



# The pell road lime doser upgrade project Preston County, West Virginia

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## **Extended Abstract**

Coal is West Virginia. The mining of coal has long been associated with the State of West Virginia which has not only provided a livelihood for its citizens but was one of the driving factors allowing for the birth of the industrial revolution in this country. Coal has been mined for commercial purposes as early as the beginning of the nineteenth century. As a result of this past coal mining activity, the Pell Road Doser project watershed has been severely scarred with unreclaimed surface and underground coal mines. Because of abandoned mines draining acidic and mineralized waters into its watershed and tributaries, any potential usage of its waters has been eliminated by pollution. Damage to municipal water supplies, instream facilities, culverts, agricultural water supplies, and aquatic life have occurred.

Tetra Tech was selected by the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands & Reclamation in October 2021 for the preparation of the contract drawings and specifications for the Pell Road Lime Doser Upgrade Project. The Project site is located south of Reedsville, Preston County, West Virginia.

The proposed Pell Road Doser project will replace the existing Pell Road Doser which was installed approximately 14 years ago and currently uses hydrated lime and operates with hydro power. The existing Pell Road Doser has been treating drainage from a forfeiture deep mine site which is located within an unnamed tributary of the Three Fork watershed. The proposed Pell Road Doser will use higher technology instrumentation and monitoring by use of upstream and downstream monitoring points at two downstream locations which will automate the adjustments to lime application which will result in a more efficient operation. The existing Pell Road doser is currently visited multiple times per week by regulatory personnel to change the amount of lime application based on conditions at the time. In addition to the remote monitoring, the proposed doser system will have remote capabilities to assure the system is operating and will also be capable to change the amount of treatment based on the existing conditions which will reduce manpower requirements substantially.

The design of the proposed updated Pell Road Doser project has been completed and is currently in the bidding phase with construction to follow. Following final construction and startup, the completed system will be evaluated as to the degree of efficiency improvement and an evaluation of how to improve the operation, maintenance, and efficiency for future systems.

This presentation will provide a case study of one doser in West Virginia as an example of efforts to develop a more automated, efficient AMD treatment system that can be utilized on other streams and watersheds in the State of West Virginia.