

# **NEW YORK CITY WATER BOARD MEETING**

## **AGENDA**

Friday, December 9, 2011 - 8:30 A.M.

Location: New York City Department of City Planning  
22 Reade Street, 1<sup>st</sup> Floor, Spector Hall  
New York, New York 10007

1. Roll Call
2. Resolution: Approval of Minutes of November 18, 2011 Meeting
3. Resolution: Amendment to Agreement with Greenhill for Financial Advisory Services
4. Presentation: Operational Excellence Program
5. Presentation: Service Line Protection Program
6. Presentation: Financial Update

## NEW YORK CITY WATER BOARD

December 9, 2011

### RESOLUTION

**WHEREAS**, pursuant to Section 1045-g(8) of the New York City Municipal Water Finance Authority Act (the "Act"), the Board is authorized to enter into contracts and to retain private consultants on a contract basis for the purpose of obtaining professional or technical services to assist the Board in carrying out its responsibilities; and,

**WHEREAS**, the Board's primary duty under the Act is to establish and collect water and wastewater rates and charges in an amount sufficient to place the water supply and wastewater systems (the "System") of the City on a self-sustaining basis; and

**WHEREAS**, the System is operated and maintained by the Department of Environmental Protection of the City of New York ("DEP"); and

**WHEREAS**, in the interest of maximizing the value of System assets and reducing risk for rate payers, on February 2, 2011, Board staff commenced a competitive solicitation process for a firm(s) that would provide financial advisory services for the consideration and potential procurement of public-private partnerships ("P3s"), particularly for projects related to energy assets and alternative operations; and

**WHEREAS**, the Board by Resolution dated March 18, 2011, authorized the Executive Director to enter into an agreement with Greenhill & Co., Inc. ("Greenhill") to provide said financial advisory services upon such terms and conditions as the Executive Director deemed reasonable and appropriate; and

**WHEREAS**, the Board executed a contract with Greenhill on April 26, 2011 that allowed for a future written agreement to be established in the event that the Board or City pursued a specific "Transaction", which is hereby defined as an agreement between the City, the Board, or any of their respective departments, affiliates or agencies and one or more private or

publicly-traded companies (the “Counterparty”) with regards to a System asset on which Greenhill is providing financial advice; and

**WHEREAS**, a Transaction related to alternative operations of the Catskill/Delaware Ultraviolet Disinfection Facility has been identified and an amendment to the Greenhill contract is sought that will provide for a Transaction fee to be paid only upon the execution of a contract with a Counterparty and issuance of a notice to proceed with such Counterparty’s substantial operation and maintenance of the Catskill/Delaware Ultraviolet Disinfection Facility; and

**WHEREAS**, in accordance with the Water Board’s Policy on the Procurement of Goods and Services, in particular, Section 5.i. (prior Board approval of contracts where the cumulative value exceeds \$100,000) and Section 6.iv. (waiver of competitive solicitation where the procurement is a continuation of existing services and it is desirable for purposes of continuity and compatibility), the Board finds such justification reasonable and appropriate in the present circumstances; it is therefore,

**RESOLVED**, that the Executive Director is hereby authorized and directed to execute an amendment to the contract with Greenhill to allow for a Transaction fee to be payable to Greenhill only upon the execution of a contract with a Counterparty and issuance of a notice to proceed with such Counterparty’s substantial operation and maintenance of the Catskill/Delaware Ultraviolet Disinfection Facility; and be it further

**RESOLVED**, that the total compensation of the Transaction fee shall not exceed \$1,800,000 of Board funds, bringing total compensation for Greenhill over the life of the contract, excluding allowable expenses, to a maximum of \$3,000,000 of Board funds.

