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# Save the Rain

## Second Quarterly Report 2013

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April - June 2013



Joanne M. Mahoney  
County Executive

Save the Rain  
[www.savetherain.us](http://www.savetherain.us)

# ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION

## VISION

*To be a respected leader in wastewater treatment, storm water management, and the protection of our environment using state-of-the-art, innovative technologies and sound scientific principles as our guide.*

## MISSION

*To protect and improve the water environment of Onondaga County in a cost-effective manner ensuring the health and sustainability of our community and economy.*

## CORE VALUES

**E**xcellence

**T**eamwork

**H**onesty

**I**nnovation

**C**ost-Effectiveness

**S**afety



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# Project Progress

## Report from Commissioner

The County's ACJ compliance progress continues to make tremendous strides. The most graphic example of our success is observed in the Green Investment Fund (GIF) map recently posted on the Save the Rain web site. A copy of that map is attached, and from this map we clearly identify that many of the combined sewer overflows have been completely abated for the design storm of one-half inch of rain per hour for two hours, and a number of sewer sheds are nearing abatement. All of the gray areas on the attached map represent outfalls which will be abated by the end of the year. In many of the low priority sewer sheds we simply need a few small projects to reach abatement. The tremendous success of the County Executive's Save the Rain Program is that we can continue to resolve the combined sewer overflows at an outfall-by-outfall level, and in doing so, we will continue to provide real water quality improvements and community development benefits which go far beyond the sanitary system. Our program map depicts our progress. It also, of course, means that the entire green program focus can change from a broad high-project volume approach to a very precise surgical approach. By the nature of our success we will no longer be accepting GIF applications in all the previous locations, and we will no longer be launching green projects throughout the entire ACJ Consent Judgment area. Our success is driving program changes; we still have work to be done, but the most recent GIF program map really helps to identify just how much has been accomplished already.

In another change, the design of future green projects will be moving out of the program manager responsibilities. CH2M-HILL will continue to lead the County's green program and help the County accomplish its capture and water quality goals by the use of green infrastructure. Their modeling of the sewer sheds and their program planning will determine the amount of green construction still needed in our program. But using the opportunities of competitive procurement, the County is going through a procurement process to award the design of future projects to other designers. CH2M-HILL continues to be an excellent partner, and we are fortunate to have their expertise in green program management and modeling directing the precise location and size of future projects.

My final remarks are back to the old question—"is this green stuff costing us more?" We continue to tell you with conviction that the green does not cost more than the gray and that a balanced green/gray approach is the right path; but, how about a disinterested third party discussion? Attached please find a well-written discussion on the balanced green/gray approach in Philadelphia, PA and why now our green solution for overflow abatement is being developed in London—not London, Connecticut—the one across the Atlantic in the U.K.

Respectfully Submitted,



Tom Rhoads P.E.,  
Commissioner



## Water hub

From Guardian Sustainable Business

SUPPORTED BY



# Philadelphia water management: from grey to green infrastructure

The city is emerging as a water management leader, investing in green infrastructure to capture water where it falls



Sadhbh Walshe

Guardian Professional, Monday 10 June 2013 10.40 EDT



Philadelphia has become a leader in green water management. Measures include replacing 30% of its concrete roads with porous ones. Photograph: Corbis

Every year storm-water run-off causes nearly 10tn gallons of polluted water to be dumped into America's rivers and oceans. As cities across the country struggle to comply with federal regulations surrounding pollution, Philadelphia is emerging as a model of innovation in water management by opting for cost effective natural solutions to an expensive man-made problem.

## Concrete and rainfall

It's not by chance that Philadelphia has become a leader in green water management. Two major rivers flow through the city, and historically it had a vast network of creeks and streams. Over the past 100 years or so of relentless development, many of these creeks and streams have been replaced with concrete pipes and sewers, and most of the city's naturally porous surfaces have been paved over, making it impossible for rain water to be absorbed where it falls.

As Larry Levine of the Natural Resources and Defense Council (NRDC) explains: "When we pave over the earth and prevent water seeping into the ground, we put barriers in the way of natural processes. Storm water has to go somewhere. Today, most of it goes into concrete systems."

Unfortunately, these concrete systems are not always able to accommodate all the storm water that comes their way. The Philadelphia Water Department (PWD) estimates that, when all the impervious cover in the city is exposed to one inch of rainfall, it generates about 327m gallons of storm water. This first inch of rainfall gathers most of the surface pollutants before being routed into the city's combined sewage systems. If the system becomes overwhelmed with excessive runoff, it is designed to overflow. When it does, you get raw sewage mixed with polluted storm water spewing directly into the rivers and creeks.

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## From grey to green infrastructure

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A few years ago, when faced with having to come up with a viable long-term storm-water management plan to meet their obligations under the Clean Water Act, the [PWD saw an opportunity](#) to reinsert nature into what had become an unnatural equation. Instead of opting to expand the traditional grey infrastructure and build more pipes and tanks to treat waste water, they chose to invest in green infrastructure to restore nature's ability to capture water where it falls and treat it as a resource before it ever becomes waste.

When a cost benefit analysis showed the latter option to be far less expensive than the former ([around \\$2.4bn over 25 years](#) for the green approach as opposed to \$8bn for the grey), the city became convinced that it was making the right decision.

Managing water the green way involves a multi-pronged approach, ranging from distributing rain barrels to residents free of charge and planting strategically located rain gardens in parks, on curbsides and on rooftops, to the more challenging and costly task of replacing 30% of the city's concrete roads and pavements [with porous ones](#).

The ultimate goal is to minimise the need for large storage tanks and treatment plants by enabling the water to be captured where it falls. The PWD's public affairs manager, Joanne Dahme, is quick to point out, however, that the new green infrastructure is not meant to replace the old grey infrastructure, but to complement it. "The green approach could not work without a good traditional foundation. Pipes and sewers are the backbone of our system, but the green helps the grey do a better job."

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## Bills, bills, bills

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So far the programme is mostly funded directly by the city's ratepayers, some of whom have not been happy to see their [storm-water bills increase](#). However, the PWD did not simply institute an across-the-board rate rise, but switched from a meter-based system to a more equitable system based on parcel size. This has meant that some businesses, such as parking lots, which would have had relatively low bills based on water usage, are [now paying much higher rates](#) based on how much storm water their property generates to the sewer system. Meanwhile, high rises that do not have a lot of impervious cover will have seen their rates decrease.

The beauty of the new fee system is that it incentivises private property owners to retrofit their sites with green infrastructure. Those who take advantage of the credit incentives will not just see their rates go down but ultimately as the city becomes greener and there is less storm water to deal with, rates will go down for everyone. The new fees will not be fully phased in until 2014, but Dahme says that business owners facing higher storm-water fees have already expressed a lot of interest in working with the PWD to retrofit their properties, and the city is looking at several [cost-sharing opportunities](#).

## Private investment

The city is also working to leverage private capital to support the transition from grey to green. According to Eron Bloomgarden, a partner at EKO Asset Management, who specialises in this area, there are a lot of investors interested in environmental impact. The key is to develop compelling financial products for them to put their money to work in. "We can do for green infrastructure (GI) what the Energy Savings Corporations (ESCOs) did for green energy. ESCOs were able to encourage investment by demonstrating the long term energy savings, GISCOs can do the same thing for green infrastructure."

It's still too early to determine how successful Philadelphia's efforts to create private markets for storm water retrofits will be, but the city is seen as a test case.

Philadelphia's Green City, Clean Waters programme is also being closely watched by other American cities for benefits that have nothing to do with cost. Green infrastructure doesn't just give a city a prettier face, it has also been shown to remove pollutants from the air, lower asthma rates and other heat related illnesses, reduce heat island effect, create local jobs and increase surrounding property values. In other words, going green should be a win for everybody. If this proves to be the case, then Philadelphia's Clean Waters programme may well be the model for the future.

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# GRAY PROJECTS UPDATE



## Gray Projects Update

### **Clinton CSO Storage Facility Project (Construction Phase)**

The contractor continued construction activities associated with the storage facility that will collect combined sewage from 8 downtown Syracuse CSOs during wet weather events. From April through June, the contractor completed installation of the exterior walls, flushing tank walls, overflow walls, west chamber walls, strip valve vault wall, collar beam, knee wall, northeast and southeast grade beams, and west chamber building slabs. The contractor also began the crack injection in the tunnels and shotcrete of the interior walls. In addition, work began on the west chamber building with the installation of masonry block for the mechanical room, installation of interior plumbing below the grade slab, and electrical work planning.

### **CSO 022/045 Sewer Separation Project (Closeout Phase)**

A final walkthrough for the CSO Area 022 portion of the project was completed in April and a work list was created. In addition the monitoring to verify the internal building separation performed throughout the project was completed in April. During the course of the verification process two connections were determined to be deficient and taken out of service until repairs could be made. The repairs were completed in June and re-verification will be performed in July. In addition the contractor completed the remaining sidewalk installation work near Darwin's and began to perform the items on the work list. The closeout process is continuing on both contracts for the CSO 022/045 Sewer Separation Project.

