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Drainage in SS4

Christiana Holmes

Topics Covered

- Explain SUE and SUDA and the licensing
- The SUDA Hotfix
- The Subsurface Utility Menus
- Importing a GDF file
- Creating a Drainage Project
- Placing Nodes
- Placing Conduit
- Computation Tools
- Hydraulic Analysis Tab
- Flex Tables
- Clash Detection

What is SUE or SUDA

Subsurface Utility Engineering (SUE)

- Conflict Management / Clash Detection
- SUE Attribution

StormCAD Hydraulic Analysis/Design Engineering

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

- Storm/Sanitary Hydraulic Analysis and Design
- Hydrology

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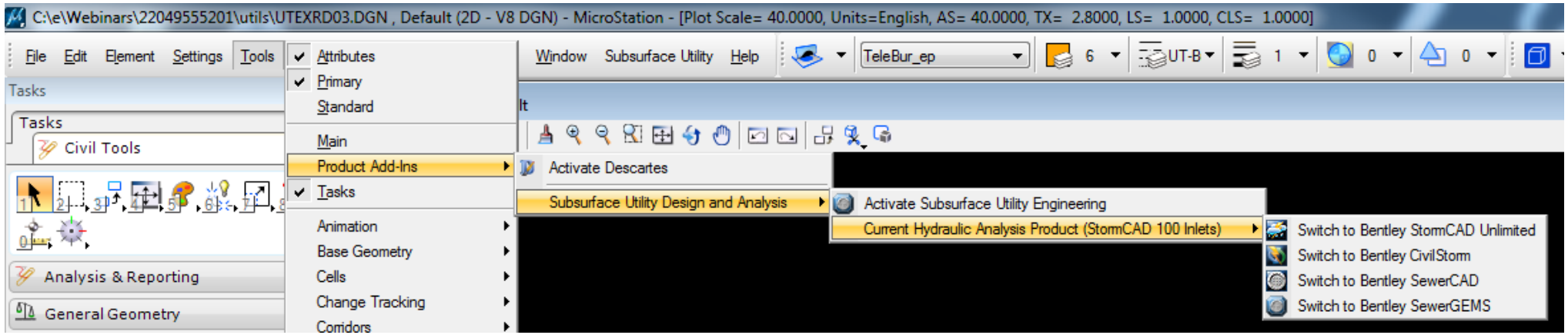
SUDA/SUE Licensing

If you own this license:	Drainage Functions	Utility Functions
Any OpenRoads product: • GEOPAK • PowerGEOPAK	• StormCAD which includes storm water design and analysis. • Maximum 100 Inlets per drainage model. • Storm Water Attributes.	• Utilities can be modeled in 3D. • No SUE Attributes. • No Utility Conflict Tools
OpenRoads plus any of the following: • StormCAD Unlimited • SewerCAD • CivilStorm • SewerGEMS	• Additional hydraulic calculations depending on which license is activated.	• Utilities can be modeled in 3D. • No SUE Attributes. • No Utility Conflict Tools
Any of the products above plus a SUE license.	• Same hydraulic calculations capabilities as above.	• SUE Attributes • Utility Conflict Tools

SUDA/SUE Product Add-Ins Activation

- To activate the different add-ins go to Tools > Product Add-Ins.



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

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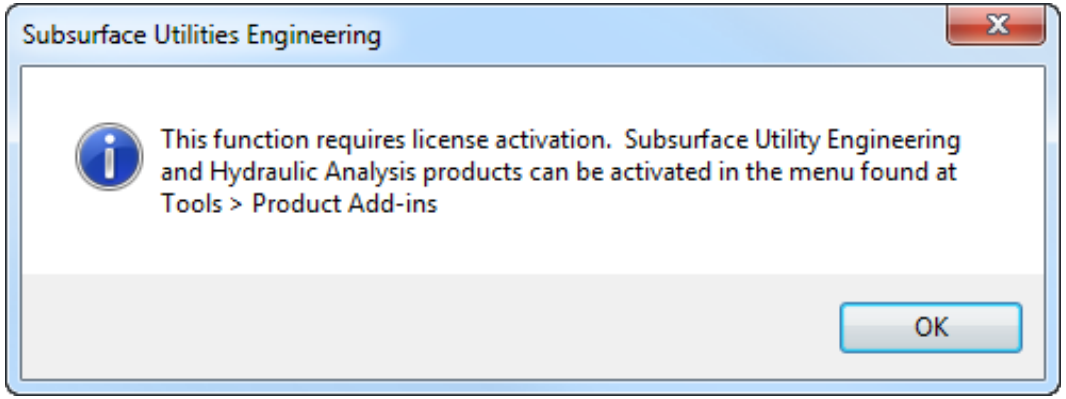
SUDA Licensing

