



ENGINEERING / CADD SYSTEMS OFFICE

# Laying Out Utilities in SS4

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# Topics Covered

- Retired Utility Levels, QC Legacy
- Laying out utilities using Features and viewing them in Cross Sections
- Explain SUE and SUDA and the licensing
- Laying out utilities using SUE and viewing them in the Cross Sections
- Clash Detection
- Flex Tables

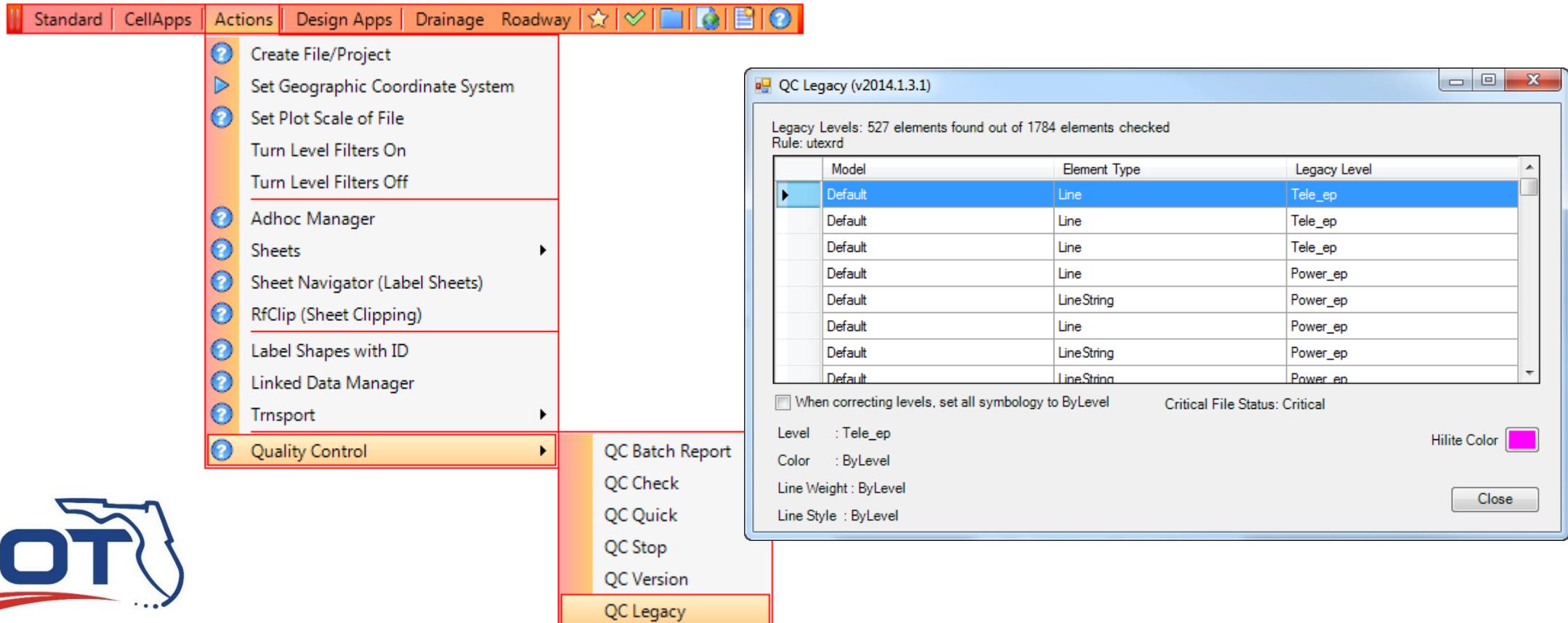
# Retired Utility Levels and Updating them

- All utility levels without Quality Levels have been retired.
- Other utility level names have been updated to for consistency:
  - All “power” levels have been changed to “elec”
  - Fiber Optic has been broken out into 3 different types (FOCable, FOElec, and FOTele)
  - Other miscellaneous changes have been made also.



