Guide to using Google Earth PRO for quarry permit applications

Download Google Earth Pro

https://www.google.com/earth/about/versions/#download-pro

- Go to the web address
- Click **Accept & Download**
- Follow the download prompts

Step 0: Get comfortable

If this is your first time using Google Earth Pro, we strongly recommend reading through the more detailed guide which begins on page four of this document.

Before you try to create your proposed boundary, it would be wise to get comfortable with the controls of navigating and creating polygons and paths. Consider creating and editing some practice polygons, then delete them before moving on.

Step 1: Navigate and zoom to your area of interest

See Navigating in Google Earth Pro for instructions.

Step 2: Examine your area of interest

Consider reviewing the area on the Land Use Atlas and Geoscience Atlas

Consider whether there are any nearby sensitive features like roads, trails, waterbodies, and wetlands that require buffers/set-back distances. See Section G of the application form for a list of buffer/set-back distances.

Use the **Ruler Tool** (see Using the Ruler Tool for detailed instructions) to measure the distance from nearby sensitive features to your area of interest:

1. Start the measurement at the edge of the sensitive feature (for waterbodies, wetlands, and private land) or at the centerline of the roadway (for trails, roads, and protected roads)

2. Measure out a distance greater than the required set-back distance.

3. Save your ruler measurement to create a guideline to reference when you draw your boundary polygon. You may want to create multiple ruler guidelines before you start drawing your boundary.

Step 3: Draw a polygon to create your proposed boundary

See Creating a polygon for detailed instructions.

1. Click the **Add Polygon** tool to open the **New Polygon** window.

2. Click the **Style, Color** tab. Change the Area style to **Outlined** to make it easier to see what is around your boundary. Select a contrasting colour (ex. yellow) for your **Lines.**

3. Click on the map to draw your polygon.

4. Enter a **Name** for your polygon. Click **OK**
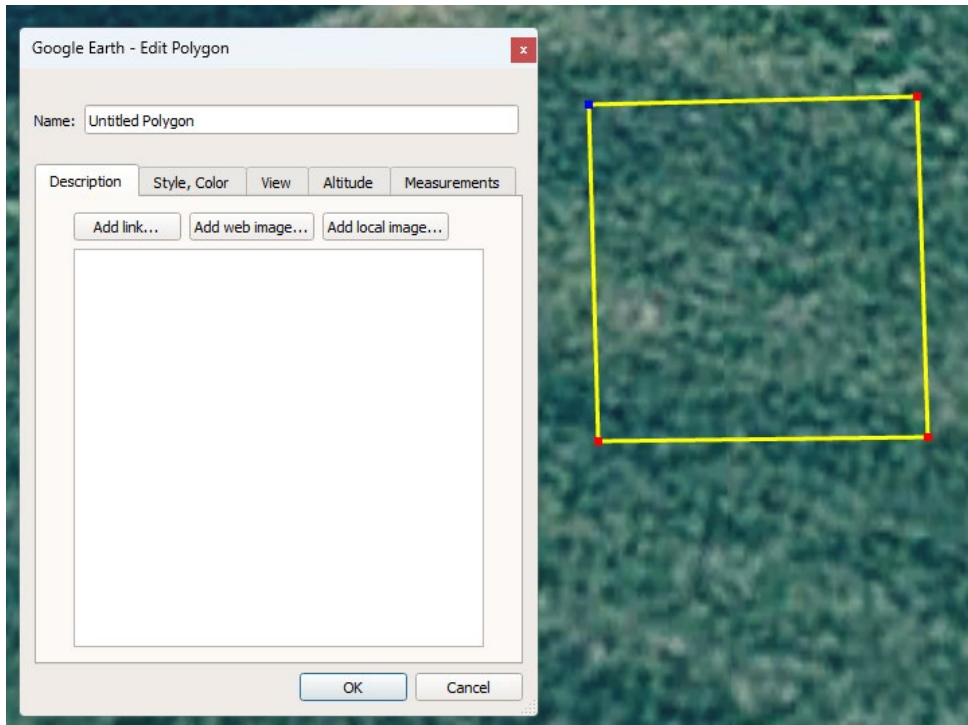
Step 4: Check the size of the boundary you've drawn

To check the size of the site you have drawn, select the **Measurements** tab in the **New Polygon** or **Edit Polygon** window.

