# To identify the farm lands in Swellendam Town

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|---|---|
| Subject: | **GIS/RS Application to CE** |
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# Contents

# To identify the farm lands in Swellendam Town

## Abstract 1:-

**T**he task is to identify the farm lands in Swellendam that satisfy the following Condition:

- **T**he farm should be in Swellendam.
- **T**he farm should not be at distance more than 500m from access road.
- **It** should be within 10 km's of nearby schools.
- **T**he farm must be between 100 and 150 hectares in area.

## Data collection 2:-

**D**ata about the roads, farms, schools, is collected in the form of vector layer (.shp file).

- **Step 2:-**

## Procedure 3:-

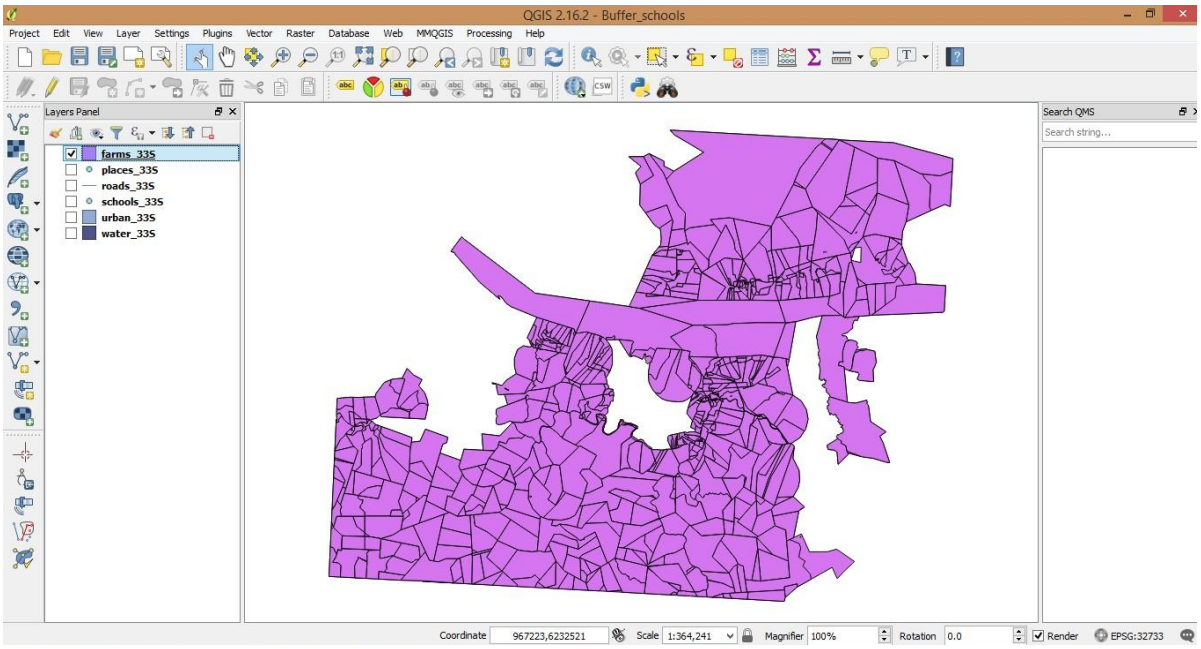
- **T**he analysis is done by using GIS software. Following steps were followed:

### ➢ Step 1:-

First of all, all the vector layers are loaded in Q GIS.

