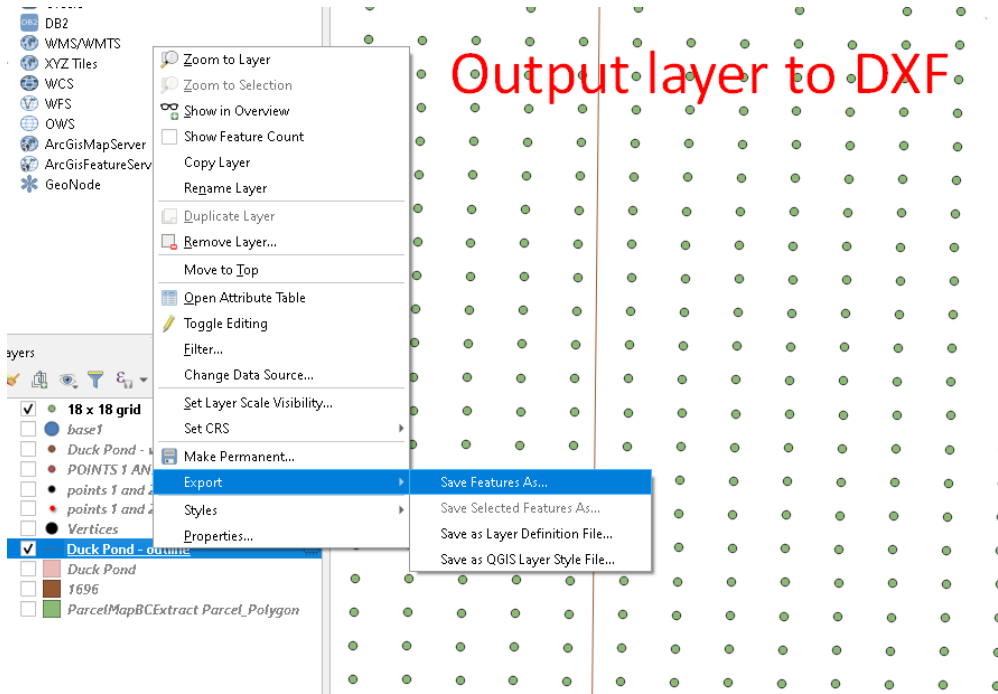**To get points from QGIS into Reachview for surveying...** (go to end for importing points from Reachview to QGIS.

1. Export layer of polygon or lines to DWG or DXF. I'm usually bringing lines into the CAD program but points should work

Note – for my old version of intelliCAD, this layer for export must be in a meter type reference such as Easting/Northing format and exported as DXF.
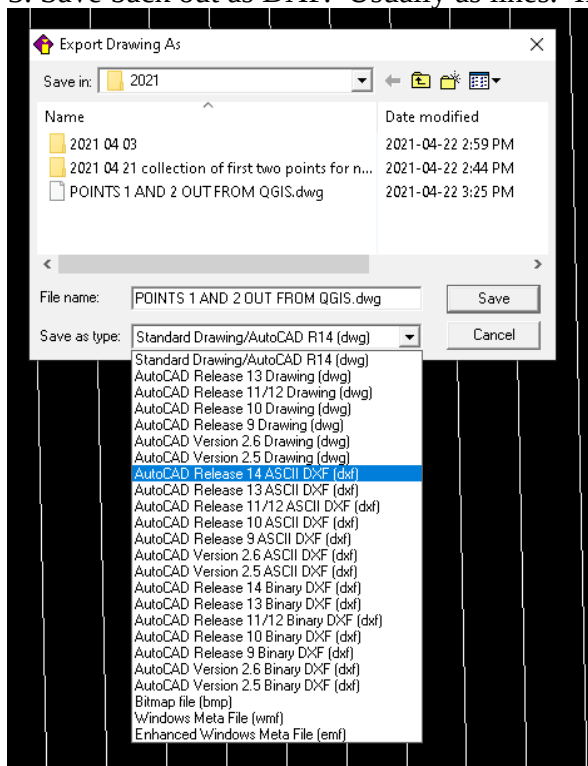

Output layer to DXF

Random side note - To copy features to another layer...

