# Forming a Stormwater Authority

## *Tips on Creating, Communicating, Cooperating, and Charging*

*Presented By:*


**Michael Callahan, CPSS**
*Stormwater Program Coordinator*

*Derry Township Municipal Authority*

**Adrienne M. Vicari, P.E.**
*Financial Services Practice Area Leader*

*Herbert, Rowland & Grubic, Inc.*


May 18, 2017

# Agenda

- Stormwater Authorities And Their Functions
- Changing Regulatory Landscape
- Derry Township's Process
- The Role Of A Credit Policy
- Lessons Learned

# Stormwater Authorities (SWA)… A Growing Trend

- Over 1,800 stormwater utilities in the U.S.
- First utility formed in 1974
- Continued growth over past 5 decades due to:
  - Increased regulation
  - Significant precipitation events
- Enabling legislation in PA passed in 2013
- By end of 2015, 8 PA municipalities had a SWA or SWU
- In 2016, 20+ municipalities were in the process of forming SWA
- Currently working with 100 municipalities on some level of SWA feasibility/formation

# How Communities can Benefit from SWAs

- Municipalities are facing many stormwater related challenges
  - Tightening regulations
  - Aging infrastructure
  - Increased development
  - Level funding


- Authorities provide:
  - Financial, administrative, and jurisdictional benefits
  - A steady and dedicated revenue source
  - A more equitable means of allocating growing costs of stormwater management

# Functions/Benefits of a SWA

## Financial

- *Steady/dedicated revenue stream*
- *Collect revenue from tax exempt properties*
- *Ability to charge for use of system – more equitable charge mechanism*
- **Ability to generate revenue to proactively address needs and improve water quality**

## Administrative

- **Economies of Scale realized with multi-function authority**
- **Relieves burden of responsibility from elected officials**
- **Operation of projects does not compete with other municipal responsibilities**

## Jurisdictional

- **Pollutant load reductions more cost effectively met through regional planning efforts**
- **Service area can extend beyond municipal boundary w/o PUC oversight**

# Reasons D.T. was interested in a SWA

- Capital Improvement Planning showed increased funding need
- Growing MS4 Permit Requirements and locally impaired streams = need for more revenue and more local action
- Ability to more equitably distribute increased costs throughout community
  - Rate Payers include not-for-profit & tax exempt (Churches, et.al.)
    - Including Township, Authority, and School District Facilities
    - Property owners pay based upon IA not assessed value
- DTMA has existing collection system field staff & equipment
- Ability to hire Stormwater Program Coordinator
- Opportunity to increase public outreach and involvement

