Supplemental CSO Team – Session 1

PVSC Service Area
North Bergen Service Area
Long Term Control Plan

October 5, 2016

Agenda

- Introduction to the Permittees
- Passaic Valley Sewerage Commission Service Area
- Supplemental CSO Team
- Overview of Separate and Combined Sewer Systems
- Regulatory Background
- Program Progress To Date
- Branding of LTCP Program
- Next Steps
- Questions and Final Discussion

Introduction

Definitions

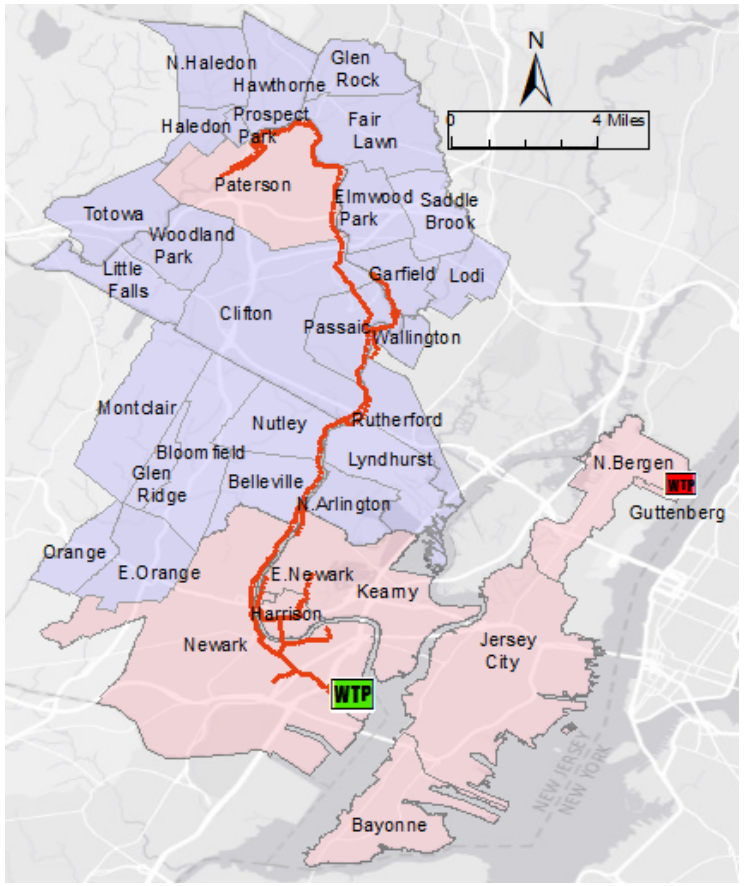
- **Long Term Control Plan:** The Long Term Control Plan (LTCP) is the document that lays out how PVSC and Permittees will maintain outfalls and reduce flow and/or treat discharge from outfalls to water ways to meet requirements of Clean Water Act and National CSO Policy.
- **Sanitary Sewer:** System that contains only waste from bathrooms, sinks, washers, etc.
- **Storm Sewer:** System that conveys storm water run off from streets.
- **Combined Sewer System:** System that has both sanitary sewage and storm water in it.
- **Combined Sewer Overflow:** An overflow is relief point in combined sewer system that allows extra flow when it rains to be discharged directly to streams and rivers.

Common Acronyms

- **CSM:** Combined Sewer Management
- **CSO:** Combined Sewer Overflow
- **CSS:** Combined Sewer System
- **CD:** Consent Decree
- **CWA:** Federal Clean Water Act
- **EPA:** United States Environmental Protection Agency
- **GI or GSI:** Green Infrastructure, or Green Storm water Infrastructure
- **LTCP:** Long Term Control Plan
- **NJDEP:** New Jersey Department of Environmental Protection
- **NJPDES:** New Jersey Pollutant Discharge Elimination System
- **MUA:** Municipal Utility Authority
- **POTW:** Publically Owned Treatment Works
- **WWTP:** Wastewater Treatment Plant

Communities

- PVSC
  - 48 Municipalities in Bergen, Essex, Hudson, Union and Passaic Counties
  - 1.5 Million Residents
  - 147 Mi² Service Area
  - 22 Mile Interceptor Sewer
  - 330 MGD WWTP
- PVSC Combined Service Area
  - 8 Municipalities
  - 0.9 Million Residents
- NBMUA
  - 2 CSO Municipalities



Permittees

- Passaic Valley Sewerage Commission (PVSC)
- City of Paterson
- City of Newark
- Town of Guttenberg (Conveyed to NBMUA Woodcliff STP)
- Town of Harrison
- Town of Kearny
- Borough of East Newark
- North Bergen MUA (Portion Conveyed to PVSC and Portion Conveyed to NBMUA Woodcliff STP)
- Bayonne MUA
- Jersey City MUA

Permittees

- **PVSC**
  - Bridget McKenna - Chief Operating Officer
  - Marques Eley, PE - Process Control Engineer
  - Michael Witt, Esq. - Chasan Leyner Lamparello - PVSC Special Counsel
  - Sheldon Lipke, PE - SJL Consulting, Consultant to PVSC

