



Parcel Based Billing For Stormwater

**Christopher S. Crockett, Ph.D., P.E.
Philadelphia Water Department**

**ASCE-Philadelphia
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Overview

- Philadelphia's Traditional Stormwater Charge
- Events Leading to the Change from Meter Based to Parcel Based Stormwater Billing
- PWD's Parcel Based Billing Program for Commercial Customers
- Appeals & Credits
- Questions

Remember The Following

- Parcel based billing is the national trend for stormwater billing
- PWD's change was a result of a long process that started in the 80's and 90's
- The new charge is phased in over 4 years !
- New bills take effect July 1, 2010
- Parcels that weren't paying for their fair share of stormwater will pay
- Parcels that manage their stormwater may be eligible for credits
- PWD will not make more money from this!
- Parcel owners have tools to control their own charges

Stormwater in a Built Environment



High % Impervious Cover = High % Runoff
More Runoff = More Liability and Cost

How Has Philadelphia Historically Charged for Stormwater?

- Traditional method: Costs based on size of the water meter
 - Not ideal proxy for runoff potential, but only proxy available in the 1970s
 - Used to recover the stormwater utility costs of about \$112 million per year
 - 40,000 stormwater customers not billed because they didn't have a water meter

Why Did Philadelphia Change How It Charges for Stormwater Management?

- Who was rallying for this change?
 - Commercial customers who believed they were overpaying due to their large meters
 - Appealed to PWD since late '80s
 - 2002 Rate Case – Looked to PWD to make a commitment to revise stormwater charge in next rate case – Now is the time

1994 Citizens Advisory Council for stormwater charge reallocation

- City Finance Department
- Large Lot Industrial (Allied-Signal)
- Water Resource Protection (Friends of Pennypack Park)
- Citizens Advocacy Group (Citizens Utility Board)
- Small Business (Kramer Catering)
- Neighborhood Group (Kensington South NAC)
- Building Owners/Managers (Jackson Cross)
- Transportation (SEPTA and Conrail)
- Large Lot Residential
- Large Non-Profit Institution (University of Penn)
- City Council, Technical Services Unit
- Parking Garages and Lots (Parkway Corporation)
- Senior Centers (Action Alliance of Senior Citizens)
- Community Group (Haddington Development Corporation)
- Community Legal Services
- Water Only Customer

CAC Mission and Purpose

- Should stormwater costs be based on the size of the property?
- Should charges be based on both size and property characteristics (paved area vs. grass area?)
- How should the cost for public land be allocated (e.g., parks, streets)?
- Should owners pay for stormwater if they have no water service?

Recommendations of the Citizens Advisory Council for Stormwater Reallocation (1996)

- The City should reallocate stormwater charges
 - Base charges on the gross size of a customer's property and the imperviousness of the property, not meter size
 - 80 % of the stormwater costs should be allocated and recovered based on a property's impervious area
 - 20 % of the stormwater costs should be based on the property's gross area.

Recommendations of the Citizens Advisory Council for Stormwater Reallocation (1996)

- The City's 450,000 residential properties charged a flat rate based on the mean residential property (2,090 SF gross area, 1,060 SF impervious area) (Implemented in 2002)
- At the time, the City did not have the adequate parcel information to reallocate stormwater costs among our larger customers on a parcel basis. Now we do.

Recommendation of 1996 Stormwater Reallocation Citizens Advisory Council

- Revenue neutral – PWD doesn't make more money
- Fair Cost of Service - equitable
- Based upon impact to system
- Encourage BMP Retrofits

Recommendation of 1996 Stormwater Reallocation Citizens Advisory Council

- The department is reallocating stormwater fees among its non-residential customer base over a four year period, starting in July 2010.
- Properties that currently do not have an account (parking lots, vacant land) will fairly share in the costs for managing stormwater

