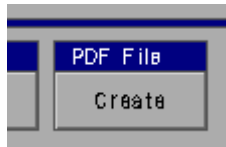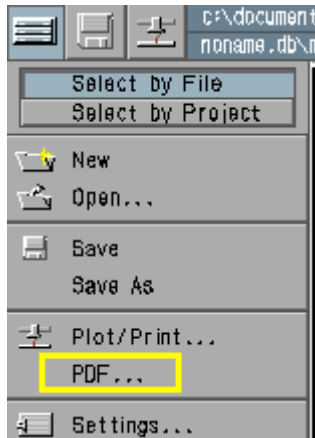# BuildersCAD 8.3 – New Features

## Plotting

### *PDF Plotting*

The plot functions for PDF have been moved to their own menu
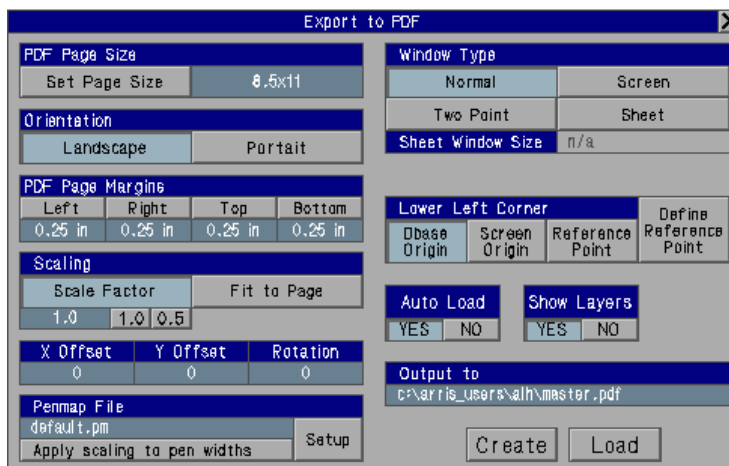
You can access it from a button at the lower right of the regular plot menu:



Or from the main **BuildersCAD** File menu



PDF has been given its own plot menu to minimize confusion on what drawings it can be used for (the current drawing. Saved drawings must be loaded first) and on sheet size.

PDF Page Size – Set to the size desired.

Orientation – Set the landscape for a page which is wider than it is tall.

Auto load – will automatically load the PDF file after it is created.

Page margin – sets a margin on the page. Unless you are using offsets and scales, you probably want a page margin for PDF. (Note: you automatically get margins on paper plots, as wet by the plotter itself, but for PDF you need to specify the page margins.

Show Layers – will display the ARRIS layers in the PDF file, so that the viewer can turn layers on and off

Output to: This is where the PDF file will be stored.

We separated PDF from the regular plot for a couple of reasons.

1. PDF needs additional options - Auto Load, page rotation, and whether to include layers.

- It was inconvenient to have to have a separate button to set the PDF options.

2. PDF needs a page size (it does not default to your current plotter size, since that is inconvenient)
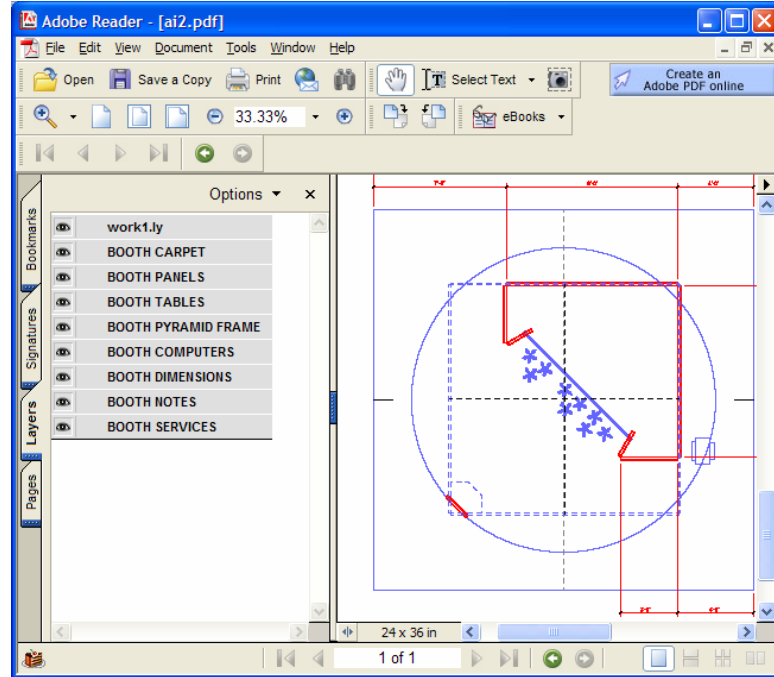
To set it, you had to click "fit to page", set the page size, and then remember to click "scale" again.

