Scenario Management

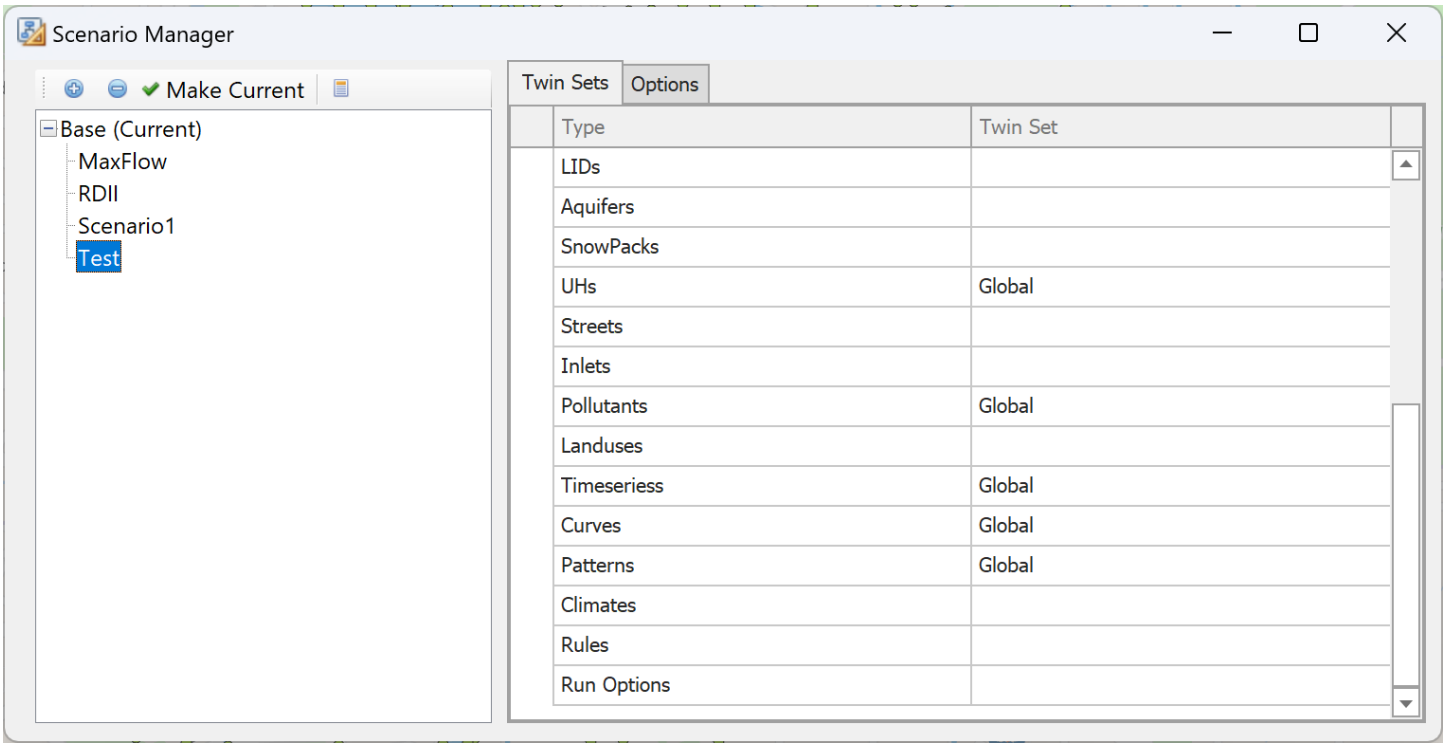

Figure 1: AquaTwin Scenario Manager window.