### **Harbor Brook Interceptor Sewer (HBIS) Replacement and CSO Abatement Project (Closeout Phase)**

In May and June, the contractor completed the installation of enhanced tree basins on Herriman and Hoeffler Streets between Rowland and Hartson, and completed the intersection work at Grand Avenue and Delaware Street associated with the Delaware Rain Garden portion of the project. The project overall is now complete and a final walk through for the Green Infrastructure items will take place in July. In total, the project installed 7,503 LF of new 18" to 36" interceptor sewer between Velasko Road and West Fayette Street on the west side of Syracuse, and 5,222 LF of new local sewers, ranging in size from 8" to 42" in diameter, 74 enhanced tree basins, and a Rain Garden/Bio-retention Site at the corner of Delaware Street and Grand Avenue.

### **Lower Harbor Brook CSO Conveyance Project (Closeout Phase)**

In the second quarter of 2013, the contractor completed major construction work on the conveyance sewer project which transmits combined sewage from CSO 003 and 004 to the new storage tank during wet weather events. The contractor completed the work rehabilitating the top of the Harbor Brook culvert over State Fair Blvd. per the construction plans, restored State Fair Blvd. with new sub-base and asphalt pavement, replaced 3 catch basins in State Fair Blvd., and completed the water line replacement over Harbor Brook. It is anticipated the project will enter the closeout phase in the next quarter.



### **Lower Harbor Brook CSO Storage Facility Project (Construction Phase)**

In April, May and June, the contractor continued to excavate the interior of the storage tank which will store combined sewage from the three CSOs (003, 004 & 063) during storm events. In addition, the contractor completed the test of the rock anchors, installed the duct bank from the transformer pad to the utility building, completed the collar beam installation, began pouring the storage tank walls, began work on the utility building and the new outfall structure, and began excavation of the perimeter trench within the tank.

### **Midland CSO 044 Abatement Project (Closeout Phase)**

On June 5th, 2013 the final walkthrough for the green infrastructure components was held and a punch list was created. In addition to a new 96-inch pipeline which will transmit combined sewage from CSO 044 in South Avenue during wet weather overflow events through the previously installed 144-inch diameter sewer that connects to the Midland RTF, the project included numerous green infrastructure components (i.e. porous concrete walks, bio-retention cells, rain gardens, etc...) to enhance the green space that currently existing over the new pipelines. The project continues to be in the process of being closed out.



# FACT SHEET Clinton CSO Storage Facility

Project:	Clinton CSO Storage
Project Owner:	Onondaga County
Project Location:	Trolley Lot, Syracuse
Sewershed:	Clinton/Lower MIS
Technology:	Storage Facility
Capacity:	6 million gallons
CSO Capture:	114 million gal/yr
# CSOs Abated:	9
Completion Date:	12/31/13
Contract amount:	\$70,640,000
Bid Date:	7/14/11
Prime Contractor:	Jett Industries

**Project Description:** The Clinton CSO Storage Facility Project is a 6 million gallon combined sewer overflow storage facility that will be constructed in the parking area between the elevated rail tracks and Onondaga Creek just south of the Armory Square area of downtown Syracuse (formerly known as the Trolley Lot). During wet weather events, the facility’s three, parallel 18-foot diameter, underground storage tunnels will capture flow from 9 combined sewer overflows (CSOs) in the vicinity of the former Trolley Lot. The wastewater will be stored in the tunnels until it can be conveyed via the main interceptor sewer to the Syracuse Metropolitan Sewage Treatment Plant (Metro) for treatment. The off-site conveyance piping, which will transmit the flow to the facility, was installed under the Clinton CSO Phase 1 and 2A conveyances projects completed in 2009. There will be additional on-site conveyance piping installed under this project to connect the existing sewers to the new facility. In addition to the tunnels there will be two above ground structures located at either end (east and west) of the parking lot which provide access to the tunnels and house the pumping, grit collection and odor control facilities.

**Green Components:** To further enhance the sustainability of the facility, the project includes green infrastructure components. The stormwater runoff from the entire site that measures approximately 275,000 square feet or 6.3 acres will be managed by green infrastructure. The stormwater from the area surrounding the main structure on the western half of the site will be collected by a series of catch basins and stormwater piping that will outfall into two bioretention basins. The bioretention basins will allow the stormwater to infiltrate into the ground rather than immediately runoff to the creek. In addition, stormwater runoff from the eastern half of the project site, to be restored as a parking area, will be directed to a subsurface collection facility and used to flush the storage tunnels to clear them of grit and debris that may have settled or been left behind after the stored combined sewage was transmitted to Metro. In addition, a green roof will be installed on the west building.

**Construction Update:** From April through June 2013, the contractor completed installation of the exterior walls, flushing tank walls, overflow walls, west chamber walls, strip valve vault wall, collar beam, knee wall, northeast and southeast grade beams, and west chamber building slabs. The contractor also began the crack injection in the tunnels and shotcrete of the interior walls. In addition, work began on the west chamber building with the installation of masonry block for the mechanical room, installation of interior plumbing below the grade slab, and electrical work planning.





Project:	CSO 022/045 Sewer Separation
Project Owner:	Onondaga County
Project Location:	Syracuse
Sewershed:	Clinton/Lower MIS & Midland
Technology:	Sewer Separation
CSO Capture:	1 million gal/yr
# CSOs Abated:	2
Completion Date:	12/31/12
Project Cost:	General - \$4,581,888 Plumbing - \$1,031,235
Bid Date:	November 29, 2011
Prime Contractor:	General – J. J. Lane Plumbing – Joy Process Mechanical

## FACT SHEET

### CSO Area 022 and 045 Sewer Separation Project

**Project Description:** In 2000, the separations of 13 separate CSO basins were designed to the 95 percent stage. The CSO areas represented basins whose full separation would be cost effective compared to other CSO abatement technologies. The remaining basins where the full separation has not been constructed were CSO areas 022 and 045. CSO area 022 is located in downtown Syracuse and the tributary sewers are located in North Franklin, West Genesee, and Willow streets. The proposed work to be performed includes 2,000 linear feet (LF) of new sanitary sewer; 800 LF of sewer lining; and twenty (20) internal building separations. CSO Area 045 is located south of downtown Syracuse with the outfall at the intersection of West Castle Street, Hudson Street, and Onondaga Creek. The combined sewage tributary to this outfall is conveyed by combined sewers located in Crescent and Hudson streets. The proposed work to be performed includes: 700 LF of new storm sewer in Hudson and Crescent streets, 1200 LF of sewer lining to convert the existing combined sewers in Crescent and Hudson streets to sanitary sewers, rehabilitation of the existing sanitary sewer in Rich Street between Hudson and Onondaga Creek, and one (1) private property separation.

**Green Components:** The County has successfully applied its “Greening the Gray” mission to the project through the implementation of Green Infrastructure as it related to the reconstruction of Haggard Park, the pocket park on the corner of West Genesee and North Clinton Streets. The park had fallen into disrepair due to settlement issues and will be rehabilitated with green components under the CSO 022 project.

**Project Update:** A final walkthrough for the CSO Area 022 portion of the project was completed in April and a work list was created. In addition the monitoring to verify the internal building separation performed throughout the project was completed in April. During the course of the verification process two connections were determined to be deficient and taken out of service until repairs could be made. The repairs were completed in June and re-verification will be performed in July. In addition the contractor completed the remaining sidewalk installation work near Darwin’s and began to perform the items on the work list. The closeout process is continuing on both contracts for the CSO 022/045 Sewer Separation Project.





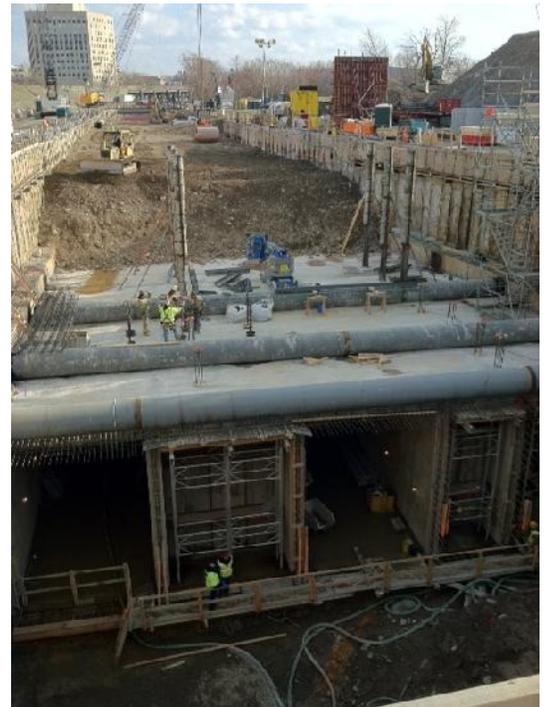
**Underground Storage  
Concrete Base under Construction  
(5 Stories below Surface)**



