

Supplemental CSO Team – Session #13

Held: July 31, 2019

Ironbound Early Learning Center
Newark, NJ

Agenda:

- Introduction and Recap
- Update on the July 1 Submittal of the Development and Evaluation of Alternatives Report
- Discuss Public Comments on Development and Evaluation of Alternatives Report
- Breakout Session
- Audience Poll
- Summary of Alternatives to be further developed in Selection Process and Costs
- Discuss next steps for Selection and Implementation of Alternatives Report development
- Questions and Discussion
- Adjourn



Supplemental CSO Team – Session 13
PVSC Service Area / North Bergen Service Area
July 31, 2019 – 5:30 PM

Ironbound Early Learning Center
One New York Avenue, Newark



CLEAN WATERWAYS
Healthy Neighborhoods

Agenda

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 - Development and Evaluation of Alternatives Report
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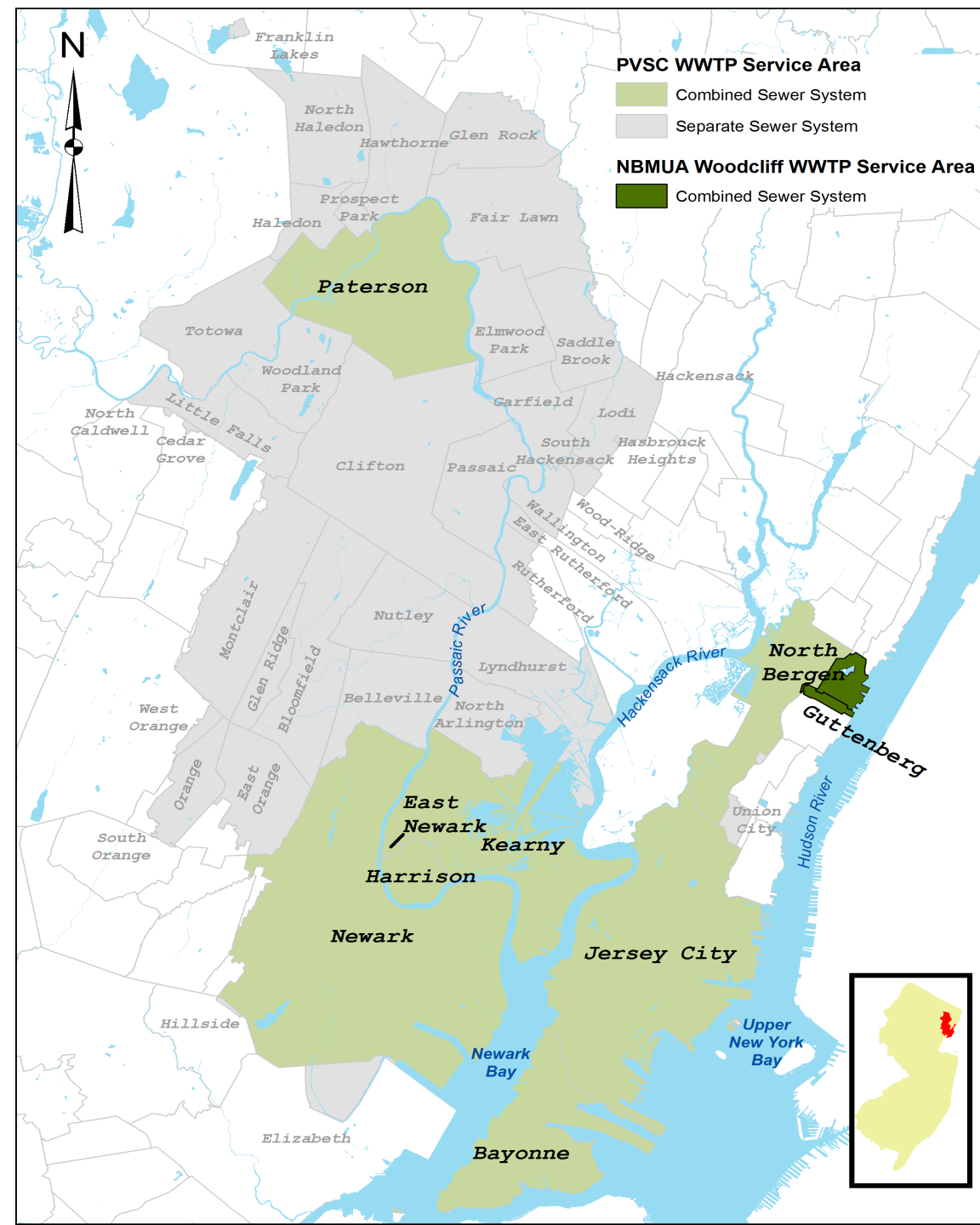
Introduction and Recap