Contents

Creating a New Scenario

Scenario Manager

1. The *Scenario Manager* can be accessed through the AquaTwin ribbon under the *Scenario* button. Additionally, it can also be accessed through *Data Explorer* > *Scenario* button as shown in **Figure 2.**

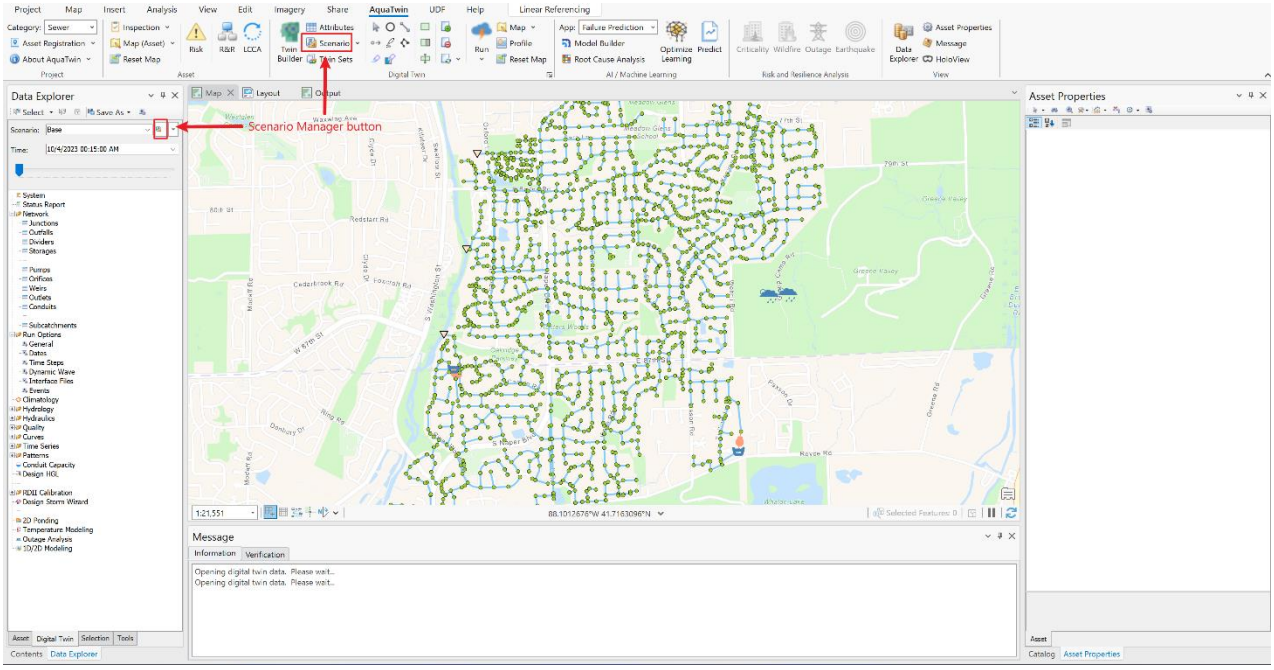

Figure 2: *Scenario Manager* buttons in AquaTwin.

2. Clicking on the *Scenario* button will open the *Scenario Manager* window **(Figure 3)**. The button with the plus sign can be used to create a new scenario of an existing scenario. In AquaTwin, all the scenarios have a parent-child relationship. Meaning, a new scenario created from an existing scenario will receive all its model parameters from the existing scenario.

