

Bergen County Utilities Authority
Supplemental CSO Team
Meeting Number 8
Development and Evaluation of Alternatives Update
BCUA Administration Building, Public Meeting Room
March 12, 2019 10:00 – 11:30 am

Attendees – See attached sign in sheet

Minutes

1. Introductions
 - Safety Minute
2. Review of prior meeting
 - John presented recap, see attached presentation.
3. Status of submissions
 - PPP – NJDEP had asked Fort Lee for a separate submission rather than just the BCUA report, this was submitted and has not yet not received comments. BCUA, Hackensack and Ridgefield Park are waiting for comments/approval of their submissions.
 - Sensitive Areas – Being handled at the NJ CSO Group level for all municipalities. Primary contact information is the only outstanding item.
 - Characterization - BCUA and Ridgefield Park reports were resubmitted and have been approved. Hackensack was granted an extension on their resubmission, which is due next week. Fort Lee report will be resubmitted shortly.
4. Status of NJDEP Review
 - All July 1, 2018 reports that have been submitted, are posted on NJDEP site. Not sure if or when the final reports will be posted. The public has not made any requests for this information yet. This information should also be available through the towns.
5. Development and Evaluation of Alternatives Review
 - Evaluation of facilities required to convey additional flow to the BCUA WWTP, should be done at the municipal level. This evaluation is not explicitly listed in the seven required alternatives outline in the permit, but it is implied. DEP indicated if the LTCP calls for increasing conveyance to the WWTP, that BCUA should confirm acceptance of the flow prior to the LTCP submission.
 - DEP will not entertain the “No Action” alternative regardless of receiving water quality.
6. Status updates:

a. BCUA

- Preliminary flow report is based on the 10 State Standard, this is still being reviewed. Data is based on all flow needing secondary treatment. Flow could increase to over 200MGD but that is an instantaneous flow not a daily flow.

b. Ridgefield Park

- John presented – see attached slides

c. Fort Lee

- Fort Lee is looking at primarily disinfection and green infrastructure. They do not have the space or lots to consider storage, plus rock is a consideration.
- They have reduced overflows from the Lower Main area from 38 to 22 by directing flow to the BCUA interceptor rather than to the Palisades pump station. They would also like to send more flow to BCUA and will look at the interceptor capacity and develop cost for upgrading.
- DEP was interested in what Disinfection method Fort Lee was entertaining. Considering PAA (dose will need to be higher). DEP thinks this will be an issue with solids. Fort Lee has not considered use of the fuzzy filter or other solids removal technologies, as this will require continuous onsite maintenance when in operation. Also, space is very limited and underlain by bedrock (Palisades). They would like to pilot the disinfection process. Most likely site would be a satellite at one of their two netting facilities.
- They discussed the improvements made to Bluff Road and the impact on overflows.

d. Hackensack

- They are still in the initial phases of alternatives evaluation. Currently looking at siting locations, primary consideration will be storage, upgrading facilities, and/or tunnels. BCUA's Hackensack Interceptor does not have much more capacity.
- They will also recommend I/I studies and incorporate some green infrastructure.
- Hackensack has no flow from other communities coming into the municipality.

7. Draft Report Outline

- Costing will be based on lifecycle cost. The method will need to be consistent with all groups.
8. SCSO Team future activities
 - John recommended the existing team recommend additional members to augment the team.
 9. Open discussion of additional topics, if needed.
 - None
 10. Upcoming Schedule / Next Steps
 - DEP inquired as to whether or not the groups wanted schedule extra meetings with the Department. They will make an effort to be available.
 11. Next Meeting
 - a. Next SCSO Team meeting May 14th?



Development and Evaluation of Alternative Controls – Update

BCUA CSO Group Supplemental CSO Team Meeting #8

March 12, 2019



Safety Topic

Driver Safety

1. Winter is Not Over

- Wet snow is more slippery
- Start braking sooner than later
- Reduce car speed as appropriate

2. Roadway Safety is Full Time

- Constantly scan your surroundings behind and ahead of you.
- Anticipate that the other driver doesn't know what he is doing.
- Keep a safe drive distance between vehicles (1 car length for each 10mph)
- Make sure you car is well maintained
- No Texting at any time
- Avoid phone calls



BCUA CSO Group Supplemental CSO Team

Meeting No. 8 Agenda

Refresher – In meeting #7 we covered:
NJ CSO Group Receiving Water Model and
Green Stormwater Infrastructure Modeling



BCUA CSO Group Supplemental CSO Team

Meeting No. 8 Agenda

- Submissions Status
- Status of NJDEP Review of Characterization and Public Participation Reports
- Status of Development and Evaluation of Alternatives
- Draft Report Outline
- Future Public Participation
- Upcoming Schedule

BCUA CSO Group Supplemental CSO Team

Public Participation Report – Key Comments

Demonstrate engagement of hydraulically connected separately sewered communities.

- Begin tracking metrics, such as the number of visitors to tables at public events and number of brochures/flyers distributed at public events; number of emails received to CSO email account; number of visitors to CSO webpage; number of locations in the Village where CSO flyers/brochures are offered.
- Consider other methods of engagement such as staffing a table at local events to distribute materials.
- Add links to the webpage for information on the Supplemental CSO Team and copies of reports submitted to the Department in preparation of the LTCP.