https://gis.stackexchange.com/questions/90119/add-objects-from-one-layer-to-another-at-qgis
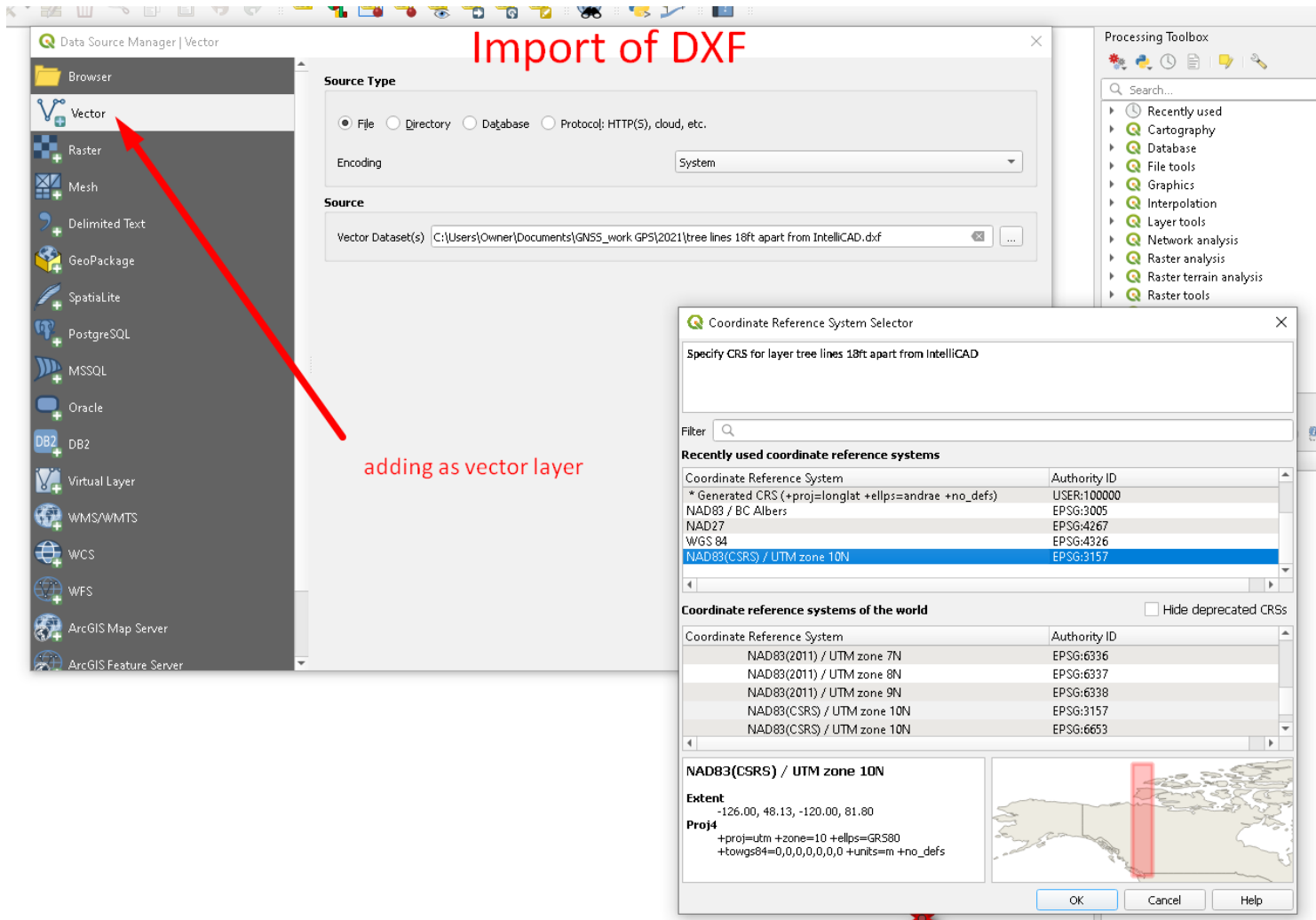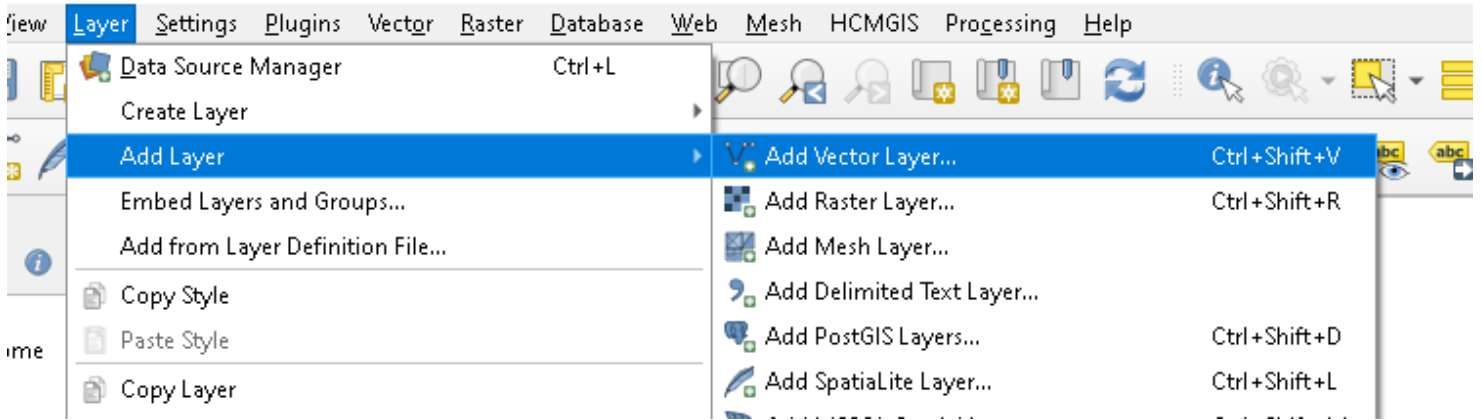
2. Open in 2-D CAD program and make adjustments or additions or whatever....
Usually, make offsets or add other lines at 90 degrees to originals.

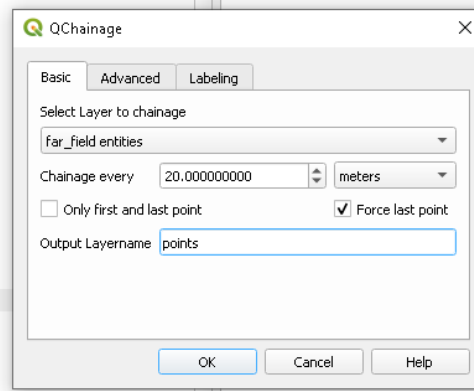3. Save back out as DXF. Usually as lines. If you have points, those can be imported to QGIS too.
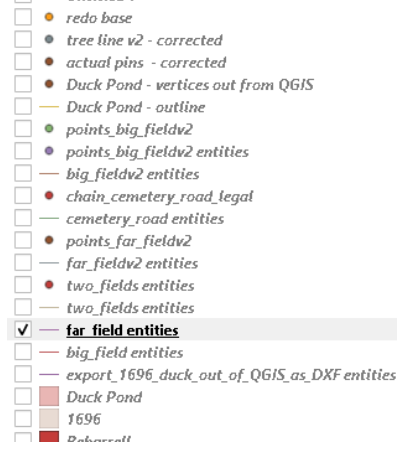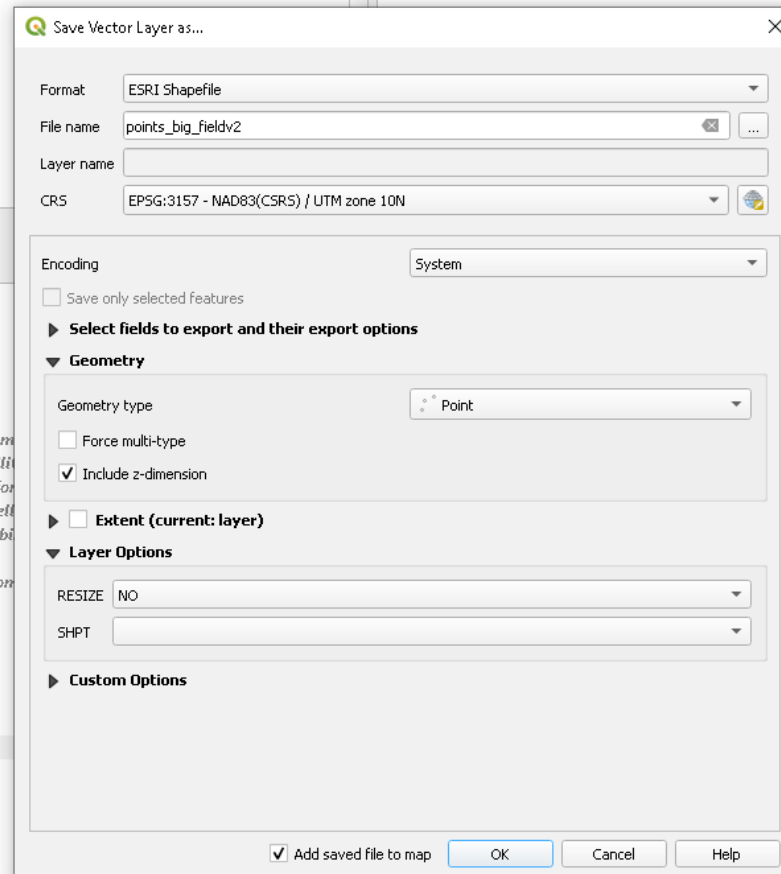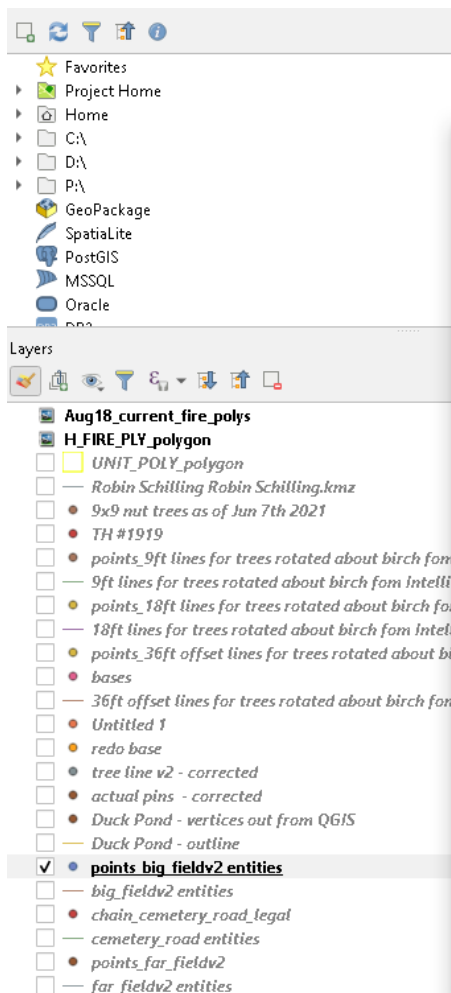
4. Import back in to QGIS.

