News Letter

NRG Survey System for Windows Version 9.0

V 9.0 Available 14th September 2005

Come to the use group in Llandudno on 14/15 September at the Georges Hotel to get demonstrations and tuition with new and old features of the software.

Summary of new features

New

- New Caculator Texas Ti89 with NRG

DTM / Map

- Movement arrows
- Batter rails & profile from DTM sections
- Pile / Void volume
- Export ASCII improved
- Export sections from dynamic sections
- Display legends
- Coordinate transformation
- Print layouts improved
- Change surfaces by dimensions
- Save volume settings
- Select points by CH & offset
- Import DXF improved
- Contour column

Cross Sections

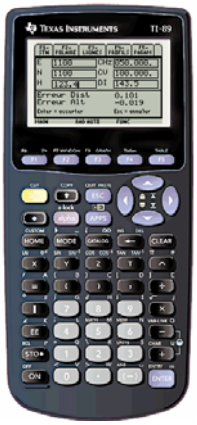
- Show features on section
- Shade areas in section volumes

Texas Ti89 NRG Calculator

Most of you will be aware of our Windows calculator which has proved a huge success over the years and is still going strong.
The Texas calculator we've put together in response to the number of calls we get from people wanting a cost effective method of calculating setting out information in the field. It has been approved by Texas themselves and comes embedded on the calculator.

Engineering calculator for setting out and survey reduction

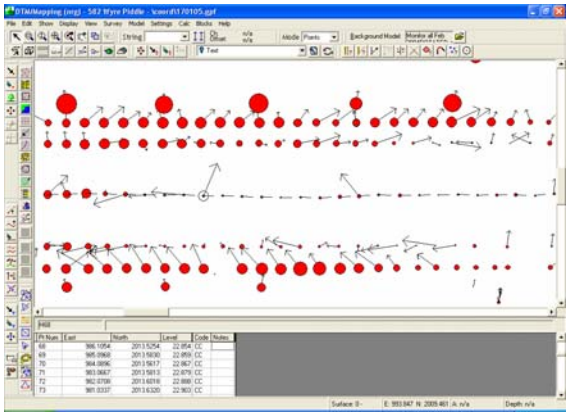
£222.36 +VAT



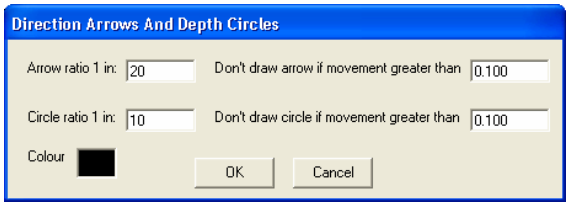
Movement Arrows

Show menu now has new option to display movements from a loaded background model. We use it to give a graphical representation of how displacement is taking place between two surveys of the same points.

For each point in the current survey the software searches the background survey and identifies the nearest point. It then shows scaled horizontal vectors as arrows and vertical vectors as circles.

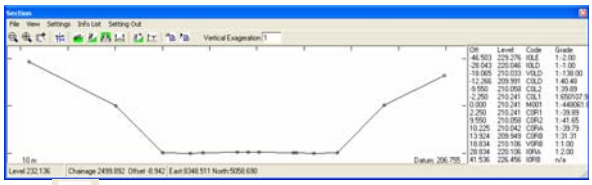


It is necessary to set the scaling from the display menu, movement arrows. Here you can set the scale of the arrow and the circle in proportion to the actual differences



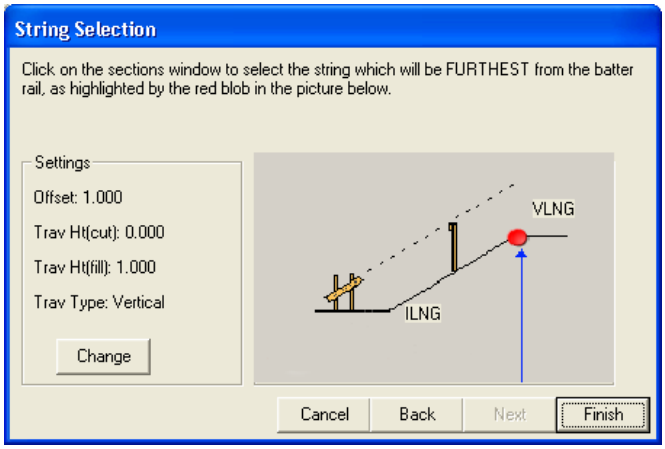
Batter Rails & Profiles

In DTM Map we have added a function from the live cross sections to calculate batter rails and profiles.