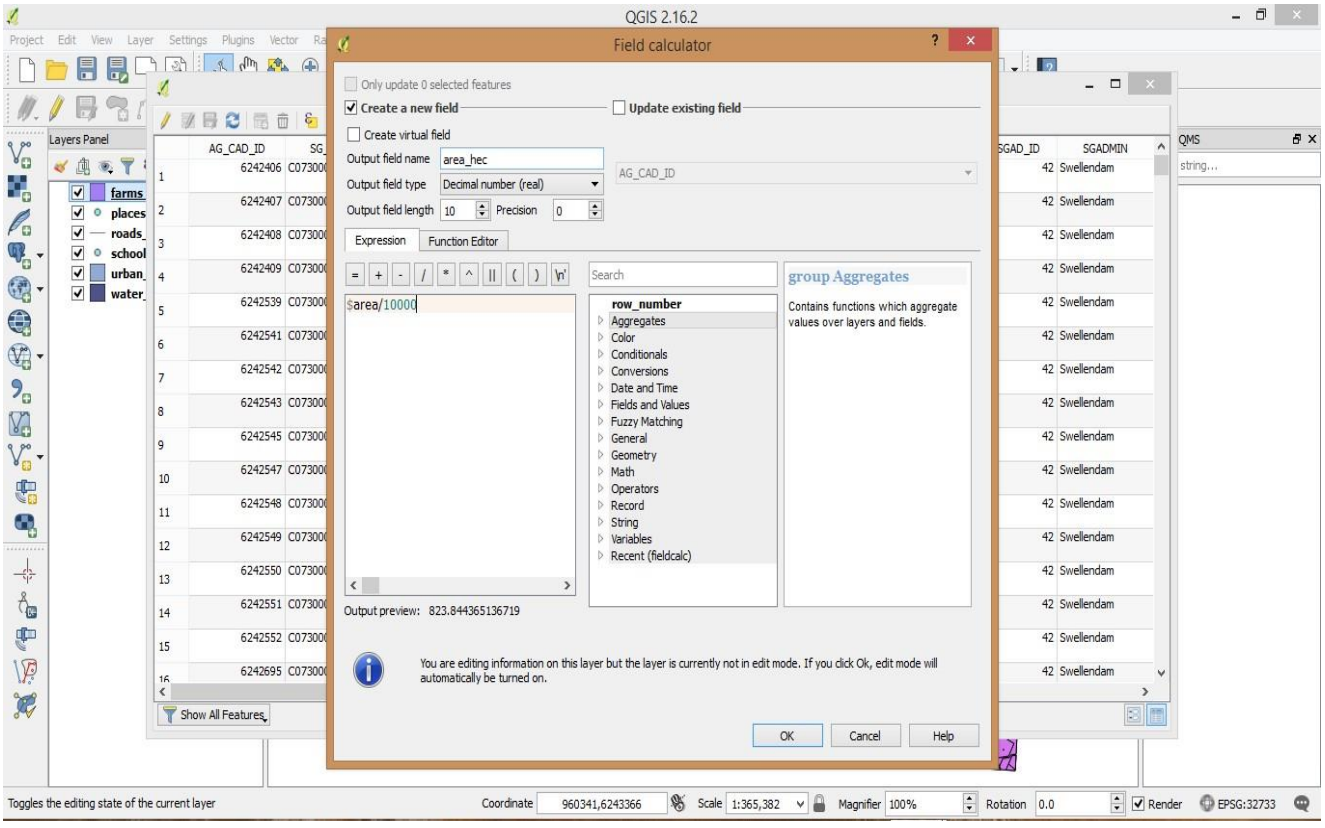
By using filter command and selecting farm layer the Swellendam were located i.e. "Town"= 'Swellendam'

# To identify the farm lands in Swellendam Town




## ➢ Step 2:-

By the use of the field calculator the area of the farms in Swellendam were calculated. Then by the use of the filter command the farms having area “between” 100 to 150 hectare were selected.



