Combined Sewer Overflow Long Term Control Plans

Alley Creek Kickoff Meeting

Alley Pond Environmental Center

October 24, 2012

Welcome & Introductions

Jim Mueller, DEP

Agenda

1. Welcome & Introductions – *Jim Mueller, DEP*
2. Long Term Control Plan (LTCP) Process – *Linda Allen, DEC*
3. Alley Creek & Little Neck Bay Waterbody/Watershed Characteristics – *King Wong, DEP*
4. Alley Creek CSO Improvement Projects – *King Wong, DEP*
5. Alley Creek LTCP Development – *Srinivasan Rangarajan, DEP*
6. Public Participation Plan & Schedule – *Shane Ojar, DEP*
7. Next Steps – *Shane Ojar, DEP*
8. Discussion and Q&A Session

Meeting Purpose

- Provide background and overview of LTCP planning process
- Present Alley Creek watershed characteristics and status of waterbody improvement projects
- Obtain public input on waterbody uses in Alley Creek
- Describe additional opportunities for public input and outreach

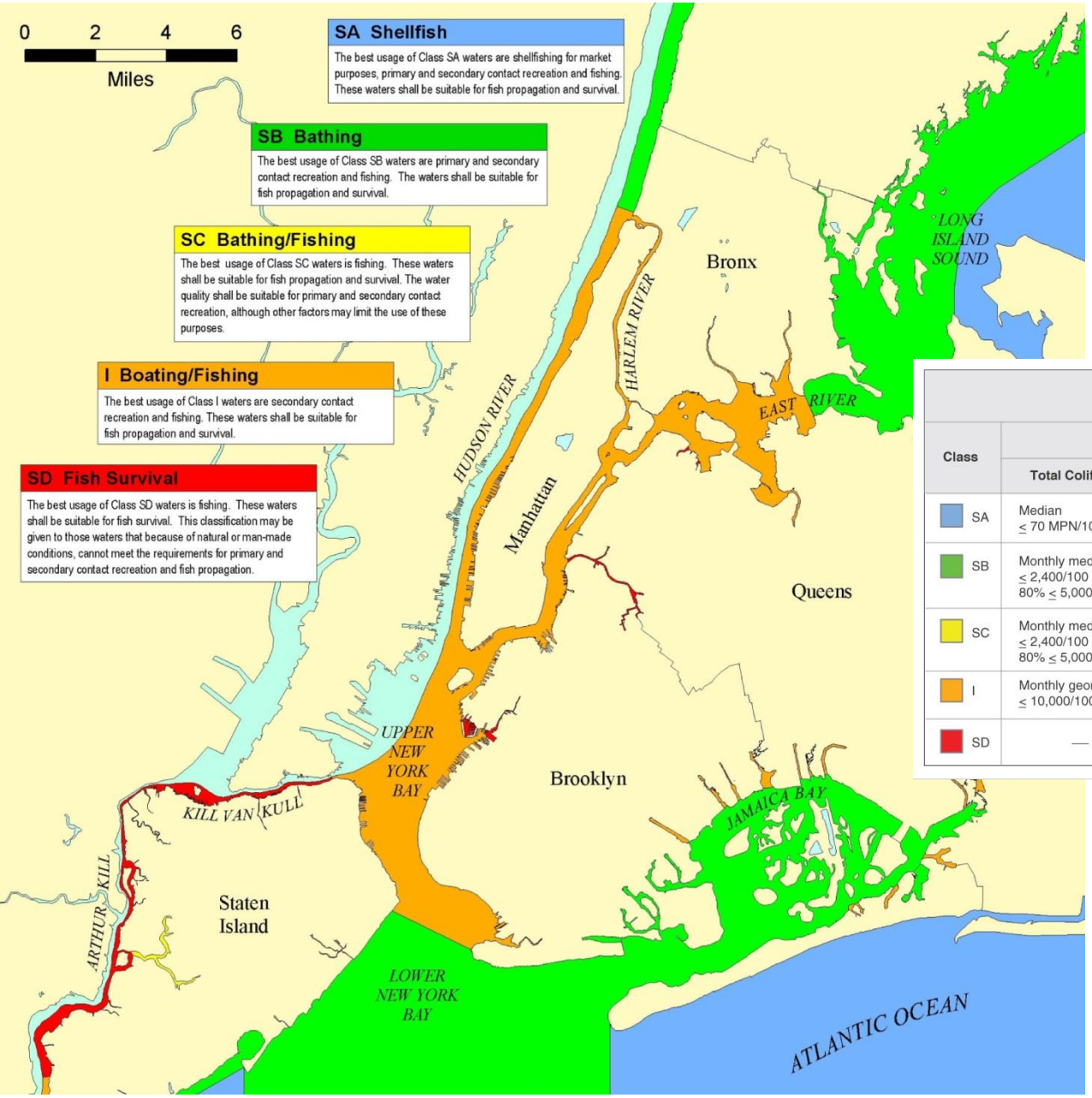
Overview of Combined Sewer Overflow Long Term Control Plan Process

