

SR 286 Passive Treatment System
SRI O&M TAG Project #16 Request #3
OSM PTS ID: PA-241

Requesting Organization: AWARE

Requesting Organization Representative: Chris Schaney

Municipality/County: Center Township, Indiana County

Dates of work performed: 7/7/21- 7-13-21

Initial Request: On 2/22/2021, AWARE reported that the outlet flow control and effluent pipe of the SR286 passive system had been damaged and washed away. The damage likely occurred during a flood event.

Initial Site Visit, Observations, and Identified Needs: Previous maintenance activities completed under request #2 included clearing sludge, re-establishing flow at the system outlet monitoring pipe, raising the wetland outlet elevation to increase settling capacity, and installing directional baffle curtains to increase retention time. After that work was completed, high flow events may have compromised the existing flow measurement pipe and supporting structure.

Work Completed: After attempting to repair the outlet dam during previous maintenance events, it was determined that a v-notch weir would be a more appropriate long-term solution. The existing structure was dismantled and a v-notch weir was installed with a staff gauge for flow measurement. The wetland outlet channel was further cleared of debris, vegetation, and accumulated sediment as needed to improve future flow measurement capabilities.

Results: Flow can now be accurately assessed. Iron load removal rates can now be monitored to assess the effectiveness of the treatment wetland which will aid in the evaluation of the need of future maintenance work.

2/24/22 Data (after weir installation)

Point	Flow gpm	F. pH	F. Alk. mg/L
SR286 (in)	128	6.1	100
85-16 (out)	128	6.8	85

Additional Recommendations & Future Considerations: Continue monitoring water quality. Maintain staff gauge visibility for accurate measurements as needed. Determine if additional improvements are needed to reduce iron load exiting the wetland. If needed, increasing the wetland embankment elevation for improved retention time. The maximum water level in the wetland should be one foot below the berm (top of embankment) elevation or greater. Once the water level reaches within one foot of the berm elevation, the wetland will need to be cleaned and the accumulated materials (iron precipitates and vegetation) will need to be removed. The baffle curtains may need to be re-tensioned as the water level in the wetland increases.

Photo Log



Top Left: System outlet flow monitoring pipe was compromised, and flow was not able to be properly measured (7/8/21).

Top Right: New weir was constructed to provide for flow control and measurement (7/8/21).

Bottom Left: Weir installed with on-site clay and bentonite used to backfill and seal (7/8/21).

Bottom Right: On site stockpiled stone was used to stabilize the weir outlet (7/13/21).