# Creating a Survey Memo with FlexiSurv

Initial Set Up

The FlexiSurv extension for *Surpac* must be installed and either the *FlexiSurv* menu and/or the *FlexiSurv* Toolbar displayed so that you can select the appropriate functions to perform.

To gain access to the *FlexiSurv* menu make the *Surpac Applications menu* bar visible. Do this by right clicking the mouse into the blank menu space and select *Menus → Applications menu* from the popup menu that appears.
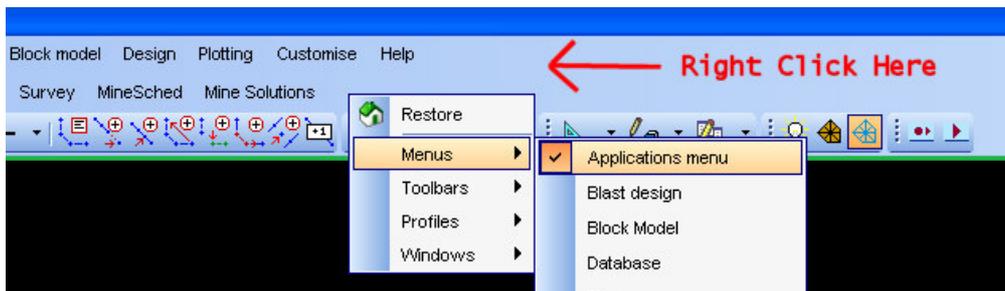