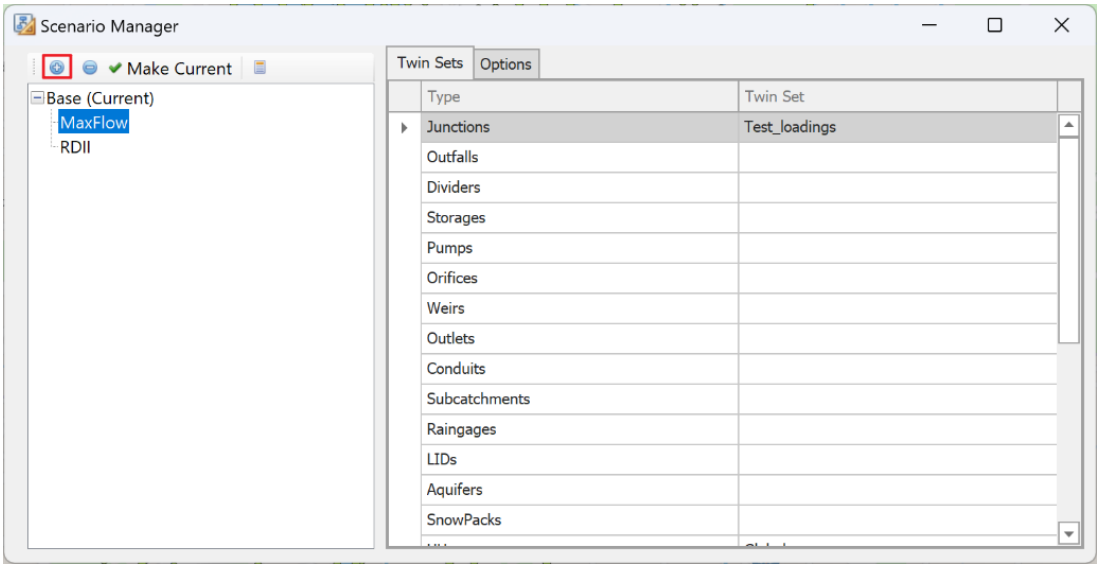

Figure 3: *Scenario Manager* window.

For example, a MaxFlow scenario has been created here from the Base scenario in **Figure 3.** As a result,

the child MaxFlow scenario gets all its model parameters from the parent Base scenario (including the *Twin Sets*).

3. Despite a parent-child relationship, the scenarios are completely **independent** of each other by default meaning, any changes made in the child scenario will not be reflected in the parent scenario and vice-versa.

Creating Twin Sets

1. Dependency between scenarios is built through the *Twin Sets*. *Twin Sets* can be created from the AquaTwin ribbon or through *Data Explorer* > *Scenario* dropdown button as shown in **Figure 4**.