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Public Participation Report NJDEP Review Comments

Many of the Comments Went Beyond NJPDES Requirements, e.g.

- Tracking and Reporting on Visitors to Website
- Tracking Handouts and Where they are Placed
- Obtaining other Public Input on Plan
- Detailing How Public Will be Informed

On Progress of LTCP

Implementation

Issue – Some difficult to implement

Some part of next permit cycle.

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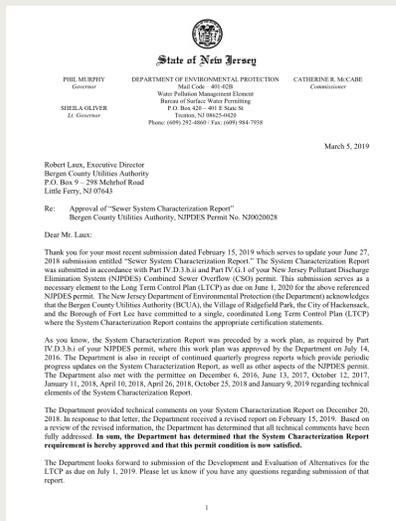
Public Participation Report – Key Comments

Permittees may consider providing opportunities for the Supplemental CSO Team to review key draft submittals.

- If BCUA/Ridgefield Park considers this option, it is recommended that a general timeline is provided with target dates for distribution of draft reports, deadline for submission of comments, and how any changes to the reports before final submission will be shared back to the team.
- Consider how BCUA/Ridgefield Park will inform the team that this type of information is available for review.
- There are some members of the team that may have left the position or are inactive. An effort should be made to bring additional members to the team as soon as possible.

BCUA CSO Group Supplemental CSO Team

Sewer System Characterization Report NJDEP Approval



BCUA CSO Group Supplemental CSO Team

What does the permit say about Development and Evaluation of Alternatives?

The permittee shall evaluate a reasonable range of CSO control alternatives that will meet the water quality-based requirements of the CWA

The Development and Evaluation of Alternatives Report shall include a list of control alternative(s) evaluated for each CSO enabling the permittee, ...to select the alternatives to ensure the CSO controls will meet the water quality-based requirements of the CWA

The permittee shall evaluate the practical and technical feasibility of the proposed CSO control alternative(s), and water quality benefits and give the highest priority to controlling CSO discharges to sensitive areas

The permittee shall select either the Demonstration or Presumption Approach

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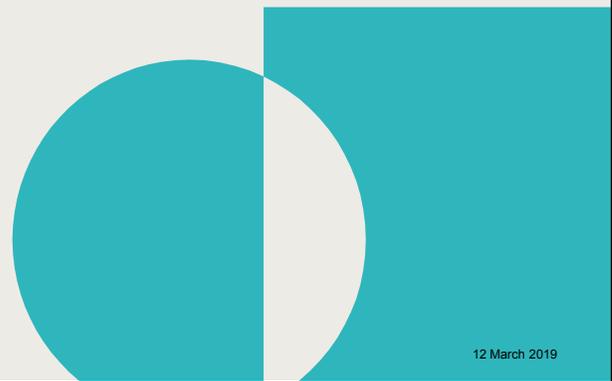
Development and Evaluation of Alternatives Report

To be Evaluated by Municipalities

- Green Infrastructure
- Increased Storage Capacity
- Infiltration and Inflow Reduction
- Sewer Separation
- Satellite Treatment of CSO Discharge

To be Evaluated by BCUA

- Bypass of Secondary Treatment at STP
- Treatment Plant Expansion

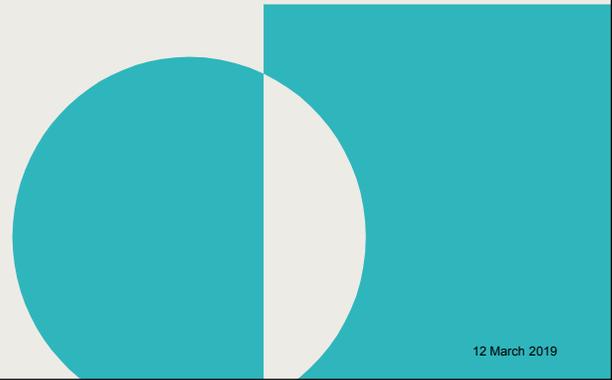


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Development and Evaluation of Alternatives Report

BCUA Facilities

- Transport
- Treatment



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Development and Evaluation of Alternatives Report

BCUA Trunk Sewers Servicing Combined Sewer Municipalities:

Borough of Fort Lee

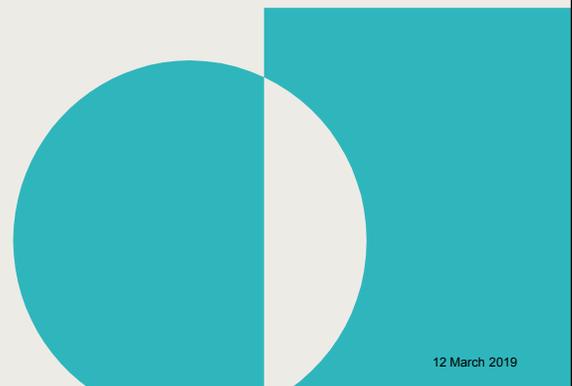
- Overpeck Trunk Sewer, and
- Overpeck Relief Sewer

