

Field Operations Department Wastewater Operations & Maintenance Update



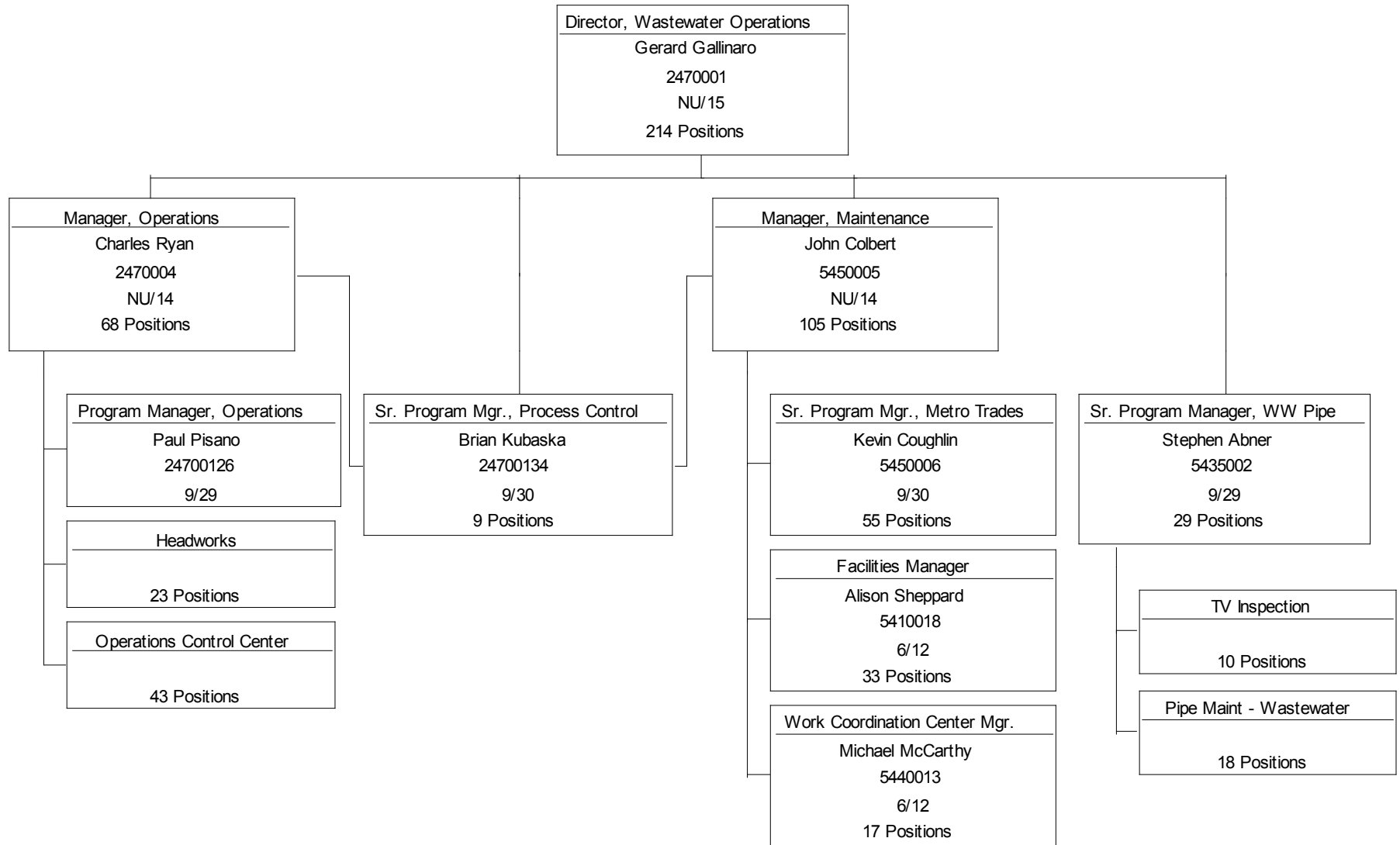
**Wastewater Advisory
Committee
June 2009**



Today's Agenda

- **Organization**
- **Equipment and Facility Maintenance**
- **Process Control and Project Support**
- **Wastewater Pipeline Maintenance and TV Inspection**
- **Wastewater Operations**
- **Wet Weather Operation**

Field Operations Department Wastewater O & M





Metro Operations

Water System

- 100 miles of tunnels and aqueducts
- 284 miles of water distribution piping
- 11 pump stations
- 11 storage facilities
- 4700 valves

Transport System

- 228 miles of interceptor sewers
- 12 pump stations
- 4 combined sewer overflows facilities
- 4 headworks
- 1 screen house



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Maintenance/ Asset Strategy

FY09 Goals

- 100% time in Maximo
- 90% PMs complete
- Increase Ops PMs
- Review all PM job plans and improve
- Issue YNB page
- Increase manager audits

Continuous
Improvement -
Benchmarking

Reliability
Centered
Maintenance

Project
Identification
& Prioritization

FY10 Goals

- 100% PMs complete
- Review Inventory of all facilities
- Issue Monthly Report
- Complete Lawson Maximo Interface

Condition
Monitoring

Craft Flexibility
and Skills

Operations
Light
Maintenance

Stores and
Procurement

Planning
Scheduling

Maximo/Lawson

Technical and
Interpersonal
Training

Preventive Maintenance

Work Execution/Audits



Lawson Maximo Interface Benefits

- Inventory Link to Maximo
 - Assist planner in locating parts in warehouse for corrective maintenance
 - Spare parts can be added to preventive maintenance work orders
 - Kitting of parts can be completed electronically
- Equipment Cost Information
 - Material costs are captured on each work order and used to quantify cost for snow events or emergencies
 - Material costs are captured for each equipment item and used for repair verses replacements



Inventory Link to Maximo

MAXIMO - Inventory - Inventory - Microsoft Internet Explorer

Address: http://chelsea9:7003/maximo/jsp/app/inventor/main.jsp

Site: DITP | Start Center | Go To | Sign Out | Help

Current Query: [] Select Action []

Search | **Inventory** | Reorder Details | Rotating Equipment | Where Used | Attached Documents

Item: 72073990037 | PUMP, SUBMERSIBLE, 1 1/2", #509225, LITTLE GIANT

Rotating?

Storeroom: 902

Lot Type: * NOLOT

Default Bin: DRKN31

Last Receipt Cost: * 0.00

Capitalized?

Standard Cost: * 0.00

Average Cost: * 176.50

Stock Category: * STK

Balance Summary

Current Balance: 12.00

Quantity Currently Reserved: 0.00

Expired Quantity In Stock: 0.00

Quantity Available: 12.00

ABC Analysis

ABC Type: C

Count Frequency: * 0

Issue History

Last Issue Date: 11/3/06 12:00 AM

Year To Date: * 0.00

Last Year: * 0.00

2 Years Ago: * 0.00

3 Years Ago: * 0.00

Updated every two hours

Balances

Filter | Displaying 1 - 1 of 1

| Bin | Lot | Current Balance | Physical Count | Count Date | Reconciled? | Shelf Life(Days) | Expiration Date |
|--------|-----|-----------------|----------------|------------------|--------------------------|------------------|-----------------|
| DRKN31 | | 12.00 | 0.00 | 9/29/97 12:00 AM | <input type="checkbox"/> | | |

Current Balance Adjustment | Physical Count Adjustment | New Row

Local intranet

Start | Inbox - Microsoft ... | P:\J.Colbert | Microsoft PowerP... | MAXIMO - Inve... | Preview and Enh... | 9:40 AM



Equipment Record

MAXIMO - Equipment - Equipment - Microsoft Internet Explorer

Address: http://chelsea9:7003/maximo/jsp/app/equipmnt/main.jsp

Equipment Record has been saved.

Current Query: [] Select Action: []

Equipment | Spare Parts | Measurement | Safety | Meters | Specifications | Save Equipment [CTRL+ALT+S]

| | | | |
|--------------------------|-------------------------|------------------------------|----------------------------------|
| Equipment: * 4274 | PUMP, VERTICAL, 42 x 48 | Modified By: * TREGAN | Date: * 12/16/03 12:00 AM |
| Belongs To: 4273 | PUMP, (PARENT) | | |
| Location: AA | | | |

| | | | |
|---------------------------------|----------------------------|----------------------|------------------------|
| Additional Information | | Accounting | |
| MWRA ID: AA:RWVW.P-2/P | Failure Class: PUMP | GL Account: 0 | CP#: 102 |
| Eq. Classification: PUMP | Process Priority: 4 | Object Code: | Sub. Code: |
| Eq. Service: Sewage pump | Eq./PM Category: 1 | Asset #: | Spec. Template: |
| RCM System: | RCM Date: | Item: | |

| | | | |
|--|------------------------------|------------------------------|-----------------------------|
| Manufacturer | | Costs | |
| Manufacturer: 1945 FAIRBANKS MORSE CORP | | Total: * 11,487.81 | 1 Year Ago: 3,083.82 |
| Serial#: K3X1-061513 | OM Doc.: Volume VII B | YTD: * 315.34 | 2 Year Ago: 1,699.95 |
| Model#: 2414 | Spec. Sect.: 11308 | Budgeted: * 0.00 | 3 Year Ago: 116.90 |
| Mfr. Order Ref. #: k3x1-061513 | P ID Loop #: | Uncharged: * 0.00 | 4 Year Ago: 803.32 |
| | | Tot Uncharged: * 0.00 | 5 Year Ago: 909.04 |

