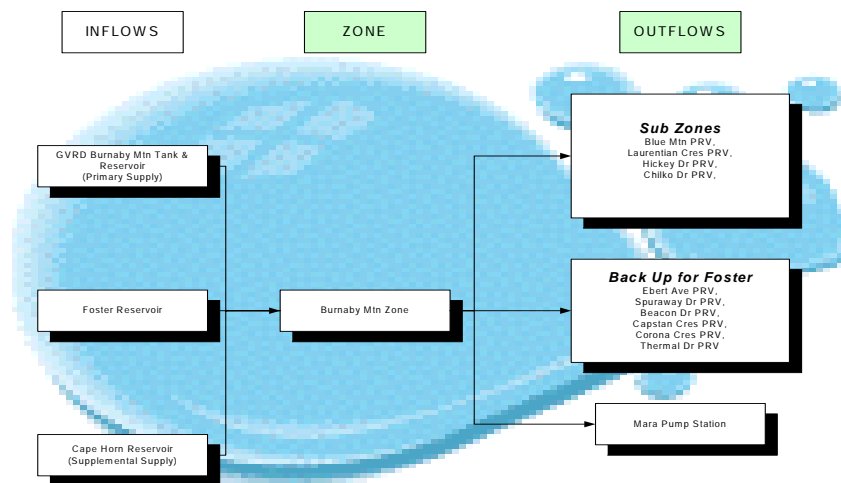


## Water Leak Management Strategy



Earth Tech assisted the City of Coquitlam to develop a water leak management strategy for four water supply zones within the City. The strategy included the estimation of the general magnitude and nature of leakage, recommendations on leak detection and reduction strategies whose costs are commensurate with the value of water saved.

We utilized global best practices for water leak management including the work of the International Water Association's (IWA) Water Loss Task force, to ensure the strategy was inline with current best practices.

Estimates for the magnitude and nature of "leakage" or real water losses i.e. the annual volumes lost from the distribution system through all types of leaks, bursts and overflows on mains, service reservoirs and service connections, up to the customers' property boundary were calculated using the following methods:

- ❖ Top-down estimate of the City of Coquitlam's water losses using the IWA's Standard Water Balance
- ❖ Bottom-up estimate of the City of Coquitlam's water losses based on the analysis of night flows into the city's four water supply zones and sub-zones.
- ❖ Cross checking of the estimates from both top-down and bottom-up analysis.

The City's recoverable leakage was determined by comparing the CARL (Current Annual Real Loss) and UARL (Unavoidable Annual Real Loss) approaches. The economic level of leakage was calculated using a range of incremental water costs applicable to the current, and future operating conditions.

### PROJECT DETAILS

CLIENT: City of Coquitlam  
 LOCATION: British Columbia, Canada

### REFERENCE INFORMATION

NAME: Mike Carver, Water Technologist  
 TEL: 604.933.6203

### PROBLEM

The City of Coquitlam estimated that they had high water losses yet no practices are in place to address this issue.

### CHALLENGES

The City of Coquitlam does not meter residential flows therefore it is difficult to estimate the level of water loss.

### SOLUTION

Utilizing global best practices the top-down and bottom up approaches were used to estimate real water losses.

### BENEFITS

Establishment of best practices for reduction of non-revenue water in the City of Coquitlam. Improved environmental stewardship. A better understanding of the levels of water loss in the City. We recommended Leak management programs in accordance with internationally recognized best practices and included an annual water balance, setting of leakage targets, improving meter accuracy, leak detection etc.