# Changing MS4 Regulations

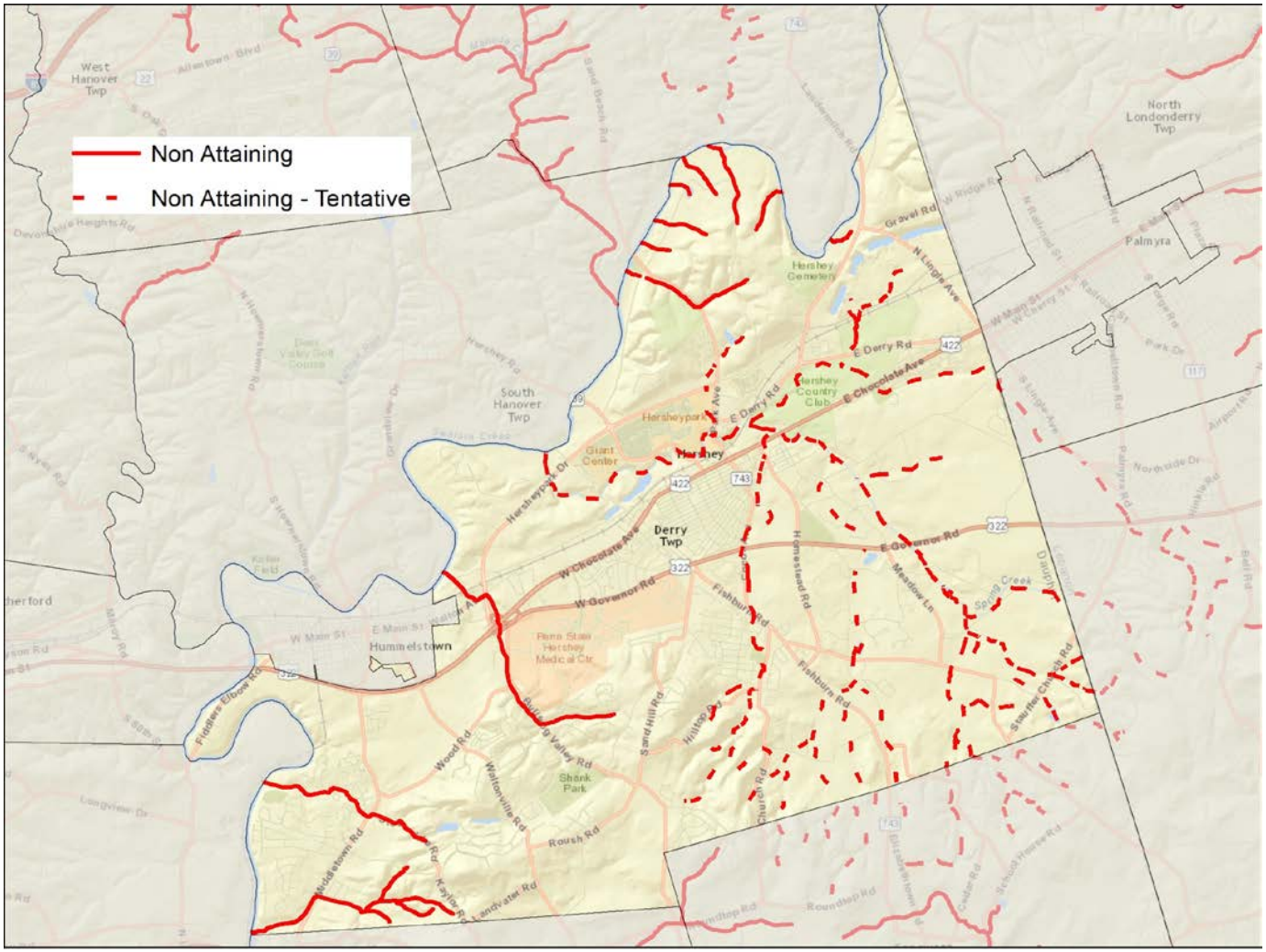
- Municipal Separate Storm Sewer System (MS4) Permit
- Regulated Small MS4
  - Facilities owned by township, borough, village, etc. that meet population threshold.
  - Permittee must develop and implement a stormwater management program to reduce the contamination of stormwater runoff and prohibit illicit discharges.
  - Included 6 minimum control measures (MCMs).
- Next Permit term begins March 2018
  - There will be significant changes and responsibilities with new permit.
  - Must apply by **September 16, 2017** to submit a Notice of Intent for permit coverage.
  - Submission must include Pollution Reduction Plan (PRP) for both locally impaired waters and Chesapeake Bay.

# A Closer Look at PRPs

Why is all this new stuff needed?

1. New permit requires the completion of PRP for each impaired stream
   - Sets specific reduction targets for local impaired streams
     - Siltation – 10% sediment reduction
     - Nutrient – 5% phosphorus reduction
2. If you're in the Chesapeake Bay Watershed you need to complete a Chesapeake Bay Pollution Reduction Plan (CBPRP)
   - Siltation – 10% sediment reduction
   - Phosphorus – 5% reduction
   - Nitrogen – 3% reduction
3. To meet those reduction goals you have to add BMPs
4. The permit states *"The permittee shall maintain adequate funding and staffing to implement and manage all provisions of the… Stormwater Management Program."*

# Pollution is a Local Problem



# Derry Township's Options

**Implement a Stormwater Authority**

- Act 68 of 2013
- Uniform and Reasonable Fees
- Ability to expand existing WW Authority
- Lease or sell SW assets

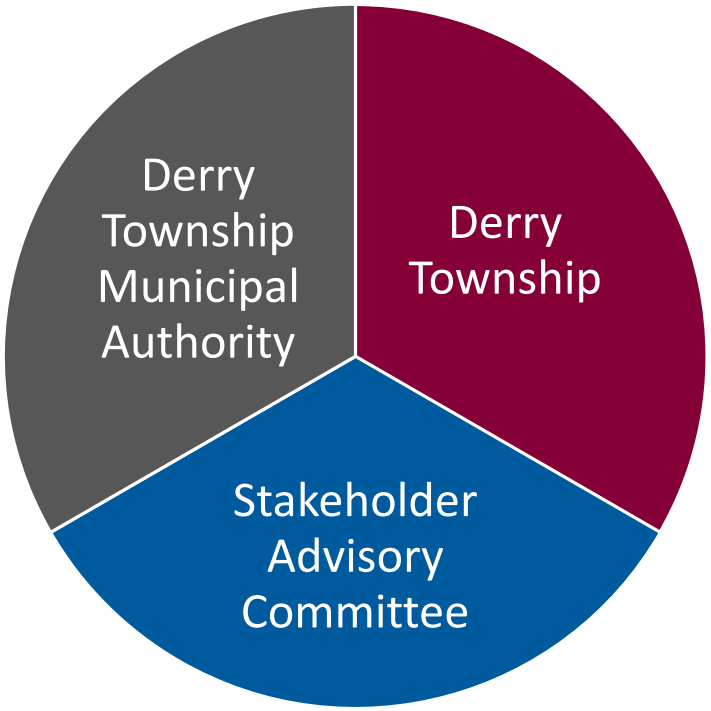
Vs.

