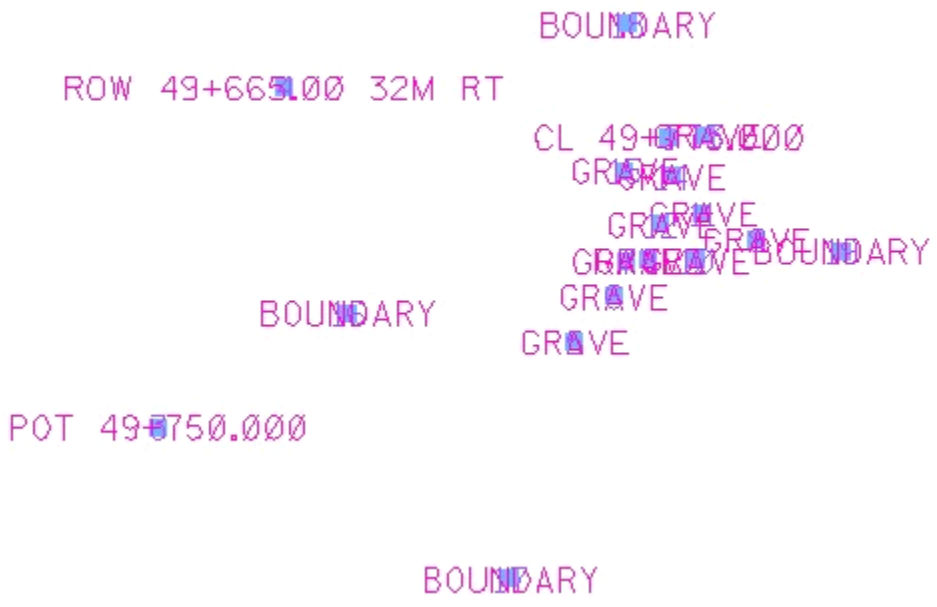
CUSTOM POINT TOOLS (1-1-2012)

LOAD POINTS (ASCII XYZ)

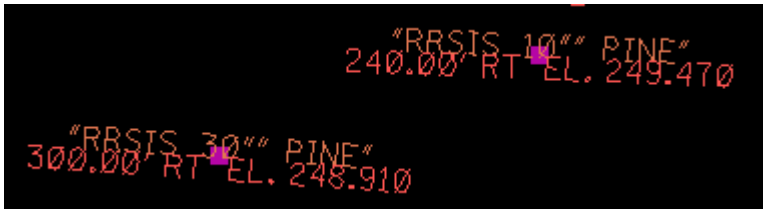
This file looks at a comma delimited text file with the format (PNT #, Y, X, Z, DESC.) and places points, point # text, and Description Text in a DGN file.

1,	50000.0000000,	20000.0000000,	0.0000000,CL 49+775.000
2,	50012.2631774,	20021.5102992,	0.0000000,PC 49+799.750
3,	49987.6152588,	19978.1602234,	0.0000000,POT 49+750.000
4,	50022.8078484,	19975.4958863,	0.0000000,ROW 49+665.00 32M RT
5,	49991.2467664,	19995.9859871,	0.0000000,GRAVE
6,	49993.1925233,	19997.6522317,	0.0000000,GRAVE
7,	49994.6932857,	19998.1989575,	0.0000000,GRAVE
8,	49994.7285332,	19999.1547566,	0.0000000,GRAVE
9,	49995.6205240,	20003.7725991,	0.0000000,GRAVE
10,	49994.7345528,	20001.1843131,	0.0000000,GRAVE
11,	49996.7220557,	20001.4718106,	0.0000000,GRAVE
12,	49996.2663783,	19999.6882836,	0.0000000,GRAVE
13,	50000.0718949,	20001.6352026,	0.0000000,GRAVE
14,	49998.3321167,	20000.1300205,	0.0000000,GRAVE
15,	49998.5640370,	19998.1481560,	0.0000000,GRAVE
16,	49992.4909105,	19986.2960415,	0.0000000,BOUNDARY
17,	49981.1169596,	19993.2459152,	0.0000000,BOUNDARY
18,	50004.8325963,	19998.2584113,	0.0000000,BOUNDARY
19,	49995.1249857,	20007.3992782,	0.0000000,BOUNDARY

