

## Koon, Nancy

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**From:** Shirley Gilmore <sgilmore@arbbs.net>  
**Sent:** Monday, April 4, 2022 4:02 PM  
**To:** Water Draft Permit Comment  
**Cc:** pmccarkansas@gmail.com  
**Subject:** Discharge Permit Number AR 0053210, AFIN 60-05010

Dear Mr. Khan:

The purpose of this communication is to convey my concerns regarding the Permit referenced above. Nearly forty years of my life were spent in a career as a biomedical research scientist and educator and currently I am an emeritus faculty member (Professor Emerita) of the UAMS College of Medicine.

Briefly, this Permit is for discharge from a wastewater treatment facility to accommodate Phase I of a proposed development, Paradise Valley, on the Roland Cutoff Road. This facility is said to be capable of discharging 50,000 gallons of effluent/day. This effluent is to be released into a very small, unnamed creek in which the flow is dependent upon seasonal conditions. Ultimately, the effluent is to flow into Mill Bayou. The flow in Mill Bayou is characteristic of other bayous and ranges from nearly non-existent during dry periods to flooding during wet, rainy periods. During the latter, water from the Bayou floods into pastures, residential areas, etc.. Those of us living near the Bayou or driving by it are very aware of the changes and the surface areas covered by the waters of the Bayou. The bottom line is that this effluent will not be discharged into a freely flowing stream but into a body of water seasonally dependent on amounts of precipitation and flowing over relatively flat terrain.

Given the foregoing, small pools of water can become separated from the main flow during periods of dryness and/or as floodwaters recede. These stagnant pools with their elevated levels of nitrogen and phosphorus can serve as “incubator sites” for growth of toxic algae and other microorganisms that are potentially harmful to livestock, wildlife and pets drinking from these pools.

Another concern stems from the history of the wastewater treatment facility already discharging its effluent from Waterview Estates into Mill Bayou. As the records show, a number of citations have been issued to the same developer due to excessive levels of coliform bacteria in the effluent of that facility. The harmful effects of coliform bacteria on warm-blooded animals, including human beings, is well documented. Granted, the high levels of coliform bacteria were remedied in these instances by the addition of chlorine. However, chlorine residuals are toxic to aquatic life normally in the Bayou. Failure to monitor and maintain such a facility to the highest standards poses needless risks to people, pets, livestock, wildlife and the environment in general.

The biology of the Bayou will be subject to change not only by the plan to channel the effluent from this proposed wastewater treatment facility into it but also by increased storm water volume generated by the proposed building of 76 houses on small lots on 20 acres of land. That 20 acres was a natural area that allowed precipitation to be absorbed by the earth, plants, trees, etc.. Once construction of the proposed 76 houses is completed, along with driveways, streets, etc., very little earthen surface remains to absorb rainfall. And – the storm water from this area will not only increase flood risk, but this storm water will no doubt be contaminated by residues from yard chemicals commonly used mainly for non-native vegetation in urban areas, e.g. herbicides, pesticides, fertilizers, as well as petroleum residues.

There seems to be little doubt that Mill Bayou will be markedly affected by a continued addition of wastewater treatment facilities. It is my understanding that, in addition to the current Permit request, another wastewater treatment facility will be needed in the future, if the proposed development, Paradise Valley, expands to approximately 400 houses. A question: what is the probability that alterations in the Bayou could have a future, negative impact on the quality and safety of the water in an aquifer from which the Maumelle Water Corporation supplies drinking water to the community? I trust that you and your staff will consider this request carefully and with due diligence.

Respectfully,  
Shirley Ann Gilmore, Ph.D.  
Professor Emerita  
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