

Changes being made to inflow and infiltration model

By Judy Dixon Hebbe
For the Times Villager

The Heart of the Valley Metropolitan Sewerage District is changing the inflow and infiltration model to utilize more data to more accurately assess the performance of member community collection systems response to wet weather events.

Although the new protocol is similar to the model currently in place, the new model will include more and better data related to how the connected landfills impact the member communities' flow during wet weather. Improvements in the hydrologic modeling and the elimination of the landfill leachate flow, a more accurate representation of collection system performance, can be achieved.

Monthly flow data will be broken

down into daily flows and flowmeters, which will provide hourly information, will be installed in the main sewers of communities impacted by landfill leachate discharges. Donahue and Associates, the HOVMSD engineers, will analyze the data collected this year and through 2018.

"The more and better data we can collect, the more accurate our assessments will be," said Brian Helminger, director of the HOVMSD.

For years, HOVMSD has been collecting flow data from the 10 metering stations — five in Kaukauna, two in Little Chute and one each for Darboy, Combined Locks and Kimberly. The data is predictive of how each community's collection system responds to various intensities and duration of wet weather

rain events.

The annual review compares the past year's rainfall and sewerage flows to the historical wet weather response and flows from the time the model was created in 2008-09 as the benchmark.

The level of reduction of sewer flow represents the success of the member community in reducing clear water from being introduced to the community's collection system.

Helminger is anticipating a minimum impact on member communities' budgets for the two year study. Cost is estimated at \$39,800 to \$77,800.

"Our spending has been dropping and we have lower capital improvements planned," Helminger said. "With analysis and normal charges, I do not anticipate the budget increasing more than one to two

percent for each of the communities."

A major project looming for 2019 is recoating manhole interiors and relining the pipes in the 4.32 miles of the interceptor system running under the Fox River and connecting the communities to the disposal plant.

Manholes are inspected annually by the HOVMSD staff and the interceptor is televised every five years in its entirety. Capital improvements are made based upon the defects shown and found by the TV footage. Because of its long detention time, hydrogen sulfide is produced and bacteria consume and release an acid that, over time, attacks the concrete walls of the interceptor. Areas within manholes that show degradation must be cleaned and coated with epoxy coat-

ing to protect the concrete. The sewer lines between the manholes are effectively protected by lining with a cured, in-place PVC liner.

"Portions of the interceptor were lined years ago along with epoxy coatings for the manholes that showed degradation," Helminger said. There is no current time table or plan to replace the interceptor.

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