- The Subsurface Utility Engineering product has three main functions:
  - Model Drainage
  - Drainage Network Calculations and Analysis
  - Clash Detection **(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

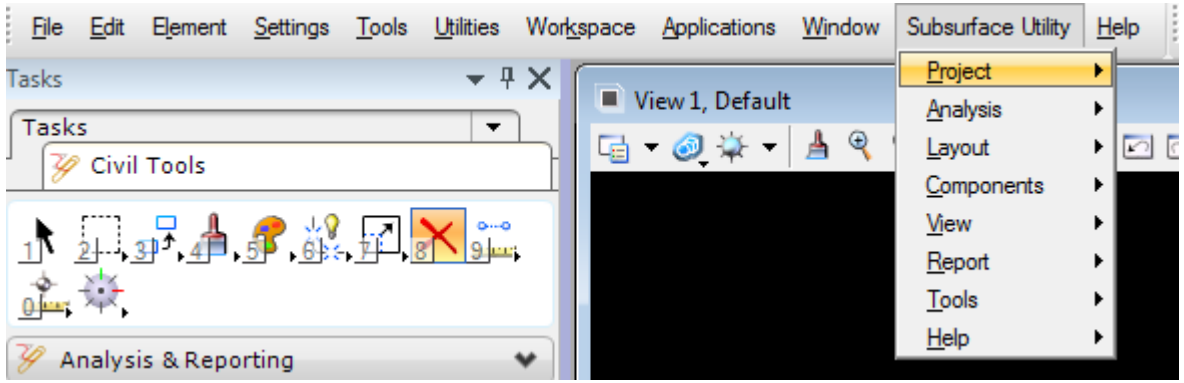
FDOT_DISABLE_SEWERGEMS=TRUE

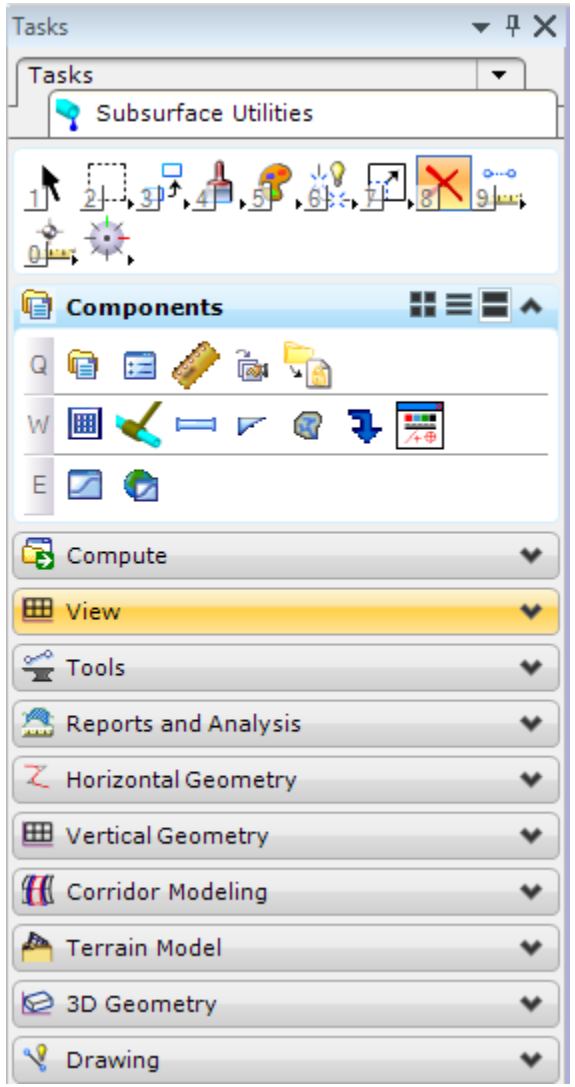
SUE Hotfix DLL

- In the SELECTseries 4 Maintenance Release 1 (build 08.11.09.845) there is a bug in the SUDA products that causes a .NET Framework error every time a file with SUDA information closes. An updated DLL fixes this issue.
- The download to the DLL can be found on the Bentley communities site at the link below:

  http://communities.bentley.com/communities/user_communities/fdot_cadd_support/m/fdotss3_-_post_release_fixes/271940