City of Hackensack

- Main Trunk Sewer

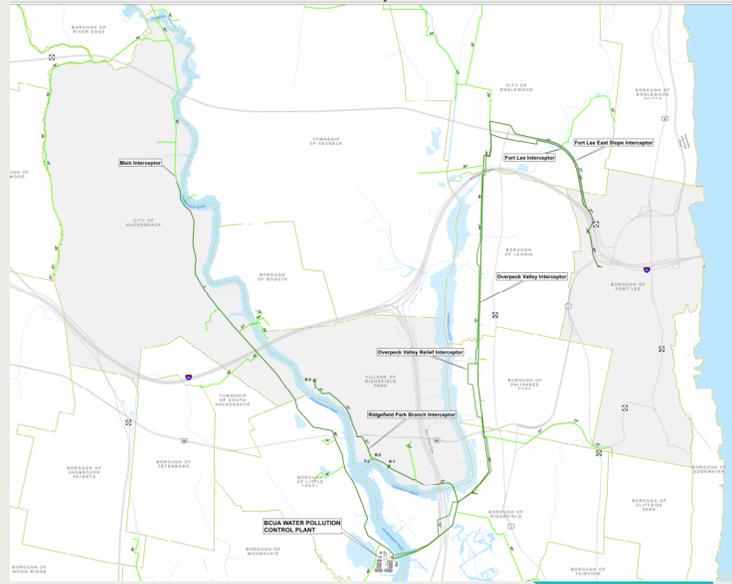
Village of Ridgefield Park

- Ridgefield Park Branch Intercepting Sewer
- Overpeck Trunk Sewer
- Overpeck Relief Sewer



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Development and Evaluation of Alternatives Report



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12 March 2019

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Development and Evaluation of Alternatives Report

InfoWorks ICM Model was Used to Estimate Sewer Flow Capacity near WPCF:

Trunk Sewer	Estimated Max Flow (mgd)*
Main Trunk Sewer	115
Overpeck Trunk & Relief Sewers	90
Total Max Peak Flow to WPCF	205

* Based on average wet well elevations

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Development and Evaluation of Alternatives Report

BCUA Water Pollution Control Facility

Preliminary Information

Description	Max Flow (mgd)
NJPDES Permitted*	94
Average Daily Flow	75
Treatment Capacity (10 state standard)	105
Hydraulic Capacity	120
Max. Peak Flows	>200

* BCUA is currently undertaking a TMDL Study to potentially increase

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Development and Evaluation of Alternatives Report

Arcadis is current evaluating:

- **Hydraulic and Process Capacity of each Treatment Unit:**
 - Influent Pumping Station
 - Grit Removal
 - Primary Settling Tanks
 - Secondary Aeration Tanks
 - Final Settling Tanks
 - Chlorination and Dechlorination
 - Outfall

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Development and Evaluation of Alternatives Report

Arcadis will be evaluating:

- **Bypassing of Secondary Treatment**
 - Process Improvements
 - Needed to Meet NJPDES Permit Limits with Bypass
 - Construction and O&M Costs for Process Improvements Required
- **Expanding STP Capacity**
 - Treatment Improvements using
 - Ballasted Flocculation
 - Cost for Construction and O&M

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Development and Evaluation of Alternatives Report

Village of Ridgefield Park

Preliminary Alternatives Screening

Ridgefield Park

Development and Evaluation of Alternatives Report - Siting

Objective: To identify potential sites for storage or end-of-pipe treatment.

Analysis using GIS (mapping) data, including:

- Aerial photography
- Land Use / Land Cover
- Property data (vacant land, land ownership, etc.)
- Open Space / Green Acres
- Soil Type
- Topography
- Contaminated Sites
- Brownfields



Ridgefield Park

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Ridgefield Park

Development and Evaluation of Alternatives Report - Siting

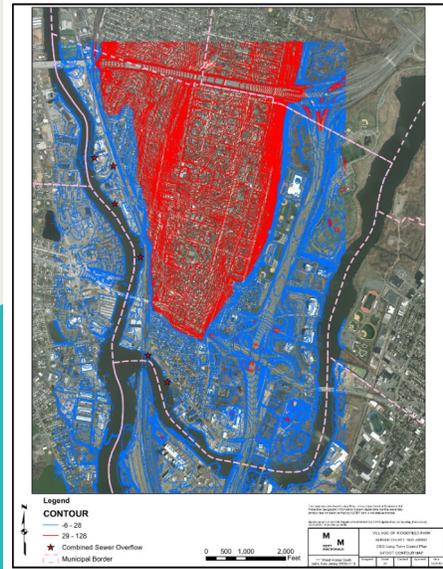
- **Aerial Imagery and Land Use Classification**
 - Structures vs. Paved vs. Vegetated
 - Open Space, Industrial, and Commercial vs. Residential and Transportation Corridors
 - Green Acres – NJDEP Approval – Propose GSI
- **Parcel Data**
 - Public vs. Private Ownership
- **Soil Type**
- **Topography**
 - Difference in elevation between site and outfall/regulator
 - Distance between site and outfall/regulator
- **Known Contaminated Sites and Brownfields**
 - Severity of contamination
 - Status of cleanup