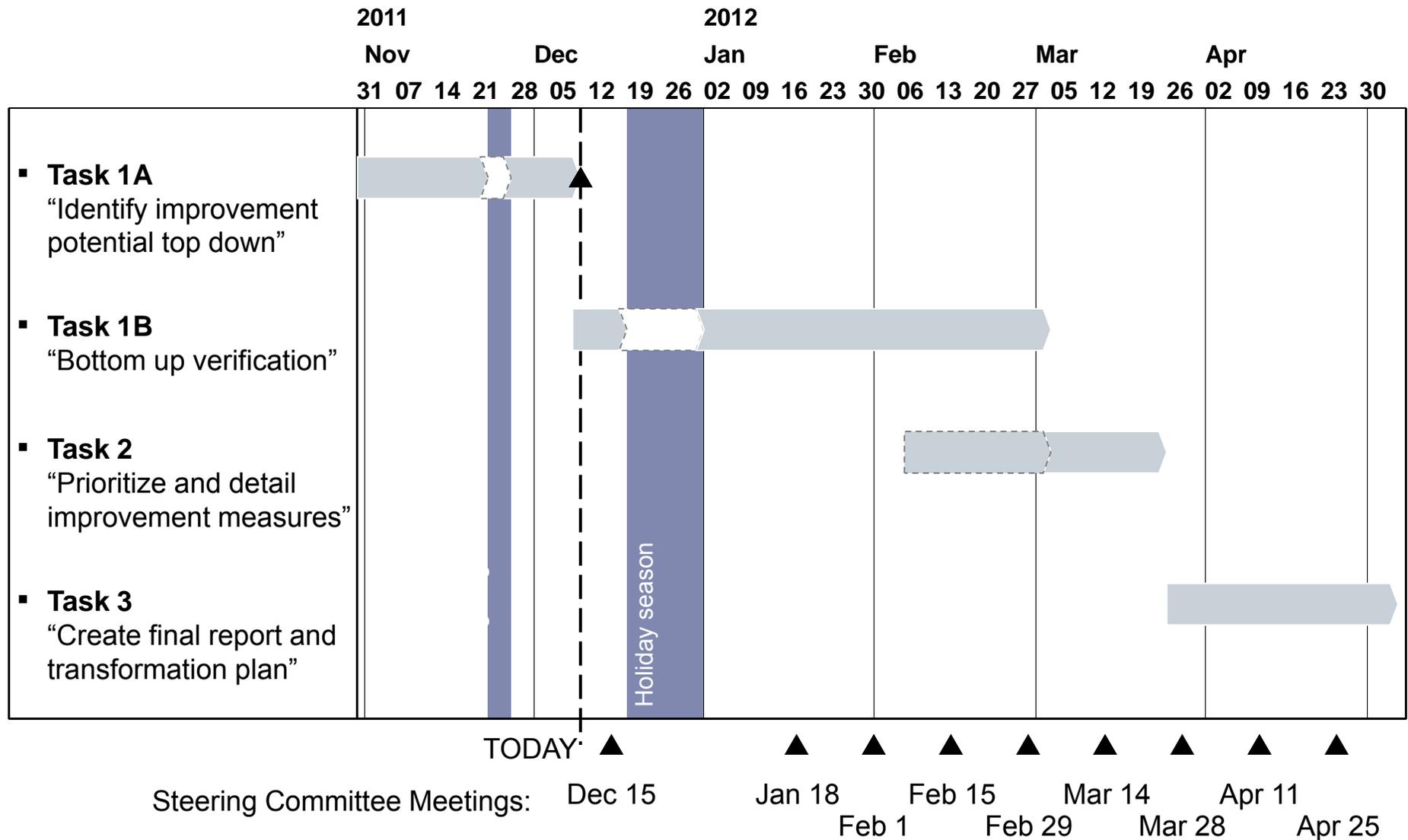


# Operational Excellence Program Update

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December 9, 2011

# The OpX team is finalizing Task 1a to quantify an initial estimate of the improvement potential in DEP and prepare for Task 1b



# During Task 1a, the OpX team has used multiple approaches to identify improvement potential

## Ride-along observations of work practice and productivity

...to see things 1<sup>st</sup> hand and collect observations

- BWT: 3 Wastewater Treatment Plant (WWTP) visits
- BWSO: 10 ride-alongs with Field Operations crews and 3 visits to distribution operations
- Focused on operating systems, performance management, and mindset and capabilities

## Benchmarking of the operation

...to compare DEP to US and international best practices

- BWT: The 14 WWTP have been benchmarked against >100 WWTP worldwide
- BWSO: Benchmark is ongoing

## Workshops / Interviews throughout the organization

...to engage DEP employees and hear their thoughts

- BWT: Structured interviews with plant management, supervisors and sewage treatment workers
- BWSO: Interviews at 5 different sites
- BWS: 5 Workshops, each of them with approximately 15 people; 65 ideas generated

## Focused analysis

...to put facts on the table

- Energy audits in 2 WWTPs
- Detailed analysis of staffing structure at WWTP
- BWSO: Focused analysis of financial, HR and work order system (Hansen) data
- Procurement analysis