Subsurface Menus





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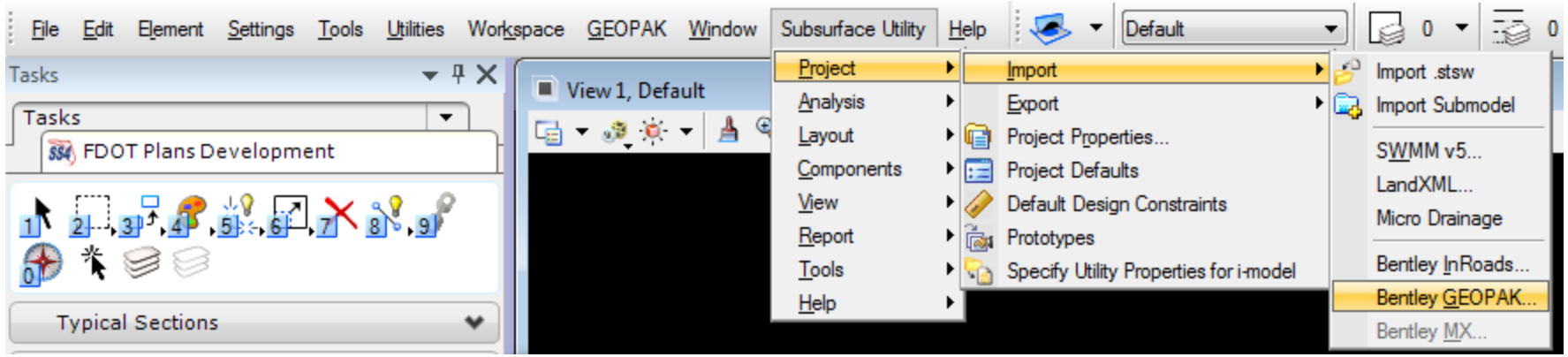
Importing a GDF file

- Subsurface Utility > Project > Import > Bentley GEOPAK…



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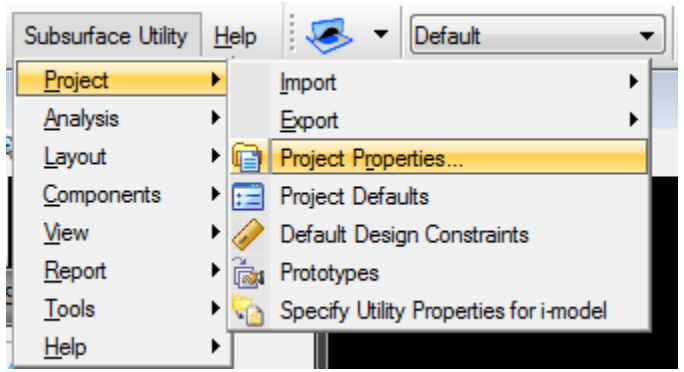
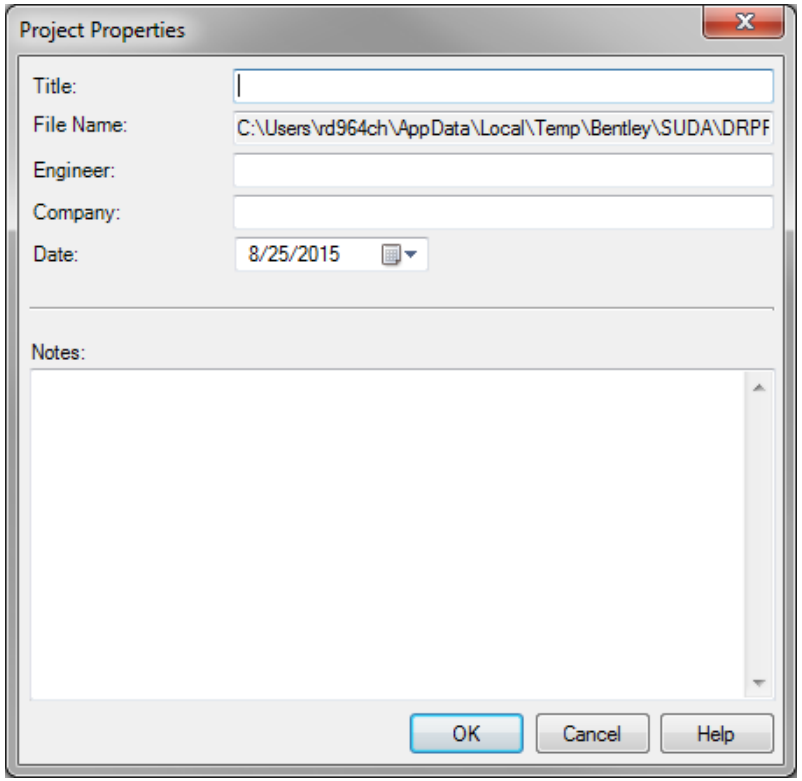
Creating a Drainage Project

- Always create a Drainage Project to create the SUDA model.