**Implement a Township SW Utility**

- Act 62 of 2016
- Uniform and Reasonable Fees
- Fees may not exceed min. necessary to meet regulatory requirements
- Twp maintains ownership

# Derry Township's Process

- Township Board of Supervisors recognized the need to develop a new model comprehensive Stormwater Management Program (SMP) for the Township
- Meeting held between Board of Supervisors, DTMA, and both staffs for 3-4 months to discuss pros, cons, and potential hurdles
- No downside for DTMA to take over program responsibility
- All upside for the Township residents



# Technical Process for Transferring the Stormwater Program

1. Stormwater Management Program Review
   - Stormwater Infrastructure Review
   - Stormwater Problem Identification
   - Regulatory Requirement Determination
   - Review of Desired Levels of Service
   - Cost of Service Review
   - Impervious Area Analysis
2. Public Outreach and Education
3. Evaluation of Rate Structures/Fee Development
4. Evaluation and Recommendation for an Appeals Process / Credit Policy Development
5. Billing and Database Options Review
6. Stormwater Fee Ordinance Adoption

# Public Outreach and Education

1. Use of Stakeholder Advisory Committee (SAC) = Critical to Success!

2. Public Meetings:
   - New Stormwater Management Program (SWMP)
   - SWMP and Funding Structure
   - Fee Implementation and Credit Policy

3. Community Education (Public Education Strategy):
   - Information on Township & DTMA Websites
   - E News Blasts
   - Bill Inserts
   - Township Newsletters
   - News Reporter Meetings
   - Pamphlets/Handouts
   - Rain barrel & Other Community Events

# Township Stormwater System

1) Consists of stormwater pipes, inlets, and related infrastructure located throughout the Township
   - Roughly 350,000 LF of pipe, 3,500 inlets, 318 outfalls, and related facilities

2) Condition of facilities somewhat unknown but significant portion of pipe and facilities anticipated to reach its useful life over next 10-20 years

3) $27,000,000 in needed improvements identified through CI planning

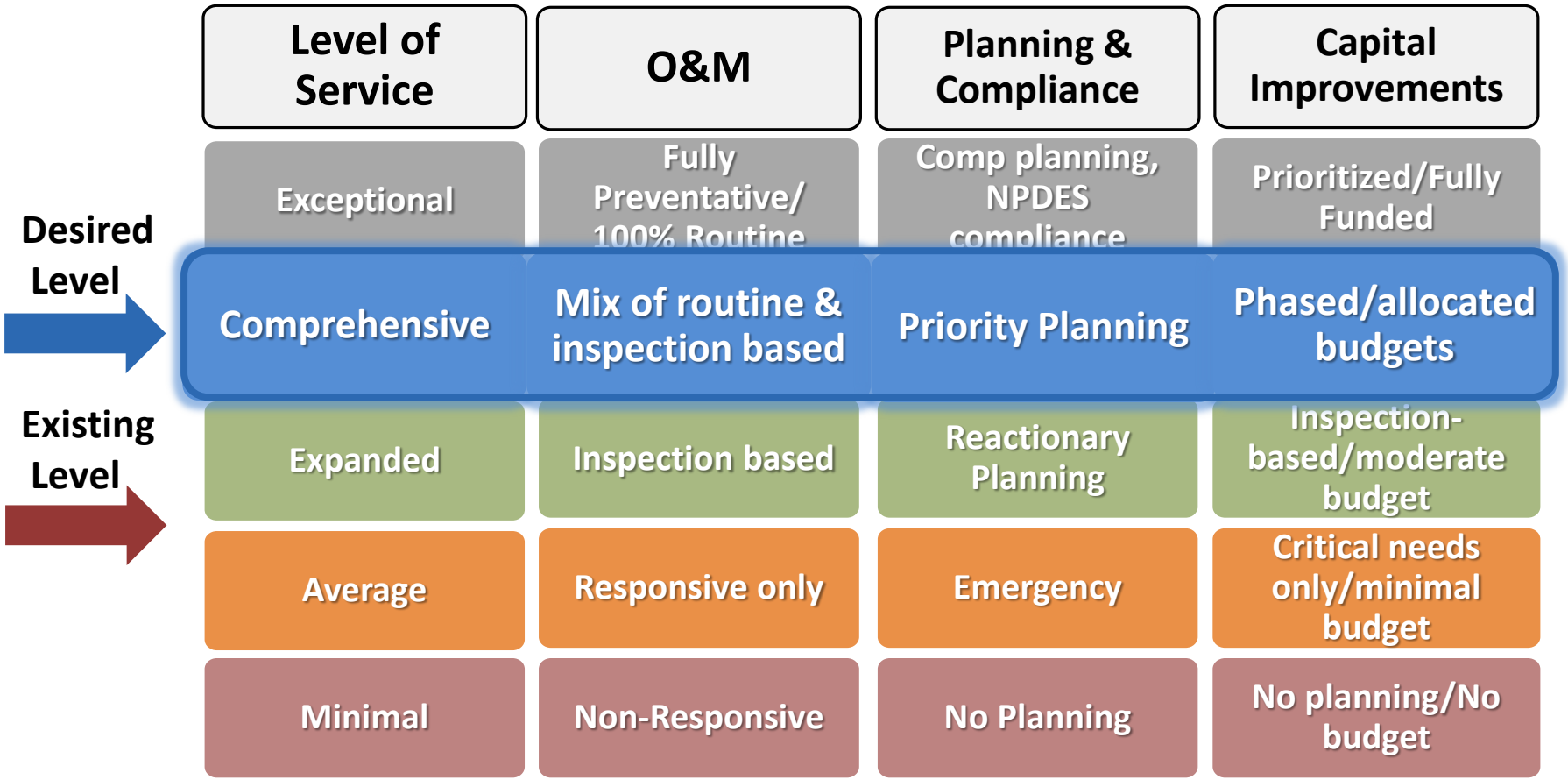
4) Implementation of green Infrastructure improvements (BMPs) now required as part of MS4 permit (2018-2022)

