MUNICIPAL ACTIONS to PROTECT and IMPROVE WATER QUALITY IN THE DELAWARE RIVER WATERSHED

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

MUNICIPAL CASE STUDY

West Chester Borough, Pennsylvania

This case study focuses on West Chester's new Stream Protection Fee Program and outlines key players and leadership, the fee program's development and early implementation, barriers and potential solutions, and recommendations for other municipalities interested in fee programs.

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Background

The Borough of West Chester is in eastern Chester County adjacent to the communities of East Bradford and West Goshen townships. While the borough is relatively small at 1.8 square miles, it includes characteristics typical of many larger cities, including residential neighborhoods, institutions (a state university, hospitals, seat of county government), and an urban core. Founded in 1799, it has a downtown historic district with restaurants and businesses that make it a destination town.

Quick Stats
West Chester Borough

Land area: 1.8 square miles

Stream miles: 2.56 miles

Percentage of stream miles impaired: 100%

Acres of park land: 157 acres

Water and sewer provider: Aqua PA

Population: 18,461 (2015)

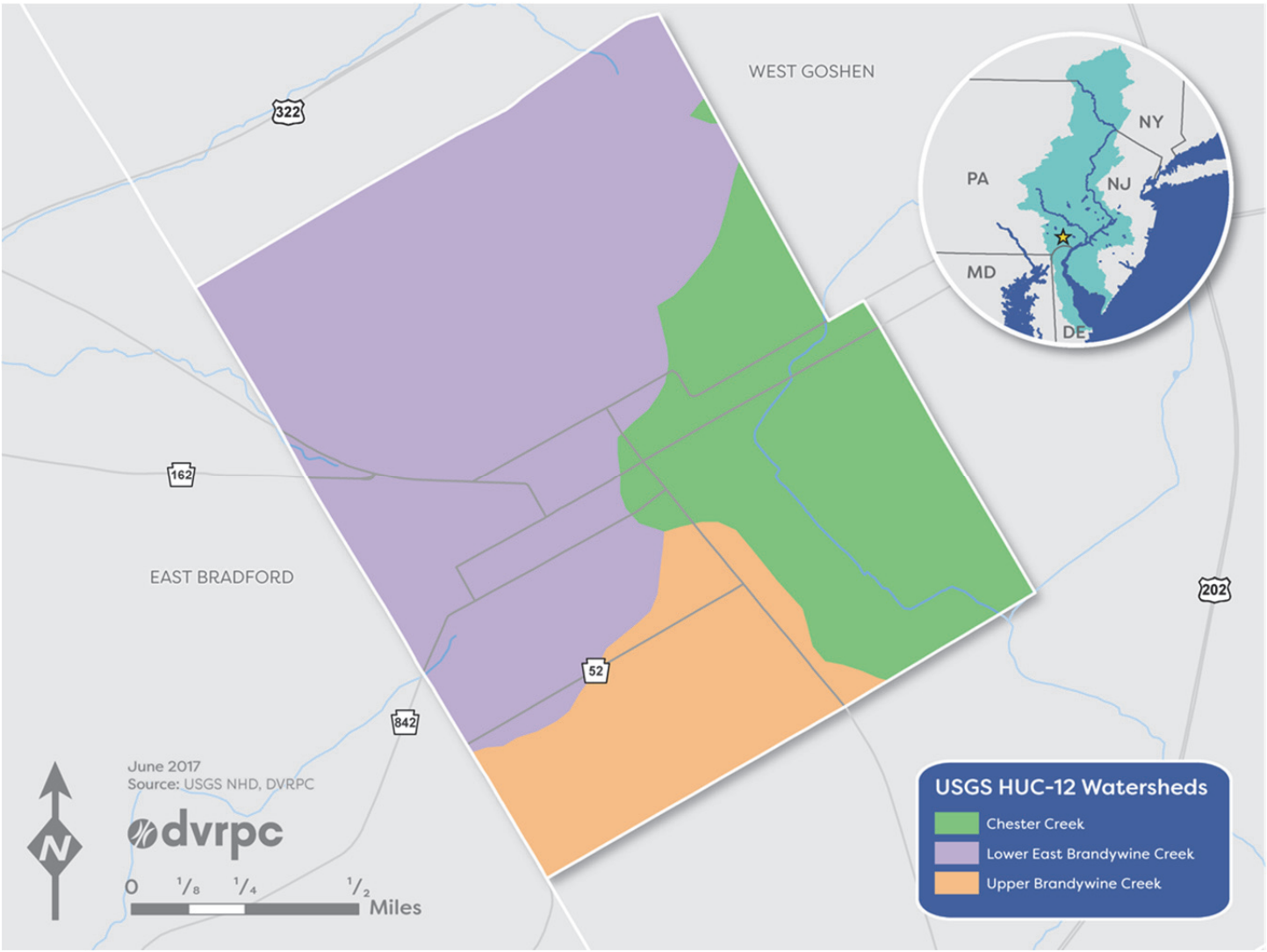
Stormwater Management, Water Quality, and Watershed Health Issues