Municipal Permittees

- Paterson
  - *Frederick Margron, PE, REM, CEA, City Engineer*
  - *James De Block, President, De Block Environmental Services*
- Newark
  - *Mike Gelin, PE, CME, CPWM, Assistant Director, Department of Water & Sewer*
- Harrison
  - *Rocco Russomanno, Construction Official/Municipal Engineer*
  - *Robert Vanriper, Director of Public Works*
- Kearny
  - *Gerry Kerr, CPWM, DPW Superintendent*
  - *Patrick Carberry, PE, Neglia Engineering Associates*
- East Newark
  - *Brigite Goncalves, Chief Finance Officer*
  - *Frank Pestana, Licensed Operator*
- North Bergen MUA
  - *Frank Pestana, Executive Director*
- Bayonne MUA
  - *Tim Boyle, Executive Director*
  - *John Ludington, Project Manager, SUEZ*
  - *Jay Surti, PE, Director of Engineering, SUEZ*
- Jersey City Municipal Utilities Authority
  - *Richard Haytas, Senior Engineer, JCMUA*
- *Guttenberg*
  - *Frank Pestana, Licensed Operator*

Engineering Consultants

- **Greeley & Hansen (Lead Firm) – Michael J. Hope, PE**
  - **CDM Smith** – Primary Subcontractor (LTCP Analyses, Green Infrastructure)
    - Timothy Dupuis, PE
    - David Ksyniak, PE
    - Virginia Roach, PE
  - **HDR** – Water Quality Modeling
  - **Fitzgerald & Halliday** – Public Outreach & Facilitation
    - Arnold Bloch, Ph.D.
    - Ryan Walsh, AICP, PP, LEED Green Associate
    - Zainab Kazmi

The Supplemental CSO Team

What is the Supplemental CSO Team?

- Requirement of the NJPDES Permit
- Informal Working Group
- Liaison Between General Public and Decision Makers for Permittee(s)
- Members of Affected/Interested Public

Expectations for Supplemental CSO Team

- Help Engage and Inform the Public
- Provide Perspective on Local Issues, Priorities and Public Sentiment
- Regular Attendance at Quarterly Meeting at Various Venues
- Not Expected to be Experts in CSOs or Engineering

What to Expect at Meetings

- Presentations by Consultants for Permittees Explaining Each Phase of Their Work and Interim and Final Results
- Presentations on Green Infrastructure
- Discussion of Presentations
- Question and Answer Period
- Specific Assignments to SCSO Team from Time to Time

Ground Rules

- Understanding/Informed Consent is Our Objective
- Consensus on Comments is Preferable, but Not Required
- Everyone Should Participate Fully
- Please Contribute Honestly and with Candor
- Disagreements should be with Opinions or Issues and Have Basis in Fact, Not with Personalities
- Listen Attentively and Respectfully to Others
- Adhere to These Ground Rules and Hold Each Other Accountable

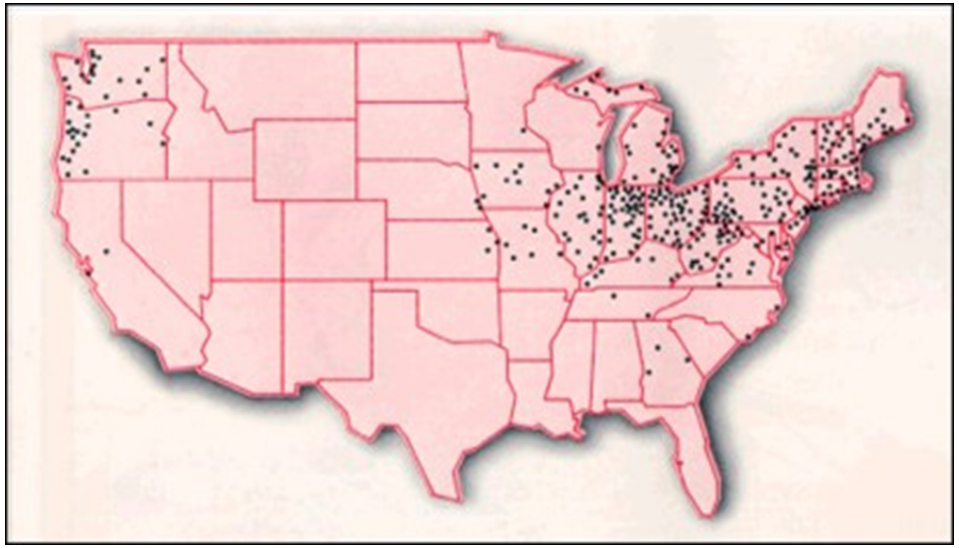
Role of Facilitator

- Expedite Adherence to Agenda and Schedule
- Ensure an Equal Opportunity to be Heard
- Keep Group Focused on Discussion as Planned; Place Other Items in “Parking Lot”
- Remind All of Ground Rules
- Negotiate Changes in Agenda, Schedule or Procedure
- Manage Discussion, Sequence Speakers and Exercise Leadership