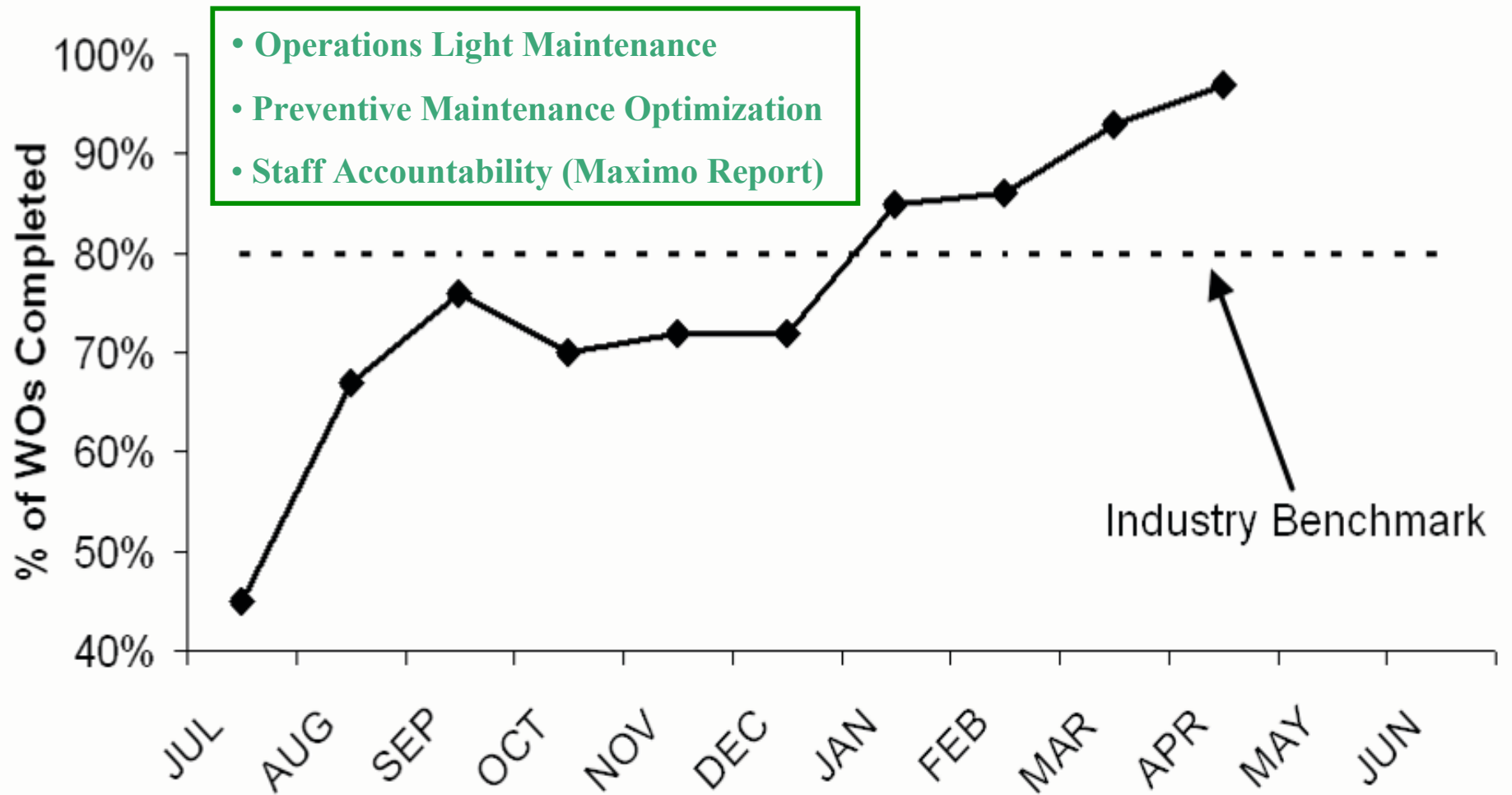
| | | |
|--|------------------------------|--|
| Cost/Price Information | | Downtime |
| Vendor: 1301 PACE INDUSTRIES INC. | | Up? <input checked="" type="checkbox"/> |
| Purchase Price: * 0.00 | Book Value: | Date: 10/25/94 12:00 |
| Replacement Cost: * 0.00 | Service Life(Yrs): | Total Downtime: * 0:00 |
| Installation Date: 10/25/94 | Warranty Date: 7/9/97 | |

Yearly Cost

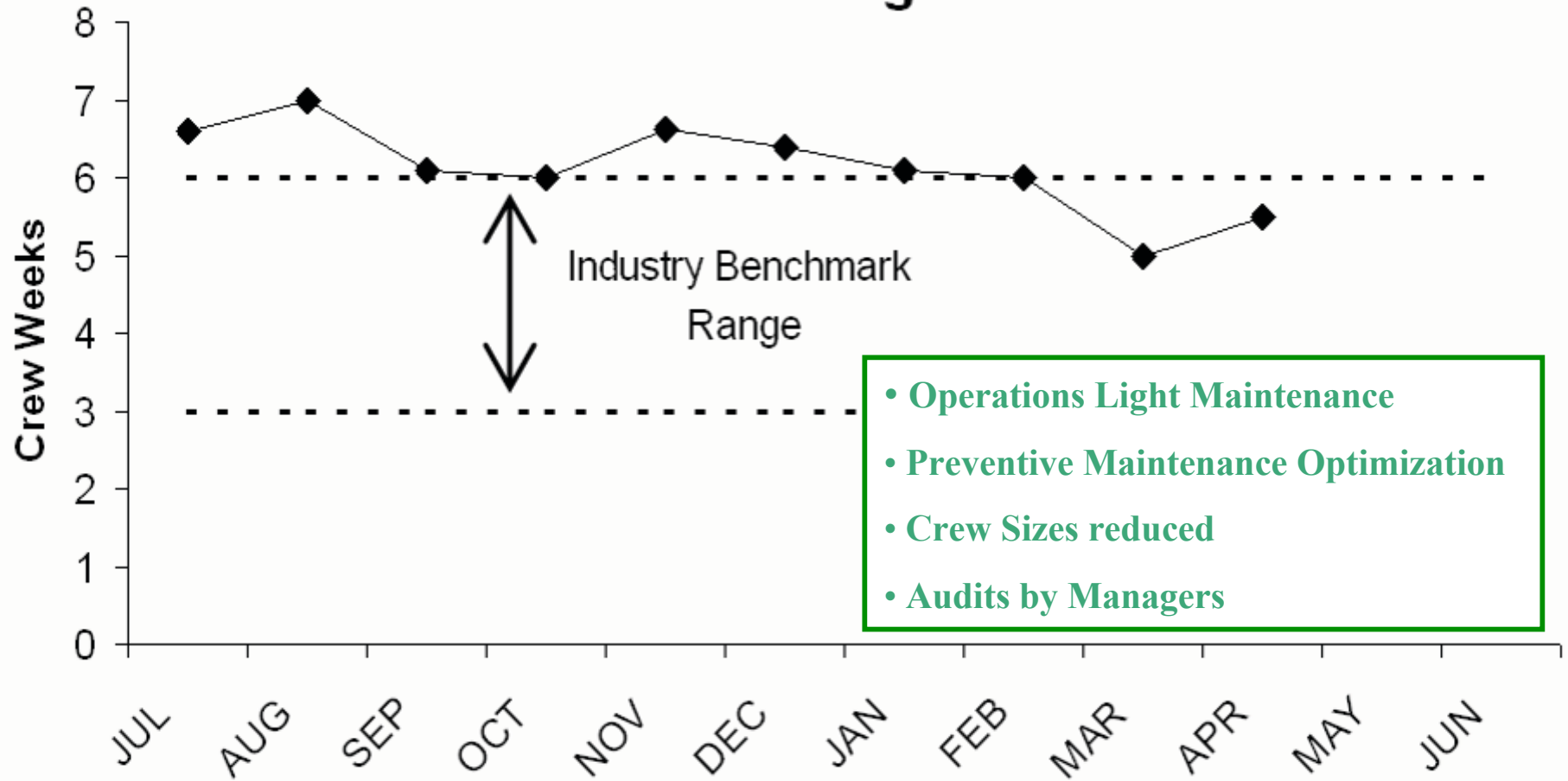
Done Local intranet

Start | Inbox - Microsoft ... | P:\J.Colbert | Microsoft PowerP... | MAXIMO - Equi... | Preview and Enh... | 9:32 AM

Overall Preventive Maintenance



Maintenance Backlog in Crew Weeks





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Process Control & Project Support

- Comprised of 9 staff with a wide array of background, education and expertise including:
 - 1 - Instrumentation specialist
 - 1 - Sr. Field Inspector
 - 3 – Engineers
 - 2 - Project Managers
 - 2 - Program Managers.
- Staff were previously spread throughout FOD providing a variety of operational and technical project support functions.
- Group has been in place for approximately 8-months.



