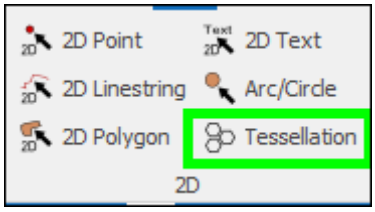
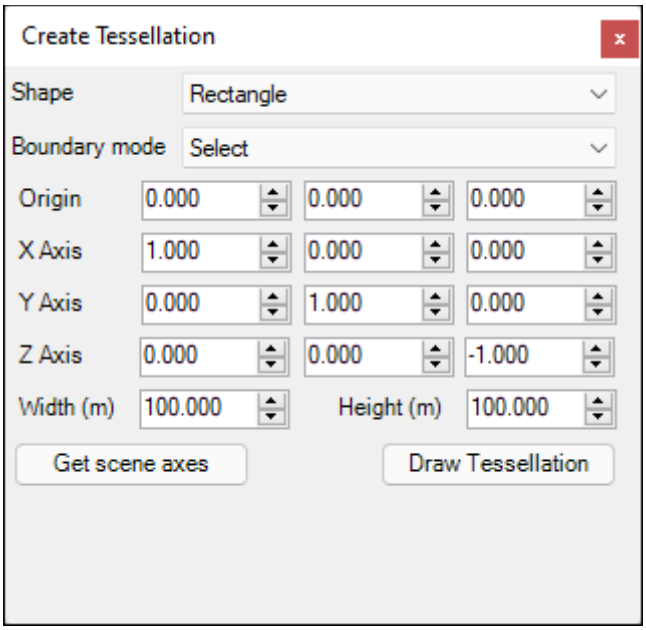
PrimeThought Software Solutions

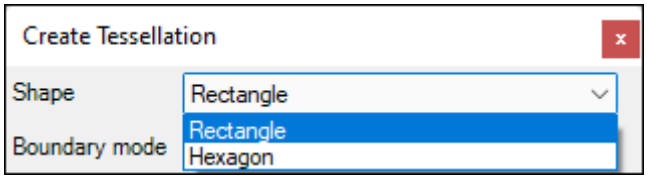
# Tessellation User Guide

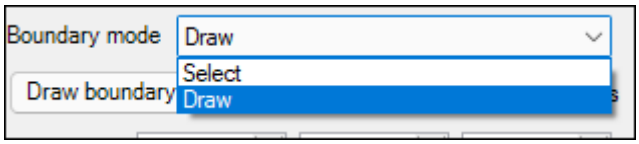
The **Tessellation** tool allows you to build a tessellation - a repeating pattern of polygons that covers an area with no gaps or overlaps.