# Previous Level of Service

- Street sweeping (once/month, from March – Dec.)
- Leaf removal
- Cleaning of stormwater inlets (~ 1 week/yr)
- Cleaning up after storm events (~1 week/yr)
- Replacing/rebuilding inlets (10-12/yr, ~ 3 weeks/yr)
- Inspect private infrastructure at time of initial installation
- Emergency repairs
- Capital improvements (grant funded)

# Current Condition of Facilities

# Program Level of Service



# Identified Program Needs *(Provided by DTMA)*

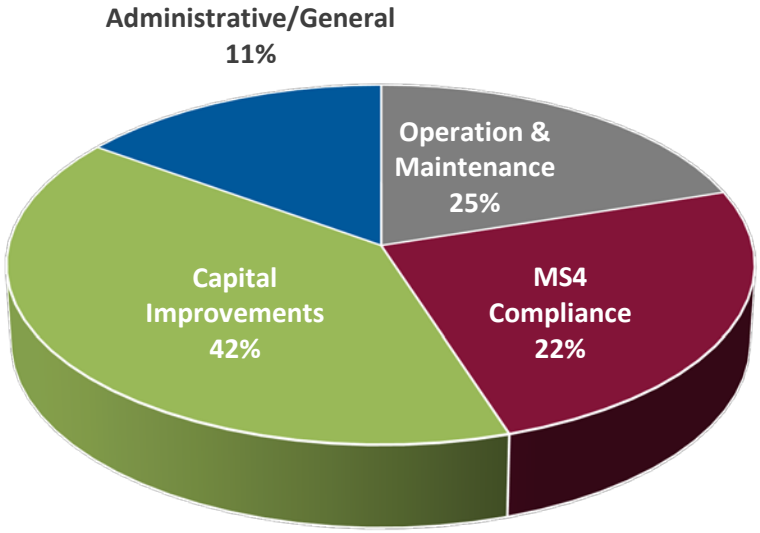
- Condition assessment/Asset Management Planning/Capital Improvement Planning
- More routine maintenance *(add 2nd Stormwater Crew)*
- Private infrastructure inspection and enforcement
- Stormwater Program Coordinator to oversee regulatory requirements
- Replace infrastructure reaching end of useful life prior to failure
- Increase capacity of certain drainage systems
- Improve/install drainage systems
- Review land development plans

# Capital Improvement Needs

- Condition Assessment and priority planning ~ $0.5M
  - Partnership with USACE (50/50 cost share)
    - Mapping/Condition Assessment of Infrastructure (years 2016-2018)
    - Impervious Surface Development in GIS
    - Flood Modeling
    - Flood Emergency Access Study
- Replacement of failed infrastructure ~ $11M
- System improvements and new green infrastructure / stormwater best management practices (BMPs) to address flooding and improve water quality ~ $15.5M