# During Task 1a, DEP operations are being benchmarked against >100 utilities worldwide

BWS



BWT



BWSO



Central Functions

## ILLUSTRATIVE

Site operating costs are 20% higher than comparable sites

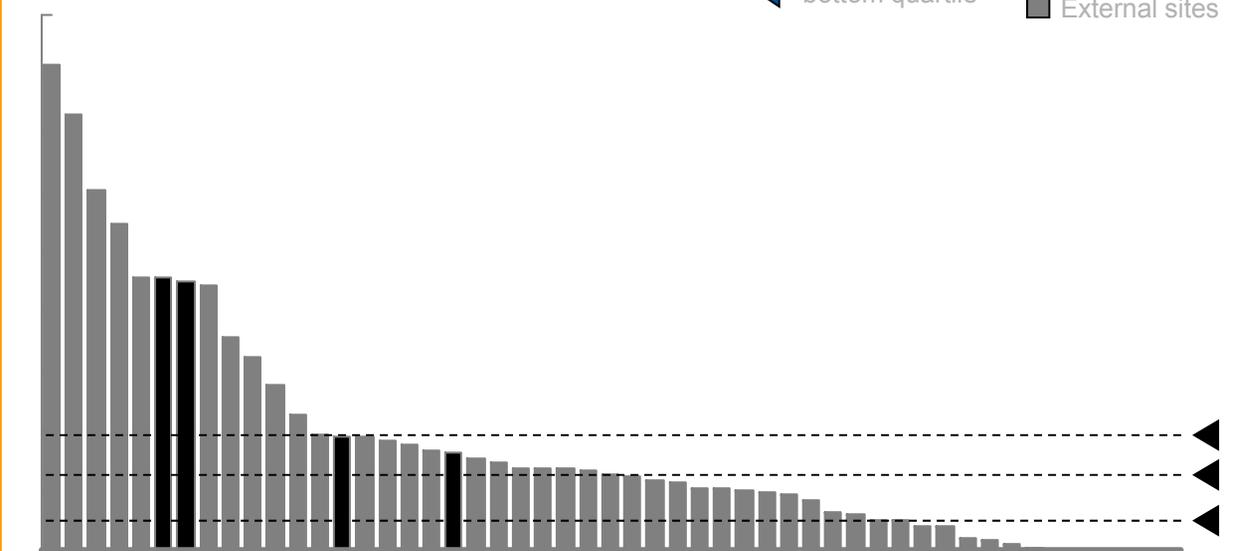
Chemical cost is close to best practice

Energy use is above average

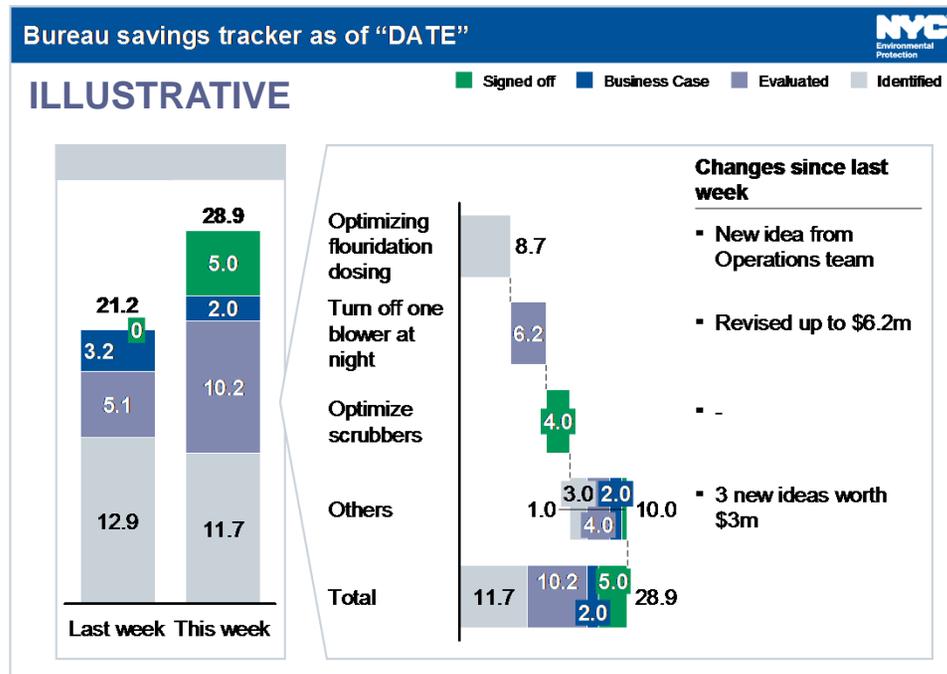
Maintenance cost is better than average

Sludge operation costs vary between plants by a factor of two

USD/PE



# During Task 1b we will track both the value and confidence level of potential improvement ideas



## Four phases:

### Identified

- Initial improvement idea based on observations or top-down analyses together with a preliminary savings estimate based on experience / best practice and extrapolation

### Bureau agreed

- Business case template completed, agreed to by Bureau team, and signed by responsible DEP Bureau lead and Deputy Commissioner
- Business case is ready to be put forward to Steering Committee for a decision

### Evaluated

- Initial idea evaluated by Bureau team for technical merit and feasibility
- Savings estimate substantiated through detailed bottom-up analyses and confirmed by DEP Bureau lead

### Signed Off

- Completed business case reviewed in steering committee, and decision made to proceed with idea in Phase 2
- Business case signed by Commissioner

# BWT Example: Potential to achieve 25% reduction in aeration at Coney Island

## Description and improvement levers

### Issue:

- 2 blowers operating at constant power on 24/7 basis independently of flow variations
- Results in excessive aeration during periods of low flow and load

### Root cause:

- Excessive aeration makes it easier to achieve compliance limits with no operational risk

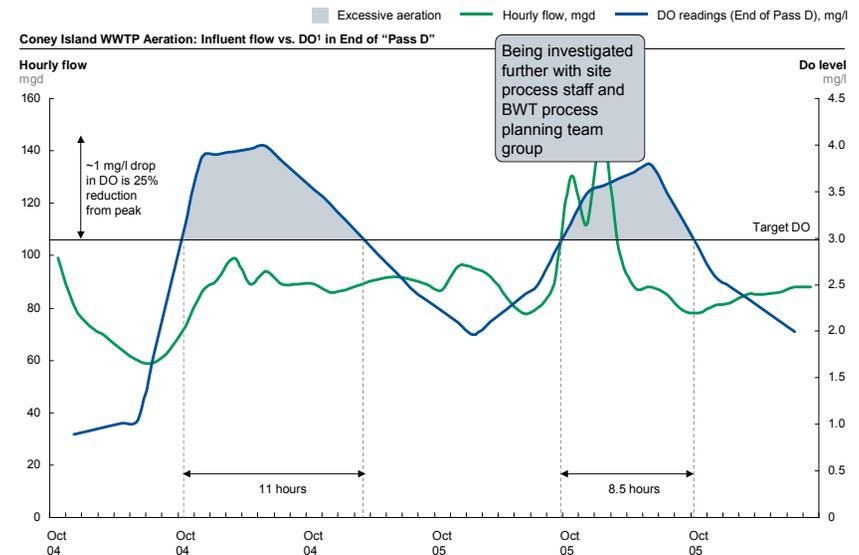
### Potential solution:

- SOP to reduce the blowers output when Dissolved Oxygen in aeration tanks exceeds 3 mg/l (~10 hr/day)
- Higher meter maintenance frequency
- Train operators to use data and continuously optimize the process