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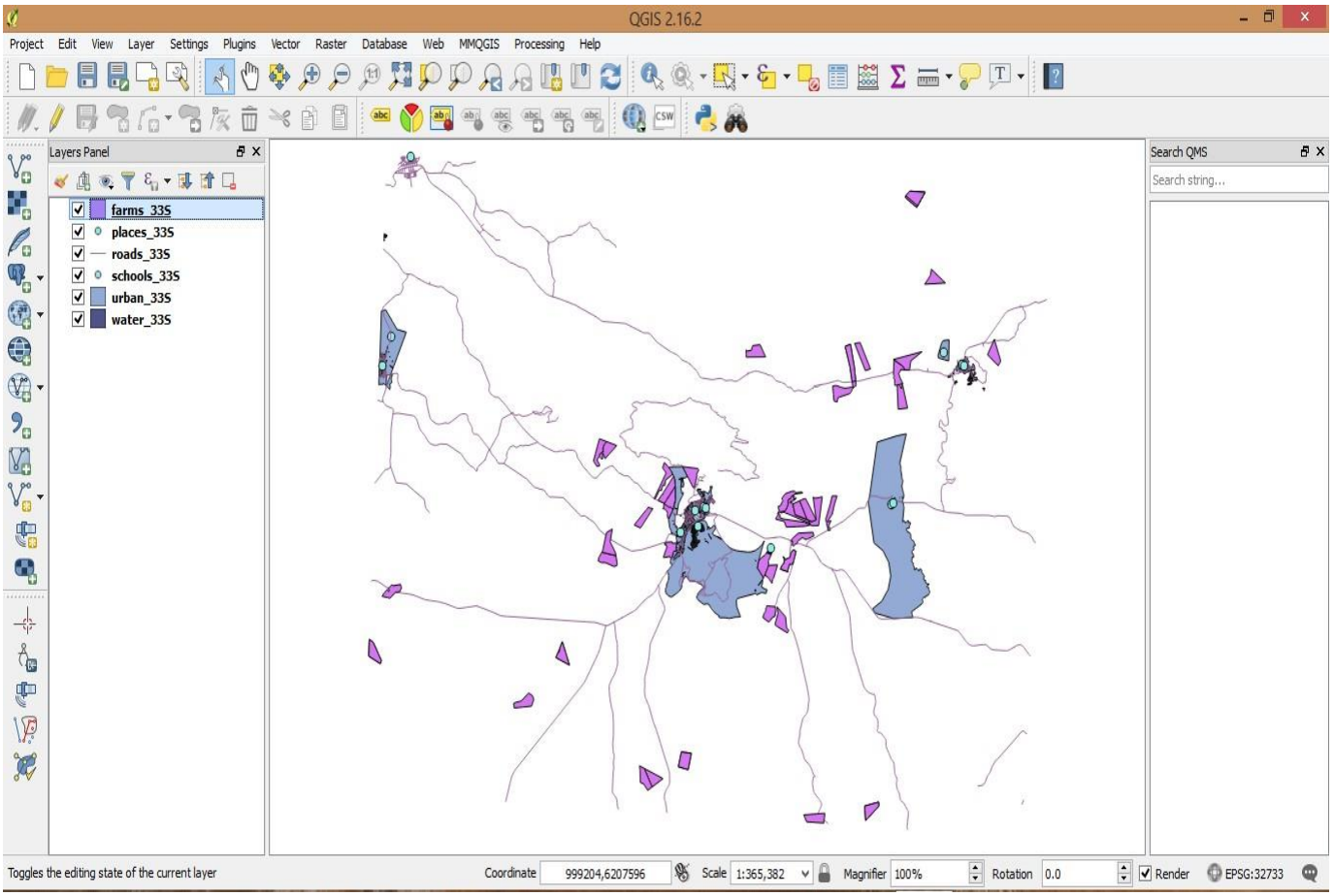
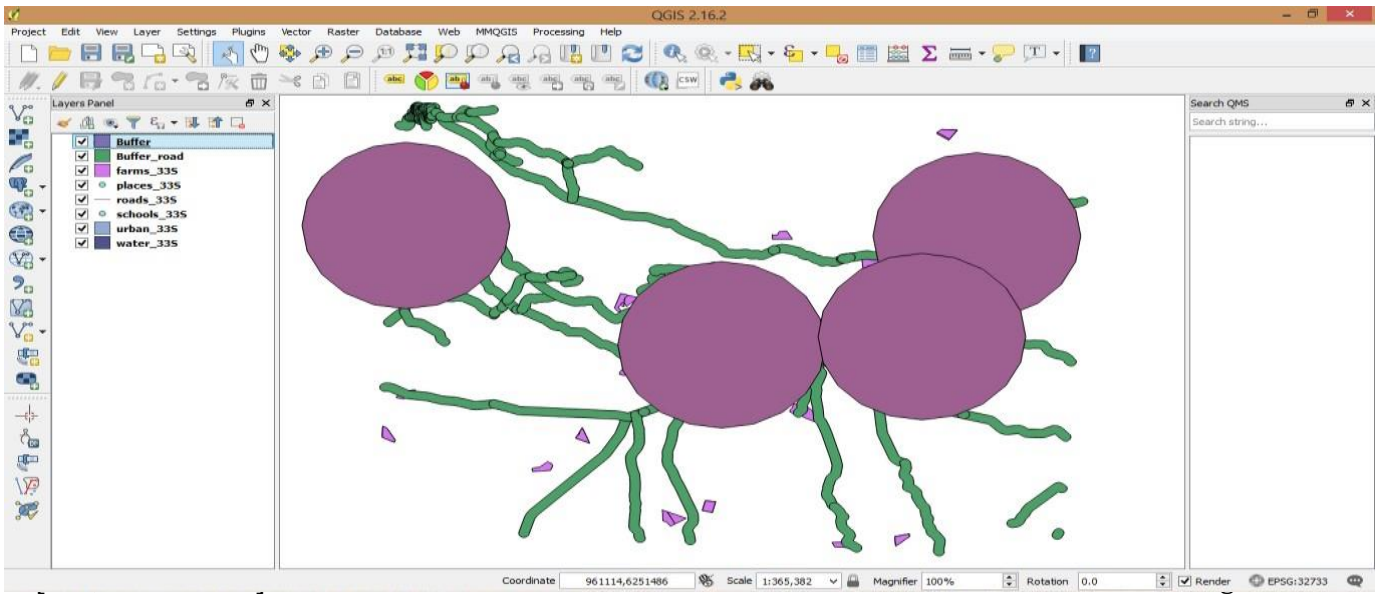


