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June 5, 2009

Tami Dandliker
City of Seneca
P.O. Box 40
Seneca, Kansas 66538-0040

RE: Proposed Development in Vicinity of Spring

Dear Tami:

Thank you for inviting me to Seneca to view Maxwell Spring and the area of the proposed residential development. I hope that I was able to show and explain the threats to your water supply if the development is allowed to proceed with no regard for the water quality of Maxwell Spring.

Springs are regarded by many people as an object of supernatural phenomena. Because spring water appears to flow up from the ground, it is easy to assume that some mysterious force is causing the water to flow up from the depths. In most cases in Kansas, a spring is the lowest point of an aquifer where water is forced out of the ground by the head pressure of groundwater above the elevation of the spring. All of the land that is higher in elevation than the spring has the potential to contribute recharge to the aquifer that supplies the spring. Because all of the land in the proposed development near the spring is higher in elevation, it has the potential to contribute recharge to the spring and also to introduce any contaminants that can be carried by the water, whether that water is natural precipitation or man-made induced recharge through septic systems, lagoons or lawn and crop irrigation.

Because the soil cover immediately across the road from Maxwell Spring has been disturbed by sand extraction and possibly erosion in the past, there appears to be a direct connection of the earth's surface with the aquifer below. I am extremely concerned that any wastewater disposal, lawn and crop fertilizing, weed and pest spraying and possibly the erosion of natural minerals in this area could very negatively impact the water quality from the spring. As the City relies on this spring for over half of its water supply during the low water demand periods, any threats of this kind should be prohibited. Allowing concentrated residential housing could make this spring unusable without installing expensive treatment equipment, even if such equipment is available. Abandoning the spring as a water supply would cause the City to search for groundwater supplies in locations with less threat of water quality impairment, to obtain additional property for wells and pipelines, to drill and equip new wells, and to provide electrical power to them. Maxwell Spring, which has been supplying water to the City of Seneca for approximately 85 years has been a significant resource that has surely helped the City of Seneca be what it is today. The delivery of water by gravity to the water treatment plant is the most economical and "green" method to meet the citizens' need for clean and safe water.

If the decision is made to allow the development to proceed, assurances should be provided by the developer that the home sites will never impact the groundwater quality by normal human activities. One idea to pursue is requiring soil boring by an independent (and City-approved) contractor to determine the depth to groundwater and the depth to any geologic material (silt-sized and larger grains) that would allow the subsurface transport of contaminants beyond each lot. An alternative may be the determination of the absence of groundwater and potentially water-transporting geologic material at a minimum depth below the ground surface. You may want to consult with an engineer to determine a suitable grid pattern and the necessary depth of the borings to require of the developer, to determine the true extent of potential threat of the development.

An engineer should also be able to provide a reasonable minimum depth below the ground surface of groundwater and potential water-bearing formations to require of a home site. This reasonable depth should also consider the lowest excavation (basement) on site. Any investigation involving bore holes should also include requirements that they be properly plugged to prevent groundwater contamination. While some will argue that this is expensive, the developer should be prepared to pay for this study or the replacement costs of the spring and its water supply if it would become contaminated.

While no city or county can legally restrict persons from developing domestic water rights, they can control the drilling of water wells if it is done so to protect the environment or public health. The City would do well to prohibit, or to have the County prohibit, the drilling of water wells in the development for any use, to prevent potential contamination of the aquifer and cross-connections to any public water system.

You are right to be concerned and I hope I have been able to express my opinions why your concerns are legitimate. It is not right that anyone should have to accept additional costs, degraded water quality or both because of the actions of another person. Now is the time to explain the true costs of the proposed development on the City of Seneca if the proposed development proceeds as currently proposed.

I hope you will consider developing and adopting a source water protection plan. While these plans are voluntary and usually rely on education to help protect the water used by public water systems, they can be used as a tool to regularly remind elected officials and the public of the need to be proactive and not just reactive to the threats faced by water systems.

If you have additional questions, please let me know. You can reach me by telephone at 785/640-4701, by e-mail at dhelmke@krwa.net or by writing to 6847 SE 29th Street, Tecumseh, Kansas 66542-9571.

Sincerely,

Douglas S. Helmke, L.G.
Water Rights / Source Water Specialist
Kansas Rural Water Association

DSH
c: KRWA