Change the **Area** unit to **Hectares**.

Verify that the boundary you have created is the right size for your needs. Report the size of your boundary (in hectares) on your application form.
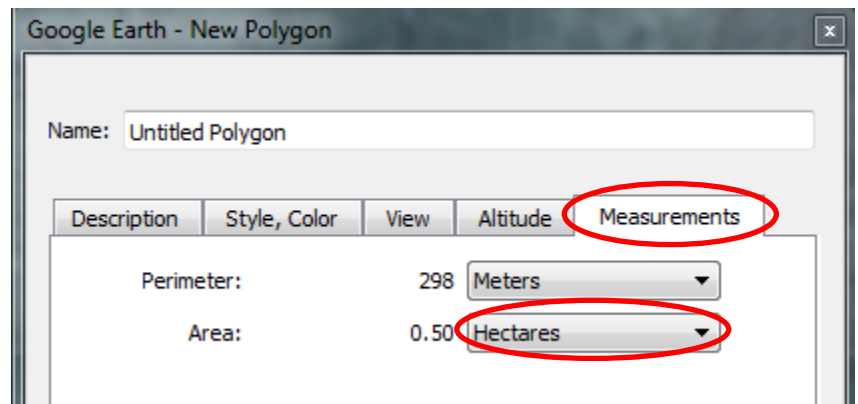

Step 5: Draw a path to create your proposed access route

See Creating a path for detailed instructions.

1. Click the **Add Path** tool to open the **New Path** window.

2. Click the **Style, Color** tab. Select a contrasting colour (ex. yellow) for your **Lines.**

3. Click on the map to draw your path.

4. Enter a **Name** for your path. Click **OK**
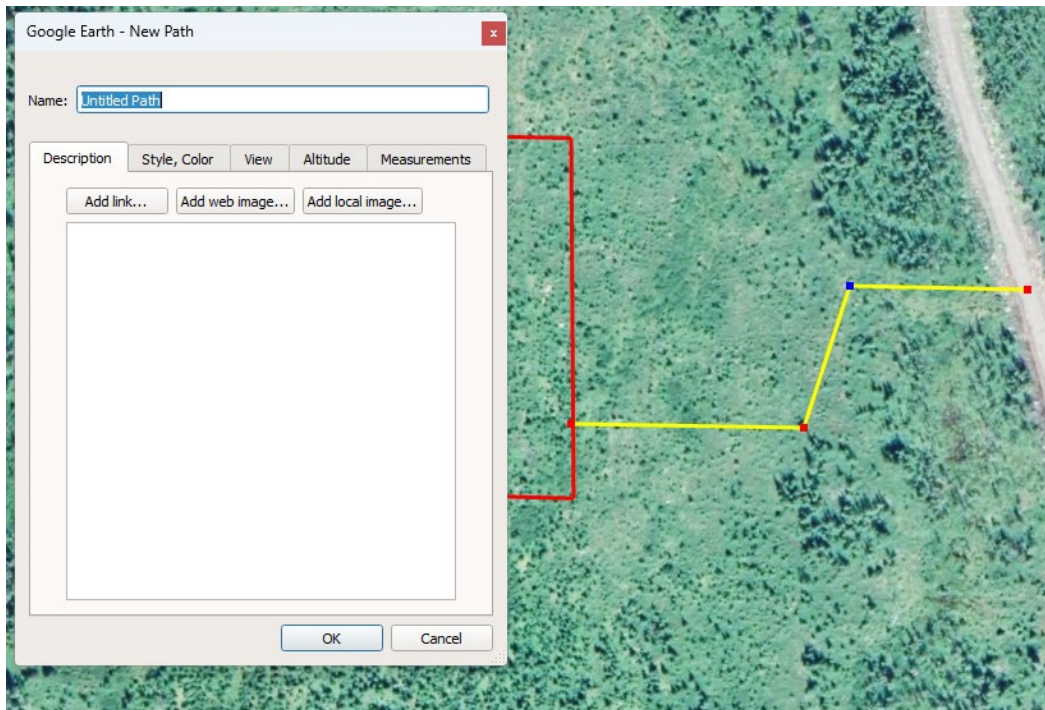
STEP 6: Export (Save Place As…) your boundary and access