Linda Allen
DEC

NYC CSO Long Term Control Plans (LTCPs)

- What is an LTCP?
  - Required under NYC SPDES permits pursuant to the Clean Water Act (CWA) and Federal CSO Control Policy; CSO Order establishes time frames for submittal.
  - Comprehensive evaluation of long term solutions, to reduce CSOs and improve water quality in NYC's waterbodies and waterways.
  - The goal of each LTCP is to identify appropriate CSO controls necessary to achieve waterbody-specific water quality standards, consistent with the Federal CSO Policy and water quality goals of the CWA.
- The LTCP process:
  - Assesses feasibility of attaining current water quality standards, next highest standards and fishable/swimmable standards;
  - Builds off Waterbody/Watershed Facility Plans or the first phase of the planning process;
  - Requires robust, targeted public process; and
  - Identifies grey-green infrastructure balance for different watersheds.

Current Water Quality Standards



- Best Use Designations
- Saline Surface Water Quality Standards

New York State
Saline Surface Water Quality Standards

Class	Bacteria (when disinfection is practiced)			Dissolved Oxygen
	Total Coliform	Fecal Coliform	Enterococci	
SA	Median ≤ 70 MPN/10 mL	—	Geometric mean ≤ 35/100 mL	> 4.8 mg/l (daily avg) ≥ 3.0 mg/l
SB	Monthly median ≤ 2,400/100 mL 80% ≤ 5,000/100 mL	Monthly geometric mean ≤ 200/100 mL	Geometric mean ≤ 35/100 mL	> 4.8 mg/l (daily avg) ≥ 3.0 mg/l
SC	Monthly median ≤ 2,400/100 mL 80% ≤ 5,000/100 mL	Monthly geometric mean ≤ 200/100 mL	Geometric mean ≤ 35/100 mL	> 4.8 mg/l (daily avg) ≥ 3.0 mg/l
I	Monthly geometric mean ≤ 10,000/100 mL	Monthly geometric mean ≤ 2,000/100 mL	—	≥ 4.0 mg/l
SD	—	—	—	≥ 3.0 mg/l

- Alley Creek – Class I
- Little Neck Bay – Class SB

USEPA CSO LTCP Guidance

- 1994 Guidance for CSO Long Term Control Plans includes Nine elements:
  1. Characterization, Monitoring, Modeling
  2. Public Participation
  3. Sensitive Areas
  4. Evaluation of Alternatives
  5. Cost Performance Considerations
  6. Operational Plan
  7. Maximization of Treatment at Existing Publicly Owned Treatment Plants
  8. Implementation Schedule
  9. Post-construction Monitoring Plan
- 2001 Guidance for Coordinating CSO Long Term Control Planning with Water Quality Standards Review

Water Quality Goals of the CSO LTCPs

- LTCPs to provide for continuing attainment of existing water quality standards and compliance with other CWA requirements.