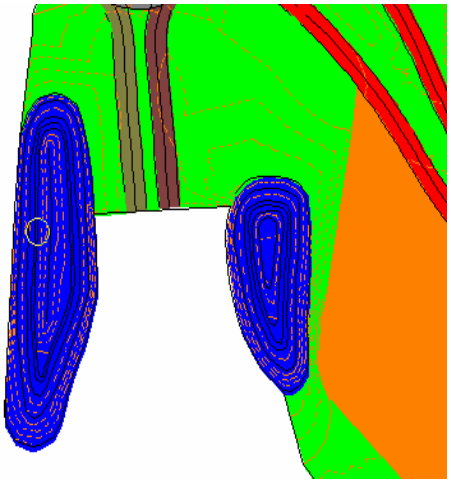
- Calc batter rails along an alignment
- Calc individual batter rails
- Calc profiles along an alignment
- Calc individual profiles
- Batter rail settings
- Profile settings
- View / export batter rail list
- View / export profile list

Selecting either of the calc buttons will take you through a wizard prompting for the information it needs, in the cas eof batter rails it will ask for the string nearest to the batter rail for the position and first element of the grade, then the farthest, finish will write the batter rail infor to a table.



Profiles will allow for a separate string to be selected for the offset, then after two grade strings are selected it will offer a more option to select additional pairs of strings for mulitple headed profiles.
The tables can then be accessed at any time and the results printed or exported to a custom file.

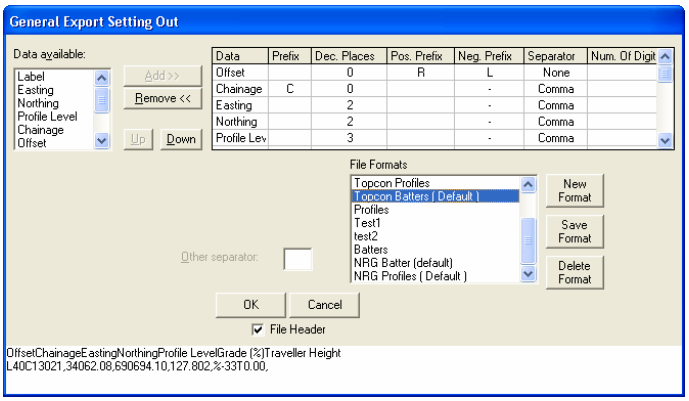
Pile / Void Volume



In the past calculating volumes of separate stock piles or holes where no preceding survey had been carried out it was necessary to export the perimeter of the pile/void and make a OGL model from those points to measure against, we've now automated this process so that you simply click on the area containing the pile / void and it tracks around the boundary of that surface and calculates a volume using that perimeter as the OGL.

Export ASCII

In our bid to please all the people all the time we've updated our ASCII export so that you can set up an text file containing just the data you need. Particularly if you want to download to an instrument where the fields such as slope distance and chainage on batter rails need to be visible on limited instrument screens.



First select the items need by adding them to the list. Then you have options to'

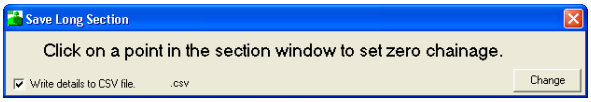
Prefix	A prefix for this field
Dec Places	The number of decimal places to be used on this field
Pos Prefix	Sets the prefix (rather than +) for positive numbers
Neg Prefix	Sets the prefix (rather than -) for negative numbers
Separator	Sets the field separator to the next field, no separator will allow the fields to be concatenated
Num of digits	Sets the number of whole digits to be used, counting from the right or smallest number.