Overview of Separate and Combined Sewer Systems

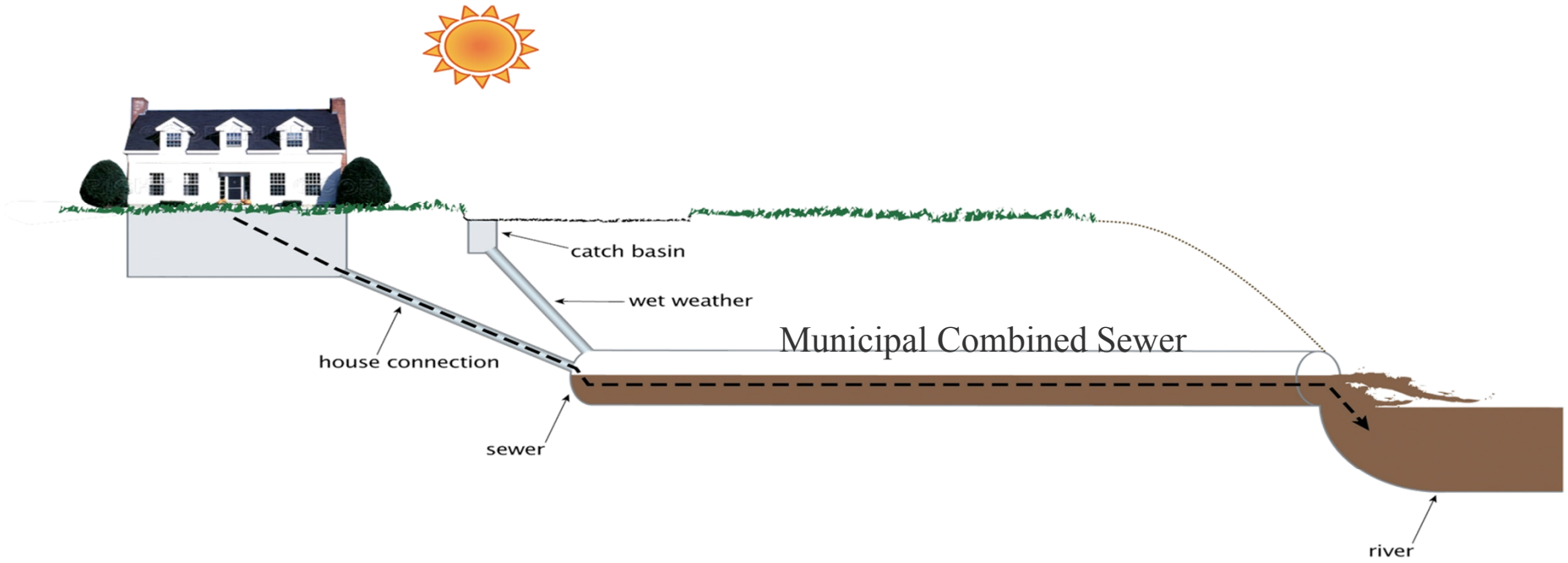
Why Combined Sewers?

- During the 1800s, Large Storm Sewers were Installed to Eliminate Flooding During Storms
- Invention of Indoor Plumbing Created a Need for Sewage Disposal
- Storm Sewers were Already in the Streets and Led to rivers for Disposal
- Increased Population Growth and Industrialization Overcame River's Capacity for Cleaning Itself
- Malodorous conditions led to collection and Treatment of Sewage