Current Stormwater Fee Calculations

Monthly Stormwater Charges based on Meter Size

| | |
|--------------------|-------------|
| • 5/8 inch meter | \$9.12 |
| • 3/4 inch meter | \$74.47 |
| • 1 inch meter | \$ 124.12 |
| • 1-1/2 inch meter | \$248.24 |
| • 2 inch meter | \$397.19 |
| • 3 inch meter | \$744.71 |
| • 4 inch meter | \$1,241.20 |
| • 6 inch meter | \$2,482.40 |
| • 8 inch meter | \$3,971.84 |
| • 10 inch meter | \$5,709.52 |
| • 12 inch meter | \$10,674.33 |

Parcel Based Billing

General Rule of Thumb

- Big meter + big land mass = small change
- Small meter + big land mass = increase
- Big meter + small land mass = decrease
- Small meter + small land mass = small change

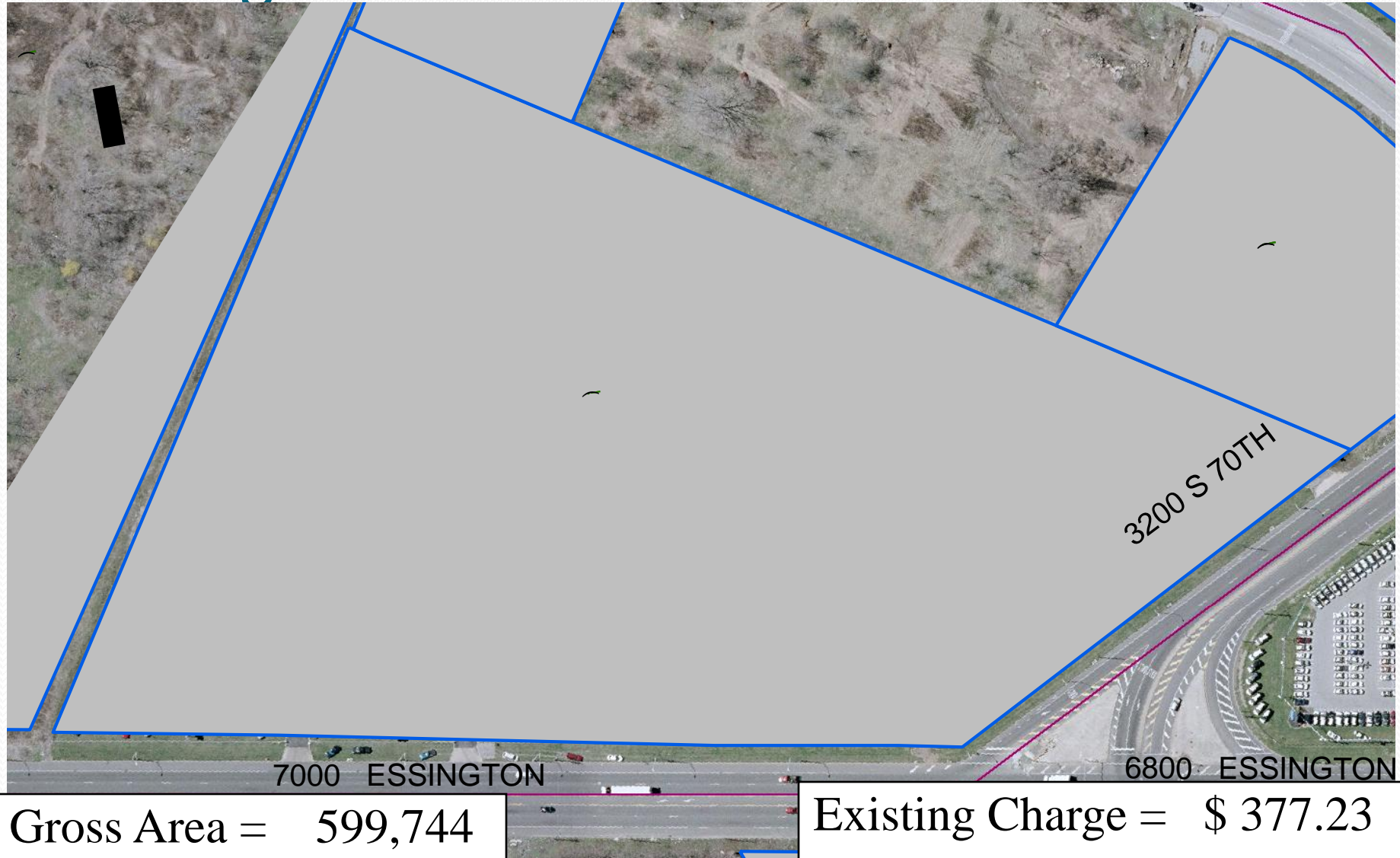
How Are These Charges Calculated?

