use this feature:

- Go to 'Roads→Cross sections'.
- Select one of the tables (Existing G.L. or Designed G.L.) and change to 'Right\Left ditch'.
- Check the 'Freeze ditch' check box .

In order to freeze other ditches or all the ditches:

- Right click on the 'Freeze ditch' button.

- At the selection window, click 'No' for sending current cell only.
- At the 'Send to' window, select the section or sections that the freeze operation will be sent to or click on the 'All' button  for sending the freeze operation to all sections.

16. Designing Ditches

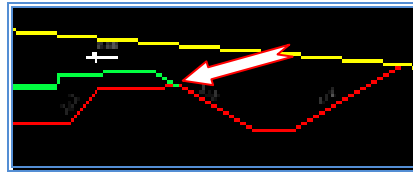
Designing Ditches In Cut

- Go to 'Roads→Cross sections'.
- Select one of the tables (Existing G.L. or Designed G.L.) and change to 'Right\Left ditch'.
- Define the ditch's left and right side slope and bottom width.

Slope L 1:	Slope R 1:	Bottom width:
<input type="text" value="2.00"/>	<input type="text" value="2.00"/>	<input type="text" value="0.60"/>

- Define the ditch's depth in cut. The depth will start from the section's edge.

Depth	From section's edge:	From Existing G.L.:
In Cut:	<input type="text" value="0.60"/>	<input type="text" value="2.00"/>
In Fill:	<input type="text" value="0.00"/>	<input checked="" type="radio"/> From Side-stick <input type="radio"/> From Sec.edge



The depth will be determined by the "lowest" datum, in this case - From Existing G.L. and the depth will be calculated from the bottom center of the ditch to the Existing G.L.

- Check the 'From Design G.L.' check box

Start ditch:	<input checked="" type="radio"/> From Design G.L.	<input type="radio"/> From Structure lev.
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 to start the ditch from the design height. The depth will be calculated from the design height.
- Check the 'From Structure lev.' Check box

Start ditch:	<input type="radio"/> From Design G.L.	<input checked="" type="radio"/> From Structure lev.
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 to start the ditch from the structure height. The depth will be calculated from the structure height.
- Check the 'At Design G.L.' check box


End ditch:	<input checked="" type="radio"/> At Design G.L.	<input type="radio"/> At Structure level
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 to end the ditch at the design height.
- Check the 'At Structure level' check box

End ditch:	<input type="radio"/> At Design G.L.	<input checked="" type="radio"/> At Structure level
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 to end the ditch at the structure height.

In order to send a ditch datum to other sections :

- Right click on one of the ditch's' datum.
- At the selection window, click 'No' for sending current cell only or 'Yes' for all ditch.
- At the 'Send to' window, select the section or sections that the ditch's datum will be sent to or click on the 'All' button  for sending the ditch's datum to all sections.

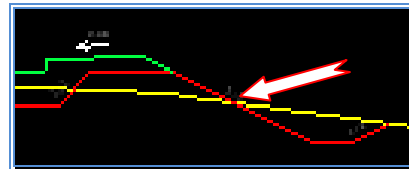
Designing Ditches In Fill

- Go to 'Roads→Cross sections'.
- Select one of the tables (Existing G.L. or Designed G.L.) and change to 'Right\Left ditch'.
- Define the ditch's left and right side slope and bottom width.

Slope L 1:	Slope R 1:	Bottom width:
<input type="text" value="2.00"/>	<input type="text" value="2.00"/>	<input type="text" value="0.60"/>

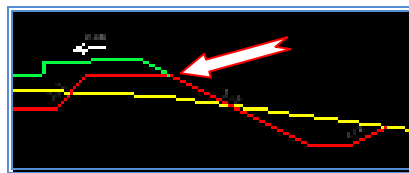
- Check the 'From Side-stick' check box to start the ditch at the closure of the section with the ground.