CLEAN WATERWAYS

Healthy Neighborhoods

- City of Paterson
- City of Newark
- Town of Guttenberg
- Town of Harrison
- Town of Kearny
- Borough of East Newark
- North Bergen MUA
- Bayonne MUA
- Jersey City MUA
- Passaic Valley Sewerage Commission (PVSC)



Supplemental CSO Team Members

Member	Organization	Member	Organization
Dan Smereda	Bayonne Water Guardians	Sue Levine	Paterson Smart
Lisha Smereda	Bayonne Water Guardians	Ruben Gomez	City of Paterson Economic Development
Nicole Miller	Newark DIG	Sheri Ferreira	Greater Paterson Chamber of Commerce
Drew Curtis	Ironbound Community Corporation	Betty Jane Boros	New Jersey Business & Industrial Association
Robin Dougherty	Newark Greater Conservancy/Newark Business Partnership	Vacant	Montclair State University - Passaic River Institute
Jorge Santos	Newark Community Economic Development Corporation	Christopher C. Obropta, Ph.D	Rutgers University - Cooperative Extension Water Resources
Christopher Pianese	Township of North Bergen	Captain Bill Sheehan	Hackensack Riverkeeper
Janet Castro	Hudson Regional Health Commission Town of North Bergen	Harvey Morginstin	Passaic River Boat Club & Passaic River Superfund CAG
Thomas Stampe	North Bergen "Sustainable Jersey" group	Laurie Howard	Passaic River Coalition
Nancy Kontos	Bunker Hill Special Improvement District	Ben Delisle	Passaic River Rowing Association
Alison Cucco	Jersey City Environmental Commission	Patricia Hester-Fearon	Town of Kearny
Michele Langa	NY/NJ Baykeeper	Christopher Vasquez	Town of Kearny

59-Month Program Schedule and Milestones



Permit Effective Date

July 1st, 2015

We Are Here

2015

2016

2017

2018

2019

2020

January 1, 2016

- ✓ Coordinates of pumps, regulators, and outfalls
- ✓ System Characterization Work Plan
- ✓ Baseline Compliance Monitoring Program Work Plan

July 1, 2016

Map of Combined and Separate Sewer Areas

July 1, 2018

- ✓ System Characterization Report
- ✓ Public Participation Process Report
- ✓ Compliance Monitoring Program Report
- ✓ Consideration of Sensitive Areas Plan