# DTMA Proposed SWM Budget

| Budget Category | % of Total | Avg. Cost (Years 1-5) |
|---|---|---|
| Operation & Maintenance | 25% | $330,000 |
| MS4 Compliance | 22% | $290,000 |
| Capital Improvements | 42% | $560,000 |
| Administrative/General | 11% | $150,000 |
| **Total Annual Budget** | **100%** | **$1,330,000** |



# Allocation of Program Costs

**Which program fees are fixed costs and what's dependent upon reduced rate/volume of runoff?**

| Costs | Fixed | Variable Rate/Vol | Variable WQ * |
|---|---|---|---|
| Administrative/General | $590,000 | $0 | $0 |
| Operation & Maintenance | $200,000 | $ 70,000 | $25,000 |
| Capital Improvements | $260,000 | $130,000 | $55,000 |
| **Total** | **$1,050,000** | **$200,000** | **$80,000** |
| **% of Total** | **79%** | **15%** | **6%** |

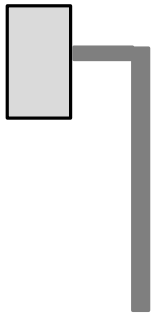
*Likelihood for 20% increase in future cost increase related to TMDL (Variable WQ cost)

*Total future variable cost = 40% - 45%*

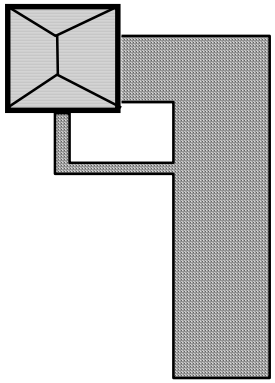
# Properties and IA in Derry Twp.

| Type | Number - % | IA - % |
|---|---|---|
| Single Family Residential | 82 | **28** |
| Multi-Family Residential | 3 | 3 |
| Commercial / Industrial | 5 | 29 |
| Non Profit / Tax Exempt | 2 | **22** |
| Vacant / Unknown | 7 | 16 |
| Agriculture | 1 | 2 |