1. (Optional) You can save your polygon and path together in one .kmz file. Right-click **My Places** or **Temporary Places** then click **Add** > **Folder**. Enter a name for your folder and click **OK.** In the **Places** tab, click and hold, then drag your boundary into the newly created folder. Do the same for your access. In step 5.2 select your folder instead of your boundary. Ignore step 5.4.

2. In the **Places** tab, click to select your boundary. Right-click to open the drop-down menu, then click **Save Place As…**
3. Choose a location to save your file, then click **Save.**
4. Do the same for your access.
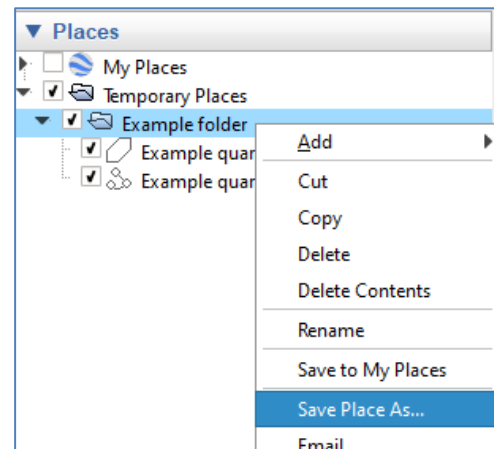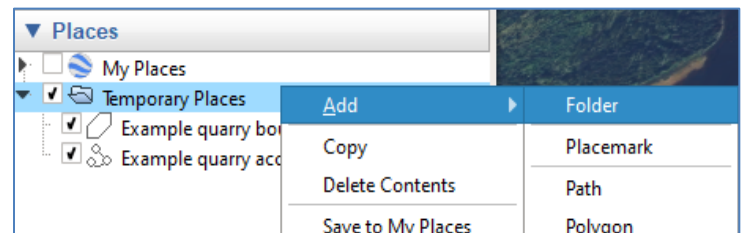
STEP 7: Email your application files

Send an email to QuarryApp@gov.nl.ca including your boundary and access file along with your completed application form and receipt of payment of the application fee. Include any additional supporting documents that may be required, like deed and title documents or visibility minimization documents. If you are making multiple applications send a separate email for each one.

More detailed guide to using GEP, creating Paths and Polygons, and using the Ruler