Future Program Objectives

- Increase use of available tools to support daily work activities (GIS applications, GPS systems, hydraulic modeling, Process Book, SCADA data, Historical Operation data, etc).
- Work to further optimize CSO operations, chemical treatment (residual analyzers), energy consumption, headwork choking, etc.
- Improve use of SCADA systems and adjust operational setpoints through facility audits and coordination with operations staff.
- Evaluate facilities during peak operations to help determine what improvements are required to enhance performance and ease of operation.
- Refine maintenance service contracts to ensure critical maintenance needs are met and work is preformed cost effectively and efficiently.
- Work towards streamlining and electronically documenting permitting process and reviews.



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Wastewater Pipeline TV Inspection/Maintenance

Wastewater Pipeline Performance Measures

TV Inspections

FY10

Sewer line CCTV Inspections (Miles)

32

Siphon Inspections (Number of Barrels)

48

Structure Inspections (Includes Manholes, Head houses,
Diversion and Junction Chambers)

650

Community Assistance

As needed
Avg. 1 - 3 miles

Wastewater Pipeline

Interceptor Cleaning (Miles)

36

Siphon Cleaning (Number of Barrels)

24

Manhole Frame and Cover Replacement

108

Community Assistance

As needed
Avg. 1-3 miles



MWRA Siphon Statistics

- Number of siphons in MWRA system: 60
- The 60 siphons are configured with either one, two or three individual barrels.
- North System: 35 and the South System: 25
- There are 108 individual barrels comprising the 60 siphons.
- Barrel materials consists mainly of cast and ductile iron.
- Barrel diameters range from 8" to 84"
- Lengths range from 23' to 1690'



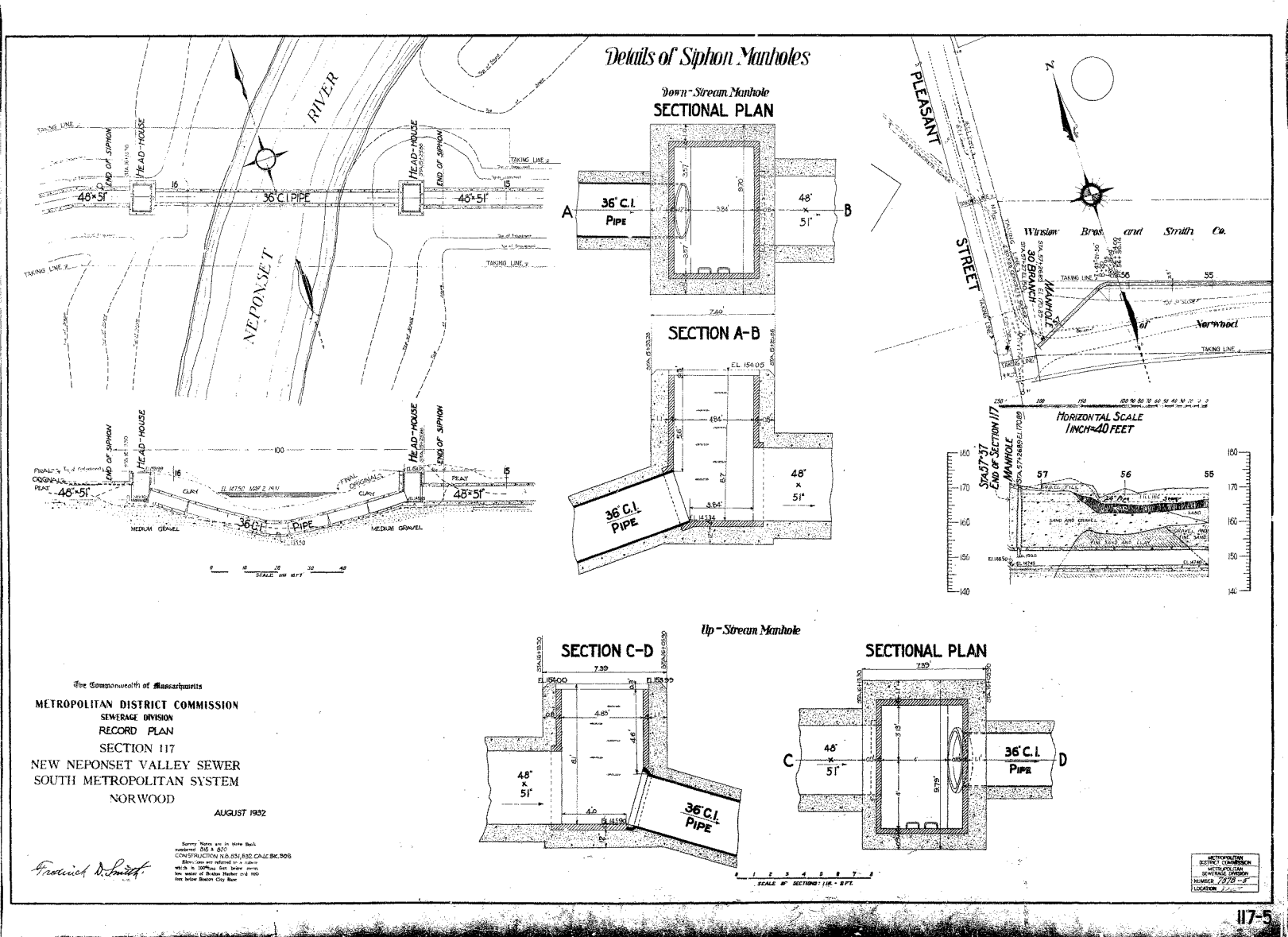
Siphon Program Goals and Methodology

1. Sonar inspect each siphon once every three years.
2. Maintain each siphon once every four years.
3. Siphons that have been identified to be historical maintenance problems, maintain once every quarter.

Yearly Target Numbers

1. Inspect 20 siphons (48 individual barrels) each year.
2. Maintain 15 (38 individual barrels) siphons each year.

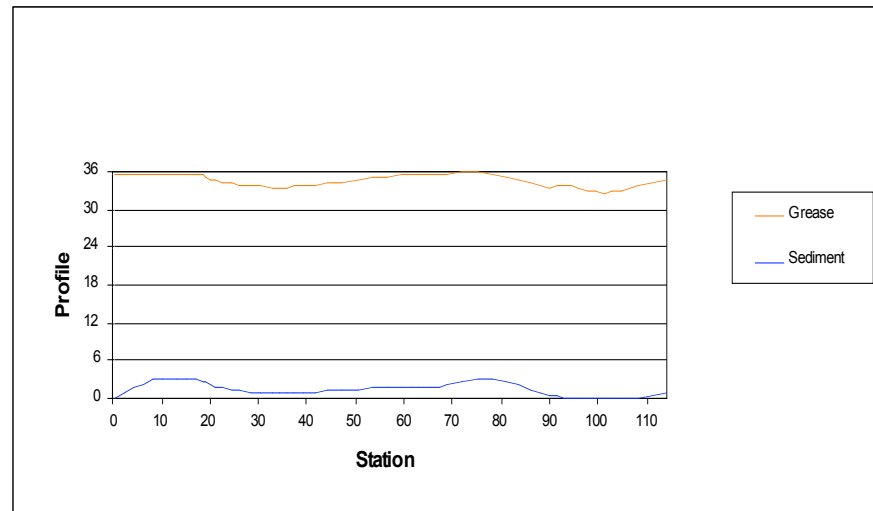
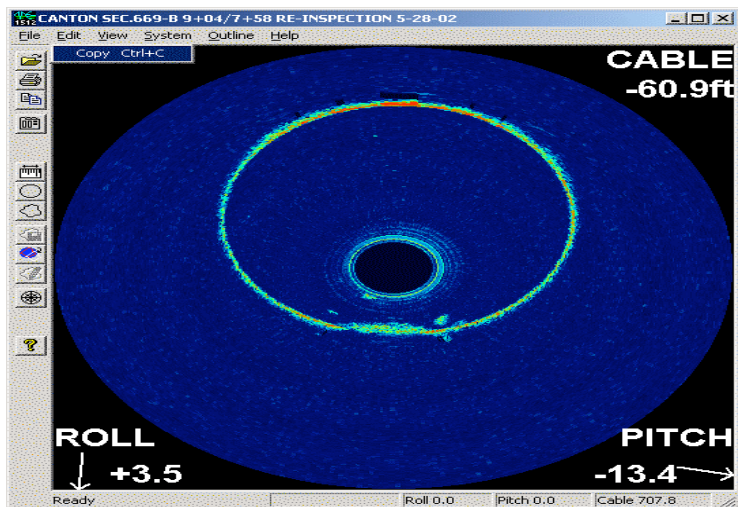
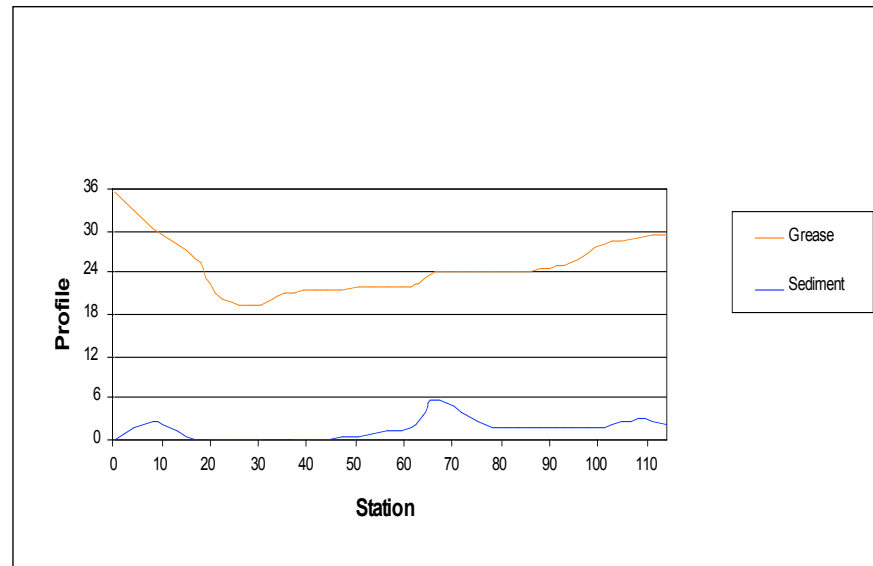
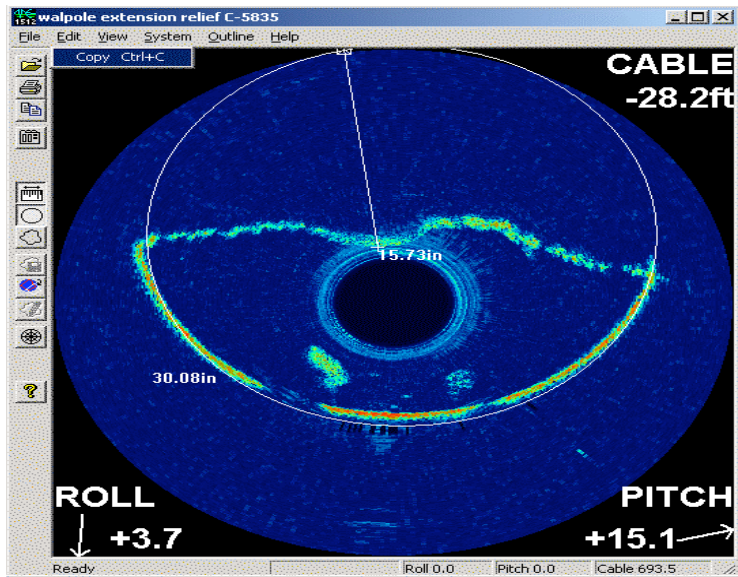
Walpole Extension Sewer, Section 667, Norwood 1 - 36" Barrel Siphon



