



Tec Sheet NoiseMod Reverse.3pc

NoiseModReverse.3pc HELP DOCUMENTATION

What is NoiseModReverse.3pc?

NoiseModReverse.3pc is a Geopak application that reads a FHWA Stamina noise model ASCII file and draws the roadways, barriers, and receivers from this ASCII file into a 2D MicroStation plan view file. A cell and a point description text element are drawn at each coordinate. Roadways & Barriers have a line drawn connecting the coordinates.

This will also optionally:

1. Create a text file (3d_draw.xyz) with the commands to draw the elements into a 3D file in a separate step.
2. Compare the elevations from the text (*.in) file to a tin file, and if the elevation is out of a tolerance you define, it will be written to a .csv file.

What is needed to process noisemod.3pc?

Several files are needed:

- NoiseModReverse.3pc – Geopak criteria file (1)
- English.ddb – Geopak Design and Computation Manager Database (1)
- .DGN file – A MicroStation plan view file (2d)
- mndot.cel – Cell library with cells “ALI”, “COS”, and “X” (1)
- *.in – Stamina ASCII file
- 3D DGN file – A MicroStation 3D plan view file (If using option to draw to 3D file.)
- mn-image.cel – 3D Cell library with cell “TH5” (If using option to draw to 3D file.) (1)
- .TIN file – A Geopak DTM (.tin) file (If using the compare to tin option)

(1) Do not need to copy – it is referenced from the mndot-stds.

Stamina ASCII file format:

The ASCII file must be in a standard format so the criteria file can key off of certain characters in order to draw the roadways, barriers, and receivers. Though typically in the order of roadways, barriers, and receivers, they are not required to be in any certain order. The characters that the criteria keys off of to draw the different graphics at the proper coordinates are covered below:

Note: The column delimiters are spaces, so spaces must not be used in any of the point descriptions.



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Roadways – All lines between the pairs of ‘L’/ are processed as a roadway. Each of these lines must be in the format of a **pointdescription x y**. Everything on the line after the y coordinate is ignored.

Roadway example:

‘L’/

NB1 552082.7 163498.1 1196.0 0

NB2 552207.1 163523.0 1198.9 0

NB3 552319.1 163523.0 1202.1 0

NB4 552418.6 163498.1 1204.6 0

‘L’/



Barriers – The **number 3 followed by a space and the number of barriers** on a line starts a barrier. The first line of each barrier is a description that gets skipped. Each line after that must be in the format of a **pointdescription x y**. Everything on the line after the y coordinate is ignored. ‘A’/ marks the end of each barrier.



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Barrier example:

3 2

NW Ramp

NW_1 551571.8 164235.0 1195.2 1190.2 0 0

NW_2 551723.0 164270.1 1197.4 1192.4

NW_3 551864.5 164295.5 1195.2 1190.2

'A'

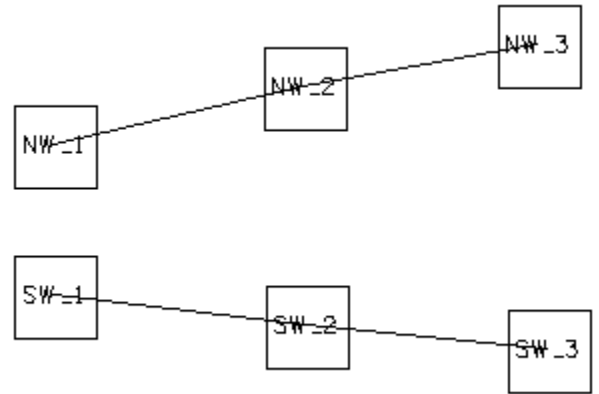
SW Ramp

SW_1 551571.8 164144.2 1189.4 1184.4 0 0

SW_2 551724.2 164126.0 1188.6 1183.6

SW_3 551870.6 164111.5 1188.6 1183.6

'A'



Note: If the last point description of the previous roadway (or barrier) is the same as the first point description of the next roadway (or barrier), the roadways (or barriers) will be drawn as one continuous chain. This means there will be one cell at the repeated point, the coordinates will be connected by lines, and both chains will be in the same graphic group.