Export Sections from Dynamic Sections

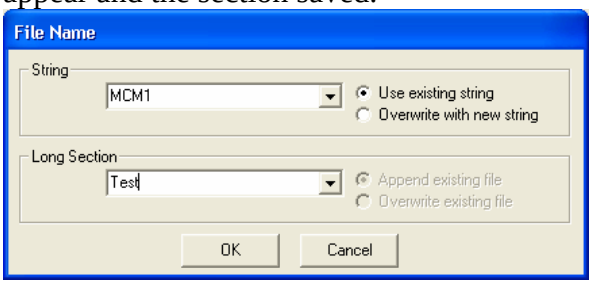
Following popular request we've now introduced the facility to export sections directly from the dynamic sections window.

Select File from the section window and choose Save As.

If sections are set to being perpendicular to an alignment then you will only be prompted for a section name. Otherwise you will be asked to click on the section to define the point which will be the zero offset. There is also an option here to export the section to a standard .CSV file which is used for hydraulic modelling by some authorities.



You will then be prompted for a string name (if not set to an alignment) and a name for the section, then a layer name dialogue will appear and the section saved.



To load, edit, print the section, use the sections module.

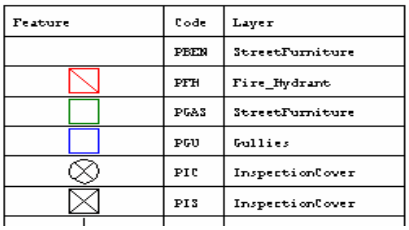
Note: *This option only operates when a cross sections module is available*

Display Legends

We started something adding legends last year for surfaces and isopachs, just can't satisfy you lot can we. So here's a few more

To insert a legend from the edit menu select Legends, Insert Legend

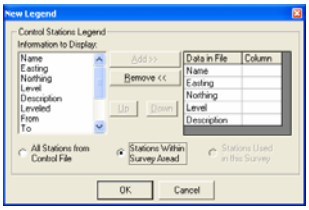
Point features — Adds a table of point features, you choose whether to use all of the features in the library or just those applicable to the current model.



Feature	Code	Layer
	PBEN	StreetFurniture
	PFH	Fire_Hydrant
	PGAS	StreetFurniture
	PGU	Gullies
	PIC	InspectionCover
	PIS	InspectionCover

Line features — As above for lines

Control Stations — Adds a table of control stations from the project control stations file

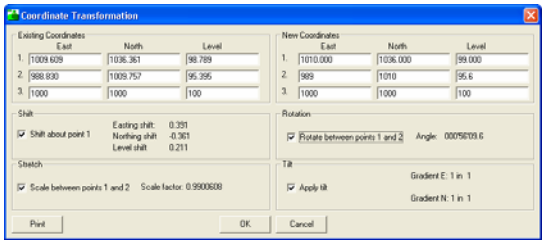


Choose whether to add all stations from the file or just those within the boundary of the survey

Volumes / Areas — Legends showing the surface areas or the last volume calculated

Coordinate Transformation

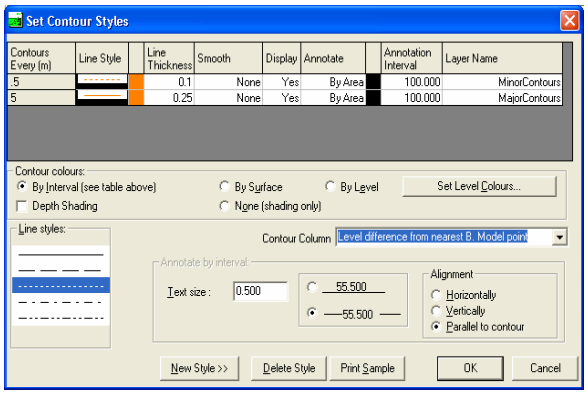
Transforming surveys can now be done in one easy step, select 1, 2, or 3 points on a survey, type in the local values of the 3 points and it will shift, rotate, scale and tilt as you choose.



Contour Column

Now you can change the field which is being contoured, currently we set contours to work against the height – as you would expect. We've found uses, particularly in seismic work where it is more appropriate to contour against a value stored against each point.