## Impact of solution

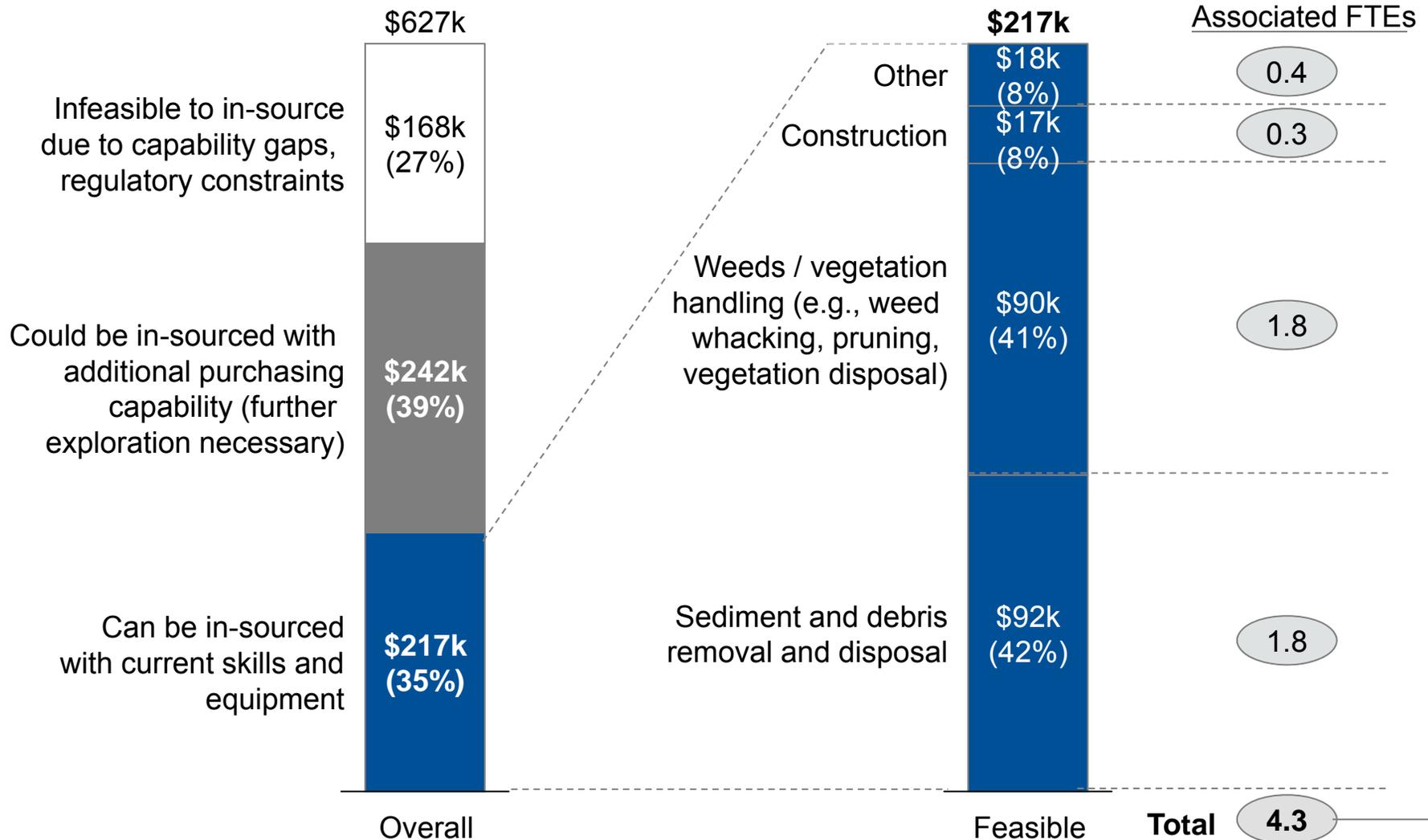
### Savings:

- Estimated range \$80k - \$160k /year



# BWS Example: over 1/3 of watershed storm water management could be in-sourced

Breakdown of annual contract for services to maintain storm water facilities



Initial estimates indicate that these services could be performed by existing in-house BWS personnel

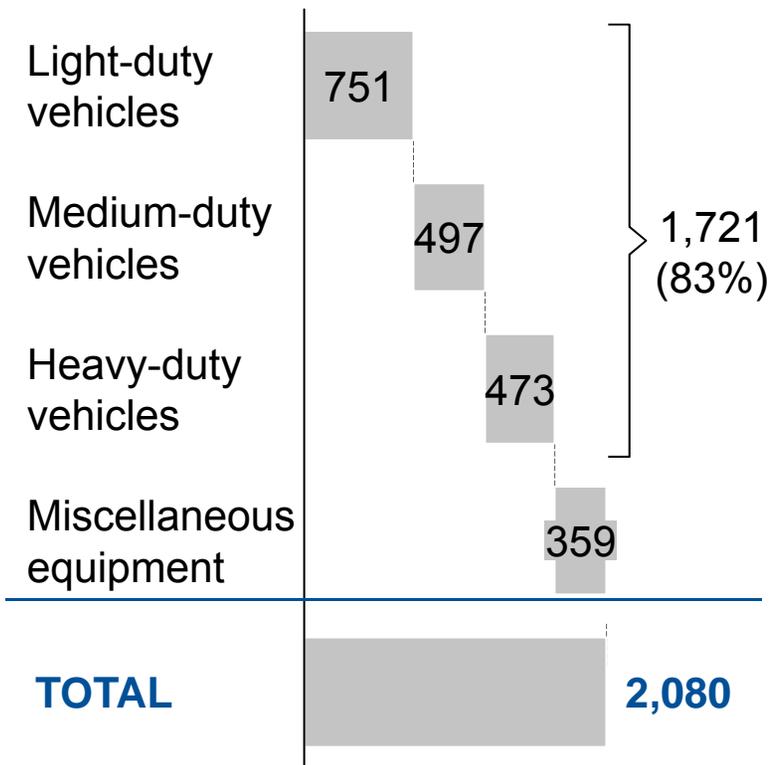
## Emerging themes that challenge active 'wrench time'

- **Non-Productive hours**
  - **Non-Productive Time**
    - Start-up delays due to absenteeism
    - Equipment unavailability
    - Waiting for information, instruction, or 3<sup>rd</sup> party contractors, clients
    - Lack of backlog of low-complexity work to fill in end of shift
  - **Non-Productive Jobs**
    - Jobs requiring rework, postponed for safety site issues, postponed for lack of required parts
- **Driving time**
  - Response to 311 complaints generates 25-50% more driving time than programmatic jobs generate
- **Administrative tasks**
  - Require ~7 minutes per work order; primarily affects maintenance crews who process many orders / day