The borough is located along the divide between the Brandywine and Chester Creek watersheds. Being predominantly urban, most of the borough's land has been built on, leaving little room for new development. Over 50 percent of the land is covered by impervious surfaces.

Water bodies within the borough are encroached upon by older buildings constructed closer to the streams than what is currently allowed. This has created some flooding and erosion issues, such as property owners with eroding stream banks near buildings. This issue is tempered by the location of the borough at the top end of watershed drainage area boundaries.

The borough has a municipal separate storm sewer system (MS4) permit. All tributary streams flowing through the borough are impaired due to nutrient and sediment pollution. Goose Creek originates just upstream of the borough in West Goshen Township before this headwater tributary loops through West Chester on its way to the Chester Creek mainstem. Goose Creek is subject to a Total Maximum Daily Load (TMDL) regulation that requires reductions in nutrient (phosphorous) pollution.

Map: West Chester's Subwatersheds



In addition to the borough's requirement to develop a TMDL plan for Goose Creek, it must now develop Pollutant Reduction Plans (PRPs) for Blackhorse, Taylor, and Plum Goose Runs, which are impaired by sediment/siltation. These streams, which drain into the Brandywine Creek, have tributaries that originate in the borough.

Other reported water quality threats include trash and illicit discharges. When illicit discharges occur (commonly detected when storm sewer discharges are observed during dry weather), the borough must respond by attempting to track the release back to its source and take appropriate remedial actions.

The borough has been working since 2003 to address water quality issues related to stormwater and land development, MS4 permit compliance, and the Goose Creek TMDL. The TMDL has been the most time consuming and challenging, as the borough is required by the Pennsylvania Department of Environmental Protection to reduce phosphorous pollution by 54 percent in the next five years. The new PRP requirements call for 10 percent reductions in sediment pollution in five years as well. The borough reported that it has used

grants to pay for stormwater projects but recognized the need to figure out how to pay for overall costs greater than grant award income.

Water quality issues have ranked high for borough officials and staff based on MS4 and TMDL regulatory requirements. These triggered the borough to develop and adopt a Stream Protection Fee Program. This program to pay for pollutant reduction requirements and related aging stormwater infrastructure maintenance is in its early implementation phase.

Interviewees noted that the public views water quality as a low- to mid-level priority, with issues of historic preservation, traffic, and university impacts on the community being a higher priority. However, interviewees also indicated that the recent implementation of the Stream Protection Fee has increased public awareness of stormwater and water quality issues as residents seek to better understand the rationale for and implementation of the Stream Protection Fee and associated projects and programs.

This case study for the Borough of West Chester focuses on the Stream Protection Fee Program, addressing the following issues:

- key players and leadership;
- fee program development and early implementation;
- barriers to overcome and potential solutions; and
- recommendations for other municipalities interested in fee programs.

Key Partners

West Chester BLUER Committee: Formed 10 years ago to determine the borough's carbon footprint and promote a carbon reduction strategy.

Sustainability Committee: The BLUER Committee evolved into a borough Sustainability Committee.

Councilman Chuck Christy: He was aware of upcoming borough regulatory obligations and encouraged the borough to price out the cost of regulatory obligations and related stormwater infrastructure maintenance.