July 1, 2019

- ✓ Development and Evaluation of Alternatives Report

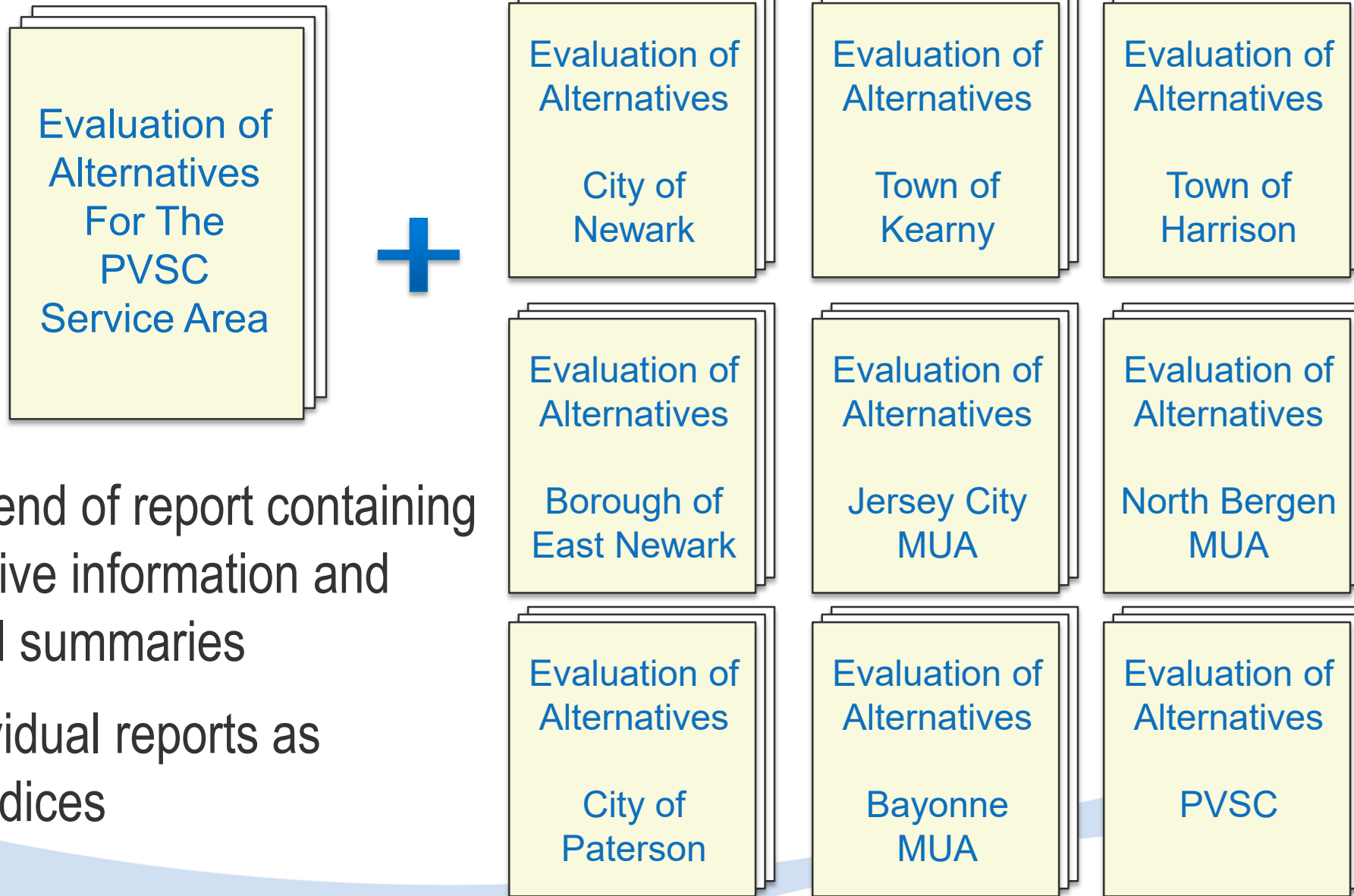
June 1, 2020

Selection and Implementation of Alternatives Report in the Final LTCP



Permit Due Date

Evaluation of Alternatives Report –Submitted July 1, 2019



- Front end of report containing repetitive information and overall summaries
- 9 individual reports as appendices

Overview of Evaluation of Alternatives Report



Permit Requirements

- Evaluate the feasibility of potential control alternatives, including:
 - Green infrastructure
 - Increased storage capacity in the collection system
 - Treatment expansion or storage at PVSC
 - Inflow and Infiltration (I/I) reduction
 - Sewer separation
 - *Treatment of CSO discharge*
 - CSO related bypass of secondary treatment at the treatment plant



Purpose of the Evaluation of Alternatives Report

- NJPDES Permit Section G.4.b

“The permittee shall submit..... the Evaluation of Alternatives Report that will enable the permittee, in consultation with the Department, the public, owners and/or operators of the entire collection system that conveys flows to the treatment works, to select the alternatives to ensure the CSO controls will meet the water quality-based requirements of the CWA, will be protective of the existing and designated uses....., give the highest priority to controlling CSOs to sensitive areas, and address minimizing impacts from SIU discharges.”



Regional Evaluation of Alternatives Report Comments

Comment Theme	Number of Comments
Public Input - Process	10
CSO Alternatives (Not including GI)	10
Regional Alternatives	8
CSO Reduction Volume and Number of Overflows	6
LTCP Preparation Process	5
Green Infrastructure	5
DEAR Report Structure	4
Climate Change/Incorporation of consideration of more intense storms	3
Public Outreach	3
Community Impact	3
Implementation/Construction	2
Water Quality	1
Miscellaneous	4
Duplicate	11

Discussion of Themes from Public Comments on the Evaluation of Alternatives Report



Public Input

What is the process for Supplemental CSO Team members to review and to state their preferences for CSO Control Alternatives?