Getting Familiar with Google Earth Pro
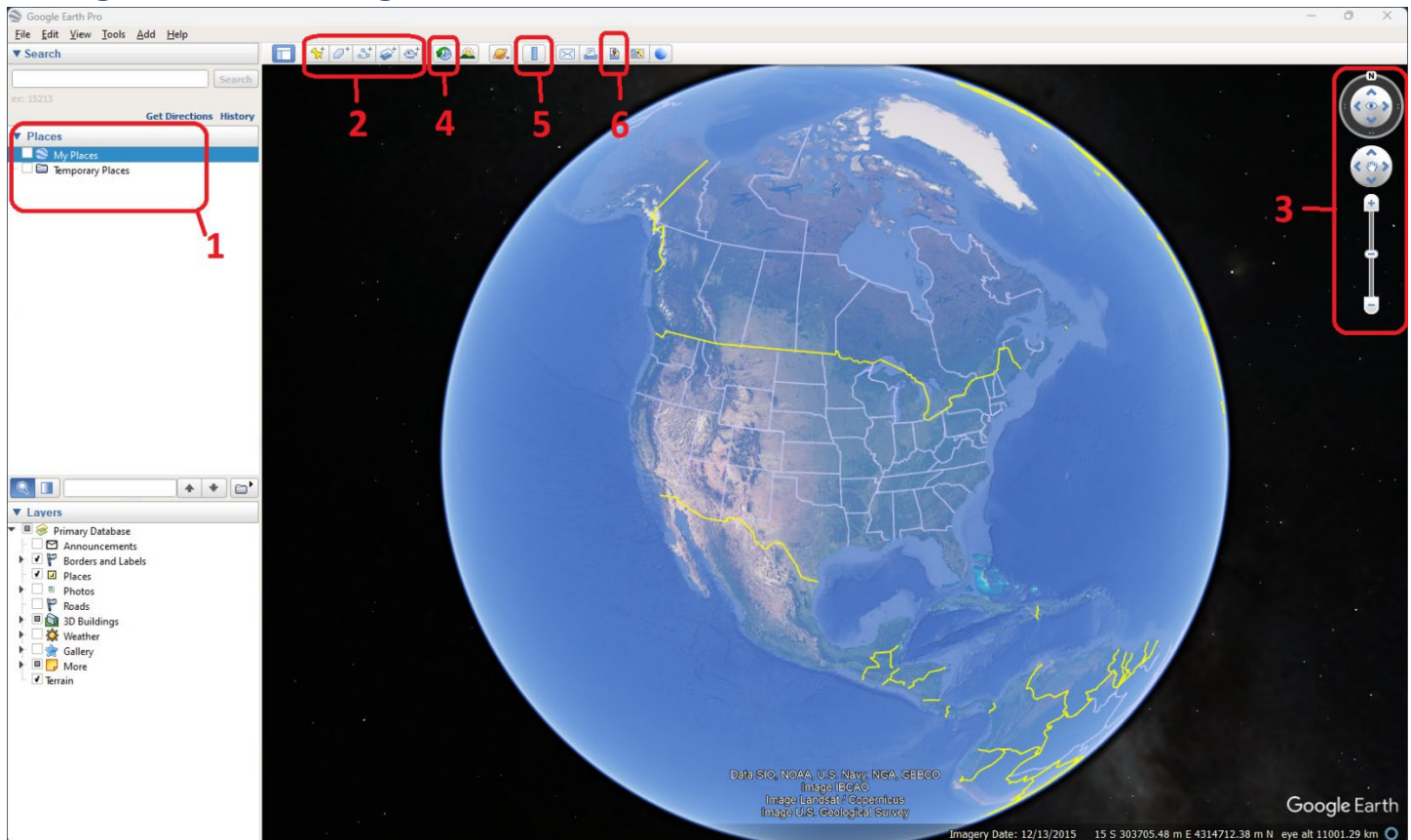
When you open Google Earth Pro for the first time your screen will look like this. Some of the features you may wish to use are labeled in the image above and explained below.

1. **Places**: Any polygons, lines, or other items you create will be listed here. New items you create will appear in the 'Temporary Places' folder. When you try to close the program while you have items in your Temporary Places folder you will be prompted to Save or Discard the items. Saved items will appear in your 'My Places' folder the next time you open the program.
2. **Toolbar – Add Items**: This part of the toolbar features buttons for adding items including placemarks, polygons, and paths.
3. **Navigation buttons**: You can click on these buttons to zoom in and out, move around, rotate the compass view, and adjust the tilt (viewing angle).
4. **Show Historical Imagery**: Opens the historical imagery slider. If the default image for your area of interest is unclear you may wish to use the slider to select a different image. The position of roads and waterbodies may be less accurate in older imagery.
5. **Show Ruler**: Opens the Ruler tool. Useful for measuring set-back distances and distances to waterbodies and land uses.
6. **Save Image**: Allows you to create and save map images. Useful for creating site plans.

Navigating in Google Earth Pro

You can move around using your mouse, keyboard, or the navigation buttons. The most important controls are listed below.

