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August 23, 2019

Susan Rosenwinkel, Bureau Chief  
NJ DEP Division of Water Quality

Dwayne Kobesky  
DEP Team Lead

Dear Susan and Dwayne,

On behalf of New Jersey Future, we are pleased to submit these comments on the Development and Evaluation of Alternatives Reports for the cities of Bayonne, Paterson, and Perth Amboy, and the Jersey City Municipal Utilities Authority.

New Jersey Future chose to review these four reports based on our ongoing outreach efforts and work in these communities. As a member of *Jersey Water Works* we evaluated these reports based on Jersey Water Works [goals](#) for Smart Combined Sewer Overflow Plans. Our review focuses on public participation and green infrastructure.

Thank you for the opportunity to comment and for your consideration of our feedback. If you have any questions, please contact Mo Kinberg at [mkinberg@njfuture.org](mailto:mkinberg@njfuture.org)

Sincerely,

Chris Sturm  
Managing Director, Policy and Water

Mo Kinberg  
Community Outreach Manager

cc: Janice Brogle

## **The City of Bayonne:**

### **Public participation**

The Bayonne report acknowledges the importance of public acceptance and implies that public outreach has been conducted, including through participation in the regional supplemental CSO team and a local supplemental team. (See sections D.1.3 and D.1.4.)

In section D.1.3 the report states that the “The City has continued raising public awareness about the LTCP project through ongoing public participation activities” but does not include any details about the public outreach efforts. The only reference to comments from members of the local supplemental team is that “the majority of comments received thus far have been verbal comments, some of which are related to the application of GI.”

We recommend that Bayonne be required to revise its report to include a summary of the feedback it has received from the public and the local and regional supplemental CSO teams as well as the preferences of supplemental CSO team members and the public related to the alternatives evaluated. More specifically, the report should include:

- A list of supplemental team meetings and public meetings.
- Number of attendees for each meeting.
- Who was represented at the meetings. For example, community members, elected officials, representatives of community organizations, businesses or business associations, elected officials, home owners, etc.
- Agendas presented at the meeting and a summary of the preferences, concerns, and input gathered at the meetings.
- How the the Supplemental CSO Team was involved in a two-way conversation beyond being a passive listener.

### **Green infrastructure**

Table D-2 – We believe that the chart includes a mathematical error regarding the number of CSO events by 10% of impervious coverage. The number should be lower.

Section D.2.2 states that “modeling analyses were applied to quantify the reduction from the baseline of CSO count and volume resulting from two different levels.” Meanwhile, the “Rutgers Green Infrastructure Feasibility Study, Bayonne,” is the only green infrastructure study referenced in the report. This study was intended to provide potential demonstration projects. It is not intended to be a thorough analysis of GI projects in the City of Bayonne.

Bayonne should be required to fully describe the model used to determine the CSO reduction. Bayonne should be required to use a modeling approach consistent with the NJDEP’s “Evaluating Green Infrastructure: A combined sewer overflow control alternative for Long Term Control Plans” guidance manual related to modeling, explain the model used and the results. We recommend the reports include:

1. Evaluate land uses, drainage areas and other community specific drivers and benefits to establish the goals and milestones for the GI program.
2. Compile a GIS Database for GIS Parameters including flood prone areas

3. Use one of the Hydrologic and Hydraulic Modeling tools referenced by NJDEP to Arc Hydro, SWIMM, infor works.

We recommend that Bayonne use a triple bottom line approach, as described in NJDEP's ["Evaluating Green Infrastructure: A combined sewer overflow control alternative for Long Term Control Plans"](#) guidance manual to assess the selection of alternatives using quantitative measures. Bayonne should be required to revise its report and to articulate the community benefits of green infrastructure.

We also recommend that Bayonne describe the strategies that will be used to implement green infrastructure goals. For example:

- Identify all public land that can be utilized for GI (parks, schools, city, state and county owned lands and facilities).
- Develop a goal for stormwater capture from project on private land as well as ordinances or incentive programs to achieve the goal.
- Choose locations for GI that will not replace existing green space with impervious cover.
- Plant trees as part of the GI plan
- Use a cost analysis for GI based on economies of scale, procurement by quantity, and relate to cities of similar size and socioeconomic status.
- Implement green infrastructure in conjunction with community groups to ensure community engagement from the start of these projects and community acceptance.
- Ensure that consultants working on these plans are certified in green infrastructure.

The two plan alternatives that were presented in section D.3.3.4 are "PAA disinfection at each outfall" and "consolidated storage tanks with additional conveyance." It is unclear from these examples how alternatives could be combined to reach the Bayonne's goal for CSO reduction and if secondary alternatives will be included in reaching these goals.