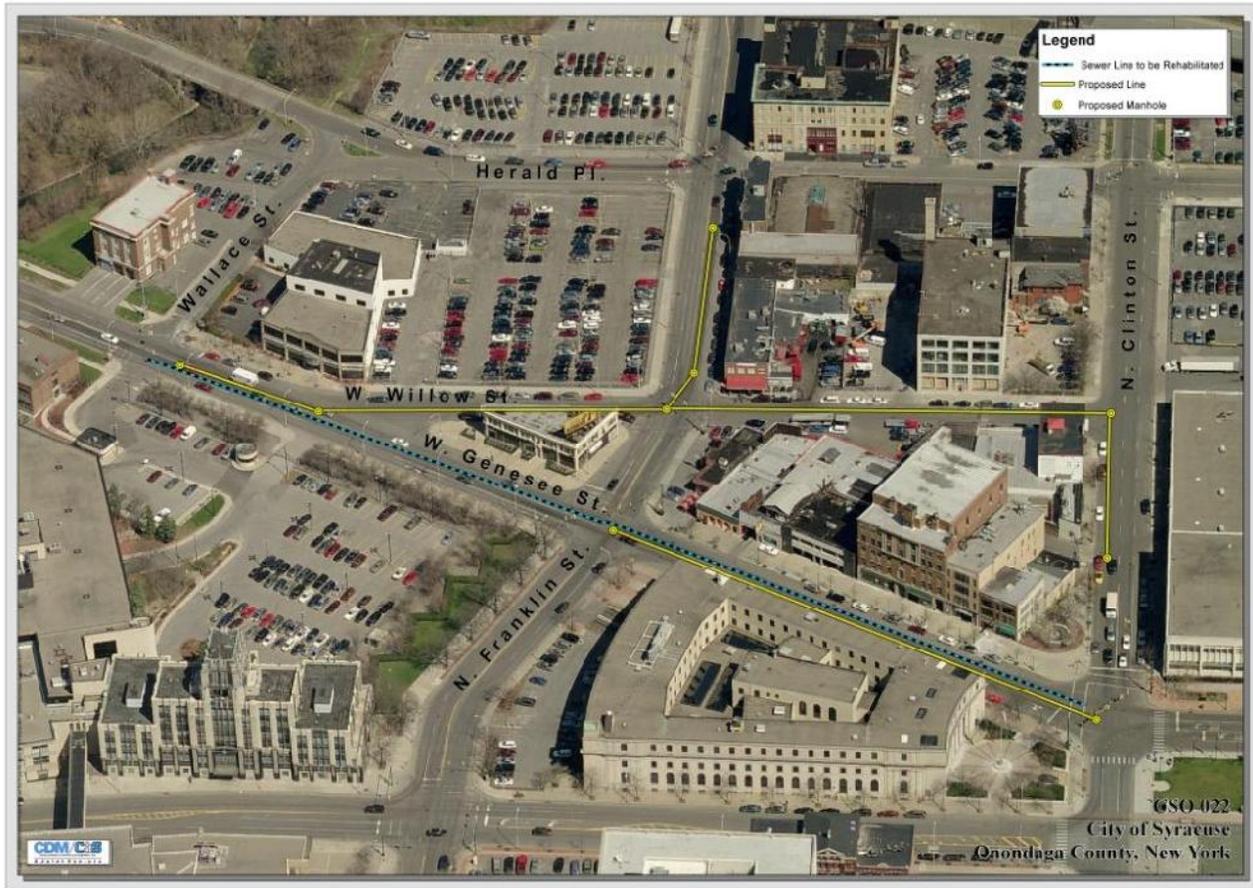
**Clinton CSO Storage Facility – Construction 6/12/13**



**Aerial View of Clinton CSO Storage Facility  
Construction Progress 5/30/13**



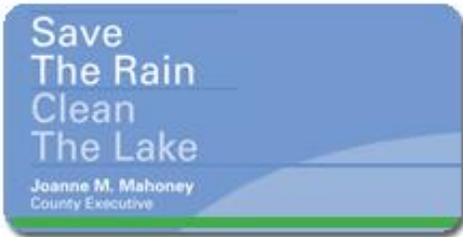
**Clinton CSO Storage Facility  
Construction – Backfilling over the  
Tunnels (12/01/12)**



CSO 022 Project Area



CSO 022 Project Area After Construction



# FACT SHEET

## Harbor Brook Interceptor Sewer (HBIS) Replacement and CSO Abatement Project

Project:	HBIS Replacement & CSO Abatement
Project Owner:	Onondaga County
Project Location:	Harbor Brook Corridor Fayette St. to Velasko Rd.
Sewershed:	Harbor Brook
Technology:	Interceptor Replacement
CSO Capture:	36 million gal/yr
CSOs Addressed:	9
Completion date:	6/30/2012
Contract amount:	\$21,536,849
Bid Date:	11/2/09
Prime Contractor:	J.J. Lane Construction

**Project Description:** The HBIS Replacement Project provides for a much needed upgrade to the existing Harbor Brook Interceptor between West Fayette Street and Velasko Road on the west side of Syracuse. This length of the interceptor sewer conveys dry weather flow and a portion of the combined flow from CSOs 009, 010, 011, 013, 014, 015, 016, 017, and 018 for conveyance to Metro for treatment. The existing interceptor is a U-shaped cast-in-place concrete pipe constructed in the 1920s and has fallen into disrepair. Due to the shape and age of the HBIS, flow restrictions have developed which have decreased capacity and increased infiltration in some areas. The project included the installation of 7,503 linear feet (LF) of new HBIS ranging in size from 18- to 36-inches in diameter, 5,222 LF of new local sewers, rehabilitation of 860 LF of 30-inch brick sewer, installation of 4 new regulator manholes, and rehabilitation or replacement of 2500 LF of Harbor Brook Culvert. In addition, during construction the available funding allowed CSO Areas 013 and 016 to be completely separated which will increase CSO capture and eliminate two CSO discharge points. As a result, the capture projection for this project is anticipated to be 36 million gallons.

**Green Components:** In addition the County has successfully applied its "Greening the Gray" mission to the HBIS Replacement Project. The GI components incorporated into this gray construction project include the installation of approximately 40 enhanced tree basins with infiltration zones and the construction of a bioretention area that will manage stormwater runoff from an area of approximately 3.2 acres. The enhanced tree basins will be located on Hartson, Herriman and Hoeffler Streets in the Skunk City area of Syracuse. The bioretention area will be located at the corner of Grand Avenue and Delaware Street and will contain a series of rain gardens and bioretention swales which will collect off-site runoff from impervious areas and manage the on-site stormwater as well. The site will have a "park-like" setting with an educational theme.

**Construction Update:** In May and June, the contractor completed the installation of enhanced tree basins on Herriman and Hoeffler Streets between Rowland and Hartson, and completed the intersection work at Grand Avenue and Delaware Street associated with the Delaware Rain Garden portion of the project. The project overall is now complete and a final walk through for the Green Infrastructure items will take place in July.





## FACT SHEET

### Lower Harbor Brook CSO Storage and Conveyances Project

Project:	LHB CSO Conveyances & Storage
Project Owner:	Onondaga County
Project Location:	State Fair Blvd, Syracuse
Sewershed:	Harbor Brook
Technology:	Underground Tank
Capacity:	4.9 million gallons
CSO Capture:	55 million gal/yr
# CSOs Abated:	3
Completion Date:	12/31/13
Contract Amount:	Conveyances – \$4,147,888 Storage – \$25,039,101
Bid Date:	Conveyances – 8/30/11 Storage – 10/18/11
Prime Contractor:	Conveyances – J.J. Lane Storage – C.O. Falter

**Project Description:** The Lower Harbor Brook CSO Conveyances and Storage Facility Project is a 4.9 million gallon combined sewer overflow storage facility that will be located on County owned property on State Fair Boulevard between Hiawatha Blvd. and West Genesee Street in the City of Syracuse. The facility will capture and store the overflows from CSOs 003, 004 and 063 for up to the 1-year, 2-hour design storm event. After the storm event subsides, the contents of the storage tank will be pumped to the existing Harbor Brook Interceptor Sewer for conveyance to the Metropolitan Treatment Plant (Metro) for full treatment. The project also includes construction of CSO conveyance pipelines on State Fair Blvd., Hiawatha Blvd., and Erie Blvd. to convey combined sewage from the overflow regulators to the storage tanks during rainfall and snowmelt events. Floatables and grit removal will be included in this facility. Odor control provisions will be incorporated into the facility design and the tank will be completely enclosed.

**Green Components:** To further enhance the sustainability of the facility, the project includes green infrastructure components. The stormwater runoff from the rooftops of the storage tank and controls building will be stored within the CSO storage tank and used for a second and third cleaning flush of the tank. This water will ultimately be treated at Metro eliminating the need for this stormwater to be treated on-site. The stormwater storage is designed to capture the 100-year storm (5.2 inches) from the tank and the control building rooftop.



Rendering – view from State Fair Blvd.



Rendering – view from the northeast



Rendering – Cross Section of  
Underground Storage Facility



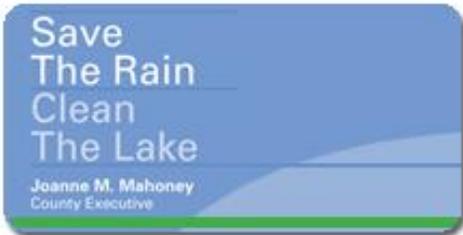
### Lower Harbor Brook CSO Storage Facility - Construction Progress Photos

**Project Update:** *Conveyances* – In the second quarter of 2013, the contractor completed major construction work on the conveyance sewer project which transmits combined sewage from CSO 003 and 004 to the new storage tank during wet weather events. The contractor completed the work rehabilitating the top of the Harbor Brook culvert over State Fair Blvd. per the construction plans, restored State Fair Blvd. with new sub-base and asphalt pavement, replaced 3 catch basins in State Fair Blvd., and completed the water line replacement over Harbor Brook. It is anticipated the project will enter the closeout phase in the next quarter.