We found this confusing, and not intuitive.

3. PDF does not work with saved drawings. This will be in a future enhancement.

## *Layers in PDF Output*

Layers are also included in your PDF files made from **BuildersCAD** drawings:



This feature requires that you have Adobe Reader 6.0 or above in order to view the layers. It is selectable from the Export To PDF menu and may be turned off.

## *Print Preview*

The print preview allows you to preview your work to show how the position and print size of the print job will appear on paper.  This will eliminate the trial and error guesswork of getting all of your plot settings correct. It will also allow you to see the results of applying various penmaps before the sheet is plotted. You can zoom in and out on the preview to examine an area closer before sending it to print.
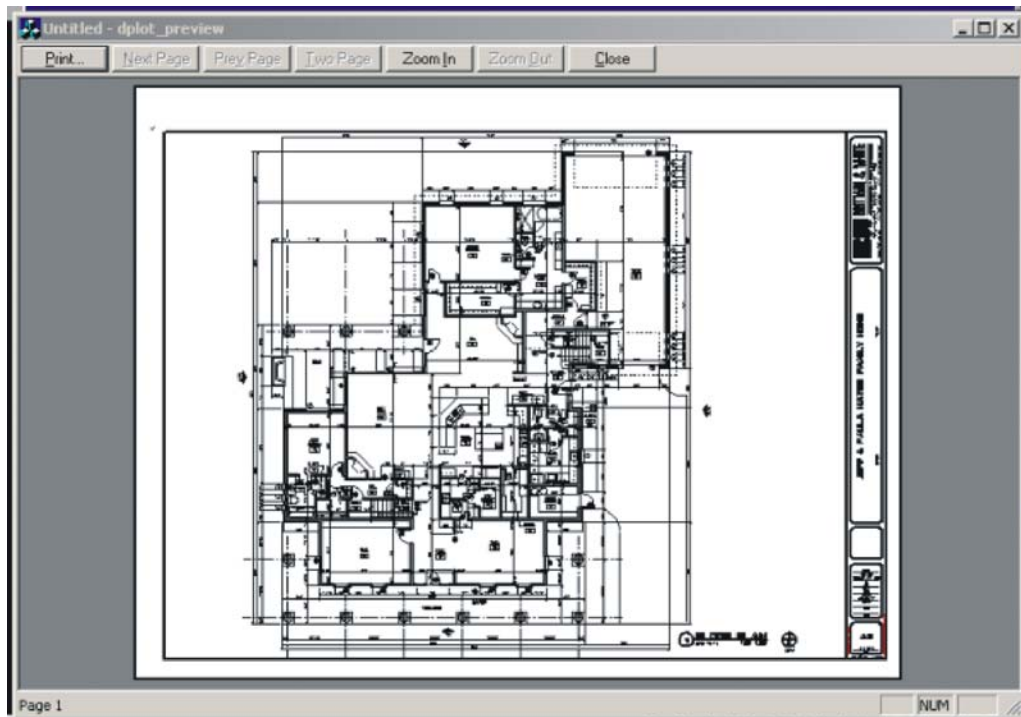
The Print Preview function is found on the Plot menu next to the Execute Plot button.

## Default Pen Map

In **BuildersCAD 8.1**, if you load the plot menu and don't have a default pen map, a default.pm will automatically be created. This is to correct a problem where **BuildersCAD** assumes a software pen map if no default pen map is found, but the plot routines assume an 8-pen pen map and give unexpected results.