Favorable	Unfavorable
Open paved or grass areas, vacant land	Buildings / Structures
Industrial, Commercial, Open Space	Green Acres, Residential, Transportation Corridors
Publicly owned	Privately owned
Small elevation change to outfall or regulator	Large elevation change to outfall or regulator
Close to outfall or regulator	Far from outfall and regulator
No soil or groundwater contamination	Known contaminated site or brownfield site

Ridgefield Park

Development and Evaluation of Alternatives Report - Siting

- **Aerial Imagery and Land Use Classification**
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Ridgefield Park

Development and Evaluation of Alternatives Report – Example Site

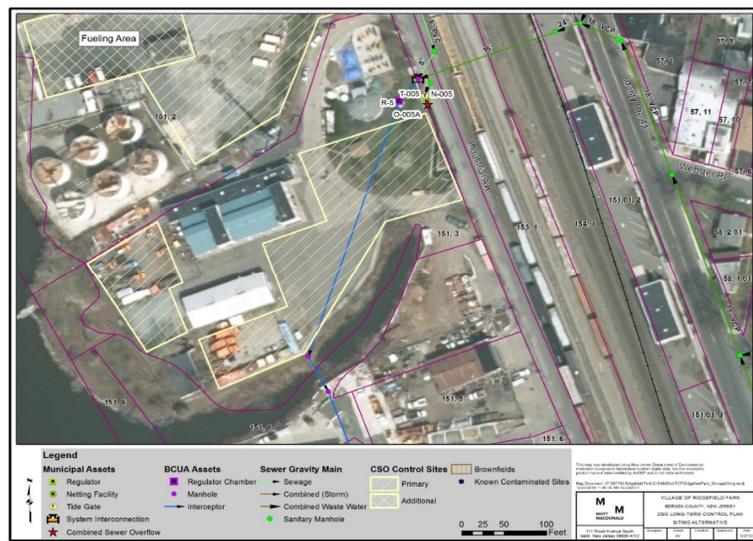
Area available: 0.8 Acres

Ownership: Village of Ridgefield Park

Land use considerations:

DPW Operations

BCUA Interceptor



Ridgefield Park

Development and Evaluation of Alternatives Report – Siting Green Infrastructure

Green infrastructure (GI) = practices which reduce stormwater volume or flow rate by allowing the stormwater to infiltrate, to be treated by vegetation or by soils, or to be stored for reuse

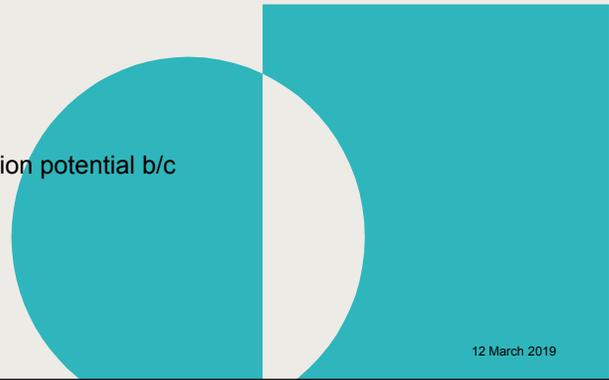
- Desktop, planning-level study
- Estimate upper bound on impervious acres that could be feasibly managed by GI practices
- Following Chapter 2 “Locating and Assessing the Feasibility of Green Infrastructure” from NJDEP guidance document *Evaluating Green Infrastructure: A Combined Sewer Overflow Control Alternative for Long Term Control Plans*

Ridgefield Park

Development and Evaluation of Alternatives Report – Siting Green Infrastructure

Analysis using GIS (mapping) data, including:

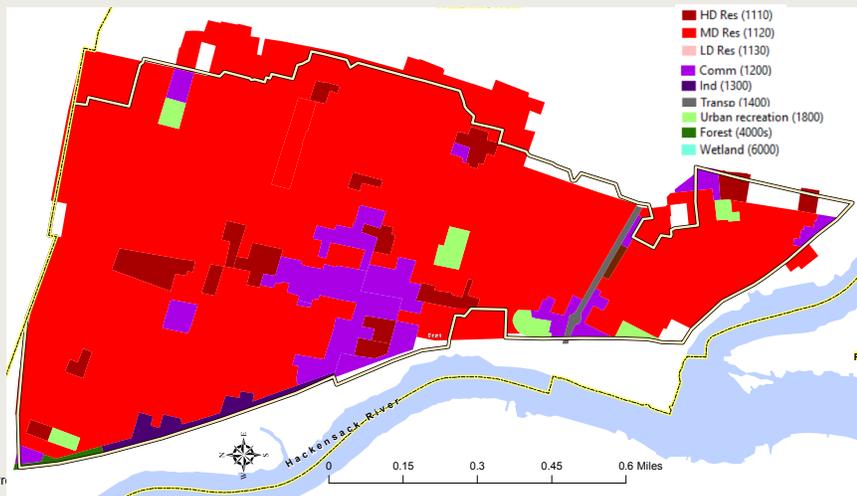
- Boundary of combined sewer area
- Aerial photography
- Land Use / Land Cover
- Tax parcels including area and ownership
- Building footprints
- Impervious area
- Streets
- Soil Type / Depth to Water (limited info on soil infiltration potential b/c urban land)
- Contaminated Sites