- Quarterly Supplemental CSO Team Meetings
- Clean Waterways, Healthy Neighborhoods Website
- Social Media (Facebook Page, Twitter)
- Municipal Supplemental CSO Team Meetings
- Courses supported by Rutgers University and Stevens Institute of Technology
- Ad hoc meetings with the public
- City council meetings will continue over the next year.

Public comments will be taken in to consideration in the Selection of Alternatives report as well as the Long Term Control Plan.



CSO Alternatives - Pollutants of Concern (POC)

The report states that the technologies were evaluated based on the “pollutants of concern” and the CSO “discharge volume.”

Has the Supplemental CSO Team provided input on the “Pollutants of Concern” and expanding to other pollutants that are caused by floatables?

- Pollutants of Concern are have been reported to and approved by the NJDEP
- Pollutants of Concern are in accordance with permit requirements
- Pollutants of Concern have been presented to the SCSO team and members of the public on various occasions over the past few years.



DEAR Report Structure

A public facing executive summary for the report is needed.

- A report summary was provided with the draft DEAR to facilitate review by the public
- The Regional DEAR is an executive summary of all of the individual permittee DEARs
- An executive summary will be provided for the Selection of Alternatives Report/LTCP



Regional Solutions

How will regional agreements be negotiated?

- The regional plan includes technologies implemented on both the city-wide and regional level to determine the optimal CSO reduction
 - Regional Alternative 1- Developed using the most cost effective alternatives from each Permittee (Includes Green Infrastructure)
 - Regional Alternatives 2 & 3 & 4- Include a regional collection system approach and plant capacity expansion
- Final agreements will be based on cost, a financial capability assessment, implementation schedule and individual discussions and negotiations with permittees.



Regional Tunnels

Green Infrastructure (GI) was not evaluated on a regional basis because PVSC does not own the land but wouldn't this also be true for a regional tunnel?

- GI is included in Regional Alternative 1 as part of the cost-effective alternatives for several Permittees, to be implemented locally as part of the Regional solution
- Tunnels will be deep underground and located in the public right of way where feasible
- Tunnels may require land acquisition or easements.



Climate Change

Projections on more intense storms that are predicted as a result of climate change or increase in annual rainfall totals should be included in the reports.

- The typical year used for rainfall modeling is based on historic data (70 Years)
- The typical year selection accounted for an increase in rainfall
- EPA or NJDEP does not provide guidance or require an adjustment of rainfall intensity to account for climate change in the development of LTCPs
- Each Permittee has the option to make an engineering decision to incorporate additional safety factors with respect to climate change during the design phase



Breakout Sessions



Green Infrastructure

- Green Infrastructure: Captures stormwater runoff before it reaches the combined sewer system
 - Raingardens, pervious pavement, green roofs, blue roofs, etc.
 - Less Runoff Reaching the Combined Sewer System = Less Overflow
- GI is being evaluated as a CSO Alternative
- If selected, GI would be implemented and maintained locally
- Is evaluated as part of a Regional Solution (Regional Alternative 1)
- To be discussed in breakout sessions



Breakout Session Topic 1- LTCPs and Stormwater Management

How can each permittee optimize the stormwater management opportunities that result from development and redevelopment or from regular maintenance activities and projects?



Breakout Session Topic 2- Public Outreach and Input

Public outreach was ruled out by most permit holders for further consideration (other than a few who are evaluating water conservation). Public outreach should be evaluated and included in the LTCPs.

What engagement and outreach will take place over the next year and how will additional public comments be incorporated into the final plan?



Breakout Session Topic 3- Green Infrastructure (GI)

Was private land considered in the evaluation of green infrastructure? As well as programs like Rain Check that incentivizes homeowners to implement green infrastructure?



Breakout Session Topic 4- Green Infrastructure (GI)

Can higher percentages of Green Infrastructure (GI) be considered? Is there a threshold at which GI becomes more impactful?



Breakout Session Topic 5-Financing Programs

Newark included existing financing programs in their cost analysis. All of the permittees should include, where feasible, available financing programs to ensure an accurate cost estimate.

Can available financing programs be incorporated in the LTCP?



Breakout Session Topic 6- Alternative Selection Process

Provide more information on how these alternatives have been reviewed and who will be reviewing them.



