



MLK DAY, January 18th, 2016

Mayor Jim Kenney
Mayor's Office, City Hall
1501 Market St #215
Philadelphia, PA, 19102

SCALING UP OUR GREENING POLICIES

Dear Mayor Kenney:

We, high school students from several schools in Greater Philadelphia, having participated in the 2016 Water Model United Nations Conference held at the University of Pennsylvania to address storm water management, petition you, as you begin your term as the 99th mayor of the City of Brotherly Love, to make storm water management the cornerstone of your green city policy with a pledge “to make Philadelphia the greenest city in the United States within a generation.” It is crucial that the city manages its water through sustainable and innovative policies and technologies to mitigate the many consequences of climate change and increasing runoff, which we have detailed below.

Why do we believe Philadelphia should put more time and resources into managing storm water? In terms of the status of water issues in Philadelphia, we have found that the sewer system currently in use needs severe renovation. The average age of water lines in Philadelphia is roughly 78 years old, while the average age of wastewater lines is about 100 years old. Although water treatment plants are constantly renewed to meet water pollution standards, they are also roughly of the same age as water pipelines. Moreover, the recent water crisis in Flint, Michigan, due to high levels of poisonous lead, has shown that public water systems require careful attention to avoid potential health hazards.

In Philadelphia, health hazards are caused by climate change and runoff. Our beautiful city will become more vulnerable to water-related natural incidents. Events, such as hurricanes Sandy and Katrina, will become more frequent and severe, impacting the infrastructure of cities, such as Philadelphia. Sandy caused major flood damage to subway lines and beach towns such as the Jersey Shore and Far Rockaway, New York. It is one of the most expensive hurricanes, costing over \$30 billion in damages and \$2.6 billion in repairs. As for Hurricane Katrina, it was the most deadly hurricane in our history and, due to the ecological surroundings, it caused major flooding, especially in low-lying, poverty-stricken areas. Philadelphia's future could look more like New York and New Orleans, as it is projected to be the tenth worst hit city in the United States by hurricanes. Consequently, the city will encounter more flood issues in the future.

The increasing number of floods in Philadelphia will not only affect public health and property, but also historical sites. Our city boasts an unparalleled cultural and historical value, which must be preserved and celebrated for the years to come. Philadelphia is renowned for its preservation of historical buildings



and sites and can proudly boast to be the first US World Heritage City. However, due to the problems in storm water management and heavy rainfall, the sites will become more prone to flooding, irreparable damage, and erosion. Proper improvements in storm water management will alleviate these consequences and will not only prevent future damage to the city of Philadelphia, but also help informing the city councils and mayors around the globe.

We have also learned from organizations like the Union of Concerned Scientists, that the effects of global warming are already upon us and that we can expect rising sea levels, with globally one out of ten people potentially living below the future high tide mark. These changes in our climate force us to adapt. A hundred years ago, the capacity of the Philadelphia's water system was sufficient for the needs of that time; however, as the effects of climate change increase, floods become a more imminent threat to Philadelphia's citizens. In order to mitigate floods and, as will be discussed later, runoff, Philadelphia must work to increase the capacity of our water infrastructure. All of this underscores the importance of having a resilient, monitored sewer system with a high processing capacity.

Regarding runoff, Philadelphia's built and natural infrastructure, including its impervious surfaces (e.g. cement) and its numerous capped rivers, result in increased surface runoff and related health problems after it rains. Our current storm water system only stops 70% of sewage runoff from entering the water supply untreated. Runoff is especially problematic as storm water carries substances such as fecal matter, chemicals and trash into the bodies of water from which we draw to drink and bathe. Philadelphia's water management system will be increasingly unable to efficiently combat pollution and flooding, and every day our citizens are exposed to the aforementioned pollutants, not to mention the remnants of prescription drugs that are flushed down toilets. If not addressed today by our leaders, the people of Philadelphia will be exposed eventually to more pollutants and putrid drinking water by this city's inadequate water systems.

Philadelphia's leaders should also look abroad for inspiration. Plenty of countries across the globe have started to implement successful solutions for stormwater management. In Rotterdam, the Dutch have explored water plazas in an attempt to reduce runoff. These are commonly referred to as water squares. During heavy rainfalls, the water plazas fill up with rain water in a controlled manner. This could help the city of Philadelphia control storm water. During drier times, the space can also be used for recreational purposes such as picnics, games, sports and other activities. This can create open spaces for youths and adults alike. Furthermore, we are interested in the sustainability of city life as described in the working documents prepared for the UN Conference Habitat III, to be held in Ecuador in October this year. We do think that the slogan The City We Want should be adjusted to reflect the idea that if the water is clean, the city is green. We hope that Philadelphia will attend the Habitat III Conference to learn more from its foreign sister cities.