nut trees - QGIS

| Layer | Settings | Plugins | Vector | Raster | Database | Web | Mesh | HCMGIS | Processing | Help |

Data Source Manager	Ctrl+L
Create Layer	▶
Add Layer	▶	Add Vector Layer...	Ctrl+Shift+V
Embed Layers and Groups...		Add Raster Layer...	Ctrl+Shift+R
Add from Layer Definition File...		Add Mesh Layer...
Copy Style		Add Delimited Text Layer...
Paste Style		Add PostGIS Layers...	Ctrl+Shift+D
Copy Layer		Add SpatiaLite Layer...	Ctrl+Shift+L

Import of DXF

Data Source Manager | Vector

| Browser |
| **Vector** |
| Raster |
| Mesh |
| Delimited Text |
| GeoPackage |
| SpatiaLite |
| PostgreSQL |
| MSSQL |
| Oracle |
| DB2 |
| Virtual Layer |
| WMS/WMTS |
| WCS |
| WFS |
| ArcGIS Map Server |
| ArcGIS Feature Server |

Source Type

● File ○ Directory ○ Database ○ Protocol: HTTP(S), cloud, etc.

Encoding   System

Source

Vector Dataset(s) C:\Users\Owner\Documents\GNSS_work GPS\2021\tree lines 18ft apart from IntelliCAD.dxf

adding as vector layer

Processing Toolbox

Search...
- Recently used
- Cartography
- Database
- File tools
- Graphics
- Interpolation
- Layer tools
- Network analysis
- Raster analysis
- Raster terrain analysis
- Raster tools

Coordinate Reference System Selector

Specify CRS for layer tree lines 18ft apart from IntelliCAD

Filter

Recently used coordinate reference systems

Coordinate Reference System	Authority ID
* Generated CRS (+proj=longlat +ellps=andrae +no_defs)	USER:100000
NAD83 / BC Albers	EPSG:3005
NAD27	EPSG:4267
WGS 84	EPSG:4326
NAD83(CSRS) / UTM zone 10N	EPSG:3157

Coordinate reference systems of the world   ☐ Hide deprecated CRSs

Coordinate Reference System	Authority ID
NAD83(2011) / UTM zone 7N	EPSG:6336
NAD83(2011) / UTM zone 8N	EPSG:6337
NAD83(2011) / UTM zone 9N	EPSG:6338
NAD83(CSRS) / UTM zone 10N	EPSG:3157
NAD83(CSRS) / UTM zone 10N	EPSG:6653

NAD83(CSRS) / UTM zone 10N

Extent
-126.00, 48.13, -120.00, 81.80
Proj4
+proj=utm +zone=10 +ellps=GRS80
+towgs84=0,0,0,0,0,0,0 +units=m +no_defs

OK   Cancel   Help

5. Use Qchainage plug-in to create points along lines (creates a DXF layer with points)

☐ ● redo base
☐ ● tree line v2 - corrected
☐ ● actual pins - corrected
☐ ● Duck Pond - vertices out from QGIS
☐ — Duck Pond - outline
☐ ● points_big_fieldv2
☐ ● points_big_fieldv2 entities
☐ — big_fieldv2 entities
☐ ● chain_cemetery_road_legal
☐ — cemetery_road entities
☐ ● points_far_fieldv2
☐ — far_fieldv2 entities
☐ ● two_fields entities
☐ — two_fields entities
☑ — **far_field entities**
☐ — big_field entities
☐ — export_1696_duck_out_of_QGIS_as_DXF entities
☐ ▨ Duck Pond
☐ ▨ 1696

QChainage ×

Basic | Advanced | Labeling

Select Layer to chainage

[far_field entities ▼]

Chainage every [20.000000000] [meters ▼]

