Creating a Facility Boundary File Using Google Earth

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This document provides guidance for reporters under the Technology Innovation and Emissions Reduction Regulation (TIERR) and the Specified Gas Reporting Regulation (SGRR). This document was developed in collaboration with Environment and Climate Change Canada (ECCC) for the Output-Based Pricing System (OBPS).

**Steps to create a file showing facility boundaries**

There are multiple software and applications that will allow you to create a boundary file for your facility. For submissions under the TIERR and SGRR, only .KMZ or .KML file formats, which are compatible with Google Earth, will be accepted. The maximum size for uploading is 10 MB.

Below are steps to generate a boundary file using Google Earth for a single facility or multiple sites that are considered part of one facility:
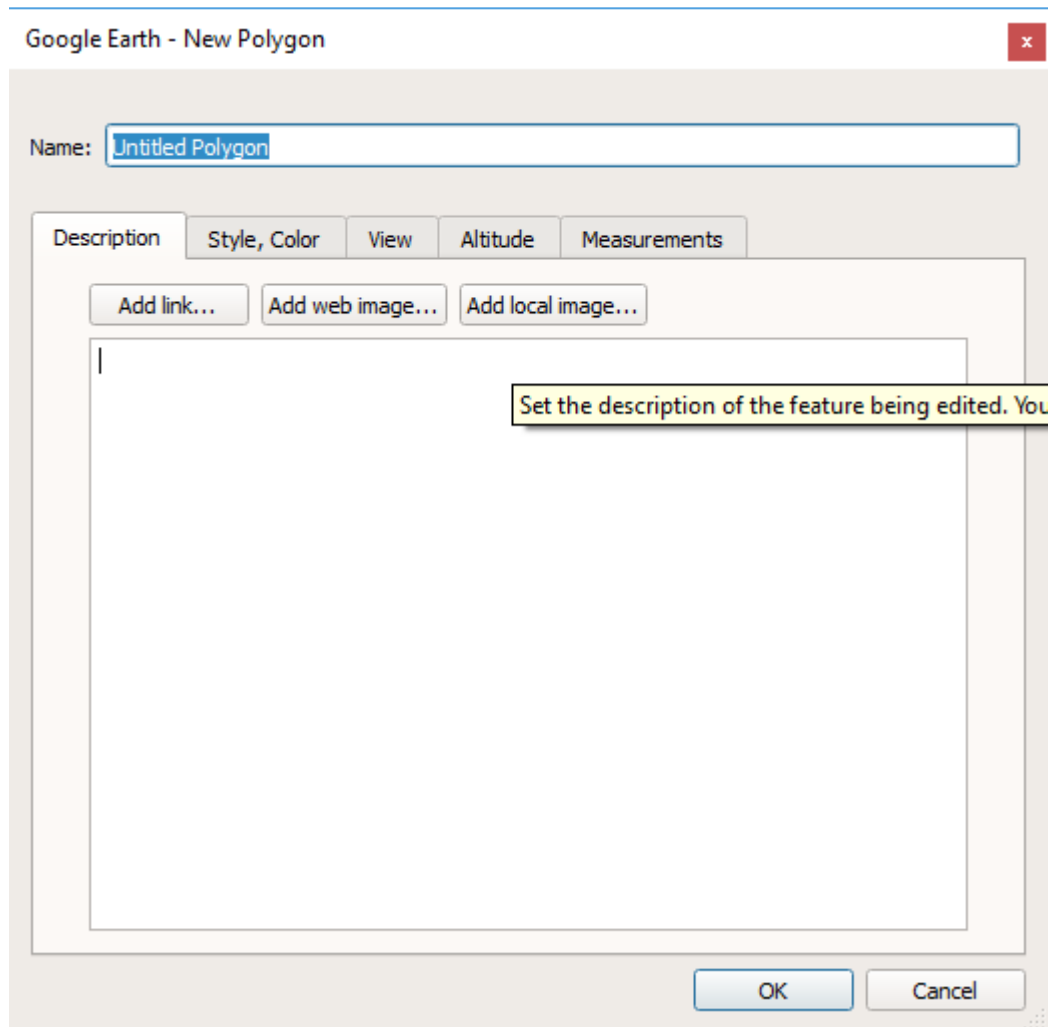
1. If needed, download and install the free Google Earth software on your computer (Link).