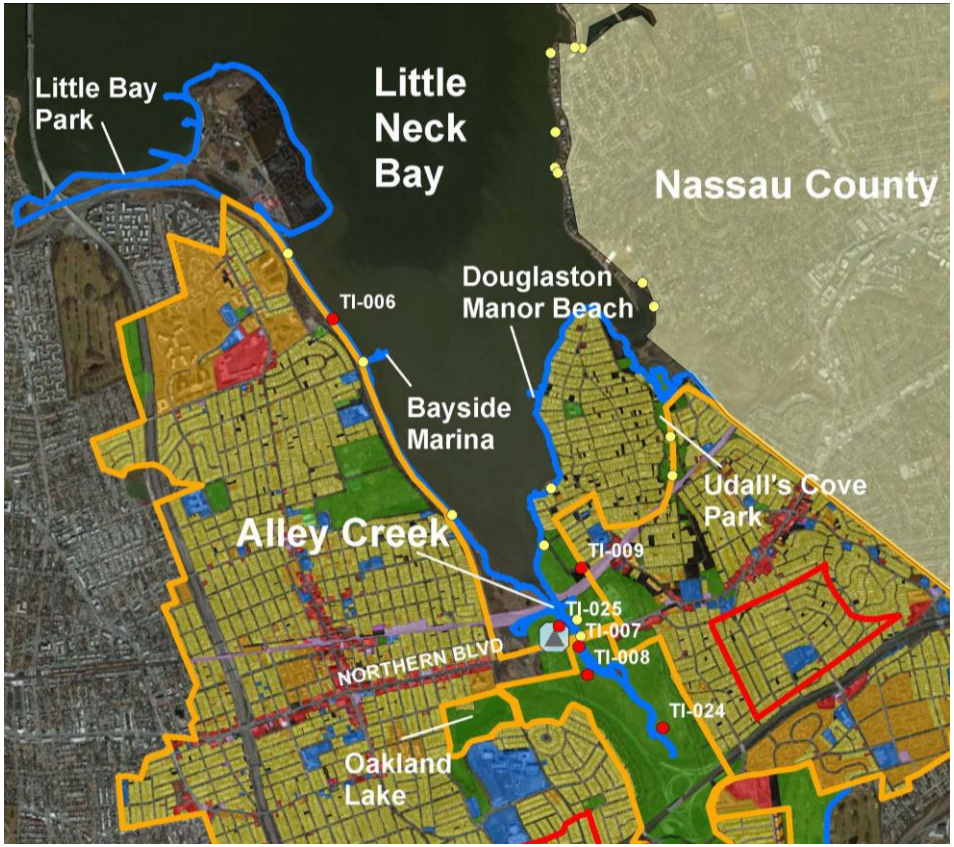
- Where existing water quality standards do not meet the Fishable/Swimmable (F/S) goals of the Clean Water Act, or where the proposed alternative set forth in the LTCP will not achieve existing water quality standards or the F/S goals, the LTCP will include a Use Attainability Analysis (UAA).

- The UAA will identify appropriate alternative water quality outcomes and propose to the State the waterbody's "highest attainable use", which the State will consider in adjusting water quality standards, classifications, or criteria and developing waterbody-specific criteria. Any alternative selected by a LTCP and UAA will be developed with robust community engagement.

