ROUGH GUIDES

Processing a Building Elevation in LSS

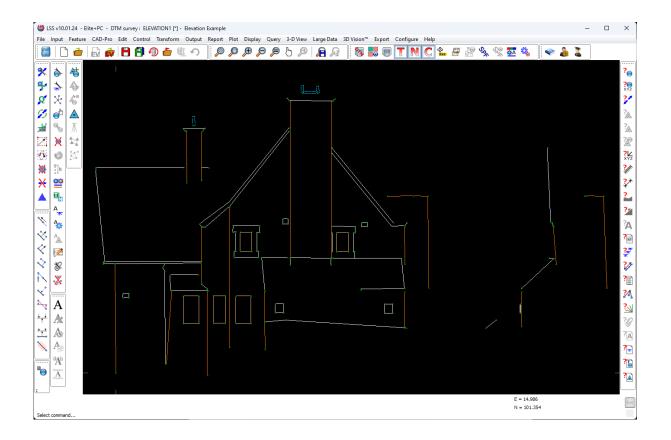


Copyright © McCarthy Taylor Systems Ltd 2024 All Rights Reserved

Introduction

This Rough Guide explains the process of how to create a building elevation using an LSS loadfile.

In this guide we are going to produce this building elevation.



This is an example of an LSS Load File.

🥝 Programmer's Notepad - [ELE1.001]	– 🗆 X
	_ 8 ×
	- 0 *
🗋 📴 🔚 🖫 🖆 🥥 📽 🐇 🖺 🖺 Plain Text 🛛 🗳 👘 🗡 👬 Find 🔻	
ELE1.001	4 Þ ×
h, DMS	
1, METRES	
1, VASD	
0, Set-on station E1, Instrument height 1.635	
3, E1,,, 1.635	
5, 1, 1153423, 0944915, 19.543, 0.000, -ST	
5, 2, 1153423, 0944914, 19.543, 0.000,	
5, 3, 1520858, 0891147, 18.217, 0.000	
5, 2, 1153423, 0944914, 19,543, 0.000, -EL	
5, 4, 1153611, 0944916, 19,552, 0.000, .B	
5, 5, 1153356, 0820205, 19.732, 0.000, B 5, 6, 1213514, 0934331, 19.129, 0.000, .B	
5, 7, 1213310, 0845237, 18.442, 0.000, B	
5, 8, 1255743, 0952840, 18.177, 0.000, .B	
5, 9, 1255739, 0845253, 18.168, 0.000, B	
5, 10, 1252518, 0835547, 18.427, 0.000, .B	
5, 11, 1252339, 0770940, 18.815, 0.000, B	
5, 12, 1281438, 0734805, 17.864, 0.000, .B	
5, 13, 1281540, 0920328, 17.181, 0.000, B	
5, 14, 1322635, 0923027, 15.757, 0.000, .B	
5, 15, 1322341, 0840632, 15.848, 0.000, B	
5, 16, 1520918, 0842927, 16.678, 0.000, .B	
5, 17, 1520847, 0891401, 16.606, 0.000, B	
5, 18, 1511423, 0812715, 18.270, 0.000, .B 5, 19, 1511716, 0764554, 18.342, 0.000, .B	
5, 29, 1511725, 0764600, 18.342, 0.000, B	
5, 21, 1511426, 0812708, 18.167, 0.000, B	
5, 22, 1415307, 0800424, 17.308, 0.000, .B	
5, 23, 1415734, 0612820, 19.240, 0.000, B	
5, 24, 1362103, 0611225, 19.128, 0.000, .B	
5, 25, 1361949, 0795859, 17.044, 0.000, B	
5, 26, 1162826, 0855928, 19.493, 0.000, .AB	
5, 27, 1170737, 0852912, 19.434, 0.000, -RW	
■ ₽ ¤ → ¶ <i>></i>	
[1:1]: 149 ANSI CR+LF INS Ready	

Immediately after the setup you will see the '-ST' control observation. Then following it you'll see two observations. In this file they represent two points on the ground at each end of the building façade. These two observations needn't be the baseline points, but LSS does require at least one observation to be taken before the elevation begins in order that the LSS screen has something to scale itself to and therefore show the elevation points.