- Total stormwater requirements estimated (\$112 million for FY'11)
- Revenue requirements allocated 20% to Gross Area (GA) and 80% to Impervious Area (IA)
- Billable units of service for GA and IA determined
- $\text{GA revenue requirements} \div \text{billable gross area square feet} = \text{GA unit cost}$
- $\text{IA revenue requirements} \div \text{billable impervious area square feet} = \text{IA unit cost}$

New Charges (FY'11 Rates)

- Gross Area (GA) is \$0.526/mo. per 500 square feet
- Impervious Area (IA) is \$4.145/mo. per 500 square feet
- For a property of 10,000 sq ft - All impervious, about \$100 per month

Impacted Customer Example: Essington Ave



Gross Area = 599,744

Imperv Area = 491,035

Existing Charge = \$ 377.23

New Charge = \$ 2,496.42

Grant Ave



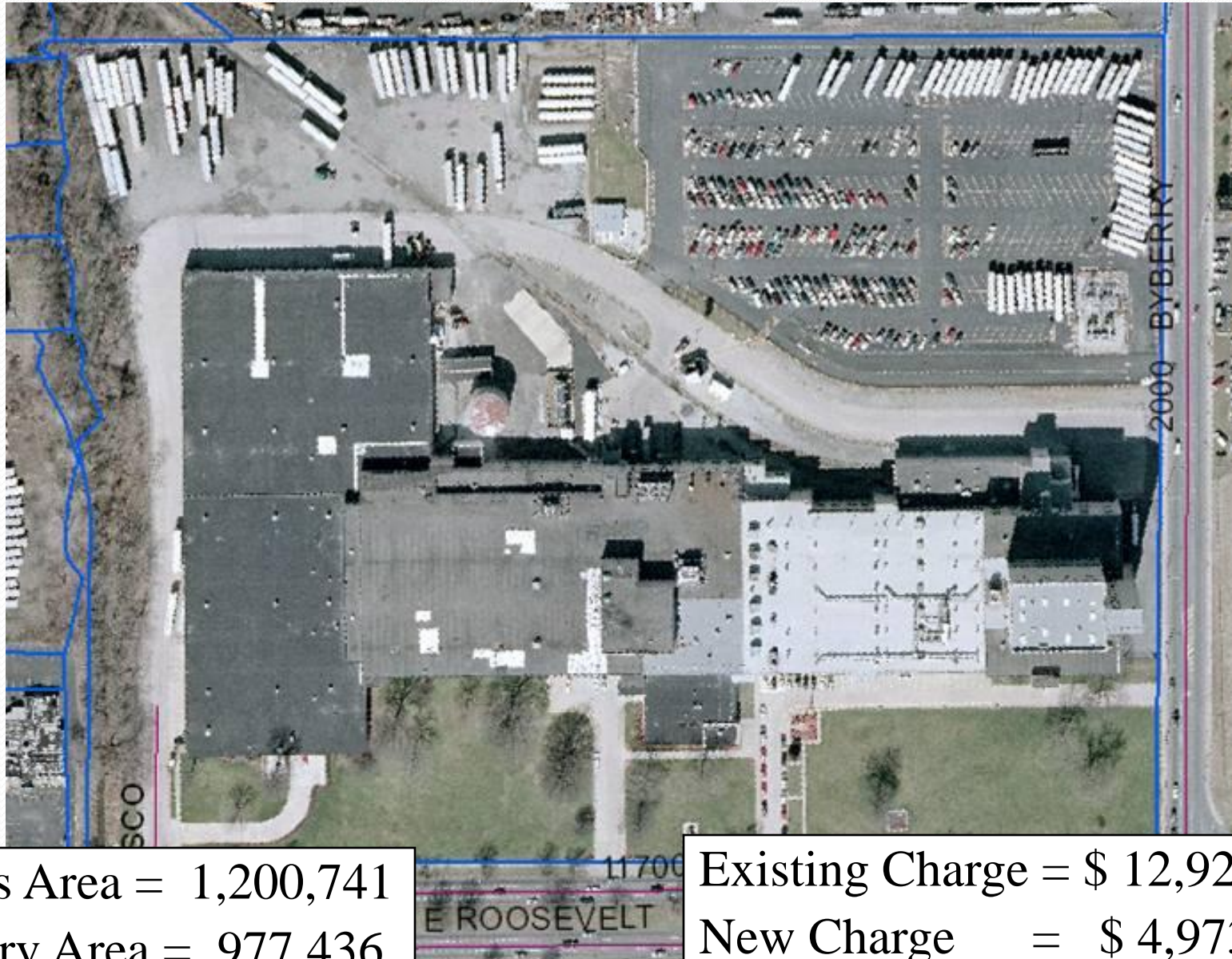
Gross Area = 488,893

Imperv Area = 336,120

Existing Charge = \$ 236.48

New Charge = \$ 1,759.59

Positive Shift: Roosevelt Blvd



Gross Area = 1,200,741
Imperv Area = 977,436

Existing Charge = \$ 12,923.40
New Charge = \$ 4,973.75

Arch St



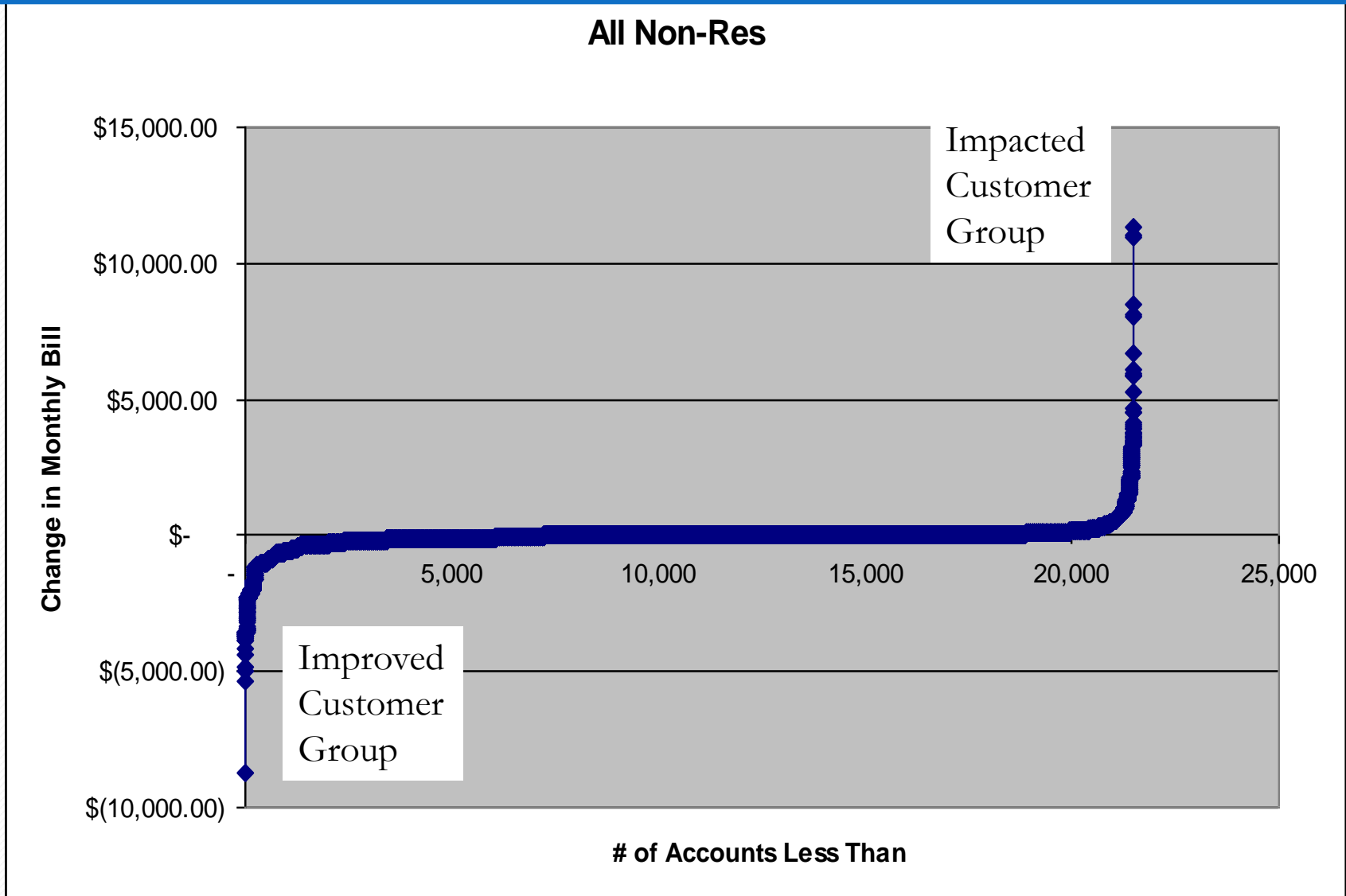
Gross Area = 24,338

Imperv Area = 24,338

Existing Charge = \$ 4,702.82

New Charge = \$ 120.24

Revenue Neutral means costs are reallocated amongst customers



Credit / Incentives

- We want to provide incentives for owners to manage their stormwater and control their bills
- Developed the most innovative and supportive credit program in the nation