*Storage* – In April, May and June, the contractor continued to excavate the interior of the storage tank which will store combined sewage from the three CSOs (003, 004 & 063) during storm events. In addition, the contractor completed the test of the rock anchors, installed the duct bank from the transformer pad to the utility building, completed the collar beam installation, began pouring the storage tank walls, began work on the utility building and the new outfall structure, and began excavation of the perimeter trench within the tank.



Lower Harbor Brook CSO Storage Aerial Photo



Project:	CSO 044 Conveyances
Project Owner:	Onondaga County
Project Location:	Syracuse
Sewershed:	Midland
Technology:	Storage & RTF
CSO Capture:	6,000,000 gal/yr
# CSOs Abated:	1
Completion Date:	Partial - 12/31/11
Contract amount:	\$7,978,282
Bid Date:	9/21/10
Prime Contractor:	J.J. Lane Construction

## FACT SHEET

### Midland CSO 044 Conveyances

**Project Description** The CSO 044 Conveyances Project provides for the transmission of wet weather flow from CSO 044, which discharges to Onondaga Creek at South Avenue and West Castle Street, to the Midland Regional Treatment Facility (RTF) on the south side of Syracuse. Conveyance of the combined sewer flow to the Midland RTF will be via approximately 500 linear feet of 96-inch diameter pipeline between the terminus of the 144-inch pipeline installed under the Midland Phase Two RTF and Conveyances Project to CSO 044.

**Green Components:** In addition to the pipeline, the project will include the construction of a new regulator structure in South Avenue, and two conveyance flushing chambers. The "Greening the Gray" components incorporated include the utilization of captured stormwater for the flushing chambers, the installation of rain gardens for stormwater infiltration, and an educational interpretive walkway.



CSO 044 Conveyances During and After Construction

**Project Update:** On June 5th, 2013 the final walkthrough for the "Greening the Gray" green infrastructure components was held and a punch list was created. In addition to a new 96-inch pipeline which will transmit combined sewage from CSO 044 in South Avenue during wet weather overflow events through the previously installed 144-inch diameter sewer that connects to the Midland RTF, the project included numerous green infrastructure components (porous concrete walks, bioretention cells, rain gardens) to enhance the green space that currently existing over the new pipelines. The project is in the closeout phase.

# **GREEN PROJECTS UPDATE**



## Green Project Update

The 2013 construction season is in full swing and the Save the Rain program continues its work on key green infrastructure projects throughout the City of Syracuse. Several projects are currently in development with additional projects slated to begin construction soon.

Construction continues on several green infrastructure elements at the Rosamond Gifford Zoo. The Zoo parking lot is being renovated with bioretention trenches and porous asphalt. The construction of two separate wetland systems on the zoo campus is a signature project of 2013. The projects at the Zoo will provide significant relief to the sewer system with an estimated 6 million gallons of stormwater captured annually.

Construction is underway on the W. Onondaga Street gateway project between South Ave and Seymour Ave. The green gateway will feature subsurface infiltration trenches, street trees and enhanced landscaping features to capture stormwater along the corridor.

Construction also continues on the Harbor Brook Treatment Wetland pilot project. The project features three types of wetland cells, enhanced landscaping and the construction of a grit and floatables removal system below ground level to manage stormwater in the basin. The treatment wetland will be the first of its kind in the country and is on schedule to be completed this summer.

Improvements are complete on Gifford Street with the construction of underground infiltration trenches as part of a road reconstruction project. The project will capture an estimated 1.2 million gallons annually.

Save the Rain is continuing its partnership with the Jim & Juli Boeheim and Carmelo K. Anthony Foundations with the Courts-4-Kids program. Final construction is almost complete at Lewis Park with the renovations of two full-length basketball courts. Additionally, the construction of renovated basketball courts at Comfort Tyler Park is set to begin in late July.

Two major streetscape projects are set to begin construction with the Westcott Street Gateway and Washington Street Green Corridor projects slated to begin work in July.

### 2011 Projects

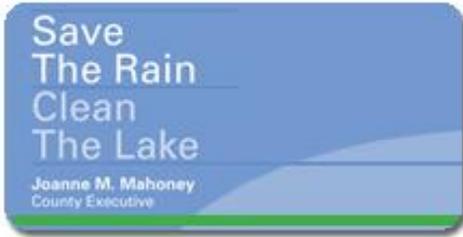
Completed	60
<b>Total Projects (as of 6/25/12)</b>	<b>60</b>

### 2012 Projects

Projects Completed	40
Projects Under Construction	6
<b>Total Projects (as of 6/25/12)</b>	<b>46</b>

### 2013 Projects

Projects Completed	0
Projects Under Construction	6
Projects in Contracting Phase	3
Projects in Bid Phase	0
Projects in Final Design	7
Projects in 90% Design Phase	0
Projects in 50% Design Phase	8
Fieldwork Phase	1
Concept Phase	0
Other Projects	8
<b>Total Projects (as of 6/25/13)</b>	<b>33</b>



## FACT SHEET

### East Washington Street Green Corridor

**Project Description:** The East Washington Street Green Corridor project will be a comprehensive green street application located on East Washington Street, between Almond Street and Forman Avenue. Several green infrastructure elements will be installed that will capture stormwater and enhance the urban landscape.

The project will consist of an underground infiltration trench, a dedicated parking lane constructed with porous pavers, and vegetative swales along sections of both sides of the street to store stormwater and reduce combined sewer overflow impacts. In addition to these beneficial green infrastructure items, updated and improved sidewalks will improve the function and accessibility of the corridor.

This green infrastructure project will capture the runoff from approximately 54,500 square feet of impervious area, reducing annual stormwater runoff by approximately 959,800 gallons.

Also, this project is the fourth project to be funded in part by the New York State Environmental Facilities Corporation through their Green Innovation Grant Program (GIGP). It joins the Rain Barrel Program, the Cistern System at the War Memorial, and the I-690 Downspout Disconnection projects as past Save the Rain projects with GIGP funding.

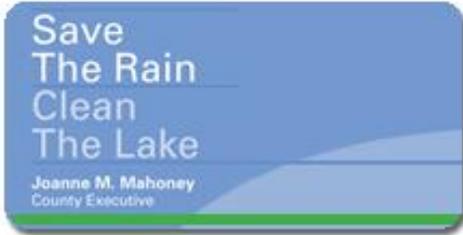
Project:	E. Washington St. Green Corridor
Project Owner:	City of Syracuse
Project Location:	E. Washington St., Between Almond St. and Forman Ave.
Sewershed:	Clinton/Lower MIS
GI Technology:	Green Street (Underground Infiltration, Porous Paver Parking Lane, Vegetative Swales)
Capture Area:	54,500 sq. ft.
Runoff Reduction:	959,800 gal/yr
Year Contracted:	2013
Construction Cost:	\$599,000
Bid Date:	05/28/13
Prime Contractor:	ACTS II Construction



E. Washington St. Prior to Construction



E. Washington St. Streetscape Prior to Construction



## FACT SHEET

### I-690 Downspout Disconnection

**Project Description:** The I-690 Downspout Disconnection project is a creative use of the existing catchment system which collects stormwater from the raised I-690 roadway as it passes through the downtown area of Syracuse.

The downspout piping will be disconnected from the combined sewer system, and instead redirected into infiltration trenches and rain gardens. Instead of adding superfluous piping and handling the water at one single location requiring a large footprint, there are to be 6 smaller sites managing the runoff from the adjacent stretch of elevated roadway. Each of these 6 sites has been designed to utilize pockets of available space without disrupting the existing land use in downtown Syracuse.

Rain gardens will be planted with a variety of plant species that will greatly improve the aesthetics of the sites while allowing for the infiltration and evaporation of captured rain water, preventing it from entering the combined sewer system. Subsurface infiltration trenches will accomplish the same stormwater capture goals as rain gardens, but fit into sites with no available space at ground level. It is estimated that the stormwater capture for this project will be approximately 1.25 million gallons per year, making it a valuable addition to Onondaga County's Save the Rain Program. This project is also funded in part by the New York State Environmental Facilities Corporation through their Green Innovation Grant Program, one of four such projects within the Save the Rain Program.

