

## Surface Volume Comparisons

Workflow for reporting volume differences between two surfaces using multiple inclusion areas. The assumption for this guide is that two surfaces were previously developed (existing and design) along with several 2D closed polylines to be used as inclusion/exclusion areas (ie. representing completed construction work and remaining construction work on a project). These inclusion areas should be labeled with area (SF and/or AC). The size of the inclusion areas is the only way to determine which volumes apply to which areas in the volume report. See Figure 1 depicting the areas with acreage labels.

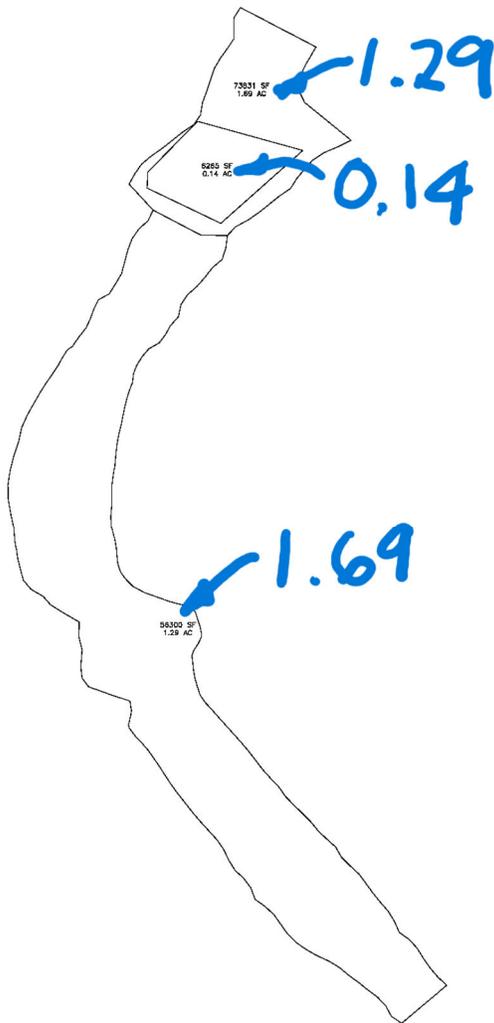


Figure 1 Inclusion Areas w/Acreage labels

## Instructions:

1. Navigate to *Surface/Volumes by Triangulation/Two Triangulation Surface Volume*, as shown in Figure 2.

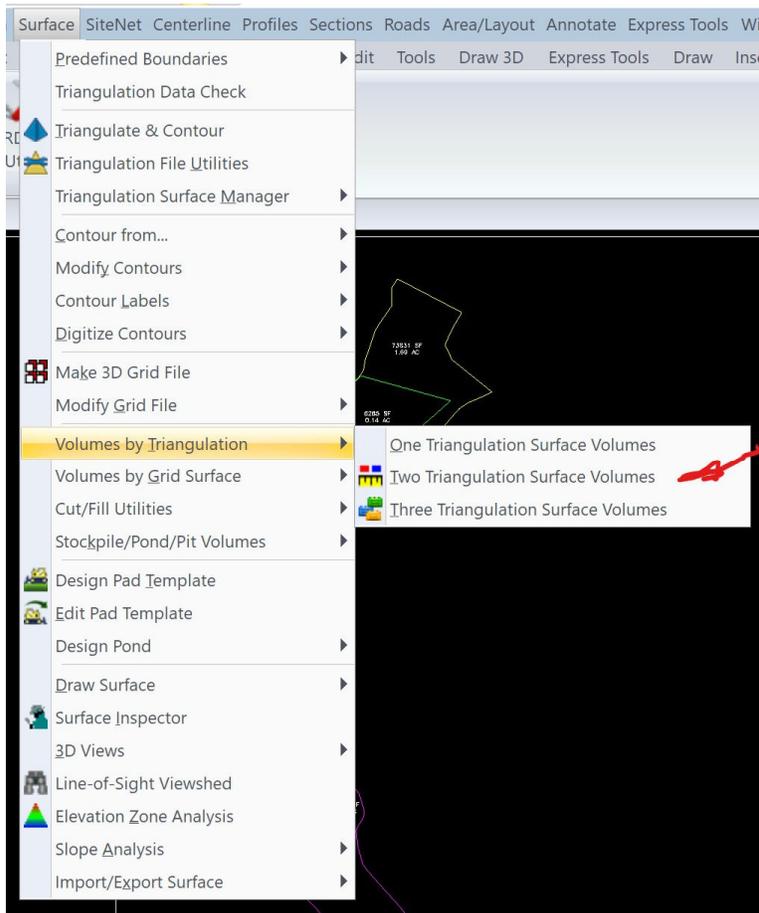


Figure 2 Menu Selection

2. Select the Existing Surface TIN, click Open
3. Select the Final (Design) Surface TIN, click Open
4. Select all inclusions areas, Enter
5. Select all exclusion areas (if applicable), Enter
6. The Volume Report Options dialog box appears as shown in Figure 3.

