



# WELCOME

Craig Messinger, Interim Director of Public Works

City  
of  
Allentown  
Stormwater  
Fee  
Implementation

December  
2017



Thank you for attending

# Urban Wet Weather Flows



**M**unicipal + **S**eparate **S**torm **S**ewer **S**ystem

# Challenges: Complicating Permit Requirements



“All discharges covered by this permit shall be composed entirely of stormwater.”

- City's PaDEP NPDES Permit No. 0063665



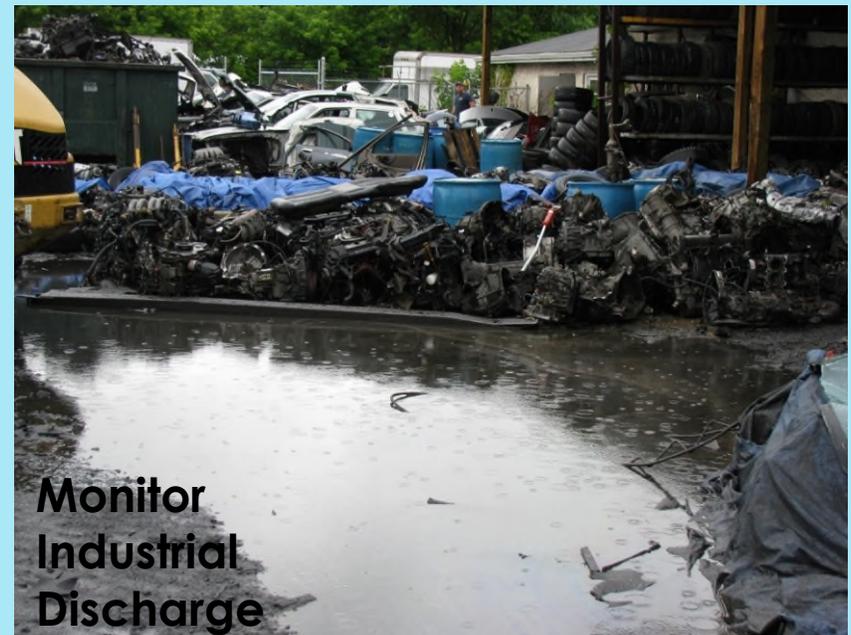
**Meet Water Quality Mandates for Six Impaired Streams**