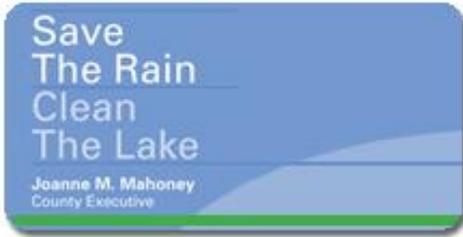
Project:	I-690 Downspout Disconnection
Project Owner:	NYS DOT/City of Syracuse
Project Location:	Various sites adjacent to I-690, Downtown Syracuse
Sewershed:	Clinton/Lower MIS
GI Technology:	Infiltration Trenches, Rain Gardens
Capture Area:	99,914 sq. ft.
Runoff Reduction:	1,250,000 gal/yr
Year Contracted:	2013
Construction Cost:	\$597,450
Prime Contractor:	John R. Dudley



**Aerial View of One of Six Sites in Downtown Syracuse where I-690 Downspouts are to be Disconnected**



**Typical Downspouts from I-690 Overpass Which Will be Diverted to Green Infrastructure**



# FACT SHEET

## Oneida Street Road Reconstruction

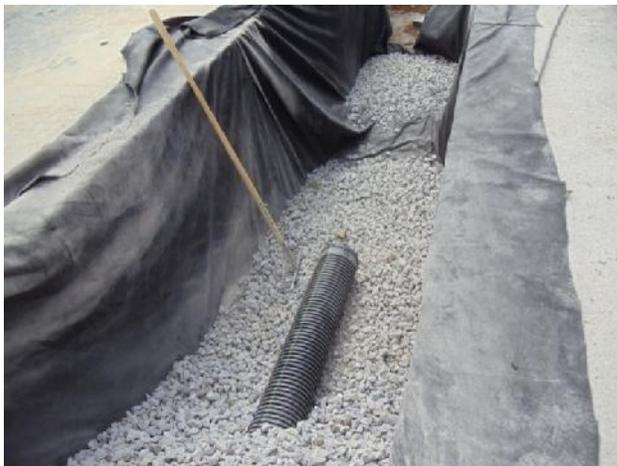
Project:	Oneida St. Road Reconstruction
Project Owner:	City of Syracuse
Project Location:	Oneida St (W. Adams St. to Temple St.)
Sewershed:	Clinton/Lower MIS
GI Technology:	Underground Infiltration Trench
Capture Area:	89,000 sq. ft.
Runoff Reduction:	1,574,000 gal/yr
Year Contracted:	2013
Construction Cost:	TBD
Prime Contractor:	Ballard Construction

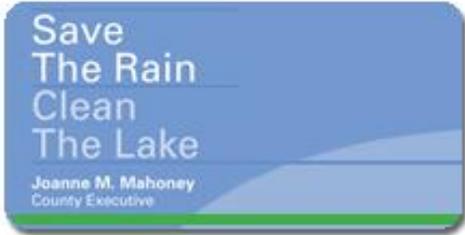
**Project Description:** The Oneida Street Road Reconstruction Project exemplifies the continued partnership between the City of Syracuse and Onondaga County through the Save the Rain Program. The City of Syracuse had planned to reconstruct Oneida Street in 2013, and Onondaga County partnered with the City to construct an underground infiltration trench system at the time of the road reconstruction. The project will be constructed by the City's contractor under their annual Street Structures contract, providing further cost savings for both the City and the County.

A four foot deep underground infiltration trench spanning the length of Oneida Street between W. Adams and Temple streets will be constructed in the summer of 2013. The trench is split into two sections, one five feet wide and the other seven feet wide, to utilize as much storage space as possible without disrupting existing underground utilities. Being completely underground, the infiltration trench system will provide a very high capture volume without requiring any obtrusive footprint at the surface. This project will capture a total of 1,574,000 gallons of stormwater annually, and will be completed in 2013.



Top: Drainage Areas Collected by the Oneida St. Reconstruction Project  
 Left: Similar Underground Infiltration Trench Installed on S. State Street





## FACT SHEET

# Post Office Green Roof at the Colvin-Elmwood Station on South Salina Street

**Project Description:** The Green Roof at the Colvin-Elmwood Station of the US Postal Service (USPS) highlights the growing partnership of the Save the Rain program with other municipal and federal entities in Onondaga County. This project was the first Save the Rain project on USPS property, and the second green roof on a USPS building.

This project is a green roof system on the entirety of the Post Office roof. The roof features sedum plantings in a lightweight growing medium on top of a waterproof membrane, designed to capture stormwater, irrigate the plantings, and allow excess stormwater to evapotranspire. The existing roof was removed and the new membrane was installed in 2012. The sedum turf was planted in the spring of 2013. This green roof captures approximately 226,000 gallons of stormwater annually.

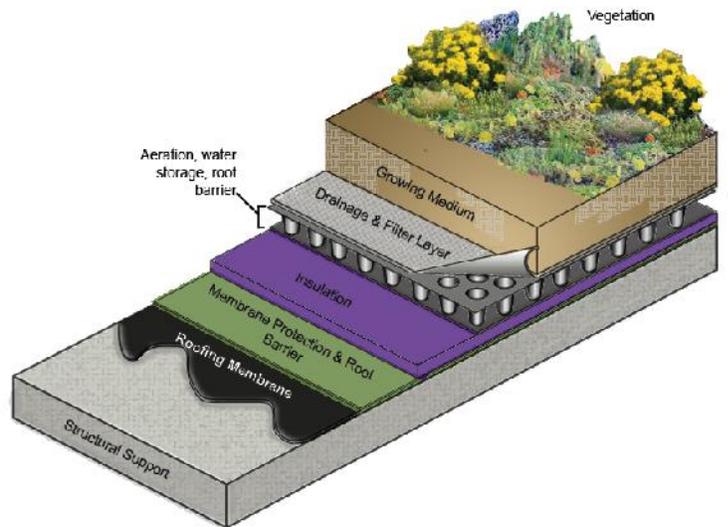
Project:	Green Roof at the Post Office
Project Owner:	US Postal Service
Project Location:	2200 South Salina Street
Sewershed:	Midland
GI Technology:	Green Roof
Capture Area:	13,000 sq. ft.
Runoff Reduction:	226,000 gal/yr
Year Contracted:	2012
Construction Cost:	\$242,860
Prime Contractor:	Weatherguard Tecta America



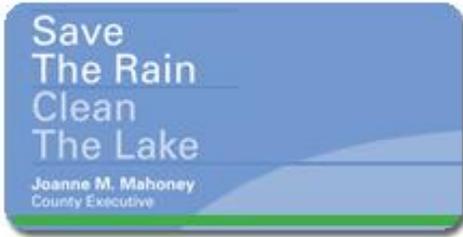
**Green Roof with Growing Medium and Vegetation at Completion of Construction**



**Post Office Roof Prior to the Green Roof Installation**



**Diagram of Green Roof Installation**



Project:	Richmond Ave Road Reconstruction
Project Owner:	City of Syracuse
Project Location:	Richmond Ave (N. Geddes St. to Van Rensselaer St.)
Sewershed:	Clinton/Lower MIS, Harbor Brook
GI Technology:	Underground Infiltration Trench
Capture Area:	82,444 sq. ft.
Runoff Reduction:	1,452,000 gal/yr
Year Contracted:	2013
Construction Cost:	TBD
Prime Contractor:	Ballard Construction

## FACT SHEET

### Richmond Avenue Road Reconstruction

**Project Description:** The Richmond Avenue Road Reconstruction Project exemplifies the continued partnership between the City of Syracuse and Onondaga County through the Save the Rain Program. The City of Syracuse planned to reconstruct Richmond Avenue in 2013 and Onondaga County partnered with the City to construct an underground infiltration trench system at the time of the road reconstruction. This project will be constructed by the City's Contractor under their annual Street Structures contract, providing further cost savings for both the City and the County.



Similar Underground Infiltration Trench during construction on S. State Street

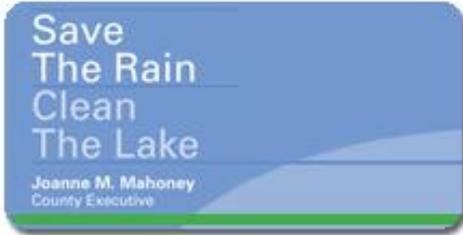
A three and a half foot deep underground infiltration trench spanning the length of Richmond Ave between N. Geddes and Van Rensselaer Streets will be constructed in the summer of 2013. The trench is split into two sections, one five feet wide and the other seven feet wide, to utilize as much storage space as possible without disrupting existing underground utilities. Being completely underground, the infiltration trench system will provide a very high capture volume without requiring any obtrusive footprint at the surface. This project will capture a total of 1,452,000 gallons of stormwater annually, and will be completed in 2013.



Drainage areas collected by the Oneida Street Road Reconstruction Project

Version 6/24/13





## FACT SHEET

### Rosamond Gifford Zoo Stormwater Wetland & Cistern

**Project Description:** The Rosamond Gifford Zoo Stormwater Wetland and Cistern project will be the fifth Save the Rain project completed at the Rosamond Gifford Zoo since 2009. Other projects completed, or under construction at the Zoo include, porous pavements in the courtyard area, a green roof on the new elephant exhibit building, installation of bioretention areas adjacent to Conservation Place and Wilbur Ave., and the installation of porous pavements and a tree trench in the parking lots.

This project consists of the installation of a new stormwater wetland adjacent to the Penguin Exhibit. An open stream bed will be constructed that will allow flow from the stormwater wetland to flow into the swan and duck ponds. Once the flow reaches the duck pond, it will return to the stormwater wetland via a pumping system. This recirculation system will allow for a greatly reduced use of potable water at the Zoo, while simplifying and reducing the frequency of maintenance within the duck pond.

In addition, a stormwater cistern will be constructed adjacent to the Bear Exhibit. The cistern will receive stormwater from the exhibit itself, along with adjacent pathways. The water in the cistern will be pumped into the exhibit into a newly constructed stream bed between to existing ponds. The stormwater will flow continuously within the recirculation reducing the Zoo's dependence on potable water.