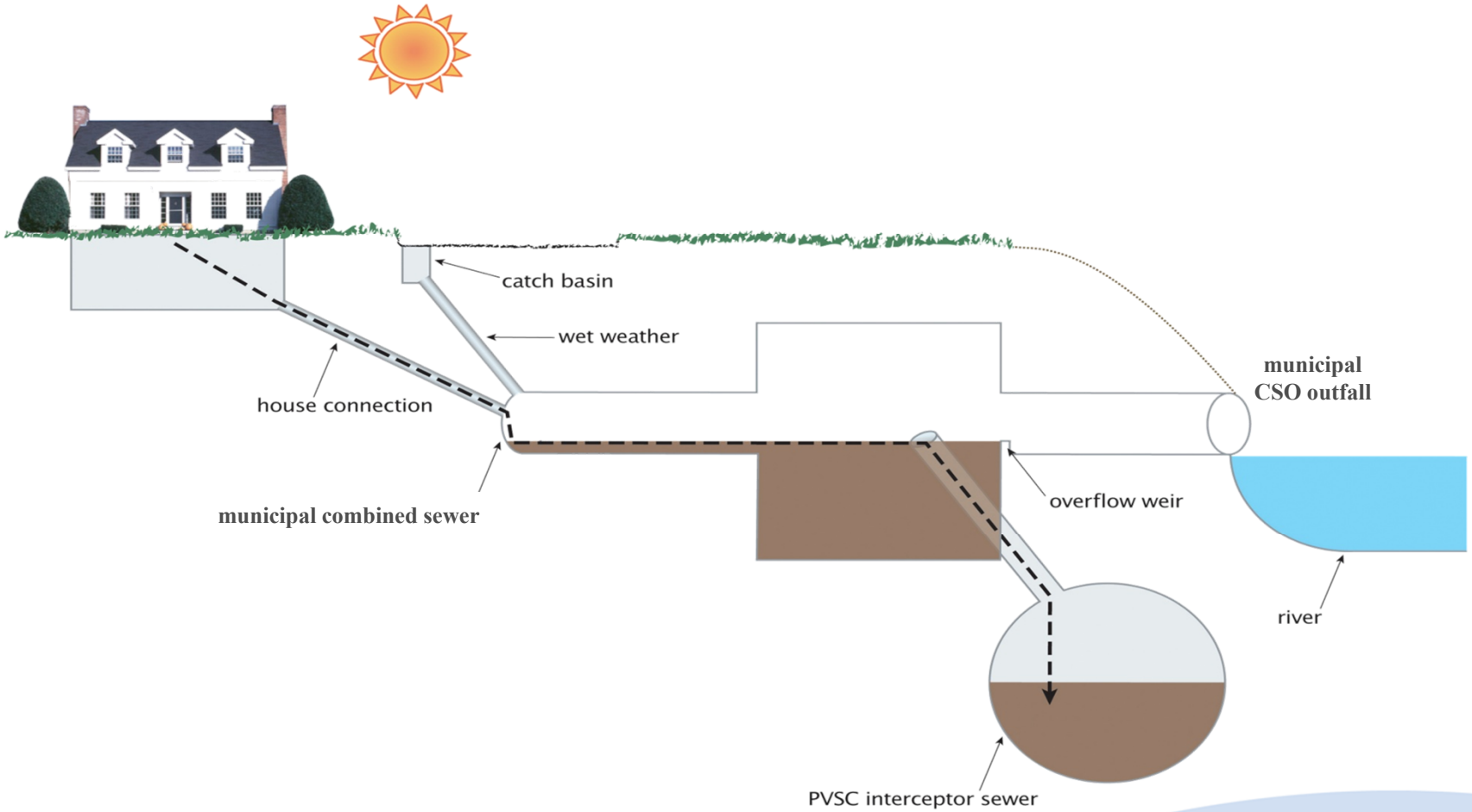


Before Sewage Treatment

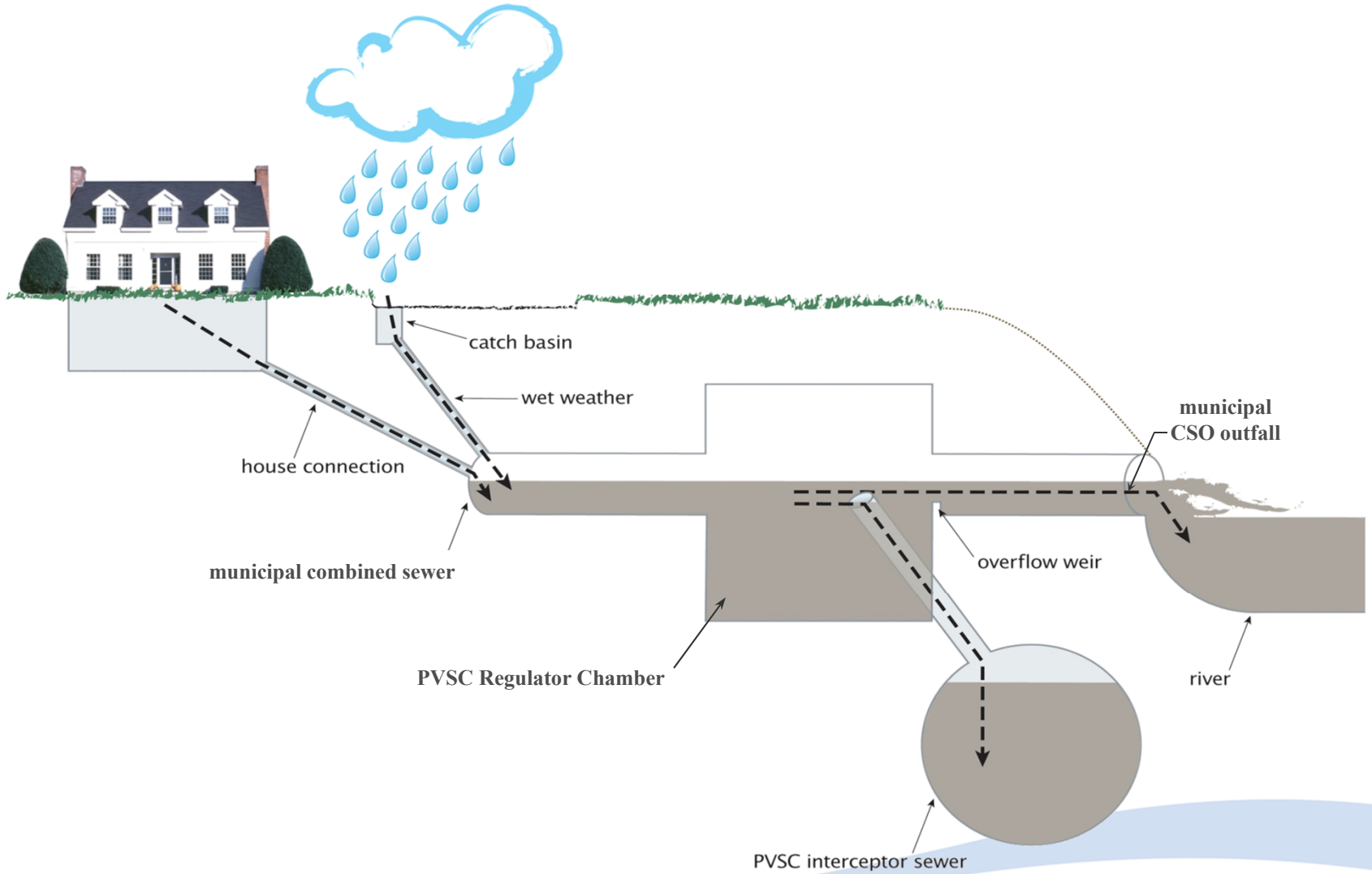