Alley Creek & Little Neck Bay Waterbody & Watershed Characteristics

King Wong
DEP

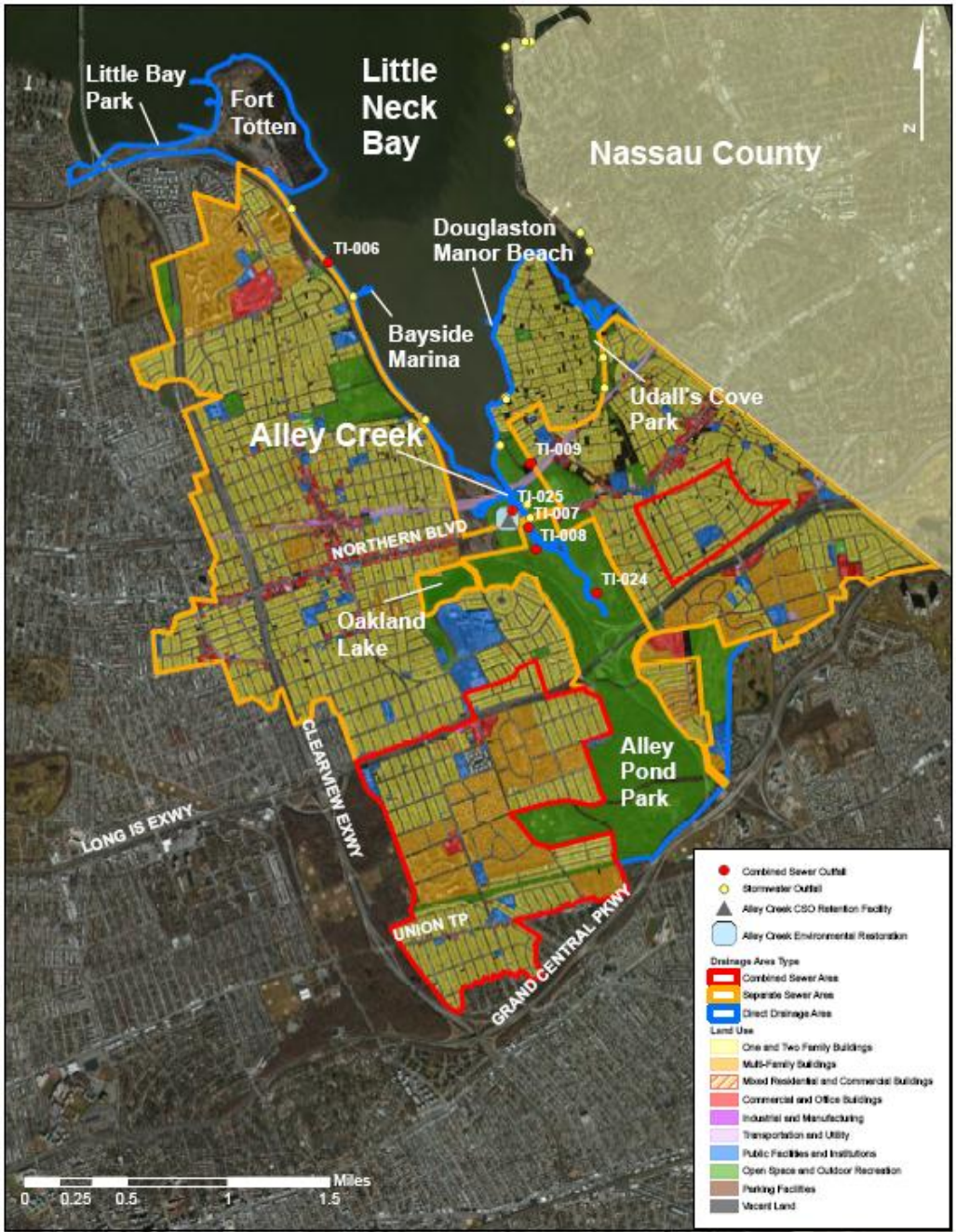
Waterbody Characteristics



- Tributary to East River & Long Island Sound with Alley Creek Headwaters in Alley Pond Park
- Little Neck Bay classified for primary contact (SB) recreation; Alley Creek classified for secondary contact (I) recreation
- Current Water Uses:
  - Bathing beach on Little Neck Bay
  - Boating/kayaking/canoeing at Bayside Marina
  - Kayaking/canoeing at Little Bay Park
- Currently listed on NYSDEC 2012 Section 303(d) List of Impaired Waters:
  - AC - for dissolved oxygen and floatables from Urban/Storm/CSO
  - LNB – Pathogens from Urban/Storm/CSO
- NYCDEP wet weather discharges include:
  - Six CSO Outfalls (Red)
  - Nine Stormwater Outfalls (Yellow)

