Primer on the Evaluation of Alternatives to Combined Sewer Overflows

New Jersey's combined sewer overflow permit holders are required to submit a series of reports as part of the development of their plans to reduce combined sewer overflows, these plans are known as Long Term Control Plans.

Long Term Control Plan Benchmarks:

July 1, 2018 – System Characterization Report, Public Participation Process Report, Compliance Monitoring Program Report, Consideration of Sensitive Areas Plan. Review the reports.

July 1, 2019 – Development and Evaluation of Alternatives report

July 1, 2020 – Selection and Implementation of Alternatives Report in the Final Long Term Control Plan

The next report, due on July 1, 2019, is the Development and Evaluation of Alternatives Report.

Permit holders will evaluate the following alternatives based on cost, water quality standards and their ability to reduce sewer overflows. Permit holders can incorporate additional criteria for alternatives analysis, such as neighborhood benefits.

The Evaluation of Alternatives Report must evaluate seven control alternative(s) , which are listed below. The final Long Term Control Plans are expected to combine more than one alternative in ways that maximizes community benefits and CSO reduction and minimizes cost:

- **Green infrastructure –** Nature-based solutions, like rain gardens and permeable pavement, that capture stormwater where it falls, allowing it to absorb into the ground or saving it for later use, before it enters the combined sewer system, to reduce total storm flows or peak flows.
- **Increased storage capacity in the collection system** – Storing sewage and stormwater in the existing pipes or new storage structures (e.g., underground or above ground tanks, storage tunnels) during a rainstorm and then releasing it to the sewage treatment plant following a storm event or snow melt. Increasing storage capacity can also include cleaning existing combined sewers to reduce blockages and filled areas.
- **Sewer treatment plant expansion and/or storage at the plant** – Identifying opportunities to build more storage at the sewer treatment plant or build more capacity to process sewage and stormwater at the plant.
- **Infiltration and inflow reduction** – Fixing the combined sewers to reduce the amount of water that infiltrates into the pipes from cracks.
- **Sewer separation** – Adding a separate pipe system for stormwater that will discharge to a stream or river, which will reduce the volume in the sewage pipes that go to the treatment plant.
- **End of pipe treatment of the CSO discharge** – adding sewage treatment, including disinfection, at the end of the outfall pipes.
- **CSO related bypass of the secondary treatment portion of the sewer treatment plant** – creating more capacity at the sewer treatment plant by bypassing the secondary treatment process of cleaning the mixture of sewage and stormwater. This approach results in partial treatment of the combined sewer flows during streams, rather than complete treatment of part of the flow and no treatment of the overflows.

Questions to ask the permit holders about the CSO evaluation of alternatives:

1. What size storm event or rainfall intensity was used to evaluate the effectiveness of your design alternative?
2. Are you considering climate change in your evaluation of alternatives?
3. What are the interim goals or benchmarks you you are planning to reduce combined sewer overflows? Do you have a 5-year plan, 10-year plan…?
4. How can the plan be revised based on newer information, such as changes in storm event frequency and severity, and sea level rise?
5. Are you using any community-based metrics in the evaluation, including frequency of street or basement flooding, community greening projects such as rain barrels, planting trees or community led Green Infrastructure projects, community-based employment, affordability, etc.?
6. Has combined sewer cleaning been evaluated?
7. Are you incorporating green infrastructure into your CSO mitigation plan?
8. Has a cost benefit analysis been completed to minimize the size and complexity of the proposed underground storage system (shafts of tunnels)?
9. Are you taking into consideration the GI guidance manual being prepared by NJDEP?
10. Are you incorporating asset management principles into your design approach? For example, were social, economic and environmental issues (triple bottom line) taken into account?
11. How are community priorities being determined? How will community feedback be incorporated into decision-making process? And how will those changes be communicated back to ratepayers/customers?
12. Will the community have an opportunity to comment on draft Development and Evaluation of Alternatives Plans? Will the permit-holder respond to those comments?
13. Will you include an executive summary in the Development and Evaluation of Alternatives Plans to clearly communicate in layperson's terms your evaluation of alternatives**?**

For more information on reduce sewage in our waterways visit the Sewage-Free Streets and Rivers campaign website at SewageFreeNJ.org