By always saving a default pen map (when none exists), we will eliminate that problem.

## Plotting Colors

A new pen mapping mode (Map by **Screen Colors**) has been added for **BuildersCAD 8.3**
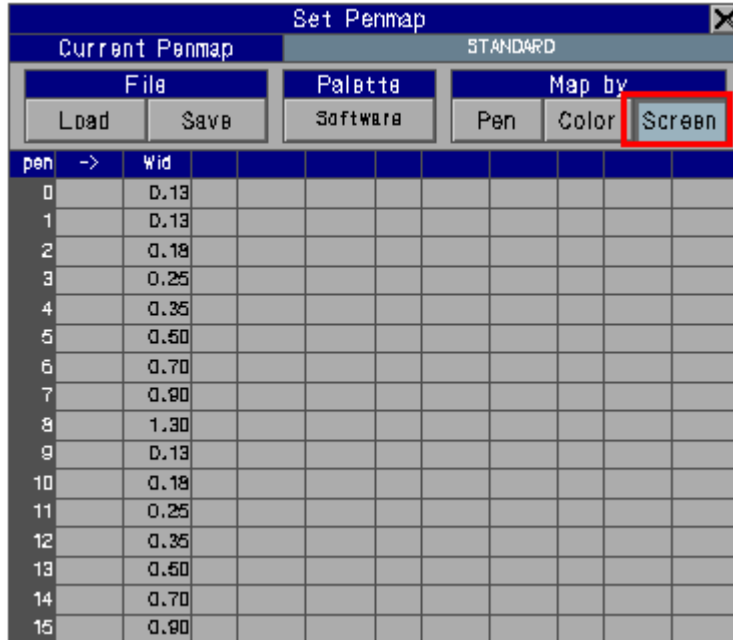
Map by **Screen Color** mode uses the pen numbers of entities to determine pen widths, but uses the current color map to determine plotted colors.

Color 1 (white in the standard colormap) is always plotted as black. If color 1 is taken to **AutoCAD** or **eZ** (through DWG), then it is sent as AutoCAD's "black/white" color.

Note: A colormap is not saved with a **BuildersCAD** drawing, so if you want to use background plot, or saved plot, you will need to save penmap/colormap combinations with the colormap desired.

In order to plot in screen color mode:

1. Open the plot menu, right click on pens on the toolbar, or right click on col on the toolbar to bring up the "Set Penmap" menu above.

2. Choose <u>Screen</u> (highlighted in red above) to set screen mode

3. Click Save and enter a name save the pen map.

## *Plot Driver File*

There is a plot driver file (extension .pdv, e.g. USER.plot.pdv) stored in your $GRUSR folder.

Previously the same file was used for all versions of **ARRIS** and **BuildersCAD**.

Starting with Version 8.3, the version number has been added to the file. (e.g. USER.plot.8.3.pdv). This helps fix problems when the file changes format between versions (for example, if Windows changes the format of the data)

As a result, you must re-select a plotter when you first install a new version of **BuildersCAD**.
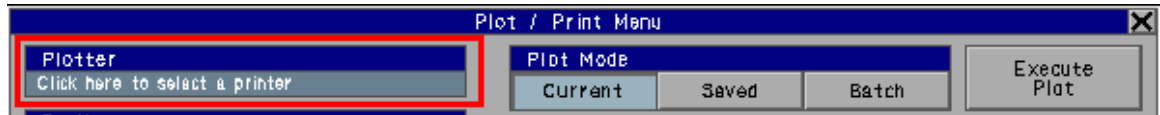


If no plotter has been selected, you will be prompted: "Click here to select a printer"

# Interface to Sketch-Up

## BuildersCAD  *Import of Sketchup .skp File*

You can open your **SketchUp** .skp files directly into **BuildersCAD** – without the need to export them to DWG first and import them into **BuildersCAD** as a DWG file.