2. Open the application and locate your facility by searching for the address in the search box. (e.g. Rogers Center).
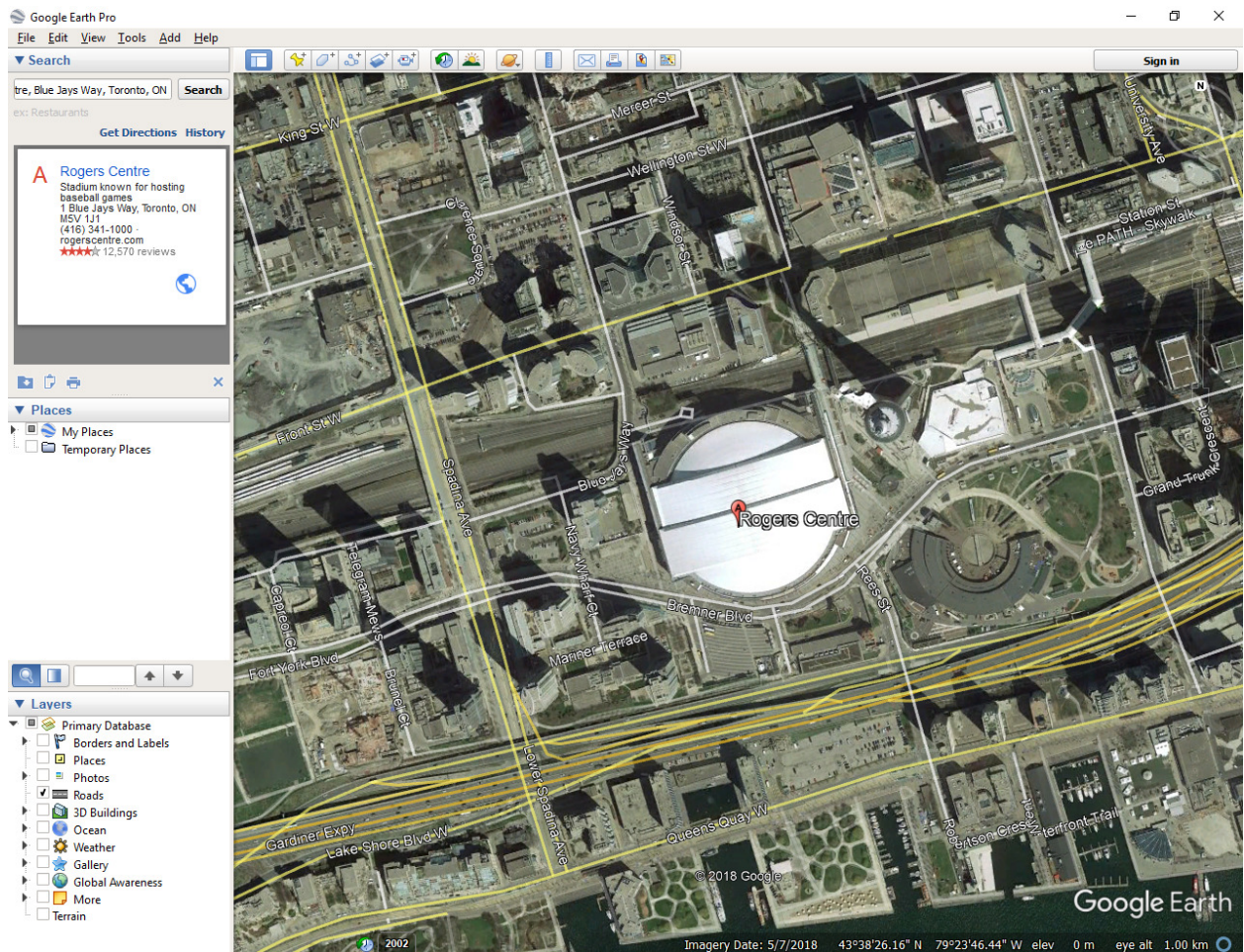
3. Select the "Add Polygon" tool from the top menu.
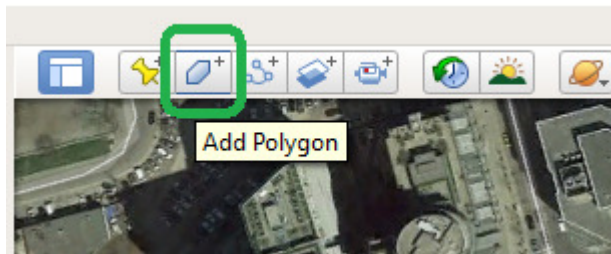
4. The "New Polygon" dialog box appears.