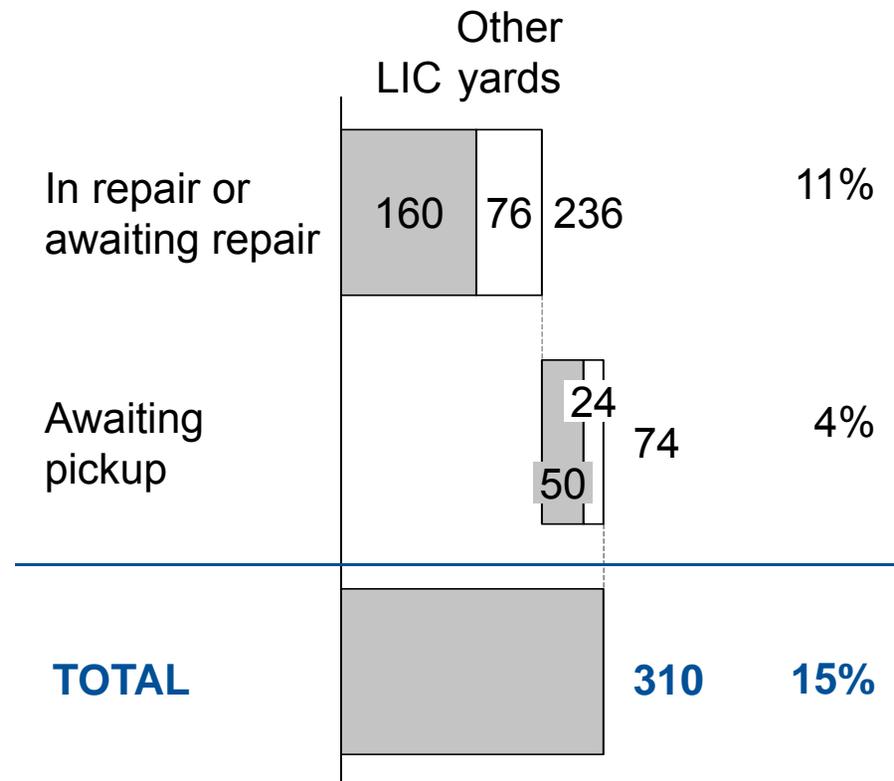
# Central Functions Example : Fleet: ~15% of the fleet out of service at DEP repair shops



**NYC DEP total fleet size**  
# of vehicles



**NYC DEP fleet in repair shop, 11/30/11**  
# vehicles



**Need to further evaluate:**

- Utilization of light duty and heavy-duty fleet
- Preventive maintenance schedules
- Prioritization of repairs



# **Service Line Protection Program**

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December 9, 2011

- ❖ **Issue:** Homeowners are responsible for repairing broken service lines to their homes. If a break is a threat to DEP infrastructure or surrounding property, DEP must shut off the water, and the homeowner is responsible for repair and restoration of service through a licensed plumber
  - **Problem:** For FY 2011, 73% of DEP responses to water infrastructure leaks were to private service lines. For all such leaks, DEP is required to respond, inspect, issue a repair notice, and, if necessary, terminate service
  - **Problem:** Terminating service is expensive and a public health risk
    - DEP's cost is \$3,683 per shutoff, and the homeowners' cost averages approximately \$3,750 per repair
    - Termination is a public health risk as it results in a family being without water

- ❖ **Proposed solution:** DEP can offer a service-line protection plan.
  - Building owner would pay a monthly protection premium, added to water bill. Program participation would be at each homeowner's option
  - If service line needs repair, the plan provider will repair the service
- ❖ **Benefits of service-line protection plan:**
  - Reduce/eliminate water-service terminations
  - DEP saves costs and manpower associated with terminating service on broken service lines and reduces/re-deploys personnel to improve system; result is medium- and long-term savings to customers
  - Homeowner is spared potentially catastrophic expense to restore water service

- ❖ When a street leak is reported:
  1. DEP sends a two-person inspection crew to determine source of leak (water main or private service line)
  2. DEP Supervisor does onsite validation of inspection crew's determination
  3. If leak is on a service line, DEP issues three-day notice to building owner to undertake repair; two possible outcomes:
    - a. Building owner complies and has a contractor repair the service line within three days, or
    - b. DEP terminates water service at some point after three days elapse (see Steps 4 & 5)
  4. Two-person DEP maintenance crew marks-out location of the connection between the City water main and the private service line
  5. Three-person DEP maintenance crew excavates the street, terminates the service, and restores the street to a safe condition
- ❖ In FY 2011, DEP field crews responded to 5,046 total leak complaints Citywide. Of this number, 3,659 (73%) were deemed to be private service line leaks.

# Service Line Protection Plan

- ❖ When a street leak is reported
  1. DEP sends a two-person inspection crew to determine source of leak (water main or private service line)
  2. A DEP Supervisor goes onsite to validate inspection crew's determination
  3. If DEP determines that the leak is on a service line covered by the protection plan, DEP notifies the protection plan provider
    - otherwise, continue from step 3 of current system -
  4. The protection plan provider arranges to complete the covered repair

DEP Estimates	Before Policy Offering	After 30% Policy Penetration	Savings
Net Expense	\$4.9M	\$4.3M	\$0.6M
Full-time Equivalents	43	36	7

# Water Service Line Costs

- ❖ In FY 2011, DEP responded to 3,659 private water service line leaks, and the total net cost for these DEP responses was approximately \$4.9M
- ❖ If 30% of DEP's residential customers participate in the Service Line Protection Program and the contractor effectively responds to leaks so that the number of shut-offs DEP must perform decreases by 30%, the annual cost to DEP could decrease by \$600K

	Per Item Cost	FY 2011 Quantity	Total Cost	Quantity with 30% Policy Penetration	Total Cost with 30% Policy Penetration
Initial Inspection of Water Line	\$ 610	3,659	\$ 2,231,963	3,659	\$ 2,231,963
Supervisor's Sign-off on Inspection of Water Line	\$ 150	3,621	\$ 542,270	3,621	\$ 542,270
Locating & Marking out of Water Line	\$ 387	611	\$ 236,278	428	\$ 165,395
Shutting off Water Service	\$ 2,536	1,219	\$ 3,091,763	853	\$ 2,164,234
<b>Total Cost of Response to Service Line Leaks</b>	<b>\$ 3,683</b>		<b>\$ 6,102,274</b>		<b>\$ 5,103,862</b>
<b>Revenue from Water Shut-off Fee</b>	<b>\$ 1,000</b>	1,219	\$ 1,219,000	853	\$ 853,300
<b>Net Cost for Response to Service Line Leaks</b>	<b>\$ 2,683</b>		<b>\$ 4,883,274</b>		<b>\$ 4,250,562</b>
<b>Potential Benefit of Protection Policy Offering</b>					<b>\$ 632,712</b>
<b>Full-time Equivalents</b>			<b>43</b>		<b>36</b>

# Policy Premium Perspectives

- ❖ Considering the average cost to repair a water service line versus the estimated \$72 annual policy premium, a customer would break even if his/her service line broke between once in 44 years and once in 58 years, depending on borough location