Sonar Equipment



Walpole Extension Sewer, Section, Norwood 1 - 36" Barrel Siphon Before and After Cleaning



Siphon Cleaning Equipment



Walpole Extension Sewer, Section 667, Norwood 1 - 36" Barrel Siphon Grit and Grease Removal





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WW Operations

- **Manager, WW Operations** – oversees a staff of 68 and the operation of the Operations Control Center (OCC), 12 pumping stations, 4 headworks facilities, 4 Combined Sewer Overflow Facilities and 1 CSO Storage Facility
- **Program Manager WW Operations** – reviews SOPs, trains staff, supervises wet weather operations, coordinates preventive maintenance
- **Headworks Manager** – responsible for the operation of 4 headworks facilities, Nut Island, Chelsea Creek, Ward Street and Columbus Park
- **Operations Supervisors (4)** – responsible for the operation of all wastewater facilities and operational staff on a shift basis.
- **Area Supervisors** – responsible for the operation, monitoring and control of individual Headworks, CSO Facilities and Pumping Stations
- **Operators** – operate Headworks, CSO Facilities and Pumping Stations



Wastewater Facilities

Alewife Brook Pump Station

Braintree Weymouth Pump Station

Caruso Pump Station

DeLauri Pump Station

Framingham Pump Station

Hayes Pump Station

Hingham Pump Station

Houghs Neck Pump Station

Intermediate Pump Station

New Neponset Pump Station

Quincy Pump Station

Squantum Pump Station

Cottage Farm CSO

Prison Point CSO

Somerville Marginal CSO

Union Park CSO

Chelsea Screenhouse

Chelsea Creek Headworks

Columbus Park Headworks

Nut Island Headworks

Ward Street Headworks

Chelsea Operations Control Center



WW Operations Reorganization

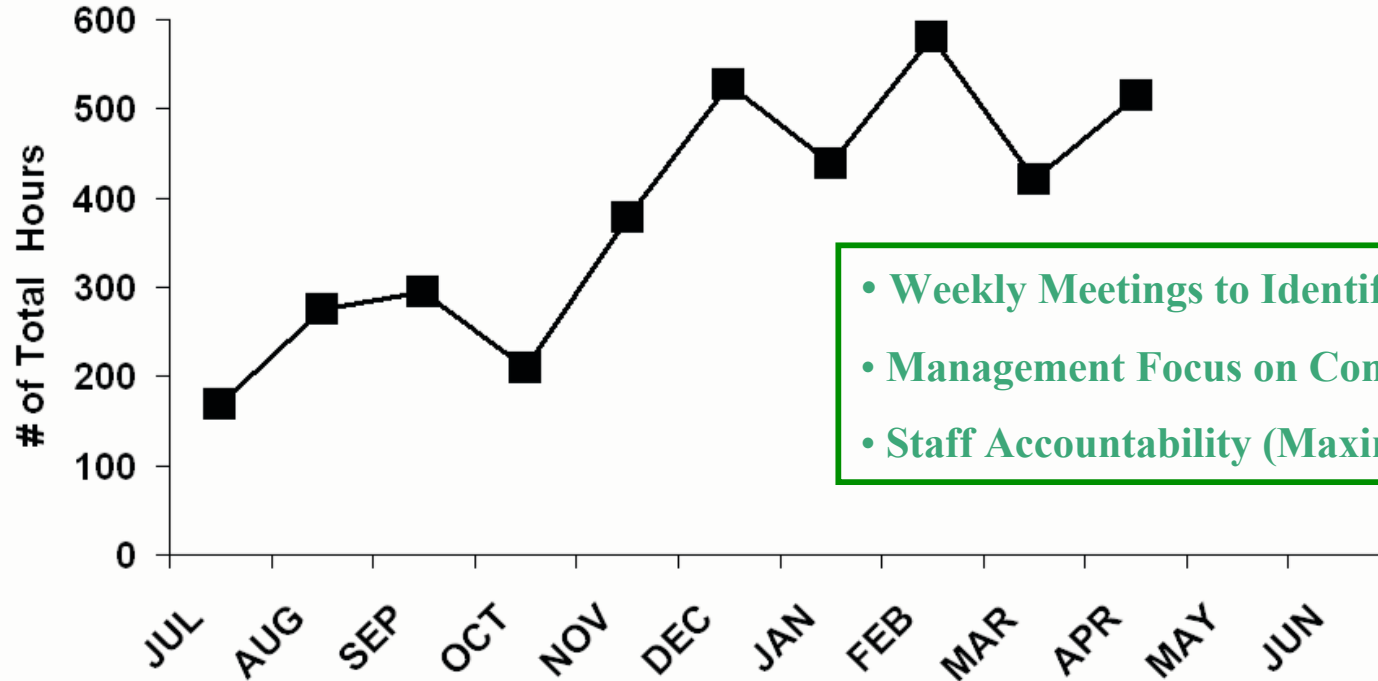
- Distribute staff evenly throughout each shift
- Reduce minimum staffing levels at all four headworks
- Cross Functional Training
- SCADA Implementation/Training



Reorganization Benefits

- Reduced overtime for person to person coverage at headworks
- Reduced overtime for CSO wet weather coverage
- Increased supervision on off shifts
- Increased preventive maintenance tasks performed by operations staff

Operations Light Maintenance PM Hours



- Weekly Meetings to Identify PMs
- Management Focus on Completion
- Staff Accountability (Maximo Report)



PM_Task#_FOD_EQUIPMENT_Memo_L_inpv

Massachusetts Water Resources Authority 2/12/2009 10:01 AM

PM Work Orders Opened Between Feb-01-2009 To Feb-12-2009

| Supervisors | LeadCraft | ACT_COST | ACT.HOURS | EST.HOURS | OPENED | CANCELED | CLOSED | % COMP |
|--|-----------|--------------------|---------------|-----------------|------------|----------|------------|---------------|
| BOINTON,LEWIS CARR,RICHARD W HAYE,CARLOS QUEYBLOM,STEPHEN VANDERHALL,MICHAEL | BLDGRND | \$6,317.46 | 266.00 | 216.00 | 27 | 0 | 0 | 0.00% |
| CONVEY,EDWARD HORAN,RICHARD S | CARPNTER | \$0.00 | 0.00 | 16.00 | 2 | 0 | 0 | 0.00% |
| DWYER,STEPHEN A HALE,DAVID MCGURL,CHRISTOPHER | ELECTRN | \$103.28 | 4.00 | 182.00 | 61 | 0 | 1 | 1.64% |
| CATALDO,MARK | HVAC | \$2,408.00 | 114.00 | 134.00 | 176 | 0 | 28 | 15.91% |
| DEMERS,STEVEN F NIEDERBERGER,MARK A RIAN,RICHARD | MECH_P | \$5,703.14 | 218.00 | 231.25 | 194 | 0 | 58 | 29.90% |
| HOPKINS,MICHAEL SPRAGUE,EVERETTE | PLUMBER | \$1,838.39 | 68.00 | 388.50 | 73 | 0 | 28 | 38.36% |
| | ITWOP | \$5,011.01 | 179.00 | 439.25 | 426 | 0 | 115 | 27.00% |
| Total | | \$21,383.28 | 849.00 | 1,648.00 | 959 | 0 | 230 | 23.98% |



Operations Staffing Change

May 25, 2009

Kevin Brander, Director, Wastewater
Department of Environmental Protection – Northeast Region
205B Lowell Street
Wilmington, MA 01887

Eric Worrall, Deputy Director, Bureau of Resource Protection
Department of Environmental Protection – Northeast Region
205B Lowell Street
Wilmington, MA 01887

RE: MWRA Wastewater Transport System – Operations Staffing

Dear Mr. Brander & Mr. Worrall:

Enclosed please find a copy of the staffing plan for the MWRA wastewater transport facilities (all non-Deer Island wastewater facilities). This plan is submitted in accordance with 314 CMR 12.04.