This will display the *Surpac Applications menu* bar. All the *FlexiSurv* functions are available off the *Mine Solutions* menu item to the right of this menu bar.
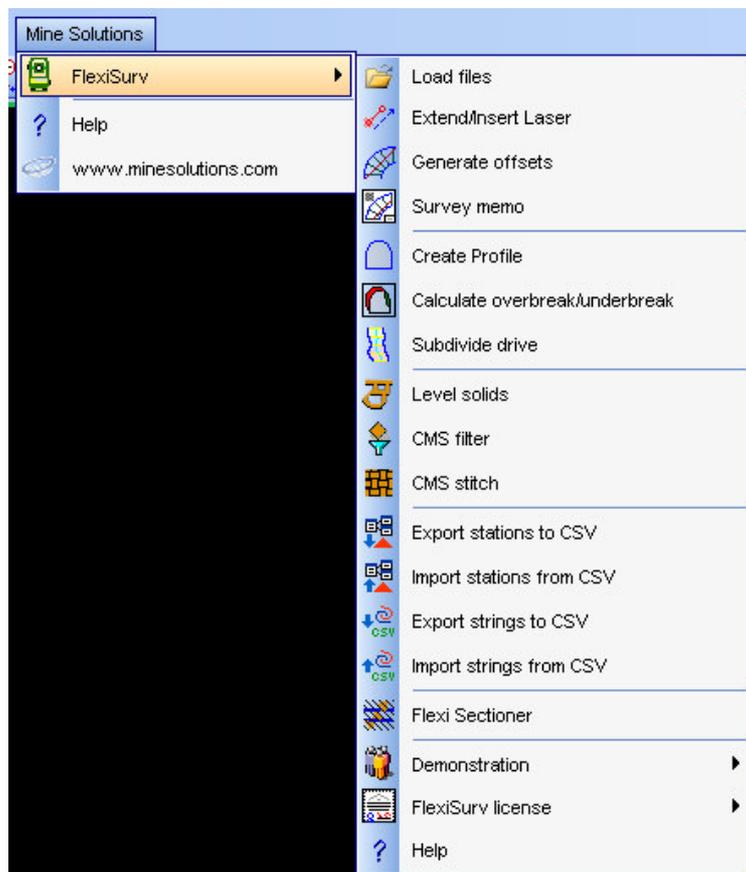
To display the FlexiSurv toolbar right click the mouse into the blank menu space and select *Toolbars → FlexiSurv Toolbar* from the popup menu that appears.
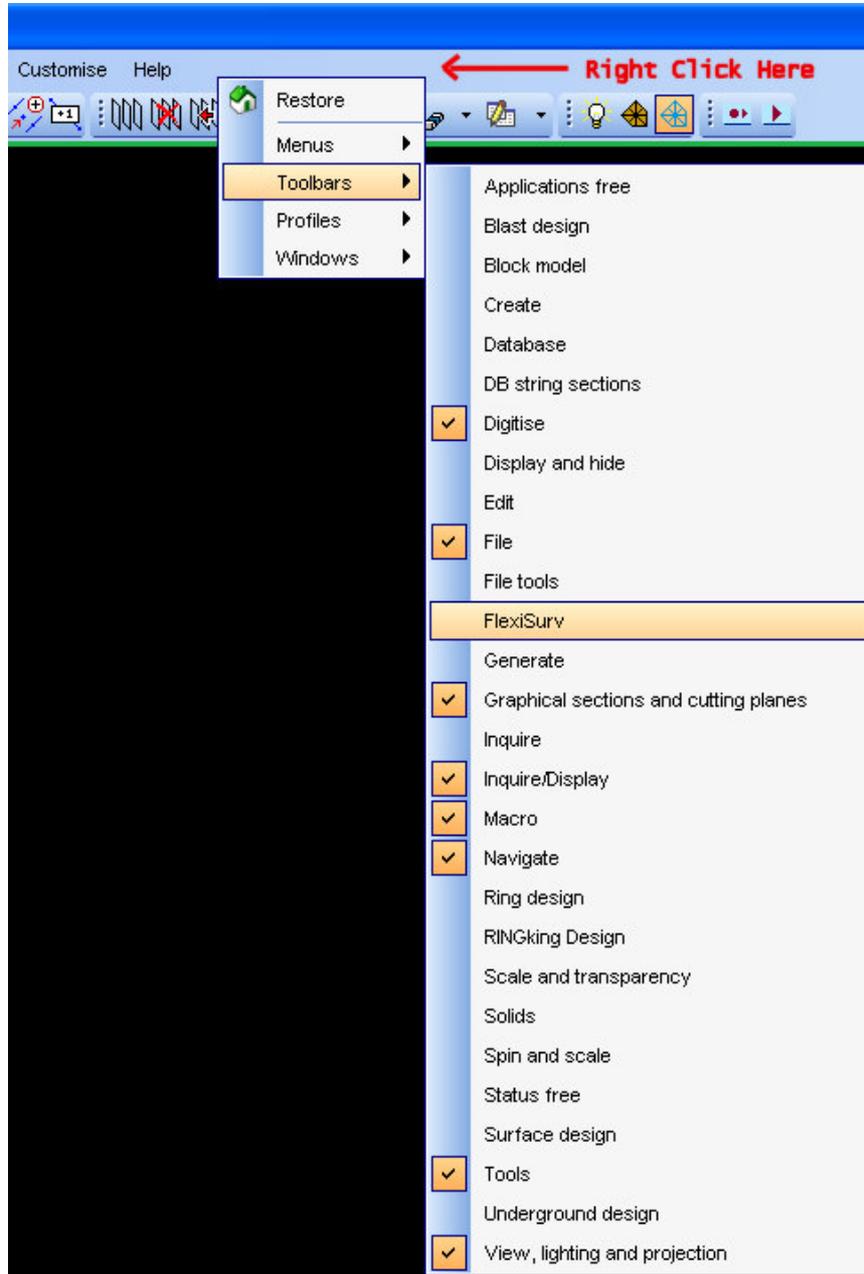
This will display the FlexiSurv Toolbar (note that you may need to dock it into the Surpac Window). All the *FlexiSurv* functions are available off the toolbar.