5. Enter the name of the facility in the "Name" field. You can also enter a description under the description tab if needed. For example, you can enter details about the length or width of pipelines, etc. Explore the other tabs like style, colour, view, measurements if any other details need to be changed or added. **Do not press OK yet.**

6. Using the mouse, left-click to insert a point. Remember, a polygon is formed by 'dropping' a series of points around an area. Drop points around the facility on the map to set points that establish the perimeter. Multiple clicks may be required or clicking and dragging may help with curves or oddly shaped boundaries. If you make a mistake, right-click to undo the last point. The more points that are dropped, the easier it is to capture the exact shape of the area you are trying to capture with the polygon. Ensure your points eventually meet again to form a polygon. When you finish, the facility will be covered by a white polygon. Ensure that the area you are defining aligns with the facility definition under the Technology Innovation and Emissions Reduction Regulation (TIERR) and the Specified Gas Reporting Regulation (SGRR). Adjust the points if required by clicking and re-adjusting the dots.

To the extent possible, exclude all emission sources that do not meet the facility definition under TIERR and SGRR.

With the exception of pipeline facilities (described further below), boundaries formed with pins, paths, or image overlays instead of polygons will not be accepted.
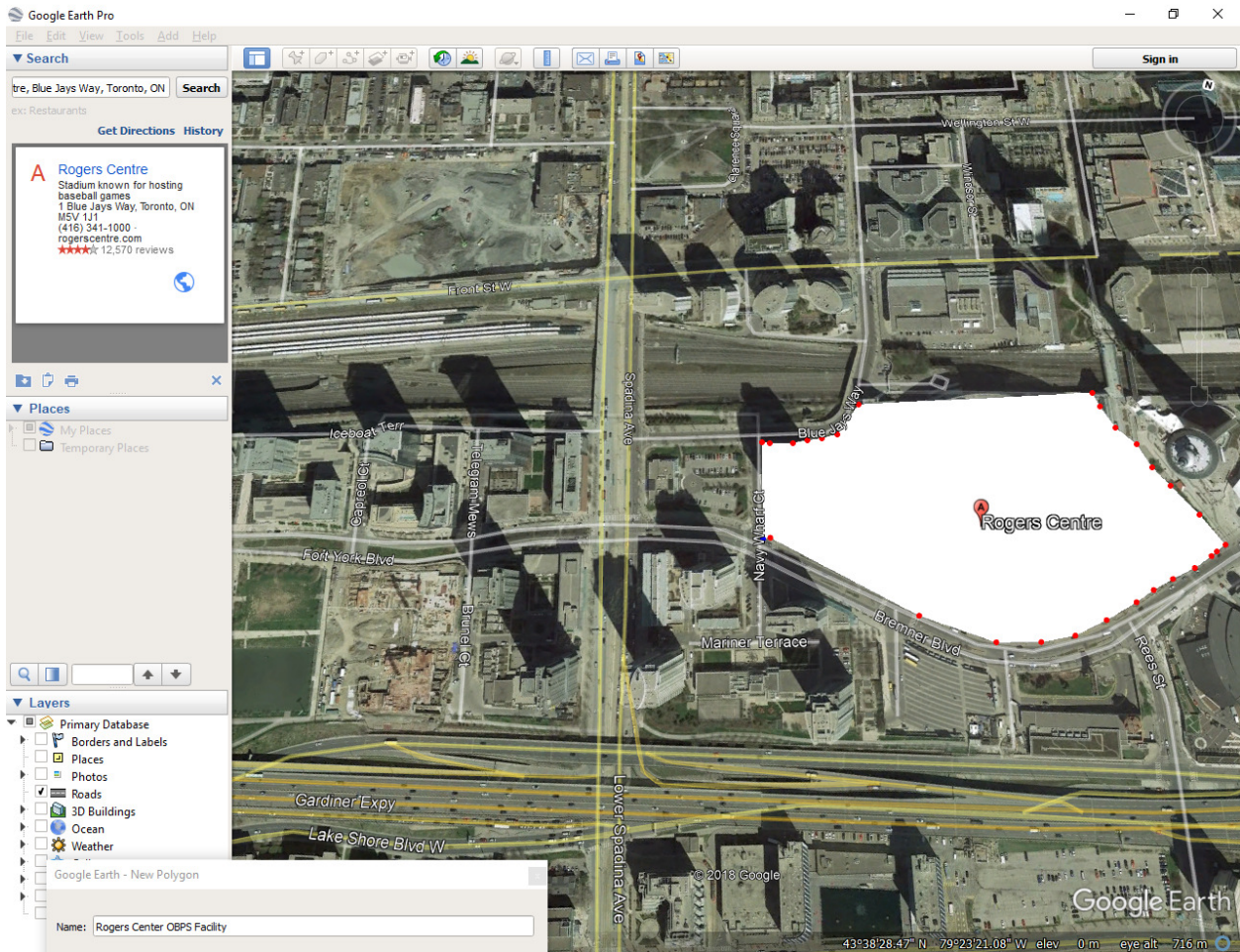
7. On the New Polygon dialog box, select the **Style, Color** tab. Here you can apply formatting to the polygon, which will result in a shape that is easier to see. Suggested formatting:

   a. Line colour = Red
   b. Width: 4
   c. Area opacity = 50%

8. **Click OK** to finish creating the polygon.
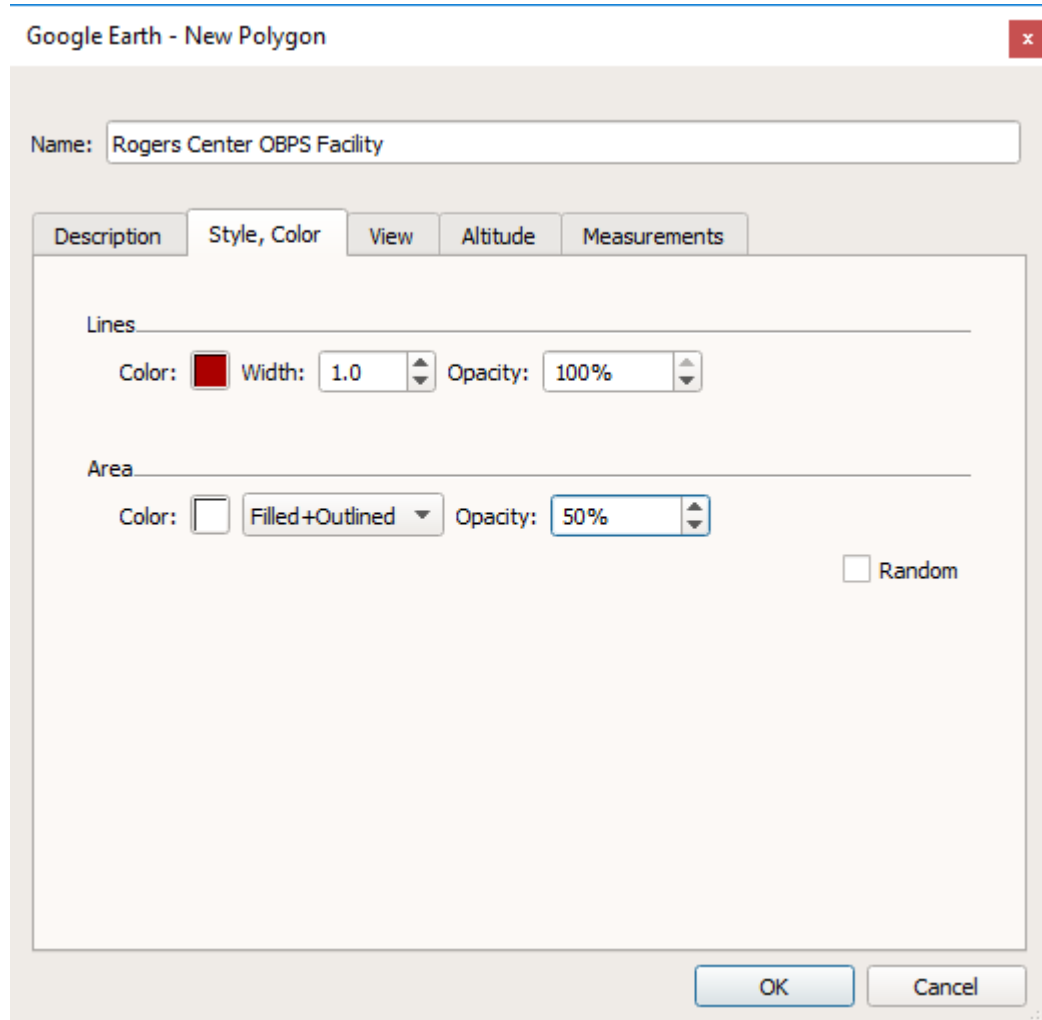
9. If your facility includes one site, the formatting changes are now complete and the new polygon is