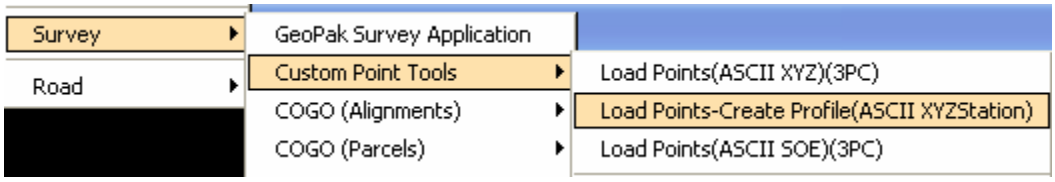


LOAD POINTS (ASCII SOE)

For cases when you want to load ASCII points in SOE format to a DGN file. Can be Comma or Space delimted
Example Format:
190+10,300,248.91,"RRSIS 30"" PINE"
191+60,240,249.47,"RRSIS 10"" PINE"



LOAD POINTS - CREATE PROFILE (ASCII XYZ)



Reads ASCII file as shown below:
22,1769444.67579000,761582.76669000,373.579,16+50
23,1769449.36023000,761632.55346000,372.074,17+00
24,1769453.93483000,761682.36422000,371.341,17+50
25,1769458.55554000,761732.14937000,371.380,18+00
26,1769463.12565000,761781.90749000,371.664,18+50
27,1769471.74565000,761831.09029000,371.845,19+00
28,1769488.50467000,761878.21581000,371.930,19+50
29,1769510.94932000,761922.75027000,370.984,20+00

And creates a profile in COGO along with the commands in an Input file that can be loaded into COGO as shown below: (If Profile not stored initially, LOAD profile name and then type READ in COGO).
STORE POINT 22 N 1769444.6757900 E 761582.7666900 STA 16+50 EL 373.5790
STORE POINT 23 N 1769449.3602300 E 761632.5534600 STA 17+00 EL 372.0740
STORE POINT 24 N 1769453.9348300 E 761682.3642200 STA 17+50 EL 371.3410
STORE POINT 25 N 1769458.5555400 E 761732.1493700 STA 18+00 EL 371.3800
STORE POINT 26 N 1769463.1256500 E 761781.9074900 STA 18+50 EL 371.6640
STORE POINT 27 N 1769471.7456500 E 761831.0902900 STA 19+00 EL 371.8450
STORE POINT 28 N 1769488.5046700 E 761878.2158100 STA 19+50 EL 371.9300
STORE POINT 29 N 1769510.9493200 E 761922.7502700 STA 20+00 EL 370.9840
STO PRO xptest 22 23 24 25 26 27 28 29 30

Create SOE (ASCII File From 3d Points/Cells)

This 3PC application creates an ASCII SOE file from Points/Cells selected in a 3d DGN file. You have to have a chain stored which the Station/Offset will be extracted from, you then use Element Selection to choose the points, and then you run the 3PC file thru D&C Manager. An example of the SOE file is shown below. Note that any cells can be selected.

25+00.00,0.1,406.02
24+99.95,-8.2,405.71
24+99.82,-10.7,405.12
24+99.82,-10.7,405.12
24+99.82,-19.5,406.93
25+00.04,7.8,405.74
24+99.78,12.6,404.85
24+99.82,17.5,406.75
24+99.82,25.5,407.42

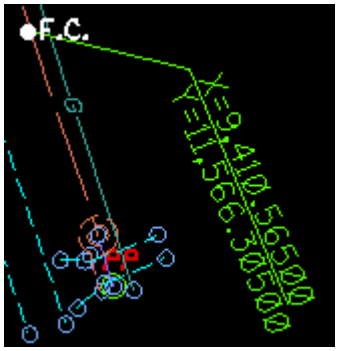
Create XYZ

Will create an ASCII XYZ file from 2d or 3d Elements. YXZ, XYZ, YX,XY output options. This is intended to be used for cells and points. (Element Select points or cells that you wish to export prior to running.)

1,3146561.268,2545861.727,200.000
2,3146668.147,2545876.995,201.000
3,3146607.074,2545754.848,202.000

Label XYZ (Label selected cells with XYZ coordinates)

Labels XY(Z) of selected Microstation Cells & Points. Label Angles can be at AA=0, specified by user, or parallel to a chain.