Poll Questions



Which comment theme was not discussed today, but should be in future meetings?

- CSO Alternatives (Not including GI)
- LTCP Preparation Process
- CSO Reduction Volume and Number of Overflows
- Public Outreach
- Implementation/Construction
- Community Impact
- Water Quality
- Other



If you answered "Other", please let us know your ideas!

What theme was discussed today, but warrants more discussion or detail in future meetings?

Public Input
Pollutants of Concern
Regional Tunnels
Regional Solutions
Green Infrastructure
Climate Change
DEAR Report Structure
Other



If you answered "Other", please let us know your ideas!

How can public input methods be MOST improved:

More Breakout Sessions during SCSO Meetings

Provide more technical information during the SCSO Team Meetings

Provide more opportunities to communicate directly with Municipalities

Other



If you answered "Other", please let us know your ideas!

Summary of Alternatives and Costs (To be Further developed in Selection Process)



Permittee	0 Overflow Alternatives	Life Cycle Cost (\$M)
Paterson	Baseline Model + Sewer Separation projects completed since 2006 + Planned Sewer Separation for CSO023 + 19th Ave. Relief Sewer for CSO026 + Green Infrastructure + Treatment by Disinfection for 0 Overflows	\$637.0
Newark	Disinfection to treat all wet weather events	\$1,485.6
East Newark	0 CSO/yr, partial SS+5%GI and a storage tank	\$44.6
Harrison	Consolidated Tank Storage	\$78.2
Kearny	Complete sewer separation	\$747.7
Bayonne	Sewer separation	\$828.1
Jersey City	Systemwide Separation	\$5824.4
North Bergen	0 CSOs/yr, PAA disinfection w/ Flex Filter	\$137.9
Total		\$9784



Permittee	4 Overflow Alternatives	Life Cycle Cost (\$M)
Paterson	Baseline Model + Sewer Separation projects completed since 2006 + Planned Sewer Separation for CSO023 + 19th Ave. Relief Sewer for CSO026 + Green Infrastructure + Treatment by Disinfection for 4 Overflows	\$363.0
Newark	Disinfection to treat all wet weather events except 4 events per year	\$1,019.80
East Newark	4 CSO/yr, partial SS+5%GI and a storage tank	\$34.0
Harrison	Consolidated Tank Storage	\$58.6
Kearny	PAA disinfection (4 OF) + Partial Sewer Separation	\$262.4
Bayonne	PAA disinfection (4 events annually)	\$549.00
Jersey City	Grouped storage tanks (4 overflows)	\$857.26
North Bergen	4 CSOs/yr, PAA disinfection w/ Flex Filter	\$113.5
Total		\$ 3258



Permittee	8 Overflow Alternatives	Life Cycle Cost (\$M)
Paterson	Baseline Model + Sewer Separation projects completed since 2006 + Planned Sewer Separation for CSO023 + 19th Ave. Relief Sewer for CSO026 + Green Infrastructure + Treatment by Disinfection for 8 Overflows	\$234.0
Newark	Disinfection to treat all wet weather events except 8 events per year	\$665.6
East Newark	8 CSO/yr, partial SS+5%GI and a storage tank	\$23.7
Harrison	Consolidated Tank Storage	\$57.8
Kearny	PAA disinfection (8 OF) + Partial Sewer Separation	\$212.6
Bayonne	PAA disinfection (8 events annually)	\$365.4
Jersey City	Grouped storage tanks (8 overflows)	\$794.10
North Bergen	8 CSOs/yr, PAA disinfection w/ Flex Filter	\$92.8
Total		\$2,446



Permittee	12 Overflow Alternatives	Life Cycle Cost (\$M)
Paterson	Baseline Model + Sewer Separation projects completed since 2006 + Planned Sewer Separation for CSO023 + 19th Ave. Relief Sewer for CSO026 + Green Infrastructure + Treatment by Disinfection for 12 Overflows	\$203.0
Newark	Disinfection to treat all wet weather events except 12 events per year	\$577.5
East Newark	12 CSOs/yr, Partial SS+5%GI, PAA, and Flex Filter	\$19.3
Harrison	Consolidated Tank Storage	\$46.7
Kearny	PAA disinfection (12 OF) + Partial Sewer Separation	\$188.7
Bayonne	PAA disinfection (12 events annually)	\$351.9
Jersey City	Grouped storage tanks (12 overflows)	\$719.5
North Bergen	12 CSOs/yr, PAA disinfection w/ Flex Filter	\$83.9
Total		\$2,191