listed on the left menu under "Places". Repeat the steps above to create multiple polygons for all sites that are considered part of your facility. Skip steps 10-12 if you don't have multiple sites for your facility.
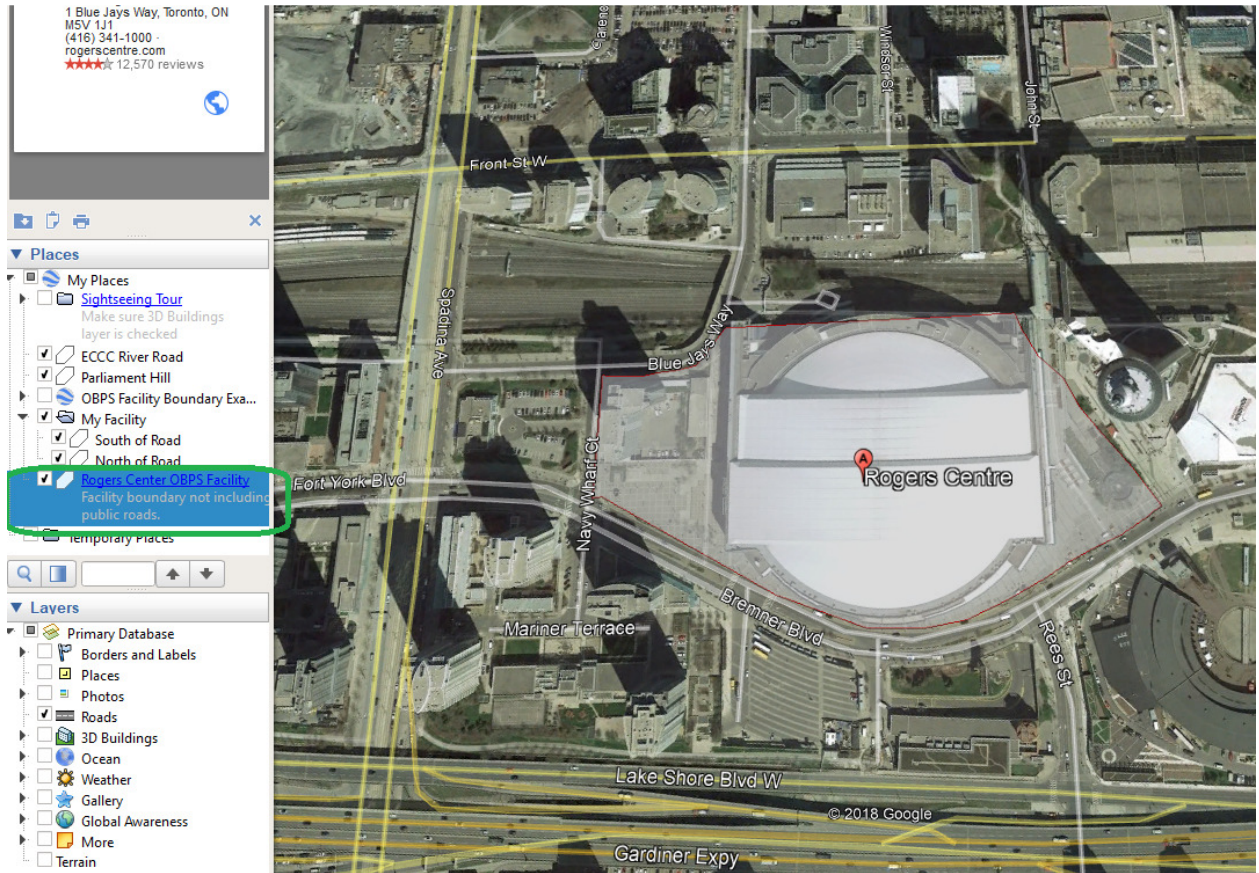