Depth	From section's edge:	From Existing G.L.:
In Cut:	<input type="text" value="0.00"/>	<input type="text" value="1.50"/>
In Fill:	<input type="text" value="0.60"/>	<input checked="" type="radio"/> From Side-stick <input type="radio"/> From Sec.edge



- Check the 'From Sec. edge' check box to start the ditch at the section's edge.

Depth	From section's edge:	From Existing G.L.:
In Cut:	<input type="text" value="0.00"/>	<input type="text" value="1.50"/>
In Fill:	<input type="text" value="0.6"/>	<input type="radio"/> From Side-stick <input checked="" type="radio"/> From Sec.edge


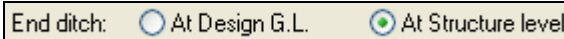


If the section's edge is (In Fill) is higher than the definition in "From section's edge", the depth of the ditch will be determined by the value in "In Fill". Otherwise it will be determined by the value in "In cut", meaning that the section will be treated as "In cut".


- Check the 'From Design G.L.' check box Start ditch: From Design G.L. From Structure lev.
- to start the ditch from the design height. The depth will be calculated from the design height.

- Check the 'From Structure lev.' Check box Start ditch: From Design G.L. From Structure lev.

to start the ditch from the structure height. The depth will be calculated from the structure height.

- Check the 'At Design G.L.' check box  to end the ditch at the design height.
- Check the 'At Structure level' check box  to end the ditch at the structure height.

In order to send a ditch's datum to other sections:

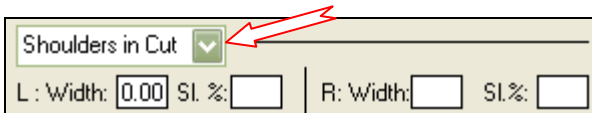
- Right click on one of the ditch's datum.
- At the selection window, click 'No' for sending current cell only or 'Yes' for all ditch.
- At the 'Send to' window, select the section or sections that the ditch's datum will be sent to or click on the 'All' button  for sending the ditch's datum to all sections.

Designing Ditches' Shoulders

The new version includes a new module to design ditches' shoulders.


To use this module:

- Go to 'Roads→Cross sections'.
- Select one of the tables (Existing G.L. or Designed G.L.) and change to 'Right\Left ditch'.
- At the bottom of the table, select 'Shoulders in Cut' or 'Shoulders in Fill' according to the status of the ditch.



- Type Width and slope for each shoulder (Right and Left).

In order to send a shoulder's datum to other sections :

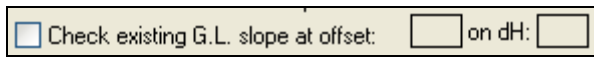
- Right click on one of the shoulder's datum.
- At the selection window, click 'No' for sending current cell only or 'Yes' for all ditch.
- At the 'Send to' window, select the section or sections that the shoulder's datum will be sent to or click on the 'All' button  for sending the shoulder's datum to all sections.

Existing G.L. Natural Slope Check


The new version includes a feature to check the natural ground slope in order to assist on designing ditches. This option is valid only for Cross sections in Fill.

To use this feature:

- Go to 'Roads→Cross sections'.
- Select one of the tables (Existing G.L. or Designed G.L.) and change to 'Right\Left ditch'.
- At the bottom of the table, check the Check existing G.L. slope at offset' check box .
- Define the offset and dH for there will not be a ditch if the difference between the section's edge to the offset definition will be higher than the dH definition.




In order to send a shoulder's datum to other sections:

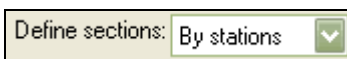
- Right click on one of the datum.
- At the selection window, click 'No' for sending current cell only or 'Yes' for all ditch.
- At the 'Send to' window, select the section or sections that the datum will be sent to or click on the 'All' button  for sending the datum to all sections.

17. Define Sections According to Parallel Road – Road By Road

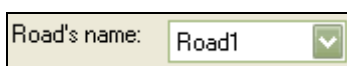
The new software includes a feature to define cross sections according to a parallel road.