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Development and Evaluation of Alternatives Report – Siting Green Infrastructure

- Land Use / Land Cover

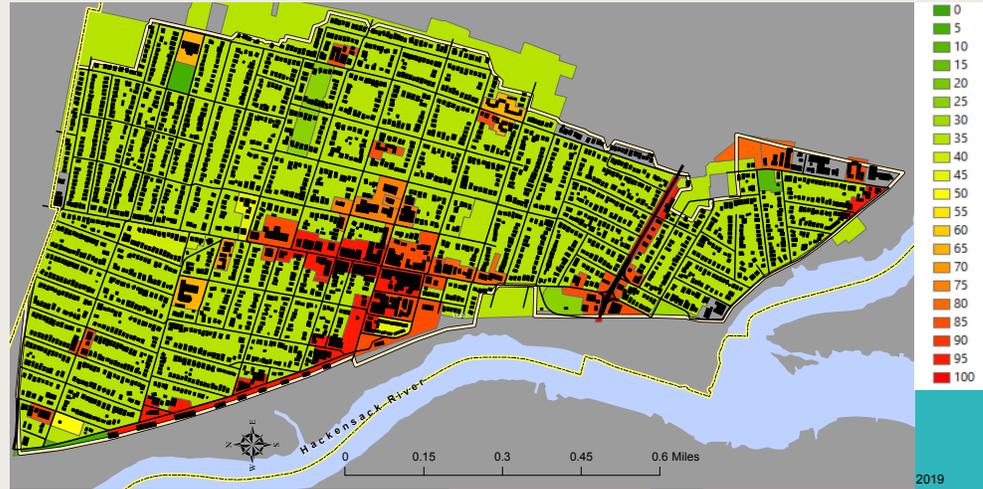


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Development and Evaluation of Alternatives Report – Siting Green Infrastructure

- Building footprints
- Impervious area

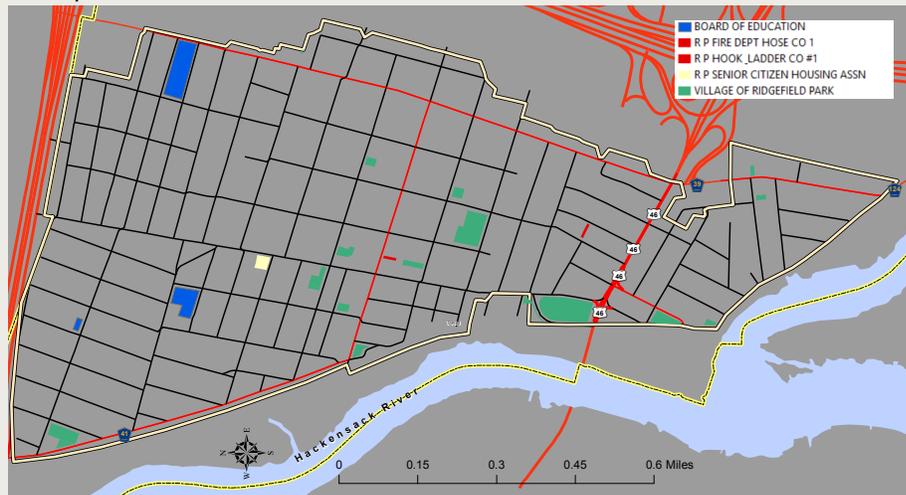


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Development and Evaluation of Alternatives Report – Siting Green Infrastructure

- Property Ownership

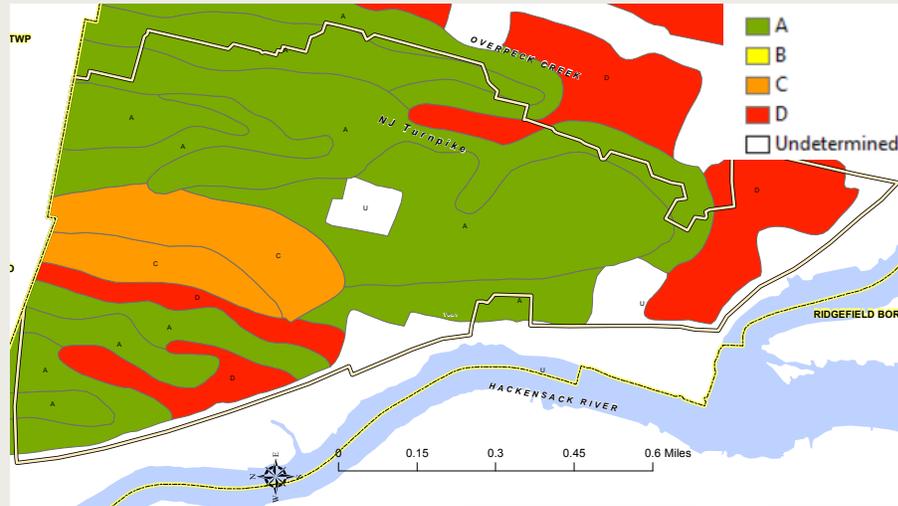


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Development and Evaluation of Alternatives Report – Siting Green Infrastructure