The **SketchUp** import into **BuildersCAD** also preserves the texture and material assignments so they can be passed on to other applications.
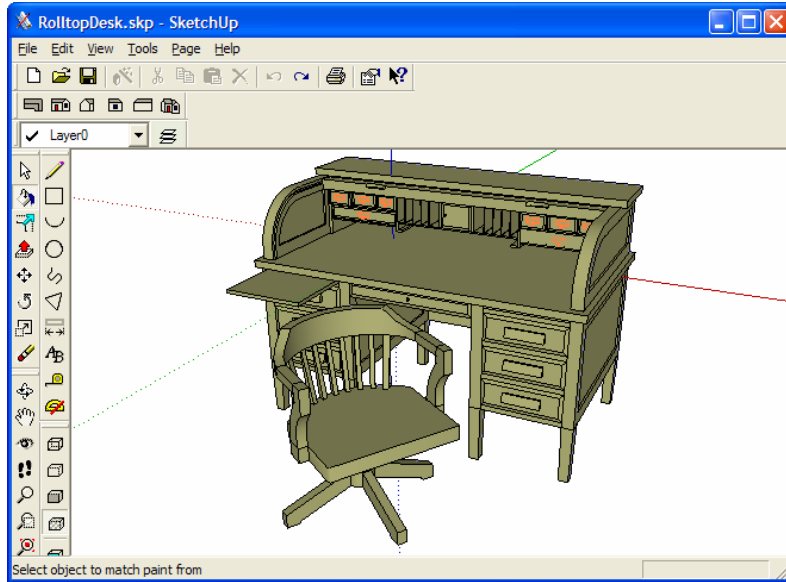
Direct import from **SketchUp** is available from the Import menu: (SKP→ARRIS)
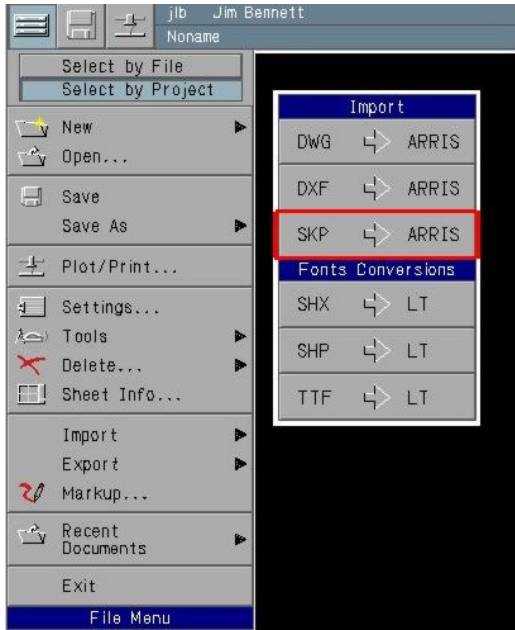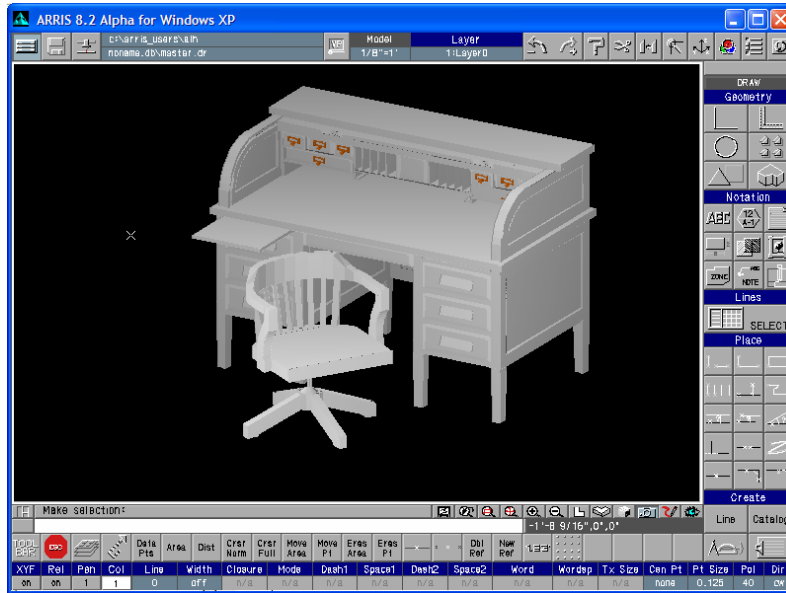
Select a .skp file to import:
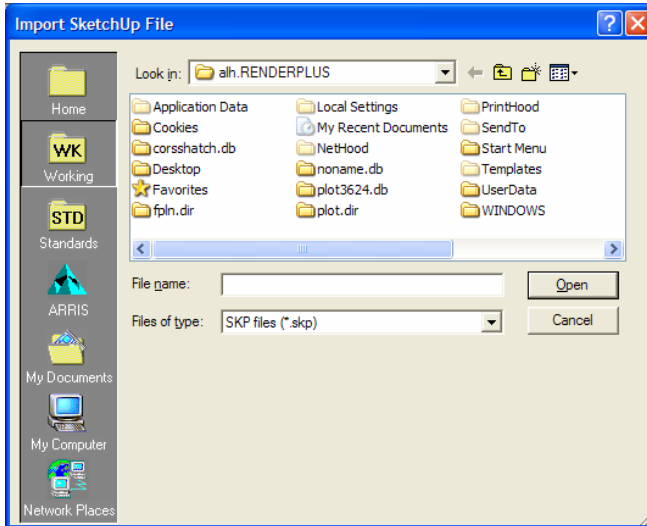
3D object created in **SketchUp**:



The same object loaded into **BuildersCAD**:



When importing a model from SketchUp, textures in the model are remembered in **BuildersCAD** and are used if the model is subsequently exported back out to SketchUp.
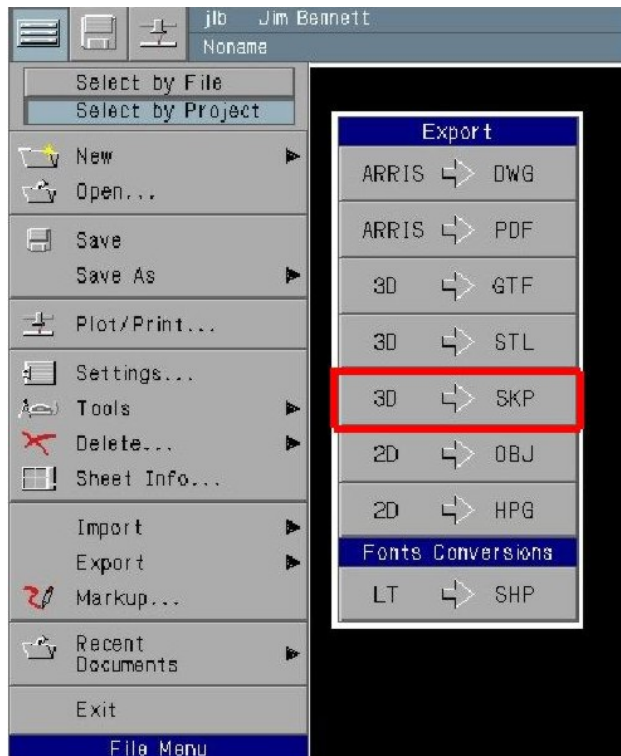
## BuildersCAD *Export to SketchUp*

**BuildersCAD** entities, such as wall faces or roofs, are converted into **SketchUp** Faces which make them easier to process and manipulate.

For example, a **BuildersCAD** roof which was exported into **SketchUp** using DWG was translated into individual triangles. Using the new **SketchUp** export, each roof plane is exported as an single face for use by **SketchUp**. (A "face" in **SketchUp** is can have complex boundaries, holes, etc.)
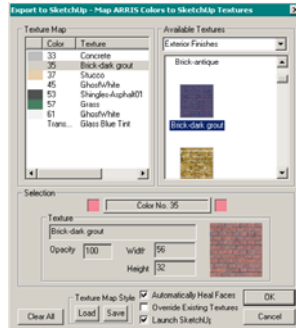
**SketchUp** can then change the texture or color of a wall face or roof plane in a single step.