Dry Weather



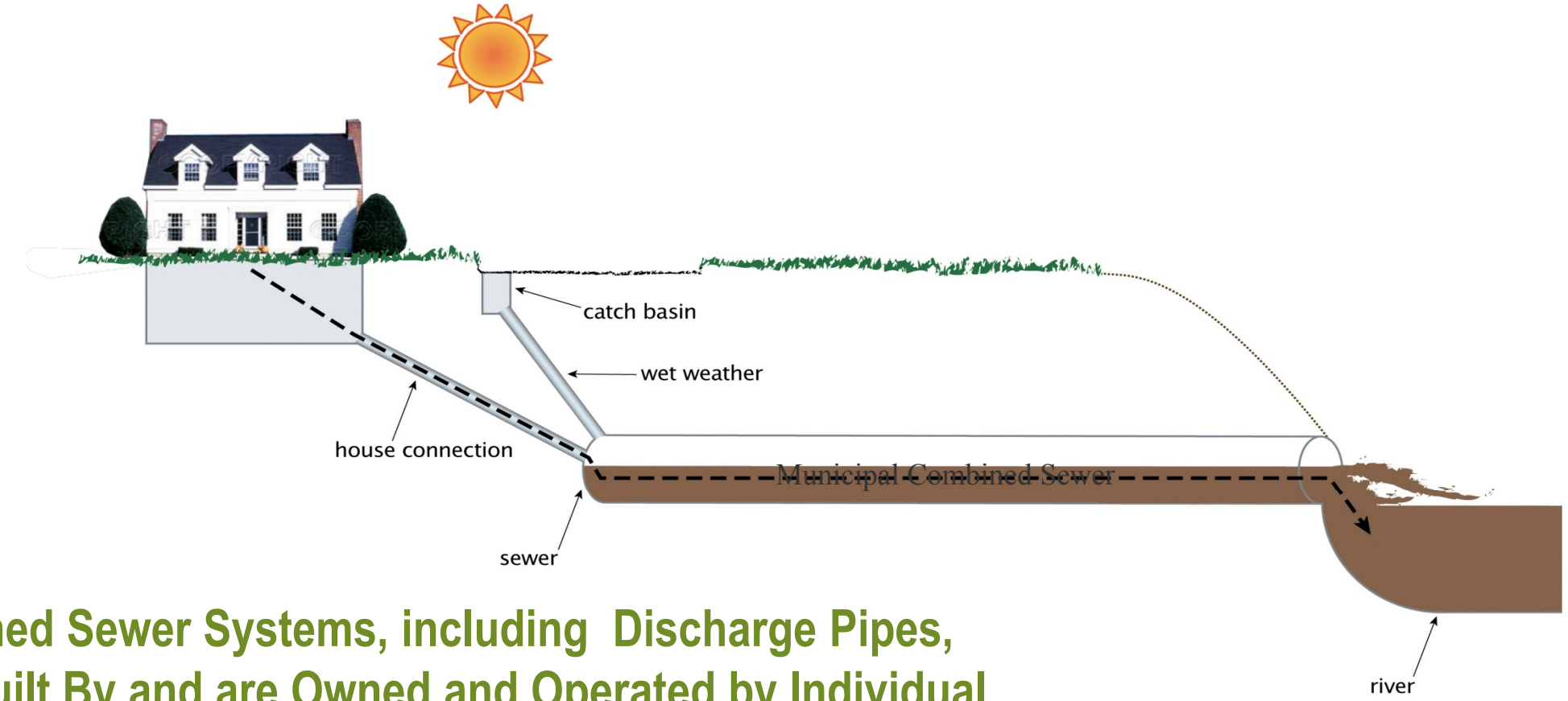
After Construction of Interceptor Sewers