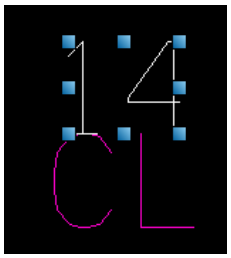
Send Points to COGO

This will store selected points in COGO. You will be prompted for a Job Number. You can select the following items to be stored.

a) 1Points or Cells – Select cells or points. You will be prompted to enter a beginning point number. Make sure the points are not already stored in the GPK.

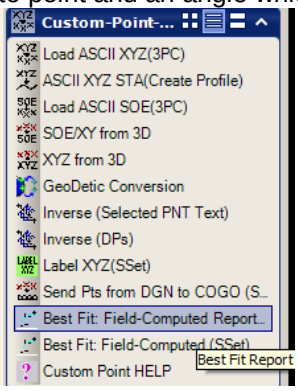
b) 3Text (Point Description) but really any text. This allows you to select all text but only store points for the text you specify when prompted. You will be prompted to enter a beginning point number. Make sure the points are not already stored in the GPK.

c) 2Text (Pnt Number) – Select Text that represents point numbers. The point numbers stored will be the selected text. Make sure the points are not already stored in the GPK. To select the point numbers easily, you can invoke Microstation's Edit -> Find/Replace application, search for CL which will zoom in on each CL one at a time which will then allow you to Select each point number text with the element selection tool.



BEST FIT

This tool compares selected field/computed points, associates points 10' of each other, and then provides a solution that best fits the computed points to the field points. It basically gives you a move from point and a move to point and an angle which to rotate the computed elements about.



1. Select all points (field & computed).
2. Choose "Best Fit: Field-Computed Report"

This will create an ASCII file showing the difference in points that are located within 10' of each other.

```
# x-Field y-Field x-Computed y-Computed x-Diff y-Diff
1 2437451.881 1632596.589 2437451.558 1632596.783 0.323 -0.194
2 2437860.281 1631914.980 2437859.162 1631914.242 1.119 0.738
3 2437865.527 1631714.873 2437865.789 1631714.352 -0.262 0.521
4 2437645.157 1631531.634 2437645.745 1631530.239 -0.588 1.395
5 2437538.528 1631175.037 2437538.606 1631174.365 -0.078 0.672
6 2437539.025 1630674.041 2437538.924 1630673.740 0.101 0.301
7 2437239.129 1630658.598 2437239.308 1630658.568 -0.179 0.030
8 2437189.366 1631156.854 2437189.054 1631156.664 0.312 0.190
9 2437024.479 1631548.855 2437024.010 1631548.819 0.469 0.036
10 2436864.681 1631680.529 2436863.040 1631681.107 1.641 -0.578
11 2436856.715 1631880.430 2436856.413 1631880.998 0.302 -0.568
12 2436990.235 1632021.542 2436990.000 1632022.706 0.235 -1.164
13 2437140.575 1632604.841 2437140.690 1632606.073 -0.115 -1.232
Total X DIFF = 3.279 Total Y DIFF = 0.147
```

3. Choose "Best Fit: Field-Computed"

This will compare points and draw two lines, one to move from & one to move to. It will also calculate & set the Microstation angle you need to rotate.

4. Move & Rotate the elements as directed by the prompts at the end of the step above.
5. Re-run "Best Fit: Field-Computed Report" & you should get a Total X & Total Y difference of 0.

Note: If you see some big differences in a few points in step 6, you may want to run again and not select these points.

```
# x-Field y-Field x-Computed y-Computed x-Diff y-Diff
1 1008272.106 1141694.110 1008272.704 1141693.264 -0.598 0.846
2 1008454.534 1142696.616 1008455.349 1142697.867 -0.815 -1.251
3 1008332.764 1143548.120 1008332.399 1143548.392 0.365 -0.272
4 1008356.357 1142953.169 1008356.499 1142953.841 -0.142 -0.672
5 1008457.405 1142956.340 1008456.417 1142957.891 0.988 -1.551
6 1008457.138 1142956.365 1008456.417 1142957.891 0.721 -1.526
7 1008356.138 1142953.212 1008356.499 1142953.841 -0.361 -0.629
8 1007273.094 1139689.532 1007272.393 1139687.417 0.701 2.116
9 1007371.571 1139706.466 1007370.903 1139704.617 0.668 1.849
10 1007302.661 1139519.009 1007302.083 1139517.379 0.578 1.630
11 1008353.364 1142702.198 1008355.468 1142702.738 -2.104 -0.540
Total X DIFF = -0.000 Total Y DIFF = 0.000
```