The is performed by selecting 3D – SKP from the export menu. (3D->SKP)



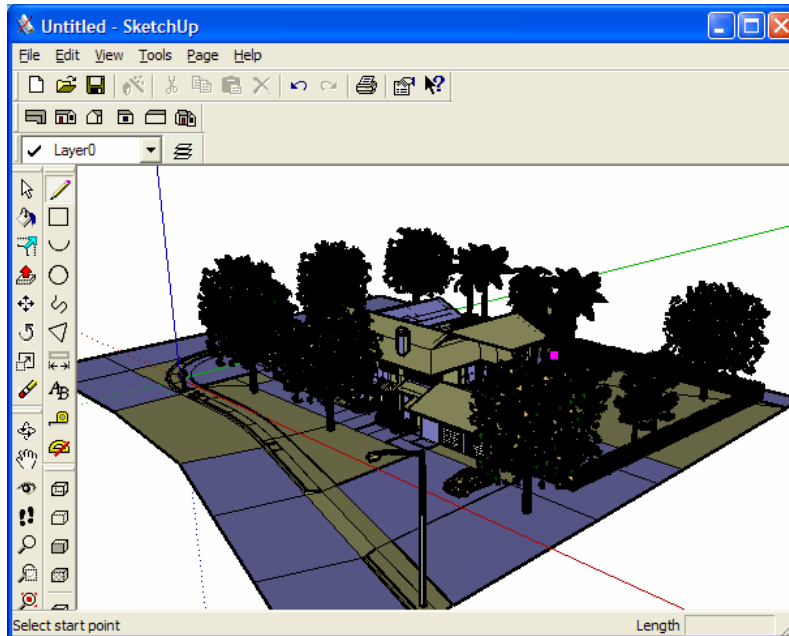You will be prompted for the name of the drawing to save.

When exporting, you have the option of assigning textures to the SketchUp model by having them correspond to a **BuildersCAD** color.



A **BuildersCAD** Sample Model imported into **SketchUp**:
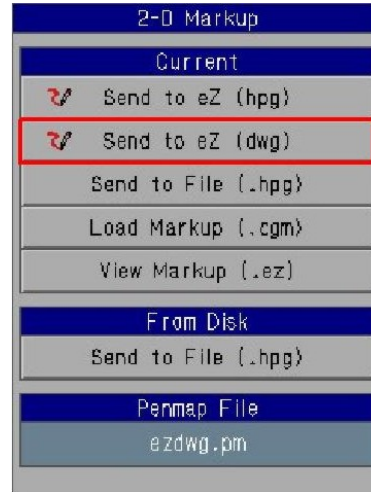


# Interface to eZ

## *Layers*

We have added layers to the **BuildersCAD** to **eZ** interface, which will make it easier to highlight your **eZ** presentations.

The **BuildersCAD** to **eZ** interface is available in two places:

## The Markup Menu

Export from the <u>Send to eZ (dwg)</u> button automatically creates a DWG file with layers and launches it into **eZ**

## The View Control Bar.

This brings up a pop-up asking you if you want to use the pre 8.2 method – load from HPG with no layers, or the new method using DWG to load with layers.

Note: DWG has layers, but it handles background color, pens and colors differently. Also, the ARRIS->eZ export using DWG as a file transfer mode only supports 8 colors.
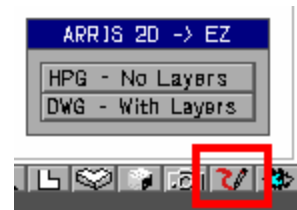
An **eZ** display of a **BuildersCAD** drawing with layers:

**BuildersCAD** loaded into **eZ** with layers – Note: in white on black mode this will display, but not print. (This is true for all AutoCAD drawings loaded into **eZ**)
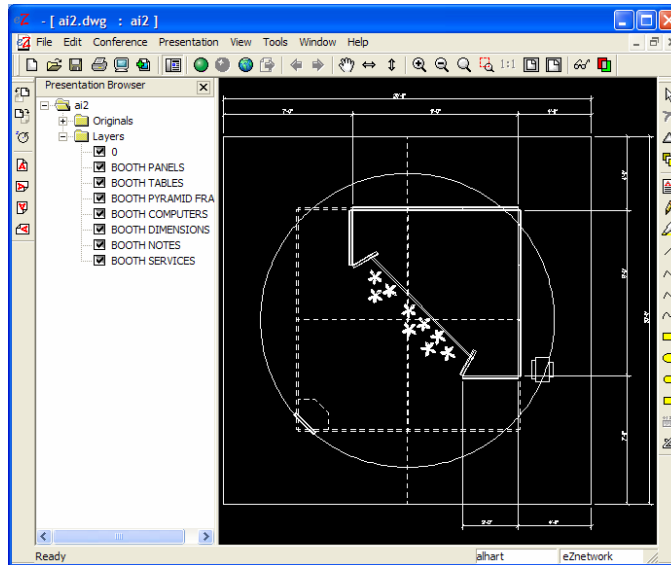
Note: **eZ** import from DWG only supports 8 colors, so your **BuildersCAD** colors (as determined by the current penmap) will be converted to the closest of these 8 colors.
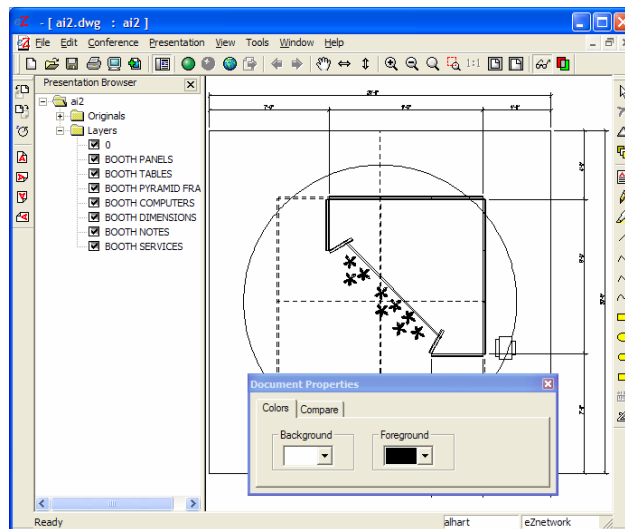


You can use the parameters setting (eyeglass icon) in **eZ** to set background to white and drawing to black. Now it will print properly, but no colors will be displayed.

# ARICAD Topographer

**BuildersCAD 8.3** integrates this powerful site planning and modeling tool into its arsenal as a plug-in. The Topographer is great for analying, designing or modifying terrain models to create accurate contour maps and to perform cut and fill calculations.
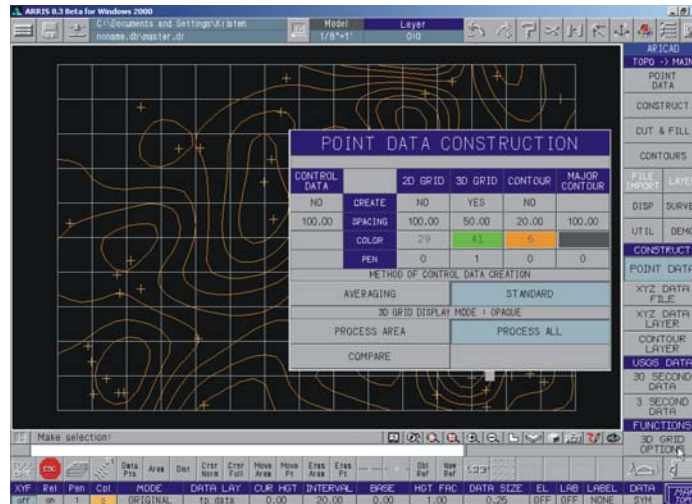


The topographer system is designed to create contour maps and 3D surface models from raw X,Y, Z data.  Data may originate as surveying data, USGS data, or be generated by the user.  Also, once a a existing and proposed model has been created of a particular site, it is possible to perform cut and fill calculations. Create quick, easy and accurate contour lines automatically  You can create either "Mesh" or "Cake" 3D Terrain models from your contour data.