Stormwater Assessment Advisory Committee (SWAAC): Formed in 2013 to evaluate and advise on the Stream Protection Fee development process.

Two borough managers (Ernie McNeely and Michael Cotter): Effectively communicated with elected borough officials about the need for and benefits of the fee program.

Borough's Public Works Department: Supports implementation through a mix of education, stormwater control measure and infrastructure projects, and the management of private consultant engineering firms.

Key Partners and Leadership

The West Chester Borough Leaders United for Emissions Reduction (BLUER) Committee was formed 10 years ago to determine the borough's carbon footprint and promote a carbon reduction strategy. The BLUER Committee evolved into a borough Sustainability Committee, with Dianne Herron, a BLUER Committee founder, now the Chair of the Sustainability Committee. The committee advises the council on sustainable practices and stormwater, as well as monitoring the borough's carbon footprint. The Sustainability Committee supports the borough's education and outreach work for the Stream Protection Fee. Another borough resident, Courtney Finneran, has been active on the BLUER, Sustainability, and other borough planning committees, and also advised the borough on the Stream Protection Fee Program through her role as a private consultant.

Starting about four years ago, concerns about water quality issues and the cost of MS4 and TMDL regulatory requirements caught the attention of the borough council, with the stormwater fee

alternative initially considered by then Councilman Chuck Christy. Mr. Christy was aware of upcoming borough regulatory obligations and was also observing how Maryland communities were addressing Chesapeake Bay cleanup obligations by investing in stormwater management and water quality programs. The borough began to price out the cost of regulatory obligations and related stormwater infrastructure maintenance. With a three-million- dollar price tag estimated and the lack of a sufficient budget and/or grant support, the borough recognized the need for an alternative financing method like a fee program to meet these obligations.

A Stormwater Assessment Advisory Committee (SWAAC) was formed in 2013 to evaluate and advise on the Stream Protection Fee development process. The SWAAC included borough residents, nonprofit institutions, businesses, churches, West Chester University, Chester County Hospital, Chester County, and borough council and staff.

Two borough managers have been involved with and supported the development of the Stream Protection Fee. They have been able to effectively communicate with elected borough officials about the need for and benefits of the fee program. The first manager, Ernie McNeely, left his position before the fee was passed. While his replacement, Michael Cotter, also supported the fee program, the transition period between the two managers and changes in council seats delayed the fee program's finalization until 2016.

The borough's Public Works Department, including Director O'B Laing, has played a key role in the Stream Protection Fee. The department was involved in an intensive public education and outreach campaign during the development of the program and is supporting implementation through a mix of education, stormwater control measure and infrastructure projects, and the management of private consultant engineering firms.

Stream Protection Fee Development and Early Implementation

The borough's Stream Protection Fee Program was developed over an approximately four-year period. The SWAAC, formed in 2013, has played an important advisory role. The borough also hired an engineering consultant, CH2M Hill (CH2M), to support the committee with policy and technical research. CH2M developed a 2013 *Stormwater Management Assessment Fee Policy Options and Recommendations* report with the SWAAC. The report provided the SWAAC with policy options and recommendations to the borough's elected officials regarding existing maintenance requirements, new project needs, regulatory obligations, funding needs, and financing options. The report assessed both tax and fee finance options, and considered debt financing versus pay-as-you-go funding options.

The report recommended a stormwater management assessment fee based on the amount of impervious surface on each property. The report evaluated various rate structures for the assessment fee, settling on a six-tier rate structure that applies to all properties in the borough. A fee of $6.70/month for 1,000 square feet of impervious area was proposed, based on the expected total stormwater management costs the borough is facing over the next 25 years. It also proposed a credit and rebate system for property owners installing stormwater control measures. This fee reduction program applies to both residential and other properties. Eventually, the fee structure evolved into a six-tiered system (shown below).

Public education was and continues to be the most important activity undertaken by the borough to develop and implement the fee program. Public Works staff with consultant support conducted an intensive education and outreach campaign over three and a half years to reach elected officials and residents. This culminated in the passing of the fee ordinance in mid-2016, with implementation now starting in 2017. Residents' feedback during this early implementation phase indicates that more education is required to explain the fee program.