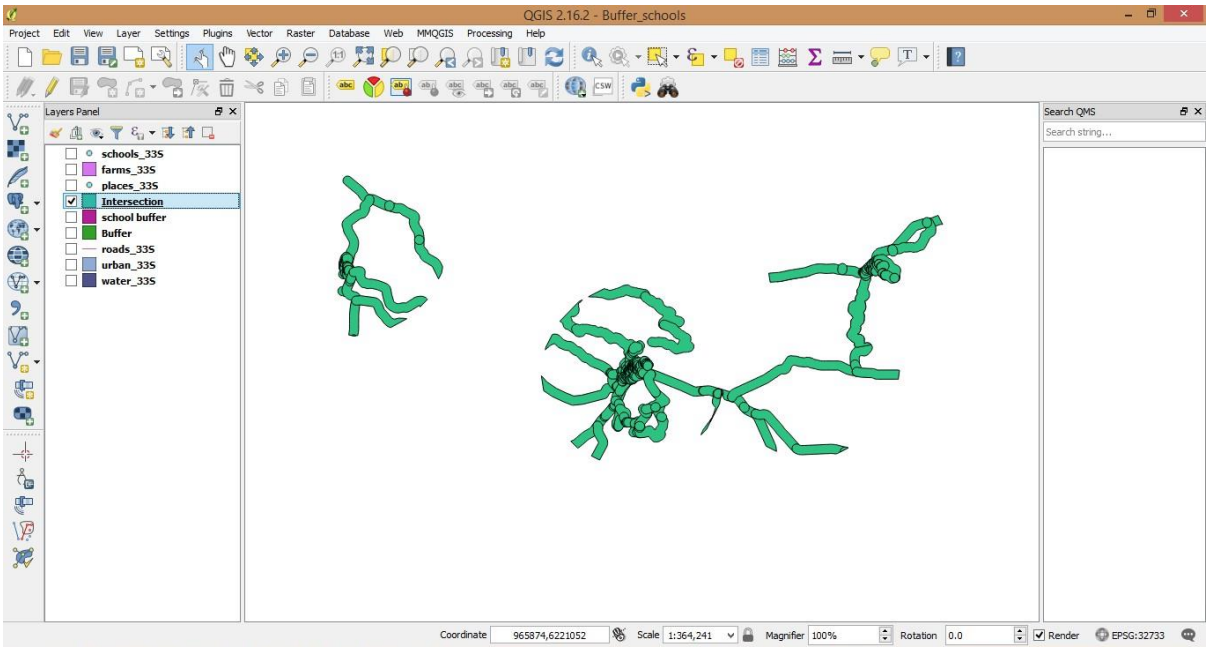

## ➢ Step 3:-

In order to cover the area which is 500m away from the access roads and 10 km away from d school Buffer command was applied by keeping the buffer distance 500m and 10km for roads and schools respectively.



## ➢ Step 4:-

Intersect roads and schools.