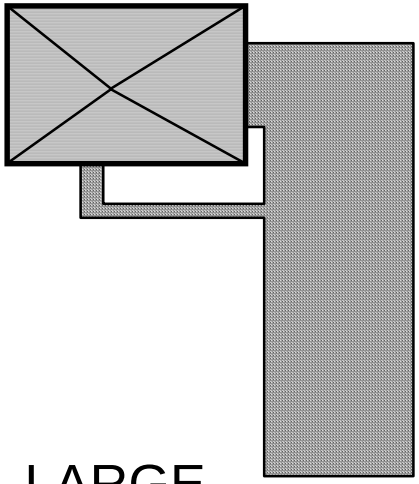
# Fee Structure & Tiers



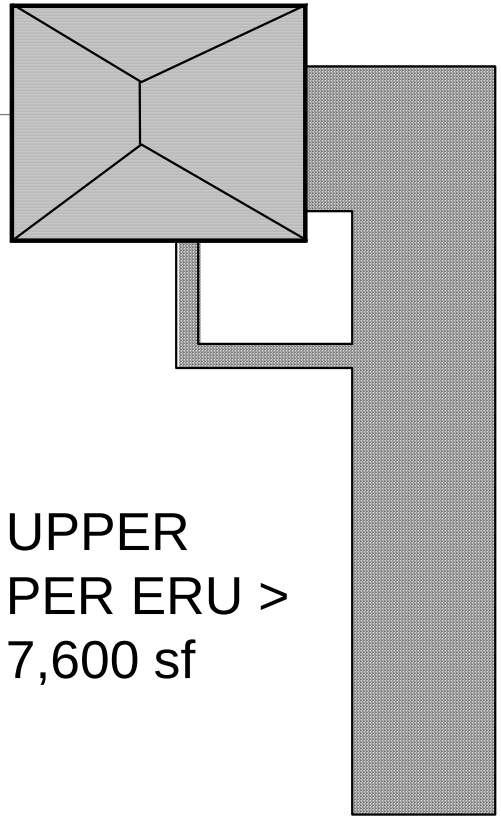
SMALL
500 to 2,999 sf
0.5 ERU



AVERAGE
3,000 to 4,999 sf
1 ERU



LARGE
5,000 to 7,599 sf
1.5 ERU

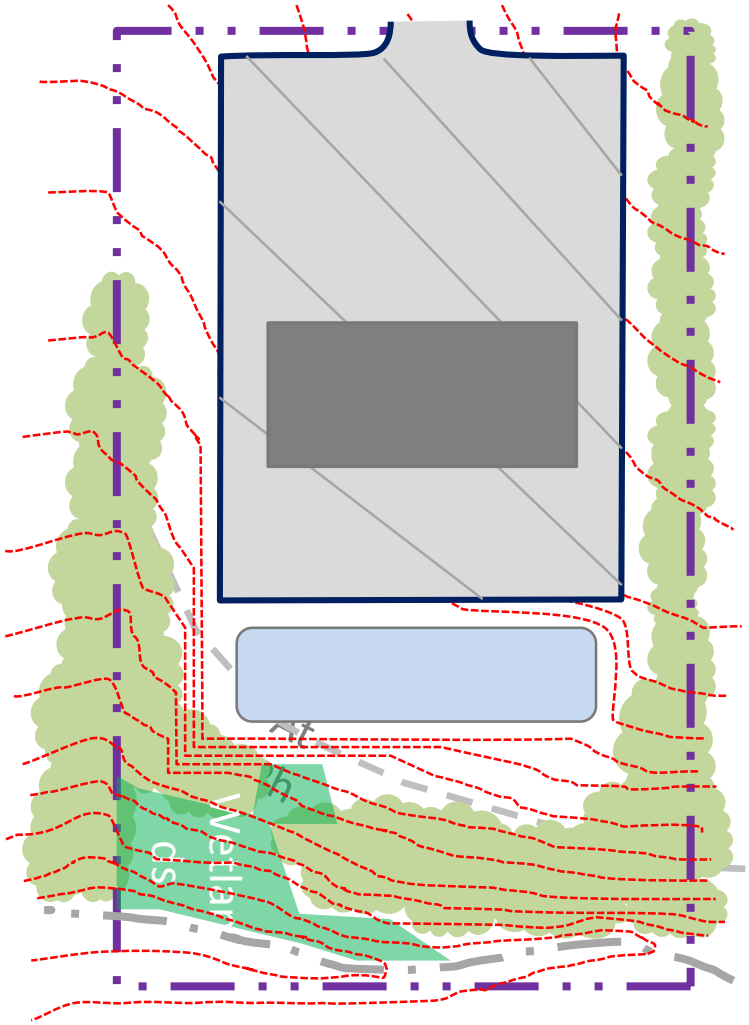


UPPER
PER ERU >
7,600 sf

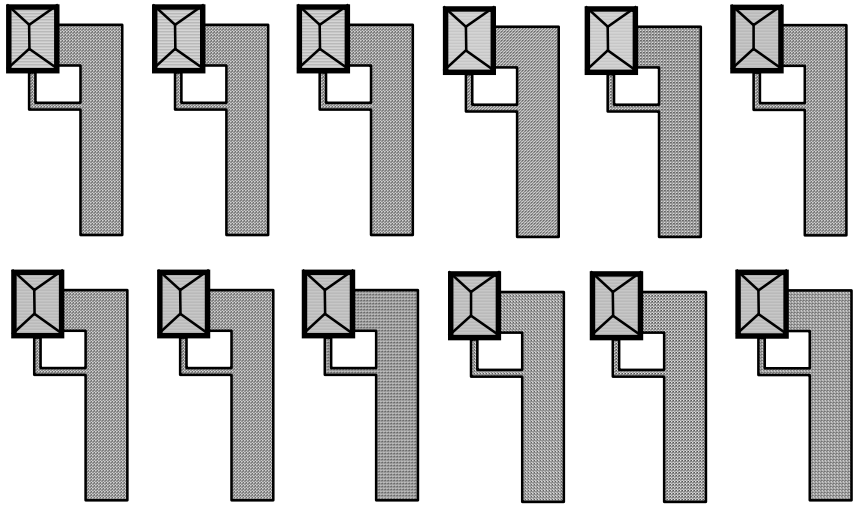
1 ERU = 3,800 sq ft. IA

| Property Type | No. of ERUs |
|---|---|
| Single Family Residential | 7,081 |
| Non Residential | 18,712 |
| **Total ERUs** | 25,793 |