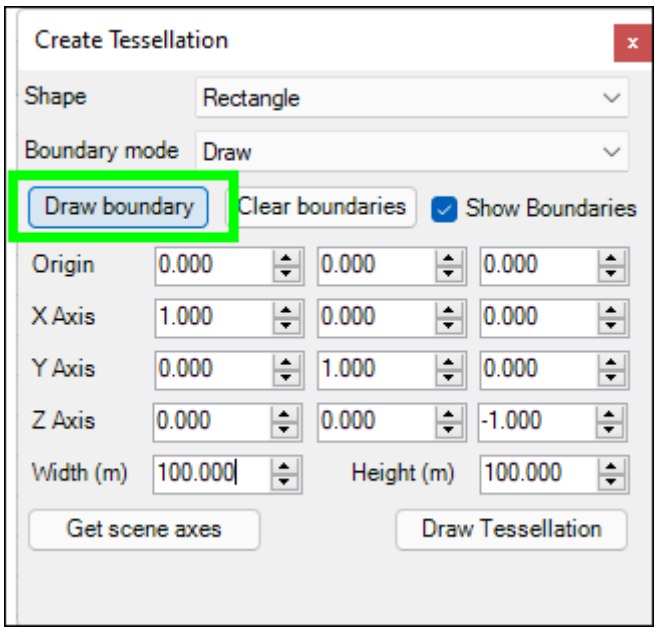



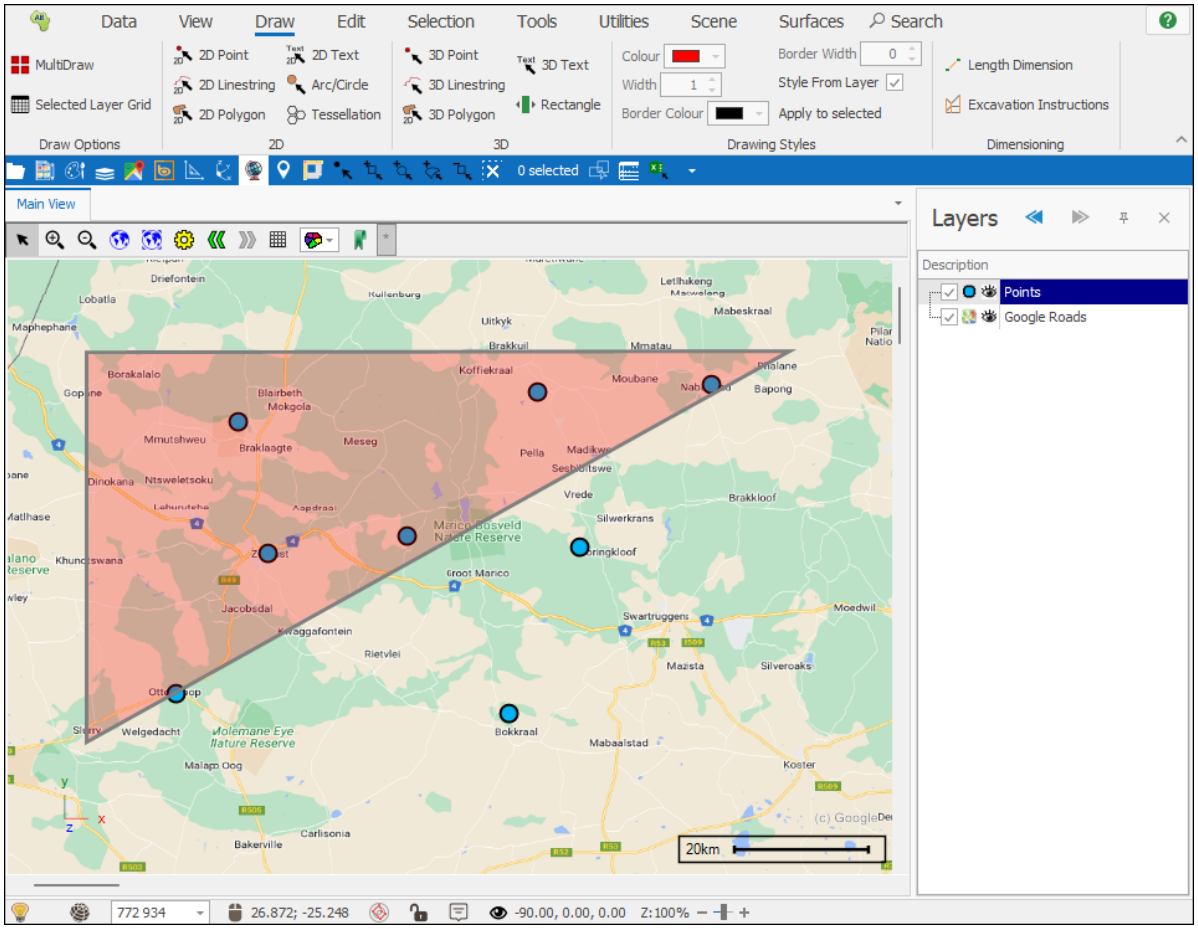

First you will choose what **Shape** you want to use in the tessellation- **Rectangle** or **Hexagon**. Then for the **Boundary Mode** you can choose either **Select**, which will make the boundary from selected elements in an existing layer that you have selected with one of the selection tools, or you can choose **Draw** and this will allow you to draw your own boundaries. In this example we will choose **Rectangle** and the **Draw** option:



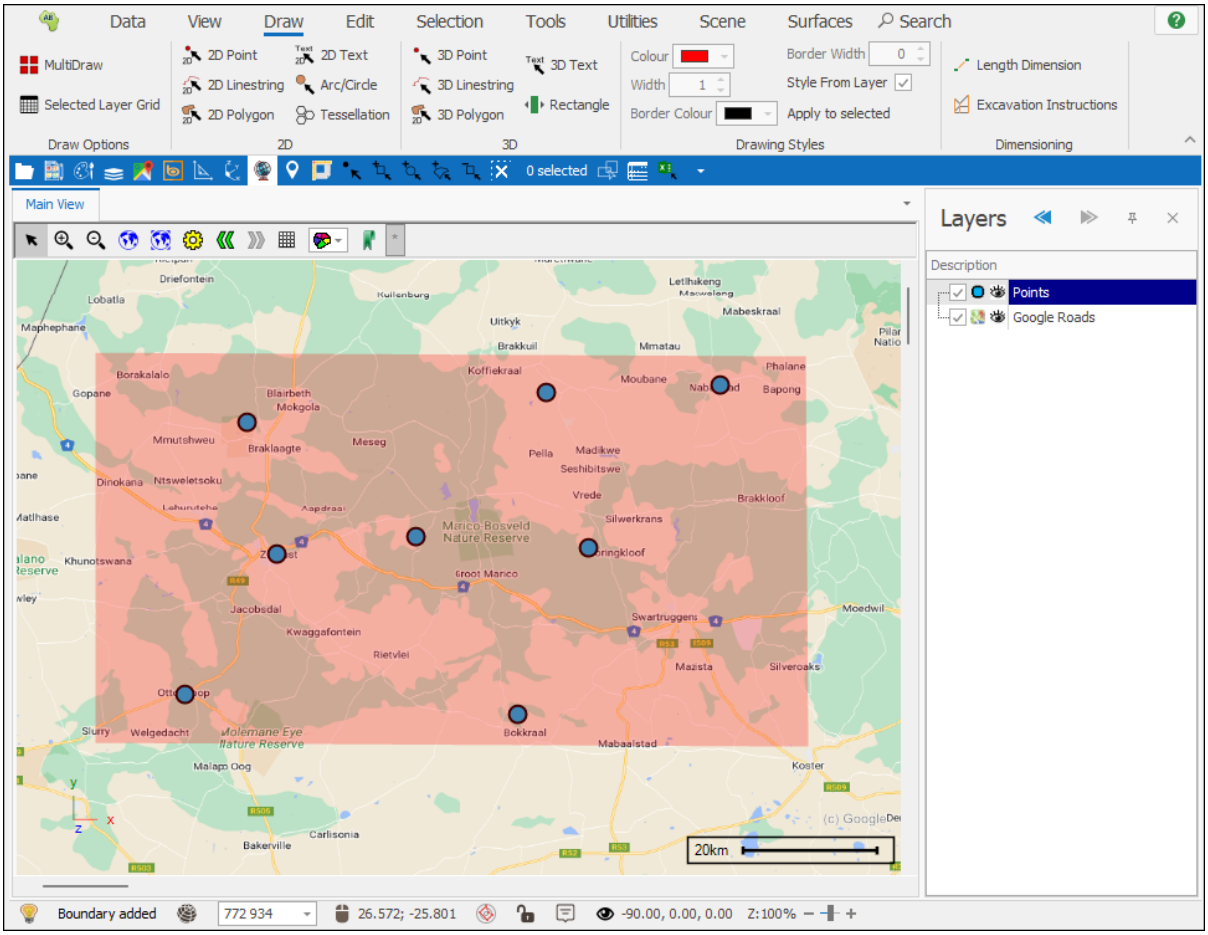




Now we click the **Draw Boundary** button and go to our scene to draw the boundary, left click to start drawing, each click is a vertex of the boundary, double click to finish. **Show Boundaries** is ticked on by default, if you tick it off you will not see the boundaries on the scene when you draw them:

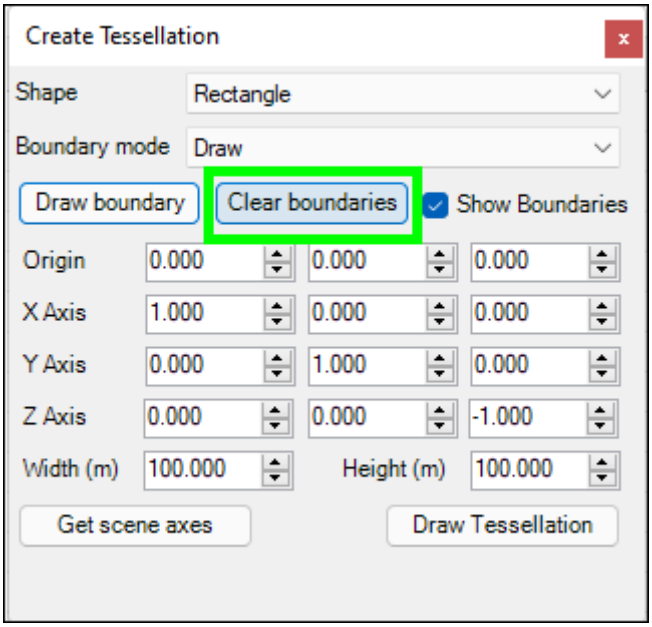




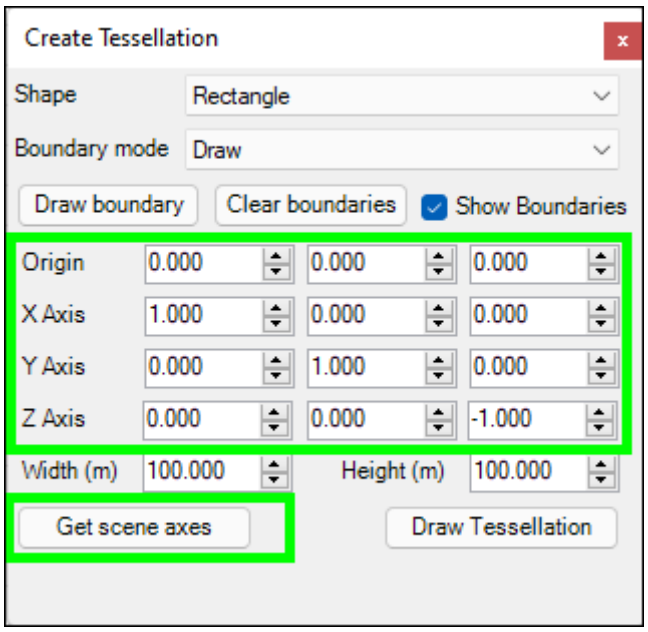

You can right click to undo a vertex of the boundary as you are drawing.