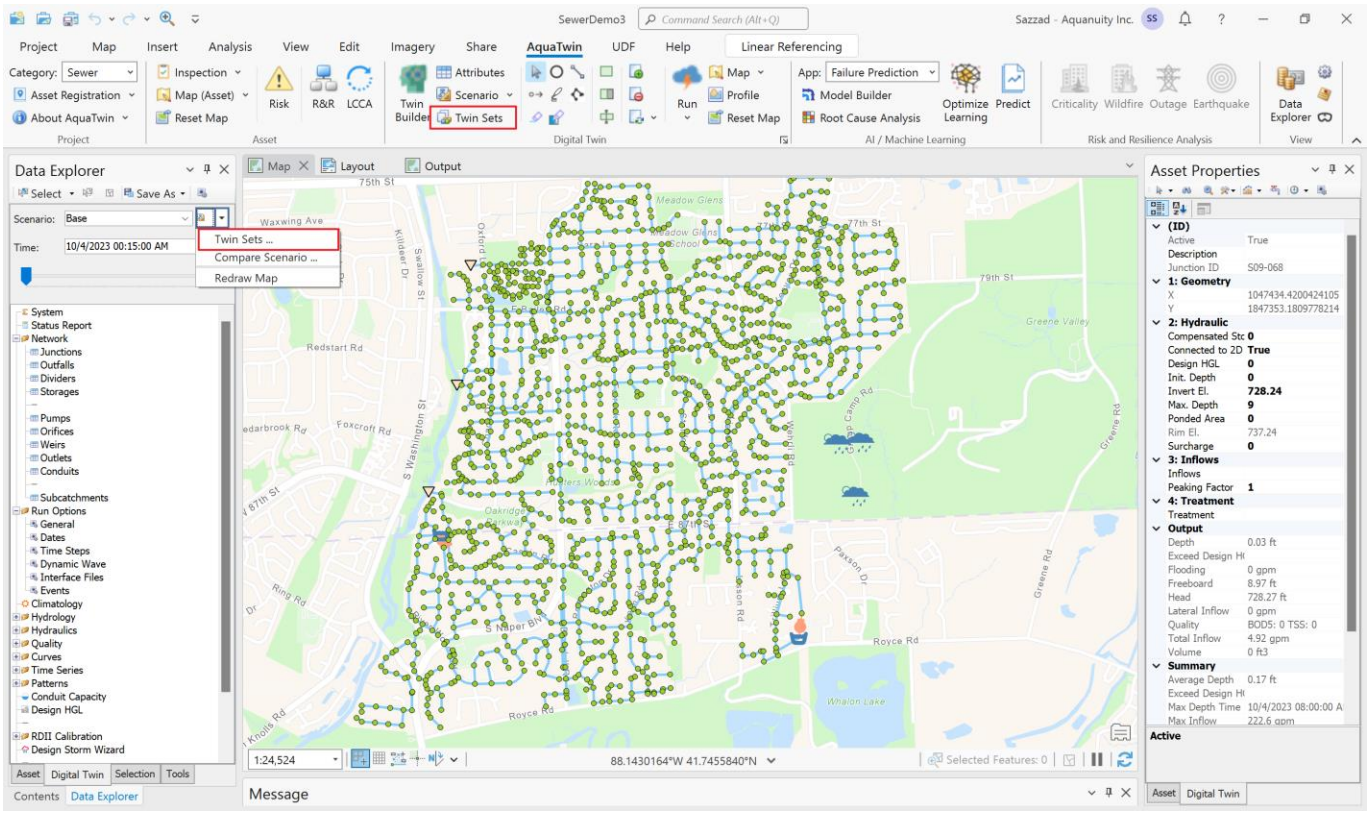

Figure 4: Creating *Twin Sets* in AquaTwin.

2. For Sewer, the user has the option of creating *Twin Sets* of Junction, outfall, Conduits, Curves, Run Options, etc. A complete list of available Twin Set options is shown in **Figure 5**.
3. A Twin Set can be created by selecting the Twin Set type by clicking on the folder (for example the Junction folder) and pressing the *Create* button. Moreover, Twin Set can be created for a selection of network features from the *Create* dropdown button and pressing *Create Twin Sets from Selection*.
4. It is important to note that the newly created Twin Set will get all the model attributes from the **current active scenario**.
5. The newly created *Twin Sets* can be accessed through the folders in the *Twin Sets* window. The attribute of a Twin Set can be viewed by using the *Twin Attributes* button.
6. Additionally, the *Clone*, *Merge to*, and *Delete* buttons can be used to manage existing *Twin Sets*.

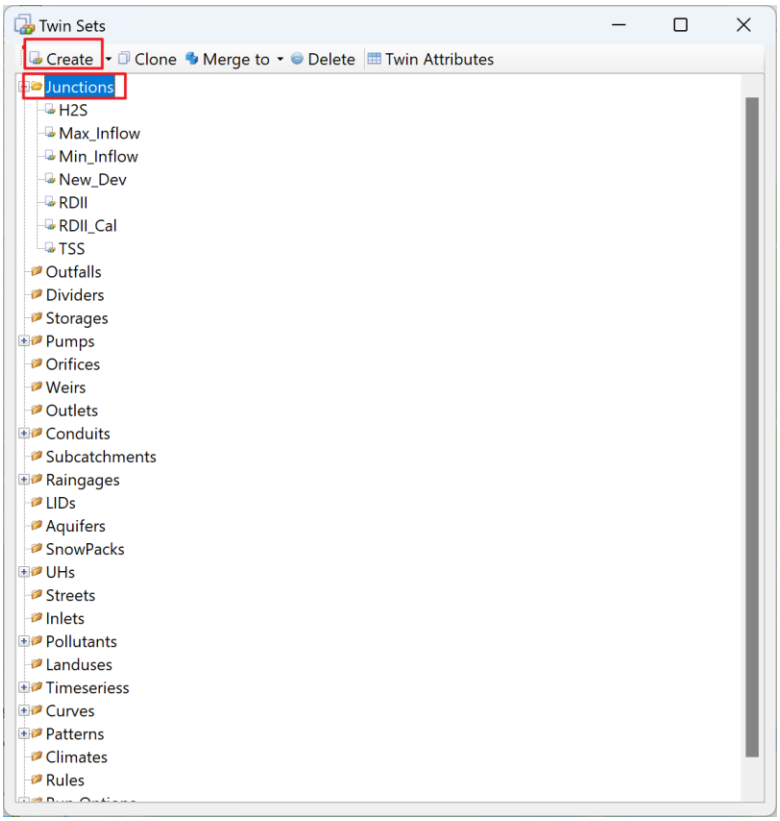

Figure 5: *Twin Sets* in AquaTwin Sewer.