Mouse controls:

- Move: Click and hold the left mouse button, then drag the cursor. Hold the cursor still before releasing the left mouse button, or else the earth will continue moving.
- Move and zoom: Position your mouse cursor over the area you want to move and zoom to, then double-click the left mouse button.
- Zoom: Spin your mouse wheel forward and backward to zoom in and out.

Keyboard controls:

- **Left**, **right**, **up,** and **down** arrows: Move in the corresponding direction. You can also use the **w**, **a**, **s**, and **d** keys.
- **+** or **=** key: Zoom in
- **-** key: Zoom out
- **r** key: Reset the tilt/viewing angle to top-down and the compass view to north-up.

For more keyboard controls, and to learn more about navigating in Google Earth, visit https://support.google.com/earth/answer/148115?hl=en

Creating a Polygon
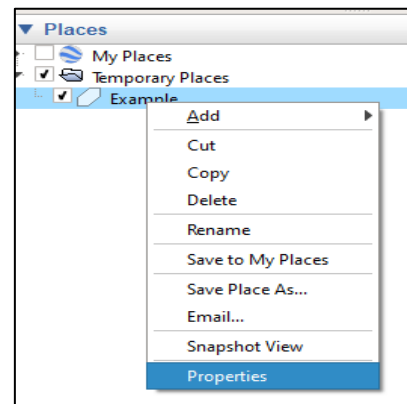
1. Left click the **Add Polygon** Tool.

The **New Polygon** window will open. While the **New Polygon** or **Edit Polygon** window are open your mouse buttons will have the following functions:

- o Left mouse button: Add a new vertex (corner) at the location of the mouse cursor.

- o Right mouse button: Delete the most recently created vertex (useful for correcting mistakes)
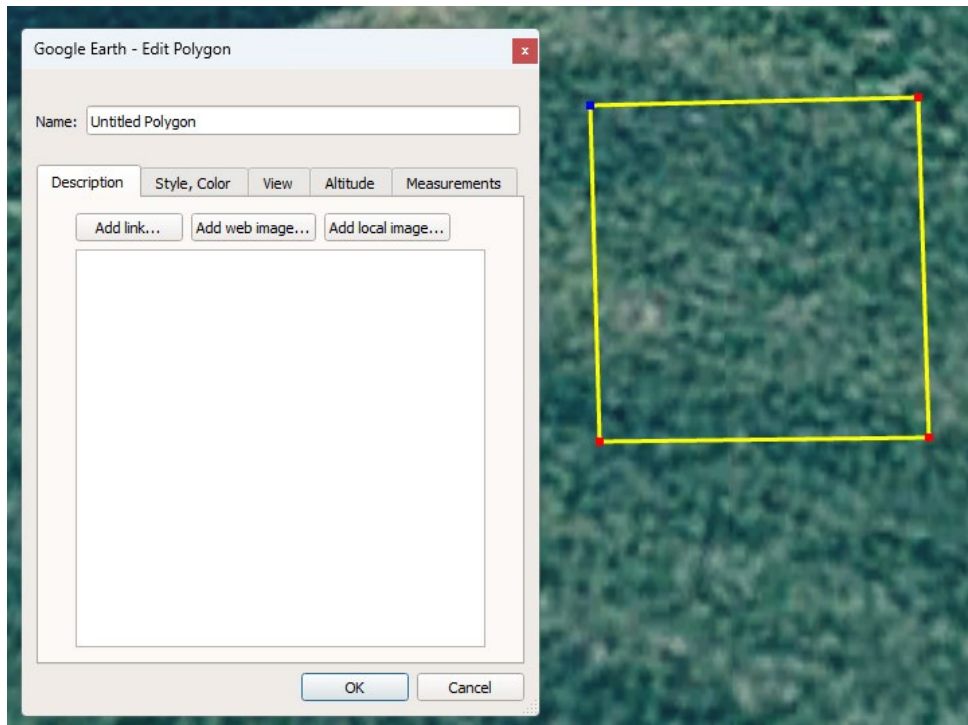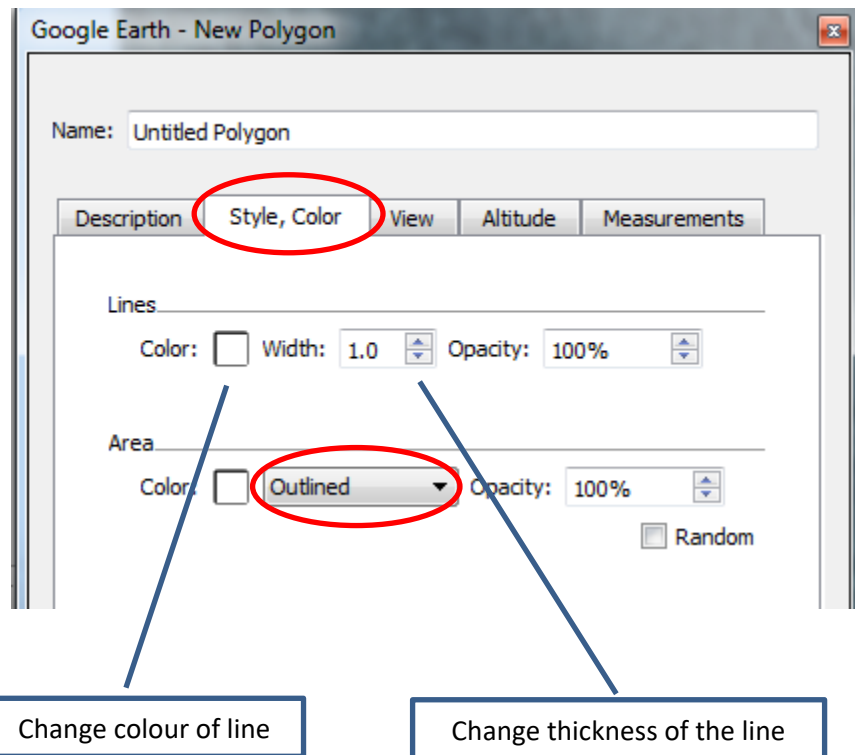
2. With the **New Polygon** window open, click and release your left mouse button to create your first vertex.