10. On the left menu, under "Places", right-click and select Add > Folder.

11. Name the new folder with the facility name.

12. Move the individual polygons you have created for each site under the folder to group the shapes together for your facility as shown below.
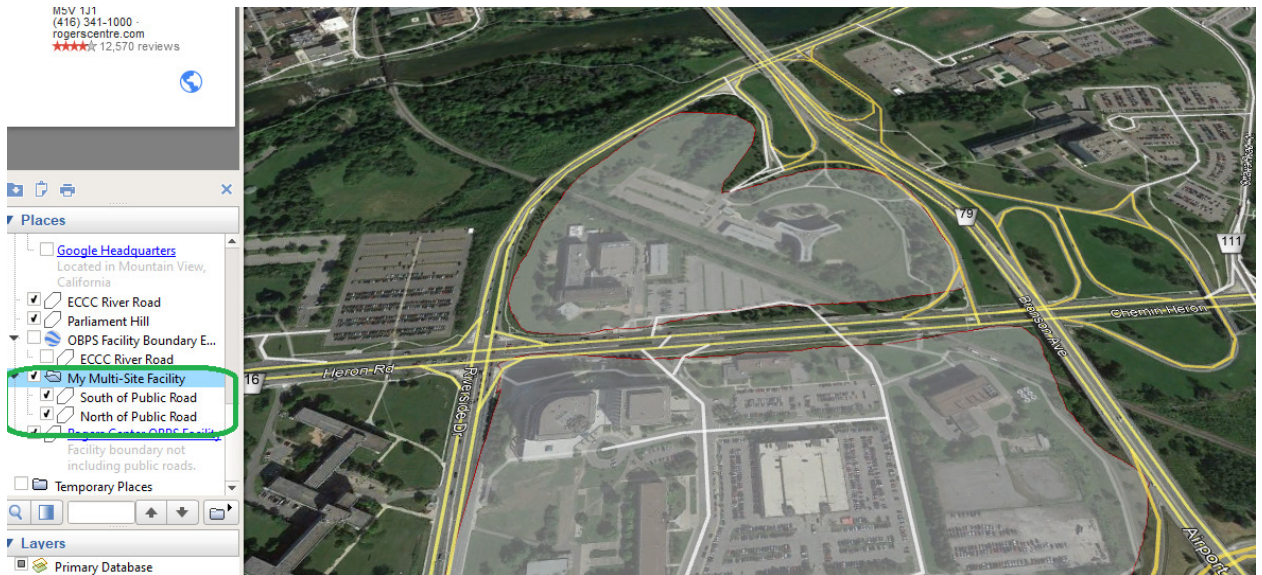
13. Make sure all public roads in and around your sites and facility are identified clearly on the map. You can do this by clicking on the appropriate box under the Primary Database menu on the left hand side.