## ➢ Step 5:-

Now by selecting Clip as a Geoprocessing tool select the input layer a farms layer having area b/w 100 to 150 hec and clips layer is intersection layer (intersection of road buffer & school buffer)

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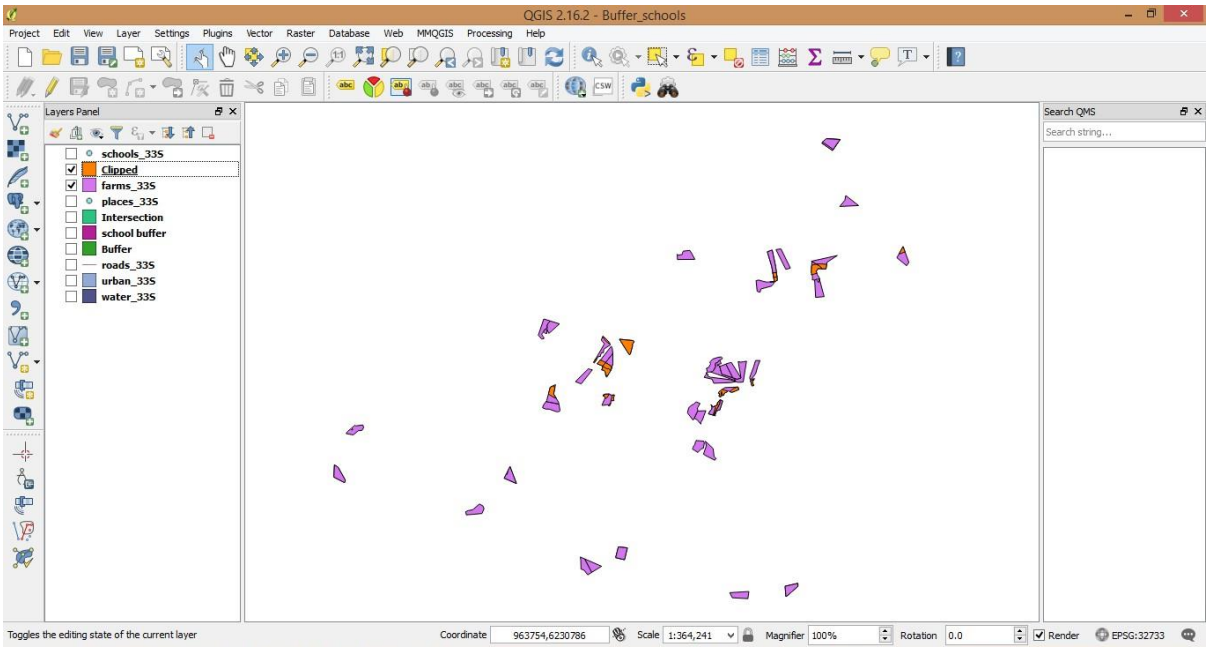
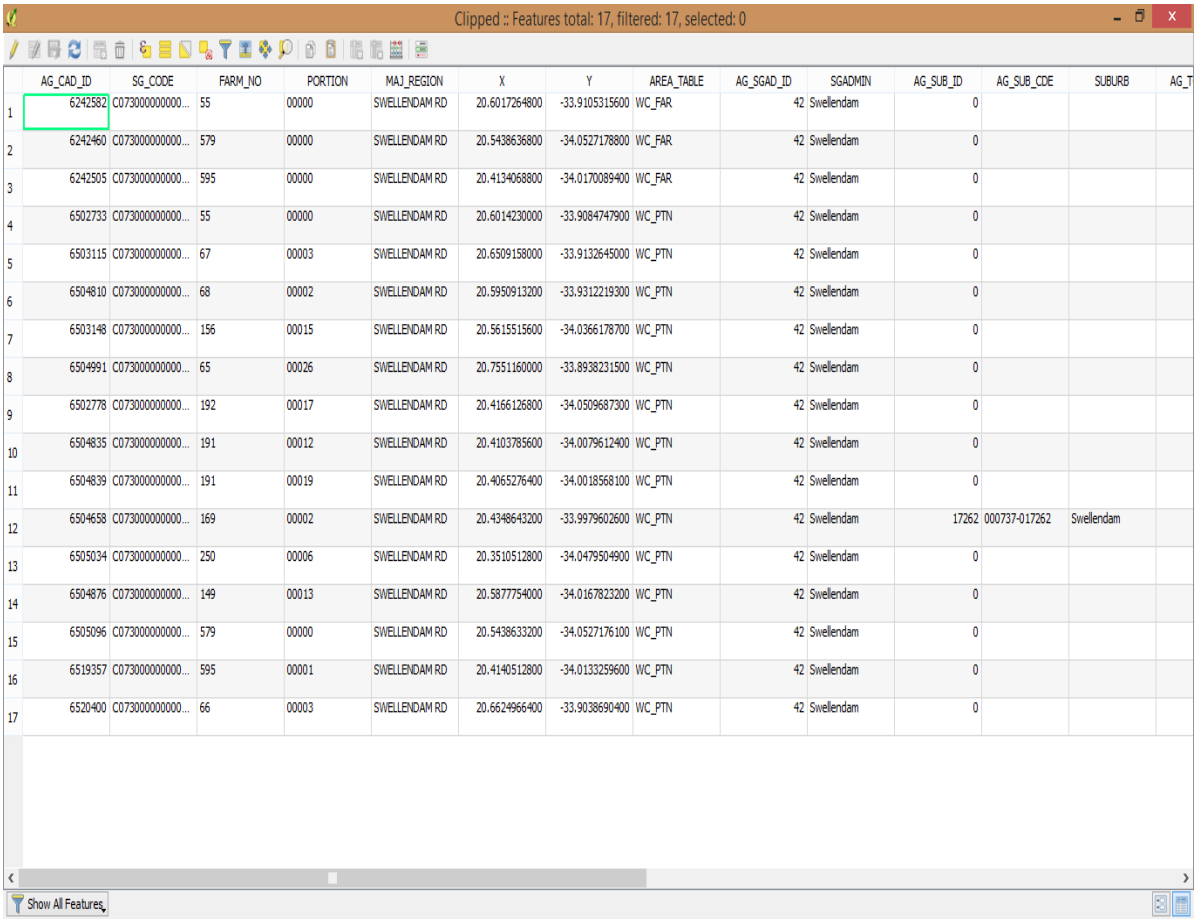