# Retired Utility Levels and Updating them

- Good News!! There is a tool for locating and updating the out of date levels:



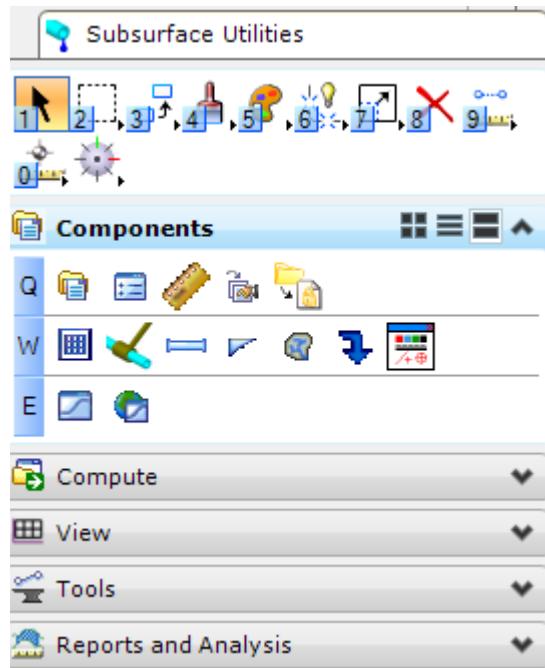
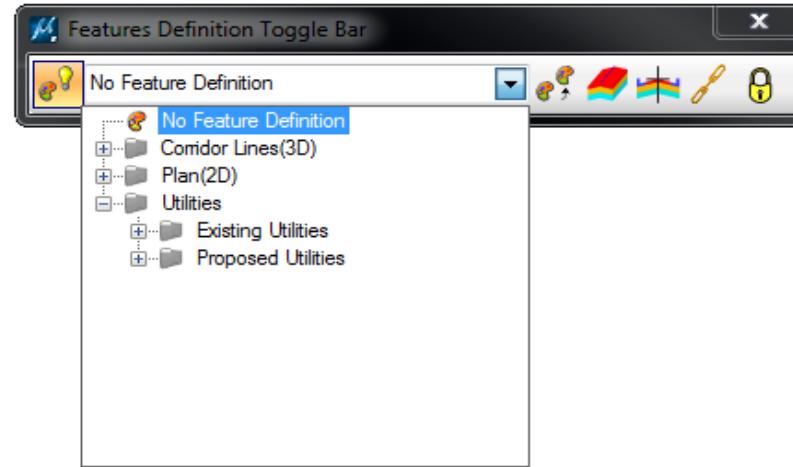
# Quality Levels

- **Quality Level D:** Lowest level of accuracy. Information is obtained from existing utility records.
- **Quality Level C:** More accurate than Quality Level D. Information is obtained from topographic surveying of visible utility features.
- **Quality Level B:** More accurate than Quality Level C. Information is obtained from the use of scanning technologies.

This information can be found in the PPM Ch. 5; Section 5.3: Utility Locates.

# Laying Out Utilities

## 1. Utility Features:



## 2. SUE:

# What is SUE or SUDA?

## Subsurface Utility Design and Analysis (SUDA)

### Subsurface Utility Engineering (SUE)

### StormCAD Hydraulic Analysis/Design Engineering

- Conflict Management / Clash Detection
- SUE Attribution

- 3D Modeling of underground objects.
- Integrate with OpenRoads

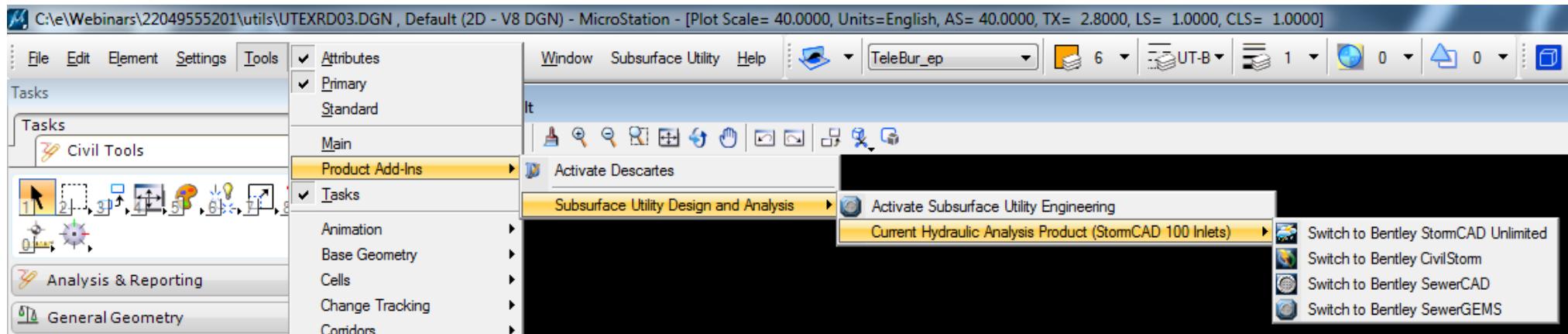
- Storm/Sanitary Hydraulic Analysis and Design
- Hydrology