During Rainstorms



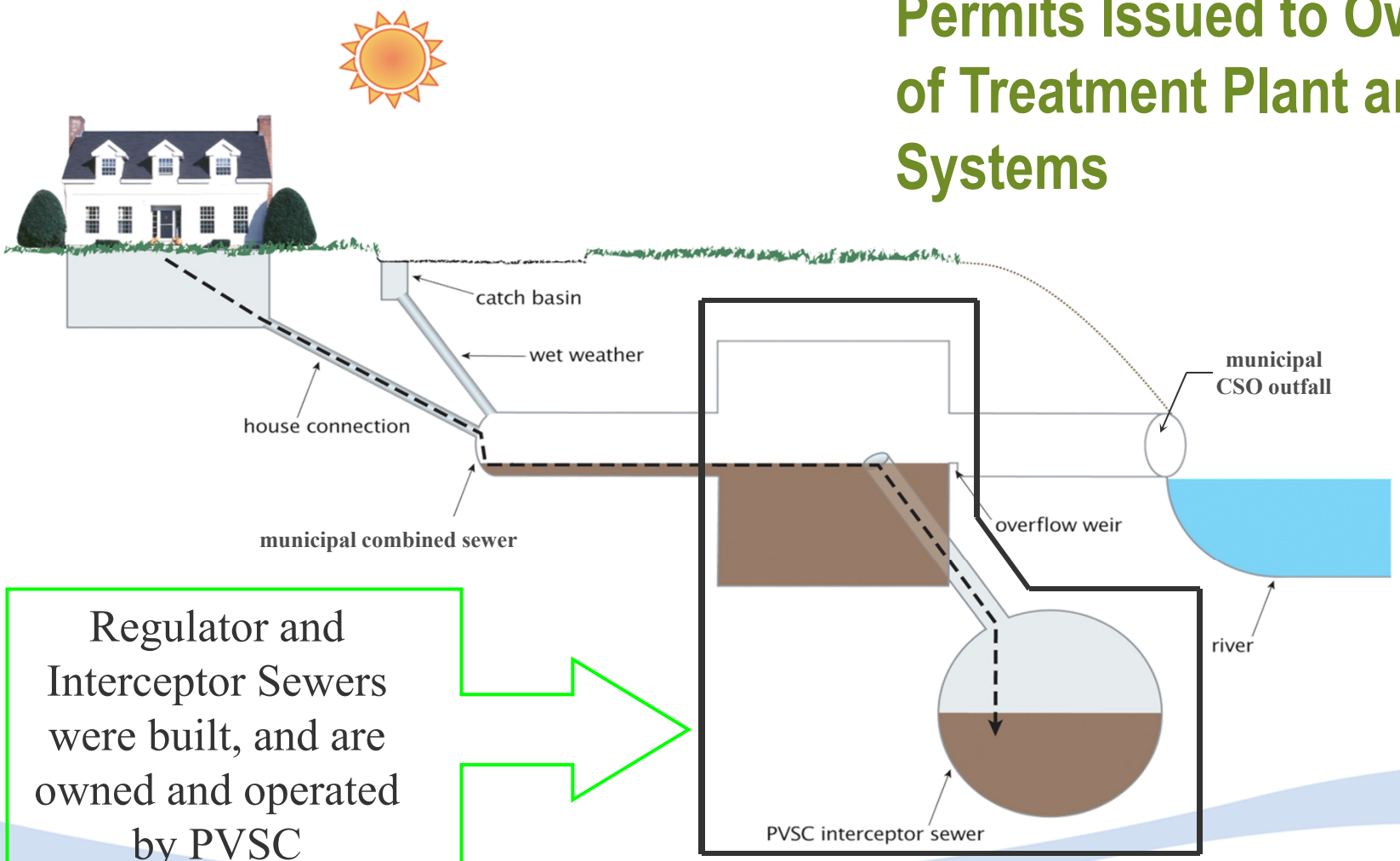
Who Owns Parts of Sewer System



Combined Sewer Systems, including Discharge Pipes, were Built By and are Owned and Operated by Individual Municipalities

Who Owns Parts of Sewer System

Permits Issued to Owners and Operators of Treatment Plant and Combined Sewer Systems



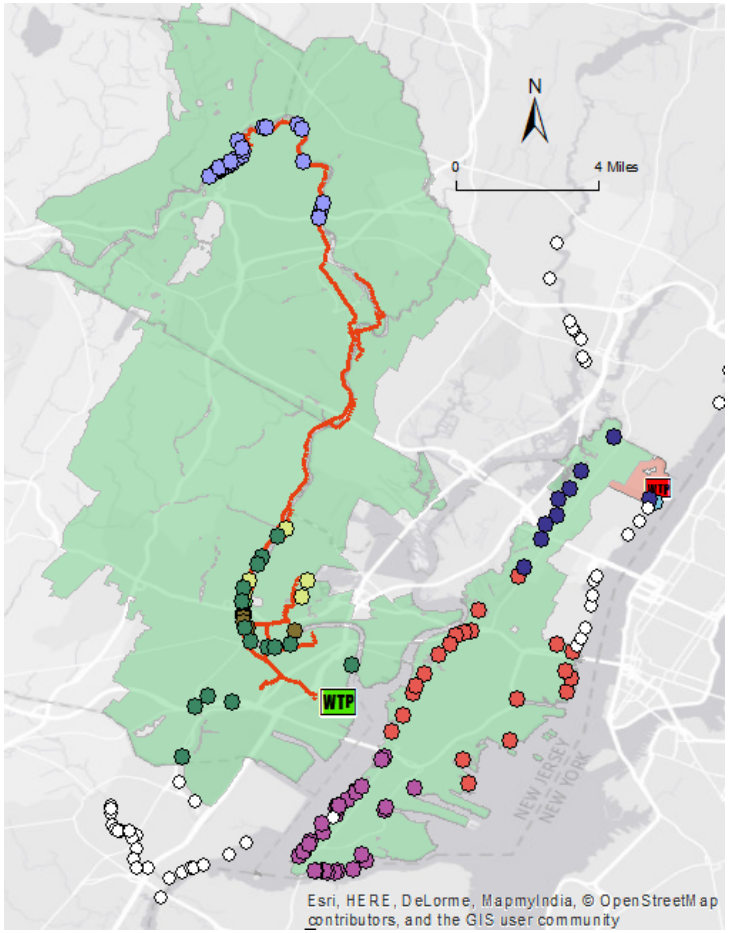
Regulator and Interceptor Sewers were built, and are owned and operated by PVSC

Why are We Concerned about CSOs?