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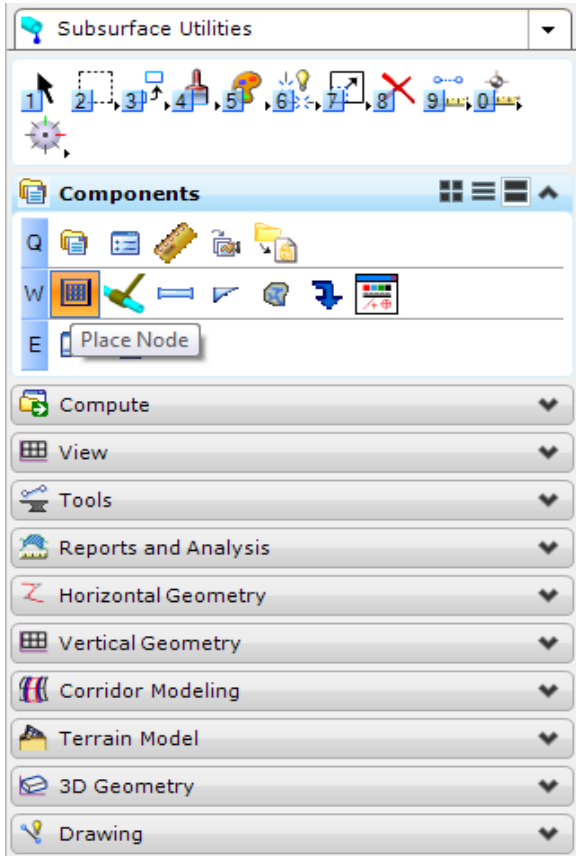
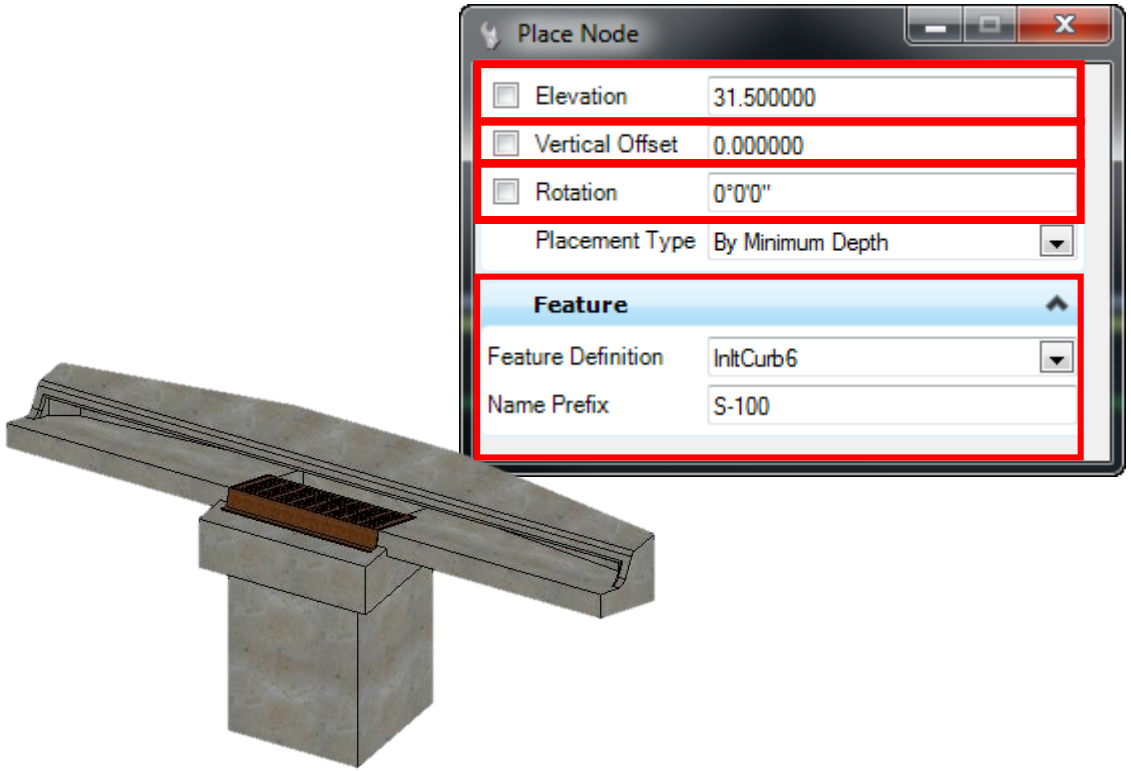
Placing Nodes