 - Impervious Area Credit
 - Gross Area Credit
 - NPDES Credit
- Credits must be renewed every 4 years

Impervious Area Credit (IA)

- To be eligible to receive IA Credit, the property owner must demonstrate the management of the first inch of runoff from an otherwise impervious area of the property
- A SMP must collect and treat the water volume, as defined in Section 4.3.1 of the *Stormwater Management Guidance Manual*

Impervious Area Credit (IA)

- Partial credit will not be granted for a property if the SMP manages only a portion of the first inch of runoff. In other words, the SMP must fully manage the first inch of runoff from all Directly Connected Impervious Area (DCIA) routed to it.
- Partial credit is available for properties which fully manage the first inch of runoff from a portion of the total property IA. The square footage of IA Credit approved is equivalent to the square footage of IA that is managed.

Gross Area Credit (GA)

- Designed to acknowledge forested areas and other non-impervious land covers are beneficial
- Two ways to get a GA credit
 - Option 1: GA Credit Based on NRCS-CN
 - Option 2: GA Credit Based on Attenuation of Peak Rate of Runoff

Gross Area Credit (GA) – Curve Number Option

- Under this option, the property owner must demonstrate a NRCS-CN of 86 or less for the entire area within the property boundaries.
- PWD will apply a 7% reduction from the GA Charge for every whole number below 87; a CN of 72 may yield a maximum of 100% GA Credit
