

BHA Ltd Survey Viewer Manual

29 October 2019

Registering

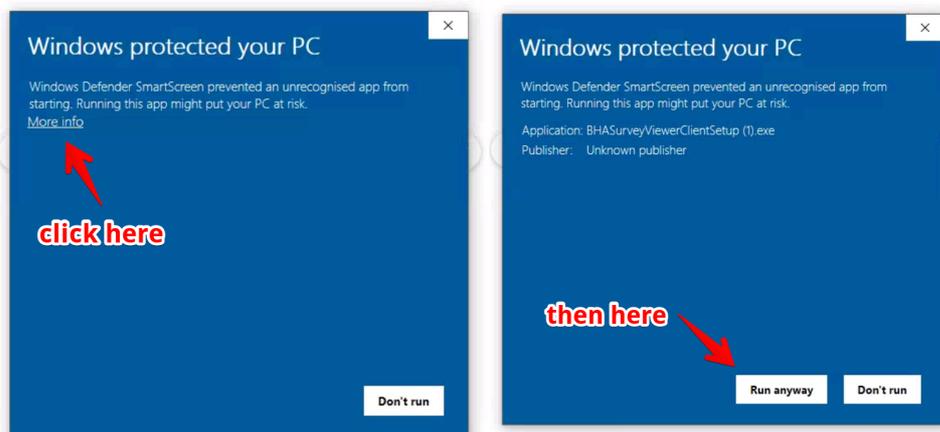
You will need a login to be able to use the viewer. Contact hamish@billharveyassociates.com if you don't have one already.

Installation

Latest downloads can be found at <http://www.billharveyassociates.com/surveyviewer>.

Windows

Download and run the installer. Windows Defender will open a warning dialog. To get past this, click "More info", then "Run anyway".



Once installed, the viewer app will be available in the start menu.

Mac OS

Download the zip file, expand it, and move the app into the Applications folder.

When running the app the first time, right click, and select "Open", then WHICH BUTTON.

After doing this once, the app will run normally.

Basic operation

Logging in

Full screen and windowed

The app will open windowed when first installed, but can be switched to full screen.

To toggle full screen mode on Windows, hold the Alt key and press Enter. On Mac OS, hold Cmd and press F.

Perspective and orthographic views

Press O to toggle between perspective and orthographic views. Orthographic is typically more useful for inspection.

Navigation

Right press and drag to rotate.

Left button single click to change centre of rotation (and copy coordinates of point clicked to clipboard).

Middle (or Alt-Left) press and drag to move.

Limited support for 3DConnexion SpaceMouse is available.

Measurement

Right click, and choose measurement in the menu. Then hold P and click to place two points. The window will report the coordinates of the initial point, the components of the vector between the points, and the distance.

Press Escape or click x to close the box. Ctrl-C will copy all of the measurements in a form that can be pasted into Excel.

Inspection tools

Colouring – mix photographic colour, and colour by normal direction using the N and M keys. Colour by normal direction maps x,y,z normal vector into r,g,b, and highlights roughness, sharp, even slight, changes of angle, and so on.

Planes

Planes can be added, and the intersection of plane with model will be highlighted. Once added, planes can be moved along the normal – click on the plane, and grab and drag the control.

Types of plane specification:

- Horizontal through point
- Vertical through 2 points
- Through 3 points
- From numerical parameters: normal x, y, z and offset from origin

An existing plane can be duplicated.

Right clicking on a plane offers options to clip at the plane, and to reverse the direction of clipping and to duplicate the plane – a new plane is created with the same position and orientation. Duplicated planes do not adopt the clipping setting of the copied plane. When two planes are in the same place, clicking to select and move might select either.

Plane parameters can be copied to the clipboard by selecting the plane and Ctrl-C.

To add contours, use “Add Plane Parameters”. After the first plane is created, parameters will be remembered, so you can edit the offset only each time.

View controls

F12 to remove background tint, hide planes (but not intersections), and window decorations.

Ctrl-H to toggle annotations, Ctrl-Shift-H to toggle annotation shapes.

Getting data out

Coordinates of points

Every time you click on a surface in the model, the coordinates of the point are copied to the clipboard as a tab separated string. This will paste into Excel in cells.

When the measurement dialog is open Ctrl-C will copy the measurement details, again tab separated for ease of pasting into Excel. The values are in the same order presented in the dialog, but column headers are not copied to enable copying and pasting of several measurements at once.

If you have a plane selected (click anywhere the blue tint of the plane is visible, but beware if multiple planes are present that you select the right one), Ctrl-C will copy the plane parameters to the clipboard as offset from origin, normal x, normal y, normal z.

Limitations

Planes

Intersections can only be shown from 30 planes. This can be a problem when setting up contours. Explicit support for contours to get around this is on the road map, but with no delivery date.