To use this feature:

- Go to 'Roads→Cross sections'.
- Click on the 'Define sections' button .
- At the 'Define sections' window, change from 'By stations' to 'By road'



- At 'Road's name', select the road which according to its cross sections, the new road's sections will be defined in by the perpendiculars of the selected road's sections.



- Click 'OK' to create the cross sections.

18. Display Parallel Roads At Cross Sections

The new version includes a module to display parallel roads at cross sections.

To use this module:

- Go to 'Roads→Cross sections'.
- Click on the 'Get side roads' button .
- At the 'Select level' window, change from 'All data' to 'Ramps' and Click 'OK'.



The side roads will be displayed parallel to the current road's sections.

The side road's details will be saved under 2 sub layers in the Existing table:

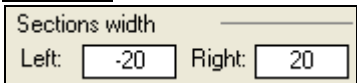


- 1) Ramps layer for the Structure details.
- 2) RampsD layer for the Design details.

In order to get the parallel road make sure you created the road layout with the option

'Triangles' checked Triangles

Remark: Make sure that the sections width include the side roads

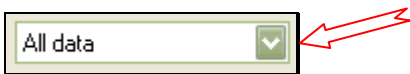


19. Get Designed Planes At Cross Sections

The new version includes a module to display designed planes at cross sections including all planes details.

To use this module:

- Go to 'Roads→Cross sections'.
- Click on the 'Get side roads' button .
- At the 'Select level' window, change from 'All data' to 'Land development' and Click 'OK'.



The beside planes will be displayed on the current road's sections.

The planes' details will be saved under a sub layer – 'Land development' in the Existing table:






20. Define Name & Station Of First Cross Section

The new version includes a feature to define different name & station of the first cross section.

To use this feature:

- Go to 'Roads→Cross sections'.

- Click on the 'Define sections' button .

(You can also go to 'Roads→Horizontal alignment', click on the 'Options' button  and at the 'Options' window, click on the 'Define sections' button .

- At the 'Define sections' window, enter the desired station of first section and name of first section.

Station of first section <input type="text" value="0"/>	Name of first section <input type="text" value="0"/>
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The station and name of the first section definitions will influence the text of the tangents on the horizontal alignment, the name and station of first section on the vertical alignment and the name and station of first section of the cross sections in the sections' layout (Frames division).

The station at the upper right table in the 'Cross sections' window will not be influenced by these definitions because the station of the first section in this table is the relative physical one, referring to the horizontal alignment, while the station of first section definition is for presentation on the horizontal alignment, vertical alignment and cross sections layout.


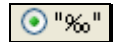
21. Accuracy Of The Vertical Alignment Slope

We added an option to present the vertical alignment slope in pro-mil (measure mode which present the slope datum multiplied by 10).

To use this feature:

- Go to 'Roads→Vertical alignment'.



- Click on the 'Options' button .

- At the 'Options' window, check the  at the 'Slope format' check box .


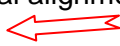
22. Crossing Lines In The Vertical Alignment

The new version includes a new module to present a crossing line (pipeline, drainage, etc.) as a layer in the vertical alignment. In this manner the pipeline's diameter and depth can be defined in the 'References' table.

To use this module:


- Go to 'Roads→Vertical alignment'.
- Click on the 'Get references by layers' button .
- At the 'References' window, select the desired layer and click 'OK' or click on 'Select' , select the desired layer from the horizontal alignment and 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.

- Click 'OK' and at the upper right side of the 'Vertical alignment' window, change from 'Centerline' to 'References'  .

The reference's details will appear on the Design table at the bottom of the window.

- Enter depth and diameter in the table

Depth	Diam.[cm]
0.00	0.00
- Click on the 'Apply' button  and the reference will be displayed on the drawing according to the depth and diameter.



23. Closing Road's Edges to a 3D Line

Closing Road's Edges to Designed Planes

The new version includes a module to Close Road's edges to designed planes defined by a 3D polyline.

To use this module:

- Make sure that you explode the planes and change its layer before using this feature.