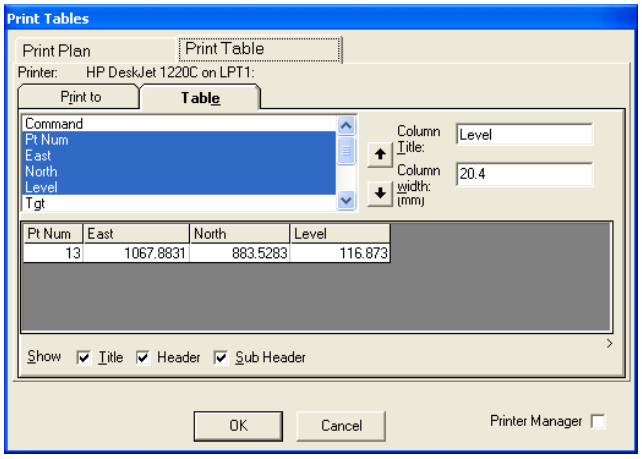
Don't worry if you can't see the point to this, at least now you've read this far you'll know it's there one day if you need it.



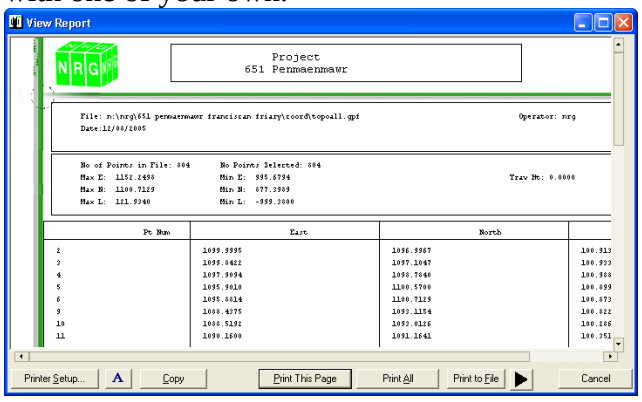
Print Layouts

All print reports have been revamped. They are split into 3 sections which can be selected or de-selected;

Title	Project name and report title
Header	Primary information about the report such as file names, dates and operator
Sub Header	Secondary information about the report

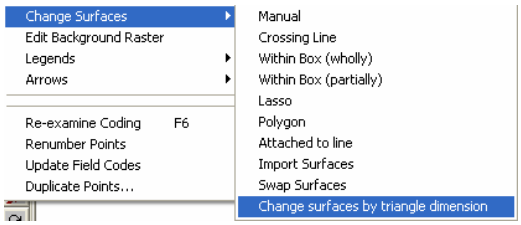


The reports vary but all include a header and footer with a background. The background is taken from one of the files 'TransparentRepBG.BMP stored in your application directory, if you want to customise your reports then simply edit this or replace it with one of your own.

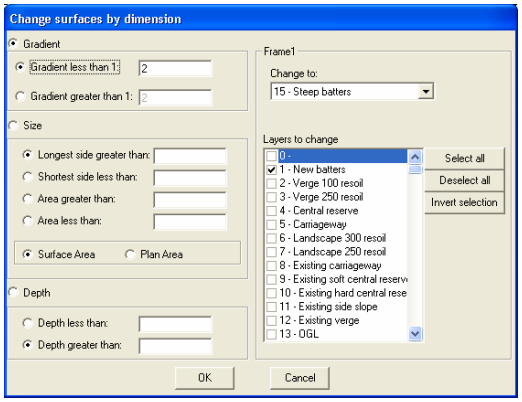


Change Surface by dimenions

Even more new ways to change triangle surfaces, this replaces the old length and breadth option and gives gradient and depth as well.



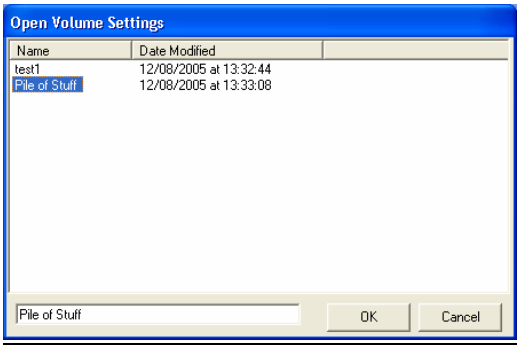
Choose from the options which method you want to use to select triangles to change, define which current surfaces will be affected and choose a new layer for them to go on.



Note: *Gradients are specified as 1 being the vertical dimension, you enter the horizontal dimension.*
1:1 is less than 1:2 – even if it does sound steeper !

