

# General tips sewer

## About slope

Slope is dependent on the direction the pipe was drawn in:

$$\frac{\text{Start elevation} - \text{End elevation}}{\text{Length}} \quad (1)$$

You can switch these around with a right click on a pipe and “Reverse Link”

## Two tools for elevation updates:

First select manholes you want to update.

*Tools → Update Node Invert Elevations.* This will update all invert elevations (Z-coordinate) from elevation model. Depths will not be affected and rim elevation is invert elevation + depth.

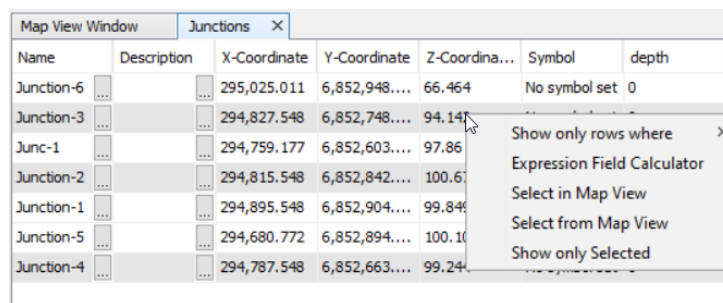
*Tools → Update Node Rim Elevations.* This will update all rim elevations from elevation model and keep invert elevations what they are. New depth is “rim” – “invert”.

These both tools naturally need to have the elevation model working properly.

## To lower elevations from their current value for multiple manholes:

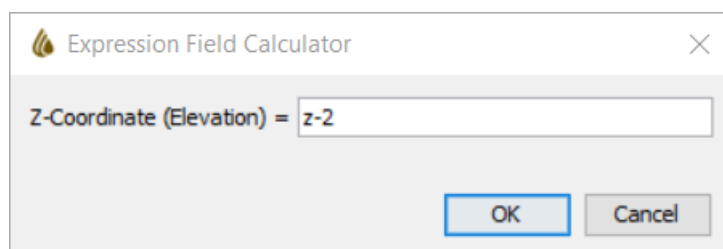
(Set elevations first, from elevation model or by hand)

1. Select the manholes you want to lower in map view
2. Open Junctions -table (*Model → Junctions*)
3. Right click anywhere on the table and “Select From Map View”. Components selected in map view should be now selected in the table and show with grey background.
4. Right click on Z-coordinate on one of the selected manholes and “Expression Field Calculator”



Name	Description	X-Coordinate	Y-Coordinate	Z-Coordinate	Symbol	depth
Junction-6		295,025.011	6,852,948....	66.464	No symbol set	0
Junction-3		294,827.548	6,852,748....	94.147		
Junc-1		294,759.177	6,852,603....	97.86		
Junction-2		294,815.548	6,852,842....	100.6		
Junction-1		294,895.548	6,852,904....	99.84		
Junction-5		294,680.772	6,852,894....	100.10		
Junction-4		294,787.548	6,852,663....	99.24		

5. Give calculator command z-2 where 2 is an example value you want to subtract from elevation



Done. All selected manholes should now have their elevation decreased by 2.

If you had ground elevation as their Z-coordinate before this, now all elevations are 2 meters below ground. If you now give the same manholes depth 2, their Rim elevations will be at ground level. (Rim elevation is invert elevation + depth)

## Interpolating elevations

There is a tool to interpolate manhole bottom (invert) elevations so, that the slope of the pipes will be constant.

1. Select the start and end manholes in Map View (with Ctrl+down)
2. Right click anywhere on the Map View → Find Best/Shortest Route
3. Right click on top of the selected pipeline → Interpolate Elevations

Tool can be used to interpolate a steady slope between current start and end elevations, or upstream/downstream with a constant given slope.

As this tool changes invert elevation, the rim elevation will also change. If you want to set rim elevation back to ground level, you can use *Tools* → *Update Node Rim Elevations* (explained earlier).