	Short Service Line	Long Service Line	Combined Average	Breakeven Period
Brooklyn or Queens	\$2,733	\$3,617	\$3,175	44 years
Staten Island	\$3,750	\$4,250	\$4,000	56 years
Bronx or Manhattan	\$3,600	\$4,750	\$4,175	58 years

- ❖ The \$18 quarterly premium would represent 8.2% of the average customer's current bill

Average Quarterly Single-family Water Bill	\$ 219
Quarterly Water Service Policy Premium	\$ 18
<b>Total Average Bill with Premium</b>	<b>\$ 237</b>
<b>% of Current Average Quarterly Bill</b>	<b>8.2%</b>



# Water Board Financial Update

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December 9, 2011

# Revenue Collections – FY 2012

❖ Year-to-date collections are ahead of plan by \$3 million

## Revenue Collections vs. Plan (\$M)

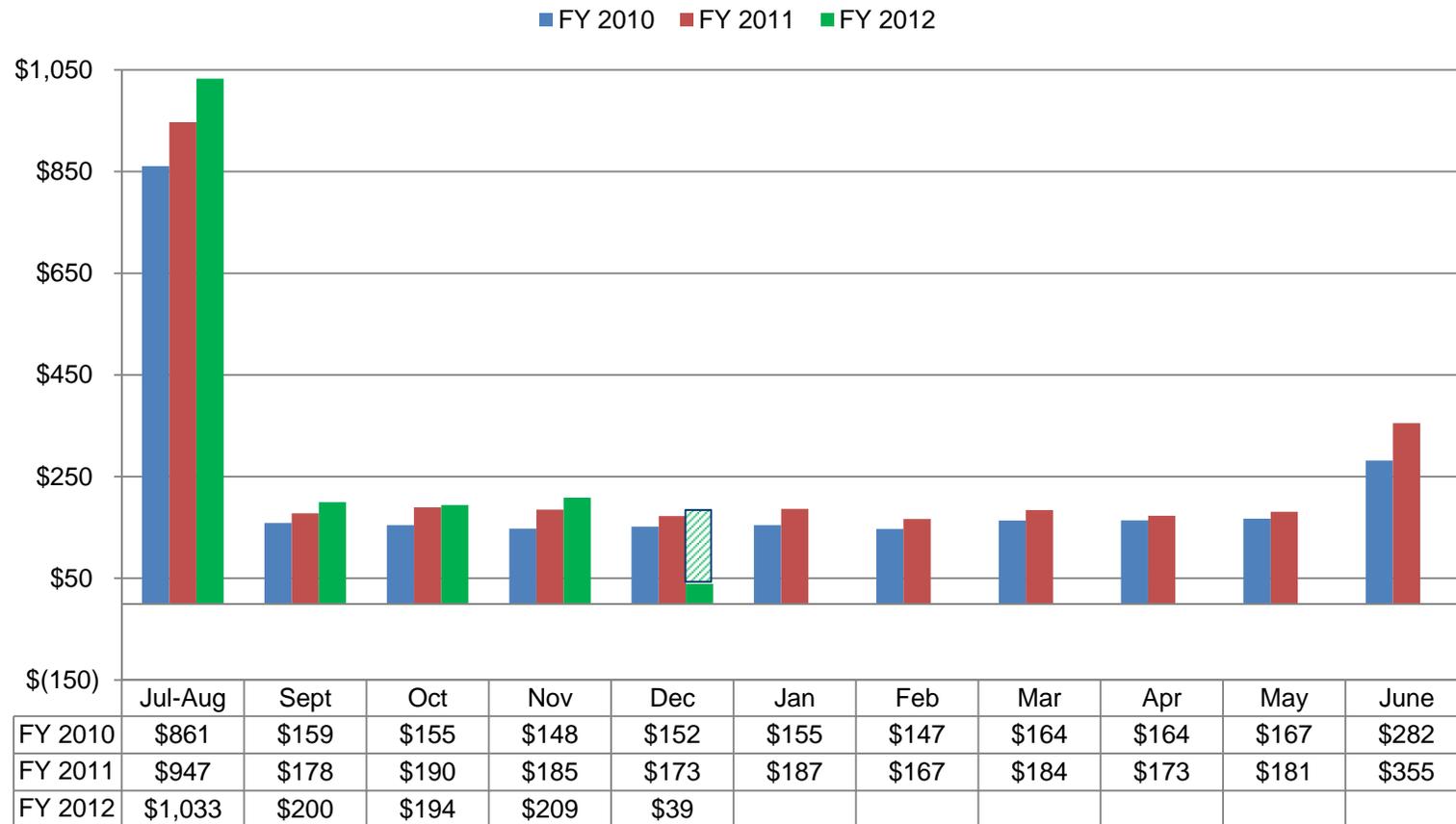
	FY 2012 Collections	Prorated FY 2012 Plan	Difference in Amount	Percentage Difference
July - August	\$1,033	\$1,040	-\$7	-1%
September	\$200	\$191	\$9	5%
October	\$194	\$205	-\$11	-5%
November	\$209	\$191	\$17	9%
December (5 collection days)	\$39	\$44	-\$5	-11%
<b>Total</b>	<b>\$1,675</b>	<b>\$1,672</b>	<b>\$3</b>	<b>0%</b>

	FY 2012 Plan through November	Amount Uncollected (YTD)	November Plan	Amount Uncollected (November)	Percentage Uncollected (November)	Per Day Collections to Make Plan
Total	\$1,813	\$138	\$185	\$146	79%	\$9

# Revenue Collections

- ❖ The value of YTD FY 2012 collections is 9% above the value of FY 2011 collections at this time last year, which is mostly due to the 7.5% rate increase