- Soil Type



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Development and Evaluation of Alternatives Report – Siting Green Infrastructure

- Depth to Water



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Development and Evaluation of Alternatives Report – Siting Green Infrastructure

Strategies considered:

- Bioretention (raingardens, bioswales, etc.)
- Pervious pavement
- Dry wells

Potential locations considered:

- City right-of-way – curb strip
- City right-of-way – shoulder in non-parking locations
- City public and school properties
- Parking lanes
- Parking lots
- Roofs – dry wells



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Development and Evaluation of Alternatives Report – Inline Capacity

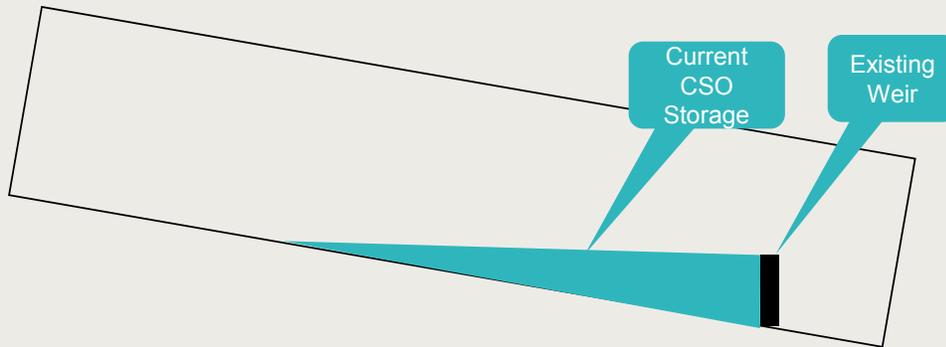
Maximize inline storage capacity

Works best with large flat pipes, which are not typical in Ridgefield Park

Ridgefield Park

Development and Evaluation of Alternatives Report – Inline Capacity

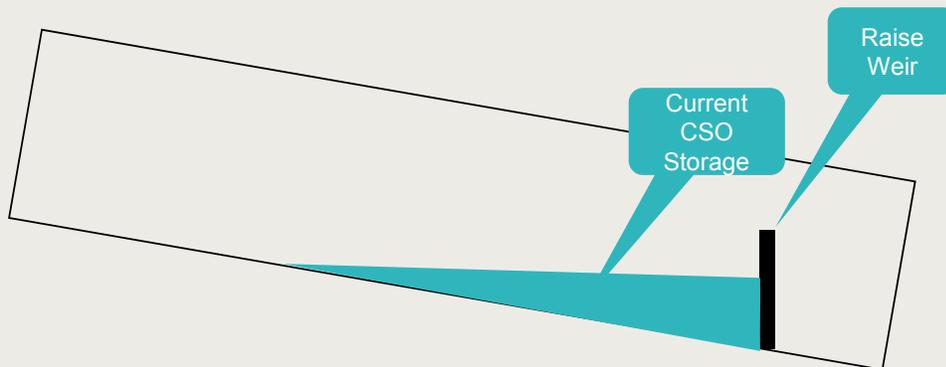
Maximize inline storage capacity by raising overflow weir elevation



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Development and Evaluation of Alternatives Report – Inline Capacity

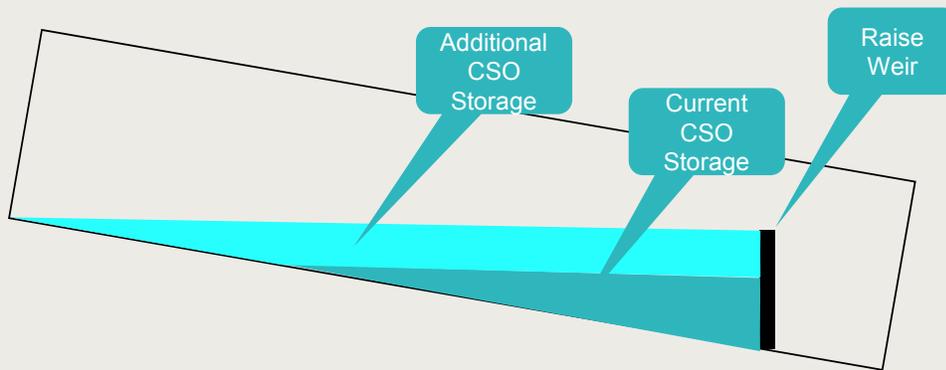
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Ridgefield Park