Permittee	20 Overflow Alternatives	Life Cycle Cost (\$M)
Paterson	Baseline Model + Sewer Separation projects completed since 2006 + Planned Sewer Separation for CSO023 + 19th Ave. Relief Sewer for CSO026 + Green Infrastructure + Treatment by Disinfection for 20 Overflows	\$172.0
Newark	Disinfection to treat all wet weather events except 20 events per year	\$321.0
East Newark	20 CSOs/yr, Partial SS+5%GI, PAA, and Flex Filter	\$16.2
Harrison	Consolidated Tank Storage	\$41.1
Kearny	PAA disinfection (20 OF) + Partial Sewer Separation	\$170.3
Bayonne	PAA disinfection (20 events annually)	\$220.2
Jersey City	Grouped storage tanks (20 overflows)	\$546.6
North Bergen	20 CSOs/yr, PAA disinfection w/ Flex Filter	\$67.0
Total		\$1554



Permittee	85% WWF Overflow Capture Alternatives	Life Cycle Cost (\$M)
Paterson	Baseline Model + Sewer Separation projects completed since 2006 + Planned Sewer Separation for CSO023 + 19th Ave. Relief Sewer for CSO026 + Green Infrastructure + Storage for 85% Capture in Paterson System	\$77.3
Newark	Gate Delay + Disinfection at NE022	\$5.8
East Newark	85% Capture with Partial SS+5%GI, PAA, and Flex Filter	\$12.8
Harrison	Green Infrastructure - Treatment of 2.5% Impervious Cover	\$5.8
Kearny	Partial sewer separation (85% capture)	\$100.6
Bayonne	Off-line storage tanks at BA015, BA017 and BA001/BA002, with increased wastewater conveyance of wet-weather flows to PVSC for treatment (40 MGD)	\$180.9
Jersey City	Tanks at Outfalls: W1-W5 sized for 4 OF/yr, W6-W13,E18 & E19 sized for 20 OF/yr	\$515.3
North Bergen	85% Capture, PAA disinfection w/ Flex Filter	\$62.9
Total		\$961



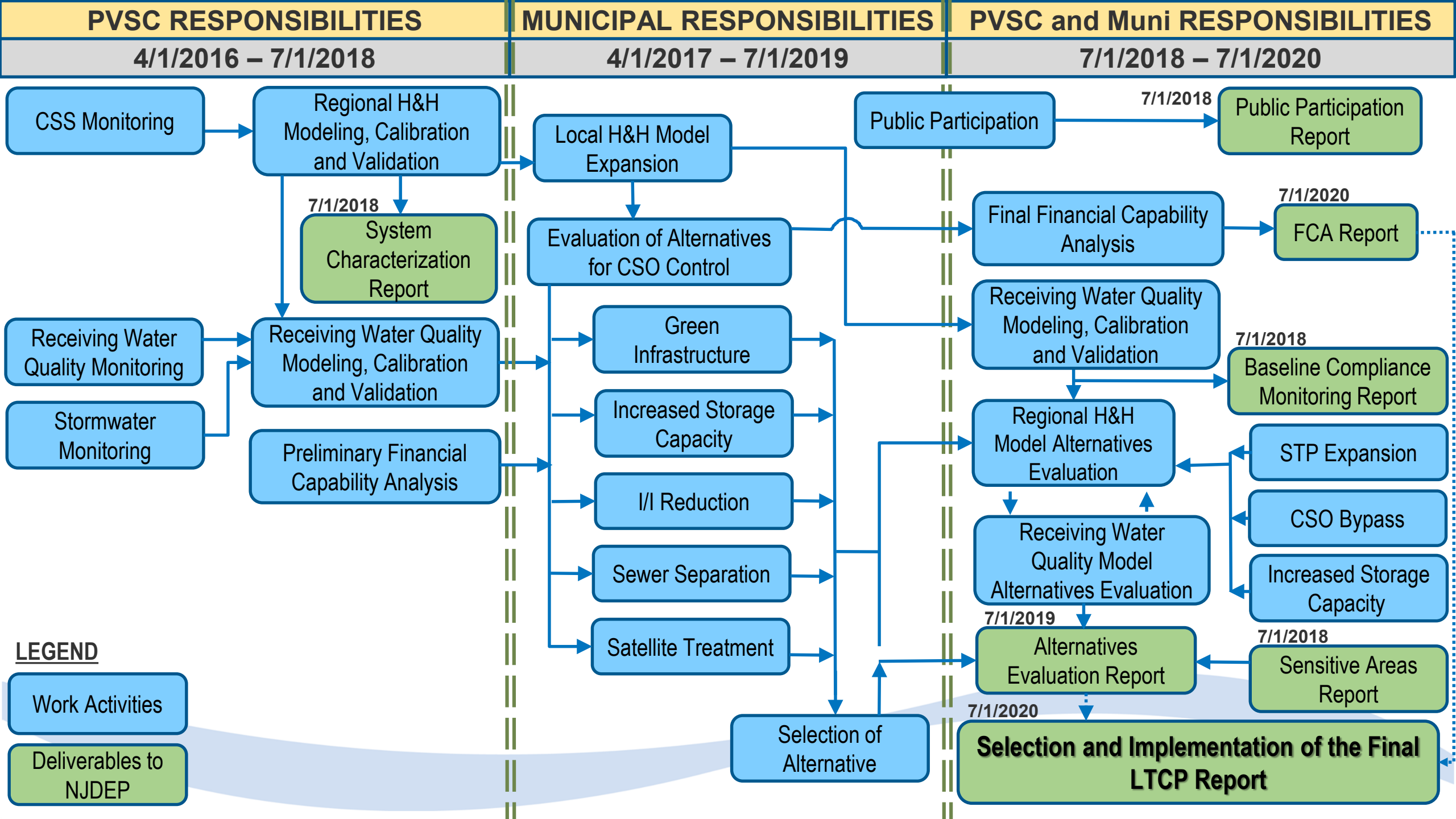
Selection and Implementation of Alternatives Report: Next Steps