- Soils are a huge part of this. D soils get higher CNs.

Gross Area Credit (GA) – Runoff Attenuation Option

- The property owner must demonstrate a stormwater management practice that attenuates the two-year peak rate of runoff (Q) in the post-management condition using the NRCS Type II distribution
- A two year peak rate of runoff less than or equal to the one-year peak rate of runoff in the pre-management condition would be eligible for up to 100% GA Credit.

Equation 2.1: GA Credit – Option 2

$$GA\ Credited = GA\ Managed \times \frac{2yr\ PRE - 2yr\ POST}{2yr\ PRE - 1yr\ PRE}$$

GA Credit – Runoff Attenuation

- Only properties that meet one of the following criteria are eligible to receive GA Credit using Option 2:
 - Properties that have undergone retrofit for stormwater management purposes only.
 - Properties that are subject to the Philadelphia Stormwater Regulations (effective January 1, 2006) due to redevelopment and meet the Flood Control Requirement.
 - Proof of the Stormwater Technical Approval must be submitted with the credits application.

NPDES Credit

- The property owner must demonstrate that the property is subject to an active NPDES Industrial Stormwater Discharge Permit, and that the owner has been in compliance with the permit requirements during the preceding twelve months.
- If an owner is able to demonstrate this, a 7% credit is applied towards the property's entire SWMS Charge.