The staffing plan indicates that there are 4 facilities which have dedicated staff on a 24/7 basis and 16 unstaffed facilities which are monitored and visited by the Operations Control Center (OCC) staff reporting out of our Chelsea Maintenance Facility (see Attachment 1). Attachment 2 provides the staffing levels for the 4 facilities with dedicated staff. Attachment 3 indicates the OCC staffing level. OCC staff are dispatched to the CSOs (and other wet weather facilities) per the staffing numbers shown in the Attachment 3 section "Staffing for Major Wet Weather Events and CSO Activations". Trained and licensed staff are also available and assigned as needed for wet weather coverage from our Deer Island, Wastewater Pipeline and Chelsea Maintenance units.

This plan is significantly different from the June 2007 submittal. A reorganization of Wastewater Operations staff was implemented in May 2009. The reorganization revised the previous staffing plan (which placed more staff on the 7:00 AM - 3:00 PM shift with decreased staff available on weekends and off hours), to a plan that will more evenly distribute staff on all shifts, 24 hours a day seven days a week. In addition, the minimum staffing levels at the four headworks has been reduced from 2 to 1 operator. The reduction in staffing levels in the headworks is possible due to the recent completion of the SCADA system which provides monitoring and control of these facilities in the OCC. As a result, 15 headworks employees have been reassigned to the OCC. This work force is in the process of being cross trained on all

wastewater facilities under the responsibility of the OCC (headworks, pumping stations and CSO facilities). This reorganization allows for increased flexibility for staff to respond to wet weather, CSO activations and operational issues which may arise during off hours. The OCC will dispatch staff to where they are most needed during all hours. The revised staffing plan includes the addition of two more Operations Supervisors (total four) will provide an enhanced supervisory level of staff on each shift.

Note that the operation and maintenance of the Combined Sewer Overflow Treatment Facility at the Union Park Pump Station has been conducted via a multi-year service contract with Woodard and Curran (W&C). The contract with W&C extends until March 2010.

Note also that the Braintree Weymouth Replacement Pumping Station was substantially completed in June 2008. The facility has been experiencing operational issues with the grinders and the MWRA is currently working with the construction contractor and grinder manufacturer to resolve these issues. Facility capacity has not been reduced because of the grinder issue.

The Fox Point CSO and Commercial Point CSO were both taken offline on November 1, 2007 due to the completion of BWSC sewer separation projects tributary to both facilities.

Please call me at (617) 305-5801 if you have any questions on this matter.

Sincerely,

Michael J. Hombrook
Chief Operating Officer

| | |
|------|---------------------|
| DEP | Kevin Brander |
| MWRA | Michael J. Hombrook |
| | Gerard L. Gallinaro |
| | Charles Ryan |
| | Andrea Rex |
| | Christopher John |



Operations Staffing Change

ATTACHMENT 1 WASTEWATER TRANSPORT – 16 UNSTAFFED FACILITIES

Pump Stations

Alewife Brook Pumping Station
 Braintree-Weymouth Intermediate Pumping Station
 Braintree-Weymouth Replacement Pumping Station
 Caruso Pumping Station
 DeLauri Pumping Station
 Hayes Pumping Station
 New Neponset Pumping Station
 Framingham Pumping Station
 Squantum Pumping Station
 Quincy Pumping Station
 Hough's Neck Pumping Station
 Hingham Pumping Station

Combined Sewer Overflow Facilities (CSOs)

Cottage Farm
 Prison Point
 Somerville Marginal
 BOS019 CSO Storage Facility

These 16 facilities are checked (and can be controlled) remotely by staff assigned to the OCC and via site visits during routine rounds. In addition, staff from the OCC are deployed to the CSO facilities during wet weather.

Staffing levels at the staffed facilities, OCC and active CSOs are provided in Attachments 2 and 3.

ATTACHMENT 2 - MWRA 24/7 Facility Staffing

Chelsea HW

| Position | MWRA Required Certification | 7-3 | 3-11 | 11-7 | Relief |
|-----------------|-----------------------------|-----|------|------|--------|
| Area Supervisor | 4 | 1 | 0 | 0 | 0 |
| Operator | 2 | 1 | 1 | 1 | 1 |

An additional operator is called in during wet weather/high flow conditions

Columbus Park HW

| Position | MWRA Required Certification | 7-3 | 3-11 | 11-7 | Relief |
|-----------------|-----------------------------|-----|------|------|--------|
| Area Supervisor | 4 | 1 | 0 | 0 | 0 |
| Operator | 2 | 1 | 1 | 1 | 1 |

An additional operator is called in during wet weather/high flow conditions

Ward Street HW

| Position | MWRA Required Certification | 7-3 | 3-11 | 11-7 | Relief |
|-----------------|-----------------------------|-----|------|------|--------|
| Area Supervisor | 4 | 1 | 0 | 0 | 0 |
| Operator | 2 | 1 | 1 | 1 | 1 |

An additional operator is called in during wet weather/high flow conditions

Nut Island HW

| Position | MWRA Required Certification | 7-3 | 3-11 | 11-7 | Relief |
|-----------------|-----------------------------|-----|------|------|--------|
| Area Supervisor | 4 | 1 | 0 | 0 | 0 |
| Operator | 2 | 1 | 1 | 1 | 1 |



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Wet Weather Operations Pre-Storm

- Monitor Weather Forecasts
- Coordinate with External Stakeholders (BWSC, DCR Dam, Melrose DPW)
- Daily Equipment Availability Report
- Coordination between Operations & Maintenance (essential equipment ready for storm)
- Facility Pre-storm Checklists
- Test Chemical Quantities/Strength
- Determine if NPDES Sampling is Required
- Monitor Key Sewer System Locations via Event Notification System (ENS)

SmartCast® Forecast for Boston

Wednesday 06/03/09 6:28 AM

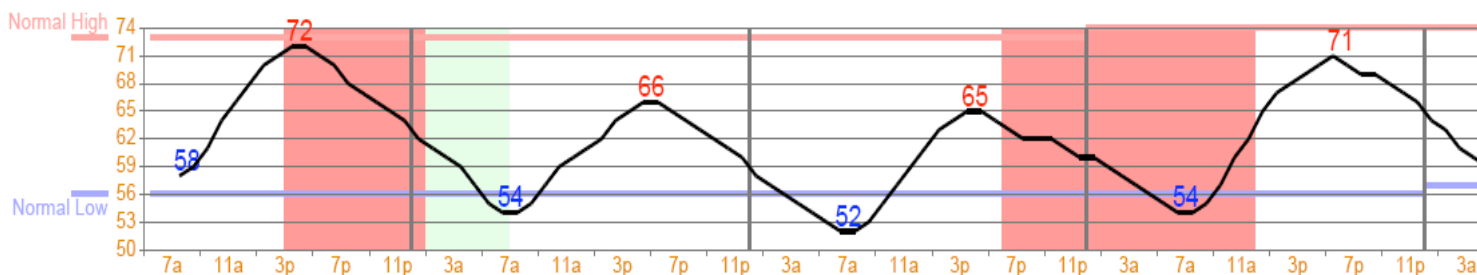


Synopsis:

Increasing clouds today in the Boston area with temperatures only reaching the lower 70s for highs. Chances for rain and storms increase late this afternoon and continues overnight into early Thursday morning. Most of the rainfall is expected to stay south of the territory, with amounts of only 0.1-0.25 inch expected over Boston. A brief passing shower may produce rates as high as 0.1"/hr at times. Another chance for a few showers and storms moves into the area late Friday night and Saturday morning, with the rest of the weekend looking dry.