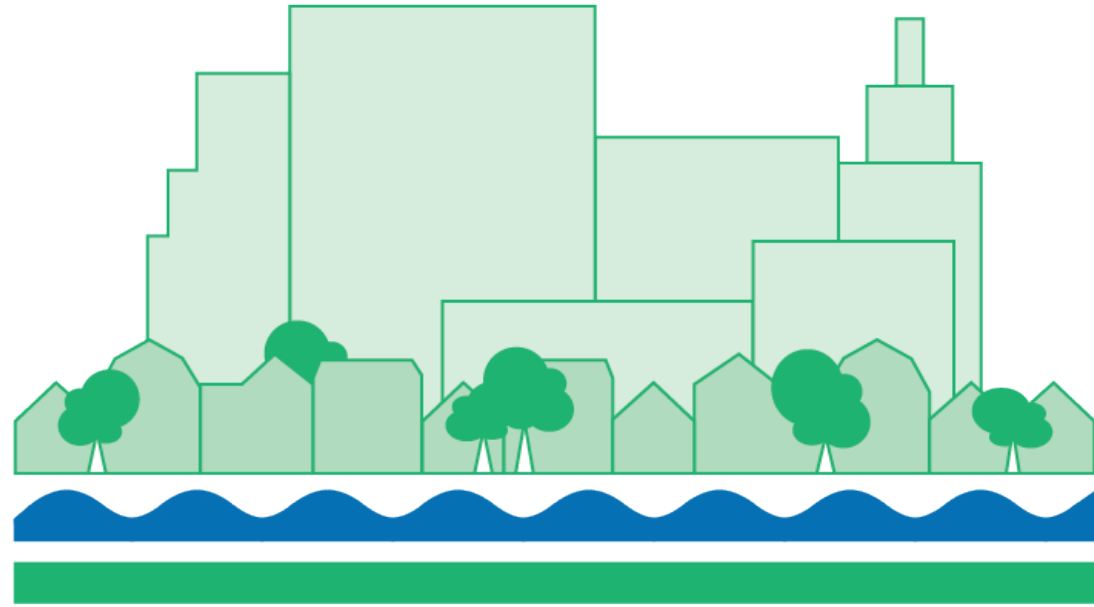
Selection and Implementation of Alternatives Report: Next Steps

- Review of Development of Evaluation and Alternatives Report by NJDEP
- Continued Evaluation of Alternatives by PVSC and Permittees
- Running the Water Quality Model
- Selection of an Alternative
- Development of Financial Capability Assessment
- Development of Implementation Schedule
- Final LTCP to NJDEP by June 1, 2020