**Install Treatment BMPs**



**Inspect BMP's on Private & Public Property**



**Monitor Industrial Discharge**

# Challenges: Aging Infrastructure & Capital Backlog



**Assess Aging Infrastructure**



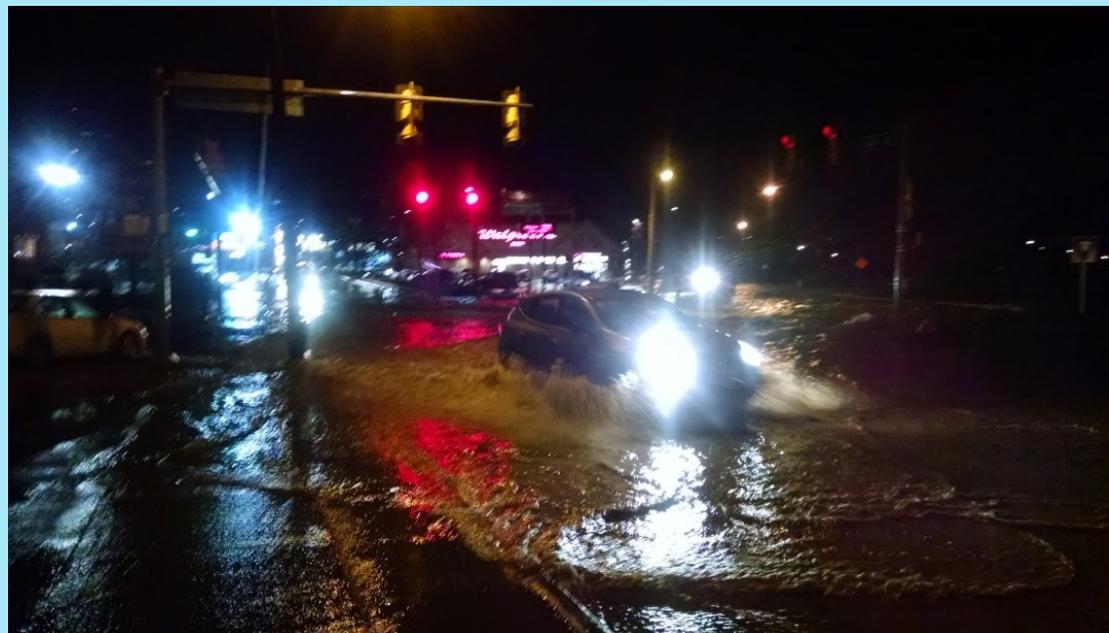
**Address Backlog of Capital Projects**



# Challenges: Flooding & Safety Concerns

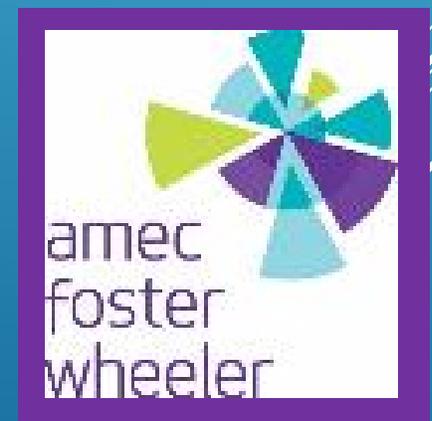


**Address Flooding & Safety Concerns**



# BACKGROUND ON USER FEE ANALYSIS AND IMPLEMENTATION

Elizabeth Treadway, Principal Program Manager



# Stormwater User Fee Implementation Study

## Drivers for Change – Water Quality Permit

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- ▶ Federal Permit – Issued by PADEP
- ▶ Current Permit issued in 2004 – Negotiating Renewal
- ▶ Increased oversight and enforcement by EPA and PADEP.
  - ▶ 2014 Audit of the City's MS4 program.
  - ▶ 2015 Initial report submitted to the City.
  - ▶ Audit Outcome – in settlement
  - ▶ New Permit – in negotiation.



Municipal Separate  
Storm Sewer  
System (MS4)  
Permit  
Requirements

# Stormwater User Fee Implementation Study

## Drivers for Change – Asset Management

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### *Time:*

- ▶ Pipe system is aging. Condition assessment shows need for rehabilitation.
- ▶ Maintenance must be addressed to reduce risk of failures.

### *Increased amount of system responsibilities:*

- ▶ Private systems require **oversight and enforcement**.
- ▶ Need for **rehabilitating detention facilities** and underground systems.
- ▶ Smaller treatment facilities means **more maintenance**, not less.

Aging/Deteriorating  
Infrastructure and  
Local Flooding  
Issues

# Stormwater User Fee Implementation Study

## Expectations, Goals and Purpose

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- ✓ **Develop a program to meet external (federal and state) and internal goals.**
- ✓ **Ensure that revenue is adequate to meet long-term needs and stable enough to do so in a cost-efficient manner.**
- ✓ **Distribute program costs in an equitable manner. Everyone pays – including the City.**
- ✓ **Implement an Enterprise Fund that ensures revenues are dedicated to stormwater management.**



# Study Process and Recommendations

# Stormwater User Fee Implementation

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**Stormwater management is no longer about getting rainfall off property and into the streams as fast as possible.**

## **Important Role for City Services Today:**

- 1. Maintain assets valued at over \$480 million based on replacement costs.**
  - 2. Protect property from stormwater impacts.**
  - 3. Protect streams by reducing pollutants carried by stormwater.**
  - 4. Reinvest in capital assets to extend life or replace before failures occur.**
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# Stormwater Management Assets

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- ▶ Examples of system assets:
  - ▶ Over 343 miles of various types of pipe.
  - ▶ 488 BMPs
  - ▶ 3,503 manholes – brick and pre-cast structures.
  - ▶ 8,820 storm water inlets.
  - ▶ 343 outfalls to streams and rivers.
- ▶ CCTV pipe network inspection program is underway and provides condition assessment.



\$480 Million Asset requires maintenance and rehabilitation.