- Subsurface Utilities > Components > Place Node





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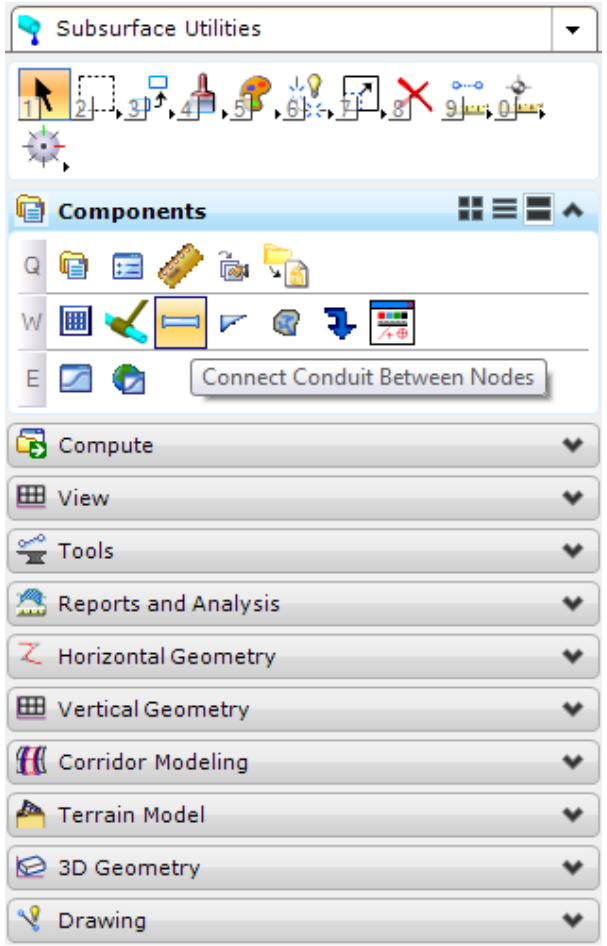
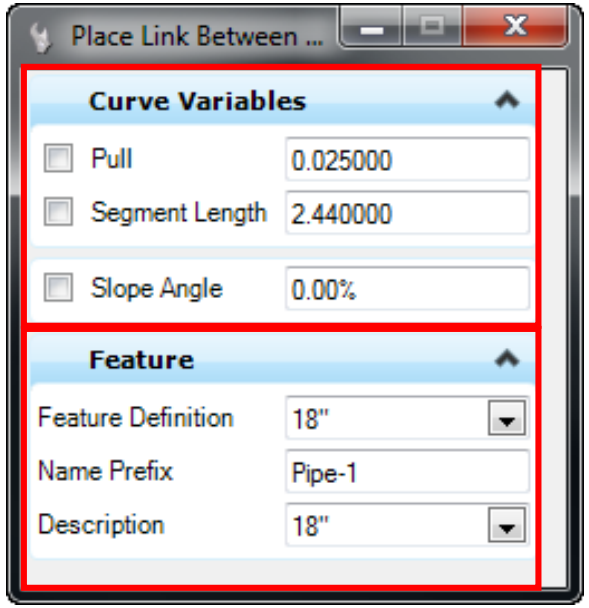
Placing Conduit

- Subsurface Utilities > Components > Connect Conduit Between Nodes





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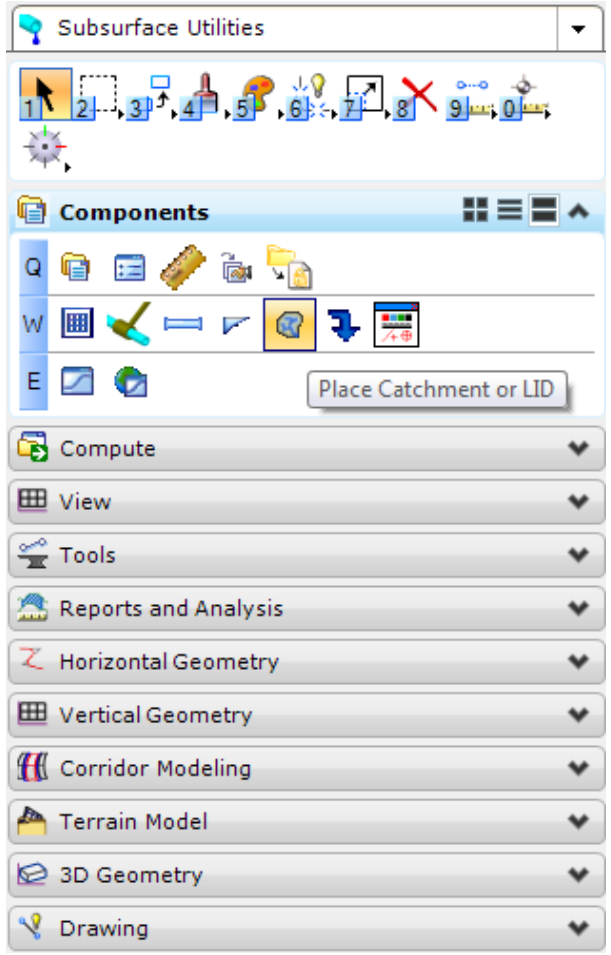
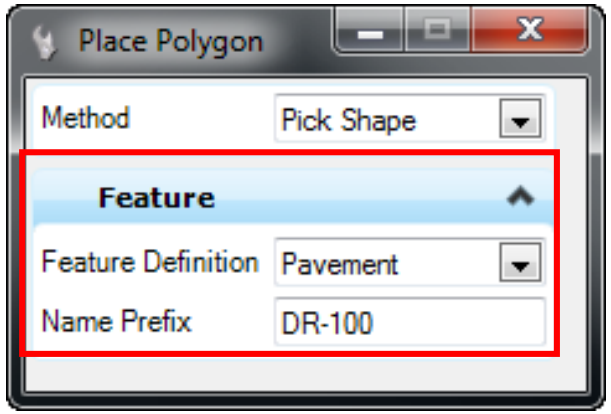
Catchment Areas