- CSOs Discharge Untreated Wastewater During Wet Weather
- CSO Discharges Contain:
  - Disease Causing Organisms in Waterbodies, Measured as Enterococcus, Fecal Coliform, and E.Coli
    - Cause of Intestinal Illness in Recreational Users of Waterbodies
      Swimmers
      Boaters
      Waders

Combined Sewer Municipalities

Municipality	WWTP	CSOs
Bayonne	PVSC	30
East Newark		1
Harrison		7
Jersey City		21
Kearny		5
Newark		18
North Bergen		7
Paterson		23
Guttenberg	NBMUA	1
North Bergen		1
Total		114



Regulatory Background

Regulatory Setting – New Jersey

- New Jersey Pollutant Discharge Elimination System (NJPDES)
- ~210 Permitted CSOs; 25 Permittees
  - Municipalities and Treatment Facilities
- Previous NJDEP Permits
  - Screening and Netting Facilities for Floatables Control
  - Some Cooperation Between Combined Sewer Municipalities and Treatment Facilities
- Current Combined Sewer Management (CSM) NJPDES Permits Went into Effect on July 1, 2015
  - New Regional Approach
    - Treatment Facilities Working with Contributing Municipalities
    - 9 LTCPs Being Developed Across State

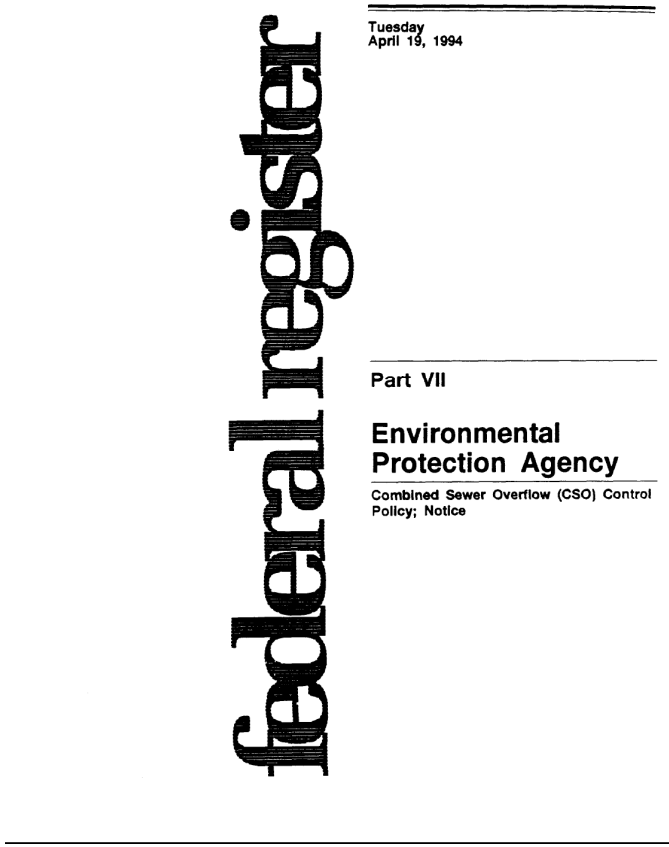
How Will We Reduce Impacts of CSOs?

- Produce a Long Term Control Plan (LTCP)
- LTCP Will Evaluate Ways to Mitigate CSO Impacts to a Level that Would Meet the Requirements of the CSO Policy and Would Not Preclude Attainment of Water Quality Standards

What Will Guide the LTCP?

- National Combined Sewer Overflow Control Policy, April 19, 1994
  - Consistent National Approach for Controlling discharges from CSOs
  - Comprehensive and Coordinated planning effort to achieve cost-effective CSO controls
    - Develop a Long Term Control Plan (LTCP)
    - Includes Public Participation

    "In developing its long-term CSO control plan, the permittee will employ **a public participation process that actively involves the affected public** *in the decision-making to select the long-term CSO controls. The affected public includes rate payers, industrial users of the sewer system. persons who reside downstream from the CSOs, persons who use and enjoy these downstream waters, and any other interested persons."*
- Other Guidance Documents


federal register

Tuesday
April 19, 1994

Part VII

Environmental Protection Agency

Combined Sewer Overflow (CSO) Control Policy; Notice

Long Term Control Plan Requirements

1. Monitoring and Modeling
2. Public Participation *(Supplemental CSO Team)*
3. Consideration of Sensitive Areas
4. Evaluation of Alternatives
5. Cost/Performance Considerations
6. Operational Plan
7. Maximizing Treatment at the Existing STP
8. Implementation Schedule
9. Compliance Monitoring Program

Will This be Expensive?

