Derailment Impacts to Environment and Rail Related Infrastructure Involving Multiple Disciplines - Keeping Small Things Small

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This presentation will focus on the unique challenges associated with a derailment near a community water supply and the logistics associated with cleanup, reestablishment of rail traffic, and preservation of existing city utilities. In December 2014 a CSXT train derailed near Paris, Kentucky resulting in the release of coal from three cars. The derailment was triggered by the collapse of a stacked stone retaining wall adjacent to the track. The derailed cars landed near a flow control dam for Stoner Creek and the city's main sewer line. Stoner Creek serves as the water supply for the city of Paris, so preventing impacts to the water quality of Stoner Creek was a top priority, and maintaining safe conveyance of sewage along with coal recovery were key. Initial response activities included coordination with city of Paris and the response contractor to temporarily relocate the damaged sewer line and coal recovery from Stoner Creek. Actions were taken to minimize downstream impacts associated with response and restoration activities. The U.S. Army Corp of Engineers (USACE) was notified because recovery efforts required access in Stoner Creek to remove cars and recover coal. Preliminary design for the replacement wall indicated that the base of the retaining wall would need to be extended into the Stoner Creek floodway. Engineering analysis determined that new wall construction would not alter the floodway, so a No-Rise Certification was provided to the state Division of Water and no additional permitting was required for wall construction. The wall design began during the emergency response and was completed within one week. This derailment response included coordination across multiple disciplines to ensure a successful project. Although the individual tasks were not complex, timely completion of each phase of the project during response and restoration was invaluable to keeping the project on schedule. Coordination with the city of Paris during the sanitary sewer bypass, coordination with permitting for the USACE, completion of floodway modeling for the Kentucky Division of Water, and completion of wall design within one week of the derailment for the CSX Engineering Department were critical. Continued activities at the site include construction oversight for the new retaining wall and water quality monitoring at the sewer bypass line. Additionally, design for the repair of the sewer line damaged during the derailment is also in progress. Following completion of the retaining wall, a new sewer line will be installed to match pre-derailment conditions. Derailment responses can vary in complexity and can involve multiple disciplines and regulatory agencies. Coordination and communication across the disciplines during response and restoration activities is critical to a successful project.