Hourly Forecast

| | Wednesday | | | | | Thursday | | | | | Friday | | | | | Saturday | | | | | Sunday | | | |
|----------------|-----------|-----|--------|--------|--------|----------|------|-----|----|-----|--------|----|-----|-----|-----|----------|--------|--------|--------|--------|--------|----|-----|----|
| | 7a | 11a | 3p | 7p | 11p | 3a | 7a | 11a | 3p | 7p | 11p | 3a | 7a | 11a | 3p | 7p | 11p | 3a | 7a | 11a | 3p | 7p | 11p | 3a |
| Temperature | 58 | 66 | 72 | 68 | 64 | 59 | 54 | 60 | 65 | 64 | 60 | 55 | 52 | 59 | 65 | 62 | 60 | 57 | 54 | 62 | 69 | 69 | 66 | 60 |
| Dew Point | 46 | 49 | 57 | 58 | 57 | 54 | 52 | 51 | 50 | 48 | 48 | 48 | 49 | 50 | 53 | 52 | 52 | 51 | 51 | 51 | 53 | 53 | 53 | 53 |
| Precip Prob | - | - | 30 | 50 | 40 | 30 | - | - | - | - | - | - | - | - | - | 30 | 30 | 30 | 30 | 30 | - | - | - | - |
| Precip Type | - | - | tstrms | tstrms | tstrms | shwrs | - | - | - | - | - | - | - | - | - | tstrms | tstrms | tstrms | tstrms | tstrms | - | - | - | - |
| 4-hr Pr Amount | - | - | 0.02 | 0.07 | 0.06 | 0.05 | 0.03 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Direction | n | e | se | s | wsw | wsw | nw | nw | nw | wnw | wsw | s | sse | ese | sse | sse | s | ssw | s | s | ssw | sw | wsw | w |
| Wind Speed | 12 | 16 | 14 | 10 | 13 | 10 | 13 | 14 | 14 | 10 | 8 | 8 | 10 | 11 | 10 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 9 | 8 |
| % Cloud Cover | 50 | 50 | 50 | 70 | 70 | 70 | 70 | 70 | 50 | 50 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 50 | 50 | 50 | 50 | 50 |
| Wind Chill | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



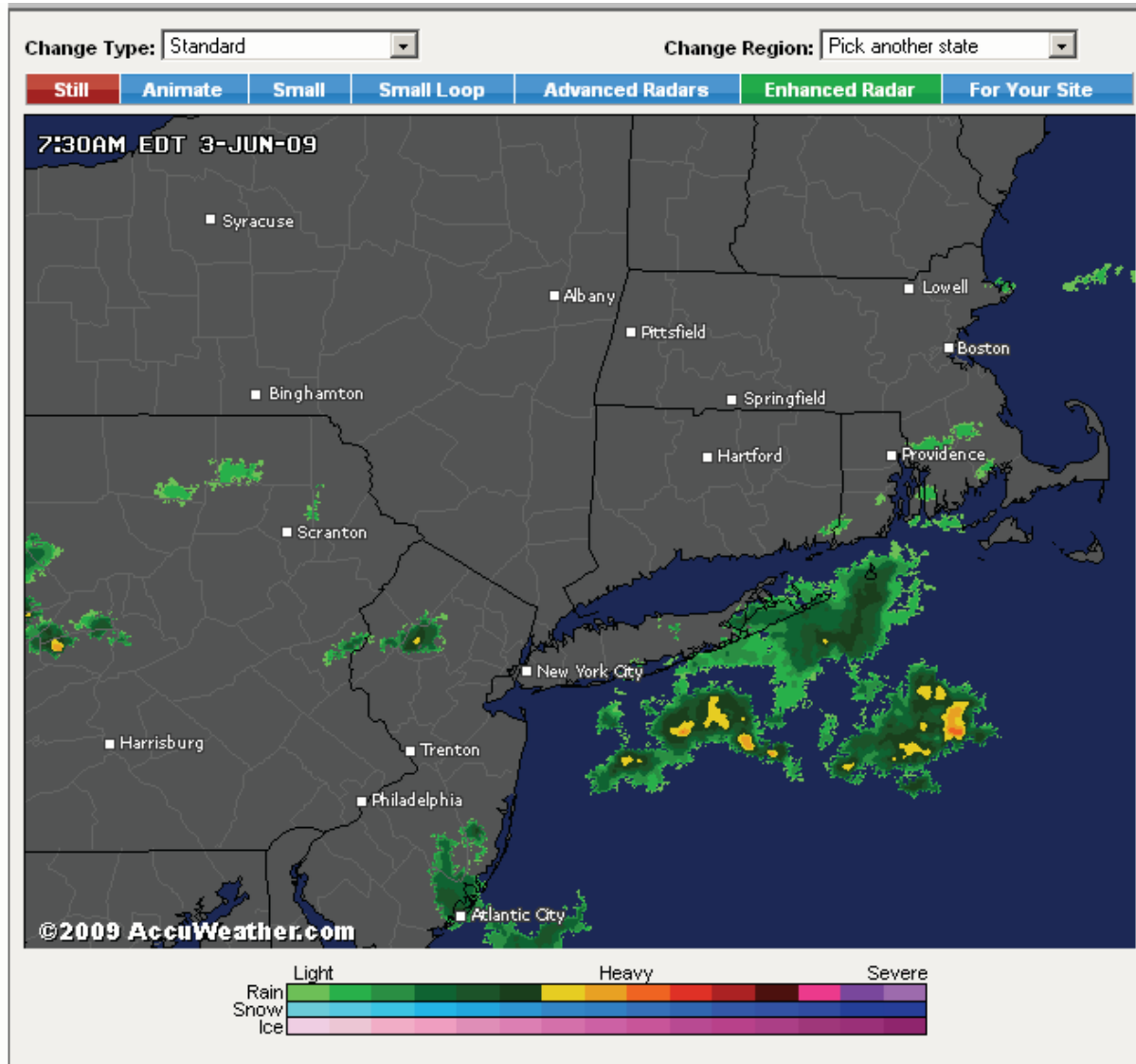
Extended Forecast

| | Wednesday | Thursday | Friday | Saturday | Sunday | Monday | Tuesday |
|--------------------|-----------|----------|----------|----------|----------|----------|----------|
| Weather Condition | TSTRMS | SHWRS | TSTRMS | TSTRMS | PTCLDY | SHWRS | MOCLDY |
| Max Temp (Rel Hum) | 72 (59%) | 66 (56%) | 65 (65%) | 71 (53%) | 75 (46%) | 73 (53%) | 74 (53%) |
| Min Temp (Rel Hum) | 58 | 54 (93%) | 52 (86%) | 54 (90%) | 56 (90%) | 60 (84%) | 60 (87%) |

For additional information please call (316) 265-9127

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Accuweather Storm Tracking



Daily Availability Report

| Wastewater Ops | Equipment Availability Report | | | | February 11, 2009 |
|----------------------------------|-------------------------------|----------|-----------|---------|------------------------------------|
| Facility | Have | Required | Available | Deficit | comments |
| Intermediate Pump Station | | | | | |
| Influent gate | 1 | 1 | 1 | 0 | |
| Screens | 3 | 2 | 3 | 0 | |
| Voretexs | 3 | 2 | 3 | 0 | |
| Raw Wastewater Pumps | 4 | 2 | 3 | 0 | #2 R/W V.F.D out of service |
| Emergency Generator | 1 | 1 | 1 | 0 | |
| Ventilation/Heating comments | | | | | |
| Headworks | | | | | |
| Chelsea Creek | | | | | |
| Influent gates | 4 | 3 | 4 | 0 | |
| Influent screens | 4 | 3 | 4 | 0 | |
| Channels | 4 | 3 | 4 | 0 | |
| Grit collection system | 4 | 3 | 4 | 0 | |
| Odor scrubbers | 2 | 2 | 2 | 0 | |
| Ventilation/Heating comments | | | | | |
| Ward Street | | | | | |
| Influent gates | 4 | 3 | 4 | 0 | |
| Influent screens | 4 | 3 | 4 | 0 | |
| Channels | 4 | 3 | 4 | 0 | |
| Grit collection system | 4 | 3 | 4 | 0 | |
| Odor scrubbers | 2 | 2 | 2 | 0 | |
| Ventilation/Heating comments | | | | | #1 boiler needs a nozzle |
| Columbus Park | | | | | |
| Influent gates | 4 | 3 | 4 | 0 | |
| Influent screens | 4 | 3 | 4 | 0 | |
| Channels | 4 | 3 | 4 | 0 | |
| Grit collection system | 4 | 3 | 4 | 0 | |
| Odor scrubbers | 2 | 2 | 2 | 0 | |
| Ventilation/Heating comments | | | | | hot water heater keep tripping out |
| Nut Island | | | | | |
| Influent gates | 6 | 6 | 6 | 0 | |
| Influent screens | 6 | 6 | 6 | 0 | |
| Vortexes | 6 | 5 | 6 | 0 | |
| Classifiers | 6 | 5 | 6 | 0 | |
| Screening Conveyor | 2 | 2 | 1 | (1) | #1 screen conveyor out of service |
| Grit conveyors | 2 | 1 | 2 | 0 | |



Wet Weather Operations

- Staffing
 - Emergency Operations Center (EOC)
 - Prison Point CSO (4)
 - Somerville Marginal CSO (2)
 - Cottage Farm CSO (3)
 - Assign Additional Operator to Headworks (increased grit and screenings)
 - Assign Adequate Staff to Rove North & South Pumping Stations
- Maintain Communications with Union Park – Contract Operations
- Coordinate NPDES Sampling Between Operations and TRAC Staff



