

Koon, Nancy

From: Koon, Nancy on behalf of Water Permit Application
Sent: Monday, December 20, 2021 7:38 AM
To: Koon, Nancy
Subject: FW: Addition of Polymer

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From: Yellville Water Dept. [<mailto:ypwwwp@yellville.net>]
Sent: Thursday, December 16, 2021 4:35 PM
To: Water Permit Application
Cc: Shawn Lane; Shelia Batterton
Subject: Addition of Polymer

ADEQ, Water Permits

5301 Northshore Drive

North Little Rock, AR 72118-5317

To whom it may concern,

The City of Yellville operates a wastewater treatment facility (AR0034037) which treats sewage collected from both the City of Yellville and the City of Summit.

We would like to treat the return activated sludge with a polymer to aid in the settling of the activated sludge once it returns to the clarifiers. This polymer is polyaluminum chloride. This polymer is used throughout water treatment and wastewater treatment facilities virtually everywhere and is considered safe to use. This product will be applied using a chemical feed pump with a maximum capacity of 24 gallons per day. It will be flow paced, but currently we are unsure of the correct feed we will need to produce the desired results. Jar tests will be performed to determine the correct dosage for desired results.

The flow through the treatment plant is as follows:

From the Gritscreen, the wastewater flows to the Aeration Basin, then to Clarifier #1, then to Clarifier #2, then to the UV unit, and finally to the post aerator. The sludge collected from the clarifiers is either returned to the aeration basin or wasted to the drying beds.

The primary benefit of the addition of the polymer will be to aid in the settling of the sludge in the clarifiers. During periods of high flow, some of the sludge will overflow from clarifier #1 to clarifier #2. With the addition of the polymer, this will hopefully be avoided.

A secondary benefit of the addition of the polymer should be the removal of phosphorus. While we are not required to monitor for phosphorus, removing any amount will be beneficial to the environment of the receiving waters.

We are asking permission to use this polymer as part of the treatment process and will use it according to the manufacturer recommendations. If further information is needed, please let me know.

Thank you for your considerations in this matter.

Robert Pugsley

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