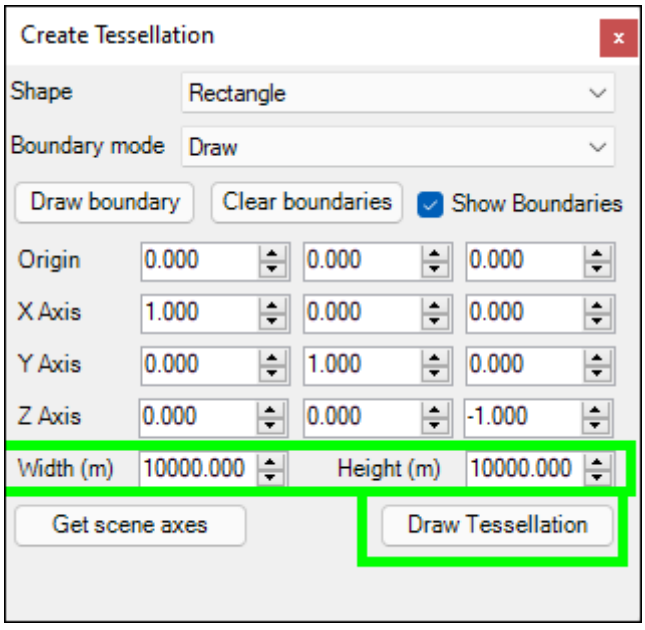

Your boundary is now drawn, if you want to redraw it you can click **Clear Boundaries** and then draw it again:

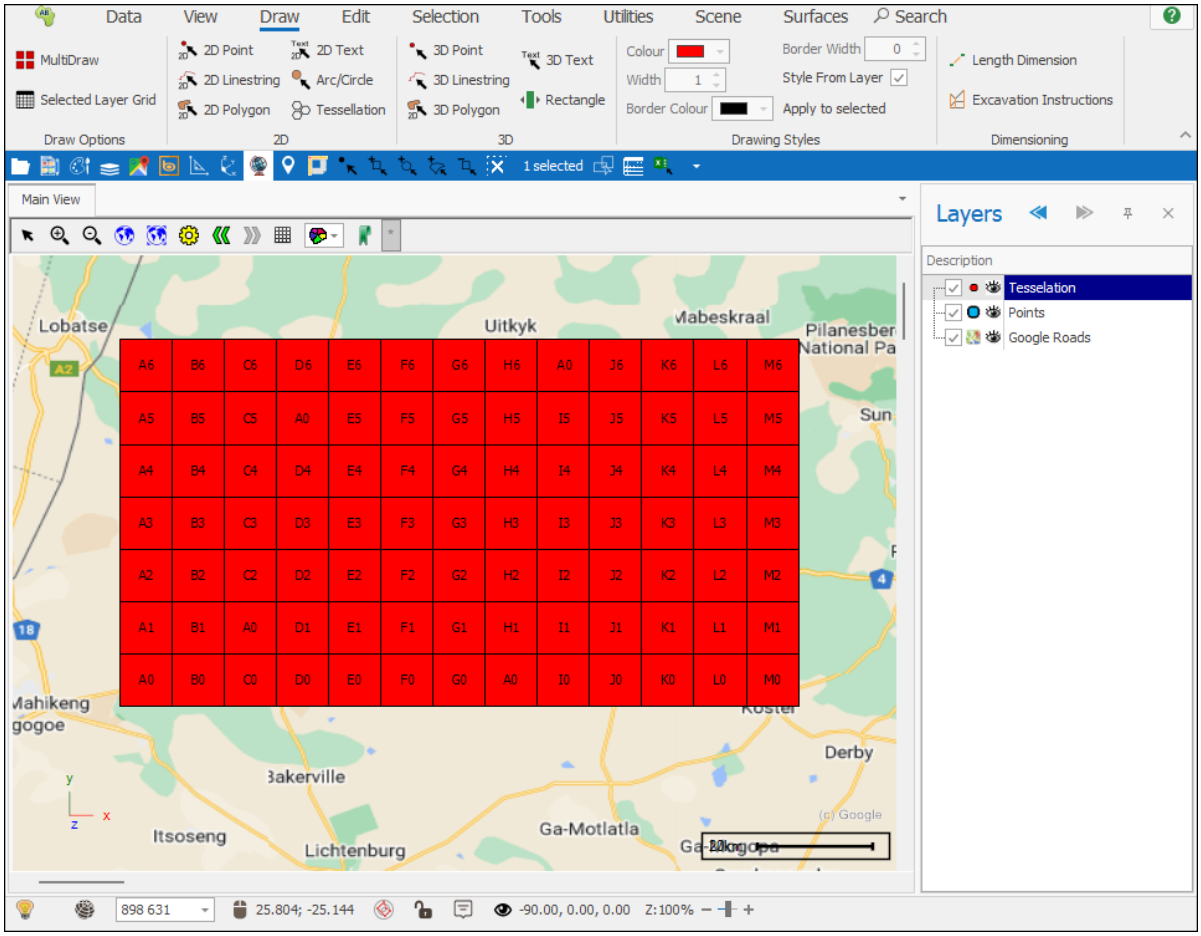


The **Origin**, **X Axis**, **Y Axis** and **Z Axis** of the tessellation can be custom set. To get back the regular scene axes, click **Get scene axes**:



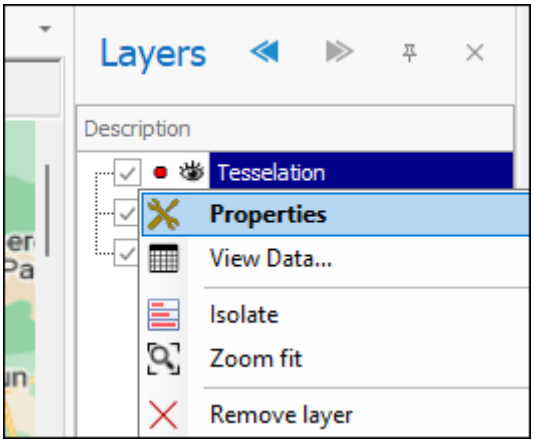

The next step is to specify the **Width** and **Height**, in meters, of the cells of the tessellation, in this example I will make them 10 kilometres (10 000 meters), finally click **Draw Tessellation** and your tessellation will be drawn in a new layer:

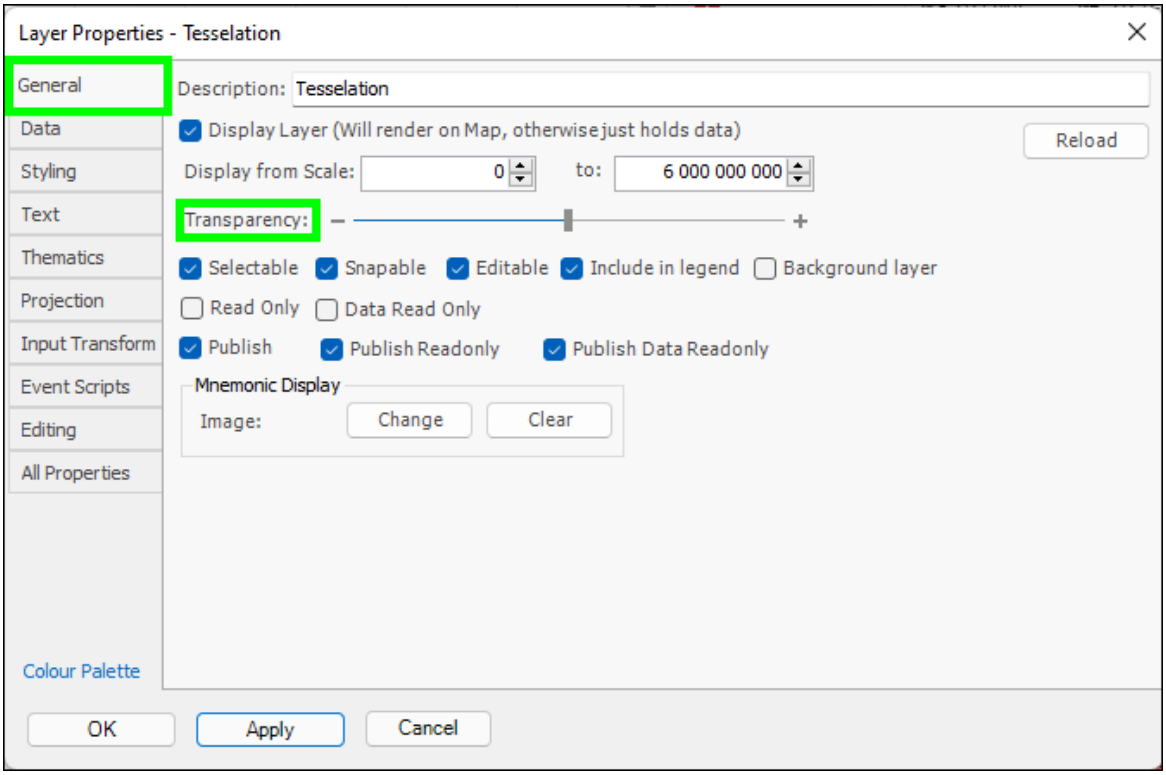


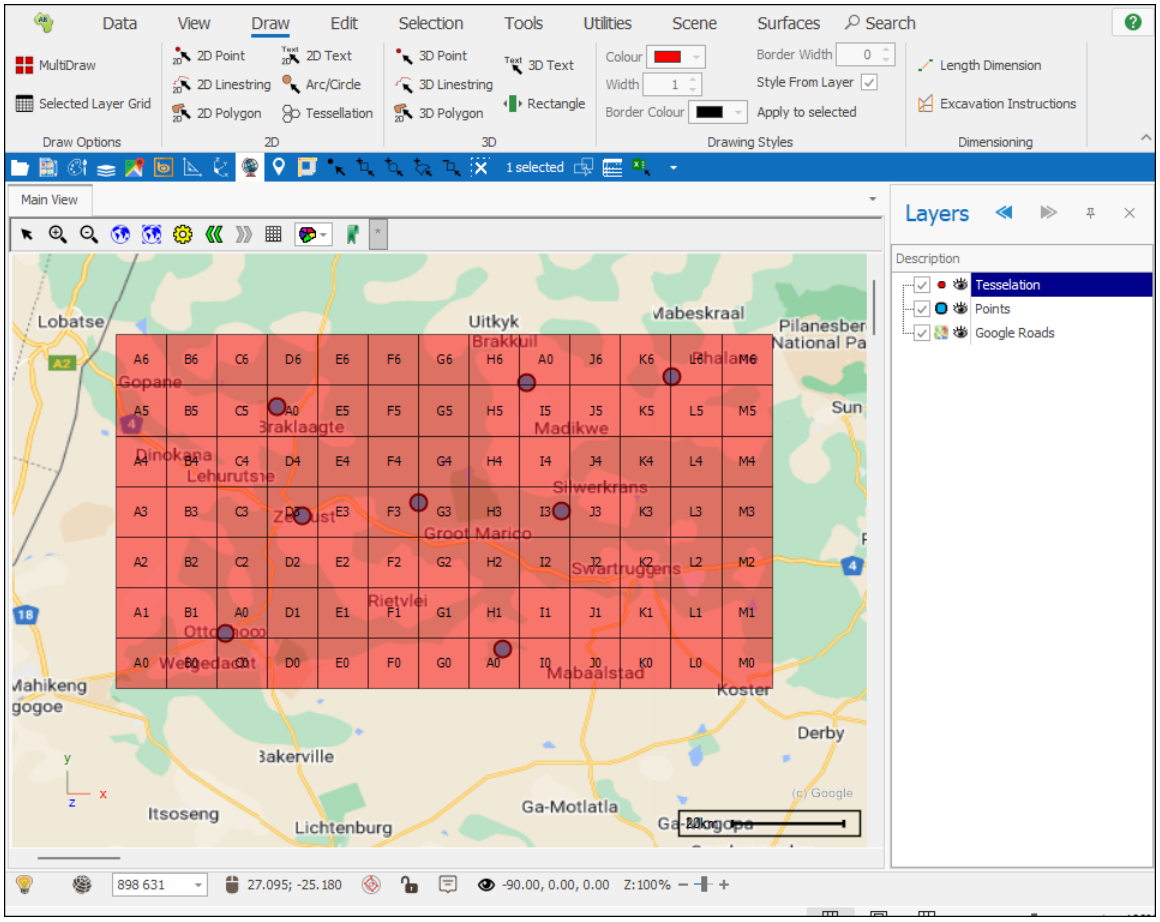



Each block of the tessellation is automatically assigned an ID which then displays on the blocks as a text label.

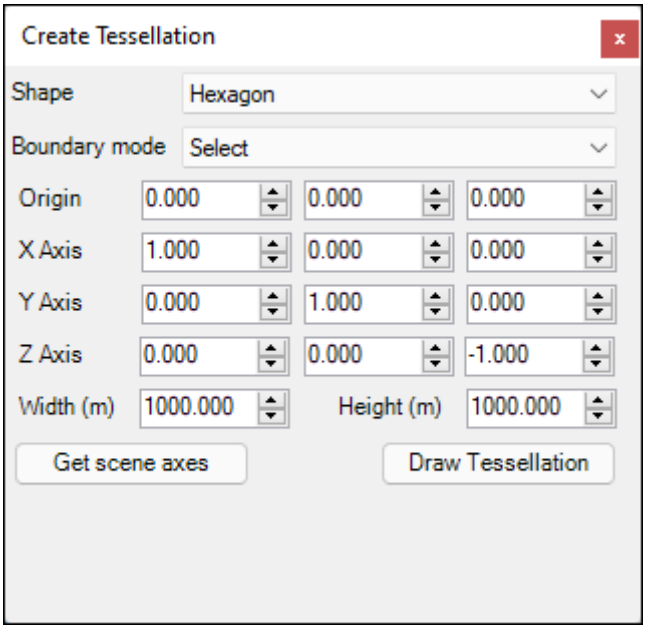
I will just make this tessellation layer more transparent so I can see underneath it better by going into its Layer Properties, and under the General tab, adjusting the transparency slider:


Layers
Description
Tesselation
Properties
View Data...
Isolate
Zoom fit
Remove layer

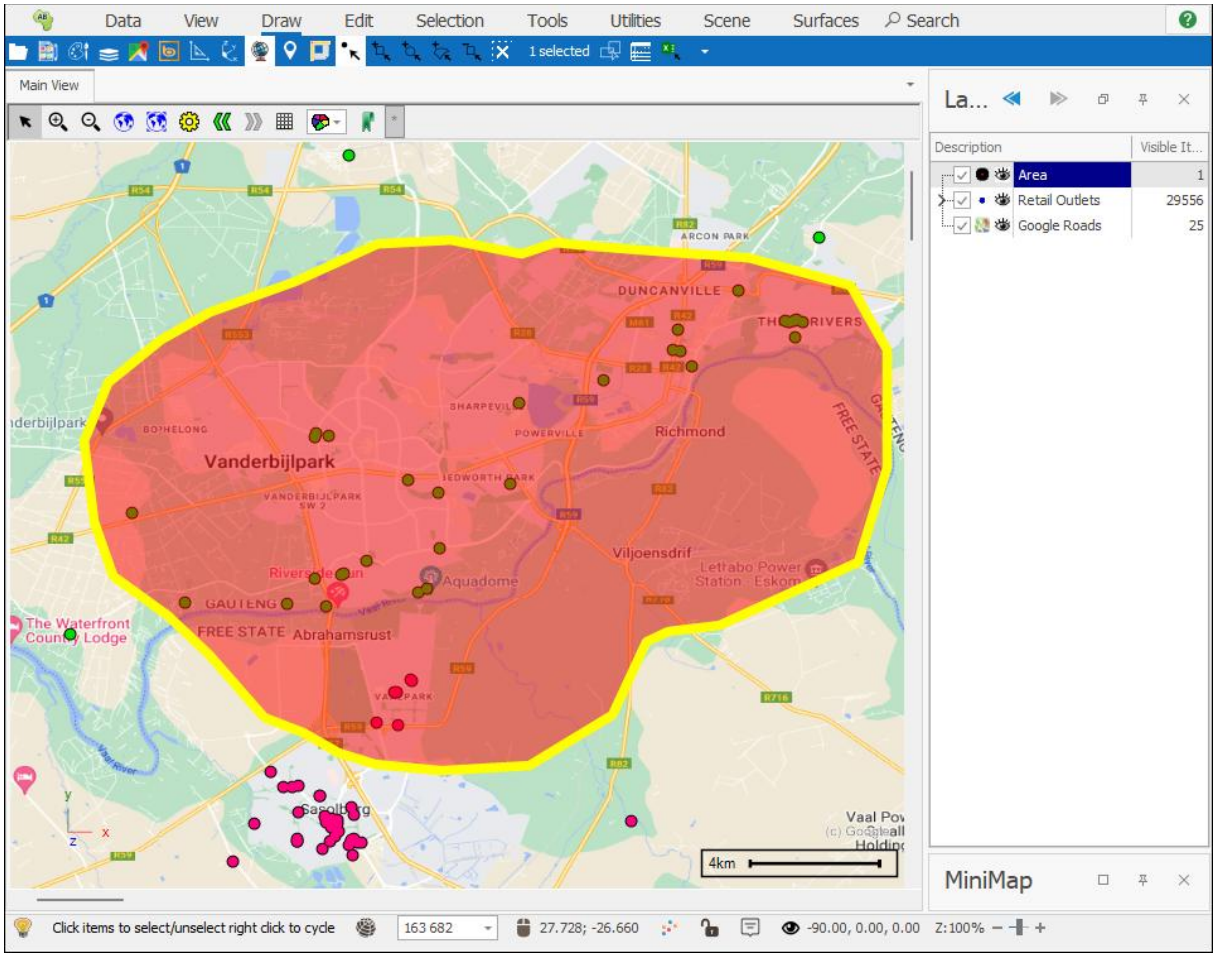

Layer Properties - Tesselation
General
Data
Styling
Text
Thematics
Projection
Input Transform
Event Scripts
Editing
All Properties
Colour Palette
Description: Tesselation
Display Layer (Will render on Map, otherwise just holds data)
Reload
Display from Scale: 0
to: 6 000 000 000
Transparency:
Selectable
Snapable
Editable
Include in legend
Background layer
Read Only
Data Read Only
Publish
Publish Readonly
Publish Data Readonly
Mnemonic Display
Image:
Change
Clear
OK
Apply
Cancel