14. Right-click on the name of the polygon that was created and either click on "properties" to make any changes to the polygon(s) before saving it or if satisfied select "Save place as". Set the title you want for the file name, and select to save as a .KMZ or a .KML. (Default is KMZ).
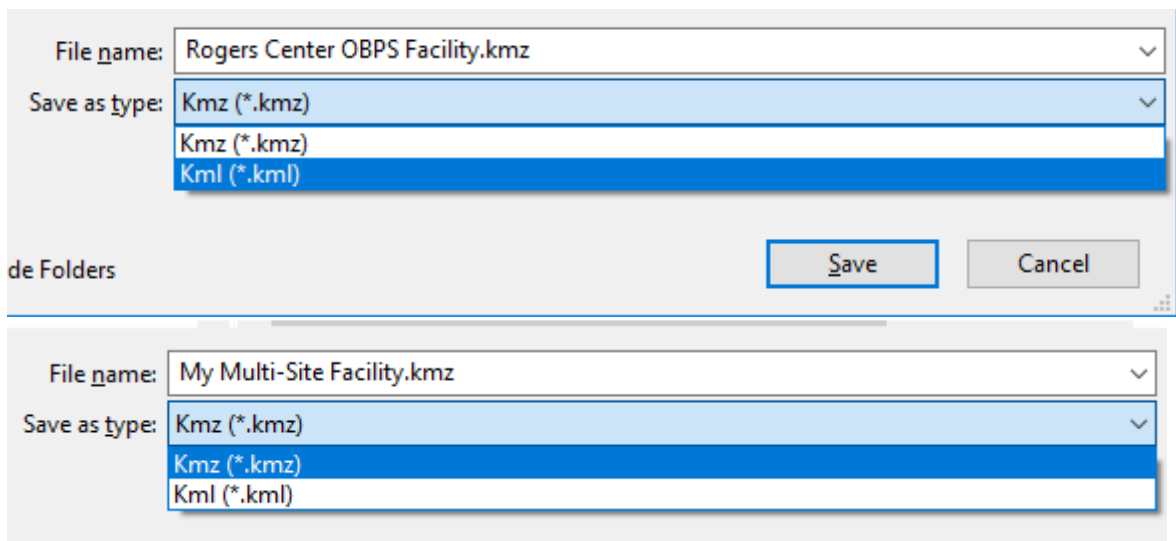
15. Open the saved file to confirm if the facility boundary file was created properly.

16. Attach the file to your TIERR or SGRR submission, as required.

Natural Gas Transmission Pipeline Systems

If the facility is a Natural Gas Transmission Pipeline System, the facility boundary file must include the portion of a natural gas transmission pipeline system within a province, used to transmit processed natural gas, including compressor stations, storage installations and compressors, which are defined as being part of a facility. Pipelines, installations or equipment that are used in the local distribution of natural gas are not included in the facility boundary.

A suggested approach is to add the pipeline as a path (line) using coordinates which trace the centerline of the pipeline. Provide information about the width of the site on each side of the centerline of the pipeline (ex. 5 m right of way) in the description/metadata for your file. The equipment that may fall outside this area (ex. compressor stations, storage installations and compressors) can be described as individual polygons and grouped with the pipeline path.