# Non-Residential Rate Calculation - ERU




=



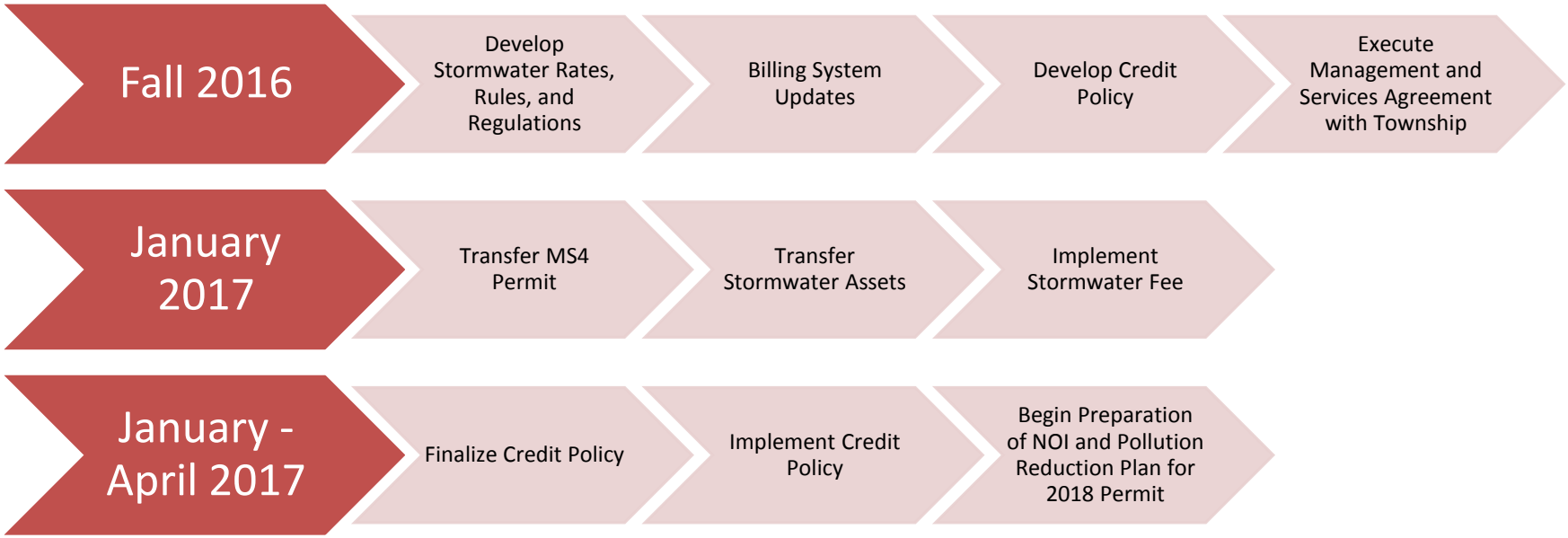
| | |
|---|---|
| Building = | 8,600 sf |
| Parking Lot = | 37,000 sf |
| Total Impervious Area = | 45,600 sf |
| ERU = | 3,800 sf |
| TOTAL ERUs = | 12 ERUs |

# Residential Stormwater Fees in PA

| Municipality | Monthly Fee / ERU | Monthly Fee / 1,000 sq.ft. IA |
|---|---|---|
| Philadelphia | $13.48 | $12.84 |
| Lancaster | $9.12 | $9.12 |
| Mount Lebanon | $8.00 | $3.33 |
| Bradford | $7.90 | $2.82 |
| Meadville | $7.50 | $2.82 |
| Jonestown | $6.67 | $2.15 |
| **Derry Township** | **$6.50** | **$1.71** |
| Hampden | $4.41 | $1.25 |
| *WVSA (est.)* | *$3.10* | *$1.07* |

SW Fees save the average residential property owner roughly **55% - 75%** as compared to funding stormwater programs via property taxes.

# Implementation Steps & Timeline



# Credit Policy Structure

Policy needs to…

Help Derry Township meet its stormwater regulatory requirements

Provide mechanism for landowner to make improvements without being too burdensome

- If process is too complicated or costly, few will participate

Address existing practices that are providing benefit

Avoid burdening SMP with high administrative costs

Be robust enough to result in system improvement

Help tie level of service to unique property conditions

A robust and successful Credit Policy will keep overall system costs down over time!

# Barriers to Participation

COST and TIME!

High administrative burden

Concerns about code compliance when applying for permits

Need HOA approval

High perceived maintenance and uncertainty about responsibility

Dealing with contractor to design/construct the BMP

Unsure of what can be done on their property

Unaware of BMP benefits or incentive program

Others???