Poll Results



CLEAN WATERWAYS
Healthy Neighborhoods

PVSC SCSO Team Meeting 07-31-19

Current run (last updated Jul 31, 2019 8:16pm)

6

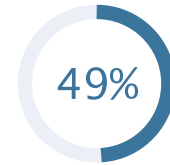
Polls

22

Participants

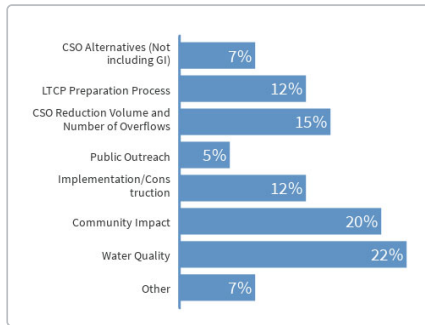
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Average responses



Average engagement

Which comment theme was not discussed today, but should be in future meetings?



Response options	Count	Percentage
CSO Alternatives (Not including GI)	3	7%
LTCP Preparation Process	5	12%
CSO Reduction Volume and Number of Overflows	6	15%
Public Outreach	2	5%
Implementation/Construction	5	12%
Community Impact	8	20%
Water Quality	9	22%
Other	3	7%



Engagement

41

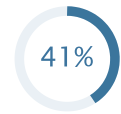
Responses

If you answered "Other", please let us know your ideas!

Survey form showing response options: "Cost", "Funding community outreach", "Reptiles", and "Other". The "Other" option is selected.

Responses

Costs!!!!!!! Cost Other Costs Funding community outreach F A
 Other Reptiles

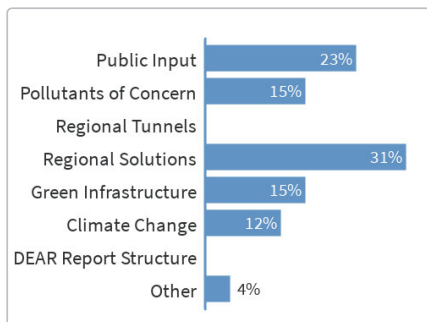


Engagement

9

Responses

What theme was discussed today, but warrants more discussion or detail in future meetings?



Response options

Public Input
 Pollutants of Concern
 Regional Tunnels
Regional Solutions
 Green Infrastructure
 Climate Change
 DEAR Report Structure
 Other

Response options	Count	Percentage
Public Input	6	23%
Pollutants of Concern	4	15%
Regional Tunnels	0	0%
Regional Solutions	8	31%
Green Infrastructure	4	15%
Climate Change	3	12%
DEAR Report Structure	0	0%
Other	1	4%



Engagement

26

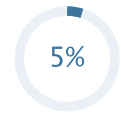
Responses

If you answered "Other", please let us know your ideas!

"REPTILES"

Responses

REPTILES

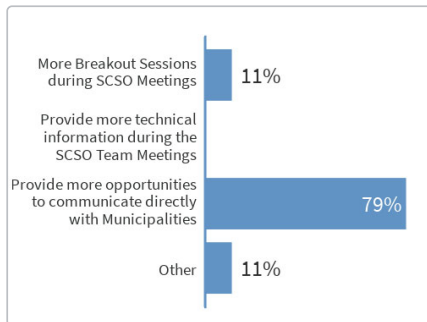


Engagement

1

Response

How can public input methods be MOST improved:



Response options

Count

Percentage

More Breakout Sessions during SCSO Meetings

2

11%

Provide more technical information during the SCSO Team Meetings

0

0%

Provide more opportunities to communicate directly with Municipalities

15

79%

Other

2

11%



Engagement

19

Responses

If you answered "Other", please let us know your ideas!

"Fund community groups directly to do on the ground outreach and engagement"

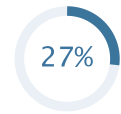
"Billboard and bus shelter education" "Sharks" "C"

"Support local community groups" "Enewsletter" "Surveys"

"Better attendance from team members"

Responses

- Support local community groups
- Better attendance from team members
- Billboard and bus shelter education
- Enewsletter
- Fund community groups directly to do on the ground outreach and engagement
- C
- Sharks
- Surveys



Engagement

8

Responses