# Command Aliases

**BuildersCAD 8.3** adds a powerful new feature to allow you to create one or two letter aliases for common commands. For example, you can type "l" to execute the single line command :mn_line.

Pressing the alias key(s) followed by either a space or the Enter key will execute an alias.

The following will all execute the single line command:

l SPACE  (or upper case L)

l ENTER  (or upper case L)

:l SPACE  (or upper case L)

:l ENTER  (or upper case L)

The colon (:) versions will execute during point input (but not during text input)

See the section in the appendix – Command Alias Files for information on how to customize your aliases.

Notes:

Case is ignored: "L" and "l" run the command

Aliases may only be one or two characters (a, or ab, but not abc)

# BuildersCAD Source Code

The BuildersCAD source code has been ported to C++. This, more modern, language will allow us to more easily add and maintain features.

# Other Items

When you are in the file browser menu and hit cancel, then the command requesting the input will be terminated

When you are in the file browser, and only one extension is allowed, then that extension will be added to the file name if you type in a name without an extension.

Notes may now be placed with Workplane on.

# Bugs Addressed

The mirror copy of floor plans now properly copies without reversing the wall laps and the inside/outside of the wall.

All raster entity file types may now be selected properly from the **BuildersCAD** browse menu when the OS Dialogue menus are turned off.

RI patterns within User Defined Lines which were truncated before the end of the line now display properly.

Note Parameters – You can now set a color above number 63.

Color selection bars on the Wall, Door, and Window Create menus have been changed to make the box sizes equal for all colors.

Stair Designer – Colors display and may be selected properly.

Raster Entities no longer plot outside of a viewport boundary.

Plotting to OCE 9400 and HP Laserjet no longer prints multiple copies.

Miscellaneous fixes to plotting of plot styles and PDF.

Screen print now works properly.

"Flashing Menu of Death" – fixed – when you selected an item on a read-only layer, and then brought up the layer menu, the query menu flashed for ever.

Fixed rectangular raster entity input to work

# Appendix

## *Command Alias File*

Below is a list of the default alias file ($ARRIS/lib/sys_aliases.st):

```
#sys_aliases.st - standard aliases for ARRIS

# the user version is called alaias.st and stored in your user folder

#ALIAS;letters;description;command

ALIAS;l;SINGLE LINE;:mn__main;='LINE';:mn_line;='s'

ALIAS;c;COPY;:smn_ent1='ALL';smn_wntp='v';imn_wuse=#walin;:mn_copy;='norm'

ALIAS;e;ERASE;smn_ent1='ALL';smn_wntp='s';:mn_ederase;='ed'

ALIAS;m;MOVE;:smn_ent1='ALL';smn_wntp='v';imn_wuse=#walin;:mn_edmove;='ed';='
     move'

ALIAS;a;ARC;:mn__main;='CIRCLE';$setvar(#ucmode,14);:mn_arc

ALIAS;me;MEASURE DISTANCE;:mn_dist;='two'

ALIAS;o;OFFSET;:mn_offset

ALIAS;r;ROTATE;smn_ent1='ALL';smn_wntp='v';imn_wuse=#walin;:mn_edmove;='ed';='s
     c/rot move'

ALIAS;ri;REPEATED ITEM;:mn__main;='REPITM';:mn_riselect;='setup'

ALIAS;t;TEXT;:mn__main;='TEXT';:mn_dstx

ALIAS;z;ZOOM;:mn_zoomw

ALIAS;tr;TRIM / EXTEND;:mn_trimex;='line/curve'

ALIAS;ci;CIRCLE;:mn__main;='CIRCLE';$setvar(#ucmode,1);imn_circ=1;:mn_circle

ALIAS;bh;CROSSHATCH;:mn__main;='XHATCH';:mn_xhatch;='l'

END
```

If you want to create your own alias file, copy this file into your user folder as "aliases.st" and make modification as desired. (Only one file will be loaded – so you need to incude any system aliases which you want to keep in your own aliases.st file)