Philadelphia should also adopt the five principles underlying the new United Nations Sustainable Development Goals, as they are relevant to our survival as human beings. Planet, people, prosperity, partnership, and peace are the interconnected pieces of sustainable development that we fully believe



Philadelphia should focus on. All 17 of the Sustainable Development goals are important to us, but we think that Philadelphia should place specific emphasis on goals 3, 6, 9, and 13. Goal 3, for example, states that governments should “ensure healthy lives and promote wellbeing for all at all ages,” which can be connected to water management because water is a limited resource that every living organism needs, it’s important to have clean water to sustain healthy lives. Goal 6 states that governments should “ensure availability and sustainable management of water and sanitation for all,” Goal 9 states that they should “build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.” Moreover, Goal 13 states that governments should “take urgent action to combat climate change and its impacts.”

Aside from looking abroad, Philadelphia’s leaders should also seek guidance at home. We would like to make additional recommendations regarding partnerships that could be established between the city of Philadelphia and Non-Governmental Organizations (NGOs). We believe that such partnerships will ensure the effectiveness of proposed solutions and have the greatest impact on as many individuals as possible. We believe that these partnerships with NGOs should be emphasized because they provide access to experts on storm water management in order to accurately identify the issues that we must address. The government’s interaction with water experts can be facilitated by creating a special committee that has a full understanding to the major issues.

In addition to partnerships with NGOs, we encourage partnerships that incentivize individual citizens to participate in awareness-based and activism projects. Promotional campaigns (including social media and posters to engage the youth in particular) can share knowledge about water systems and increase citizen participation in water-related initiatives. We propose that a unique hashtag also be created to promote the rain barrel program to a larger audience. The hashtag can be printed onto the barrels and people can use social media to talk about what they are using their rainwater for.

Moreover, we believe that increased education in communities will help improve existing water programs in Philadelphia. If these efforts come from the community as opposed to government policy, the programs will be more effective. Communities will be more motivated to sustain the programs and the programs will be more appropriate for the needs of the individuals, increasing cooperation and a shared will for participation. We think that this can be done through identifying community leaders who are invested in water issues and providing these leaders with resources to engage the people in their communities. We envision that this can happen through a few methods. One could be an incentive such as a stipend provided to people who engage in this work (modeled on programs that provide stipends to people who give out free lunches in their communities). In addition, we think that involving businesses in this program would help increase knowledge and publicity of the program. Following the model of LEED (Leadership in Energy & Environmental Design) of the U.S. Green Building Council certification program, businesses could receive special recognition or a certification from the city, which would encourage more public attention to both the businesses and the policies with an increased focus on health awareness in today’s world.



Another idea to engage more people in this program would be to develop an art competition where people design water barrels. This could help to draw attention to the rain barrel program within both the younger and older generations. Social media could be used for the competition and the public could vote on the best design. The winning design could be printed on limited edition barrels, which will be given to the first people to participate in the program following the competition.

Finally, Philadelphia should expand its use of technologies rather than solely relying on political and social campaigns. The development and implementation of green technologies, such as rooftop gardens, rain barrels, and permeable pavements, will serve to regulate the future management of storm water. The benefits of creating and implementing green tools across the city (such as Philly Watersheds) would include increasing property values, beautifying and creating safer neighborhoods, public spaces and schools & creating natural habitats. It would also fuel the economy in Philadelphia, creating high-value, new jobs for residents and attracting smart workers and firms to move into the city.

We have truly appreciated the educational value of attending academic conferences such as Water Model United Nations Conference and would encourage you to engage more with high school students and continue to provide them with similar opportunities. The conference not only served as an opportunity for us to engage with our peers, but to also think critically about the causes and solutions to storm water management. It has been a great honor writing to you, and we hope that you will seriously consider several of our initiatives. Thank you for taking the time to read this petition.

Sincerely,

On behalf of the participating students, (list of participants attached)

Kelly Bridges,
Conference Coordinator.

NB. 1 The Model United Nations Conference on Water Stewardship is a collaborative effort of the Global Water Alliance and the United Nations Association of Greater Philadelphia.

NB. 2. The participating students came from:
Abington Senior High School
Furness High School
Kensington High School for the Creative and Performing Arts
Lankenau High School
New Media Technology Charter School
Science Leadership Academy at Beeber
Tacony Academy Charter High School