Wastewater Collection

Start of Block: Default Question Block

We greatly appreciate you helping us learn more about the impact of low influent flows on wastewater collection systems. This questionnaire should take no more than 10 minutes to complete. If you leave this site before completing the questionnaire, your answers will be automatically saved and appear in the questionnaire when you return to complete it.

Responses to this survey will be aggregated and made anonymous. No information that can identify your agency or facility will be shared or reported outside the project team.

To begin, please tell us the name of your agency and the treatment facility your collection system drains to.

O Agency Name	

O Facility Name _____

As we proceed with our work, we will likely have follow-up questions and hope to continue to communicate with you. As such, please provide your name, email address, and **telephone** number.

Contact Name	
◯ Email Address	
O Telephone Number	
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<u>Since 2011</u>, has your wastewater collection system experienced any challenges related to low wastewater flow that required operational changes or modifications to your system?

◯ Yes

🔿 No

Skip To: Q12 If Since 2011, has your wastewater collection system experienced any challenges related to low waste... = No

If an item listed below was not a challenge, mark "none". For "major" or "minor", we are interested in your general assessment. A challenge that was widespread or happened frequently or required significant changes in your workload/costs is "major". A "minor" challenge is one that could not be ignored, but could be mostly handled as a normal part of your operations.

	None	Minor	Major
Solids accumulation/settling in the pipes	0	0	0
Root intrusion	\bigcirc	\bigcirc	\bigcirc
Biological growth	\bigcirc	\bigcirc	\bigcirc
Methane generation	\bigcirc	\bigcirc	\bigcirc
Other (indicate what):	\bigcirc	\bigcirc	\bigcirc

Challenges involving blockage and/or overflows

Challenges involving equipment and/or physical infrastructure

	None	Minor	Major
Solids accumulating in pumping facilities	0	0	0
Solids blocking or restricting pumps and valves	0	\bigcirc	\bigcirc
Increased corrosion of equipment (e.g., pumps, sensors)	0	\bigcirc	\bigcirc
Increased corrosion of structures (e.g. pipes, manholes)	\bigcirc	\bigcirc	\bigcirc
Pipe fractures or breaks	0	\bigcirc	\bigcirc
Other (indicate what):	0	\bigcirc	0

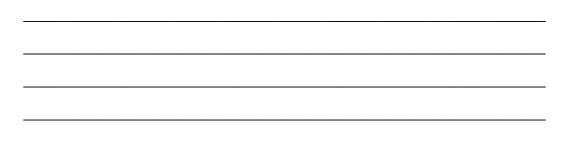
Operating challenges

	None	Minor	Major
Odors	\bigcirc	\bigcirc	0
Production of methane or other gases (non-odor)	0	\bigcirc	\bigcirc
High mass loading events (i.e. surges in solids loading)	0	\bigcirc	\bigcirc
Restriction of pipe capacity (not enough to cause a blockage)	0	\bigcirc	\bigcirc
Increased power requirements or energy use	\bigcirc	\bigcirc	\bigcirc
Other (indicate what):	\bigcirc	\bigcirc	\bigcirc

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For the challenges your system experienced related to lower influent flows, please answer the following questions.

Please describe in the box below what changes in <u>equipment or capital</u> <u>infrastructure</u> (e.g., monitoring, chemical injection, pumping, manholes, pipes, or structures) did you take to address the challenges.



What changes in operations and maintenance did you take to address the challenges? Select all that apply.

()Used more labor - increased hours, additional staff, more hours of contracted cleaning services

 \bigcirc Employed more outside technical help (engineering consultants or specialized services)

 \bigcirc Increased frequency of inspections

Increased frequency of preventative clean-outs (i.e., sewer flushing, pipe routing)

O Purchased more or different chemicals

 \bigcirc Other (please describe):

age Break

In the future, given current capacity of your systems, over what range would low wastewater flows require remediation actions?

Please provide, in the space below, any details that would help us understand any remediation actions needed to respond to future low wastewater flows (for example, particular challenges they will cause in your system, or particular challenges you expect in responding to them).

End of Block: Default Question Block

Thank you for your time! This completes the questions for wastewater collection. If you are completing the survey for wastewater treatment or recycled water, please select those links from the original email.