

#### 4. Vancouver's Water Today

Metro Vancouver now runs the water system in the greater Vancouver area. It supplies water to over 2.3 million people. There are three water sources, each contributing 1/3 of greater Vancouver's water. They are 1) Capilano Reservoir, 2) Seymour Reservoir, and 3) Coquitlam Reservoir. Each watershed for these reservoirs is closed to the public to maintain clean water. Currently, from the Capilano Reservoir water is piped to 1 of 22 distribution reservoirs throughout greater Vancouver. The largest of these reservoirs is on the top of Little Mountain located under the parking lot of Queen Elizabeth Park. From these reservoirs water is piped to houses and businesses. The total length of pipes is over 500 km. Chlorine is added at the dam site and because chlorine breaks down over time it is again added at the distribution reservoirs to ensure it is pathogen (bacteria and virus) free. The water at the Coquitlam Reservoir is treated with ozone. Currently Metro Vancouver is working on two projects to ensure our water is even cleaner and to reduce the amount of chlorine used to kill pathogens. The first is the Seymour-Capilano Filtration Plant which is already complete. The plant uses 300mm sand and 1.7 meters of anthracite (a very hard coal) to filter the water in order to reduce its turbidity (the amount of sand and silt in the water). This filtration system removes 99.99% of pathogens. After the water is filtered it is treated with UV rays that destroyed the DNA of whatever pathogens remain. The other project is the Seymour-Capilano Twin Tunnels. This is a 7 km twin tunnel underneath Grouse Mountain connecting the Capilano and the Seymour Reservoirs to the filtration plant on the Seymour side. Because the filtration plant at Seymour is higher than the Capilano reservoir the water will have to be pumped up and over to the plant. However, on its return trip to Capilano gravity does the work. A turbine electrical substation at Capilano will power the pump and an energy recovery facility will recover energy from the water on its return to Capilano. The twin tunnel project should be completed in 2013. When it is done the Seymour-Capilano Filtration Plant will be able to clean 1.8 billion liters of water per day, enough to fill B.C. Place every day. The new water treatment plant is the largest in Canada and the UV disinfection facility is the largest facility in the world.