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RIVERBANK INFILTRATION SYSTEMS

Collector Wells Pre-Filter Water Naturally…

Where water supplies are needed near rivers and streams, it is often cost-effective to develop a filtered raw water supply using an infiltration system adjacent to a surface water source. These systems can be used to develop water supplies from both freshwater and seawater sources. A radial collector well (shown below in a general schematic drawing) can be used to develop a filtered water supply by projecting out well screens laterally adjacent to and underneath the water source from a central caisson.

collection point for the water that enters the system through the network of well screens. This wet well or pumping station, allows entry for periodic inspection of the system and permits any required maintenance to be performed at a later date, if required.

The caisson can be completed with a flush-grade top slab to minimize visual impact on the surroundings, often important in riverfront settings. or a pump house style used that blends with local architecture.

Riverbank Infiltration

Riverbank filtration (RBI) is the process where water can be induced to infiltrate into local ground water aquifers from a surface water source where favorable hydrogeologic conditions exist near rivers and streams. Since the rate of infiltration is very slow, particles (even microscopic) in the surface water will be filtered. This natural filtration can provide cost efficient removal of particles, at lower cost, than many conventional treatment processes.

Reduction of Cryptosporidium

Continuing evolution of safe drinking water regulations will require stricter control for water-borne pathogens such as *Giardia* and *Cryptosporidium* in the future. For water supplies pumped directly from a surface water source, costly equipment and upgrades may be needed to meet future standards.

One alternative to expensive treatment equipment is the use of natural aquifer systems along waterways to pre-filter surface water supplies, reducing water-borne microorganisms and turbidity before the water enters the plant, reducing the need for certain equipment, reducing chemical usage and reducing waste sludge that needs to be disposed of. Where suitable geology exists, organisms and turbidity have been reduced to acceptable levels.

RBI sytems typically provide water with more consistent water quality and temperature than obtained from a direct intake.

RBI systems can also eliminate organisms such as zebra mussels.

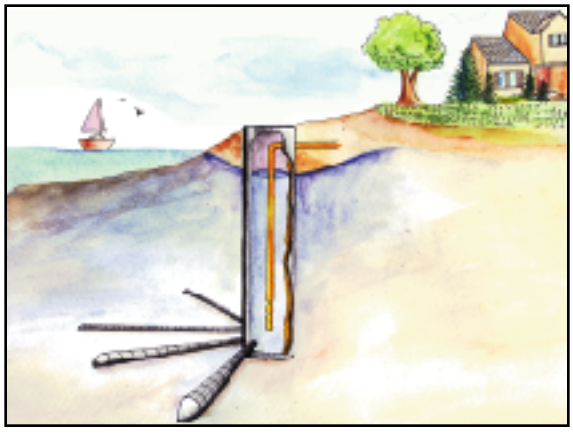

Diagram of Riverbank Infiltration System