Assigning Twin Sets to Scenarios

1. In the scenario manager, *Twin Sets* can be assigned to scenarios by selecting the desired scenario and adding the Twin Set from the dropdown menu for network types (**Figure 6**).

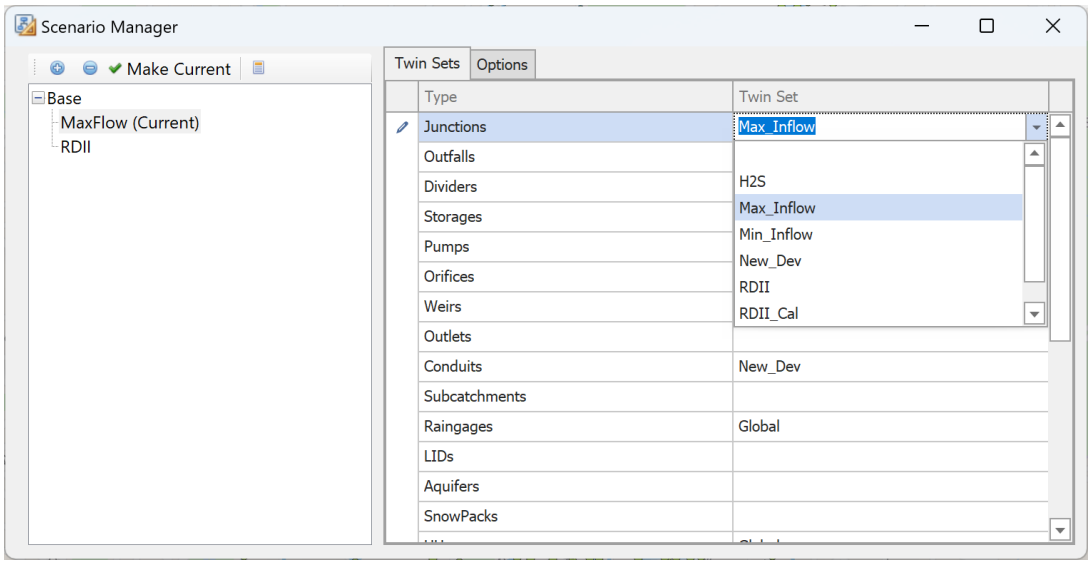

Figure 6: Assigning *Twin Sets* to scenarios in AquaTwin Sewer.

Using Query to Activate Pipes

1. The user can also used saved query to active/deactivate a part of the network.
2. To use this feature, the user needs to create a *New Query* of pipes through *Data Explorer > Selection.*
3. Now a selection of pipes (from the newly created query) can be activated from the *Options* tab in the scenario manager, checking the *Apply to a Saved Query of Pipe* check box and selecting the save query from the dropdown menu.