- Subsurface Utilities > Components > Place Catchment





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Extracting Existing Drainage

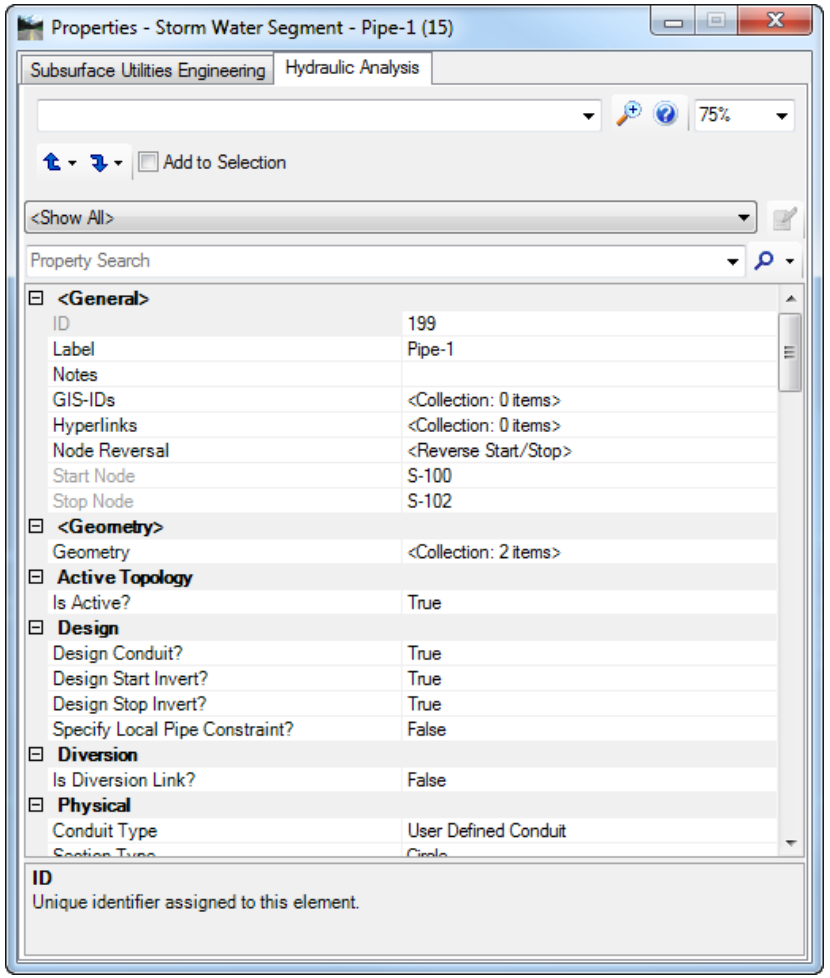
Extract from Graphics

- The Extract Utilities from Graphics tool provides the ability to create 3D drainage elements from graphic elements. These elements may result from survey processes, GIS graphic data, OpenRoads Geometry or other sources. But, in every case the elements are DGN graphic elements.

Place Null Node

- There is a null node that is delivered with the SS4 Workspace that can be used for as an existing drainage structure to tie back into an existing network.