- Summary for CSO Permittees from 2004 CSO Permit Reports was in Hundreds of $ Millions
  - Probably Largest Capital Expenditure in Each Municipalities' History
  - In Other CSO Municipalities, Sewer Rates have Doubled Over 20-Year LTCP
  - Green Infrastructure can Help Reduce Costs and Yield Other Benefits

What Can be Done to Reduce CSOs?

- Optimize Operations for Delivering Flow to Wastewater Treatment Plant
- Upgrade Treatment Facilities to Treat More Wet Weather Flow
  - Wet Weather Flow is Typically Orders of Magnitude Greater Than Dry Weather Flow
  - Requires Additional Conveyance Capacity as Well (Pipes)
- Provide Storage for Excess Volume Until Conveyance and Plant Capacity Recovers
  - Tanks and Tunnels
- Provide Satellite Treatment Facilities
- Reduce Flows Getting to Collection System
  - Separate Sewers
  - Source Controls/Green Infrastructure
- ***ALL SIGNIFICANT CAPITAL PROJECTS***

Program Progress to Date

Overview of Progress To Date (Previous Permits)

- Hydrologic and Hydraulic Modeling
- Rainfall Monitoring
- Flow Monitoring
- Water Quality Monitoring
- Various Reports and Studies, including:
  - Interim Service Area Drainage and Land Use Reports
  - Interim Sewer System Inventory and Assessment Reports
  - CSO Characterization Studies (Modeling Studies)
  - Public Participation Reports
  - Cost and Performance Analysis Report for Domestic Treatment Works
  - CSO Long Term Control Plan Cost and Analysis Reports

Overview of Progress To Date (Current Permit)

- Advisory/Warning Signs Posted Near Outfalls
- CSO Notification System
  - http://njcso.hdrgateway.com/
- CSO Monthly Discharge Monitoring Reporting (DMRs)
- Work Plans Submitted to NJDEP
  - Baseline Monitoring Plan – Approved
  - System Characterization – Approved
- Monthly Meetings Amongst the Permittees
- Evaluation of Previous Models and Further Model Development
- Completed Flow Monitoring Program
- Actively Performing Water Quality Monitoring

Program Schedule and Milestones

CSO Submittal Summary

Summary of Reports Required to be Submitted to the Department		
Permit Condition	**Abbreviated Description of Requirement**	**59 Month LTCP Due Date**
Part III	Discharge Monitoring Reports (due 25th day of the month following the reporting period) - Solids/Floatables and Precipitation	Monthly from July 1, 2015
Part IV.D.4.a	Submit Progress Reports (due 25th day of the month following the quarter)	Quarterly from July 1, 2015
Part III	Discharge Monitoring Report (due 25th day of the month following the reporting period) – Duration of Discharge	Monthly from January 1, 2016
Part IV.D.2.a	Submit GPS latitude and longitude for pump stations, CSO regulators and CSO outfalls	January 1, 2016
Part IV.D.3.b.i	Submit System Characterization Work Plan	January 1, 2016
Part IV.D.3.c	Submit Baseline Compliance Monitoring Program Work Plan	January 1, 2016
Part IV.D.2.b	Submit a map of combined and separate sewer areas	July 1, 2016
Part IV.D.3.b.ii	Submit System Characterization Report	July 1, 2018
Part IV.D.3.b.iii	Submit Public Participation Process Report	July 1, 2018
Part IV.D.3.d	Submit Compliance Monitoring Program Report	July 1, 2018
Part IV.D.3.b.iv	Submit Consideration of Sensitive Areas Plan	July 1, 2018
Part IV.D.3.b.v	Submit Development and Evaluation of Alternatives Report	July 1, 2019
Part IV.D.3.b.vi	Submit Selection and Implementation of Alternatives Report in the Final LTCP	June 1, 2020

Branding of LTCP Program

LTCP Program Branding – Other Places

Washington, DC
Clean Rivers

Allegheny County Sanitary Authority

Green City, Clean Waters

Philadelphia
Green City, Clean Waters

South Bend, Indiana
Clean River

LTCP Program Branding – PVSC

- Potential Names
  - Clean Waters
  - Clean Currents
  - WaterWise
  - The WaterCycle Project
  - Clean Water, Green Valley

- Preliminary Logo Sketches

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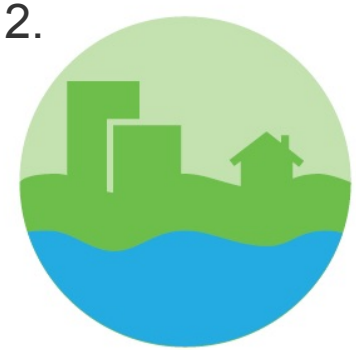

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Next Steps

Initial Tasks/Action Items for Supplemental CSO Team

- Provide Thoughts on Branding for LTCP Program
- Consider Alternative Start Times for Supplemental CSO Team Meetings
- Read the Handouts!!

Questions and Final Discussion