To do this using Google Earth, draw the pipeline as a path (line). Add information about the width of the site on each side of the pipeline path in the description for this element. Add the additional compressor stations, storage installations and compressors as polygons as needed. Group all into a folder and save as a single .KMZ or .KML as described above.
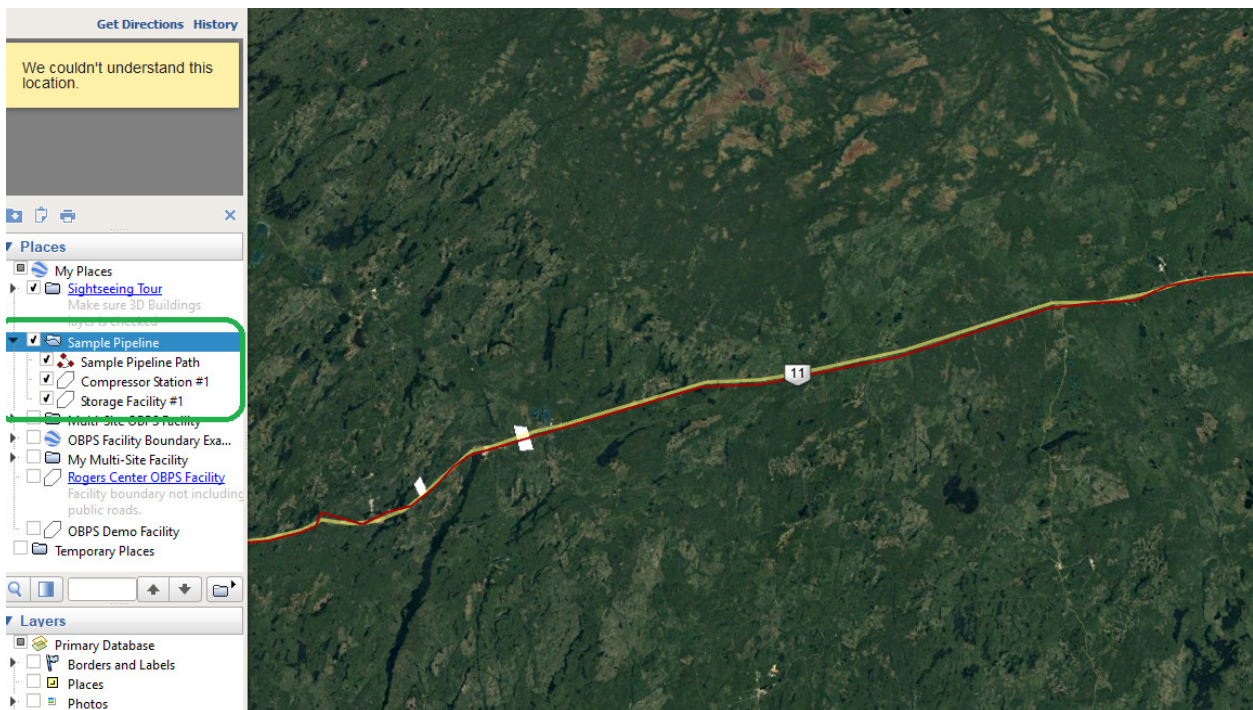
Converting Shapefile Extensions to .KMZ

Alberta Environment and Parks will not be accepting shapefiles for submission as facility boundary files; however, if you have shapefiles for your facility, the files can be converted to .KMZ file format using Google Earth. To convert the shapefiles, open Google Earth and take the following steps:

1. Click File.

2. Click Open.

3. With the dialog box, navigate to the folder containing your shapefile.

4. Ensure that you select All Files (*.*) from the drop down list for file extensions in the bottom right-hand corner of the dialog box.

5. Select all the files corresponding to the shapefile.

6. Click open and Google Earth will import and convert the shapefile to .KMZ.

7. Review boundaries for consistency with the requirements of this guidance document.

8. When you are satisfied with the boundaries, click save as and save a copy with .KMZ extension.