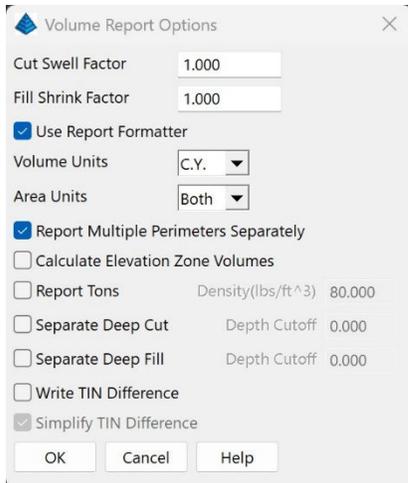


Figure 3 Volume Report Options

Select *Report Multiple Perimeters Separately* and click *OK*

- When the Report Formatter appears, ensure that the Total Area (SF and/or AC) appears at the top to make it easier to see which volume reports apply to which areas. See Figure 4.

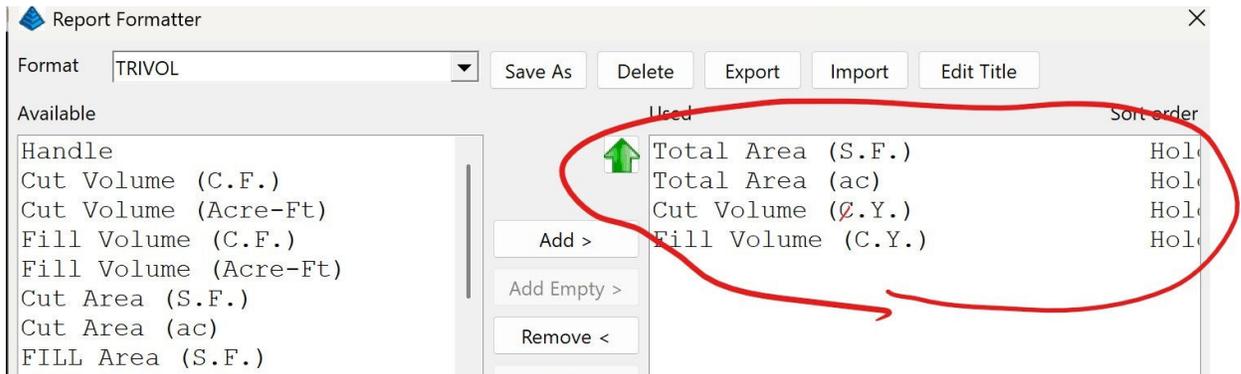


Figure 4 Report Formatter

- Click *Display* (or use any reporting format desired)

9. Figure 5 shows a display of each inclusion area (based on the total area of each polyline).

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◆ Edit: C:\Users\dange\AppData\Roaming\Carlson Software\Carlson2025\CAD12_1_X64\USER\scadrprt.tmp
File Edit Settings

Volumes by Triangulation (Prisms) Thu, Jul 17 2025 11:02:08

Existing Surface: C:\Users\dange\OneDrive - geosymmetrics.com\Documents\1-GSM\
Final Surface: C:\Users\dange\OneDrive - geosymmetrics.com\Documents\1-GSM\01-
Total Area (S.F.): 6264.8, Total Area (ac): 0.14, Cut Volume (C.Y.): 0.0
Fill Volume (C.Y.)
2227.7
Total Area (S.F.): 6264.8, Total Area (ac): 0.14
Fill Volume (C.Y.)
Total Area (S.F.): 6264.8
Fill Volume (C.Y.)
Total Area (S.F.): 73831.2, Total Area (ac): 1.69, Cut Volume (C.Y.): 4966.4
Fill Volume (C.Y.)
4865.0
Total Area (S.F.): 73831.2, Total Area (ac): 1.69
Fill Volume (C.Y.)
Total Area (S.F.): 73831.2
Fill Volume (C.Y.)
Total Area (S.F.): 56299.9, Total Area (ac): 1.29, Cut Volume (C.Y.): 4813.5
Fill Volume (C.Y.)
1704.8
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Figure 5 Display Volume Report