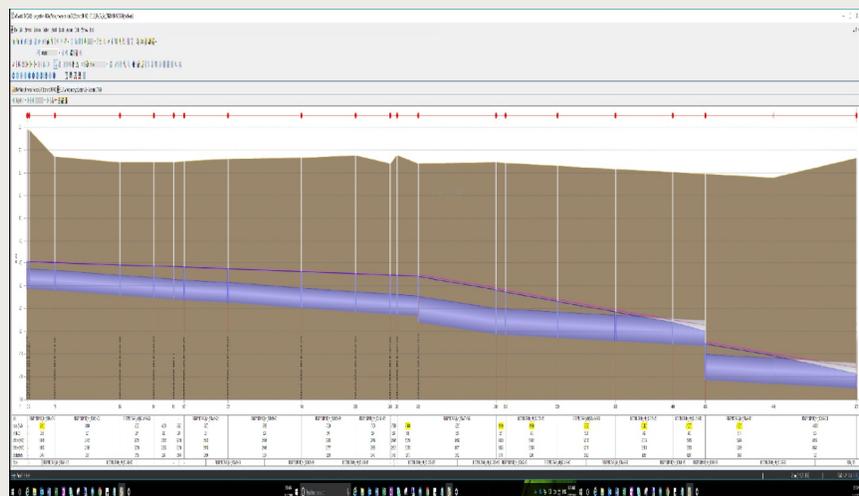
Development and Evaluation of Alternatives Report – Inline Capacity

Maximize inline storage capacity by raising overflow weir elevation



Ridgefield Park

Development and Evaluation of Alternatives Report – Maximize Conveyance to WWTP

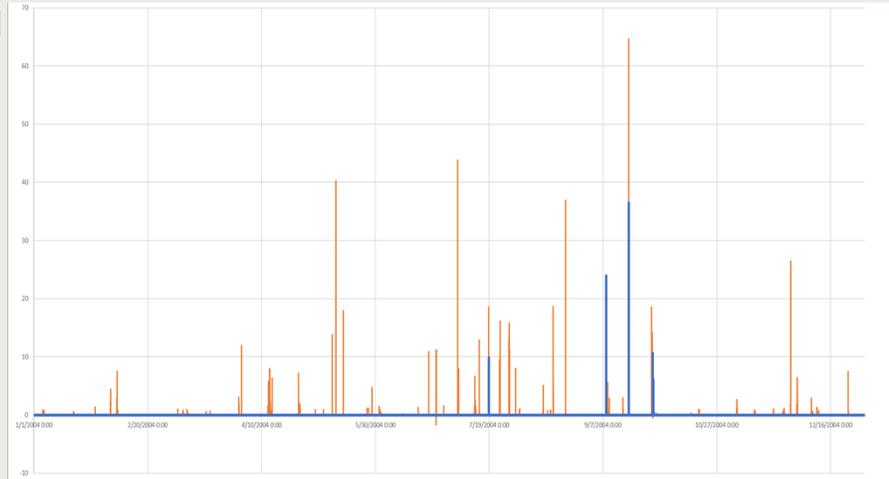


Ridgefield Park

NJ CSO Group Coordination

- **Levels of Control**

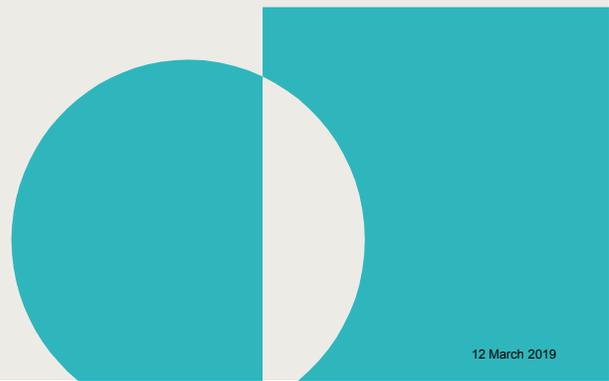
- 0 Overflows
- 4 Overflows
- 8 Overflows
- 12 Overflow
- 20 Overflows
- 85% Capture



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Development and Evaluation of Alternatives Report