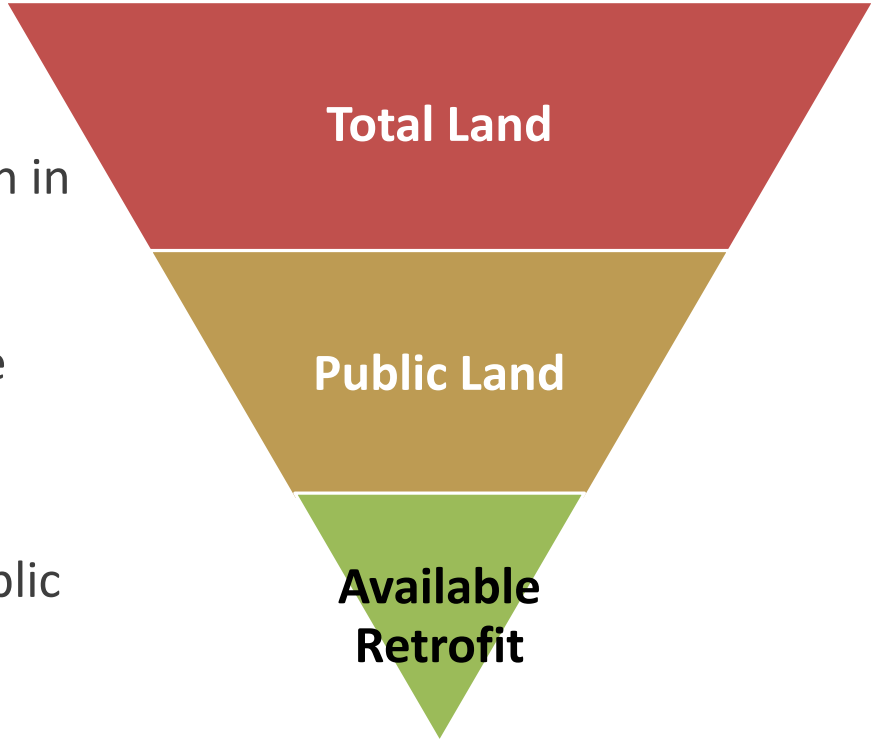
# Connecting MS4 to Our Credit Policy


The Credit Policy isn't solely for MS4 compliance, but it does help turn the gears of the pollution reduction activities

In the end, MS4 compliance will take a community a long way towards improved system performance and improved community water quality

# DTMA's Credit Policy

- Credits offered for improvements which:
  - Reduce rate and volume of stormwater leaving a property and improve water quality
  - Aid DTMA in meeting its MS4 permit obligations
- Policy provides a maximum reduction in fee of 45% = variable portion of SW budget
- Implemented 2 months following fee implementation
- Important for meeting PRP goals
- Can't meet all goals utilizing only public land – we need private involvement



# Types of Credits Offered

| Credit | Eligible Property Type | | | | | Maximum Credit |
|---|---|---|---|---|---|---|
| | SFR | NR | | | | |
| | | ALL | EDUC | NPDES | MS4 | |
| Structural BMP | X | X | | | | 45% |
| Low Impact Parcel | X | X | | | | 45% |
| Public Participation | X | X | | | | 15% |
| Public Participation Credit Donation | X | X | | | | 15% |
| Adopt an Inlet | X | | | | | 15% |
| Rain Barrels and Downspout Disconnection | X | X | | | | 20% |
| Turf and Landscape Management Program | X | X | | | | 15% |
| Riparian Buffer | X | X | | | | 45% |
| Stream Restoration | X | X | | | | 45% |
| BMP Easement | X | X | | | | 45% |
| Urban Tree Canopy Expansion | X | X | | | | 45% |
| Pervious Pavement | X | X | | | | 45% |
| Green Roofs | X | X | | | | 45% |
| Innovation Credit | X | X | | | | 45% |
| NPDES Industrial Stormwater Permit Compliance | | | | X | | 20% |
| Separate MS4 Permit | | | | | X | 20% |
| Education Credit | | | X | | | 20% |

# Outcome-Based Policy

- Policy framework focuses on end-goals, not mechanism to meet those goals
- Directs property owners to resources to accomplish creditable activities
- May provide mechanism to incentivize certain types of activities in key locations or pollution "hot spots"
- Credit Policy has to be designed with participation in mind
  - Eliminate participation barriers
  - Always scrutinize the policy as if you were the participating property owner
- Avoid burdening program with high administrative costs – keep it simple!
- Long Term O&M:
  - Credits can help incentivize improvements and best practices
  - Credits can help DTMA gather data needed to make informed decisions on how to best address water quality issues

# Tips for Improving the Transition Process

- Ask the necessary questions
- Open, collaborative communication between municipality and authority
- Complete a holistic assessment of current program
- Develop future vision with feedback from community
- Don’t try to rush the process
- Team with SAC


# Contact:

**Michael Callahan, CPSS**
*Stormwater Program Coordinator*
mcallahan@dtma.com

*Derry Township Municipal Authority*
717-566-3237
www.dtma.com

**Adrienne M. Vicari, P.E.**
*Financial Services Practice*
*Area Leader*
avicari@hrg-inc.com

*Herbert, Rowland & Grubic, Inc.*
717-564-1121
www.hrg-inc.com

For additional information regarding Stormwater Utilities:

http://www.hrg-inc.com/stormwater-fees/