We recommend that Bayonne be required to revise its report so that all of the alternatives being evaluated include a consistent performance metric such as gallons of stormwater capture or CSO volume reduction, which would enable a clear comparison.

### **Jersey City Municipal Utilities Authority (JCMUA)**

#### **Public participation**

The JCMUA report includes some specific input gathered from the community through a series of community meetings and references some of the specific stakeholder groups who participated in these meetings. (See section D.1.2 and D.1.4)

The report is a good example of how to describe how community preferences and values were gathered through public meetings and included in the review and selection of alternatives. For example, Section D.1.4 notes that meetings were held to "gauge how the public feels about various alternatives. Some alternatives have received a lot of support while others received little support or opposition." And Section D.1.2 of the report states that JCMUA will take the preferences of ratepayers seriously. It was also noted that developers and as well as community and environmental groups participated in community meetings. Community preferences for specific types of GI were noted as "bioswales, rain gardens, trees, and rain barrels or cisterns included in the JCMUA plan."

However, we recommend that the report include a more complete summary of the feedback the JCMUA has received from the public and the local and regional supplemental CSO teams as well as the preferences of supplemental CSO team members and the public related to the alternatives evaluated. More specifically:

- A list of supplemental team meetings and public meetings.
- Number of attendees for each meeting.
- Who was represented at the meetings. For example, community members, elected officials, representatives of community organizations, businesses or business associations, elected officials, home owners, etc.
- Agendas presented at the meeting and a summary of the preferences, concerns, and input gathered at the meetings.
- How the Supplemental CSO Team was involved in a two-way conversation beyond being a passive listener.

### **Green infrastructure**

The report includes a thorough evaluation of green infrastructure. PCSWMM modeling software was used to evaluate where green infrastructure could be implemented for the maximum benefit. Green infrastructure was also evaluated using a triple bottom line approach that took into account the social benefits in a quantitative way.

We also recommend that the JCMUA describe the strategies that will be used to implement green infrastructure goals. For example:

- Identify all public land that can be utilized for GI (parks, schools, city, state and county owned lands and facilities).
- Develop a goal for stormwater capture from project on private land as well as ordinances or incentive programs to achieve the goal.
- Choose locations for GI that will not replace existing green space with impervious cover.
- Plant trees as part of the GI plan.
- Use a cost analysis for GI based on economies of scale, procurement by quantity, and relate to cities of similar size and socioeconomic status.
- Implement green infrastructure in conjunction with community groups to ensure community engagement from the start of these projects and community acceptance.
- Ensure that consultants working on these plans are certified in green infrastructure.

The report lists that alternatives being considered for selection in the final LTCP but did not include how these alternatives could be combined to achieve CSO reduction goals. (See section D.3.3)

We recommend that the JCMUA be required to revise its report so that all of the alternatives being evaluated include a consistent performance metric such as gallons of stormwater capture or CSO volume reduction, which would enable a clear comparison.

## **The City of Paterson**

### **Public participation**

The Paterson report did not include information on Supplemental CSO Team meetings or community meetings or the preferences of the community or supplemental team members related to the alternatives reviewed.

We recommend that Paterson be required to revise its Development and Evaluation of Alternatives report so it includes a summary of the feedback Paterson has received from the public and the local and regional supplemental CSO teams as well as the preferences of supplemental CSO team members and the public related to the alternatives evaluated. (Paterson may need to hold public meetings and solicit feedback from residents on the alternatives being reviewed.) More specifically Paterson's report should include:

- A list of supplemental team meetings and public meetings.
- Number of attendees for each meeting.
- Who was represented at the meetings. For example, community members, elected officials, representatives of community organizations, businesses or business associations, elected officials, home owners, etc.
- Agendas presented at the meeting and a summary of the preferences, concerns, and input gathered at the meetings.
- How the the Supplemental CSO Team was involved in a two-way conversation beyond being a passive listener.

### **Green infrastructure**

The Paterson report includes a good review of green infrastructure that utilized best practices from other cities. The report states that based on "the 'top-down' GI modeling results and lessons learned from other CSO municipalities in the region, we established a target GI implementation rate to manage approximately 2.5% of the impervious cover in the combined sewer drainage area within Paterson (in which the first 1.25 inches of rainfall was managed)." In addition to the modeling approach, Paterson evaluated the use of publicly-owned land as well as tax-exempt nonprofit properties in the combined sewer overflow sewershed. (See section D.1.2)

The report calculated the number of gallons of runoff captured from 2.5% of impervious surface captured by green infrastructure and then determined the remaining "storage volume necessary to reach the targets of 0, 4, 8, 12, and 20 untreated overflows at each outfall within the City's CSS, as established earlier in this report." And the report indicated that Paterson would prioritize green infrastructure as an early alternative to reduce discharges prior to considering grey infrastructure.