Framing the Watershed/Water Quality Issues

- Total NYC watershed drainage area is approximately 4,880 acres
  - Combined Sewer Areas contribute 47% (2,292 acres) of the total area
  - The majority of the drainage area is separate storm sewered
  - The vast majority of the land surrounding the waterbody is zoned for residential use
- Majority of NYC wet weather discharges are attributable to storm water and urban runoff
- Understanding of flows/loadings and impact on water quality to be updated and refined as part of LTCP process for Alley Creek and Little Neck Bay



Alley Creek
Water Quality Improvement Projects

King Wong
DEP

Alley Creek WWFP

- The Alley Creek Waterbody Watershed Facility Plan (WWFP) was submitted by DEP in November 2008 and approved by DEC in June 2009

- The WWFP identified and evaluated:
  - Various CSO controls to meet or exceed current water quality standards such as bending weirs and CSO retention tanks/tunnels (including a 100% CSO abatement tank alternative)
  - Highest attainable uses of the waterbody
  - Cost-effectiveness of selected alternatives in accordance with EPA CSO Policy and CWA

- The WWFP is the foundation for LTCP planning and proposed the following elements:
  - Sewer construction (including upstream sewers to alleviate flooding and convey flow to new CSO retention facility
  - 5 million gallon CSO retention facility

Water Quality Improvement Projects

CSO Related Projects

Outfall and Sewer Improvements ($93M)

5 MG CSO Storage Tank ($29M)

Non-CSO Related Projects

Ecological Restoration

Tallman Island WWTP – BNR Upgrade

Water Quality Improvement Projects (continued)

CSO Related Projects:

- Sewer Improvements & New Tallman Island Outfall
  - Increases the sewer system's capacity
  - Helps reduce sewer surcharging and street flooding
- CSO Retention Facility
  - Collects up to 5 million gallons of combined sewage during each rain event and will reduce CSO by greater than 50% (517 MGY down to 256 MGY)
  - Remaining CSO receives preliminary treatment before being discharged

Non-CSO Related Projects:

- Ecological Enhancements
  - 16 acres each of tidal wetlands and native coastal grassland habitat
  - Absorbs stormwater and reduces the amount that enters and overwhelms the sewer system during wet weather events
- Upper East River WWTPs are currently being upgraded for Biological Nutrient Removal at a cost of about $900M and this is projected to significantly improve DO in the open waters

