

Water Authority of Great Neck North **Drilling into Subsurface Water Sources**

Some of the villages have been receiving permit requests for Geothermal Wells (systems); please consider this letter as the Water Authority's history and position on this subject.

In 1994, the Authority recommended that all of the municipalities in the Water Authority of Great Neck North's service area adopt regulations prohibiting persons from drilling, digging, or tapping into any aquifers or other subsurface source of water. This was requested because of the possibility of contamination to the aquifer systems, pumping, which could adversely affect salt water intrusion into the public supply wells, and unregulated over pumping which could adversely deplete supply facilities and the delicate balancing of the pumping from public supply wells.

Each of the municipalities did adopt legislation prohibiting the drilling into any subsurface water sources (see attached document). The adoption of this local law has allowed the Authority to control the precious aquifer system located on the peninsula. This, in turn, has prevented salt water intrusion from further impacting the Authority's wells, and it has reversed the level of salt water in a number of the wells.

In addition, the local laws have prevented further contamination of the aquifer system by other pollutants. Preventing access to any subsurface water source on the Peninsula has saved the rate payers of the Authority a great deal of money in treatments costs, and will continue to do so.

The latest threat to the Authority's aquifer system is a relatively new technology; Geothermal Wells. Although these wells (systems) are considered to be "Green Technology" by some, there are many drawbacks in allowing them to be installed on the Peninsula. The most popular system currently being designed is known as a closed loop system. In this type of system, bore holes are drilled with a series of pipes installed into the opening and connected to a heat exchange system in the dwelling. The pipes are then filled with a heat transfer fluid, and the fluid is circulated through the piping from the opening into the heat exchanger and back. Although closed loop geothermal systems are not considered water supply wells, it is essential to understand that these systems are direct conduits for pollution to enter the aquifer.

There are several areas of concern relating to closed loop systems. Some of the most immediate concerns follow:

1. Anytime a borehole is drilled into the Earth, the potential for contamination of the groundwater is increased exponentially. Surface contaminants can be channeled directly into the groundwater through leaks and cracks in the grout used to seal the geothermal well.
2. Leaks in the piping could allow the heat transfer fluid to enter the groundwater, which, in turn, could lead to significant clean up costs. This would be a liability issue for homeowners.
3. Wells installed near sources of pollution, such as septic tanks, sewer laterals, drywells, and underground fuel tanks may allow pollutants to contaminate the groundwater and endanger the public health.
4. Wells affect the temperature of the aquifer resulting in an increase in the overall bacteria counts in the groundwater. (This has occurred in an existing system, outside our operating area).
5. A borehole can also act as a connection between different aquifers or a zone of contamination and an aquifer. This would allow contaminants to flow into an uncontaminated aquifer, resulting in contamination of both aquifers.
6. When the wells useful life has expired, who would be responsible for removing the heat transfer fluid and capping of the well? This could also be a conduit for pollution to enter the aquifer and also a liability for the homeowner.
7. No governmental agency or regulatory authority in New York has oversight or control of how these systems are actually being installed. There is no way of knowing or controlling the quality or type of construction being utilized in these systems. Neither the Authority nor the homeowner is likely to know how well and carefully a system is constructed until a pollution problem becomes apparent.

The above items are some of the obvious problems that could occur unintentionally by a homeowner or commercial property owner in the normal course of trying to "make green", possibly lower their heating costs, or update their property value. It is harder to accept, but important to recognize that we could be more significantly affected by the larger risk imposed by international or internal terrorism or environmental disaster. Allowing multiple uncontrolled openings into our water source simply goes against every concept of security to our only source of water. Your water authority (and other local suppliers) have spent time, money and thought to assure our water is safe from all risks. Allowing additional drillings into our supply would simply be an unreasonable, unnecessary and unacceptable risk.

It has been, and should continue to be, the position of the Authority, that no wells, systems, or any other type of drilling into the aquifer should take place now or into the foreseeable future.