## Monthly Revenue Collection – Year-Over-Year Comparison (\$M)

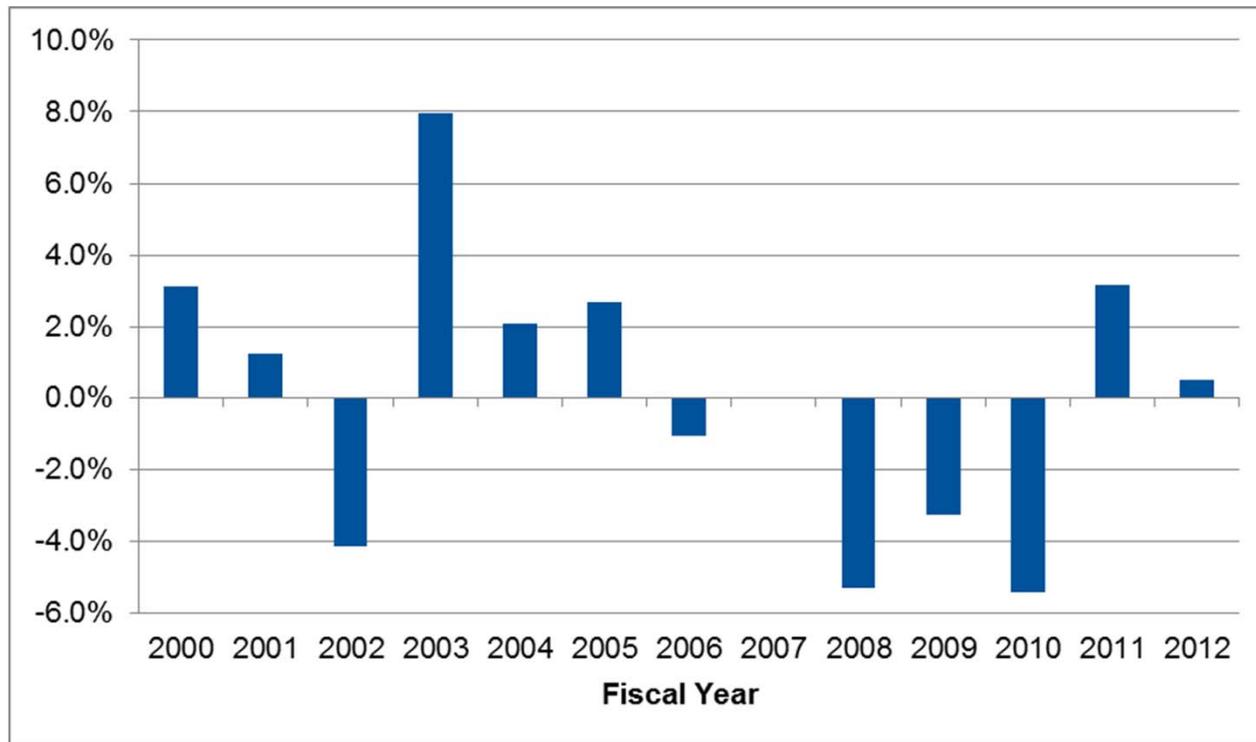


# Revenue Collection – Historical Comparison



- ❖ As of the end of November, year-to-date collections are ahead of plan for the 7<sup>th</sup> time in 13 years