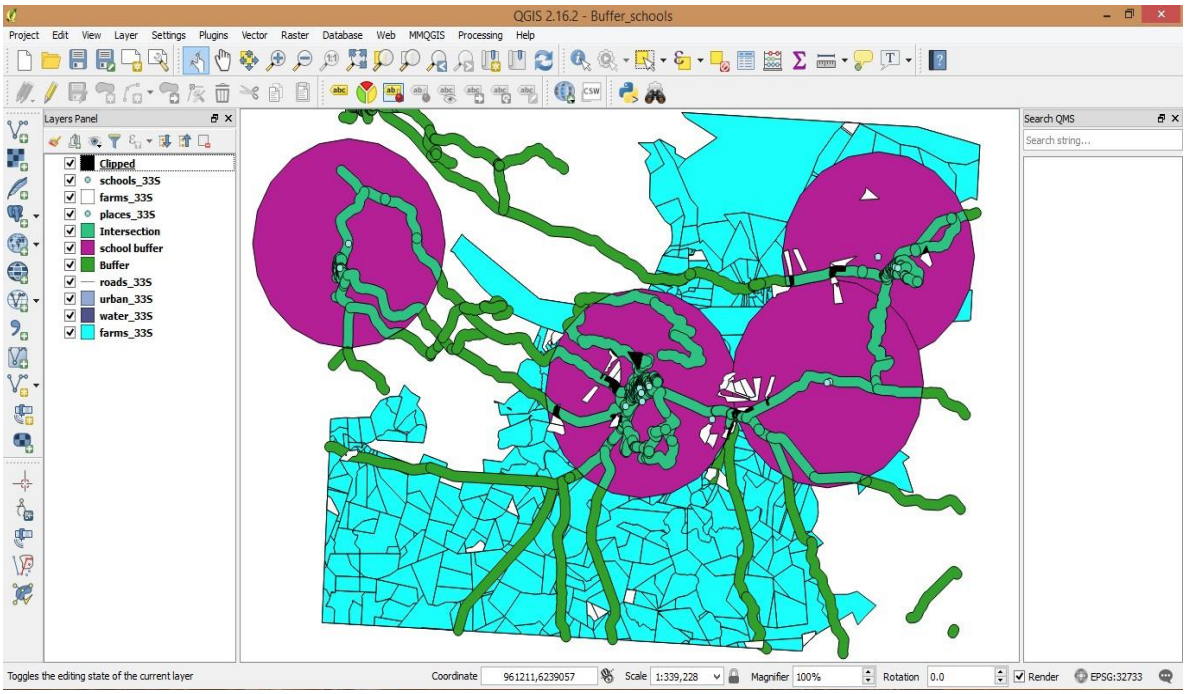

There are 17 farms available which satisfy the given conditions whose attribute table shown below:-