# SUDA/SUE Licensing

If you own this license:	Drainage Functions	Utility Functions
Any OpenRoads product: <ul style="list-style-type: none"><li>• GEOPAK</li><li>• PowerGEOPAK</li></ul>	<ul style="list-style-type: none"><li>• StormCAD which includes storm water design and analysis.</li><li>• Maximum 100 Inlets per drainage model.</li><li>• Storm Water Attributes.</li></ul>	<ul style="list-style-type: none"><li>• Utilities can be modeled in 3D.</li><li>• No SUE Attributes.</li><li>• No Utility Conflict Tools</li></ul>
OpenRoads plus any of the following: <ul style="list-style-type: none"><li>• StormCAD Unlimited</li><li>• SewerCAD</li><li>• CivilStorm</li><li>• SewerGEMS</li></ul>	<ul style="list-style-type: none"><li>• Additional hydraulic calculations depending on which license is activated.</li></ul>	<ul style="list-style-type: none"><li>• Utilities can be modeled in 3D.</li><li>• No SUE Attributes.</li><li>• No Utility Conflict Tools</li></ul>
Any of the products above plus a SUE license.	<ul style="list-style-type: none"><li>• Same hydraulic calculations capabilities as above.</li></ul>	<ul style="list-style-type: none"><li>• SUE Attributes</li><li>• Utility Conflict Tools</li></ul>

# SUDA/SUE Product Add-Ins Activation

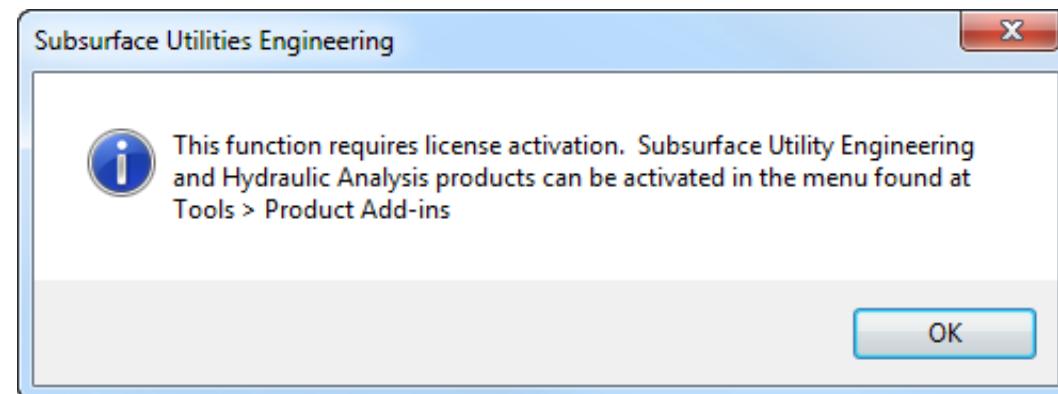
- To activate the different product add-ins use Tools > Product Add-Ins menu.



- If activated, an alert that additional license usage will be logged which may result in additional cost.

# SUE Licensing

- The Subsurface Utility Engineering product has three main functions:
  - Model Utilities
  - Clash Detection (**Requires Product Add-In**)
  - Enhanced Utility Attribution (**Requires Product Add-In**)
- Tools > Product Add-Ins > Activate Subsurface Utility Engineering.



