

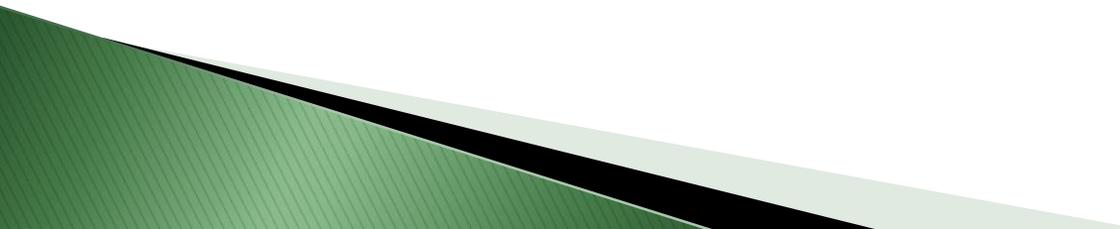
# Presentation on Whitpain Township's Wissahickon Creek TMDL Strategy Plan



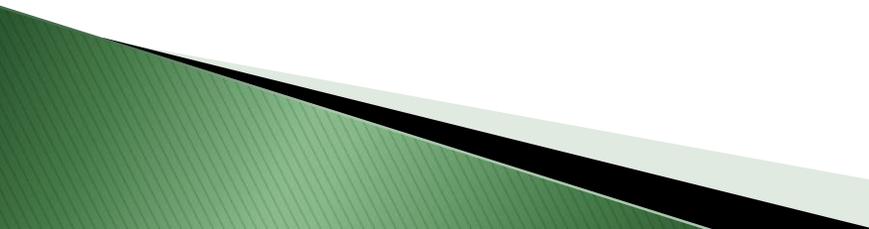
*December 3, 2015*

Whitpain Township Public Meeting

# QUESTIONS TO BE ANSWERED TONIGHT

- ▶ What is a TMDL?
  - ▶ Why is a TMDL being enacted in the Wissahickon Watershed?
  - ▶ What is in our TMDL Strategy Plan?
  - ▶ How long will it take to complete the Strategy Plan?
  - ▶ What are the next steps in the process?
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# What is a TMDL?

- ▶ TMDL is the abbreviation for Total Maximum Daily Load
  - ▶ "A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that load among the various sources of that pollutant. " - U.S. Environmental Protection Agency, 2011
  - ▶ Essentially, it is an environmental analysis that determines how much pollutant (in this case, sediment) is currently entering the creek and how much should be allowed to enter the creek based on the study's calculations
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# Why is a TMDL being enacted in the Wissahickon Watershed?

- ▶ EPA first established need for TMDL study following 1997-1998 PA DEP Unassessed Waters Project
- ▶ Wissahickon Creek primary sources of impairment:
  - Urban stormwater runoff
  - Municipal point sources
  - Low base flow
- ▶ Wissahickon Creek nutrient and sediment TMDL's established by EPA on October 9, 2003

# Why is a TMDL being enacted in the Wissahickon Watershed?

- ▶ Whitpain's land use and stormwater management planning has benefitted the Wissahickon Watershed - **Prophecy Creek and Willow Run West tributaries are NOT considered impaired for sediment**
- ▶ However, the Wissahickon Creek main stem is considered impaired due to sediment & this is the reason that we must comply with the TMDL
- ▶ Township TMDL Strategy Plan must specifically address the sediment TMDL for the Wissahickon Creek