If you are loading an elevation into an existing LSS survey then you can go straight into the elevation without any additional observations.

The elevation starts with the reserved code '-EL'. Every point from here until either the end of the file or the next instrument setup will be treated as elevation data.

Within the elevation dataset you can use the same feature codes you would normally use, though the only reserved code you are able to use is '-RW' which allows you to pick up the diagonal corners of a rectangle and LSS will draw the remaining two points automatically.

Create the new survey and load the elevation load file.

put Load		2
Load Report Settings		
O Device :	HPBFFC45 (HP PageWide Pro 477dw MF on Ne02:	Select
◯ Adobe Acrobat :	ELE1.PDF :A4:PT:Close	Configure
O File :	ELE1_nnn.TXT	
Overwrite report file	Lines per page : 67 (File) Bold text	t i
Feature conversion - Conversion file : Do not check leger	nd for fast we codes	Browse Edit
Load file	Options Report pauses on Include Edit Image: Crossing links Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links Image: Crossing links	Use Default Save as Default
	Configure Survey Parameters Back Next Cancel Help	
put Load		
Elevation indication idd 0032 : 5, 26, 1162824 Warning : Field 7 : Feat 0044 : 5, 38, 141622 Warning : Field 7 : Feat 0076 : 5, 70, 132242 Warning : Field 7 : Feat 0124 : 5, 118, 12521 Warning : Field 7 : Feat 0127 : 5, 121, 120582 Warning : Field 7 : Feat 0141 : 5, 135, 13223	. 0944514, 19.543, 0.000, -EL nntified. 5, 0855928, 19.493, 0.000, .AB sure does not exist - legend entry created. 3, 0761542, 17.744, 0.000, .SW sure does not exist - legend entry created. 7, 083551, 15.787, 0.000, .WF sure does not exist - legend entry created. 13, 0612631, 18.551, 0.000, .ZA sure does not exist - legend entry created. 14, 0813636, 18.778, 0.000, .DP sure does not exist - legend entry created. 44, 0813636, 15.778, 0.000, .SA sure does not exist - legend entry created. 44, 081861, 15.778, 0.000, .WA sure does not exist - legend entry created. 34, 0883112, 15.778, 0.000, .WA	

At the end of the data processing you will hit 'Continue'

Pause

Continue

Back

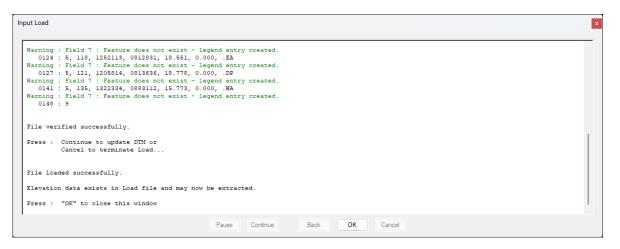
ОК

Cancel

File verified successfully

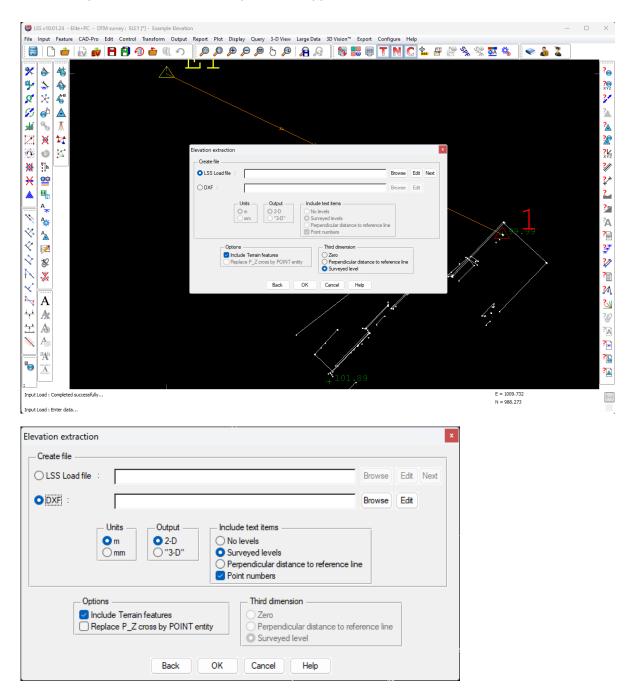
Press :

Continue to update DTM or Cancel to terminate Load..



