

## Appendix F Presentation Outline

### *Bangor Clear Streams Project (Slide #1)*

Good evening and thank you all for being here tonight. My name is \_\_\_\_\_, and I'm here to talk to you about the Bangor Clear Streams Project, which is a term that we use to describe the efforts of the City and others to manage stormwater and surface waters.

### *History (Slide #2)*

We're going to start with a little history of sewer and stormwater management in Bangor. Historically, our biggest concerns were dealing with sewer water, dealing with big polluters, and making sure there wasn't any flooding. Until 1968, underground pipes collected our sewer water and carried it to the Kenduskeag or the Penobscot untreated. There are still many people who can remember those days.

As a community, we have worked hard to take care of these problems, and we have had many successes.

### *History (Slide #3)*

We built the Bangor Wastewater Treatment Plant and collection pipes in 1968 to remove sewer water from the streams and rivers at a cost of about \$30 million. Then we separated many of our sewer pipes from our stormwater pipes so storms would not cause sewers to overflow, and paid for much of that \$40 million cost through sewer fees. We also built detention ponds and channels to minimize flooding. Nationwide, most large polluting municipalities and companies have cleaned up their waste water.

While we would like to think the job is finished, and that our streams and rivers are clean and healthy, we still have a long way to go, and we aren't alone. The focus has historically been on sewage and industrial pollution, but the largest source of pollution in the Nation's rivers and streams today is stormwater.

### *What is stormwater? (Slide #4)*

When rain falls or snow melts, one of three things happens: it soaks into the ground; it evaporates into the air; or it runs off rooftops, driveways and streets, often draining to ditches, culverts, or the City's stormwater system, and eventually drains to a stream or other water body. The water that runs off is called stormwater. As land becomes developed with roads, roofs, driveways and parking lots, we create more and more land that doesn't allow rain to soak into the ground. We call these impervious surfaces.

### *Why is stormwater a problem? (Slide #5)*

So, why is stormwater a problem? As water runs off, it picks up dirt, oil from vehicles, salt, fertilizer, and other pollutants, rinsing them through the stormwater system and into the streams. The more impervious surfaces we have, the less rainwater is allowed to soak into the ground, and so more pollutants get carried into the streams. Stormwater running off from impervious surfaces also results in higher stream temperatures and faster, higher flowing streams. All of these pollutants harm the aquatic life in the streams. Increased stormwater runoff can also lead to flooding and loss of property.

#### *Impervious Cover by Land Use type (Slide #6)*

As you can see, impervious cover in Bangor is made up of different types of development. Residences, businesses, and governmental and nonprofit institutions all have large amounts of impervious cover, and contribute polluted stormwater to our streams.

#### *Urban impaired streams (Slide #7)*

As a result of polluted stormwater running off of impervious surfaces, Bangor has five streams that the State has identified as urban impaired streams. This means that the streams are not meeting water quality goals set by the Legislature under the federal Clean Water Act. Those five streams are the Penjajawoc, Birch Stream, Arctic Brook, Capehart Brook, and Shaw Brook. You can see where those streams are on the map.

#### *Need for Action (Slide #8)*

So Bangor, like many other communities, has a stormwater problem. Bangor is a community that takes pride in and cares about being a great place to live, and that includes its environment. One of its advantages is the beauty of its natural resources throughout the City, and its proximity to pristine natural recreational areas. We need to do what we can to preserve that. Also, because we have those 5 urban impaired streams, if we don't improve the water quality of the streams ourselves, the State and Federal governments will probably force us to, and in the way that they choose rather than how we choose.

#### *Solving the Stormwater Problem (Slide #9)*

How do we go about dealing with stormwater? It helps to think of stormwater management as having four parts: information, a plan, implementation of the plan, and funding. We need information and data on the streams' problems; we need to plan how to fix those problems; we need to implement those plans, to put them into action; and we need money to pay for all of this. We have made progress on each of these parts already, but much more remains to be done.

#### *Information (Slide #10)*

First, we gather information. The main way in which the health of a stream is judged is by what kind of bugs live in it; for example, as fly fishermen know, having lots of stone flies is a sign of a healthy stream. The bugs tell us whether the stream is impaired, but in order to figure out what is causing the impairment, we measure many other factors - salt, temperature, dissolved oxygen, flow, precipitation, and others. We already have quite a bit of the necessary data, especially on the Penjajawoc and Birch Streams. In order to plan effectively, we'll need to continue monitoring the streams and expand upon that monitoring (particularly in the other streams). Some of this data collection is being done by volunteers, but a lot of it requires trained professionals, and that costs money.