# MAP OF WISSAHICKON CREEK WATERSHED - IMPAIRMENTS DUE TO SEDIMENT

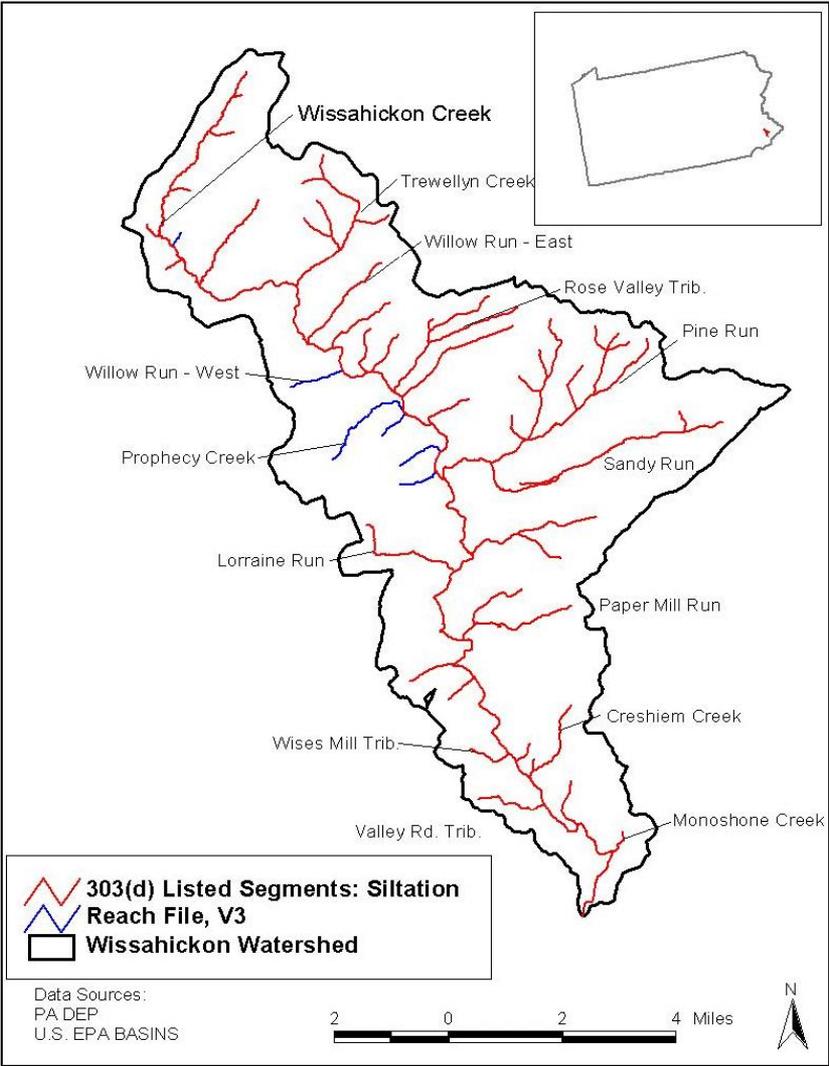
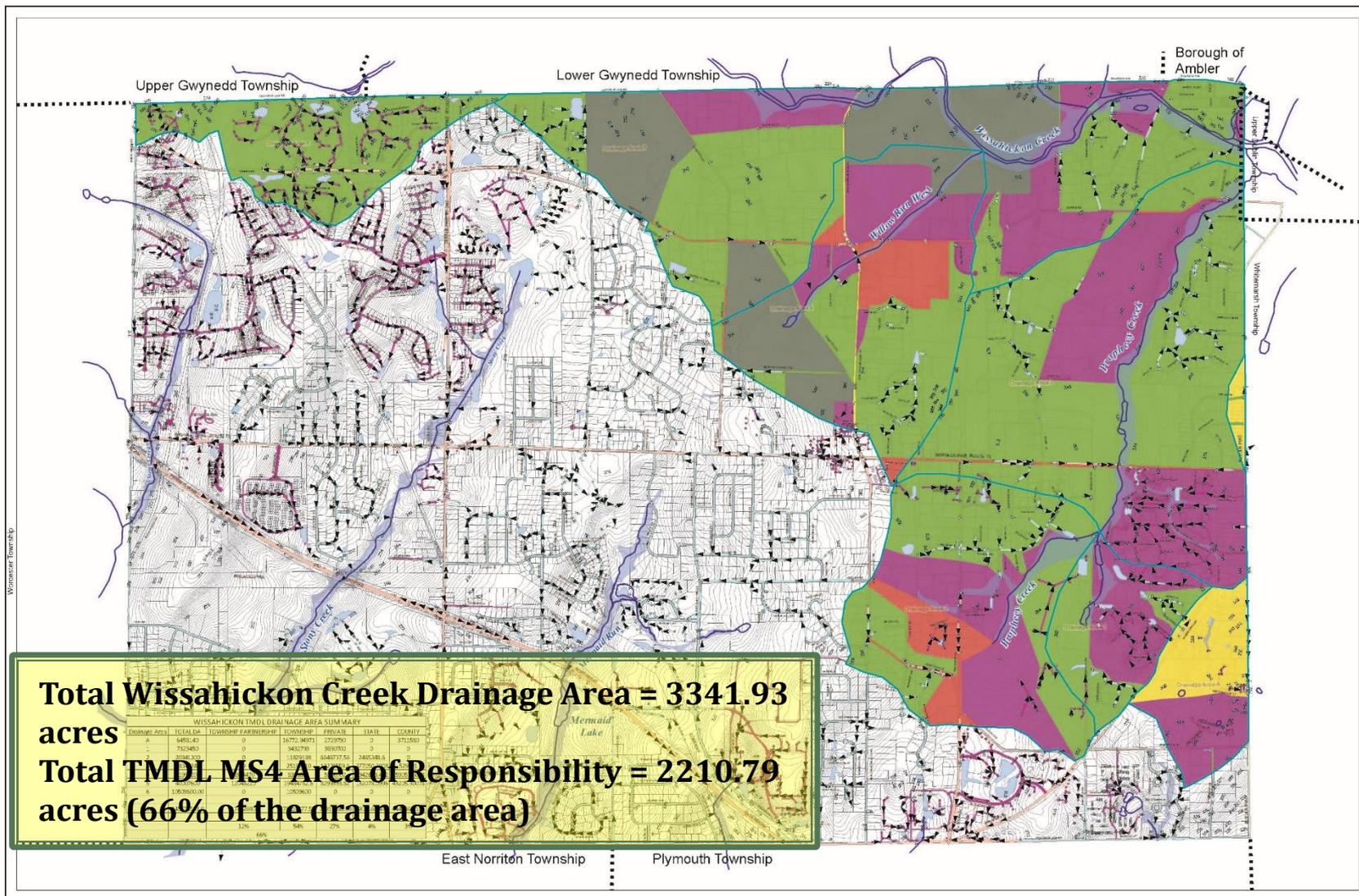