The stations and two surveyed observations will appear in the background and the LSS load report window will ask if you want to 'extract' the elevation data. Hitting 'OK' will proceed to the next screen.

As soon as you hit 'OK' the elevation points will appear in white behind the next menu.



Now you choose whether to 'process' the elevation inside LSS or send the data straight out to a DXF file. We will choose the LSS route.

Type in a new survey name for the elevation.

Elevation extraction			x		
Create file					
LSS Load file : ELEVATION1	Browse	Edit	Next		
O DXF :	Browse	Edit			
Units Output Include text items • m m m	e				
Options ✓ Include Terrain features ☐ Replace P_Z cross by POINT entity Ø Surveyed level					
Back OK Cancel Help					

The options on this screen are as follows...

- Include Terrain features If you have picked up any terrain points as part of the main topographical survey which you want to appear on the elevation. Such items may be steps, walls etc.
- **Replace P_Z cross with POINT entity** This option is only applicable to DXFs, where the levels cross can be a POINT entity instead of a block.

Third dimension

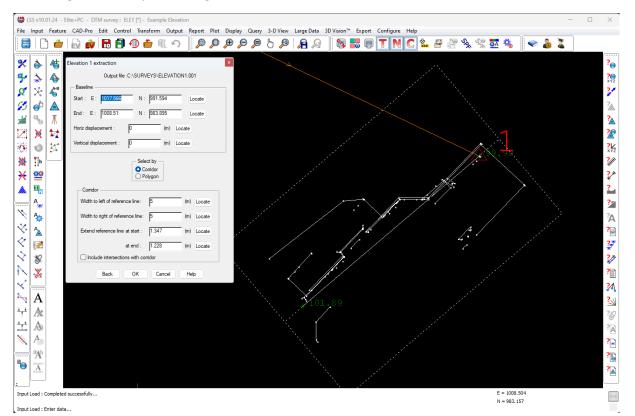
Imagine, when processed, the elevation will be the building laid on its back. The X axis will run along the front of the façade and the Y axis will run up the façade. This leaves the Z axis available for a choice of uses.

- Zero All points will have a zero Z value
- **Perpendicular distance to basline** When the elevation is defined you will be asked to choose the baseline onto which all points will effectively be 'snapped'. If you wish to record the distance that each point is in front of or behind this baseline, then choose this option. This would be useful if repeating an elevation of an unstable building and you wanted to monitor how parts of the wall were moving relative to a fixed baseline.
- Surveyed level Useful for showing the height of eaves or chimneys above the survey datum.

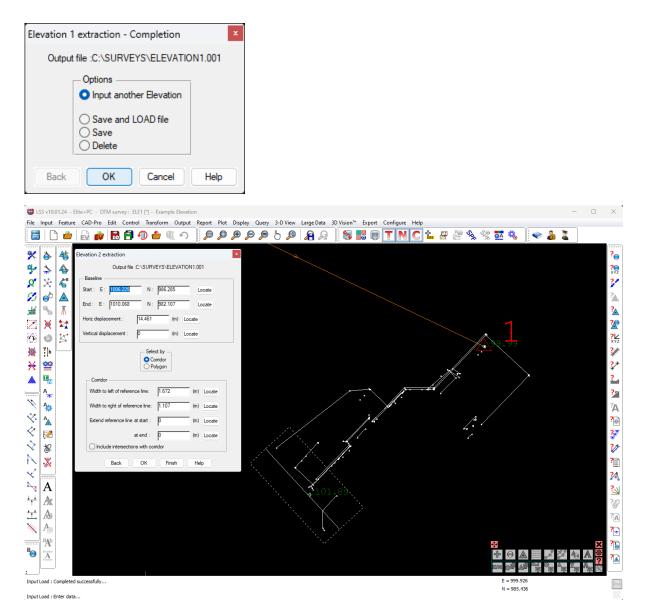
Now it's time to define the corridor.

