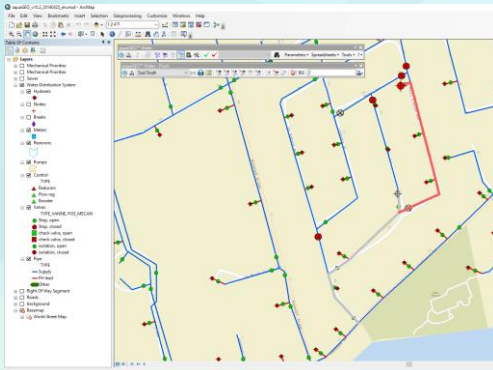




Unidirectional Flushing Module

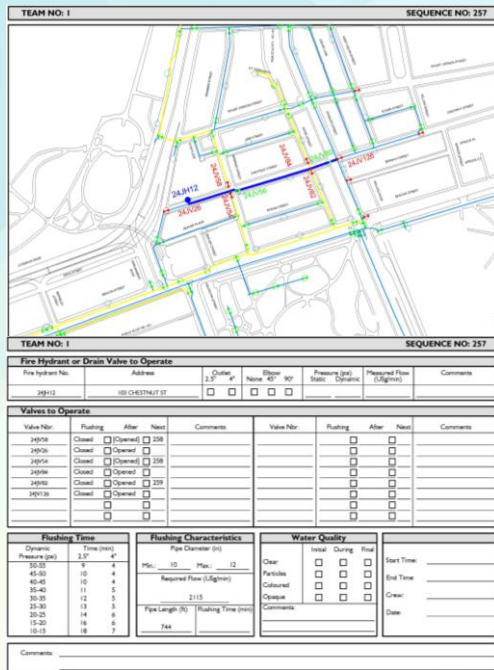
Complementary to the Hydraulic Modeling module

WHAT IS UNIDIRECTIONAL FLUSHING?

- Unidirectional flushing (UDF) of a water distribution system is a technique used to systematically remove non-hardened deposits within a network by increasing water velocity by strategic manipulation of valves and fire hydrants ;
- An effective unidirectional flushing sequence begins with a clean water supply or from a section of network previously flushed and moves to the extremities of the network, sequence by sequence.

ADVANTAGES OF THE UNIDIRECTIONAL FLUSHING MODULE

- Using the flow direction from the hydraulic model, generation of flushing sequences for the entire water distribution system or for critical sectors (DMAs, pressure districts, etc.);
- Generation of multiple flushing programs to accommodate various field crews within the same project;
- Generation of sequences using a mathematical algorithm according to parameters imposed by the user: pipe diameters to include, max sequence length, fire hydrants and valves to be avoided;
- The edit tool allows modifications to sequences generated by the algorithm;
- Identification of pipe sections to be flushed, fire hydrants to use, the valves to close, the flushing time according to the pressure measured during the flushing execution and anticipated flow;
- Graphic and descriptive sheet for each sequence;
- Colour or black and white printing of easy-to-use field journals.



Unidirectional Flushing Module

Complementary to the Hydraulic Modeling module

SEQUENCE VALIDATION

- Automatically validates the generated sequences through verification of the following parameters:
 - Confirmation of unidirectional flow;
 - Prevention of water supply interruption (isolated sector);
 - Supply from a clean water source for each sequence;
 - Elevation and pressure differentials tolerated;
 - Maximal flushing time tolerated;
 - Avoiding non-operable system elements;
 - Pipe diameter respected.

UNIDIRECTIONAL FLUSHING PROGRAM STATISTICS

- A summary of the total of fire hydrants and valves used, water volume used, and total length of the pipe flushed in a program;
- Storage of data collected during flushing execution and preparation of reports for benchmarking and program effectiveness analysis purposes.

UDF Field-Data Collection Tool

- Record flushing time, water quality, hydrants and valve operation condition and any other relevant information during flushing execution;
- Elimination of handwritten data, reducing update times;
- Generation of flushing reports following execution;
- Rapid access to real flushing times and to real water volume used.