What Is PWD Doing To Help Customers During This Transition

- Added specialized customer service
- Advanced notification letters
- Conceptual design assistance
- Workshops and meetings
- Online web viewer and tools
- Created a Commercial Customer Service Unit
- Continued outreach

URL: www.phila.gov/water/stormwater_billing.html

The screenshot shows a Windows Internet Explorer browser window displaying the City of Philadelphia Water Department website. The address bar shows the URL: http://collage.phila.gov:81/servlet/nexus/preview/COL_WATER/WebSit. The website features a header with the Philadelphia Water Department logo and a navigation bar with links: HOME | RESIDENTS | BUSINESS | VISITORS | TERMS OF USE. A left sidebar lists various links under the heading "Philadelphia Water Department". The main content area is titled "Stormwater Billing" and contains four green buttons with white text: "What is stormwater management?", "Why am I being billed?", "How are charges calculated?", and "Where can I find more information?". Below these buttons, the section "What is stormwater management?" is expanded, showing two paragraphs of text. The first paragraph describes the natural water cycle in undeveloped areas, while the second paragraph explains stormwater runoff in urban environments like Philadelphia. At the bottom of the main content area, there is a blue button labeled "Browse Properties" and a green link "Need to speak to someone?" with a right-pointing arrow. The browser's status bar at the bottom shows the full URL, the word "Internet", and a 100% zoom level.

City of Philadelphia - Windows Internet Explorer

http://collage.phila.gov:81/servlet/nexus/preview/COL_WATER/WebSit

Google

City of Philadelphia

Philadelphia Water Department

HOME | RESIDENTS | BUSINESS | VISITORS | TERMS OF USE

Philadelphia Water Department

Our Mission

PWD Regulations

Information, Phone Numbers and Contacts

Investor Relations

How To Do Business With Us

Service, Supplies & Equipment

Public Works

PWD Newsroom

Literature and Brochures

Press Release Archives

About Your Water and Sewer Charges

Your Plumbing; Your Responsibilities

Urban Water Cycle

Our Commitment to Drinking Water Quality

Facts About Your Water

Q&A on Pharmaceuticals in

Stormwater Billing

What is stormwater management? ►

Why am I being billed? ►

How are charges calculated? ►

Where can I find more information? ►

What is stormwater management?

In a natural, undeveloped environment, rainfall from storms falls on the ground and evaporates or is absorbed into the soil. The water that is absorbed is "cleaned" as it moves through plant material and the soil layers. This water replenishes the groundwater and provides baseflow for streams.

In an urban, developed environment, like Philadelphia, rainfall from storms falls on the ground and runs off from impervious surfaces (e.g., concrete, asphalt, buildings, etc.) and flows into the sewer system. This water is what is referred to as stormwater runoff or stormwater or runoff. Since this water can't be absorbed into the ground and take part of the natural water cycle, it needs to be managed. Stormdrains on the street and other surfaces allow the stormwater into the sewer system that PWD builds and maintains.