3. Move your mouse cursor to the position where you want to create your next vertex. Click and release your left mouse button to create your next vertex. Repeat until your polygon is finished.

4. You can move a vertex you have already placed to adjust the shape of your polygon. While hovering your mouse cursor over the vertex, press and hold the left mouse button, then drag the cursor to move the vertex. Release the left mouse button to stop moving the vertex.

5. When you are finished, click the **Name** field on the **New Polygon** window and type a name for your polygon. Then click **OK** to stop editing. Your new polygon will be created in the **Temporary Places** folder.

- You can continue editing a previously created polygon by right clicking the polygon on the map or in Places and clicking **Properties** to open the **Edit Polygon** window. Make your changes, then save your changes by clicking **OK** or undo your changes by clicking **Cancel**.

- You can also use the right-click dropdown menu to **Delete**, **Rename**, or export (**Save Place As…**)

- You can change the appearance of your polygon by selecting the **Style, Color** tab in the **New Polygon** or **Edit Polygon** window.

- Change the appearance so that you can see what you are drawing around. Select **Outlined** from the dropdown box.

- You can also change the thickness and colour of the line so that it is easier to see. Try using a width of 2 or 2.5 and a contrasting colour to outline the area (yellow or white often work well against a green background).

Change colour of line

Change thickness of the line

Creating a Path

The process for creating a Path is similar.