Alley Creek LTCP Development

Srinivasan Rangarajan

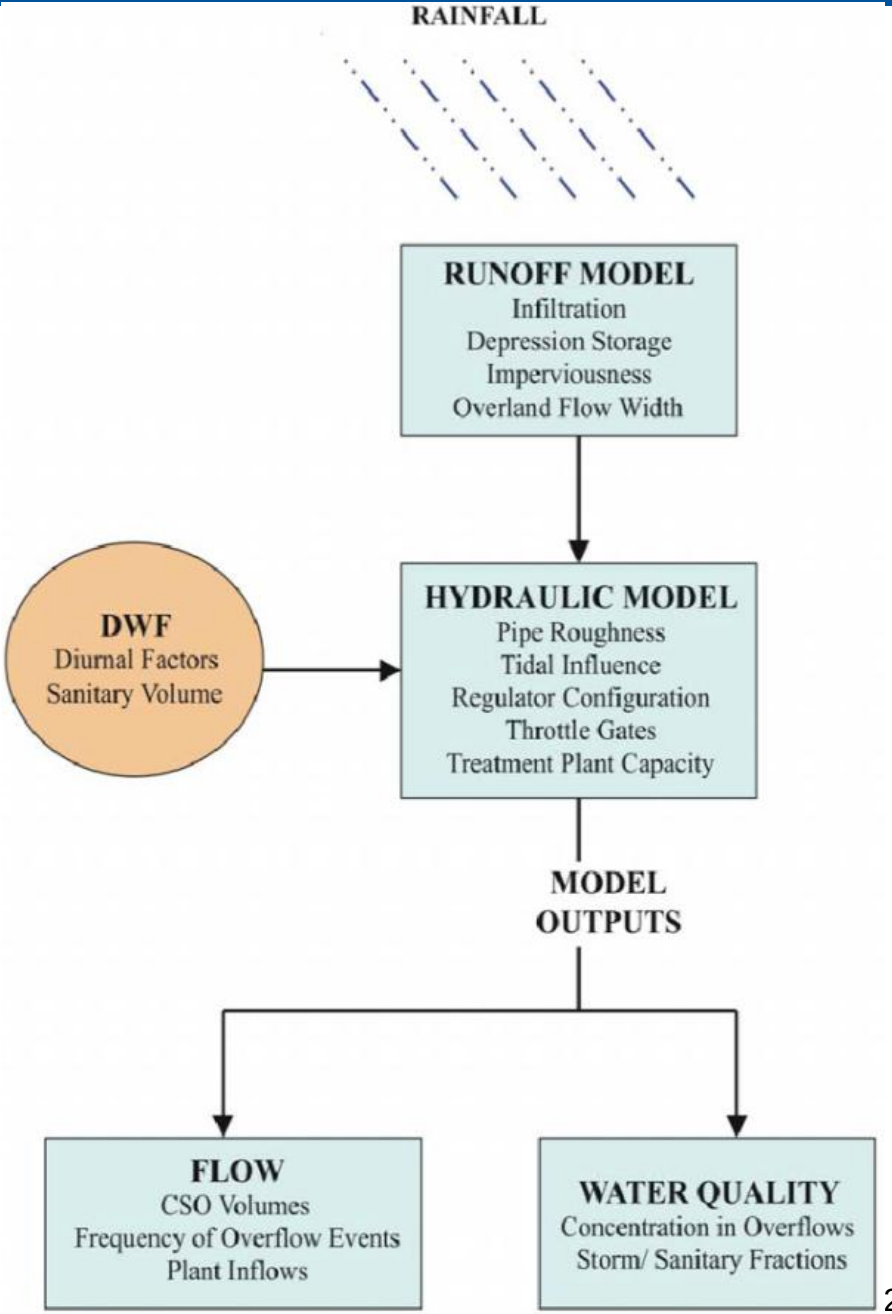
DEP

Alley Creek CSO LTCP Workplan

Task	Schedule					
	Summer 2012	Fall 2012	Winter 2013	Spring 2013	Summer 2013	Fall 2013
Public Participation and Outreach		★	★			★
Waterbody/Watershed Characterization						
Define Baseline Conditions						
Baseline Analysis and Modeling						
Evaluate Alternatives						
Submit LTCP to DEC					★	