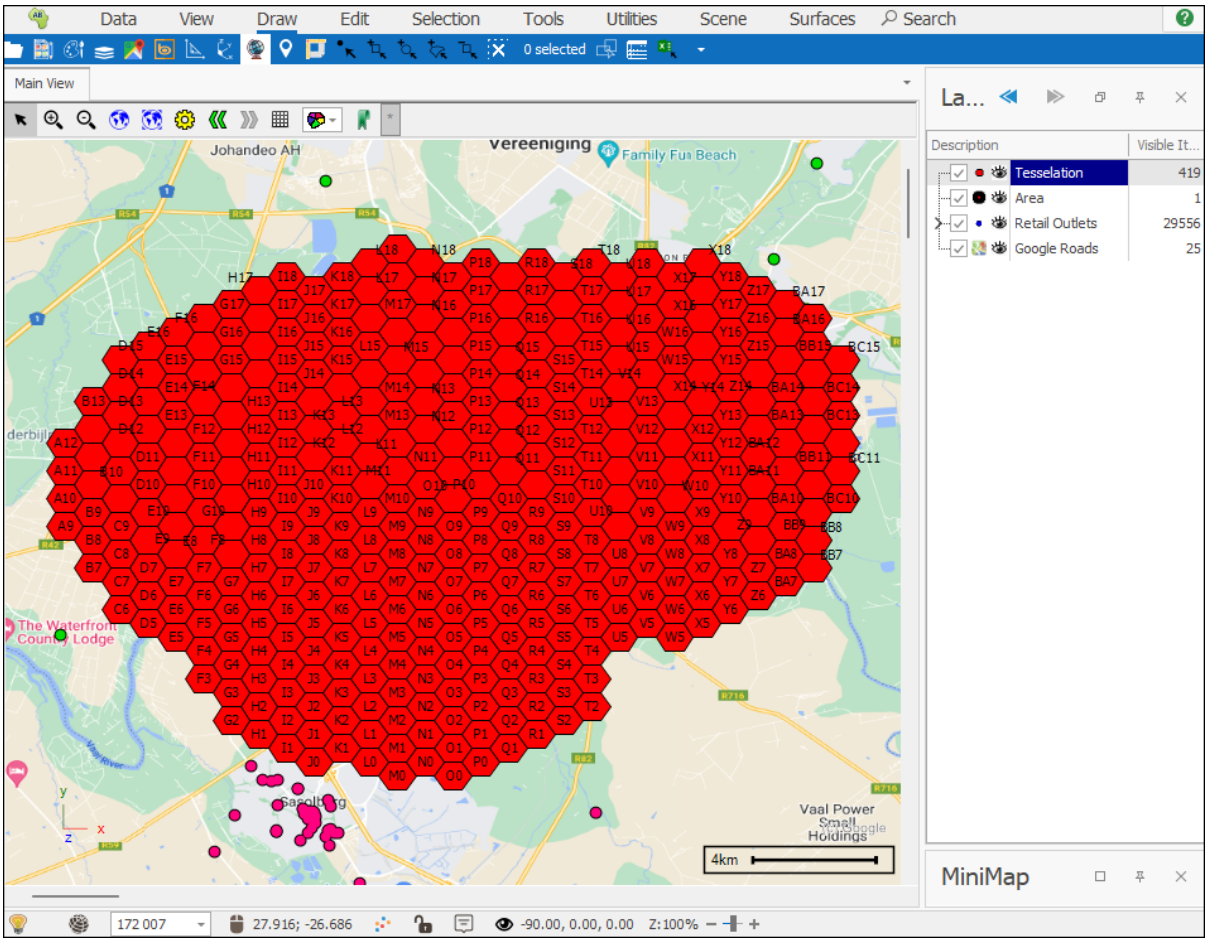

Here is one more example using some different parameters. Here I have chosen the **Select** Boundary Mode. I have also chosen to have **Hexagons** instead of Rectangles for the cells of the Tessellation. The cell Width and Height I have chosen as 1000 metres (1KM):




I have also selected the object in my scene that I will use as the boundaries for my Tessellation:



I then click **Draw Tessellation**, and my tessellation is drawn:




Once you have created your tessellation you can do aggregations into the tessellated area, select points that lie within it, theme on the different blocks etc. For data on operations like these refer to these guides:

*Aggregation Tool*

*Select by Location*

*SpatialXL Guide*, *Theming* section.

## Support

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