

WATER DISTRIBUTION

In olden times, people settled within easy reach of water. So, towns and cities developed only near rivers, springs and wells. But all that has now changed as people chose to live and work in areas that are not always close to water sources, resulting in the need for water distribution systems.

A water distribution system begins with the identification of a water supply source such as a river, spring or well. Having identified the water source, the water is collected (harnessed) and treated at a treatment plant to remove disease-causing germs and other impurities. While the process of harnessing and treating the water is very involved and extremely costly, it is only the beginning of the process of getting water to you.

In order to satisfy this need for water at the turn of a tap, water that has been treated and purified has to be transported along an extensive and intricate network of pipes, reservoirs and pump stations over varied terrain to get to our valued customers across the country. This explains why the NWC has over 400 water sources, thousands of miles of transmission and distribution pipelines, thousands of reservoirs, tanks and pumping equipment with millions of joints, isolating valves and other control devices.

Most reservoirs and tanks are located on high ground so that the water can flow from it by gravity. This reduces the electricity costs and reduces the likelihood of disruptions due to too much reliance on mechanical and electrical systems that may fail from time to time. Reservoirs and storage tanks also help to maintain the correct water supply pressure, allow for the completion of the chlorination process and provide reserved storage in the case of pump failures and other emergencies.

Customers who are located higher and further away from the water source are more likely to experience problems in their water supply because each pumping station represents an additional challenge and increased costs. In addition to the many electrical and mechanical problems that may develop at each facility, water mains will also burst and joints develop leaks. Broken mains usually result from movements in the ground, pressure from heavy traffic, and deterioration due to age and damage caused by persons working near these pipes. Hundreds of leaks are repaired daily but the age of the pipe network and the factors above continue to make this a challenge for the NWC.

The pipes taking water from the source to the treatment plant, and to the storage tanks, are usually very large and operate under very high pressure. These water supply pipes are referred to as transmission mains. Smaller distribution pipes take the water from these storage reservoirs to the various streets where they are connected to standpipes, loading bays and service connections leading to homes and offices.

The National Water Commission serves Jamaica's population through nearly 400,000 legal customer accounts across the island. Standpipes are used to provide service in areas where, for one reason or another, persons do not have direct house-to-house connections. There are also loading bays from which water is sold in bulk, particularly to trucks, for private distribution.

Most service connections (85%) are metered. The meter measures the amount of water that is used on the property and determines how much will be required for payment on the water bill. The meter also is the point at which the NWC's responsibility for the pipe network ends. Any leak that develops beyond this point will register on the meter and is the responsibility of the private property owner.

Customers should consult a reputable professional plumber for advice on the most suitable type of pipes to be used and the best way to equip their homes. Most persons are not aware that certain types of pipes should be replaced after a number of years. If they are not replaced, there is a serious risk that they will develop uncontrollable, frequent leaks and reduced water pressure.