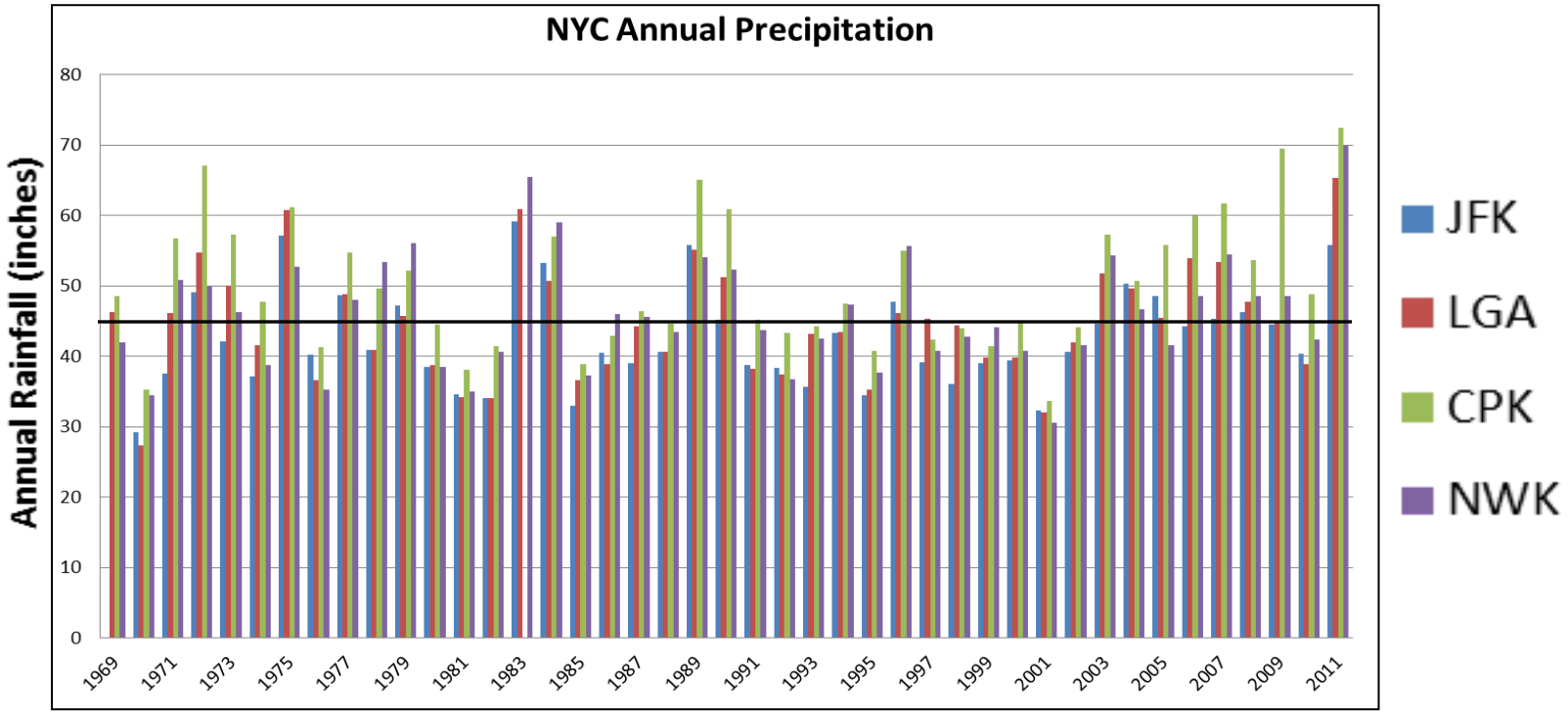
Computer Models as Evaluation Tools

- Comprehensive modeling tools are utilized for baseline and alternatives evaluation
- Developed over a period of 6 years and peer-reviewed
  - Landside or watershed model, InfoWorks
  - Receiving hydrodynamic and water quality model, East River Tributaries Model (ERTM)



Model Updates & Baseline Assumptions

- Update landside and water quality models, as needed, with recent monitoring data
- Revise sanitary flows based on 2040 population projections and most recent water usage projections
- Reevaluate rainfall conditions to incorporate recent wet weather events and patterns



Review of Historical Monitoring Data

- Water quality monitoring through DEP's Harbor Survey Program: 2009-12
- Limited data from East River Facility Planning studies
- Department of Health & Mental Hygiene (DOHMH) data at DMA Beach: 2003-12
- Monitoring data includes a range of parameters: salinity, temperature, wind, DO, pH, nutrients, pathogens, total suspended solids and dissolved organic carbon