1. Left click the **Add Path** tool

The **New Path** window will open. While the **New Path** or **Edit Path** window are open your mouse buttons will have the following functions:
   - Left mouse button: Add a new vertex (corner) at the location of the mouse cursor.
   - Right mouse button: Delete the most recently created vertex (useful for correcting mistakes)

2. With the **New Path** window open, click and release your left mouse button to create your first vertex.

3. Move your mouse cursor to the position where you want to create your next vertex. Click and release your left mouse button to create your next vertex. Repeat until your path is finished.
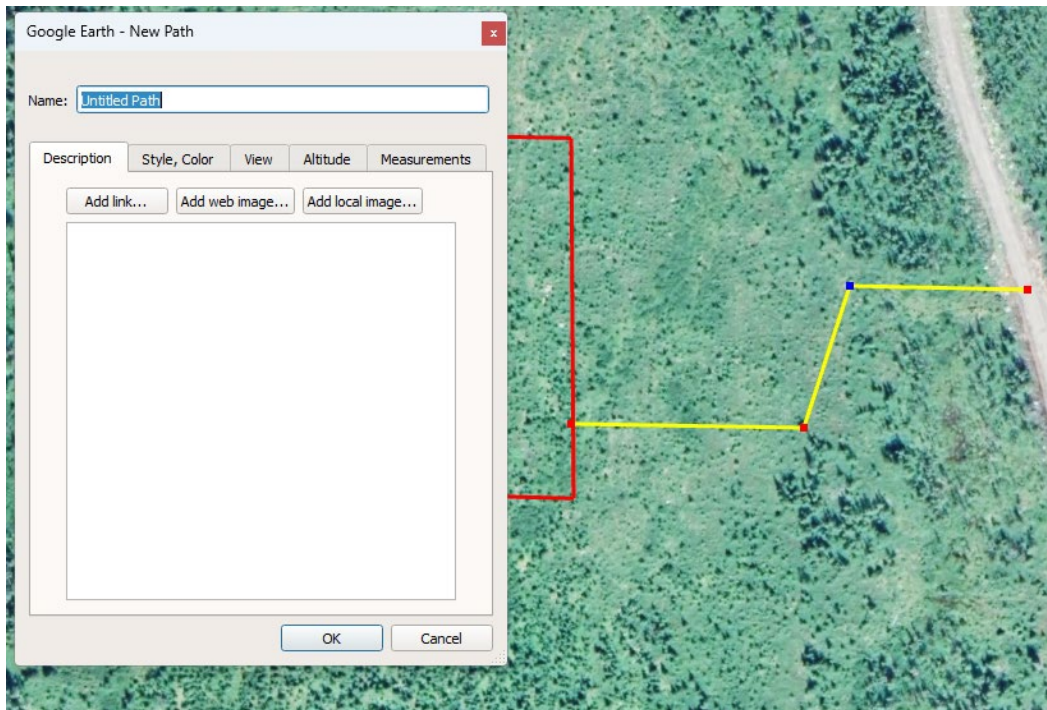
4. You can move a vertex you have already placed to adjust the shape of your path. While hovering your mouse cursor over the vertex, press and hold the left mouse button, then drag the cursor to move the vertex. Release the left mouse button to stop moving the vertex.

5. When you are finished, click the **Name** field on the **New Path** window and type a name for your path. Then click **OK** to stop editing. Your new path will be created in the **Temporary Places** folder.

- You can continue editing a previously created path by right clicking the path on the map or in **Places** and clicking **Properties** to open the **Edit Path** window. Make your changes, then save your changes by clicking **OK** or undo your changes by clicking **Cancel.**
- You can also use the right-click dropdown menu to **Delete**, **Rename**, or export (**Save Place As…**)
- You can change the appearance of your path by selecting the **Style, Color** tab in the **New Path** or **Edit Path** window. You can change the thickness and colour of the line so that it is easier to see.

Using the Ruler Tool

1. Left click the **Show Ruler** tool

2. Set the measurement unit to **Meters.**

3. Position your mouse cursor where you want to start your measurement.

4. Click and release the left mouse button, then move your mouse cursor to start measuring.

5. Click and release the left mouse button again to 'freeze' the measurement.

6. You can click **Save** to save a ruler measurement to your Places.

7. You can click **Clear** to reset the ruler measurement and start again.

8. When you are finished making measurements close the Ruler window

In addition to the default **Line** ruler, the **Circle** ruler is especially useful.