Step 1 – Load Your Data

All the string data that is required to be plotted onto your survey memo must be recalled in the *Surpac* graphics view port. You can perform this step manually in *Surpac* using the *Open File* function or drag and drop methods. You may alternatively use a custom macro or you can use the special purpose *Flexi-Loader* program that is part of the *FlexiSurv* suite of programs.

Flexi-Loader has been created to assist with loading your data. It has a number of features including an interface with the *Surpac defaults manager* so that you can simply right click in a field to recall your previous inputs. You can load by level number such that all file Id's are updated instantly when you change the level number field (note that the level number can also be alpha numeric).

For each file you are loading you have the option of only recalling the required strings from the file. There is also a check box that maybe deselected to avoid loading a particular file (this allows you to leave the file as a default on the form for future runs).

A custom macro may also be automatically run after all data has been recalled. An example usage of this would be to trim the recalled data by a particular RL or XY extents to minimise clutter in the view port.

Step 2 – Insert / Extend Laser

Depending on your survey processes you may need to either insert and / or extend a laser string in the currently loaded data for your memo. Some sites will maintain lasers in a sperate file or as part of the survey level (pickup) file. The *Flexi Extend / Insert Laser* function could be run as a separate issue to maintain lasers strings in a sperate file.

The extend / insert laser function provides you with a number of methods to extend or insert a laser into data loaded in graphics. The available methods to insert of extend a laser are described in the table below:

Method	Description
Digitise laser coordinates	Digitise points in graphics to insert the laser. If extending an existing laser you can digitise the approximate laser end point and the line will be extended or shortened while obeying the current laser bearing and dip.
Enter coordinate values	For inserting a laser between know coordinate values or extending a laser to a new know point
From selected station or known points	This method allows you to select displayed survey stations or any displayed points to determine the laser bearing and dip. The laser end point is then selected graphically along this projected line
Specified bearing, dip, and distance	Selected the laser start from points displayed in graphics and then enter the determined bearing, dip, and distance for the laser.
Specified distance	This function extends an existing laser by the nominated distance along the lasers current bearing and dip
Intersection of laser with selected string	Extend a laser by intersecting it with a selected string that may represent the floor, or a design outline etc.
Intersection of laser with selected plane	Extend a laser by intersecting it with a plane that is nominated by digitising three points in graphics. This allows you to extend a laser into a projected plane, such as the floor between these selected points.

## Step 3 – Generate Laser Offsets

The *Flexi Offsets* program is used to create laser offset strings to be included onto your survey memo and to also create a note file of information (offset chainage, distance left, distance right, lifter height, etc) to be placed onto the plot. Information from the offset generation is also stored into the dfields of the offset strings which are later used on the memo such as bearing, stop distance etc.

Flexi Offsets handles both wall to wall offsets as well as laser to centreline offsets. Unlike other offset programs it will handle curved and straight sections along the wall geometry. It handles both closed design string segments and open strings, where there are separate segments for the left and right walls.

You also have the option of selecting a single string segment that represents your laser or alternatively you can select a laser start and end point. There are a number of other options that can be explored on the various tabs of the *Flexi Offsets* form. Note that all options are saved to a configuration file so you are only required to set things up once.
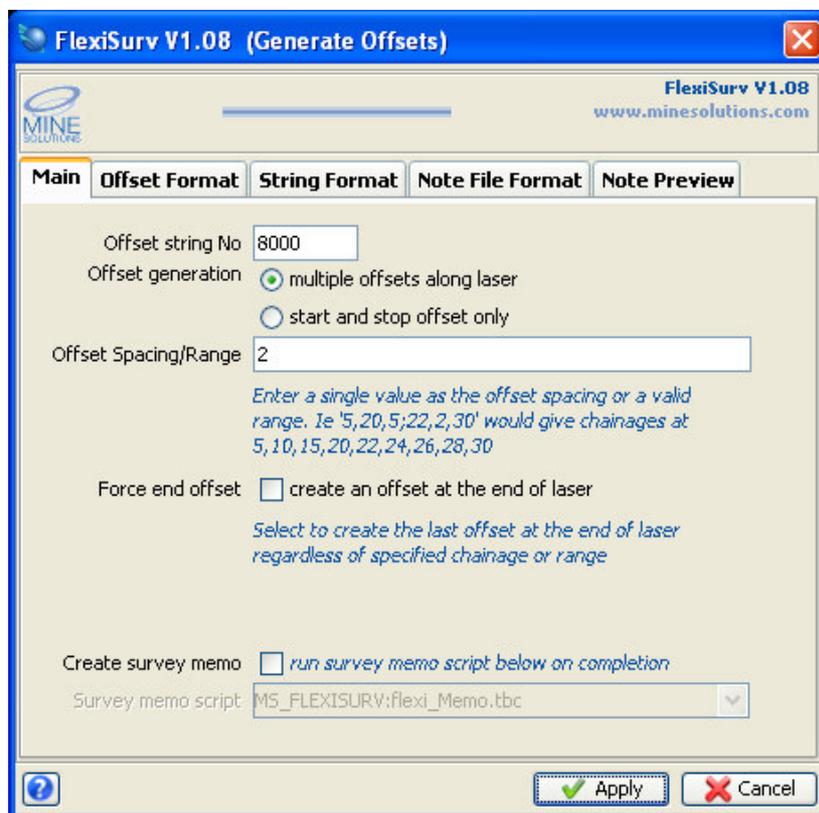
You have the choice of generating multiple offsets at a fixed distance, multiple offsets at distances specified using a valid *Surpac* range specification or a start and stope offsets at given distances from the laser start and end points.