Continuation example:

3 2

BARRIER1

B1 551796.7 162839.7 1204.0 1199.0 0 0

.

B12 553152.8 162815.1 1210.9 1205.9

'A'

BARRIER1

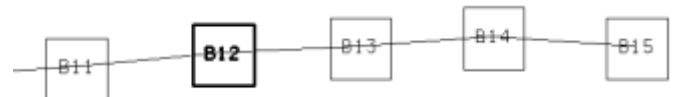
B12 553152.8 162815.1 1210.9 1205.9 0 0

B13 553265.1 162820.6 1210.6 1205.6

B14 553374.7 162828.8 1210.9 1205.9

B15 553492.5 162820.6 1210.5 1205.5

'A'





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Receivers – All lines between a line beginning with the word **Receiver(s)** or **Receptor(s)** and a line that is **6 1** (six space one) are processed as receivers. Each of these lines must be in the format of a **pointdescription x y**. Everything on the line after the y coordinate is ignored.

Receiver example:

RECEIVERS

A 551993.0 163078.7 1200.1

B 551989.6 163009.2 1199.7

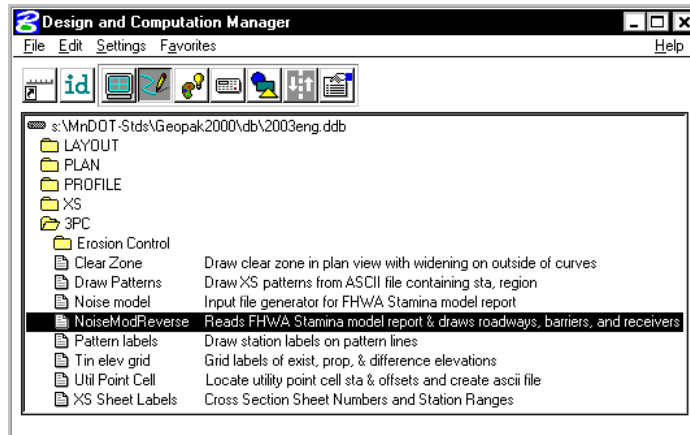
C 552066.0 163047.4 1199.9

6 1



Procedure:

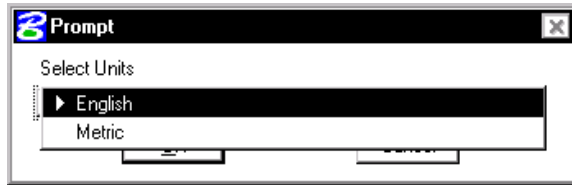
1. Once the Stamina ASCII file is in the format described above, access a plan view design file (most likely a topog file), kick off NoiseModReverse.3pc from the D&C Mgr. by double clicking the “NoiseModReverse” item while in the design mode.



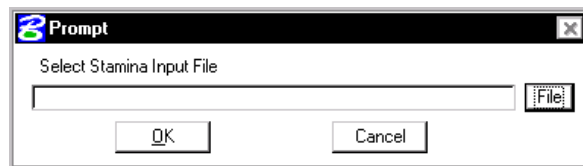


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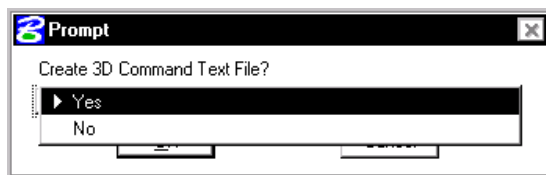
2. When prompted, select the Working Units for the project (English or Metric) and then click the OK button.



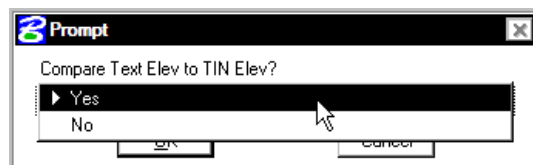
3. Finally identify the Stamina input file (*.in). It can be typed in or selected by clicking the "File" button.