Stream Protection Fee Rate Structure:

SPF rates are grouped into Tiers based on the amount of impervious area in a parcel.

Tier	Impervious Area/Parcel	Monthly Fee*
1	0-1,000 square feet (ft^2)	$3.35
2	1,000–1,500 ft^2	$8.38
3	1,500–2,000 ft^2	$11.73
4	2,000–2,500 ft^2	$15.08
5	2,500–3,000 ft^2	$18.43
6	> 3,000 ft^2	$20.10 and up

***The base rate has been set at $6.70 per 1,000 ft^2 of IA per month. Tiers 1-5 are charged a flat fee as shown above. Tier 6 properties are charged based on actual impervious area. The monthly fee is multiplied by 12 to determine annual costs.**

Source: West Chester Borough Stream Protection Fee (SPF) Program, Frequently Asked Questions
The table above shows the rates for West Chester's Stream Protection Fee.

The Stream Protection Fee will provide funding for green stormwater infrastructure (GSI) as well as related infrastructure repair and maintenance. Proposed project work has been incorporated into the borough's TMDL compliance plan for Goose Creek, and can also be incorporated into the upcoming (August 2017) PRP planning requirements. The fee will also be used to address aging stormwater infrastructure maintenance and repair, such as lining or replacing subsurface storm sewer piping.

The borough determined that it should lead the way with GSI on public land, in part to serve as a model for projects that homeowners and other private landowners can see and replicate. The borough developed a project plan that shows where GSI, stream restoration and pipe maintenance projects will be implemented. Demonstration projects include rain gardens, bioswales, green streets, tree planting, and pervious pavement. The borough has completed feasibility studies for GSI projects and will be using revenue from the Stream Protection Fee, a municipal bond, and grants to fund design and construction phases. This work is being completed by borough Public Works staff and by consulting engineering firms when their expertise is needed. The borough has employed CH2M for work on the Stream Protection Fee Program, including educational programming and project development, and with Gilmore & Associates Engineering for MS4 compliance activities.

Source: West Chester Borough Public Meeting 2/2/17 Stormwater Fee Presentation
This photo shows sediment-laden runoff in West Chester Borough.

Challenges to Overcome and Potential Solutions

This section summarizes the Stream Protection Fee Program challenges and potential solutions identified by the borough representatives interviewed for this case study, organized into the following categories:

- Education and Outreach
- Training Needs
- Multi-Department Coordination and Related Staffing Needs
- Funding/Sufficient Budget

Challenge 1: Education and Outreach

Conducting effective education and outreach programming is the primary issue identified by borough representatives. A key challenge noted is that you can never do enough outreach; some people are still going to be surprised about receiving a new fee.

Two key audiences were identified: borough elected officials, who needed to approve the ordinance for the fee program; and residents and other property owners, who will be required to pay the fee based on the amount of impervious surface they own. Education and outreach programming can also be broken down into two time periods: during the *development* of the fee program, and during the *implementation* of the fee program.

Education and Outreach during Development of the Fee Program

Education and outreach to elected officials during the development of the fee program needed to focus on clearly articulating why a fee program was needed. To do this, borough staff used their available communication platforms (reports and presentations to council) to highlight stormwater funding needs and options. These communications documented the borough's stormwater management and operation/maintenance fiscal needs, and the shortfall between these requirements and the general fund budget. They also communicated that grants can help bridge the shortfall but require a match (at least 25 percent).

As noted in the "Key Players and Leadership" section of this report, the borough did have early awareness on the part of council members and borough managers about stormwater management needs and the fee funding option. The 2013 *Stormwater Management Assessment Fee Policy Options and Recommendations* report highlighted these issues, and the borough managers and staff communicated these issues to the council whenever they had the opportunity. While delayed due to the change in borough managers and council members, this overall communication effort led to the Stream Protection Fee ordinance being considered and approved by the borough council in June of 2016.