☐ Only first and last point   ☑ Force last point
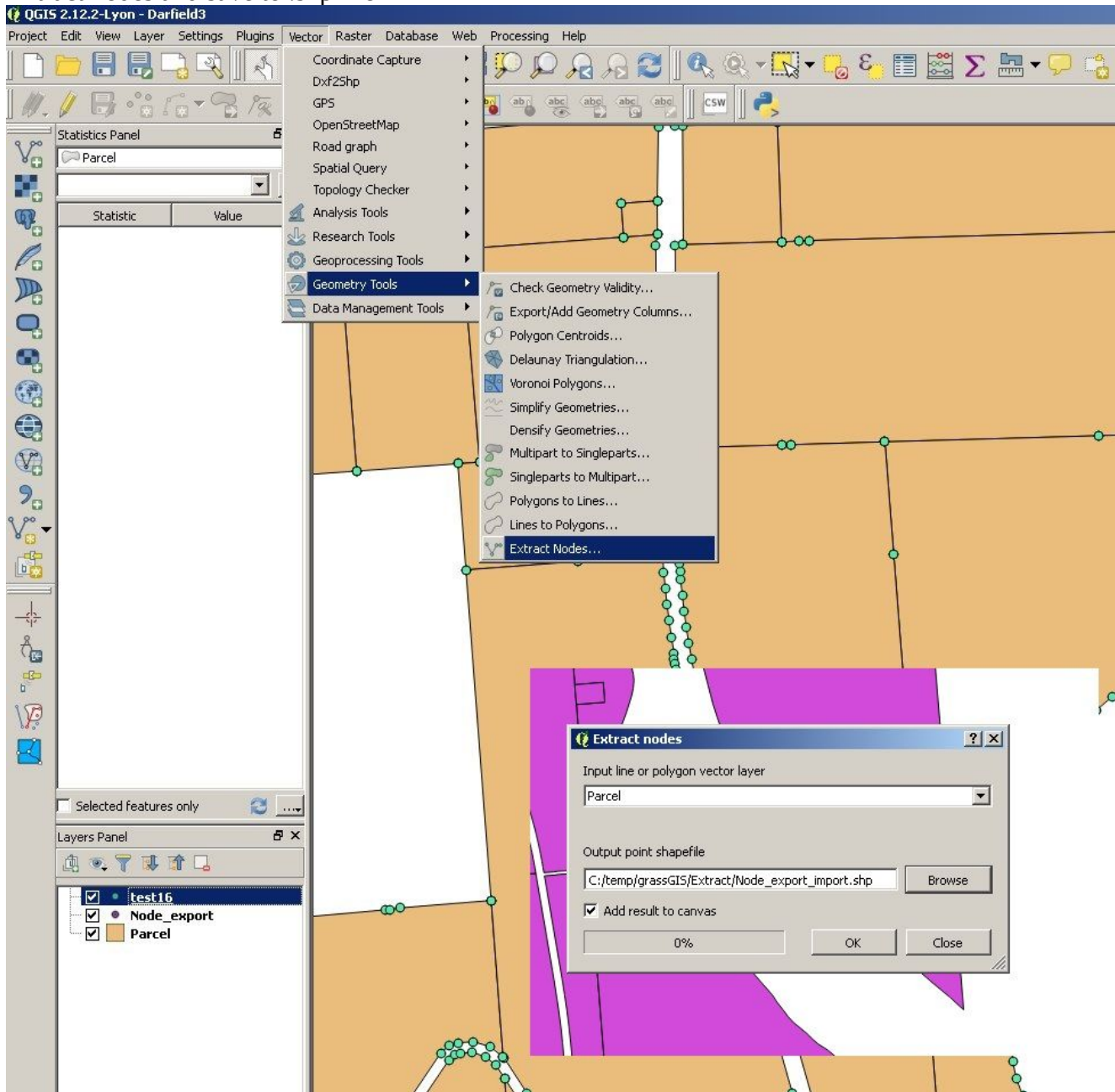
Output Layername [points]

[OK]   [Cancel]   [Help]

and Convert DXF of points to a ESRI shape file.

☐ ● actual pin...
☐ ● Duck Pon...
☐ — Duck Pon...
☐ 🗲 points_big...
☐ ● points_big...
☐ — big_fieldv...
☑ ● **chain_cemetery_road_legal**
☐ — cemetery_road entities
☐ ● points_far_fieldv2

Set Layer Scale Visibility...
Set CRS   ▶
Export   ▶   **Save Features As...**
Styles   ▶   Save Selected Features As...
Properties...   Save as Layer Definition File...
                                Save as QGIS Layer Style File...

⭐ Favorites
▶ 🖼 Project Home
▶ 🏠 Home
▶ 📁 C:\
▶ 📁 D:\
▶ 📁 P:\
🎁 GeoPackage
🖊 SpatiaLite
🐘 PostGIS
🦅 MSSQL
⬤ Oracle

Layers

☑ ▦ Aug18_current_fire_polys
☑ ▦ H_FIRE_PLY_polygon
☐ ▢ UNIT_POLY_polygon
☐ — Robin Schilling Robin Schilling.kmz
☐ ● 9x9 nut trees as of Jun 7th 2021
☐ ● TH #1919
☐ ● points_9ft lines for trees rotated about birch fom
☐ — 9ft lines for trees rotated about birch fom Intelli
☐ ● points_18ft lines for trees rotated about birch for
☐ — 18ft lines for trees rotated about birch fom Intell
☐ ● points_36ft offset lines for trees rotated about bi
☐ ● bases
☐ — 36ft offset lines for trees rotated about birch for
☐ ● Untitled 1
☐ ● redo base
☐ ● tree line v2 - corrected
☐ ● actual pins - corrected
☐ ● Duck Pond - vertices out from QGIS
☐ — Duck Pond - outline
☑ ● **points_big_fieldv2 entities**
☐ — big_fieldv2 entities
☐ ● chain_cemetery_road_legal
☐ — cemetery_road entities
☐ ● points_far_fieldv2
☐ — far_fieldv2 entities

Save Vector Layer as... ×

Format [ESRI Shapefile ▼]

File name [points_big_fieldv2] ✕ [...]

Layer name [ ]

CRS [EPSG:3157 - NAD83(CSRS) / UTM zone 10N ▼] 🌐

Encoding [System ▼]

☐ Save only selected features

▶ **Select fields to export and their export options**

▼ **Geometry**

Geometry type [⦙ Point ▼]

☐ Force multi-type

☑ Include z-dimension

▶ ☐ **Extent (current: layer)**

▼ **Layer Options**

RESIZE [NO ▼]

SHPT [▼]