Once you apply the form you will be asked to select your laser segment and either
1. the design string or strings representing the walls (for wall to wall offset), or
2. the design centreline (for centreline offsets)

The offsets and note file are then generated ready for inclusion onto the memo.

## Step 4 – Produce the Survey Memo

Flexi Memo will produce a *Surpac* plot file according to the memo configuration you select. *vComp / Mine Solutions* will have developed a memo format or formats for you and have created a custom interface form that is tailored to your mines requirements.

The following steps describe the generic process of producing a survey memo:

1. Select the Memo Type

After selecting *Flexi Memo* from the menu or tool bar you will be presented with the memo selection form. Note that this step is only required if you have more than one memo configuration to choose from.

Select the desired memo format from the available options and then select *Apply* to continue.
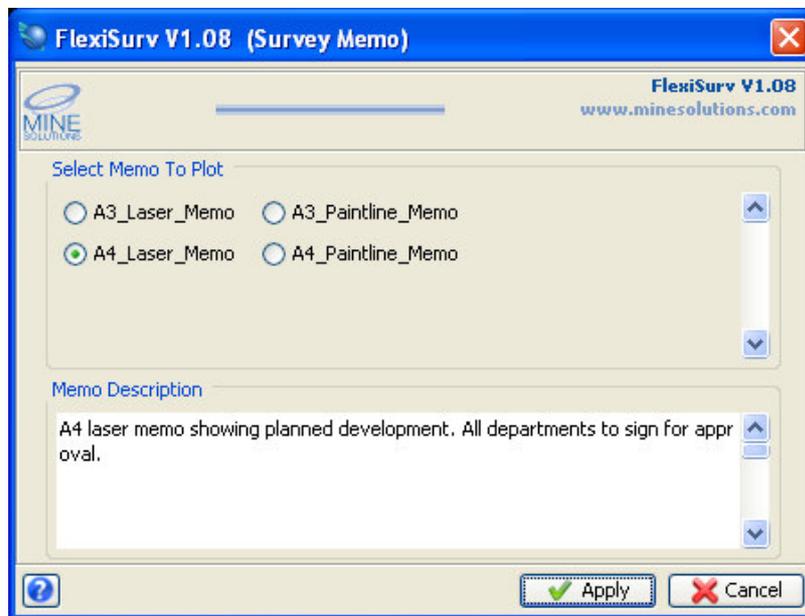
2. Enter Information into the Custom Interface

The custom interface form is tailored to each mine sites requirements. Enter the appropriate information for your memo and then select *Apply*.

Note that the checkbox field "*Skip FlexiSurv form*" should be checked on. This is only ever checked off to gain access the *Flexi Memo* configuration form that permits changes to your memo configurations.

Please note that the example above will not match the one developed for your mine.

3. Position the Plot Boundary

After applying the custom form, a representation of the plot boundary is drawn on the screen. Move the plot boundary by selecting it with the left mouse button and dragging into position such that it encapsulates the area of your data that you wish to include onto the survey memo.

4. Confirm the Position

Once the boundary has been placed a confirmation form is displayed as shown below. You can change some basic plot information here and / or redraw and re-position the plot boundary. When you are happy with the position select the "*Proceed with plot*" button.
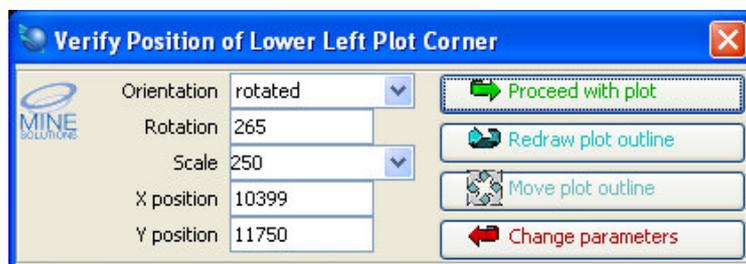
5. Review the Memo in Plot Preview

You survey memo will now be generated and the results displayed into *Supac's* plot preview window. You may make any edits to the displayed plot such as adding extra text or deleting lines.