- Go to 'Roads→Cross sections'.
- Click on the 'Get references by layers' button .
- At the 'References' window, select the desired layer and click 'OK' or click on 'Select' , select the desired layer from the horizontal alignment and 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 Cross sections, press OK.
To scan another layer press CANCEL and select a layer from the list.

- Select one of the tables (Existing G.L. or Designed G.L.) and change to 'References'.
- Double click the cell that is located on the References segments, under the 'Cover' column. From the Drop-down list, select 'Edges attachment'.

The software will close the road's edges to the designed planes at the point which is defined by the 3D line.

In order to return the planes back to a 3D layer – go to 'Design→planes' and click on the 'Apply' button .

In order to send the cover datum to other sections:



- Right click on one of the cover cell.
- At the selection window, click 'yes' for sending current cell only.
- At the 'Send to' window, select the section or sections that the datum will be sent to or click on the 'All' button  for sending the datum to all sections.
- Click on the 'Interpolate empty sections' button  and 'OK'.

Closing Road's Edges to Existing Ground by 3D line

The new version includes a module to Close Road's edges to existing ground at a point defined by a 3D line.

To use this module:

- Make sure that you have a Polyline (or Polylines) that represents the road's edges. The Polylines must be in a separated layer and can be either 2D or 3D Polylines.



- Go to 'Roads→Cross sections'.
- Click on the 'Get references by layers' button .
- At the 'References' window, select the desired layer and click 'OK' or click on 'Select' , select the desired layer from the horizontal alignment and 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 Cross sections, press OK.
To scan another layer press CANCEL and select a layer from the list.

- Select one of the tables (Existing G.L. or Designed G.L.) and change to 'References'.
- Double click the cell that is located on the References segments, under the 'Cover' column. From the Drop-down list, select 'Edges'.

The software will close the road's edges to the existing ground at the point which is defined by the 3D line.

In order to send the cover datum to other sections:


- Right click on one of the reference's datum.
- At the selection window, click 'yes' for sending current cell only.
- At the 'Send to' window, select the section or sections that the datum will be sent to or click on the 'All' button  for sending the datum to all sections.
- Click on the 'Interpolate empty sections' button  and 'OK'.

PLANES DESIGN


24. Filter Planes Layer From DWG File

In the new version it is possible to filter planes by a layer from a DWG file.

To use this module:

- Go to 'Design→Planes'.
- On the right side of the window, click on the 'Filter' button .

- At the 'Filtering' window, click on 'Select' and select the desired layer from the DWG file


and Press 'Enter' and 'Apply'. 

The software will perform filtering and will add the new planes to the 'Planes list'.





25. Automatic Planes Names Filtering

The new version includes a feature to name each plane in a different name and load the planes with their names by filtering.

To use this feature:

- Make sure that the planes names are in a different layer than the planes' layer.
- Go to 'Design→Planes'.
- On the right side of the window, click on the 'Filter' button .
- At the 'Filtering' window, click on 'Select' and select the desired layer from the DWG file and Press 'Enter'.



- Click on the 'Options' button .
- Check the 'Scan planes names.' Check box **Scan planes names**.
- Select the planes name's layer   and click 'OK'.
- Click on the 'Apply' button .

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

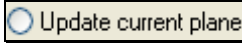


- Click 'OK' and the plane or planes will be added to the Planes list with their names.

26. Update Planes Details

The new version includes an option to update planes without performing a 3D model. In this manner, planning a large number of planes and is much faster.

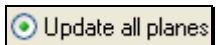
To use this feature:

- Go to 'Design→Planes'.
- Check the 'Update current plane' check box 

The planes will be updated with the changes for observation only. A 3D model will not be performed.

Earthworks will be calculated according to the last 3D model performed.

In order to perform a new earthworks calculation - Check the 'Update all planes' check box



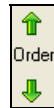
27. Control The Order Of Planes In The Planes List

It is possible to control the order of a plane by moving it up or down in the planes list.

