



## WATER DISTRIBUTION NETWORK MODELLING SOFTWARE

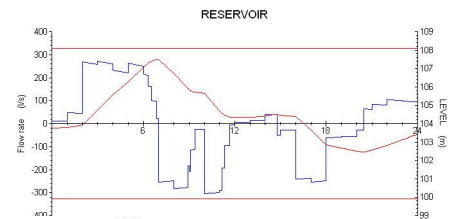
### BETTER KNOWLEDGE FOR BETTER NETWORK MANAGEMENT

Piccolo is a general software application that simulates flow problems in networks. PICCOLO works out the velocity, pressure and flow rates according to the network data. Simulations can be run for steady-state or dynamic conditions.

The setting-up and calibration of a PICCOLO network model offers the following possibilities:

#### Diagnosis of Operation:

- Overall functioning of network
- Reservoir marling survey
- Low pressure area surveys
- High velocities and high gradients surveys
- Identification of unexpected singularities, such as closed valves



### FORWARD PLANNING AND SIZING OF NETWORKS

A calibrated PICCOLO model can be used for:

#### Master Planning, according to future water demand for:

- New resources and treatment facilities
- Primary network extension and improvement, pumping and storage facilities

#### Case Studies :

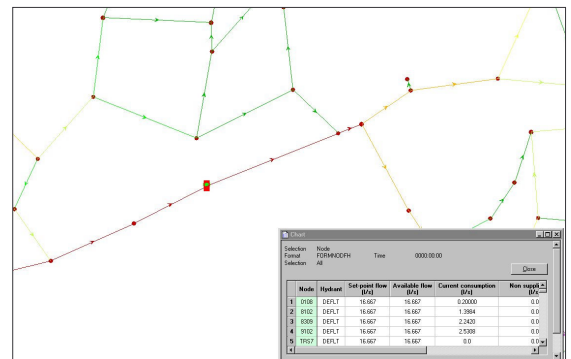
- Housing developments
- Fire protection
- Pipe-burst simulations

#### Water Quality Studies :

- Influence areas of supplied water
- Origin of water and impact on water quality of blended sources of water supply
- Mapping of residual chlorine levels and of transit duration of water in network
- Location of Chlorination boosting facilities.

#### Advanced Water Quality Studies :

- PiccoBio : risk assessment of bacterial re-growth
- PiccoBio Chloramines : chloramine, nitrites, chlorine and nitrification level assessment
- Piccolo Sediments : settling / fouling rates assessment



## OPTIMISING AND MANAGING OF NETWORKS

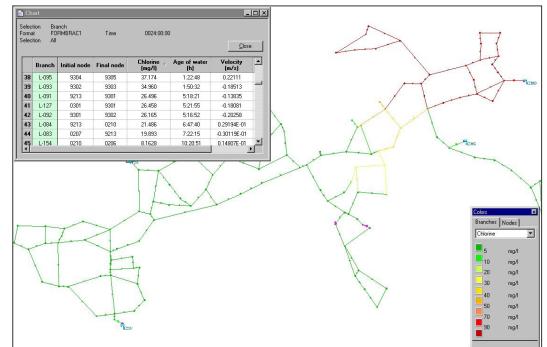
Once set-up the PICCOLO model allows the management and optimisation of network operation:

### Savings

- Handling and modifying the network structure on the model
- Computer-aided pipe sizing
- Optimisation of the pump operating costs

### Water Quality

- Reduction maximum age of water
- Maintaining of a minimum residual chlorine level throughout the entire network
- Optimisation of chlorination costs
- Scheduling of flushing operations



## USER-FRIENDLY INTERFACE AND POWERFUL GRAPHICS

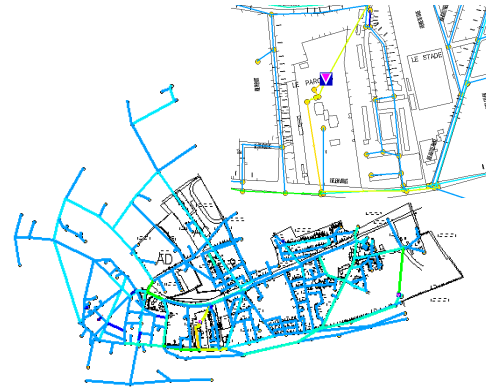
The user interface allows to visualise data and results quite easily and to edit and print high quality maps.

### Graphical capacities

- Visualisation of data and results at any time,
- Model of very extensive networks

### Publishing functions

- Creating procedures which highlight the essential elements of a project or study
- Customisation of graphical output
- Customisation of results files
- Data/results transfer to other applications



## A POWERFUL CALCULATION ENGINE USING OPEN TECHNOLOGY

The PICCOLO model can be adapted to any network configuration. Any type of fitting or network can be modelled. One of its main advantages is the power and reliability of its algorithms, which speeds production of results.

PICCOLO is built around the following principles :

- 100% 32 bit architecture, object-oriented interface
- cut-and-paste or spreadsheet type data edition, context-sensitive menus and help,
- the most reliable and powerful algorithms for hydraulic and water quality modelling
- An entirely open architecture for data import or export
- A command language which allows extension of capabilities using macros, such as automatic model simplification.
- No limit for model size



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