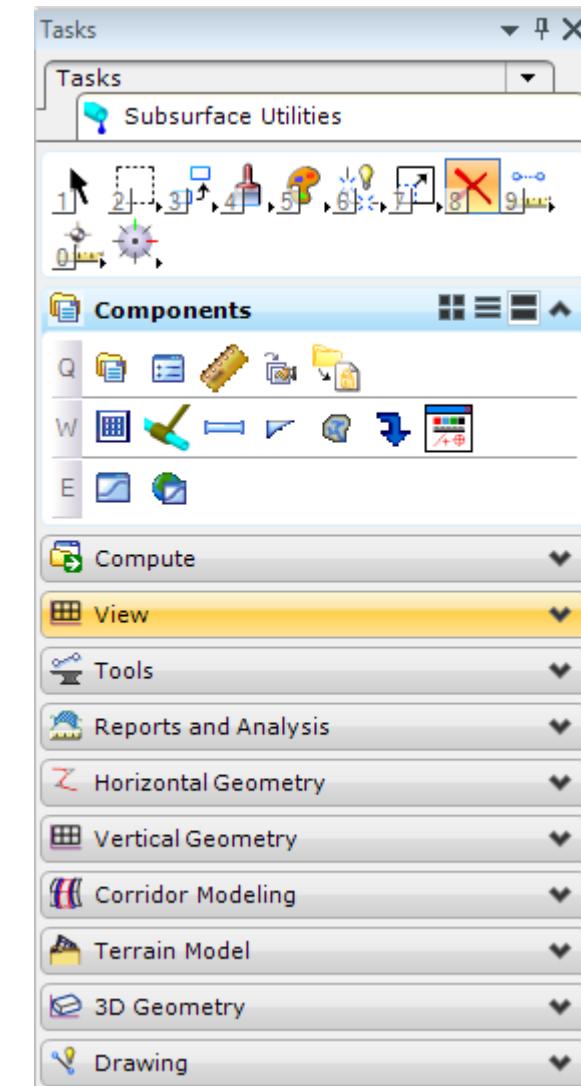
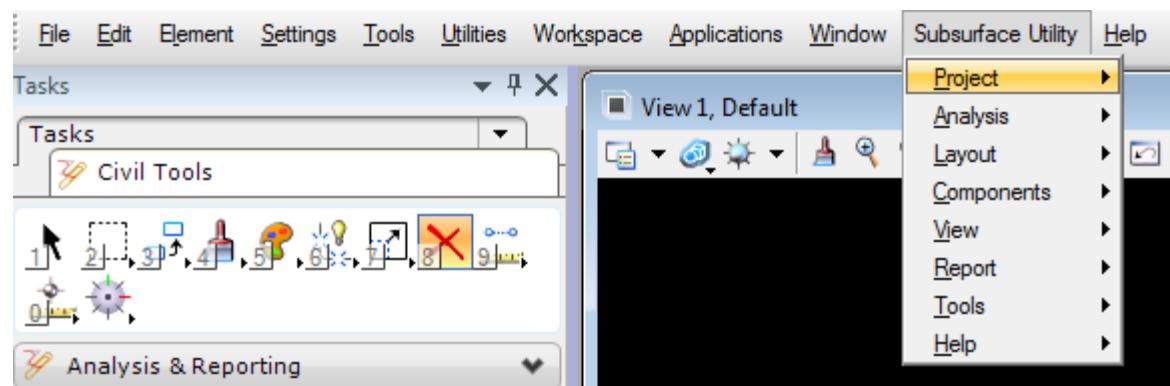
# Disabling SUDA Products

- A customized DGNLIB is provided with the FDOTSS4 workspace.
  1. Copy the CivilCommands.dgnlib from the `\FDOTSS4\RESOURCES\Dgnlibs\General` folder on the server to the `C:\Program Files (x86)\Common Files\Bentley Shared\Civil Platform\08.11.09` folder on each client PC.
  2. Add these variables to a file named `CustomVars.txt` file in the `\FDOTSS4\Workspace\Users` folder on the server.

## Config Variables:

```
FDOT_DISABLE_SUE=TRUE  
FDOT_DISABLE_STORMCADUNLIMITED=TRUE  
FDOT_DISABLE_CIVILSTORM=TRUE  
FDOT_DISABLE_SEWERCAD=TRUE  
FDOT_DISABLE_SEWERGEMS=TRUE
```

# SUE



# Questions?

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