Figure 1-3. Wissahickon Creek segments impaired due to siltation

# What is in our TMDL Strategy Plan?

1. DESCRIPTION OF TMDL STUDY
  2. ESTABLISHMENT OF TOWNSHIP MS4 AREA OF RESPONSIBILITY
  3. DETERMINATION OF POLLUTANT LOADINGS AND REQUIRED REDUCTIONS
  4. IMPLEMENTATION PLAN WITH APPROXIMATE TIMELINE
- ▶ TMDL Strategy Plan was originally submitted to PA DEP in September 2012
  - ▶ Whitpain Township received a review letter from PA DEP in 2015 and we are required to submit a revised Strategy Plan to PA DEP by the end of December

## 2. Wissahickon Creek TMDL MS4 Area of Responsibility Map



# What is in our TMDL Strategy Plan?

## 3. DETERMINATION OF POLLUTANT LOADINGS AND REQUIRED REDUCTIONS

- ▶ TMDL REQUIRED SEDIMENT REDUCTIONS FOR WHITPAIN TOWNSHIP  
STREAMBANK EROSION COMPONENT      49,989 LBS/YR.  
OVERLAND RUNOFF COMPONENT      +    121,076 LBS/YR.  
TOTAL REQUIRED SEDIMENT REMOVAL = 171,065 LBS/YR.

TOWNSHIP MS4 AREA IS APPROXIMATELY 66%; THEREFORE,  
**TOTAL REQUIRED SEDIMENT REMOVAL FOR WHITPAIN MS4 =  
113,540 LBS/YR.**