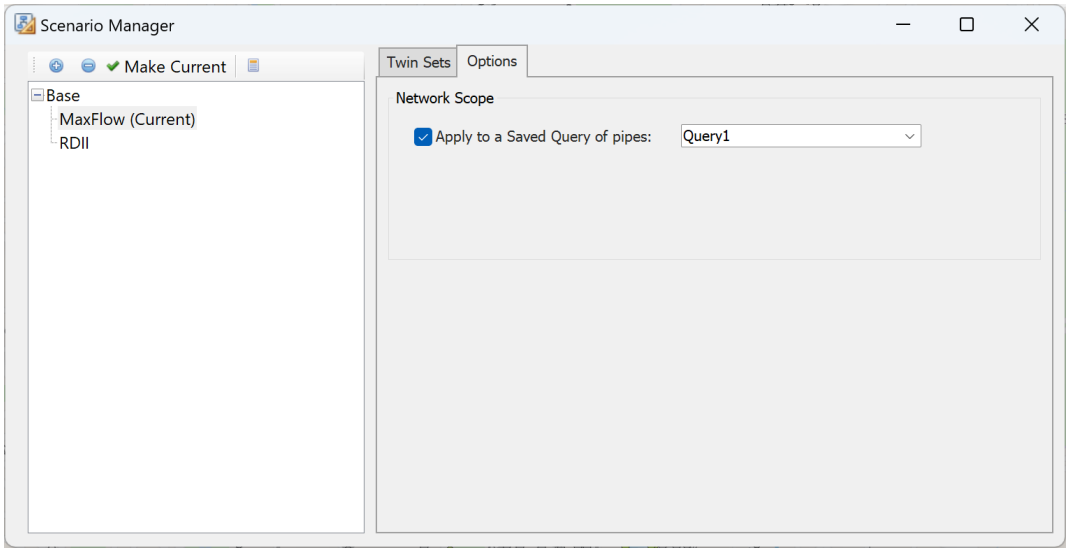

Figure 7: Activating pipes in a scenario based on query.

4. Now redrawing the map (*Data Explorer > Tools > Redraw Map from DB*) will refresh the map display and a part of the network will be deactivated (greyed out) based on the query.

Managing Scenarios

Compare Scenarios

1. Different scenarios can be compared from the *Compare Scenario* button, which can be accessed either from the *Scenario* dropdown menu in the AquaTwin ribbon or through *Digital Twin* as shown in **Figure 8**.
2. The *Compare with* button will let the user select the scenario to compare with the current scenario.
3. After pressing the *Compare with* button, the *Compare Scenario* window will show the number of matched, missing or new network types.
4. The *Show Changes* button (the marked green button in **Figure 9**) will show the attributes those are different in the current scenario from the scenarios compared that is to.
5. The *Show Changes* tables can be expanded and copied for further investigation.