To use this feature:

- Go to 'Design→Planes'.

On the right side of the Planes list window, select the desired plane and click the 'Up' arrow or




the 'Down' arrow to move the plane up or down in the Planes list

The order of building the planes is very important!

If a plane was built in cut and in its area another plane is built in cut, the last plane that was built will determine the earthworks calculation relative to the existing ground.

28. Delete Unused Planes Coordinates From The Coordinates List


To use this feature:

- Go to 'Design→Planes'.
- Click on the 'Clear unused plane's names from coordinates list' button 

The software will erase any unused plane coordinates with a 'dp' prefix from the Design coordinates list.

29. Find A Plane In The List

To use this feature:

- Go to 'Design→Planes'.
- Click on the 'Find' button  (under the Planes list), type the plane's name and click 'OK'.


The plane can also be found by selecting the 'Find' option and clicking on the drawing inside the desired planes area.

The selected plane will be marked in the Planes list.

30. Add Height To Current Plane

The new version includes a feature to add height to a current plane.


To use this feature:

- Go to 'Design→Planes'.
- Click on the 'Add height to current plane'  button (above the Planes list).
- Select the plane by clicking inside its area. The plane's border will be marked in Yellow.
- At the command line, type the height and click 'Enter'.

31. Define Planes Height By Line & Slope

The new version includes a feature to define a plane by line & slope.

To use this feature:

- Go to 'Design→Planes'.
- Click on the 'Add height to current plane'  button (above the Planes list).
- At the command line, type 'S' for 'Select Plane' and click 'Enter'.
- At the drawing window, click on the side which the slope will start from (click close to the line).

- At the command line type the height which will be the height that the slope will start from then type the slope in percentage (positive or negative) and 'Enter'.


The heights will be calculated at the plane's corners according to the slope.

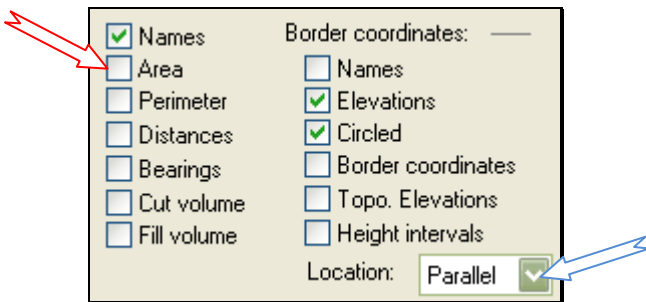
The planes heights will be calculated perpendicular to the selected line for the slope to start from.

32. Display The Planes Details

The new version includes a feature to display the planes details in several location options.

To use this feature:


- Go to 'Design→Planes'.
- Click on the 'Options' button .
- At the 'Options' window, check the details that you want to be shown on the plane.




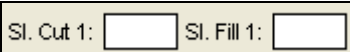
- At the 'Location' window, select option for showing the details on the plane. The recommended option is 'Parallel'.

33. Building Continuous Slope

To use this feature:

- Go to 'Design→Planes'.
- Click on the 'Continuous slope' button .

- Click on 'Locate'  and mark the plane's corners (by clicking on the corner points).
- At the command line, type 'S' and click 'Enter'.

- Enter the desired slope  and click 'OK'.



The software will create slopes around the plane including corners.

- In order to cancel the corner slopes, uncheck the 'Create corners' check box



Another option to build continuous slope is by line & slope.

To use this option:

- Go to 'Design→Planes'.
- Click on the 'Continuous slope' button .
- Click on the 'Create line slope' button .
- The option 'Select plane' will appear at the command line.
- Select the desired plane by clicking inside the plane's area. The plane's border will be marked in yellow.
- The option 'Select side' will appear at the command line.
- Click on the drawing, outside the plane's area.
- Type the desired slope at the command line (1:X) and click 'Enter'.

The software will create slope on the selected side.

In order to create corners planes, click on 'Locate'  , mark the corner's points and click on the 'Rebuild' button 