Concurrently, the borough conducted an intensive public education and outreach program during the fee development period, using the expertise of the SWAAC, the Public Works Department, and contractor CH2M. The borough used a variety of educational platforms, including council committees, public meetings, stakeholder meetings, public hearings (for ordinance), open houses, mailings, newsletters, and social media. Some of the messaging points delivered are listed below, and are also highlighted in the *West Chester Borough Stream Protection Fee (SPF) Program, Frequently Asked Questions* (December 2016) document:

- The borough needed dedicated funding to meet cost requirements, and general fund and grants do not provide enough funding.
- The fee applies to all properties, including tax-exempt properties.
- The fee is not a tax. If the borough had developed a tax-funding option it would have cost impacted tax payers 2.5 times more to cover stormwater management costs.
- The fee can only be used for stormwater management projects! It does not go into general fund programs.
- Credits/fee reductions are available for people doing on-site stormwater management (for both residents and larger properties).

Borough officials also considered communication strategies recommended by Eric Eckl of Water Words that Work, presented during an October 2015 Villanova Municipal Workshop. These messaging strategies are further documented under the presentations posted at https://sites.google.com/a/waterwordsthatwork.com/selling-stormwater-management/. The borough considered the recommendation that it is best to explain your stormwater fee program in a language people understand. The primary goal of the program is to protect streams, and a "stream protection" message will be understood and resonate with the community more than a "stormwater management" message. For this reason, the borough adopted the name "Stream Protection Fee Program."

Overall, the borough considered its education and outreach activities during the development of the fee program to have been effective, as opposition to the Stream Protection Fee was negligible. Those persons who expressed concern about the fee were consistently offered the objective rationale for the program.

Education and Outreach during Implementation of the Fee Program

With a January 2017 start, the Stream Protection Fee Program is in its early implementation stage. A key challenge noted by borough representatives is that despite extensive education and outreach during the development of the fee program, many people were surprised about the new fee assessment. During the first months of implementation the borough reported receiving many questions as people received their first Stream Protection bill.

With the recent launch of the Stream Protection Fee Program, the fee is now of high concern to residents. One of the borough representatives interviewed for this case study has been going door to door to talk to residents as part of a political campaign; she reported the following feedback from residents:

- The Stream Protection Fee is the number one or two thing that people are concerned about.
- They are concerned about what the fee will be used for. Is there is a Stream Protection Fee budget? How will the fee revenues be managed/used?
- There are concerns the fee money will go to the general fund.
- They ask about when the borough will achieve the objectives of the fee program. When does the fee program stop?
- They view the fee as a tax, and that it will exist in perpetuity.
- They view the fee as a significant increase in their water bill. The borough is diverse; for some low-income people, the fee is a significant hit on their budget.
- Some residents do not understand the regional stormwater management issues; they see the stream in their backyard as being okay.
- Some of the larger properties are reacting negatively to the higher fees required for their impervious surface footprint (e.g., churches with parking lots and buildings).
- The fee is viewed by some as a burden. The rationale for the fee was not understood by many in the community.

The sentiments above indicate the pre-implementation messaging may not have reached enough residents. It was evident that despite the extensive education effort, many people did not understand or hear about the Stream Protection Fee before getting their first bill with the additional fee, which got their attention. Municipalities can never do enough outreach; some residents are still going to be surprised about the new fee.

Borough representatives recognize that the education and outreach effort must continue during the implementation phase as the fee emerges with more clarity on people's radar. One of the borough

representatives noted that specific educational programs should have been earmarked upfront to the larger properties facing bigger fees (e.g., address their concerns preemptively).

The borough is willing to receive outside ideas on how to improve its public information programming.

Challenge 2: Training Needs

Seeing the increased need for education and outreach, borough representatives proposed several training programs that would both support and improve the effectiveness of the educational programs delivered:

- Provide training to elected officials and other leaders to help them better understand and advocate for stormwater and water quality needs. Help connect the dots on relationships between stormwater, watershed health, and related regulatory requirements. This could be a training program or watershed summit for elected officials. Keep it at a general concept level, not in-the-weeds training.
- Expose elected officials to the full gamut of stormwater management activities that municipal Public Works staff and other departments are required to accomplish. This will help elected officials better understand the responsibilities and finance needs of each department.
- Provide training to staff/managers/employees that delves more deeply into issues, problems, and solutions. For example, provide internal training to Public Works staff, so they are better able to respond to complaints and questions about the fee program. Have question/complaint response education (e.g., that address the issues that are raised by developers/residents). The primary resource materials are already available; the issue is to train the people to deliver materials.
- Develop and implement employee training programs that address how to effectively communicate to the public/community members; public outreach 101 training. The borough representatives interviewed for this case study believe they had applied proper communication techniques but are willing to learn more about communication programs that get to the essence of:
    - Why is this issue important?
    - Why do we need to do it this way?
    - Why the borough needs to take the lead?
    - How expensive is this?
    - What we are doing right now to follow the regulatory requirements?
- Hold workshops (e.g., by the Sustainability Committee) to help residents reduce their fee by installing rain barrels and rain gardens. Assistance could be provided, such as free rain barrels, direct assistance with building rain gardens, or designing street tree planting programs that provide fee reductions.

Challenge 3: Multi-Department Coordination and Related Staffing Needs

Multiple departments need to be involved early during the development phase of a fee program, based on the general roles they play in municipal government. For example, administrative/management departments typically address financing issues, public works or engineering departments typically address physical stormwater management work and related training, and planning departments might conduct parcel tracking analysis. These and other municipal departments should be involved early in the planning process through communications and meetings, and have their implementation roles clearly delineated.

The setting up of the billing system was pointed out as a key coordination issue. Municipalities may not have utility billing systems. In West Chester, Aqua PA (the borough's water and sewer utility) mails out sewer bills and had concerns about adding the Stream Protection Fee to the bill or providing the billing database. The

borough created its owns Stream Protection Fee billing system. Implementation issues such as these need to be addressed early in the planning phase.

Related to this inter-departmental coordination is the need to have adequate municipal staff to manage the fee program and overall stormwater management program. The borough (and municipalities in general) does not typically have dedicated staff for stormwater management. As previously noted, the Public Works Department can manage some of the tasks and relies on contractors for others. They also have a sustainability director, who is becoming more versed in stormwater management work.

It was recommended that hiring employees dedicated solely to stormwater management would be helpful. But with this recommendation came the understanding that the hiring of additional staff comes at a cost and can also be a more involved process than hiring consultants. It was noted that many municipalities have hiring moratoriums, leaving remaining staff with more and more to do, and no way to add staff.

Motivating Factors

Pressure from citizens groups: BLUER, and later the Sustainability Committee, held elected officials accountable for environmental issues

Regulatory pressure: West Chester needed to create a TMDL plan for Goose Creek and PRPs for Blackhorse, Taylor, and Plum Goose Runs

Lack of sufficient funds/grant opportunities: Forced the borough to evaluate other revenue sources

Issues with flooding

Challenge 4: Funding/sufficient budget

Borough representatives emphasized the importance of upfront accounting to determine what stormwater management costs are and will be. The proposed fee and other sources of revenue should then be high enough to cover costs (with the fee closing the gap after the consideration of other revenue streams).

Adjustments on timing may be necessary to bring the proposed fee into an affordable range. The borough did several iterations of potential fees, starting with a two-tier structure; the consideration of low, medium, and high fee rates; and the final decision to adapt the six-tier rate structure based on impervious surface. The borough also is using a $2.3 million bond to seed the funding of capital projects as the program gets started.

Recommendations for Other Municipalities Interested in Fee Programs

Based on their experience with the Stream Protection Fee Program, borough representatives were asked what other municipalities should evaluate as they consider stormwater financing/fee options. The following recommendations were provided:

- *Learn from your peers*: Bring in those interested to sit around a table and hear from those who have implemented fee programs. Have those who have implemented fee programs provide a synopsis of milestones and lessons learned. Tell them the story; let them hear how it works; develop case studies.
- *Choose a consultant carefully*: The selection of a consultant who can help the municipality conduct a feasibility assessment, propose financing/fee options, and determine the appropriate fee calculation method is key; a municipality needs to make the right selection. This is a specialized field; it will not necessarily be a municipality's consulting engineer. Ask other municipalities whom they picked and why. Look for proven track records. West Chester heard from five firms when they issued their consultant request for proposal (RFP). Help municipalities with how to put out a good RFP so they can get a comparative set of proposals and choose a consultant.