# What is in our TMDL Strategy Plan?

## 4. IMPLEMENTATION PLAN

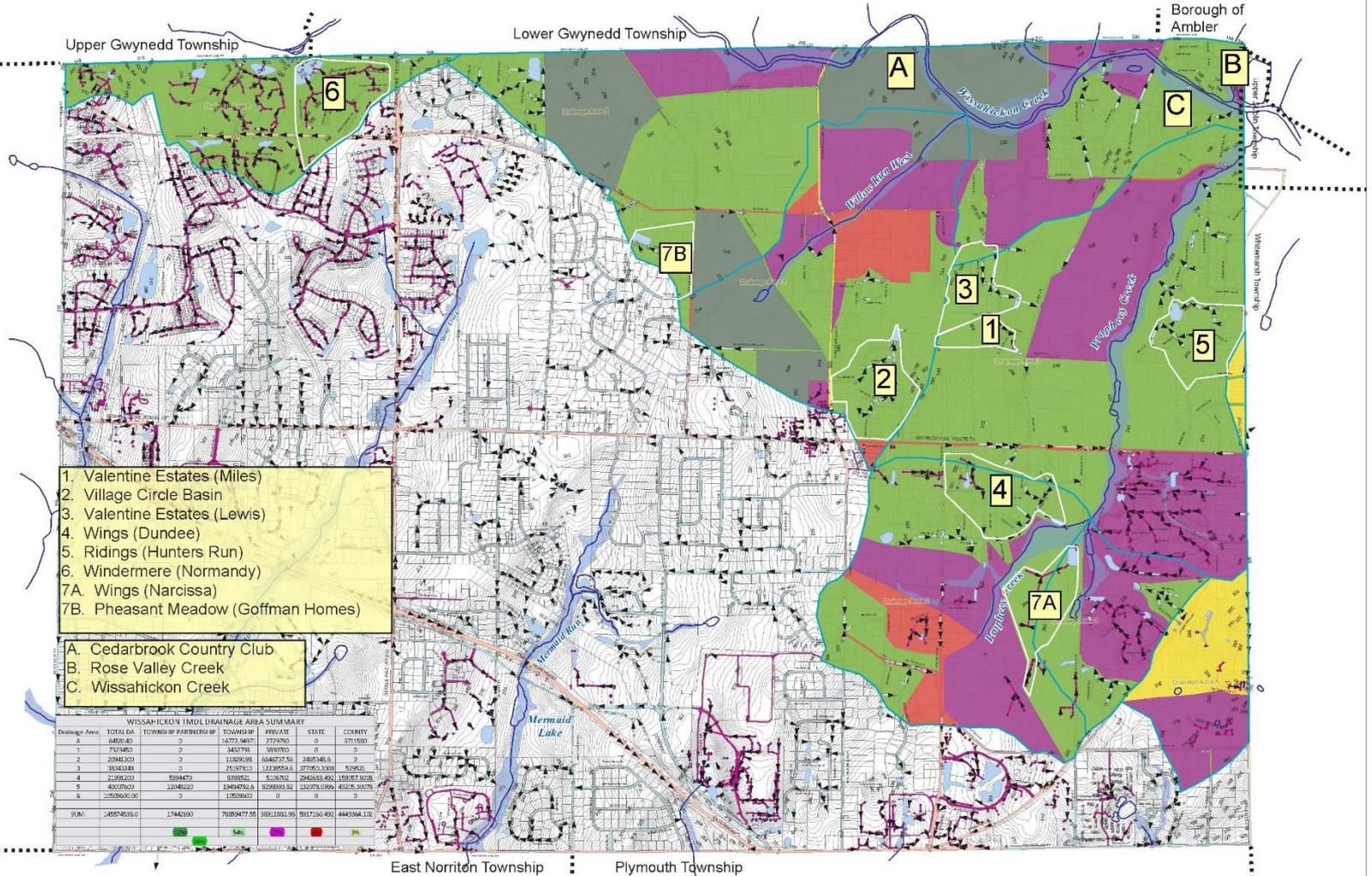
- ▶ THE TMDL INCLUDES A LIST OF BMP CONTROL MEASURES THAT MAY BE INSTALLED TO MEET SEDIMENT LOAD REMOVAL REQUIREMENTS
  - BMP's that were considered include riparian buffers, basin retrofits, tree planting, streambank restoration, rain gardens, green roofs, new infiltration basins
  - Ordinance modifications may also be considered such as revising the Township's stormwater management ordinance to allow more restrictive stormwater systems. In January 2016, Whitpain Township will be adopting the Wissahickon Creek Act 167 model stormwater ordinance.

# What is in our TMDL Strategy Plan?

## 4. IMPLEMENTATION PLAN

- ▶ SELECTED BMP CONTROL MEASURES FOR WHITPAIN TOWNSHIP MS4
  - ALREADY INSTALLED & MAINTAINED BY TWP.
    - Valentine Estates detention basin retrofit (completed in 2010)
    - US EPA streambank stabilization along Wissahickon Creek and Rose Valley Creek adjacent Wissahickon Park (completed in 2009 and 2011)
  
  - TO BE INSTALLED & MAINTAINED BY TWP.
    - Detention basin retrofits (public & public/private)
      - Village Circle, Valentine Estates, Wings Field, Ridings, Windermere, Pheasant Meadow
    - Streambank stabilization along Wissahickon Creek at Cedarbrook CC

# What is in our TMDL Strategy Plan?



1. Valentine Estates (Miles)
2. Village Circle Basin
3. Valentine Estates (Lewis)
4. Wings (Dundee)
5. Ridings (Hunters Run)
6. Windermere (Normandy)
- 7A. Wings (Narcissa)
- 7B. Pheasant Meadow (Goffman Homes)