Approximately 1,744,000 gallons of stormwater runoff will be captured annually by this project.

Project:	Rosamond Gifford Zoo Stormwater Wetland & Cistern
Project Owner:	Onondaga County
Project Location:	1 Conservation Place
Sewershed:	Harbor Brook
GI Technology:	Stormwater Wetland, Cistern
Capture Area:	99,000 sq. ft.
Runoff Reduction:	1,744,000 gal/yr
Year Contracted:	2013
Construction Cost:	TBD
Prime Contractors:	Bette & Cring (General) Knapp Electric (Electrical)

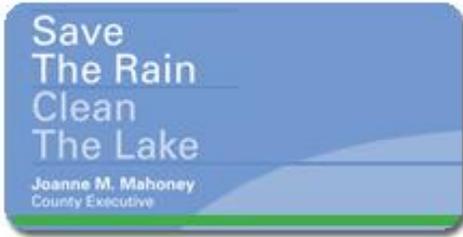


**Aerial Photograph of the Rosamond Gifford Zoo  
Prior to Construction**



**Stormwater Wetland Leading into Duck Pond  
During Construction**

Version 05/03/2013



Project:	S. Clinton St. Road Reconstruction
Project Owner:	City of Syracuse
Project Location:	S. Clinton St (W. Adams St. to Temple St.)
Sewershed:	Clinton
GI Technology:	Underground Infiltration Trench
Capture Area:	50,707 sq. ft.
Runoff Reduction:	893,000 gal/yr
Year Contracted:	2013
Construction Cost:	TBD
Prime Contractor:	Ballard Construction

## FACT SHEET

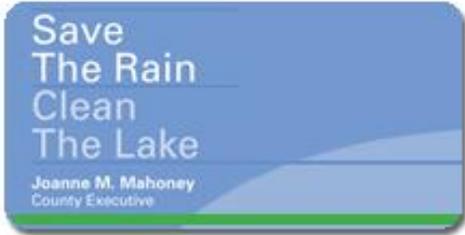
### South Clinton Street Road Reconstruction

**Project Description:** The South Clinton Street Road Reconstruction Project exemplifies the continued partnership between the City of Syracuse and Onondaga County through the Save the Rain Program. The City of Syracuse had planned to reconstruct S. Clinton Street in 2013, and Onondaga County partnered with the City to construct an underground infiltration trench system at the time of the road reconstruction. This project will be constructed by the City’s contractor under their annual Street Structures contract, providing further cost savings for both the City and the County.

A four foot deep underground infiltration trench spanning the length of Clinton Street between W. Adams and Temple Streets will be constructed in the summer of 2013. The trench will be eight feet wide, utilizing as much storage space as possible without disrupting existing underground utilities. Being completely underground, the infiltration trench system will provide a very high capture volume without requiring any obtrusive footprint at the surface. This project will capture a total of 893,000 gallons of stormwater annually, and will be completed in 2013.



Top: Drainage areas collected by the S. Clinton St. Reconstruction Project  
 Left: Similar Underground Infiltration Trench Installed on S. State Street



## FACT SHEET

### Wadsworth Park Green Park Renovation

**Project Description:** The Wadsworth Park project is one of many collaborative efforts between Onondaga County and the Syracuse Parks Department to renovate parks and capture stormwater runoff with green infrastructure. The existing basketball court was removed and an underground infiltration bed was constructed in its place. In addition, 3 bioretention basins were constructed that collect stormwater runoff from Glenwood and Wolcott avenues.

The bioretention basins feature a variety of plant species that will greatly improve the aesthetics of the park while allowing for the infiltration and evaporation of captured rain water, preventing it from entering the combined sewer system. The project captures approximately 1,111,000 gallons per year.



**Wadsworth Park Basketball Court Area  
Prior to Construction**

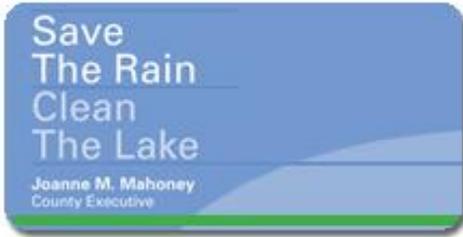
Project:	Wadsworth Park
Project Owner:	Syracuse Parks Dept.
Project Location:	1204 Glenwood Ave and Wolcott Ave
Sewershed:	Harbor Brook
GI Technology:	Infiltration Bed, Bioretention Basins
Capture Area:	61,000 sq. ft.
Runoff Reduction:	1,111,000 gal/yr
Year Contracted:	2012
Construction Cost:	\$344,596
Prime Contractor:	Davis Wallbridge



**Wadsworth Park Bioretention Inlet**



**Wadsworth Park Bioretention Basin**



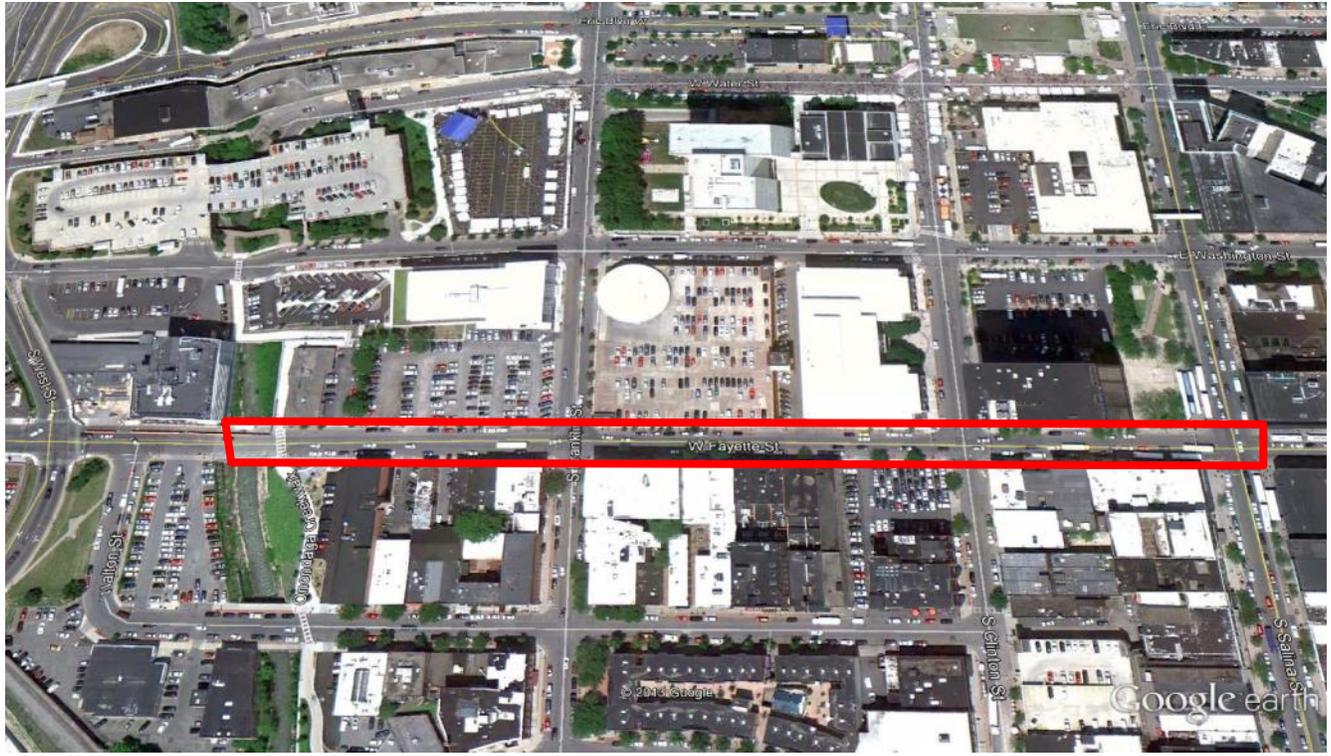
Project:	West Fayette Street Sewer Separation
Project Owner:	City of Syracuse
Project Location:	West Fayette Street between Onondaga Creek and Salina Street
Sewershed:	Clinton/Lower MIS
GI Technology:	Sewer Separation
Capture Area:	TBD
Runoff Reduction:	TBD
Year Contracted:	2013
Construction Cost:	\$446,269
Bid Date:	03/14/2013
Contractor:	Barrett Paving Materials, Inc.

# FACT SHEET

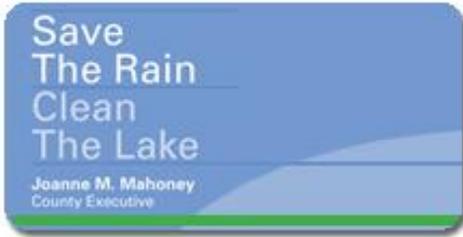
## West Fayette Street Sewer Separation

**Project Description:** The West Fayette Street Sewer Separation project between Onondaga Creek and South Salina Street will include the installation of a new 24" separate storm sewer in Fayette Street that captures the runoff from the street via existing and new street catch basins. The project also includes the connection to existing storm sewers on South Clinton and South Franklin Streets that capture additional stormwater from those streets. While the final drainage area tributary to these storm sewers is not finalized at this time, there is the potential for more than 10 million gallons of annual stormwater capture by this project.