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# Retrofit of Existing Quantity Control Facilities for Water Quality



**BEFORE**



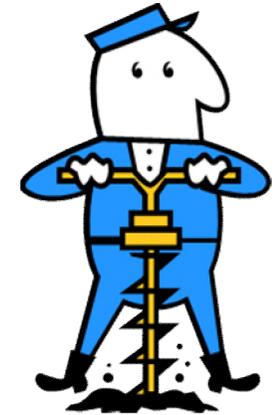
**AFTER**



# Program/Service Recommendations

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- **Increase** funding for capital projects.
- Develop water quality stormwater program for permit compliance – **new permit mandates**.
- Provide additional resources for **system maintenance**.
- **Update engineering tools** – hydraulic and hydrologic analysis.
- Increase use of **green stormwater infrastructure (GSI)**.
- Engage the community through **incentives and adopt a credit program** to encourage private investments.
- **Continue to partner** with agencies such as the LCCD.



How Do We Provide Needed Resources?

# What is a Stormwater Utility?

- A funding method
- A program concept
- An organizational entity

***Mix of methods***

# Stormwater Utility

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- ▶ Both a fee and program for services, much in the same way that one pays for water or sewer service.
- ▶ Fees are placed in an enterprise fund and **can only be used for stormwater purposes.**
- ▶ Based on the demand for public stormwater systems, measured by the presence of impervious cover.
- ▶ Provides opportunity to offset fees:
  - ▶ **Credits**
  - ▶ **Incentives**



# Stormwater Utility

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The key question is how are the costs distributed among rate payers.

Impervious area provides link between runoff and need for public services.



# What Parcels Are Not Charged

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**Public Roadway ROW – City and Commonwealth**

**Railroad Ballast – the tracks, BUT office buildings, depots, parking areas are charged.**



# Utility Development Process

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- ▶ Develop a 10 Year Program Financial Forecast
- ▶ Complete GIS analysis and rate structure options
- ▶ Develop credit and incentive policies
- ▶ Inform the public through meetings
- ▶ Create billing file for property charges; test and integrate
- ▶ Prepare ordinance for Council review and adoption
- ▶ Develop customer service plan, training and implementation strategy



# Rate Base and Methodology – Billing Unit

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## Recommendation

**Unit Rate: regardless of land use classification, set the billing unit value at 500 sf. and use natural rounding.**

- ❖ Each parcel is charge per 500 square feet of impervious area regardless of use
- ❖ Requires GIS file maintenance on changes that occur on parcels for each billing cycle.



# Recommended Rate

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**Based on a fixed billing unit of 500 sf of imperviousness:**

- **FY18: \$20 / BU**
- **Year 4 – Update rate model and determine need for growth in revenue.**

## **Residential Impacts:**

**50% of all single family residential pay \$60 or less**

**75% of all single family residential pay \$100 or less**

**Property Type: Small Residential**

**Location: 27 N JEFFERSON ST**

**Parcel ID: 549679956377**

**Total IA: 1,564 sq ft**

**Billing Units: 3**

**Total Fee: \$60**



<b>Property Type:</b>	<b>Medium Residential</b>
<b>Location:</b>	<b>1635 W GREENLEAF ST</b>
<b>Parcel ID:</b>	<b>549732798932</b>
<b>Total IA:</b>	<b>2,564 sq ft</b>
<b>Billing Units:</b>	<b>5</b>
<b>Total Fee:</b>	<b>\$100</b>



- Legend**
- Parcel Boundary
  - Parcel Boundary
  - Building IA
  - Other IA

Property Type:

**Church**

Location:

**1747 OXFORD DR**

Parcel ID:

**549555554608**

Total IA:

**8,670 sq ft**

Billing Units:

**17**

Total Fee:

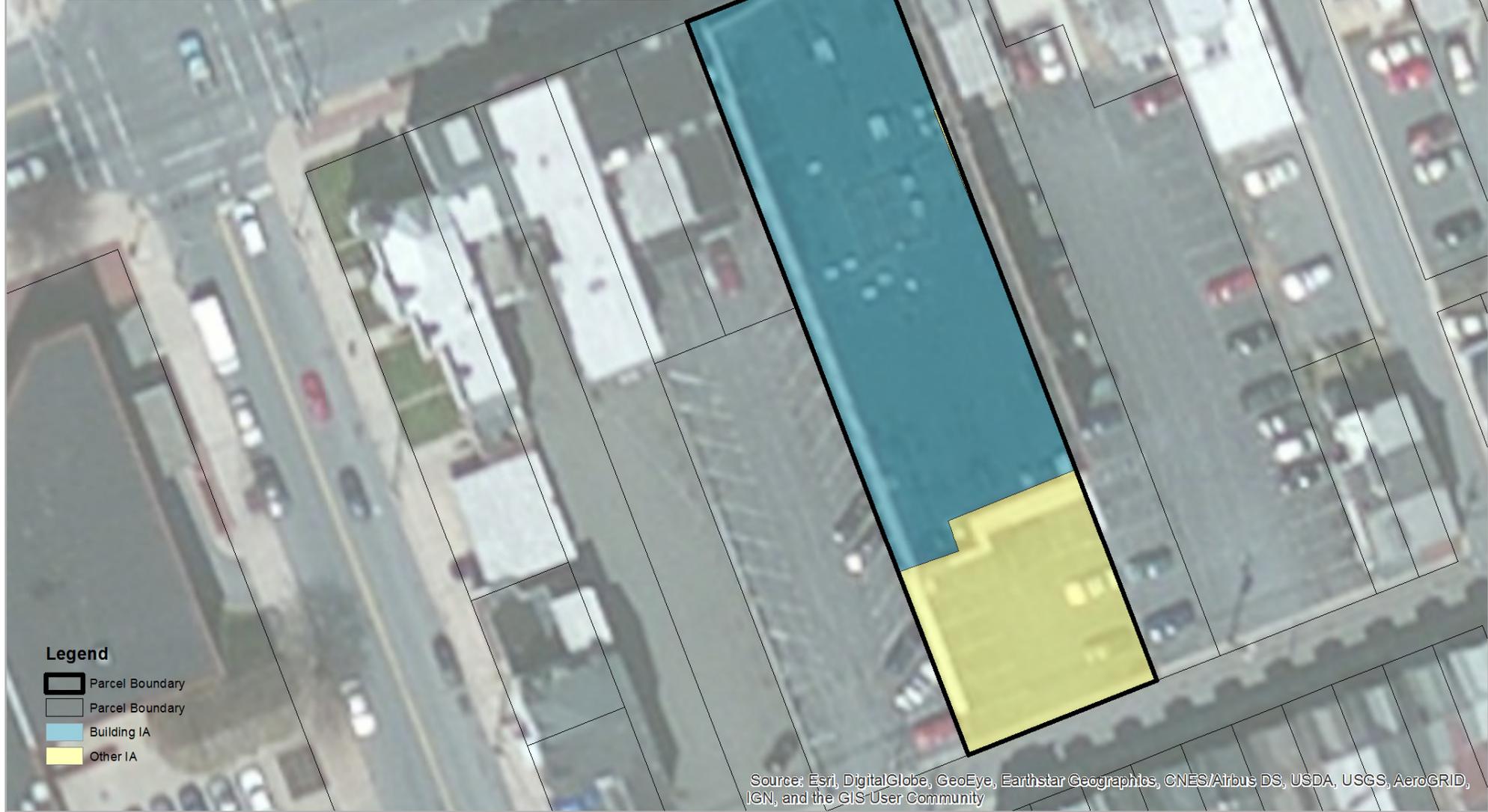
**\$340**



**Legend**

-  Parcel Boundary
-  Parcel Boundary
-  Building IA
-  Other IA

<b>Property Type:</b>	<b>Commercial</b>
<b>Location:</b>	<b>1136 W HAMILTON ST</b>
<b>Parcel ID:</b>	<b>549689522449</b>
<b>Total IA:</b>	<b>13,831 sq ft</b>
<b>Billing Units:</b>	<b>28</b>
<b>Total Fee:</b>	<b>\$560</b>



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Property Type:** School District