- *Make sure you raise enough*: Make sure the fee is enough to cover stormwater management budget needs, such as capital project costs, as well as administrative, finance, operation/maintenance and enforcement costs, including staff time.
- *Focus on the Pollution Reduction Plan (PRP) process*: This will help with the five-year planning requirement of the MS4 permit program (with the caveat that longer-term planning timelines such as the 25 years considered for the Stream Protection Fee Program should be considered). Train municipalities on ways to develop plans/pollution reduction projects.

Conclusion

While West Chester is still in the early phases of implementing its Stream Protection Fee Program, its lessons learned in the process of passing the fee—especially about the need to educate residents, train municipal staff, coordinate between departments, and raise sufficient funds—are helpful to other municipalities who are considering similar fees to fund and maintain green stormwater infrastructure.

Sources

Borough of West Chester. *Borough of West Chester Stream Protection Fee*. http://www.west-chester.com/469/Stream-Protection-Fee

———. *Comprehensive Plan for the Borough of West Chester, Chester County, Pennsylvania*. November 28, 2000.

———. *Stormwater Management*. http://www.west-chester.com/187/Stormwater-Management. (This site has links to the following key documents and other reference materials: *Impervious Area Map, Stream Protection Fee Overview, Stormwater Management Assessment Fee—Policy Options and Recommendations, Stream Protection Fee Ordinance, Stream Protection Fee Commonly Asked Questions, Goose Creek MS4 TMDL Plan*.)

Finneran, Courtney. Community advocate and a consultant. Telephone interview, March 1, 2017, 9:30 am to 10:30 am, with Paul Racette, Pennsylvania Environmental Council.

Herrin, Dianne. Chair of Borough of West Chester Sustainability Committee. Telephone interview, March 24, 2017, 9:00 am to 10:00 am, with Paul Racette, Pennsylvania Environmental Council.

Laing, O'B. Public Works Director, Borough of West Chester. Telephone interview, February 14, 2017, 5:00 pm to 6:15 pm, with Paul Racette, Pennsylvania Environmental Council.

Stormwater Authorities in Pennsylvania. *A New Option for Pennsylvania Local Governments to Protect Your Water Supplies, Reduce Floods, and Improve Their Communities*. https://sites.google.com/a/waterwordsthatwork.com/selling-stormwater-management/

Addendum: Additional Lessons Learned from March 30, 2017, Stormwater Fee Workshop Held by Pennsylvania Environmental Council and PennFuture

Pennsylvania Environmental Council and PennFuture held a Stormwater Fee "Beta" Workshop with nonprofit partners and municipal representatives to test out a stormwater training program that will be offered to municipalities interested in learning more about stormwater financing and fee options. A summary of lessons learned from the workshop that add to or complement Borough of West Chester case study conclusions are as follows:

- When communicating stormwater program needs and appropriate levels of financing, focus on the opportunities and benefits associated with proactive stormwater management rather than on the regulatory burden and potential fines. Examples of positive benefits include protection of life and property from flooding, cleaner water, improved quality of life, and management of future financial risk.
- If referencing regulations, use the argument that action now will reduce future regulatory burdens and higher costs.
- A credit system is a required element of a fee program. Be sure to describe the credit system, including who can access it (e.g., residents, homeowner associations, larger properties) and how. Develop and promote rebate programs (e.g., rebates for rain barrel purchases or rain garden materials).
- Address equity and fairness issues (e.g., smaller properties generate less runoff, so they should pay a lower fee). Extend credits and/or rebates to all landowners impacted by the fee to make it more equitable.
- Involve external partners, like local nonprofits, in education and outreach programming. Also look for opportunities to include green stormwater infrastructure in community infrastructure projects, such as roads, buildings, trails, and parks.
- Adjust pitch to municipalities to focus on the opportunities to use a stormwater fee to avoid pressure on general fund revenue derived from taxes. In current political terms, raising funds via user fees is greatly preferable to increasing taxes.
- When determining total stormwater management costs and budget requirements, the municipality should consider what is spent on stormwater activities and programs across multiple departments.

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