Elevation 1 extraction	x			
Output file :C:\SURVEYS\ELEVATION1.001				
Baseline	ī			
Start : E : 0 N : 0 Locate				
End : E : 0 N : 0 Locate				
Horiz displacement : 0 (m) Locate				
Vertical displacement : 0 (m) Locate				
Select by O Comidor O Polygon	4			
Width to left of reference line: 5 (m) Locate				
Width to right of reference line: 5 (m) Locate				
Extend reference line at start : 0 (m) Locate				
at end : 0 (m) Locate				
Include intersections with comidor				
Back OK Cancel Help				

Locate the start and end of the baseline and its width. The default mode will be to 'snap on' observations, but you can change this as required using 'Mode'.



When you are happy with the corridor settings hit 'OK' and you will be given the opportunity to define another elevation using the same data. You would want to do this if the elevation included several walls and therefore several baselines.



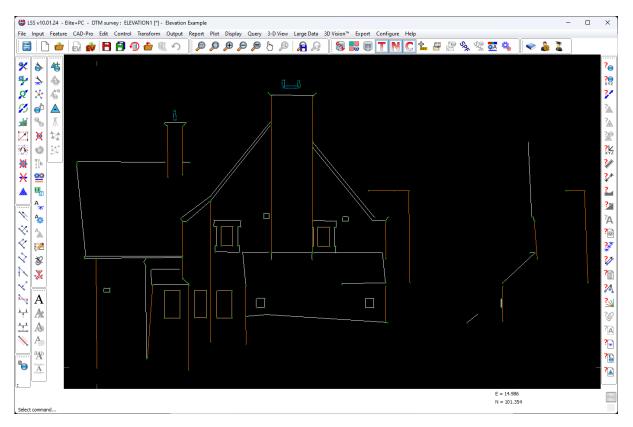
You're not loading any more data, just defining a new elevation. Each separate elevation will be 'tacked onto' the end of the previous one, thus creating a continuous panoramic elevation.

When you've finished, click 'Save and load' and 'OK' and the current survey will be closed and the elevation survey created.

Elevation 2 extraction - Completion	x		
Output file :C:\SURVEYS\ELEVATION1.001			
Options Input another Elevation Save and LOAD file	_		
Save Delete			
Back OK Cancel	Help		

File New DTM - DTM survey	×
New survey : C:\SURVEYS\ELEVATION1.LSS	Browse
Survey title : Elevation Example	
Copy Prototype from	
Survey : C:\SURVEYS\PROTOTYPE\PROTOTYPE.LSS	Browse
Include stations from None Prototype	
O Survey :	Browse
 Handling 2-D data O Terrain is all 3-D - send 2-D data to Non+terrain ○ Terrain may include 2-D data - NOTE: volumes, etc, not permitted 	Ĵ
Option Configure Survey Parameters Back OK Cancel Help	
	x
Input Load - Load Report Settings	
Device : HPBFFC45 (HP PageWide Pro 477dw MF on Ne02:	Select
Adobe Acrobat : ELEVATION1.PDF :A4:PT:Close	Configure
File : ELEVATION1_nnn.TXT	_
	old text
Feature conversion	
Conversion file :	Browse Edit
Do not check legend for feature codes	
Load file Options Number : 001 Edit Edit Options Include Include Include Include Include Include	
Control warnings	Use Default
General text settings Strings restart on Levels text style New setup Change of feature Advanced	Save as Default
Configure	
Survey Parameters	
Back Next Cancel Help	

This is the completed elevation. We've highlighted with a white ractangle those points which have come from the second baseline. See, they are added onto the end of the main elevation.



The survey can now be saved, edited and exported as required.

If you need further Technical Support, or you wish to attend any training courses please contact us...

McCarthy Taylor Systems Ltd

Aerial View Acorn House Shab Hill Birdlip Gloucestershire GL4 8JX Tel 01452 864244

support@dtmsoftware.com www.dtmsoftware.com