| | AG_CAD_ID | SG_CODE | FARM_NO | PORTION | MAJ_REGION | X | Y | AREA_TABLE | AG_SGAD_ID | SGADMIN | AG_SUB_ID | AG_SUB_CDE | SUBURB | AG_T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6242582 | C073000000000... | 55 | 00000 | SWELLENDAM RD | 20.6017264800 | -33.9105315600 | WC_FAR | 42 | Swellendam | 0 | | | |
| 2 | 6242460 | C073000000000... | 579 | 00000 | SWELLENDAM RD | 20.5438636800 | -34.0527178800 | WC_FAR | 42 | Swellendam | 0 | | | |
| 3 | 6242505 | C073000000000... | 595 | 00000 | SWELLENDAM RD | 20.4134068800 | -34.0170089400 | WC_FAR | 42 | Swellendam | 0 | | | |
| 4 | 6502733 | C073000000000... | 55 | 00000 | SWELLENDAM RD | 20.6014230000 | -33.9084747900 | WC_PTN | 42 | Swellendam | 0 | | | |
| 5 | 6503115 | C073000000000... | 67 | 00003 | SWELLENDAM RD | 20.6509158000 | -33.9132645000 | WC_PTN | 42 | Swellendam | 0 | | | |
| 6 | 6504810 | C073000000000... | 68 | 00002 | SWELLENDAM RD | 20.5950913200 | -33.9312219300 | WC_PTN | 42 | Swellendam | 0 | | | |
| 7 | 6503148 | C073000000000... | 156 | 00015 | SWELLENDAM RD | 20.5615515600 | -34.0366178700 | WC_PTN | 42 | Swellendam | 0 | | | |
| 8 | 6504991 | C073000000000... | 65 | 00026 | SWELLENDAM RD | 20.7551160000 | -33.8938231500 | WC_PTN | 42 | Swellendam | 0 | | | |
| 9 | 6502778 | C073000000000... | 192 | 00017 | SWELLENDAM RD | 20.4166126800 | -34.0509687300 | WC_PTN | 42 | Swellendam | 0 | | | |
| 10 | 6504835 | C073000000000... | 191 | 00012 | SWELLENDAM RD | 20.4103785600 | -34.0079612400 | WC_PTN | 42 | Swellendam | 0 | | | |
| 11 | 6504839 | C073000000000... | 191 | 00019 | SWELLENDAM RD | 20.4065276400 | -34.0018568100 | WC_PTN | 42 | Swellendam | 0 | | | |
| 12 | 6504658 | C073000000000... | 169 | 00002 | SWELLENDAM RD | 20.4348643200 | -33.9979602600 | WC_PTN | 42 | Swellendam | 17262 | 000737-017262 | Swellendam | |
| 13 | 6505034 | C073000000000... | 250 | 00006 | SWELLENDAM RD | 20.3510512800 | -34.0479504900 | WC_PTN | 42 | Swellendam | 0 | | | |
| 14 | 6504876 | C073000000000... | 149 | 00013 | SWELLENDAM RD | 20.5877754000 | -34.0167823200 | WC_PTN | 42 | Swellendam | 0 | | | |
| 15 | 6505096 | C073000000000... | 579 | 00000 | SWELLENDAM RD | 20.5438633200 | -34.0527176100 | WC_PTN | 42 | Swellendam | 0 | | | |
| 16 | 6519357 | C073000000000... | 595 | 00001 | SWELLENDAM RD | 20.4140512800 | -34.0133259600 | WC_PTN | 42 | Swellendam | 0 | | | |
| 17 | 6520400 | C073000000000... | 66 | 00003 | SWELLENDAM RD | 20.6624966400 | -33.9038690400 | WC_PTN | 42 | Swellendam | 0 | | | |

## Final Output4:-

The final output look:




The selected forms were shown by black colour.

END