- A. Cedarbrook Country Club
- B. Rose Valley Creek
- C. Wissahickon Creek

WISSAHICKON TMDL DRAINAGE AREA SUMMARY							
DRAINAGE AREA	TOTAL DA	TCOWNSHIP	PARTNERSHIP	TCOWNSHIP	PRIVATE	STATE	COUNTY
A	64851.43	0	1672.4687	272.9762	0	0	3711630
1	7132.863	0	443.793	309.0703	0	0	0
2	20943.303	0	11801.08	66427.2756	2405348.6	0	0
3	36342.048	0	25.07819	122.89558	372963.3208	52692	0
4	21996.033	8998473	1303652	6124374	2942438.480	1592673078	0
5	44027602	10481623	19484762.6	3096993.82	120078.0586	43225.30378	0
6	22928000.00	0	12928000	0	0	0	0
SUM:	245974538.0	17442693	79389477.55	38911881.96	5817160.492	4443984.102	0

# Installed BMP Control Measures – Basin Retrofit



Valentine Estates Infiltration Basin



# Installed BMP Control Measures – Streambank Stabilization



Wissahickon Creek Streambank  
Geocell & Rip-rap Installation

Wissahickon Creek Streambank  
UPON PROJECT COMPLETION



# Installed BMP Control Measures – Streambank Stabilization



Rose Valley Creek Streambank  
PRIOR TO STREAMBANK  
STABILIZATION PROJECT



# Installed BMP Control Measures – Streambank Stabilization



Rose Valley Creek Streambank  
DURING STREAMBANK  
STABILIZATION PROJECT

Rose Valley Creek Streambank  
AFTER STREAMBANK  
STABILIZATION PROJECT

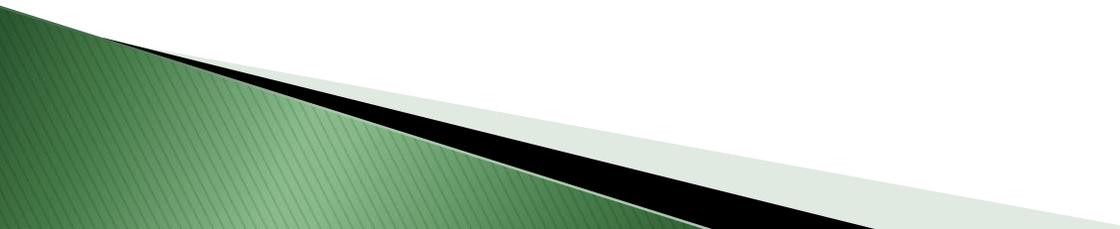


# Examples of “On-The-Ground” Improvements

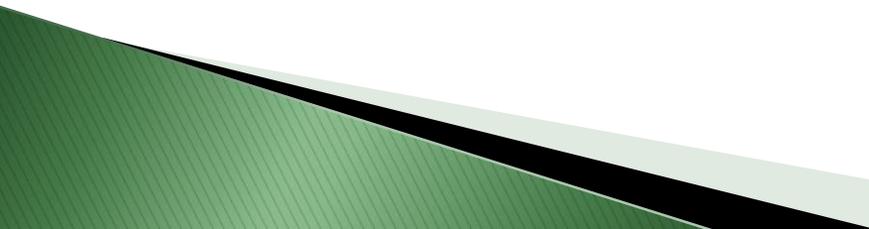
- ▶ Valentine Estates Detention Basin Retrofit & Wissahickon/Rose Valley Creek Streambank Stabilization
- ▶ Proposed Village Circle Detention Basin Retrofit
  - TO BE CONSTRUCTED IN SPRING 2016



# How long will it take to complete the Strategy Plan?

- ▶ The overall implementation plan has a twelve to fifteen year timeline with several “on the ground” improvements already completed or scheduled to be completed within the next five years
  - ▶ We expect to have addressed 36% of the overland flow sediment component and 100% of the streambank erosion sediment component of the TMDL within the next five years
  - ▶ Township plan will achieve full TMDL compliance by 2031
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## What are the next steps ?

- ▶ Address any public comments from public comment period – written comments will be accepted until December 20<sup>th</sup>, 2015
  - ▶ Submit Wissahickon Creek MS4 TMDL Strategy Plan to PA DEP for review by the end of 2015
  - ▶ Obtain PA DEP approval of the Wissahickon Creek MS4 TMDL Strategy Plan
  - ▶ Submit MS4 TMDL Design Details by required date (may be one year from Strategy Plan approval date)
  - ▶ Construct projects included in Implementation Plan
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**THANK YOU.  
ANY QUESTIONS?**