Save Volume Settings

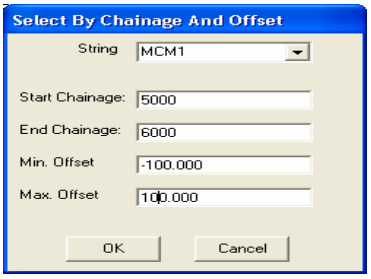
We've finally given you the option to save volume settings.
Select File, Save As - from the volumes form and enter a name. To call up settings use File, Open where you'll get a list of the stored settings



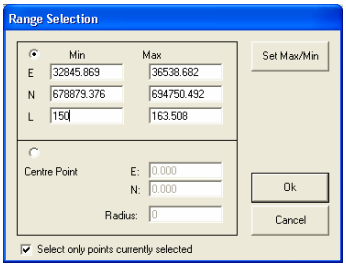
Be careful not to save too many because we've forgotten to add a delete option

Select points by Chainage and Offset

A new select option that lets you define an alignment range. Not sure why it's not been in before

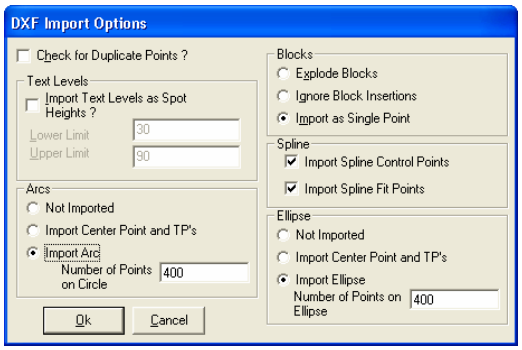


Another cunning one we've just added is the ability to select points only from those already selected. This gives you even more control over selecting points



Import DXF improved

The culprits will know who they are who have been nagging us for this. It's been a tough one to crack but we hope you like it.



Check for duplicate points – filters the myriad of duplicates that DXF files can contain, unfortunately sometimes loses line work.

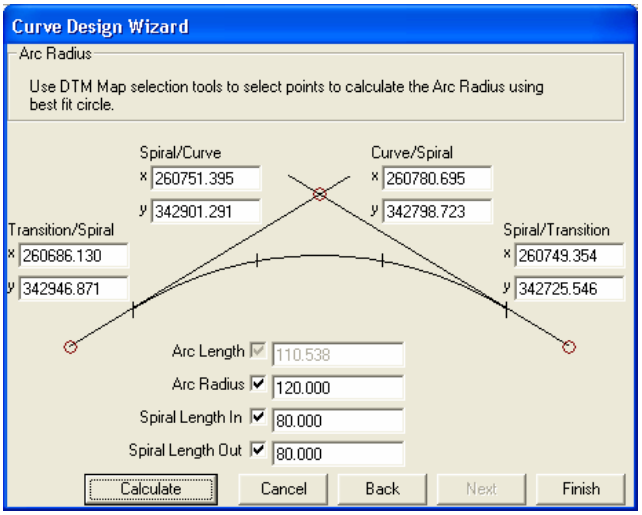
Import text levels as spot heights – this is a function designed to assist with bringing 3D information from 2D files, where spot levels are quoted on the drawing, it examines each item of text, tests to see if they fall within the limits you set and brings them across with the height the value of the text and the position at the insertion point of the text.

Arcs, Splines and Ellipses we've struggled with before, now we've given you the option to bring in extra points or just the control points, if you bring in extra then you define the interval by specifying how many points would be on a full circle.

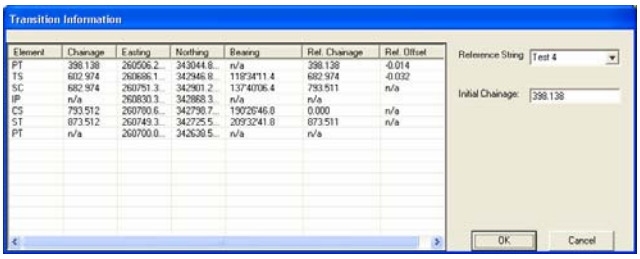
Blocks can be exploded as they come in, ignored or imported as a single point

Alignment Design

We've now introduced a new wizard to help you design alignments that need to run through a series of points. The idea is you find the IP of the entry and exit straight by letting the software do a least squares fit to points on the straights, you then select the points you need the curve to run through and it calculates a best fit circle to go through them and joins the circle to the entry and exit straight using spirals. Once it's done you can edit the results and see graphically how the alignment fits.