### *Planning (Slide #11)*

In addition to gathering and reviewing data, we need to plan how to manage stormwater better. Through the plans we have already completed for Birch Stream and the Penjajawoc, we know we need to construct stormwater filtering systems; repair stream banks; enhance our street sweeping and catch basin cleaning; and teach people how to reduce stormwater impact. We expect the plans for the remaining three streams to have similar recommendations.

### *Implementation (Slide #12)*

In order for the community to benefit, those plans have to be implemented. Due to recent government funding, a lot of stormwater work is already being done in Bangor by the City, property owners, and others, but a lot more remains to be done before our streams are no longer impaired, and that funding is not likely to continue. While implementing the plan, we'll need to continue to collect data to see if the improvements are having an impact, and adjust the plan accordingly. It's important to follow up in this way to ensure that the money and effort being invested in the streams are actually going to improve the water quality.

### *Annual SW Costs (Slide #13)*

Data collection, planning, and implementation all require money. According to a preliminary budget we've put together, we estimate the cost to be about 2.3 million dollars a year for a stormwater program that does what we need it to do. This would include systematic data collection of bugs and pollutants; designing and installing filtering systems; repairing and improving drainageways; increasing street sweeping and catch basin cleaning; buying equipment; educating residential and business property owners; and paying the people doing all this work.

2.3 million dollars is a lot of money. Where is that money going to come from? What are our options?

### *Options for Action (Funding) (Slide #14)*

There are a number of different options. We've been lucky to get a lot of grant money, and the Department of Environmental Protection has been a big help there. We'll continue trying to get outside funding, but grant money is unpredictable and short term, and will never cover more than a small portion of stormwater costs. Apart from grants, there are basically three options.

#### *Funding - Do nothing (Slide #15)*

First, we could do nothing, or, more accurately, continue with the limited stormwater work that's already going on. This probably wouldn't be allowed to continue for more than a year or two. After that, the state and federal government will probably require us to take additional action.

We know this because it's already happened once in Maine, for the watershed of Long Creek, an urban impaired stream in the Maine Mall Area in southern Maine. There, property owners over a certain size have been given two options: either to pay \$3000/year for each acre of impervious cover they have, or to bring their own property up to current stormwater control standards. As you can see from the estimates shown in this slide, meeting those standards can be very expensive.

#### *Funding - Property tax (Slide #16)*

Another option would be for the City to pay for improvements through the property tax. This would require a fairly significant hike in the tax rate -- our estimate, based on that preliminary stormwater budget we've put together, would be a tax rate hike of a little under a dollar, or just under 5%. Government owned and nonprofit properties don't pay property tax, so the full burden would be on Bangor taxpayers. Fees would be assessed according to the value of each property, not according to how much each property contributes to stormwater problems.

#### *Funding - Utility District (Slide #17)*

The final option is a stormwater utility district. A stormwater utility district is a lot like a sewer or water district. A property owner pays a fee based on the amount of service that is provided; in other words, how much stormwater runs off from a property that needs to be dealt with. Impervious cover is a good measure of how much a property is contributing to the stormwater system. It's a much fairer indicator than using the value of the property.

Since this would be a fee instead of a tax, all property owners with impervious surfaces would have to pay. This includes residents, businesses, nonprofits, other institutions, and probably governments as well - local, state, and federal. Because it would be spread among more properties, the cost per property owner or acre of impervious cover would be much more affordable. Instead of \$3000 per acre, it is estimated the cost per acre of impervious would be a little over \$600. This would translate to about \$450 a year for an acre lot with 70% impervious cover, or a little under \$12 a quarter for a single family home.

## Summary (Slide #18)

While we all want clean, healthy streams in our community, nobody wants to spend more money, especially with the economy where it is right now. Yet with five urban impaired streams, we are pretty certain that we're going to end up paying money one way or another. The question is which is the best option for Bangor from those that we have.

With a reliable and sustainable source of funding, the City would have a strong argument that we're doing what needs to be done for our urban impaired streams, which would help keep the state and federal governments from getting involved. This means we would keep more local decision-making authority over how to spend our money than we would if we did nothing.

## *Next Steps (Slide #19)*

We have identified steps we need to take to improve the water quality of our streams and river. We need a stable, sustainable source of funding to implement those steps.

We'll be continuing to do these presentations over the next few months. In order to help us to understand our options, and based partly on the feedback that we receive from you, we'll be developing a model of a stormwater utility for Bangor, to see how it could be organized, and how it could help make Bangor's stormwater program successful.

If you would like to become more involved or get more information, visit our website at [bangormaine.gov](http://bangormaine.gov) and click on the stormwater link.

If you have any questions, I will try to answer them now, or you may contact me at

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