4. If you want lines and cells representing the roadway, the top of barrier, the bottom of barrier, and receivers drawn into a 3D file, select "Yes". Note that this will not actually do the drawing at this time, it only creates a text file named "3d_draw.xyz" which contains the commands to do the drawing. This process will be explained at the end of this instruction document.



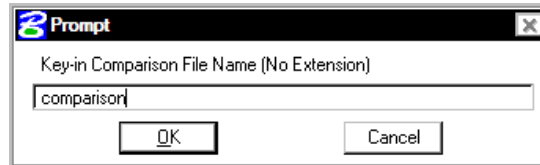
5. If a comparison of the elevations in the ASCII file to the TIN file is desired, select "Yes" when prompted to "Compare Text Elev to TIN Elev?" and then click the OK button. If "No" is selected, skip to step 9.



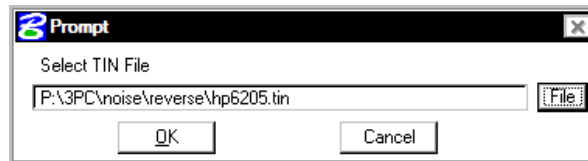


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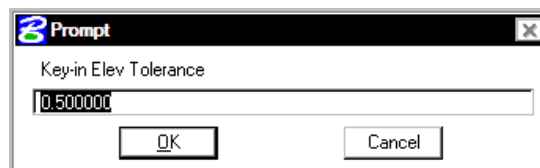
- When prompted to “Key-in Comparison File Name”, a path and file name may be entered or just a file name (Do not add an extension since .csv will be added automatically). If the path is not entered, the file will be created in the current MicroStation directory.



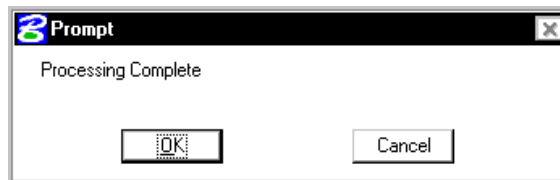
- Select the TIN file to compare the text elevations to and then click the “OK” button.



- Key-in the elevation comparison tolerance. If the difference in elevations between the text file and TIN file is greater than the tolerance, a line will be written to the report (.csv) file.



- Click the OK button from the Processing Complete prompt to exit.



- Check the graphic results.
- If the file doesn't process successfully, most likely the ASCII file is not in the proper format. Look for spaces in the point descriptions or missing keywords to begin/end each roadway, barrier, and receiver.



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12. If the “Yes” option was selected in Step 5, check the elevation comparison report file. If some elevations were out of tolerance, they will show up like this sample:

comparison.csv							
	A	B	C	D	E	F	G
1	COMPARE TEXT FILE ELEV TO TIN FILE ELEV						
2	Tolerance = 0.50						
3							
4							
5	FEATURE	POINT NAME	X COORD	Y COORD	TEXT FILE ELEV	TIN FILE ELEV	ELEV DIFF
6	Roadway	'KP23'	553209	205367	916	916.63	0.63
7	Roadway	'KP15'	553530	204965	918	918.52	0.52
8	Roadway	'Kp14'	553963	204488	914	914.6	0.6
9	Roadway	'KP4'	555194	202860	908	908.57	0.57
10	Roadway	'1'	555652	201572	910	895.52	14.48

13. If you selected “Yes” in the “Create 3D Command Text File” option in step 4 and you now want to draw the elements into a 3D file:
- a. Copy a 3D seed file into your project directory.
 - b. Access this 3D file with MicroStation.
 - c. At the command line, type in @3d_draw.xyz.
 - d. If you fit the view you should see:
 - i. Roadways – lines connecting the points entered
 - ii. Barriers – two sets of lines connecting the points entered (top & bottom of wall)
 - iii. Receivers – a vertical line (5’ or 1.5 m) at the ground elevation with the cell “TH5” at the top. This cell was only chosen & drawn so you can see something in the “top” view.