▶ **Custom Options**
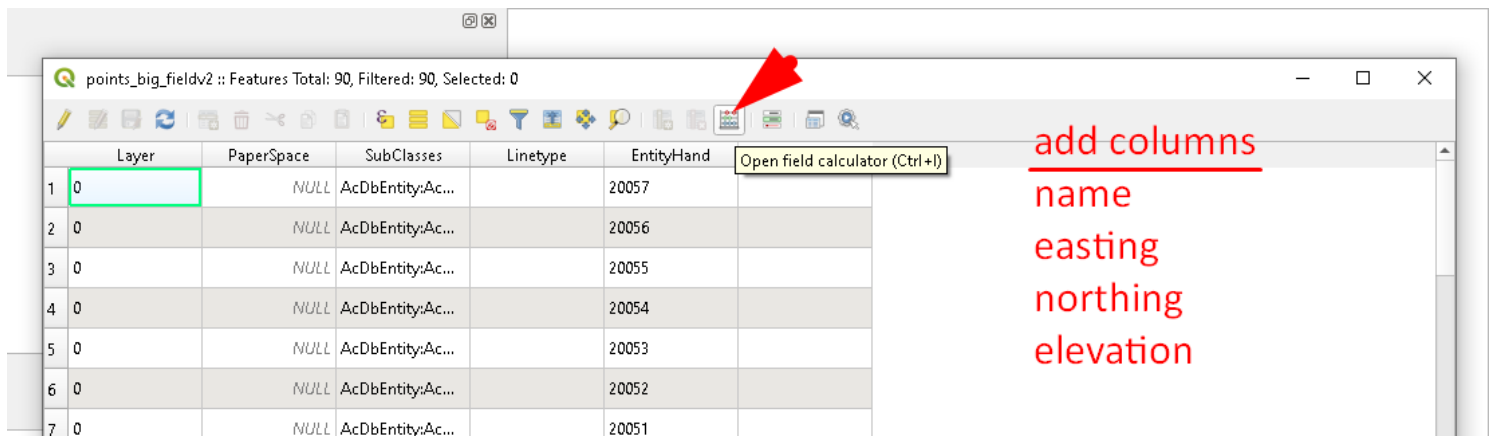
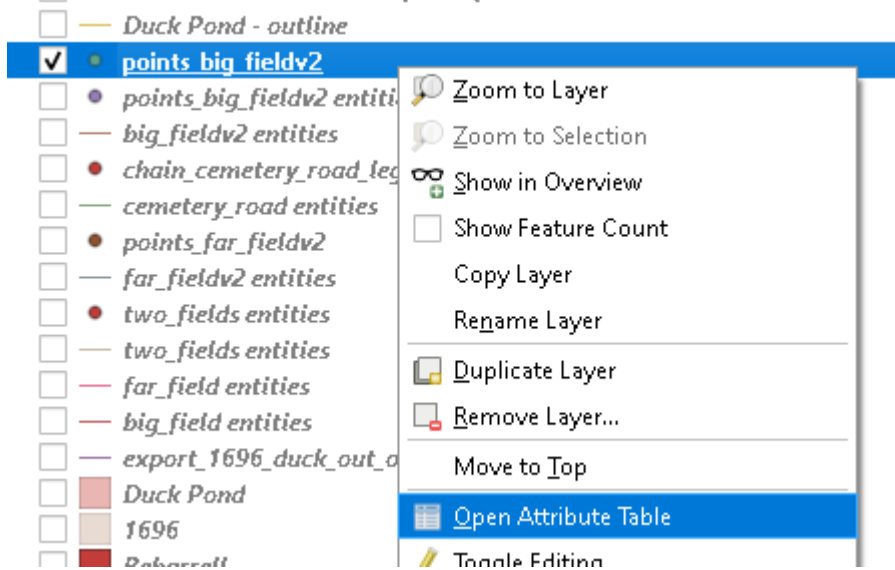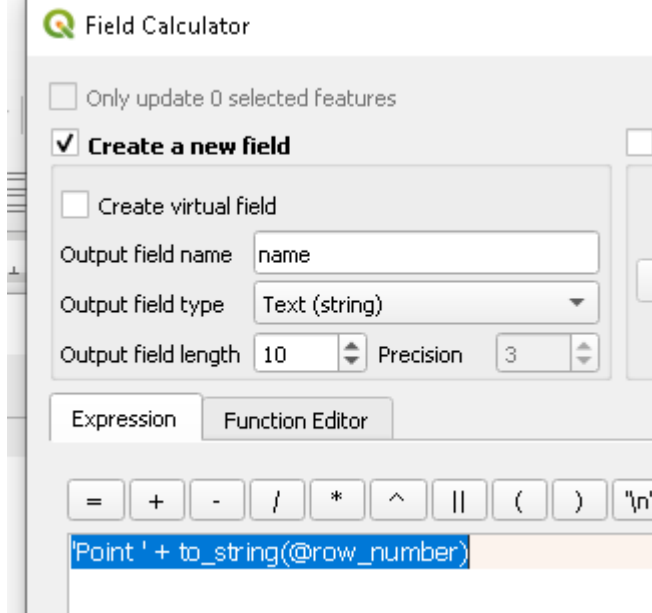☑ Add saved file to map   [OK]   [Cancel]   [Help]
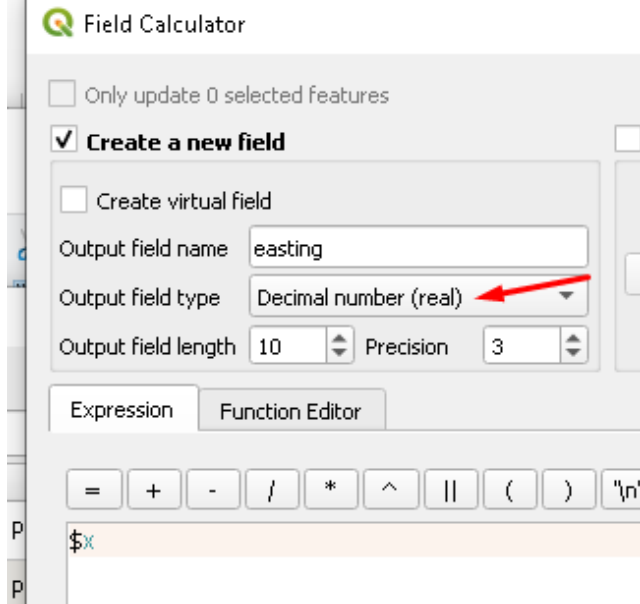
OR