### Year-to-Date Collections vs. Plan

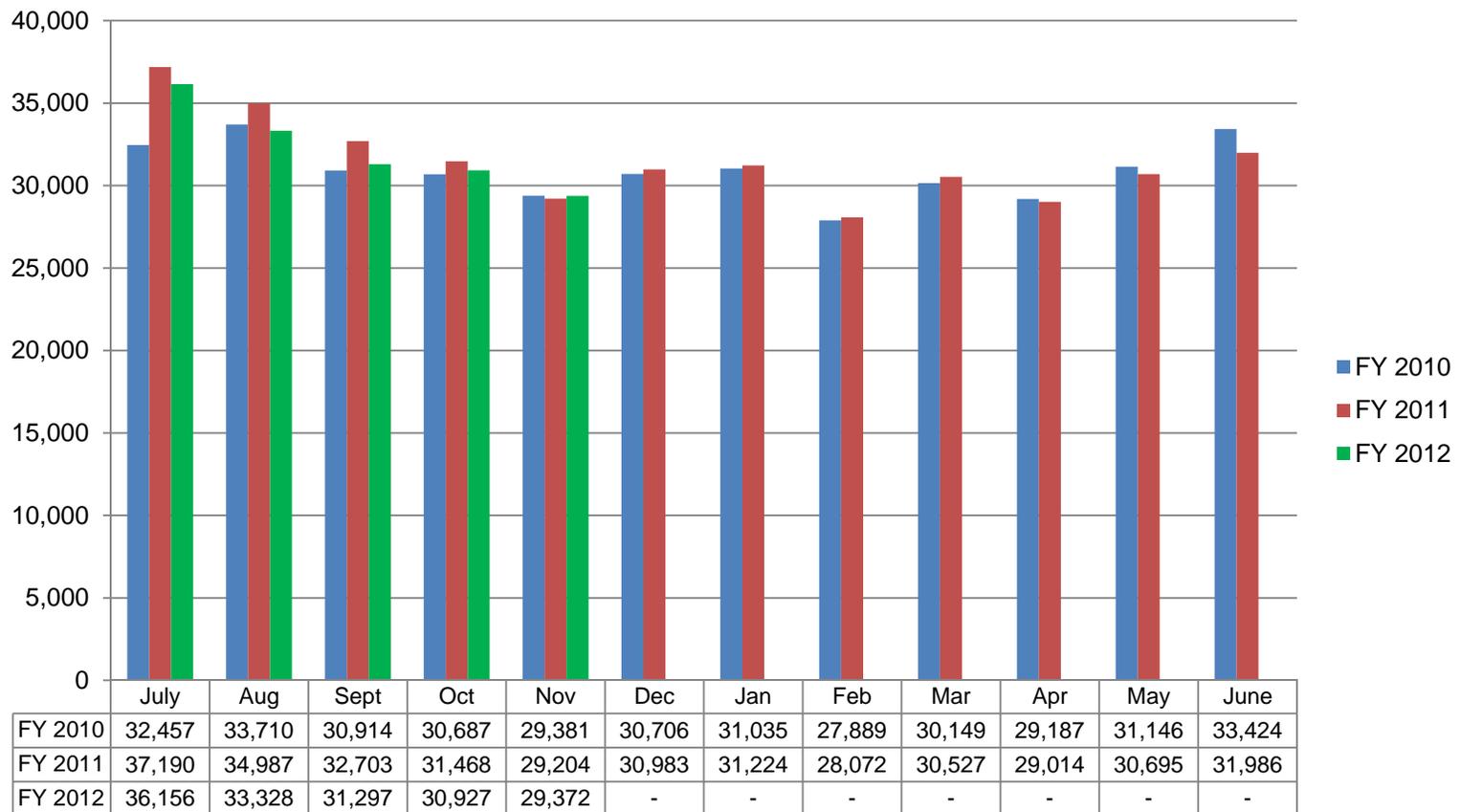


Data as of November 30, 2000 to 2011

# In-City Distribution

- ❖ For the first five months of FY 2012, DEP distributed 2.7% less water to customers than during the same period of FY 2011 but 2.5% more water than in FY 2010

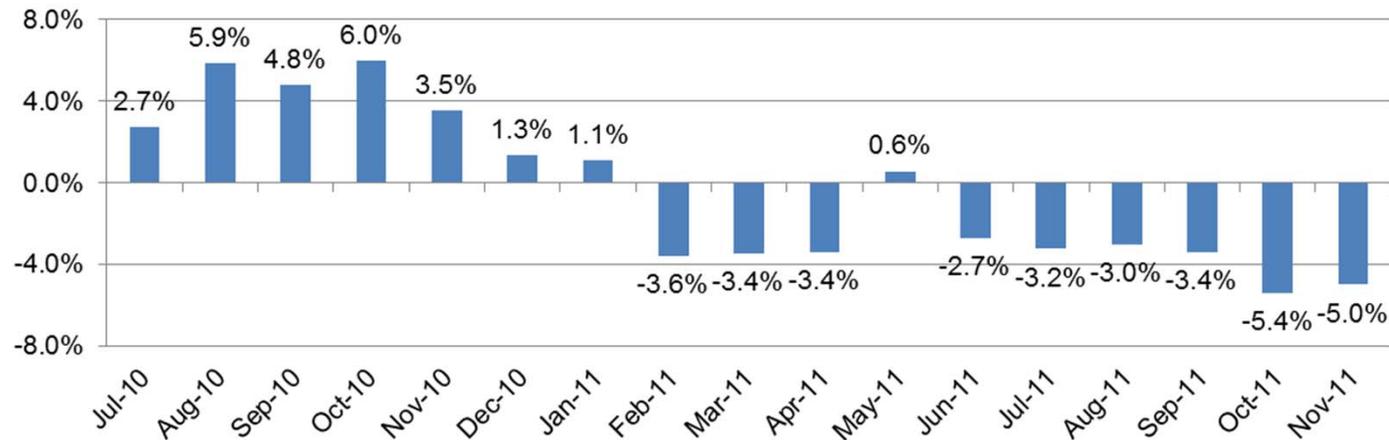
## Millions of Gallons of Water Distributed – Year-Over-Year Comparison



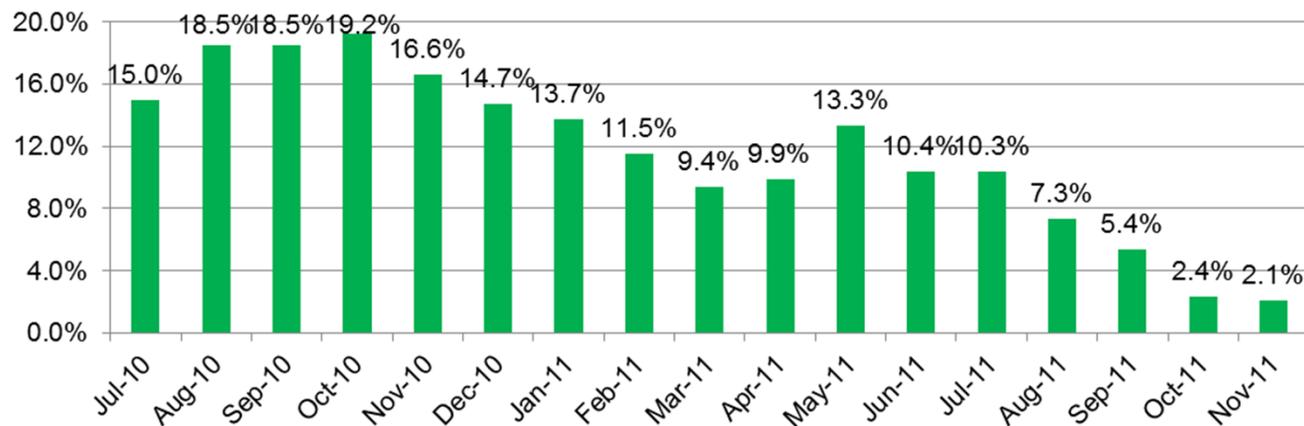
# Change in Metered Consumption

## “Same-customer Sales” Year-over-year Comparison

1. Year-over-year changes in billed consumption for FY 2011 have been negative, primarily due to a reversion to more normal summer temperatures



2. Year-over-year changes in total billed dollar amount for FY 2012 have been positive, primarily due to the 7.5% rate increase



# Direct Debit & Paperless Billing Enrollment

## Direct Debit & Paperless Billing 2% Discount Enrollment

	Wk of 6/25/2011 & FY 2011 Totals	→	Wk of 12/03/2011 & FY 2012 YTD Totals
Total Enrolled	11,981	5 months of FY 2012 Enrollment	20,330
Total Payments Received This Week	789		1,041
Value of Payments Received This Week	\$582,982		\$1,547,399
Discount Paid This Week	\$11,656		\$30,943
Cumulative # of Payments Received	26,882		53,541
Cumulative Amount of Payments Received	\$18,852,353		\$47,920,024
Cumulative Discount Paid	\$383,202		\$961,961