**Location:** 815 N Irving St

**Parcel ID:** 640797362745

**Total IA:** 333,974 sq ft

**Billing Units:** 668

**Total Fee:** \$13,360



*Dieruff High School*

- Legend**
- Parcel Boundary
  - Building IA
  - Other IA

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Property Type:** Arena

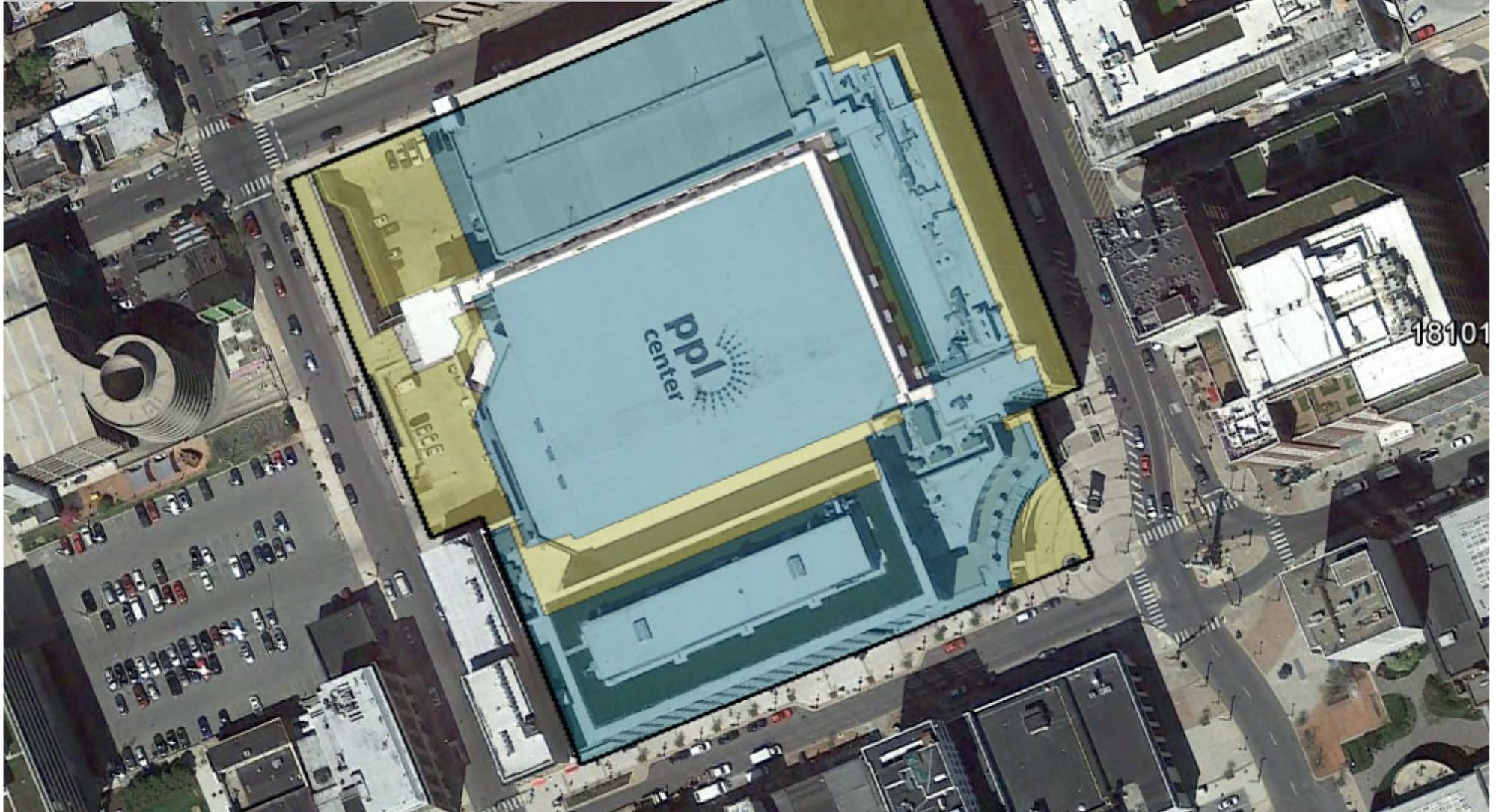
**Location:** 701 W HAMILTON ST

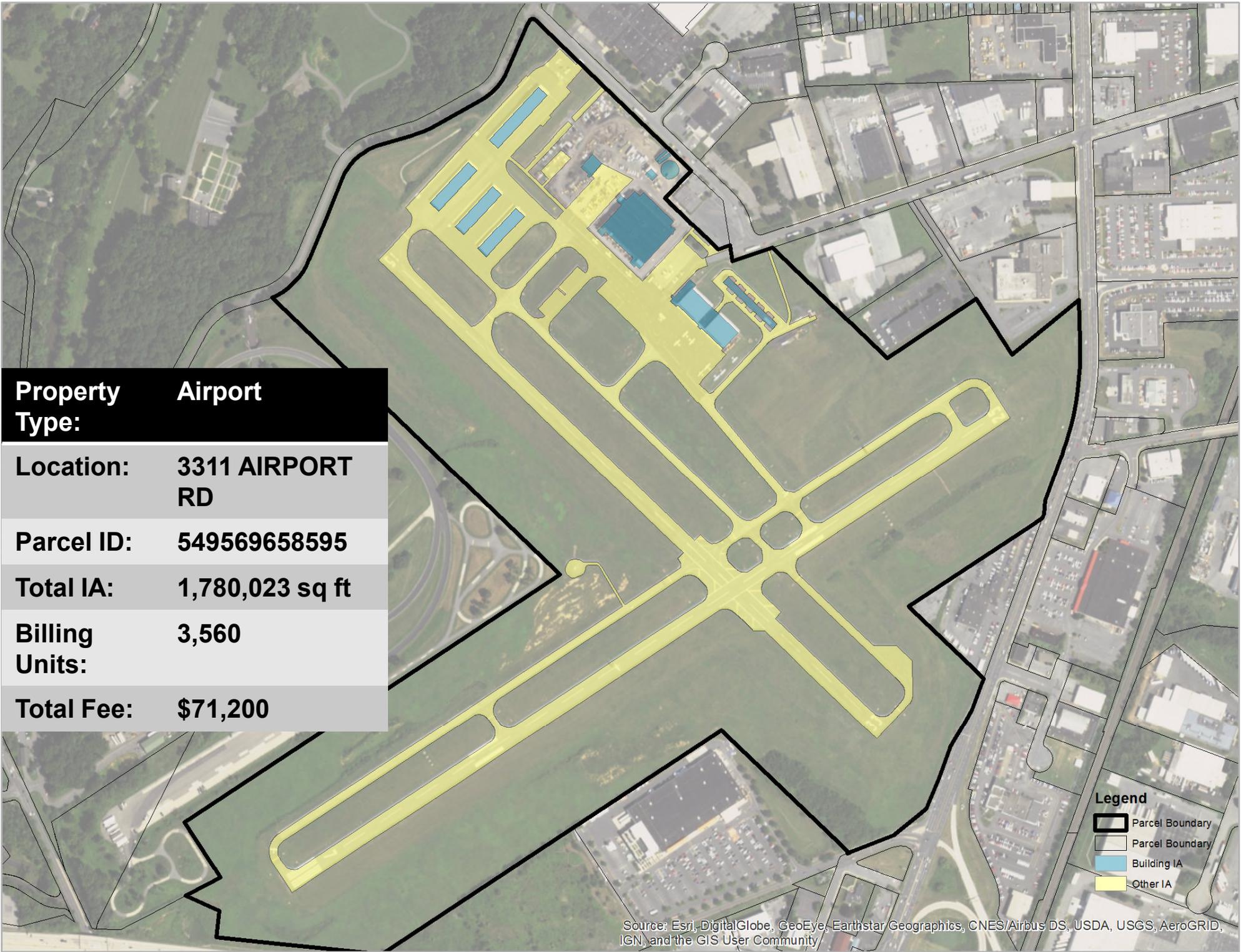
**Parcel ID:** 640700751720

**Total IA:** 209,897 sq ft

**Billing Units:** 420 across 10 accounts

**Total Fee:** \$840 for each of 10 accts





<b>Property Type:</b>	<b>Airport</b>
<b>Location:</b>	<b>3311 AIRPORT RD</b>
<b>Parcel ID:</b>	<b>549569658595</b>
<b>Total IA:</b>	<b>1,780,023 sq ft</b>
<b>Billing Units:</b>	<b>3,560</b>
<b>Total Fee:</b>	<b>\$71,200</b>

- Legend**
- Parcel Boundary (thick black line)
  - Parcel Boundary (thin black line)
  - Building IA (light blue)
  - Other IA (yellow)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# Rate Recommendation

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## Impacts to Non Single Family Residential:

- **Apartments: Average # of BU is 56 = \$1120/yr**
- **Commercial: Average # of BU is 38 = \$760/yr**
- **Industrial: Average # of BU is 90 = \$1800/yr**
- **Schools/Nonprofits: Average # BU is 76 = \$1520/yr**

# Examples of Other PA Communities

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## Implemented Fee:

**Mt Lebanon**  
**Philadelphia**  
**Meadville**  
**Lancaster**  
**White Township**  
**Radnor**  
**West Chester**  
**City of Bradford**  
**Hampden**  
**Derry Township**

## In Process or Studying Options

**Ferguson Township**  
**York County regional**  
**Wyoming Valley regional**  
**Williamsport**  
**Scranton**  
**Chester City**  
**West Goshen**  
**Easton**  
**Carlisle**

