

From third party survey to ground model

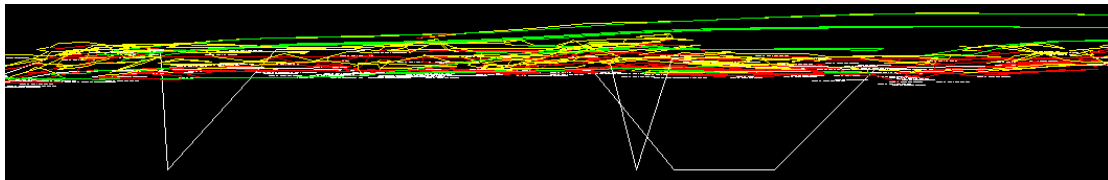
Step 1 Start in a new drawing (based on ktf.dwt)

Step 2 Insert the survey / third party drawing with these settings :-

Insertion Point	Scale	Rotation
<input type="checkbox"/> Specify On-screen	<input type="checkbox"/> Specify On-screen	<input type="checkbox"/> Specify On-screen
X 0.000	X 1.000	Angle 90°0'0"
Y 0.000	Y 1.000	
Z 0.000	Z 1.000	
	<input type="checkbox"/> Uniform Scale	
Block Unit		
Unit Unitless		
Factor 1.000		
<input checked="" type="checkbox"/> Explode		

Step 3 Check to confirm that the drawing is in metres by using the **DIST** command across the site. If the distance is reported in millimetres use the **SCALE** command - select all entities, specify base point as 0,0 and specify the scale factor as 0.001 (making the drawing one thousand times smaller).

Step 4 Investigate to see if the drawing includes 3D entities by using 3D view CAD commands



If an elevation view looks like the above then there is 3D data but there are errors (3D Polyline or Lines shown in white). Before using these entities in model creation or making sections use the **TRIM** command etc. to remove elements that do not have a correct Z value.

Enter **PLAN** ↵ ↵ to return to a plan view.

Use the **LIST** command or the Properties panel to see if an entity is 3D.

Spot levels may be represented as Points or Blocks and if they have a Z value then a Ground Model can be created directly from them or they can be converted into "proper" KTF level blocks by menu item **3D utilities, Convert 2D entities to KTF levels**.

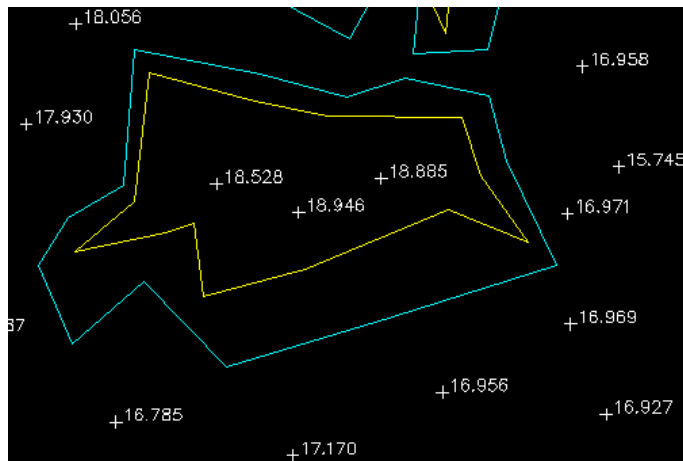
Convert levels represented as text into PL level blocks by using menu item **3D utilities, Convert 2D entities to KTF levels**.

Some survey software represents the level locations as a cross made from two Lines, 2D Polyline or 3D Polyline. Do not use these when creating a model as the result will be four defining points when there should only be the one but instead use the level text entities by converting them to level blocks with menu item **3D utilities, Convert 2D entities to KTF levels**.

KTF levels are represented as PL (or similar) blocks where it is the LEVEL attribute that is used in model creation and other functions.

Step 5 Create the ground model.

A typical 3D survey drawing should represent the site as a combination of 3D Polylines representing banks, ditches and roads etc. and spot levels (often represented as PL level blocks converted from text as described above).



THE MODEL WILL ONLY BE AS GOOD AS THE DATA IT IS MADE FROM!

Now follow this sequence :-

Ground Modelling, Create Model, from Drawing entities to create the model.

Ground Modelling, Draw Triangles to confirm coverage (do not keep the triangles in the drawing).

Draw a 2D Polyline to define the boundary.

Ground Modelling, Active and Passive triangles, Define from Polylines to “remove” triangles from “concave” areas around the edge that are not part of the surveyed area and any internal areas where there is no level data.