This project is being completed in conjunction with the upcoming Phase 2 and 3 Connective Corridor streetscape improvements by Syracuse University and the City of Syracuse. This project will be completed in the summer of 2013 in advance of the start of construction of the next phases of the Connective Corridor project.



Satellite Image of the Limits of the West Fayette Street Sewer Separation Project (Courtesy Google Earth)



# FACT SHEET West Onondaga Street Green Corridor

Project:	W. Onondaga St. Green Corridor
Project Owner:	City of Syracuse
Project Location:	W. Onondaga St., Between Slocum Ave. and Shonnard St.
Sewershed:	Clinton/Lower MIS
GI Technology:	Green Street (Underground Infiltration, Tree Plantings)
Capture Area:	317,000 sq. ft.
Runoff Reduction:	5,586,000 gal/yr
Year Contracted:	2013
Construction Cost:	\$1,265,474
Bid Date:	04/04/13
Prime Contractor:	John R. Dudley Construction

**Project Description:** The West Onondaga Street Green Corridor Project will be a comprehensive green street application on West Onondaga Street, between Slocum Avenue and Shonnard Street. The design includes the installation of several green infrastructure elements that will capture stormwater and enhance the urban landscape.

The West Onondaga Street Project exemplifies the strong partnership between the City of Syracuse and Onondaga County through the Save the Rain Program. The City of Syracuse is partnering with Onondaga County to reconstruct West Onondaga Street along the project limits upon the completion of this green project.

The project will consist of curb extensions, which will narrow the street from four lanes of traffic to three with dedicated bike lanes on both sides of the street. In addition to the curb extensions, tree trenches with underground infiltration trenches will be installed to store the stormwater and reduce the occurrence of combined sewer overflows.

This green infrastructure project will capture up to one inch of rainfall at a given time, which will reduce stormwater runoff by approximately 5,586,000 gallons per year.



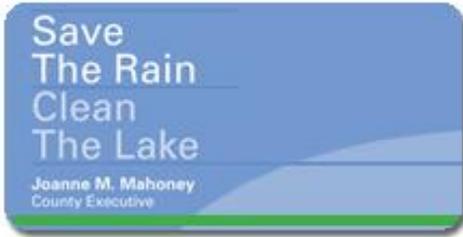
**West Onondaga Street Prior to Construction**



**Photo Simulation of West Onondaga Street after Construction of the Green Corridor Project**

Version 05/06/2012





## FACT SHEET Westcott Street Green Corridor

**Project Description:** The Westcott Street Green Corridor project will be a comprehensive green street application located on the 500 block of Westcott Street. The design includes the installation of several green infrastructure elements that will capture stormwater and enhance the urban landscape.

The Westcott Street Project exemplifies the growing partnership between the City of Syracuse and Onondaga County through the Save the Rain Program. The City of Syracuse is partnering with Onondaga County to reconstruct Westcott Street along the project limits upon the completion of this green project.

The project scope incorporates: enhanced street tree planting strategically placed throughout the sidewalk right-of-way; installation of porous asphalt in parking lanes; use of infiltration trenches and planters; and additional landscaping features throughout the footprint of the block. In addition, the roadway width will be narrowed from 42 feet to 32 feet throughout the corridor, calming traffic and creating a safer pedestrian environment.

This green infrastructure project will capture up to one inch of rainfall at a given time, reducing annual stormwater runoff by approximately 1,180,000 gallons.

Project:	Westcott St. Green Corridor
Project Owner:	City of Syracuse
Project Location:	Westcott St., Between Dell Street and Concord Place
Sewershed:	Clinton/Lower MIS
GI Technology:	Green Street (Underground Infiltration, Tree Planters, Porous Asphalt)
Capture Area:	67,000 sq. ft.
Runoff Reduction:	1,180,000 gal/yr
Construction Cost:	\$852,000
Bid Date:	04/26/13
Prime Contractor:	Davis Wallbridge



**Westcott Street Prior to Construction**



**Photo-Simulation of Westcott Street after Construction of the Green Corridor Project**

**GREEN IMPROVEMENT FUND**



## Green Improvement Fund Update:

The Save the Rain Green Improvement Fund program continues to make progress on implementing GI on private property throughout the City. Recent renovations have been completed at several project locations including: Loon Creek Properties, McMahon Ryan Child Advocacy Center and Salina Shoe Company.

There are also several GIF projects that are currently under construction including: Pike Block, Salt Quarters, Home Headquarters (Marcellus Street) and Housing Visions.

Modifications to the GIF program based on information from the stormwater management model (SWMM) have been implemented to redefine the program boundary for eligible properties.

A public meeting was held on May 30, 2013 to provide details on the proposed changes to the program. Several of the slides presented are in the following pages.

The new program boundary map is currently available on the Save the Rain website. Additional changes to the program are being finalized and will be announced to the public shortly.

### **Green Improvement Fund Summary (as of 6/26/13)**

<b>Applications Received</b>	<b>117</b>
Projects Completed	38
Contract/Implementation Phase	45
Projects in Award Phase	0
Applications Under Review	17
Inactive/Ineligible	17

# Onondaga County's Green Infrastructure Program

**Joanne M. Mahoney, County Executive**  
Onondaga Lake Amended Consent Judgment (ACJ) Compliance Program

## Green Improvement Fund (GIF) Public Information Meeting

Tom Rhoads, Madison Quinn, Paul Legnetto  
OCDWEP

Bj Adigun, Matthew Marko  
CH2M HILL

May 30, 2013



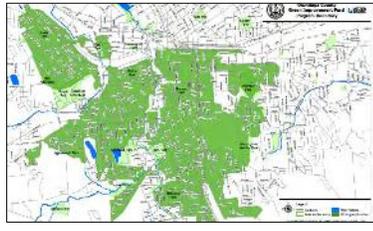
## GIF Program Highlights

- Program Statistics
  - 117 applications submitted for grant funding to-date
  - 36 grant awarded projects completed
  - 54 projects under contract for 2013 construction season
  - 10 applications currently being evaluated and finalized  
(Note: 17 applications failed to receive grant funding)
  - For those Projects Completed:
  - 14.2 Million Gallons removed from combined sewers (annually)



## GIF Program

The Green Improvement Fund (GIF) is a grant program to incentivize the development of green infrastructure stormwater mitigation techniques on private property

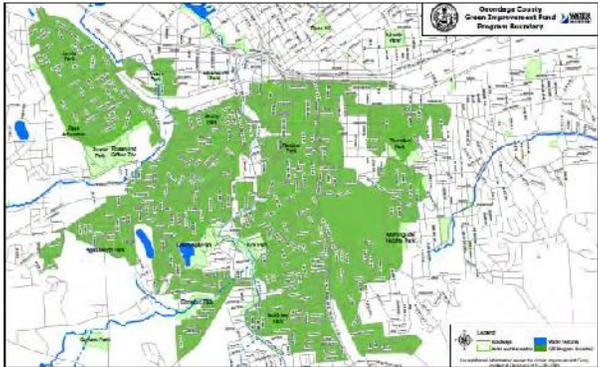


## GIF Program To-Date

- Program Evolution
  - **GIF 1.0 (March 2010)**
    - \$3 million pilot program
    - \$100K funding limit per project/ \$250K for multiple projects
    - 25 applications submitted
  - **GIF 2.0 (June 2011)**
    - Full-program (pilot complete), expanded geography
    - \$200K funding limit per project
    - Greater emphasis on gallon capture
    - 60 applications submitted
  - **GIF 3.0 (July 2012)**
    - Funding limits eliminated
    - Revised Program Description and streamlined Application
    - Greater emphasis on efficiency in GI implementation
    - 20 applications submitted



# GIF Program Boundary Has Evolved



March 2010 – Pilot Area



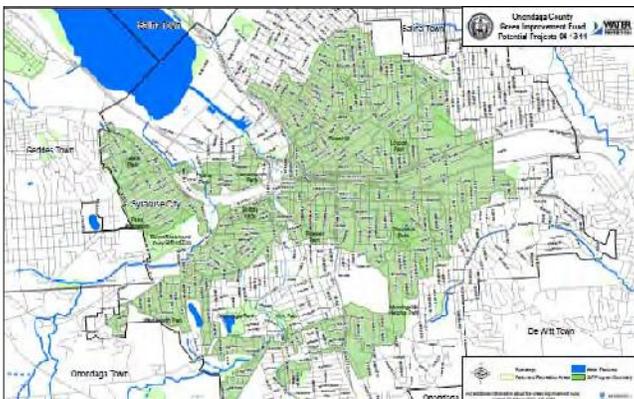
# GIF Program Boundary



June 2010 – Removing Midland RTF



# GIF Program Boundary



June 2011 – Expanded Geography



# GIF Program Boundary



March 2013 (most recent version)



## Stormwater Management Model (SWMM)

## SWMM Analysis

- USEPA developed publicly available software that estimates stormwater runoff within sewersheds
  - Tracks individual CSO's and drainage areas
- Evaluation method for measuring ACJ compliance
- Model updated in 2012
  - The update included an upgrade to software version 5.0.022; the incorporation of the Low Impact Development (LID) module; and the inclusion of more accurate physical data, LIDAR topology, an aerial survey of imperviousness, USDA soil survey parameters, the 012-2013 regulator weir survey, ArcHydro sub-catchment delineation, intra-sub-catchment routing, and real time control (RTC) programming
- Models all system components in one model, including the benefits of storage systems