Wet Weather Operations (cont)

- Deploy Staff and Equipment to Key Field Locations
 - Stony Brook Conduit, Smelt Brook, Pearl Street, Millbrook Valley Relief Sewer, Melrose Roosevelt School, Alewife Brook Conduit, Wedgemere Siphon
- Continue to Monitor Sewer System via Event Notification System (ENS)
- Pull Stop Plank Elevations to Minimize Overflows - Alewife Brook
- Pump and Relieve System Flows (Melrose, Stony Brook Conduit, Smelt Brook)
- Monitor Sanitary Sewer Overflows (quantity and duration)
- Report SSOs to DEP

Snapshot

From: Eoc, One
Sent: Friday, December 12, 2008 8:06 AM
To: Major Wet Weather Event Group
Subject: WW_Mini_Snapshot_B.xls

G. Gallinaro & Candy O. - All Headworks Choking; BOS019 discharging to harbor; Union Park pumping; All CSO's Activated; Chelsea Rainfall 3.50 inches (0.31 in/hr); Pulling plank at Section C (Alewife);
 BWSC Notified that P12 is above 80". Framingham pumping; Diverting Flow in Melrose from Sec 50 to Sec 51 (2 pumps); Caruso lowering puming capacity by 20 mgd per DIPT; PP lost local control going into manual operation, no impact;

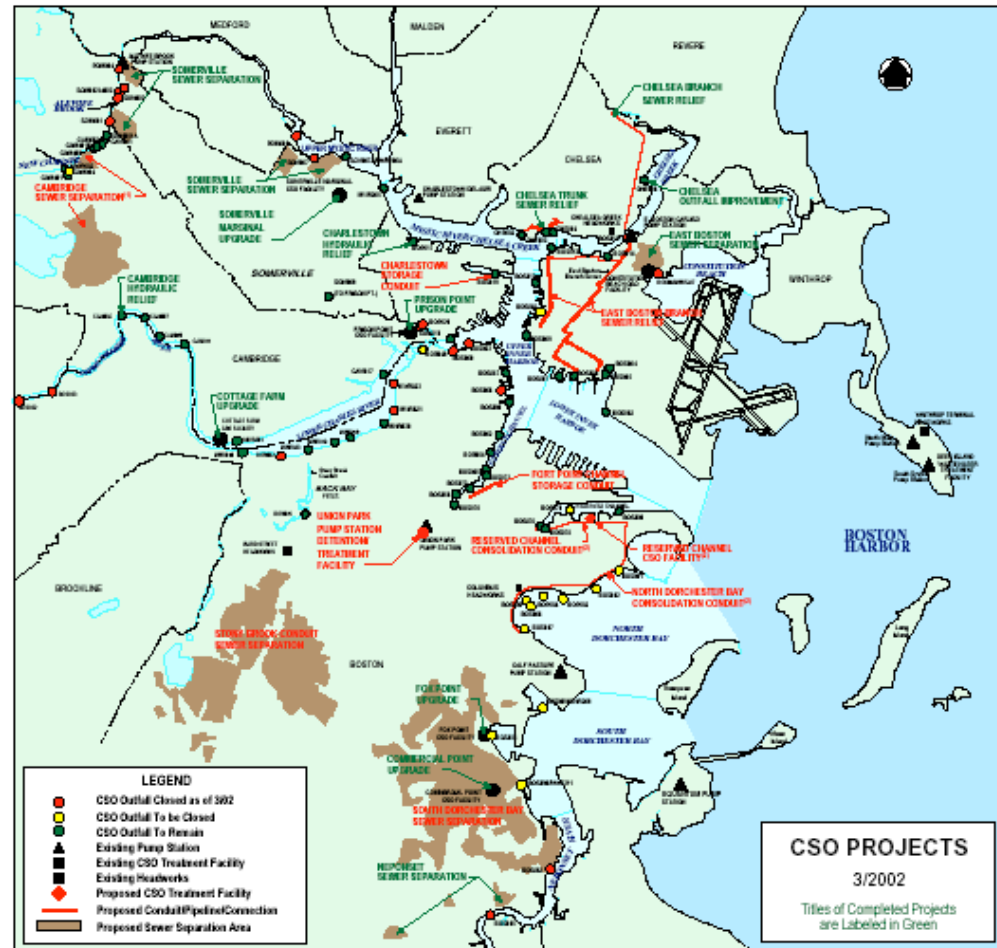
| Wastewater Mini Snapshot with Data Time Stamps | | |
|---|---------------|------------------------|
| Query as of 12/12/08 8:05 AM | | |
| | | Update |
| <i>Press this button to update values. The rainfall values will not update properly if you press <F9>. Do not type in the yellow highlighted areas.</i> | | |
| Deer Island Flow | 12/12 8:05 AM | 1252.09 |
| Chelsea Creek Flow | 12/12 8:05 AM | 347.87 |
| Columbus Park Flow | 12/12 8:05 AM | 189.17 |
| Ward Street Flow | 12/12 8:05 AM | 236.47 |
| IPS Flow | 12/12 8:05 AM | 41.72 |
| Nut Island Flow | 12/12 8:05 AM | 307.87 |
| Nut Island Shaft Elev. | 12/12 8:05 AM | 109.52 |
| Cottage Farm Flow | 12/12 8:05 AM | 117.59 |
| Prison Point Flow | 12/12 8:05 AM | 247.88 |
| Somerville Marg. Flow | | |

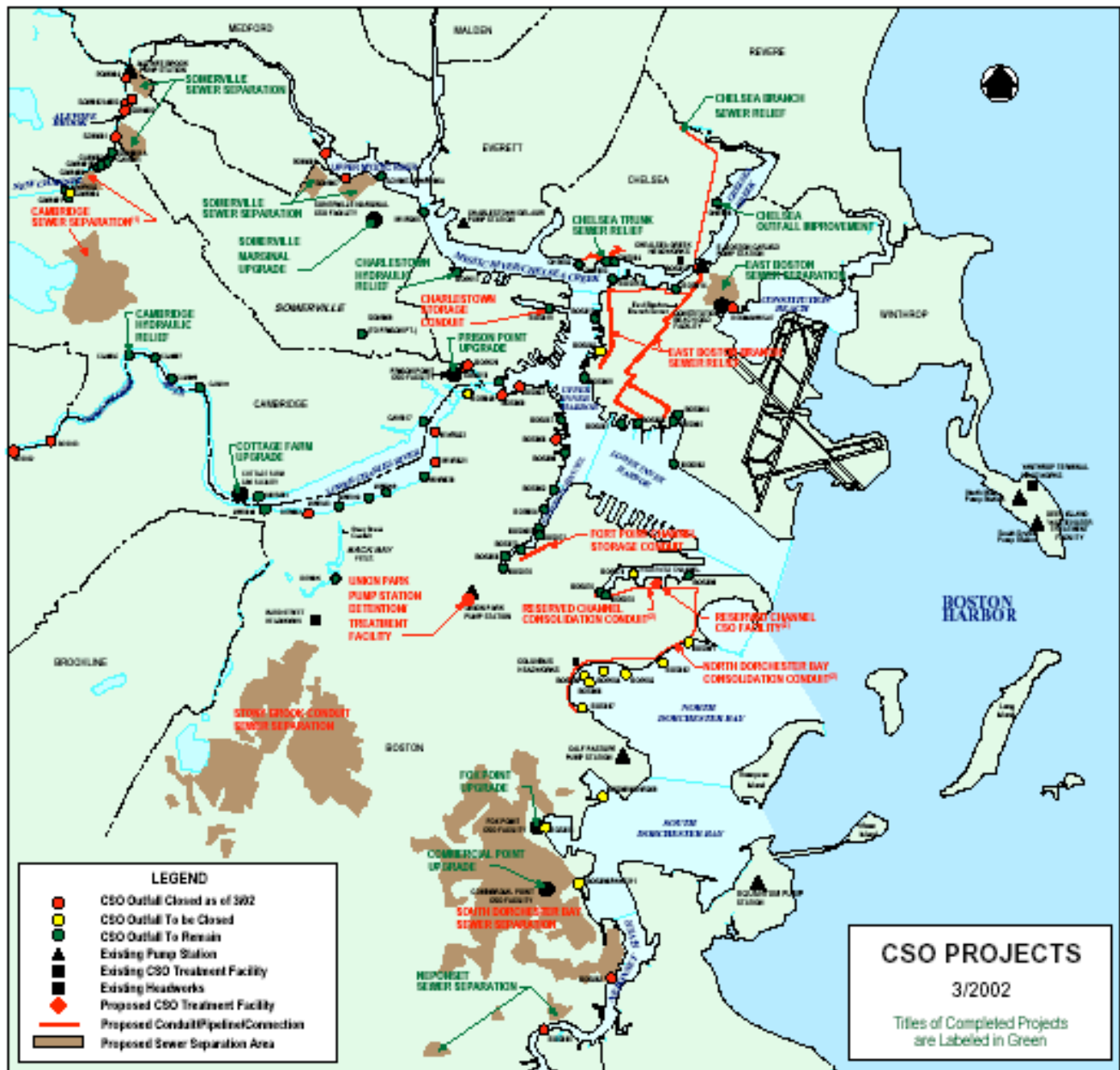
| | | |
|---|-------------------------|---------|
| BN-WY-1 Level (DEdit) | 12/12 7:15 AM | 42.87 |
| CT-MI-3 Level (DEdit) | 12/12 7:45 AM | 40.16 |
| FR-NA-2 Flume Flow | 12/12 7:45 AM | 28.75 |
| FR-NA-2 Mag. Flow | 12/12 7:45 AM | 5.99 |
| NI-1 Level (DEdit) | 12/12 7:30 AM | 101.89 |
| P6 Level (DEdit) | 10/31 4:50 PM/O Timeout | |
| P12 Level (DEdit) | 12/12 7:40 AM | 113.70 |
| WY-QU-2 Level (DEdit) | 12/12 7:30 AM | 48.19 |
| <i>ENS values from the 15 minute period following the time stamp. During a storm monitor DPrimary and DSecondary.</i> | | |
| Fram. PS rainfall, last 24 hr. | 12/12 7:55 AM | 4.16 |
| Fram. PS rainfall, last 72 hr. | 12/12 7:55 AM | 4.88 |
| Hayes PS rainfall, last 24 hr. | 12/12 7:55 AM | 2.67 |
| Hayes PS rainfall, last 72 hr. | 12/12 7:55 AM | 3.30 |
| Ward St rainfall, last 24 hr. | 12/12 8:00 AM | 1421.19 |
| Ward St rainfall, last 72 hr. | 12/12 8:00 AM | 1421.67 |
| <i>Rainfall totals end with the value from the 5 minute period following the time stamp.</i> | | |