Utility Properties/Hydraulic Analysis Tab



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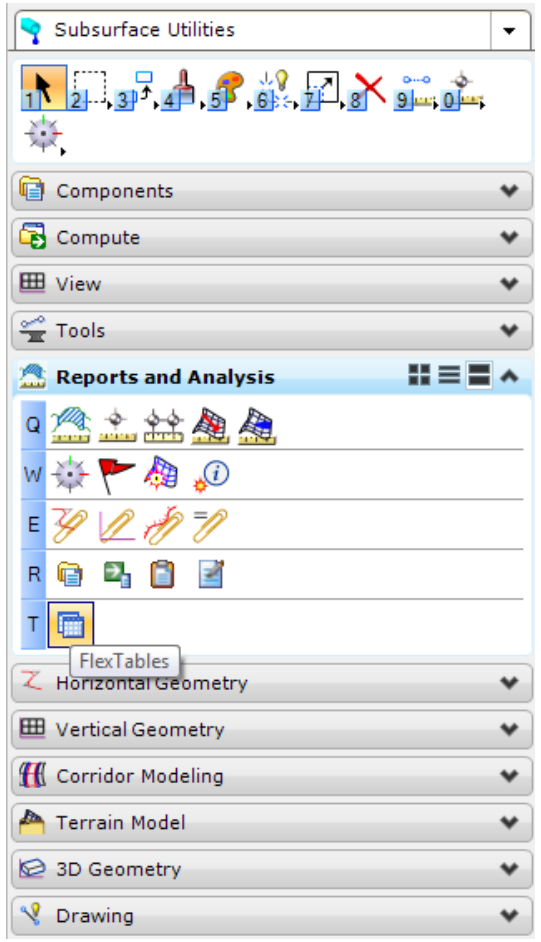
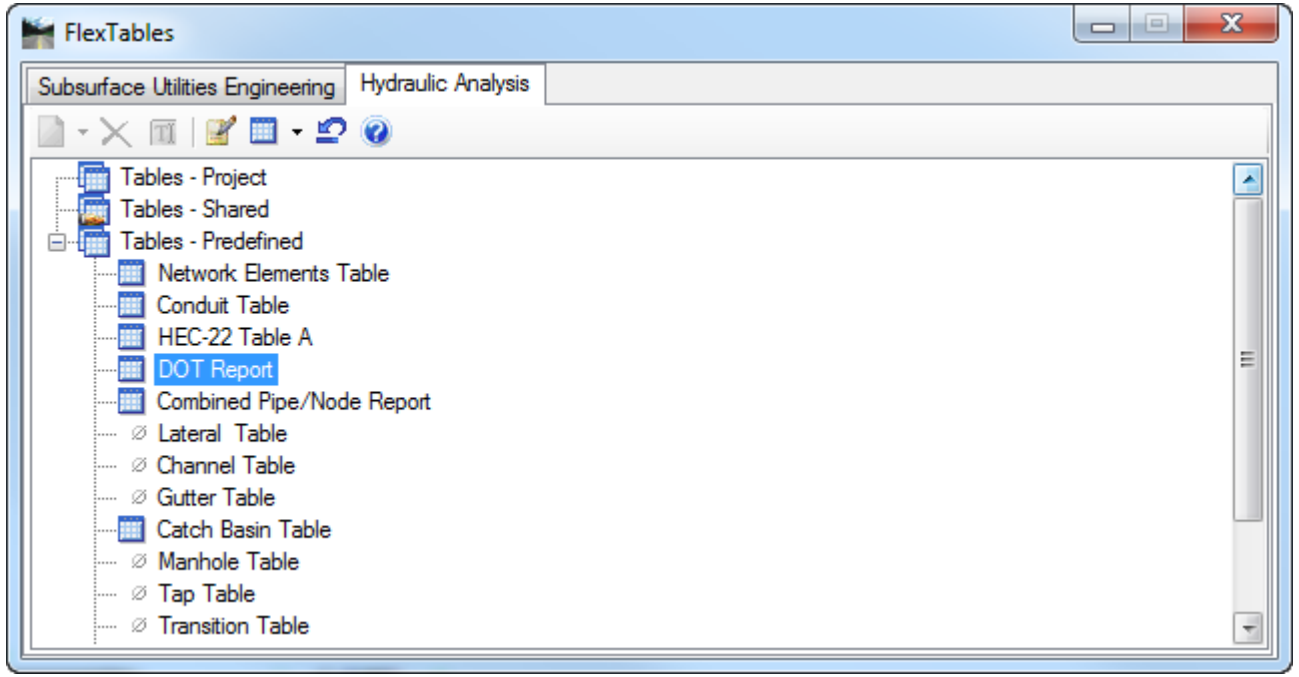
Computation and Analysis

- Calculation Options
  - Includes all of the information about the hydraulic and calculation methods.
- Scenarios
  - Scenario Manager provides unlimited variation of design parameters with complete confidence that known good alternatives can be recalled at any time.
- Compute