Extract nodes and save to .shp file

6. Open attribute table – This is a new step. If you skip this you then need to rename the columns in the outputted CSV file. Probably quicker than doing the following.
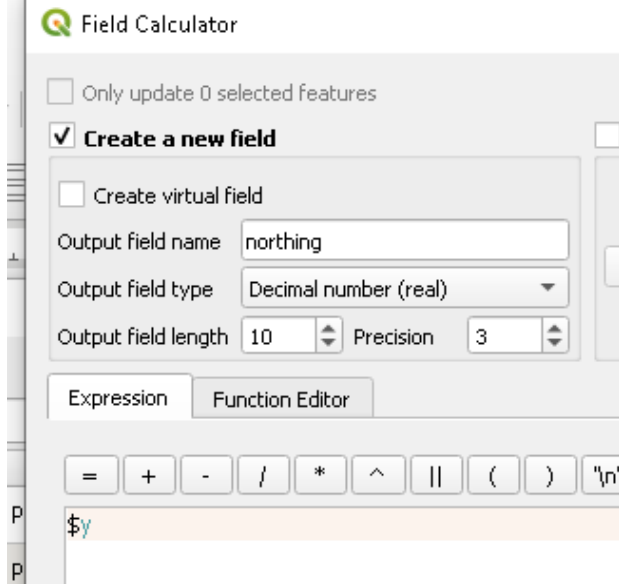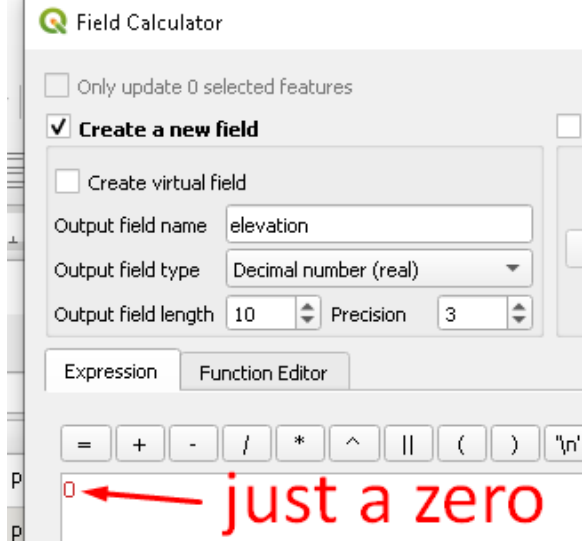

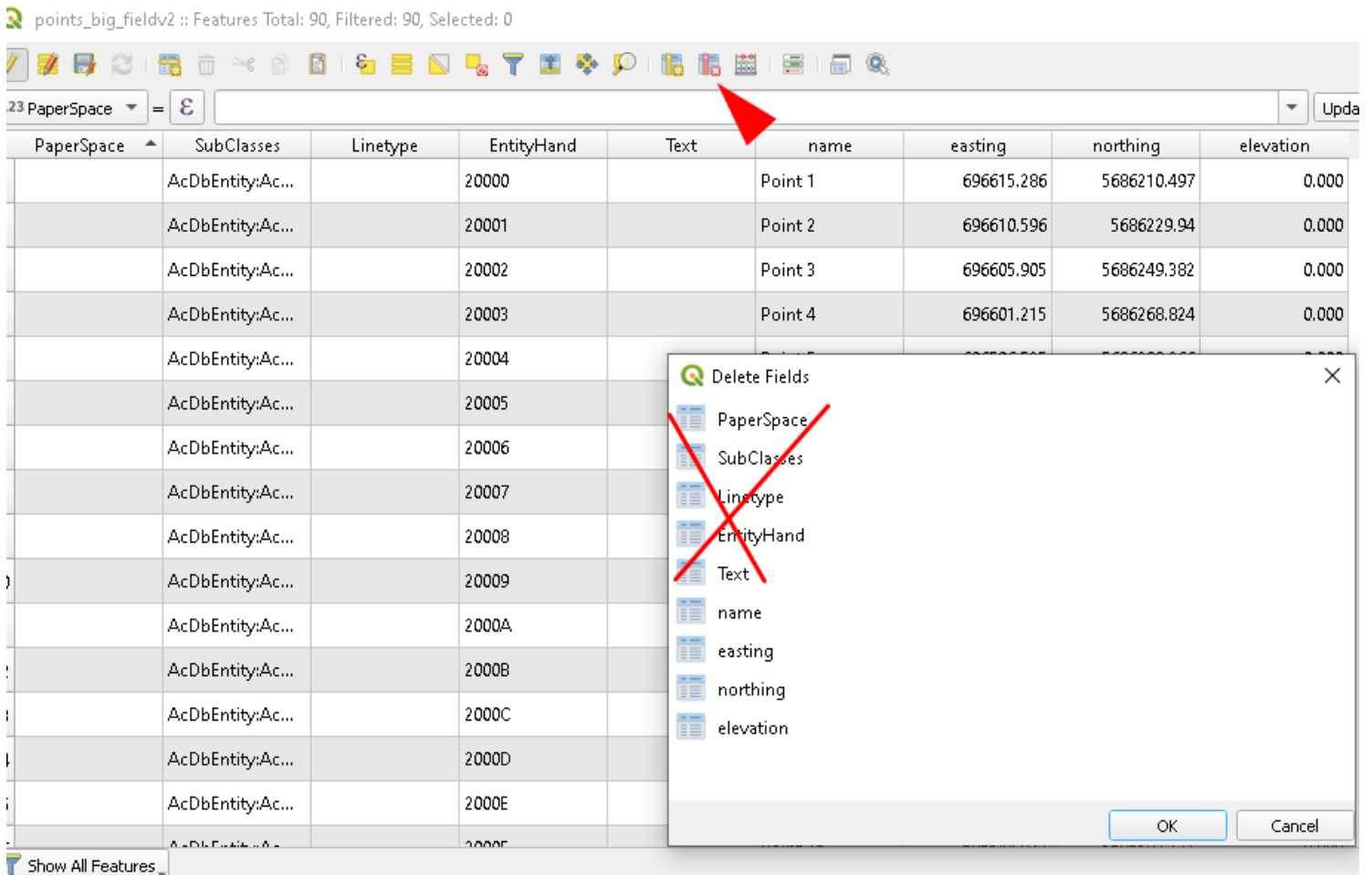a) – name = 'Point ' + to_string(@row_number)

b) - easting

Field Calculator

- Only update 0 selected features
- ✓ **Create a new field**
  - Create virtual field
  - Output field name: easting
  - Output field type: Decimal number (real)
  - Output field length: 10 Precision: 3

| Expression | Function Editor |

| = | + | - | / | * | ^ | \|\| | (|) | '\n' |

$x

c) – northing

Field Calculator

- Only update 0 selected features
- ✓ **Create a new field**
  - Create virtual field
  - Output field name: northing
  - Output field type: Decimal number (real)
  - Output field length: 10 Precision: 3

| Expression | Function Editor |

| = | + | - | / | * | ^ | \|\| | (|) | '\n' |

$y

d) – elevation

Field Calculator

- Only update 0 selected features
- ✓ **Create a new field**
  - Create virtual field
  - Output field name: elevation
  - Output field type: Decimal number (real)
  - Output field length: 10 Precision: 3

| Expression | Function Editor |

| = | + | - | / | * | ^ | \|\| | (|) | '\n' |

0 ← just a zero

e) Remove other columns (use CTRL to select multiple)