As in all of the reports, cost is a major factor. We recommend that Paterson be required to revise its evaluation of alternative report to explore increasing the percentage of impervious area managed by green infrastructure to maximize the benefits in ways that are most cost-effective. We recommend that Paterson:

- Incentivize private development to implement green infrastructure
- Evaluate grant and low-interest loan programs available through the Water Bank

- Research how other cities have used economies of scale and bulk procurement to lower costs.

We recommend that Paterson be required to use a triple bottom line approach, as described in NJDEP’s “Evaluating Green Infrastructure: A combined sewer overflow control alternative for Long Term Control Plans” guidance manual to assess the selection of alternatives and articulate the community benefits of green infrastructure and a quantitative value to these benefits. The cost benefit analysis should include the full range of community benefits.

We recommend that the evaluation of alternatives describe the strategies that will be used to implement green infrastructure goals. For example:

- Develop a goal for stormwater capture from project on private land as well as ordinances or incentive programs to achieve the goal.
- Choose locations for GI that will not replace existing green space with impervious cover.
- Plant trees as part of the GI plan.
- Use a cost analysis for GI based on economies of scale, procurement by quantity, and relate to cities of similar size and socioeconomic status.
- Implement GI in conjunction with community groups to ensure community engagement from the start of these projects and community acceptance.
- Ensure that consultants working on these plans are certified and experienced in GI design and construction.

## **Perth Amboy**

### **Public participation**

The report includes a few specific comments from the Supplemental CSO Team and how they were taken into consideration but it did not include a summary of feedback on the evaluation of alternatives. The report included a placeholder for “discussion and commentary from the Supplemental CSO team.” (Section 6.7 and D.1.1)

We recommend that section 6.7 be added We recommend that Perth Amboy be required to revise its report to include a summary of the feedback it has received from the public and the local and regional supplemental CSO teams as well as the preferences of supplemental CSO team members and the public related to the alternatives evaluated. More specifically the report should include:

- A list of supplemental team meetings and public meetings with the date, time, and location.
- Number of attendees for each meeting.
- A list of the types of people and organizations represented at the meetings. For example, community members, elected officials, community organizations, businesses or business associations, elected officials, home owners, etc.
- Agendas presented at the meeting as well as a summary of the preferences, concerns, and input gathered at the meetings.
- How the the Supplemental CSO Team was involved in a two-way conversation with the permittee beyond being a passive recipient of information

### **Green infrastructure**

The report shows an understanding of GI based on how GI techniques have been used in other cities but it does not include modeling specific to Perth Amboy. The report states that the Supplemental CSO team recommended 15-20% reduction in impervious areas and that despite this recommendation the 10% impervious area was used for the modeling. The report mentions using a triple bottom line analysis and how it could be used in an LTCP but does not include this analysis in the report. (Section 6.6.3)

We recommend Perth Amboy be required to revise its report to include an explanation for using 10% rather than the 15-20% suggested by the Supplemental CSO Team.

We recommend Perth Amboy be required to conduct a more thorough evaluation of GI as described in the NJDEP's "Evaluating Green Infrastructure: A combined sewer overflow control alternative for Long Term Control Plans" guidance manual related to modeling, explain the hydraulic and hydrological model used and the results. We recommend the reports include:

1. Evaluate land uses, drainage areas and other community specific drivers and benefits to establish the goals and milestones for the GI program.
2. Compile a GIS Database for GIS Parameters including flood prone areas
3. Use one of the Hydrologic and Hydraulic Modeling tools referenced by NJDEP to Arc Hydro, SWIMM, infor works.

We recommend using a triple bottom line analysis and involving the Supplemental CSO Team and the public in this process.

We recommend that the evaluation of alternatives describe the strategies that will be used to implement green infrastructure goals. For example:

- Identify all public land that can be utilized for GI (parks, schools, city, state and county owned lands and facilities).
- Develop a goal for stormwater capture from project on private land as well as ordinances or incentive programs to achieve the goal.
- Choose locations for GI that will not replace existing green space with impervious cover.
- Plant trees as part of the GI plan.
- Use a cost analysis for GI based on economies of scale, procurement by quantity, and relate to cities of similar size and socioeconomic status.
- Implement green infrastructure in conjunction with community groups to ensure community engagement from the start of these projects and community acceptance.
- Ensure that consultants working on these plans are certified in green infrastructure.

The report includes green infrastructure as part of mixed technology C and included a reduction in CSO flow based on the inclusion of green infrastructure. We recommend including specific metrics for the reduction of CSO flow for each of the alternatives that are included in a mixed technology scenario.