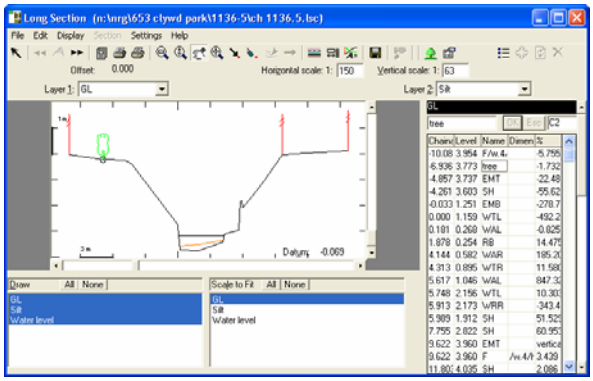
Save the alignment as a string.
Iit's possible to determine chainages from another string and append to it, creating a full alignment.



Cross Sections

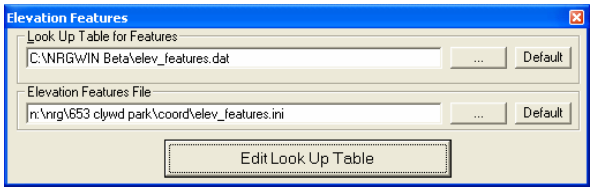
3D Features

I know you'll like this one.

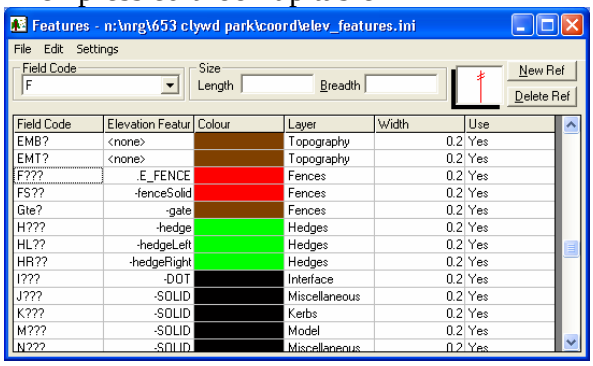


3D features are now supported using the name column and comparing the name to a look up table of features which you can define much the same way as DTM Map.

Access the features table from Settings, Elevation features



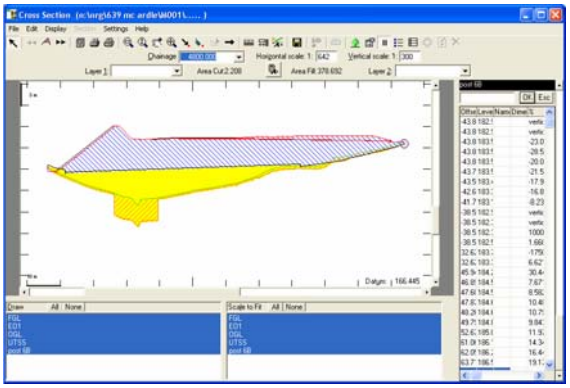
Then press edit look up table



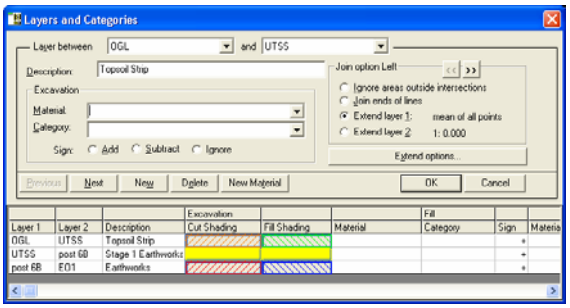
The sections table now contains a dimension column so that the feature can be scaled, us H*n* for the height and W*n* for the width or just enter a number to retain the aspect.
* where *n* = the dimension

Area shading

You'll like this too !.



Set up area shading in volumes by sections. From the layers settings there's now a column for cut and fill shading.



We'll put this in our areas option on cross sections as well if we remember

Surveys Ltd

Castle View,
Station Road
Llanfairfechan,
Gwynedd,
LL33 0AN

Tel : 01248 681240
Fax : 01248 680914