PaperSpace ▲	SubClasses	Linetype	EntityHand	Text	name	easting	northing	elevation
	AcDbEntity:Ac...		20000		Point 1	696615.286	5686210.497	0.000
	AcDbEntity:Ac...		20001		Point 2	696610.596	5686229.94	0.000
	AcDbEntity:Ac...		20002		Point 3	696605.905	5686249.382	0.000
	AcDbEntity:Ac...		20003		Point 4	696601.215	5686268.824	0.000
	AcDbEntity:Ac...		20004					
	AcDbEntity:Ac...		20005					
	AcDbEntity:Ac...		20006					
	AcDbEntity:Ac...		20007					
	AcDbEntity:Ac...		20008					
	AcDbEntity:Ac...		20009					
	AcDbEntity:Ac...		2000A					
	AcDbEntity:Ac...		2000B					
	AcDbEntity:Ac...		2000C					
	AcDbEntity:Ac...		2000D					
	AcDbEntity:Ac...		2000E					
	AcDbEntity:Ac...		2000F					

Show All Features
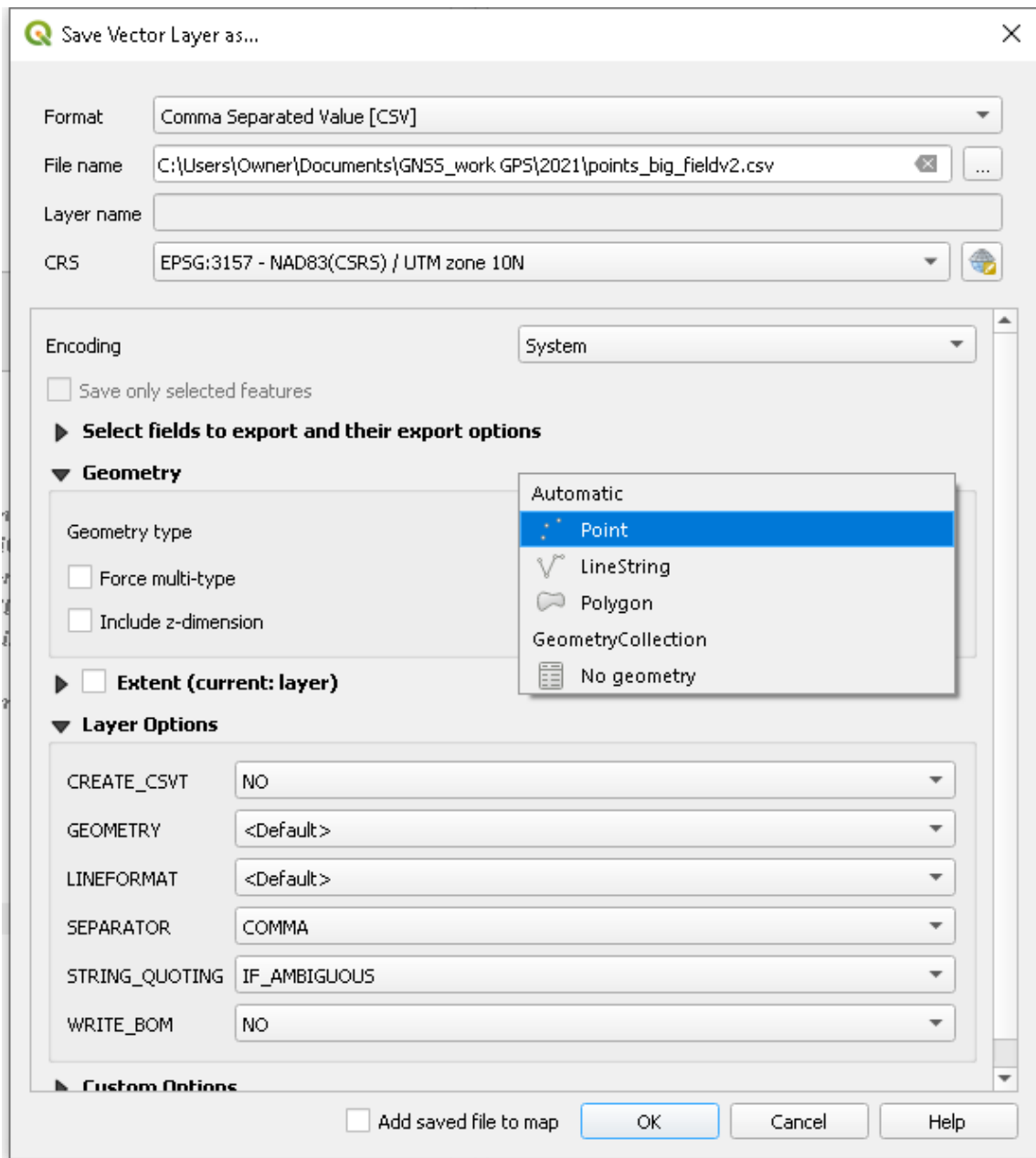
Delete Fields ✕

- PaperSpace
- SubClasses
- Linetype
- EntityHand
- Text
- name
- easting
- northing
- elevation

OK   Cancel

7 Export to CSV file

Right click on .shp file and save as CSV file.

	Zoom to Layer		
	Zoom to Selection		
	Show in Overview		
	Show Feature Count		
	Copy Layer		*om IntelliCAD*
			lliCAD entities
	Rename Layer		*fom IntelliCAD*
	Duplicate Layer		*elliCAD entities*
	Remove Layer...		*birch fom IntelliCAD*
	Move to Top		*om IntelliCAD entities*
	Open Attribute Table		
	Toggle Editing		
	Filter...		
	Change Data Source...		
	Set Layer Scale Visibility...		
	Set CRS	▶	
	Export	▶	Save Features As...
	Styles	▶	Save Selected Features As...
	Properties...		Save as Layer Definition File...
			Save as QGIS Layer Style File...

CSV will look like this.... Now I email it to my phone.

Importing points from Reachview to QGIS.