Browse Properties

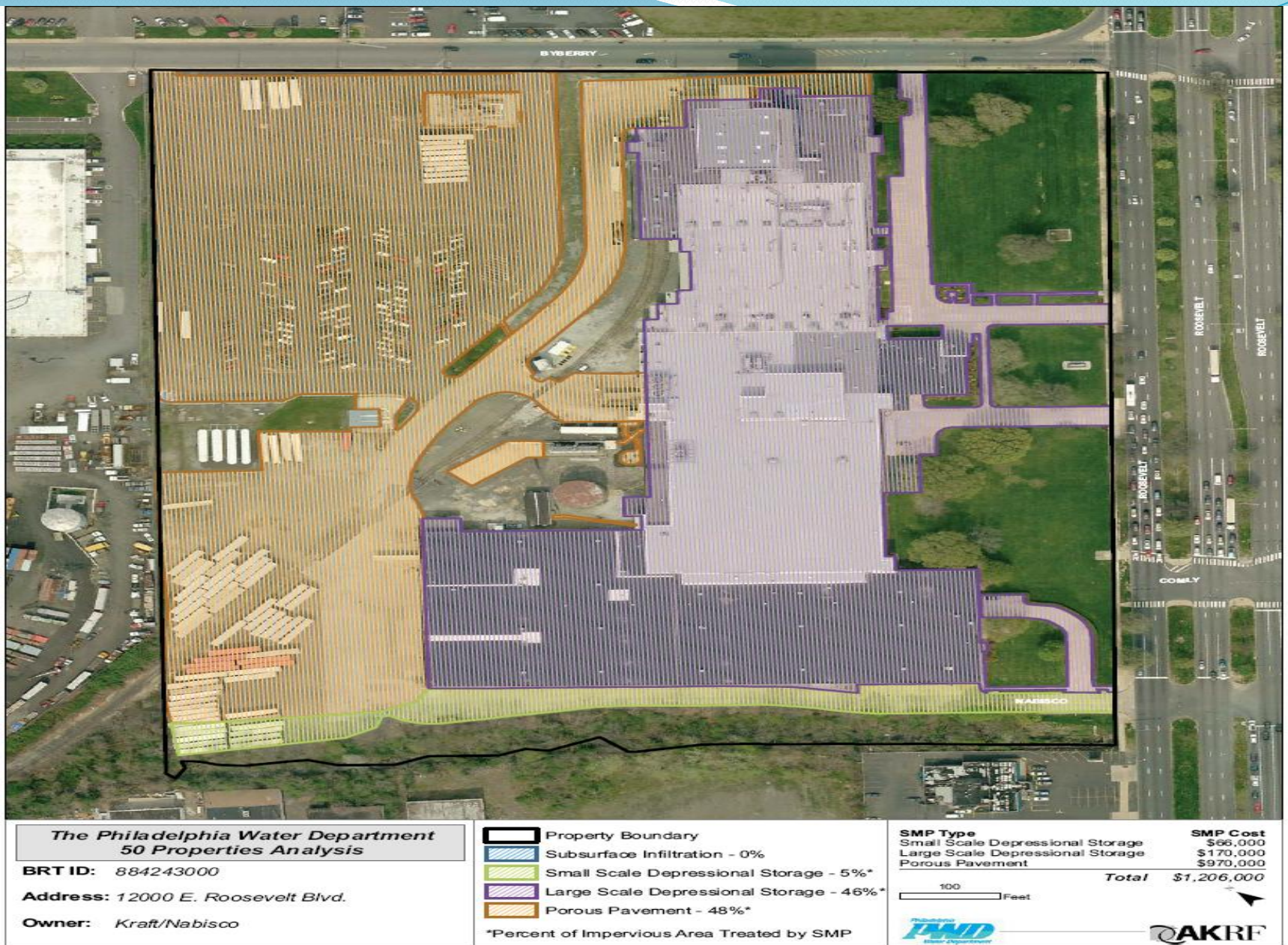
Need to speak to someone? ►

http://collage.phila.gov:81/servlet/nexus/preview/COL_WATER::latest:31655:/w

Internet

100%

URL: www.phila.gov/water/stormwater_billing.html



Approximately 71% impervious (total area 1,203,581 sf). Large and small scale depressional storage and porous paving.

Summary

- Parcel based billing is the national trend for stormwater billing
- PWD's change was a result of a long process that started in the 80's and 90's
- The new charge is phased in over 4 years !
- New bills take effect on July 1, 2010
- Parcels that weren't paying for their fair share of stormwater will pay
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What Should ASCE Do?

- Educate your clients about the new billing method
- Help review notification letters from clients to ensure properties are correct and file appeals promptly
- Help clients develop plans that incorporate ways to get credits on stormwater bills with future capital work
- Maintaining credits will require O&M documentation
- Those of you with clients that have systems that meet the 2006 PWD Stormwater regulations may be eligible for credits

Where to Go For More Info

- WEB VIEWER
- [*http://www.phila.gov/water/stormwater_billing.html*](http://www.phila.gov/water/stormwater_billing.html)
- Credits: 215.685.6387 or 215.685.6070
- Appeals: 215.685.6244
- General Questions: 215.685.6143