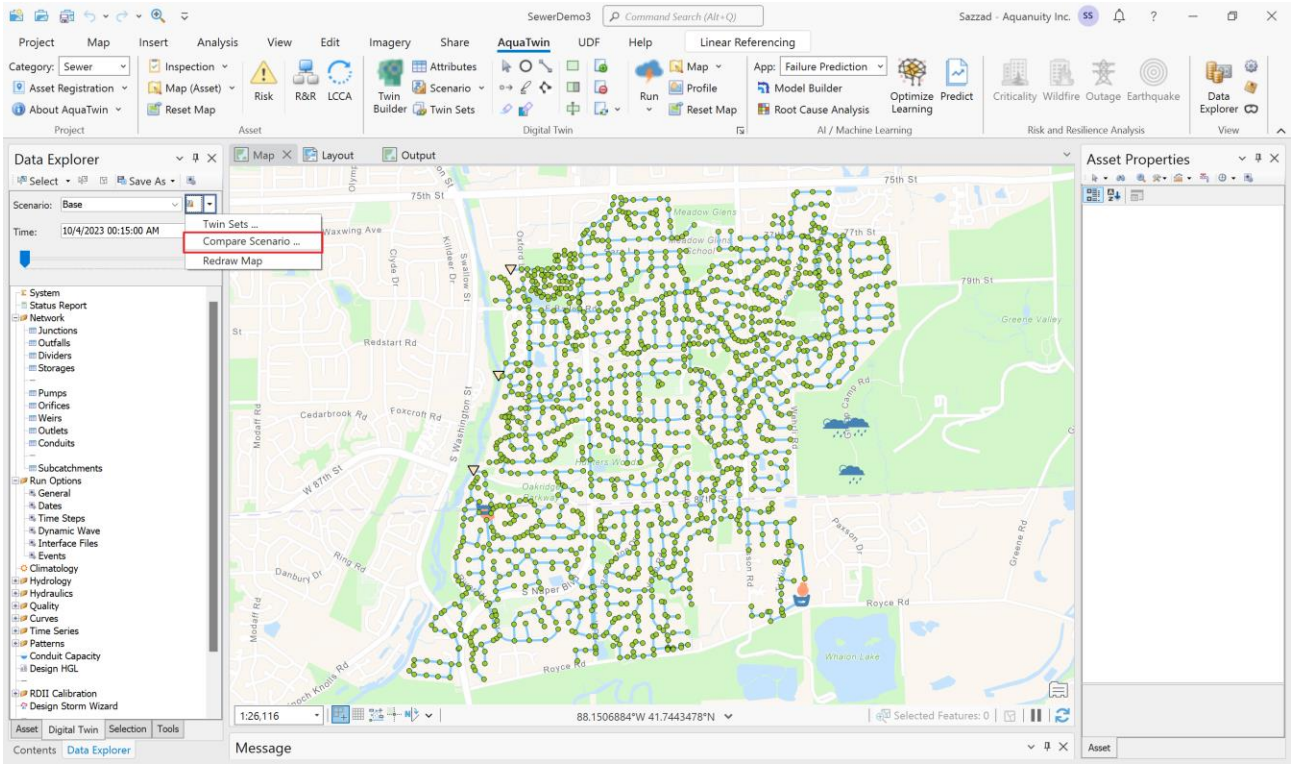

Figure 8: *Compare Scenario* button.

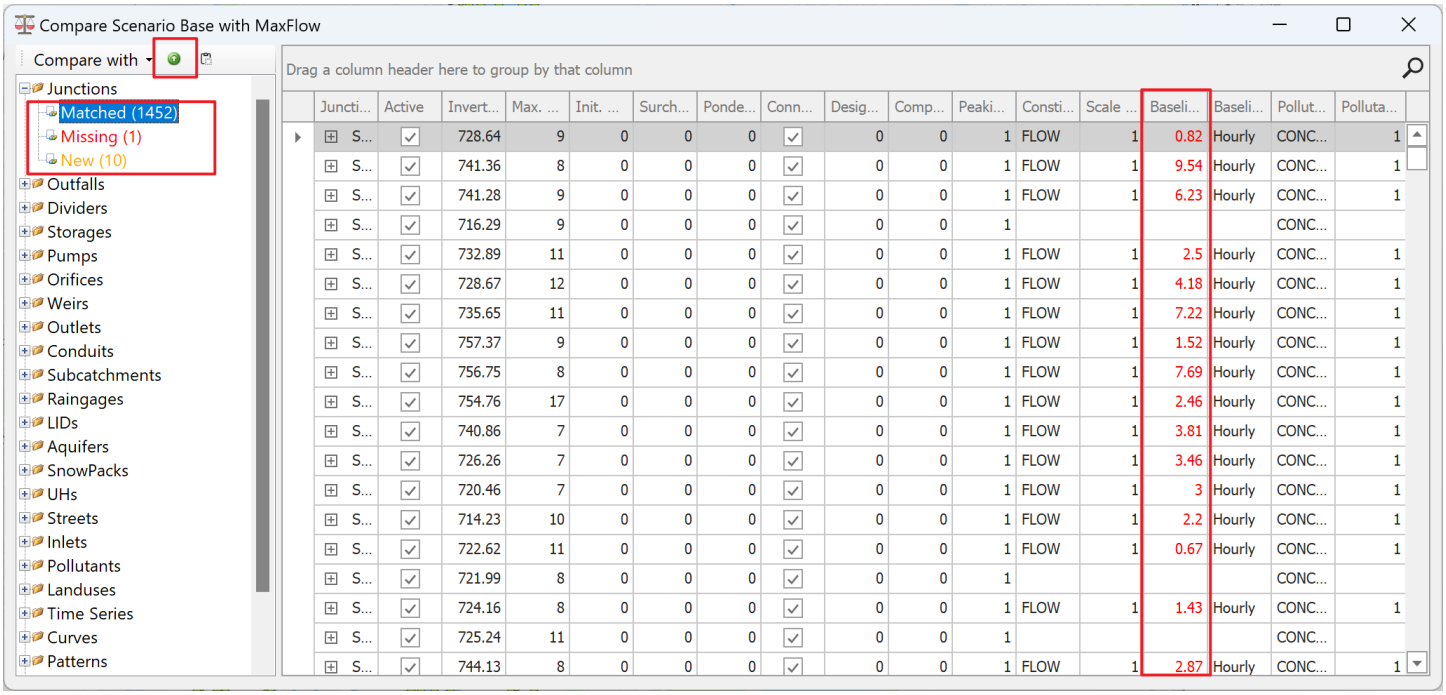

Figure 9: A sample comparison between two scenarios.