# Credits and Incentives

**How can a property owner offset a portion of the fee?**

# Goals for Credits and Incentives

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- Encourage **voluntarily** management of **quality and quantity** of stormwater.
  - Encourage **redevelopment** existing **uncontrolled impervious** area -.
  - **Tackle the most pressing needs first.**
  - Target the City's efforts where **short-term investments will achieve long-term** cost savings.
  - Ensure that credits and incentives **do not place an unreasonable administrative burden.**
  - Keep the program **simple and easy** to understand by the public.
  - **Make GSI part of the City's brand.**
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# *Who is eligible for credit?*

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The City will provide a stormwater user fee credit for:

1. any stormwater management facility,
2. whether built voluntarily or as a condition-of-development,
3. installed on or after April 19, 2007 (the adoption date of “The City of Allentown’s (Act 167) Stormwater Management Ordinance,” Article 1387 of the City Code), and
4. functioning as designed

- **Must meet technical requirements of local ordinances;**
- **Must have maintenance agreement in place and continue to ensure effective operation;**
- **Must be functional as designed.**

# *What credit is available for an NPDES stormwater industrial permit?*

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**A property that is subject to and compliant with a current PAG-03 NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity will receive a 10% credit on the stormwater utility fee.**

**To receive the credit:**

- The property owner must submit an application form.**
- Credit will be renewed on an annual basis upon receipt from the property owner of the annual report to PADEP that is required to be copied to the City by the NPDES permit.**

**Revocation:**

**If a facility is determined to be a source of pollutants by the City, the City will revoke the credit if corrective actions are not taken within the time specified by the City.**

# Credit Structure

Facility Type and Purpose	Base Credit Amount	Voluntary Facility Bonus	Total Possible Credit
Facilities Achieving 10% or More Sediment Reduction from Existing Conditions (Assumes That These Facilities Also Control Quantity)			
10% to <25%	20%	20%	40%
25% to <75%	25%		45%
75%+	30%		50%
All Other Facilities Built in Accordance with Article 1387 of the City Code, Regardless of Whether it is for Quality, Quantity, or Both			
All	10%	Not Applicable	10%

# Incentives Framework - Partnerships

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- ▶ Divided into two components: “Strategic Opportunities Fund” and “Community Engagement Fund.”
  
- ▶ Strategic Opportunities Fund:
  - ▶ Primary focus of the incentive program.
  - ▶ Would be implemented by the City.
  - ▶ Purpose is to address most pressing issues (pollutant reduction/flood control) in the most cost-effective manner.
  - ▶ Must meet the same requirements as GSI that receives credit.
  - ▶ Additional weight to projects with demonstrated community support.

# Incentives Framework

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- ▶ **Community Engagement Fund:**
  - ▶ Purpose is to engage residents and businesses in the program.
  - ▶ Could be implemented by the City or a third party (Lehigh County Conservation District).
  - ▶ Projects must still have maintenance agreement – 5 to 10 years depending on the facility.
  - ▶ Failure to maintain will result in paying back a pro-rated amount of the cost-share.
- ▶ Both approaches could be done in partnership with local schools as an educational tool.

# Potential Practices for Community Incentives

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- ▶ Cost-share amounts and maximum need to be determined.
- ▶ Practices currently under consideration:
  - ▶ Rain Barrels
  - ▶ Rain Gardens
  - ▶ Tree Planting
  - ▶ Conservation Landscaping
  - ▶ Pavement Removal
  - ▶ Permeable Pavers
  - ▶ Flow Through Planters
  - ▶ Pet Waste Stations

# Status and Update

# Status of Project

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- Completed assessment of current services and associated costs:
  - Approximately \$2.6 million in direct costs and \$279,730 indirect costs currently in General Fund.
  - Recommend that the City will be pay fees as well.
- Identified gaps, backlog of maintenance and capital, evaluation of current and new MS4 permit requirements.
- Developed a future program based on goals and priorities
- Completing data analysis for billing purposes.
- Draft 10-year program financial forecast and rate recommendations.

# Next Steps

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- **Present study findings and recommendations at public meetings.**
- **Finalize recommendations and prepare budget for 2018.**
- **Finalize billing file and test integration into billing system.**
- **Prepare user fee ordinance for adoption process.**
- **Develop customer service support and billing file maintenance procedures.**