1. Email project file of points from phone to PC (as CSV).

2. Add layer from CSV file.
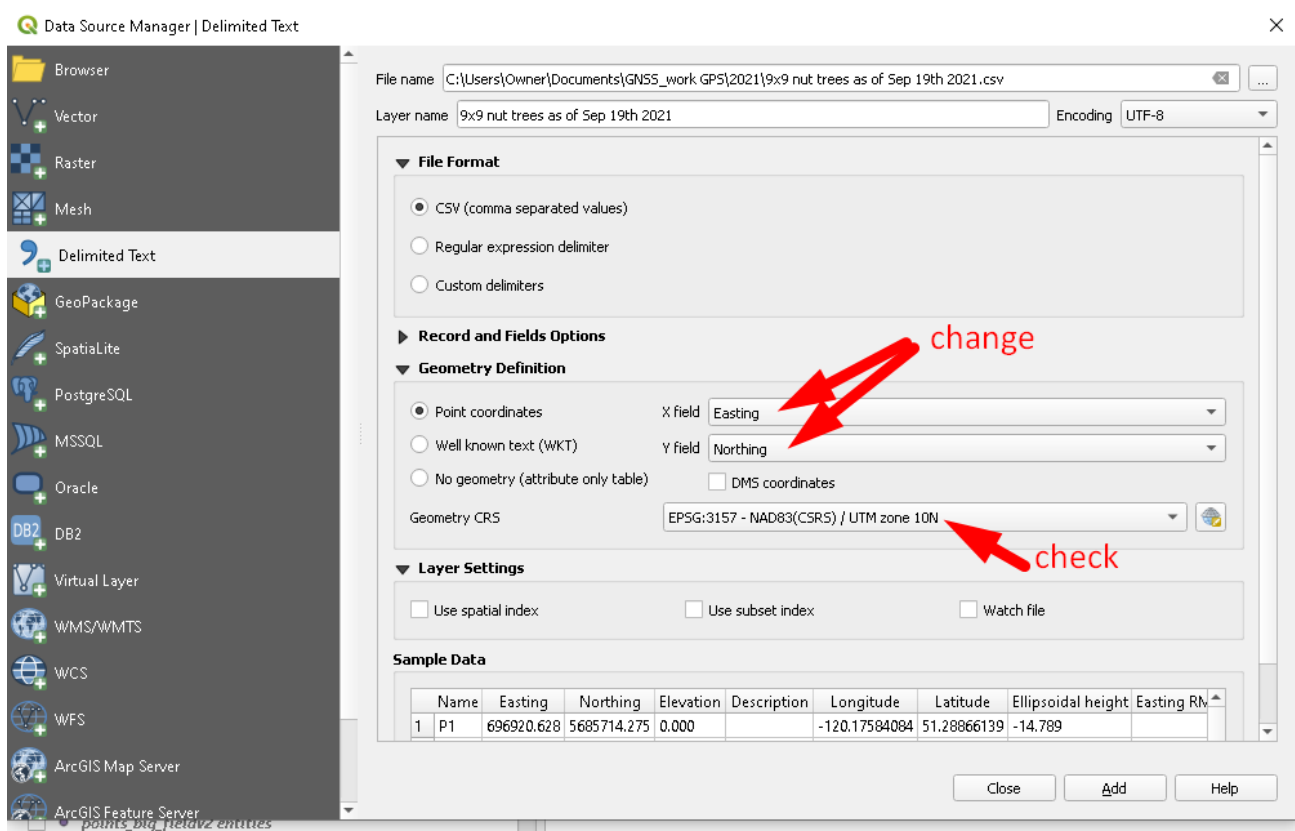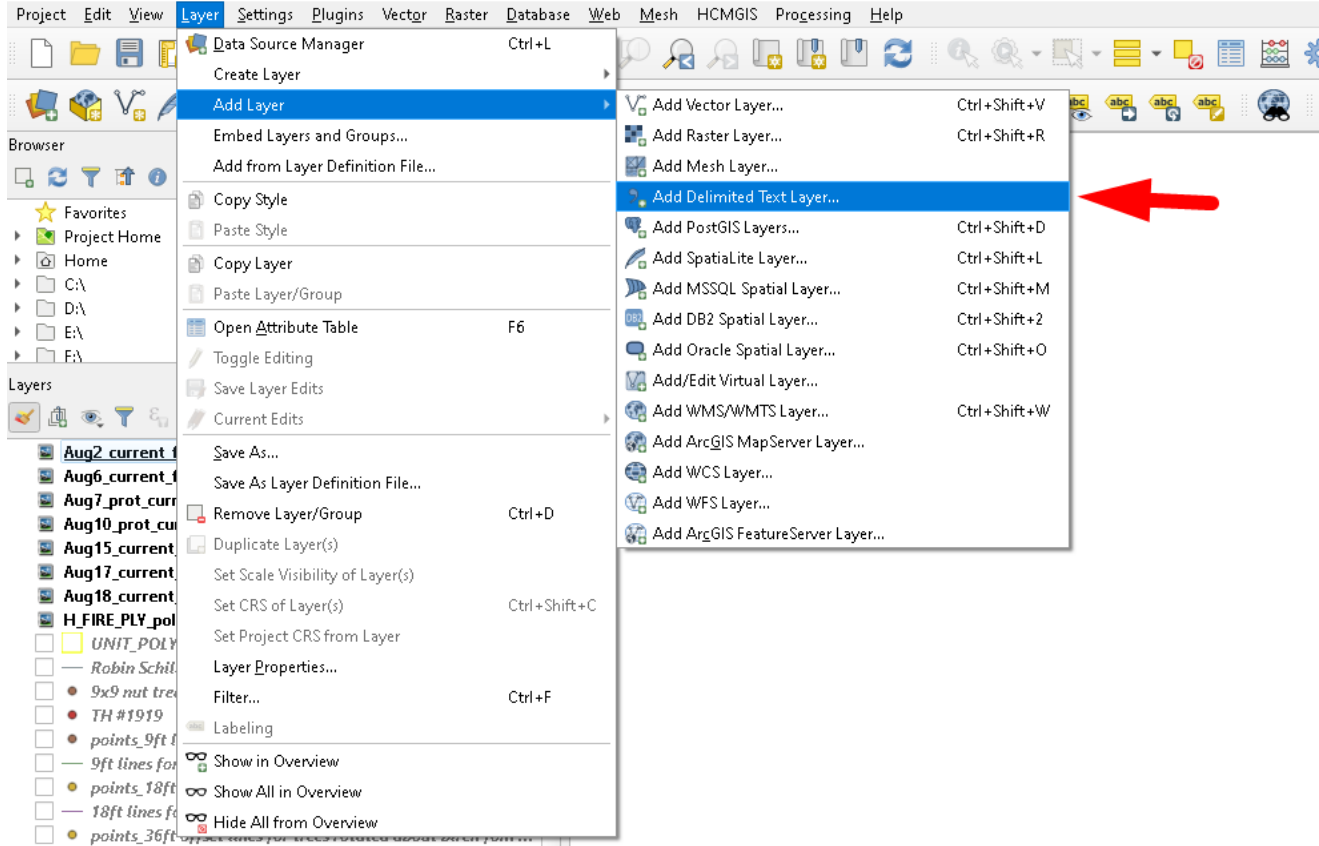
2. Turn on labels for points (if desired). I usually show description that was entered in Reachview.