

APPENDIX 12

Sewage Billing Meters

MEMORANDUM

TO: Kline's Island Sewer System (KISS) Municipalities
FROM: Phil DePoe/Liesel Gross
DATE: August 23, 2024
RE: Sewer Billing Meter (SBM) Proposal

Background

As part of the effort by the Kline's Island Sewer System (KISS) municipalities to update procedures and agreements for operation and billing of the system, an updated approach to manage sewage billing meters is required. This memo is intended to capture prior discussions related to the management of SBMs to promote metering accuracy, billing accuracy, data validation, and data sharing.

SBM Details

The table below is an excerpt from quarterly reporting submitted to DEP regarding the KISS Interim Act 537 Plan, showing all current SBMs and their status. The Yes / No designation regarding the 2021 program indicates whether each specific SBM was able to be used as part of the flow monitoring and flow characterization studies conducted in 2021 and 2022. Reasons for exclusion from those studies varied, including meters that were incapable of adequately measuring peak flows, determined to be inaccurate by the metering consultant, or capturing too small of an area as to be not useful for the studies' purposes. Not shown here are Lehigh County Authority (LCA) Meter Stations #1-4, which are not currently used for billing purposes but are under review for potential inclusion in the SBM program and use as billing meters for Western Lehigh communities in the future.

Municipality	SBM Name	SBM Data Status in 2021	2021 Program (Y/N)
1. South Whitehall	SW51	LCA had access to data via website	Y
2. South Whitehall	SW52	LCA had access to data via website; FAS provided data via RTU/website	N
3. South Whitehall	SW53	LCA had access to data via website	Y
4. South Whitehall	SW54	LCA had access to data via website; FAS provided data via RTU/website	Y/N
5. South Whitehall	SW55	LCA had access to data via website; FAS provided data via RTU/website	N
6. South Whitehall	SW56	LCA had access to data via website; FAS provided data via RTU/website	N
7. Coplay-Whitehall	CW Jordan	CWSA provided data via e-mail	Y
8. Coplay-Whitehall	CW Lehigh	CWSA provided data via e-mail	Y
9. Hanover	Hanover	LCA had access to data via website	Y
10. Salisbury	ST1	FAS provided data via RTU/website	N
11. Salisbury	ST1A	N/A	N

Municipality	SBM Name	SBM Data Status in 2021	2021 Program (Y/N)
12. Salisbury	ST2	N/A	N
13. Salisbury	ST3	N/A	N
14. Salisbury	ST4	N/A	N
15. Salisbury	ST4A	N/A	N
16. Salisbury	ST5	N/A	N
17. Salisbury	ST6	FAS provided data via RTU/website	Y
18. Salisbury	ST7	N/A	N
19. Salisbury	ST8	FAS provided data via RTU/website	Y
20. Salisbury	ST9	N/A	N
21. Salisbury	ST10	FAS provided data via RTU/website	Y
22. Salisbury	ST11	N/A	N
23. Salisbury	ST12	N/A	N
24. Emmaus	Fox Street #1	Emmaus provided data via e-mail	Y
25. Emmaus	Lehigh #2	Emmaus provided data via e-mail	Y
26. Emmaus	Orchid #3	Emmaus provided data via e-mail	Y
27. Emmaus	Cedar #4	Emmaus provided data via e-mail	Y
28. Allentown	Main Infl	Connected to LCA database	Y
29. Allentown	Rock Media Recir	Connected to LCA database	Y
30. Allentown	SDR Recir	Connected to LCA database	Y
31. LCA	MS5	Connected to LCA database	Y
32. LCA	MS5a	Connected to LCA database	Y
33. LCA	Spring Creek	Connected to LCA database	Y
34. Lower Macungie	County Meter	FAS provided data via RTU/website	Y
35. Lower Macungie	Cedarbrook	FAS provided data via RTU/website	Y

KISS SBM Proposal

Since the first EPA Administrative Order (AO) was issued in 2007 through the 2021 Flow Characterization Study (FCS), the SBMs have been reviewed periodically with numerous technical comments generated. A review of all prior commentary as it relates to the current SBM performance will be conducted prior to 2027. Any needed corrections will be noted and discussed accordingly.

A Standard Operating Procedure (SOP) will be developed, per SBM, that describes each peak flow calculation solution as applicable. It is recommended the solution be automatically calculated as to avoid manual entries.

At a minimum, all SBMs shall be inspected and calibrated once a year (preferably by the same calibration entity). If there are issues with the SBMs before/during/after calibration, a temporary meter may need to be installed while resolution is developed. LCA and/or the KISS third-party meter reviewer (see below) shall be invited to attend the municipality's annual inspection and calibration procedure, with at least 2 weeks' notice provided to allow for scheduling. All SBM issues that are discovered through this process will be addressed in a timely manner, with protocols established for repair timeliness, inspection, and reporting.

All municipalities shall continue to own, operate, and maintain their respective SBMs.

To facilitate the development of baseline flow patterns and simplified billing procedures, LCA requires “real-time, back-end, read-only” access to each SBM. This read-only data will be accessible for all municipalities via a secure dashboard or portal, which LCA will develop for this purpose.

LCA will develop a process to conduct routine data quality control checks on each meter and provide feedback to municipalities if/when data from one of their SBMs suggests maintenance is required. All SBM issues that are discovered through this process will be addressed in a timely manner, with protocols established for repair timeliness, inspection, and reporting.

A third-party reviewer will be identified and used when a municipality wants to modify any of their SBMs. The third-party reviewer may also conduct other work related to the SBMs, such as reviewing calibration reports, participating in meter inspections, and assisting with the selection and placement of temporary meters when needed. To start, a third-party reviewer (CDM Smith) has been identified to assist with the proposed changes to the South Whitehall Township SBMs, which is kicking off in 2024.

Metering costs specifically related to each municipality shall be paid by each municipality. Larger, global issues (centralized dashboard/data collection) shall be paid via the LCA Allentown KIWWTP Division fund.

Beginning in 2027, all data shall be centrally available for review.

Next Steps

- Details of the three-year transition period to address the SBM issues identified in this proposal will be developed.
- CDM Smith is currently reviewing the South Whitehall Township SBMs. A report on their work and capabilities to conduct broader evaluations for all KISS municipalities will be shared with the KISS group in a future meeting.
- Additional discussion is required within the Western Lehigh group to determine how to transition to a billing system based on total sewage flow vs. using water meter readings, which is the current practice.
- The Act 537 Plan shall contain a discussion on the above-mentioned topics.
- Agreed-upon SBM program concepts will be included for consideration to be added to the new / updated intermunicipal agreements that will be developed.