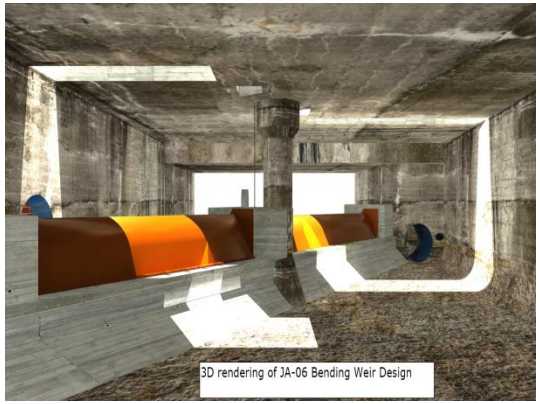
Targeted Additional Monitoring

- Field reconnaissance and monitoring to characterize dry weather discharges near DMA Beach
- Quantify the extent of other non-CSO discharges (e.g., stormwater) on Alley Creek/Little Neck Bay
- Overflow and water quality data from AC retention facility to support post-construction monitoring (PCM) reporting

- Monitoring workplan is being finalized now and the effort will be undertaken in November and December
- Model updates to follow so the baseline watershed/water quality conditions can be established to support alternatives analysis

Potential LTCP Alternatives

- General types of CSO controls will be considered for every LTCP and ranked for the unique conditions and water quality goals of the specific waterbody
- DEP is partnering with multiple agencies including NYC Parks & Recreation to identify potential opportunities



Sewer System Modifications

Green Infrastructure

Ecological Restoration

New Sewer Construction

Pump Station Expansion

CSO Storage Tank or Tunnel

Public Participation Plan & Schedule

Shane Ojar
DEP

Public Participation Plan Highlights

- **Goal:** Raise awareness about, foster understanding of and encourage input on the development of waterbody specific and citywide LTCPs.
- Multi-pronged approach including a diverse set of activities:
  - Annual citywide public meetings rotating across boroughs
  - Local open houses in each watershed
  - Presentations at existing forums including Community Boards and community, business, environmental and recreational organizations to provide updates and solicit input
  - Regular briefings for elected officials and their staff
  - Data collection from broad public through surveys, traveling kiosks and information repositories
  - Variety of communication tools including program website, social media, advisories and notifications

Public Participation Schedule

OCTOBER 24, 2012

Kickoff Meeting

Provide overview of LTCP process & schedule, watershed characteristics & improvements, & solicit input on waterbody uses

WINTER 2013

Public Meeting #2

Review proposed alternatives, related waterbody uses & water quality conditions

FALL 2013

Public Meeting #3

Present & review LTCP

A fourth public meeting may be scheduled dependent upon extent of revisions

JUNE 30, 2013

DEP submits LTCP to DEC

DEP revises LTCP, as necessary, per community feedback & DEC's review

FINAL ALLEY CREEK LTCP

Stakeholder Input

DEP wants stakeholder input from **you**!

- How you and other community members/stakeholders use Alley Creek and Little Neck Bay (e.g., recreation)
- CSO or WQ improvement measures or alternatives for DEP consideration and evaluation
- How DEP can better involve Alley Creek/Little Neck Bay stakeholders

LTCP Citywide Kickoff Meeting

Next Steps

- Alley Creek LTCP Public Meeting #2
  - Winter 2013
  - Objective & Topics: Review proposed alternatives and related waterbody uses and revisiting water quality attainments
- Alley Creek LTCP Public Meeting #3
  - Fall 2013
  - Objective & Topics: Present and review proposed Draft LTCP
- Comments can also be submitted to:
  - Gary Kline of the New York State DEC at: gekline@gw.dec.state.ny.us
  - New York City DEP at: ltcp@dep.nyc.gov

Additional Information & Resources

- Visit the informational tables tonight for handouts and poster boards with detailed information
- Go to www.nyc.gov/dep/ltcp to access:
  - LTCP Public Participation Plan
  - Presentation, handouts and poster boards from this meeting
  - Links to Waterbody/Watershed Facility Plans
  - CSO Order including LTCP Goal Statement
  - NYC's Green Infrastructure Plan
  - Green Infrastructure Pilots 2011 Monitoring Results
  - Real-time waterbody advisories
  - Upcoming meeting announcements
  - Other LTCP updates

Discussion and Q&A Session