Flex Tables

- Subsurface Utilities > Reports and Analysis > Flex Tables





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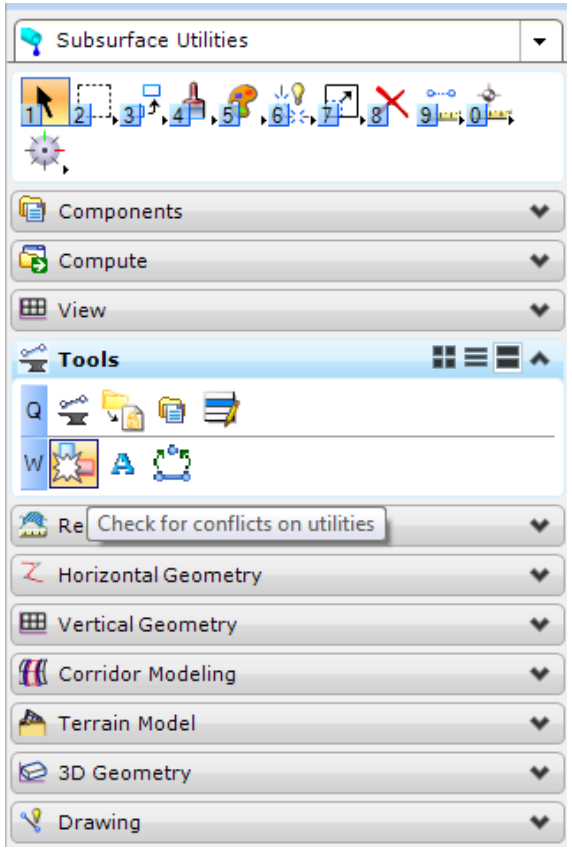
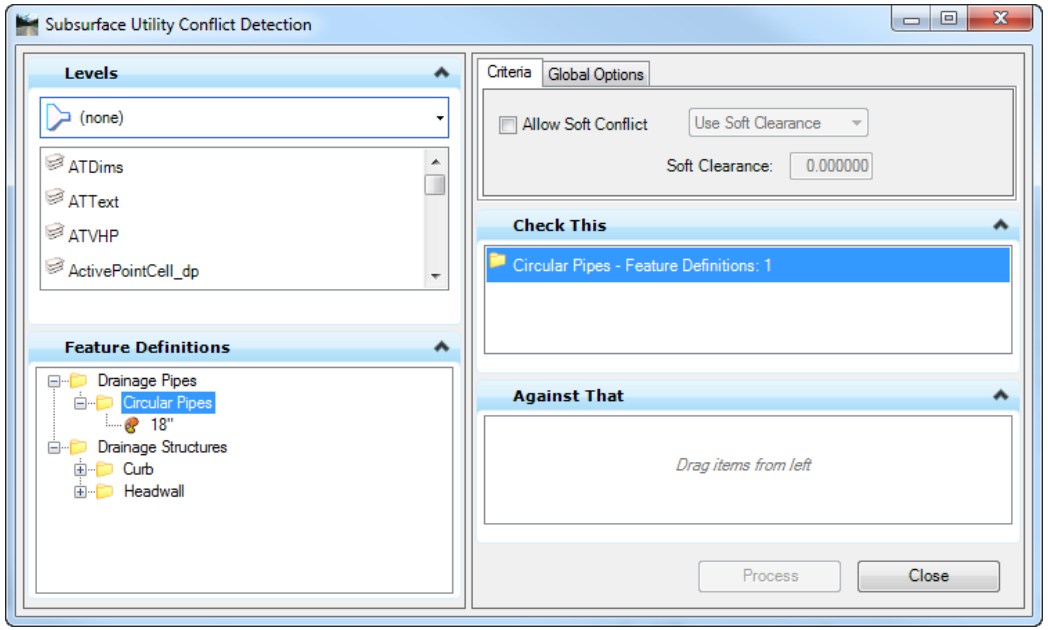
Clash Detection

- Subsurface Utilities > Tools > Clash Detection
  - Requires Extra License





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Training Manuals

- All of these processes have been documented in the new training manuals. There are 3 new training manuals for SS4:
    1. FDOT Roadway Design and 3D Modeling for SS4
    2. FDOT Plans Development Workflows for SS4
    3. FDOT GEOPAK Drainage for SS4
- These manuals are available on our website at the following link:

    http://www.dot.state.fl.us/ecso/main/FDOTCaddTraining.shtm
- There are also videos of the manuals recorded on our youtube site:

    https://www.youtube.com/channel/UCqbY8kqZuXp1pyYV6lIQw_A

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Questions?

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