Back to General Discussions



BCUA CSO Group Supplemental CSO Group

Development and Evaluation of Alternatives Report – DRAFT Outline

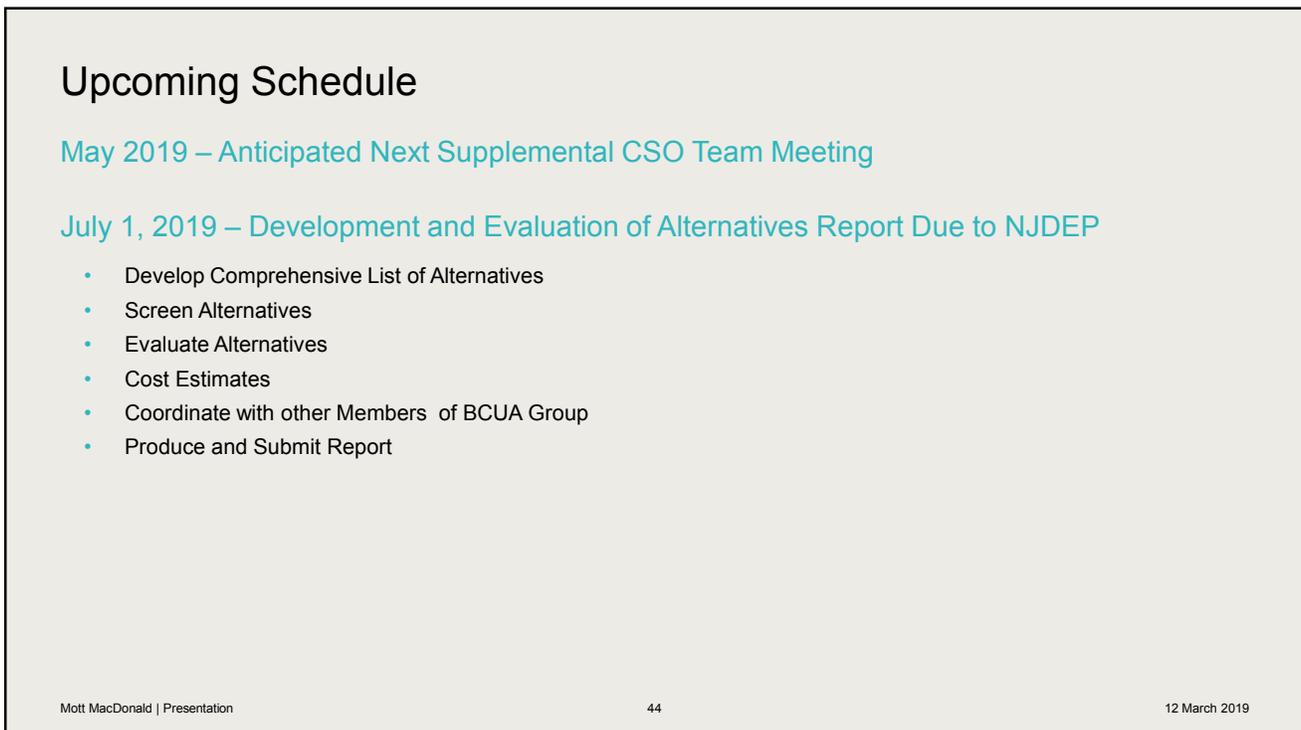
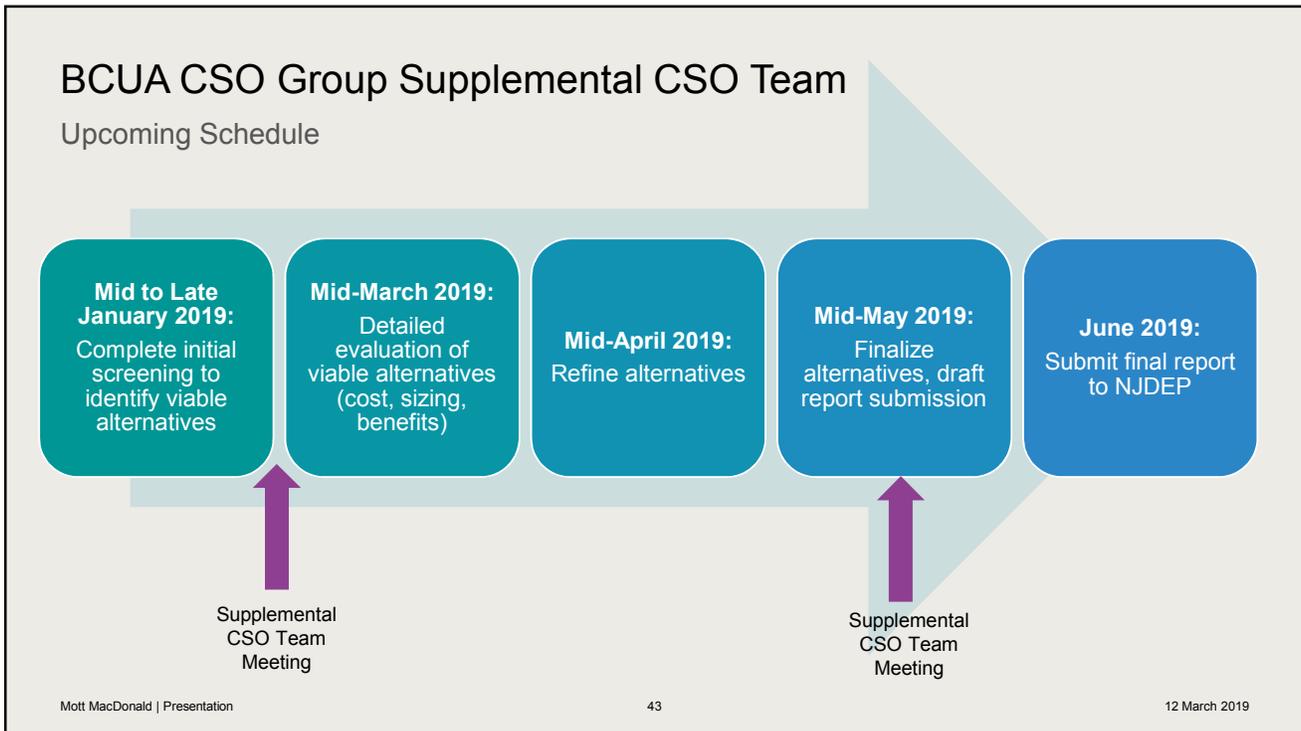
- Introduction
- General Information
- Water Quality Objectives
- Development of Alternatives
 - Development and Screening Levels
- Costing
- Available Land Analysis
- Alternatives Evaluation
- Summary
- References

BCUA CSO Group Supplemental CSO Team

Future Public Participation Activities

- Looking for Supplemental CSO Team to liaise with public and other groups.
- New member(s)
- Input on additional outreach opportunities.





Final Questions?

Thank You?