MWRA's CSO Communities

- Boston, Cambridge, Chelsea and Somerville have combined sewer systems that connect to MWRA's sewer system
- Boston Harbor, the Charles, the Mystic and the Neponset Rivers are subject to overflows of combined stormwater and sewage during heavy rains







North SSOs

| Community | North / South System | MWRA Section No. | Description |
|------------|----------------------|-----------------------|--|
| Arlington | North | 152 (Station 56+54) | Millbrook Valley Relief Sewer MH on Mystic Valley Parkway West easement near Mt. Pleasant Cemetery |
| Arlington | North | 152 (Station 47+49) | Millbrook Valley Relief Sewer MH on Mystic Valley Parkway West easement near Meadowbrook Park |
| Medford | North | 152 (Station 31+24) | Millbrook Valley Relief Sewer at Mystic River Crossing Downstream Headhouse off Lakeview Road |
| Medford | North | 107 (Station 1+00) | North Metro Relief Sewer Weir Structure, Mystic Valley Parkway near James Street |
| Medford | North | 19 (Station 4+25) | Metropolitan Sewer at Malden River Crossing Malden River Siphon (Upstream Headhouse) |
| Melrose | North | 51 (Station 3+60) | Metro Sewer Stoneham Branch Brunswick Park (Roosevelt School) MH near railroad tracks |
| Somerville | North | 155 (Station 9+12) | Metro Sewer at Mystic River Crossing at Boston Avenue (Upstream Headhouse) |
| Medford | North | 176A (Station 131+21) | Alewife Brook Conduit at Mystic River Crossing MH Weir, Auburn Street between curb and river |
| Somerville | North | 176C (Station 0+35) | Alewife Brook Conduit at Alewife Brook Pump Station Discharge Side on Pump Station grounds |
| Winchester | North | 113B (Station 2+06) | North Metro Relief Sewer at Aberjona River Crossing Wedgemere Siphon Downstream Headhouse @ T Station |
| Winchester | North | 113B (Station 3+24) | North Metro Relief Sewer at Aberjona River Crossing Wedgemere Siphon Upstream Headhouse @ Bacon Street |



South SSOs

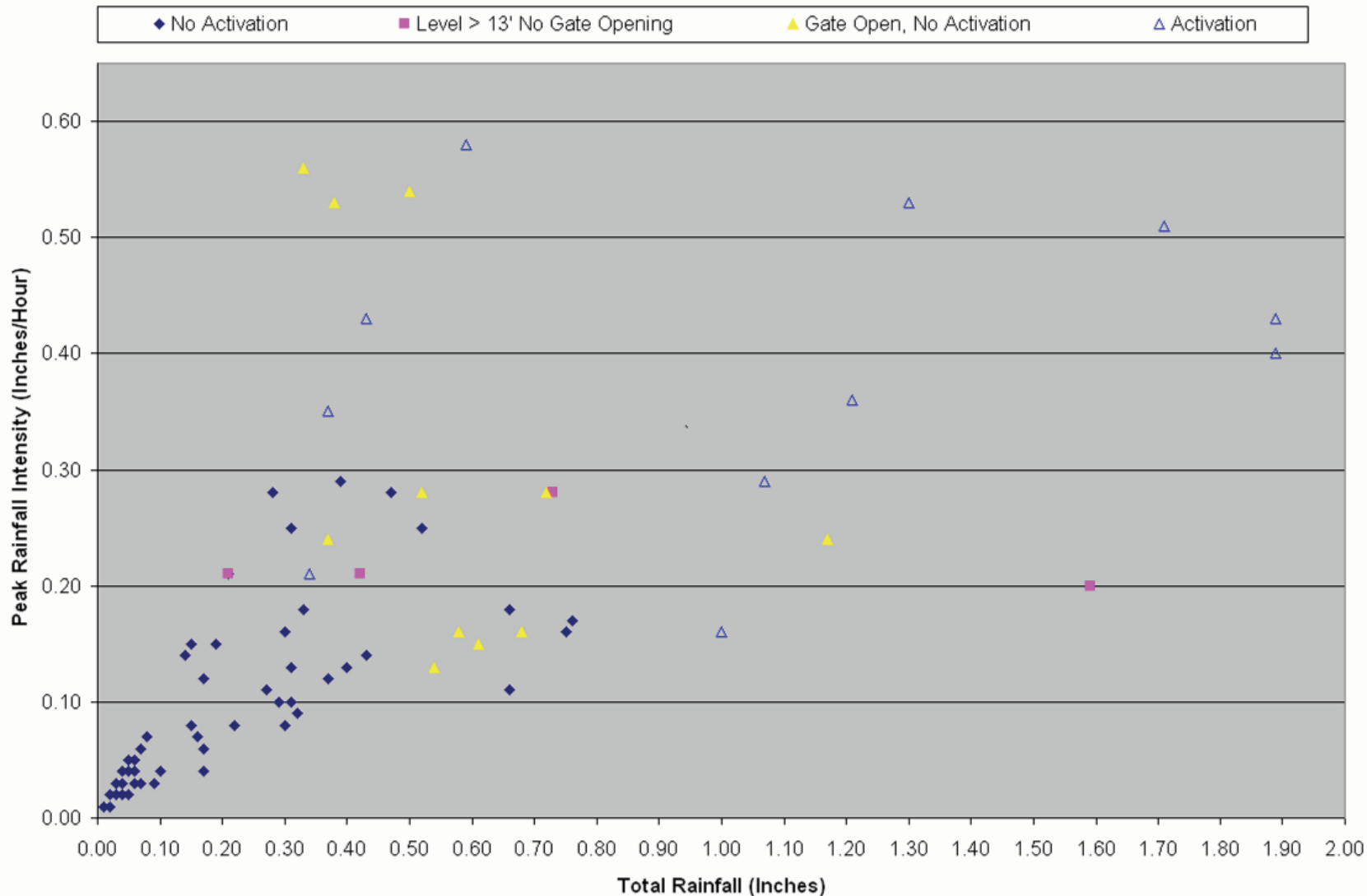
| Community | North / South System | MWRA Section No. | Description |
|---------------------|----------------------|---------------------|---|
| Boston / Roslindale | South | 570 (Station 10+89) | High Level Sewer: Overflow Relief Structure Bradeen Street: North Gate |
| Boston / Roslindale | South | 570 (Station 10+89) | High Level Sewer: Overflow Relief Structure Bradeen Street: South Gate |
| Braintree | South | 626 (Station 54+06) | Braintree-Weymouth Extension Sewer Smelt Brook Siphon (Upstream Headhouse) |
| Braintree | South | 628 (Station 13+73) | Randolph Extension Sewer Pearl Street Siphon (MH downstream of siphon) |
| Braintree | South | 655 (Station 84+28) | Randolph Trunk Sewer Siphon (Downstream Headhouse) @Randolph/Braintree Town Line |



Current Initiatives

- Operations
 - CSO/Headworks Remote Operation Testing
- CSOs/SSOs
 - Rainfall versus Activation Events – Prison Point
 - Prison Point Optimization Plan
 - 205A Weir Elevation
 - Albany Street Weir Elevation
 - Brookline Connection Project
 - Gate 162A SOP
 - New Neponset Activation Elevation
- Community
 - Revere System Model
 - East Boston-Chelsea Flows

Prison Point Response to Rainfall



Prison Point gate opening/activation expected for storms greater than 0.5 inches or with peak intensity greater than 0.2 inches/hour.



Questions