## Impact on GIF

Successful projects implemented to date (Gray + Green), and a better understanding of the system through SWMM, enables a more strategic approach to CSO abatement

- New program boundary based on updated SWMM
  - Site verification as necessary to confirm boundary conditions
- Strategic approach to GIF incentives
  - Some CSO-sheds are successfully completed and will be eliminated
  - For CSO's that remain in program, proposed funding incentives will be prioritized based on efficiency (High, Medium, Low)
- GIF submission and review procedures to remain unchanged
  - Largely unchanged Program Description and Application, as well as new program Map available via STR website ([www.savetherain.us](http://www.savetherain.us))
- GIF award calculator spreadsheet will be made public and available during application development

## GIF Calculator

- The GIF “calculator” is the tool where the business case for grant funding is justified, evaluating runoff reduction and cost of work to determine a grant award amount
  - Based on some basic site specific input data, the proposed runoff reduction is calculated, and has a monetary value (“volume based compensation”)
  - Based on the proposed scope of work, combined with typical GI installation costs across the program area, the cost to complete the work is estimated

The applicant is awarded, on a line item basis, the lesser of the amounts (value for runoff reduction, vs. maximum cost of work)

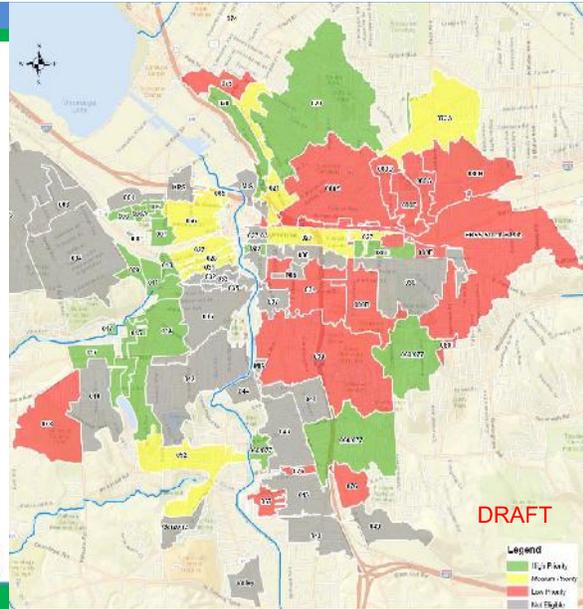
# GIF Calculator

5/30/13

Other items of interest:

- Funding for Green Roof projects is on par with porous pavement systems
- Minimum project size of 60,000 gallons (runoff per year)
- Calculator can be used for “capture and slow release” as well as “water reuse” systems\*
- Calculator can be used for “green separation” projects\*
- Some itemized “gray” items may be eligible for reimbursement if they are required to facilitate the GI\*
- Engineering compensation is a function of construction cost
- Field Testing has a maximum amount
- We no longer compensate for Structural Analysis

\*consultation with WEP recommended



DRAFT

SWMM

5/30/13

## Impact on GIF

- Proposed funding per gallon runoff to remain at \$0.30 for high priority areas\*
- Proposed medium priority areas to receive \$0.20/gallon
- Proposed low priority areas to receive \$0.10/gallon
- Some CSOs eliminated from program
- \$0.25 for projects over 500,000 gpy





## FACT SHEET

### Green Improvement Fund

### Near Westside Initiative –

### Salt Quarters

Project:	NWSI Salt Quarters
Project Owner:	Private
Project Location:	109-115 Otisco Street
Sewershed:	Clinton
GI Technology:	Porous Pavement, Rain Garden, Added Green Space
Capture Area:	17,420 sq. ft.
Runoff Reduction:	306,500 gal/yr
Year Contracted:	2012
Year Completed:	2013
GIF Award:	\$94,300

**Project Description:** The Salt Quarters project, located at 109-115 Otisco Street, is part of a revitalization program of the Near Westside of Syracuse initiated by the Near West Side Initiative. The NWSI acquired the space for the development of an art studio, art galleries, and residential apartments. Along with the numerous site improvements taking place, the NWSI incorporated green infrastructure in their renovation process.

The project transformed what used to be a gravel/pavement lot to a new parking area consisting of 2,943 square feet of porous pavement, a 261 square foot rain garden and 11,128 square feet of added green space. The green infrastructure techniques capture runoff from approximately 17,420 square feet and will reduce stormwater runoff by an estimated 306,500 gallons annually.

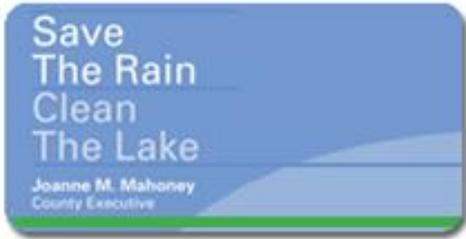


The New Porous Parking Area at Salt Quarters with Added Green Space



The Recently Installed Rain Garden at Salt Quarters

Version 06/28/2013



Project:	Salina Shoe Salon
Project Owner:	Private
Project Location:	2809 S. Salina Street
Sewershed:	Midland CSO
GI Technology:	Porous Pavement
Capture Area:	5,650 sq. ft.
Runoff Reduction:	191,600 gal/yr
Year Contracted:	2011
Year Completed:	2013
GIF Award:	\$48,000

## FACT SHEET

### Green Improvement Fund

### Salina Shoe Salon

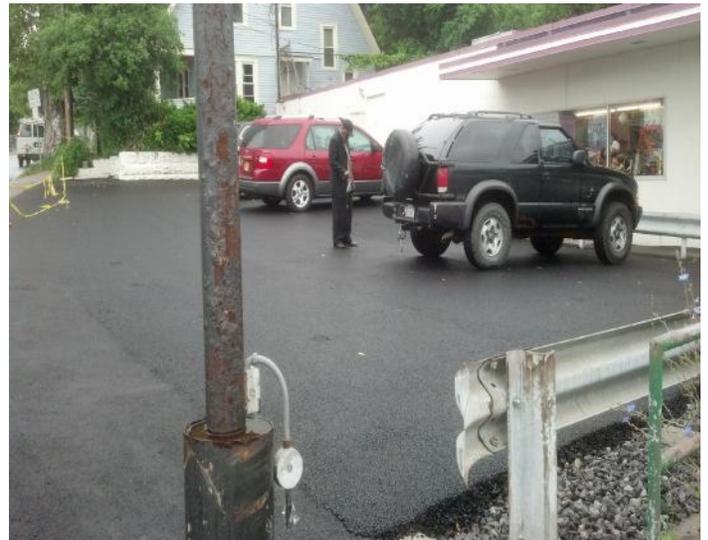
**Project Description:** The Salina Shoe Salon project is located at 2809 South Salina Street. Salina Shoe Salon has been offering Syracuse a variety of Men’s and Women’s shoes for many years and is a staple business on the south side of the City of Syracuse.

Recently, Salina Shoes decided to partner with Save the Rain through the Green Improvement Fund, to help mitigate stormwater runoff on their site and prevent that water from entering the combined sewer system. The project was contracted in 2011 and was recently completed in Spring 2013.

Porous pavement was installed in the parking lot to capture stormwater from the sidewalk, lot and roof of the building. Salina Shoe Salon was awarded \$48,000 for the green infrastructure components of this project. The total capture area on site is approximately 5,650 square feet and is estimated to capture 191,600 gallons of stormwater annually.



Before Photo of Parking Area



New Porous Asphalt Parking Area



**METRO WWTP PHOSPHORUS  
PROJECTS/TMDL/AMBIENT  
MONITORING PROGRAM  
UPDATE**



## Metro WWTP Projects

### Metro WWTP Phosphorus Optimization Project

The Metro WWTP Total Phosphorus Treatment Optimization Pre-Implementation Studies have been completed and the addendum to the *Metro WWTP Optimization Analysis of Total Phosphorus Treatment Report*, dated August 2011, has been finalized and submitted for review in May 2013.

### Metro Phosphorus Work Plan Project

NYSDEC comments regarding the *Metro WWTP Analyzing Phosphorus Removal Technologies and Metro Diversion to the Seneca* report, submitted in October 2012, were received on February 6, 2013. The OCDWEP Response to Comments were submitted on March 1, 2013.

## Ambient Monitoring Program

### WATER QUALITY MONITORING PROGRAM

#### **Lake and Tributary Sampling Summary (April, May and June 2013):**

##### April 2013:

- Tributary Bacteria sampling events: April 2, 11 and 25
- Tributary Biweekly sampling events: April 9 and 23
- Lake Quarterly sampling event: April 4
- Lake Weekly sampling events: April 8 and 22
- Lake Biweekly sampling events: April 16 and 29
- Lake Bacteria: April 17

##### May 2013:

- Tributary Bacteria sampling events: May 2, 9 and 16
- Tributary Biweekly sampling events: May 7 and 20
- Tributary High flow sampling event: May 30
- Lake Biweekly sampling event: May 14
- Lake Bacteria sampling event: May 21
- Lake Weekly sampling events: May 6, 23 and 29

##### June 2013:

- Tributary Quarterly sampling event: June 4
- Tributary Bacteria sampling events: June 6 and 24
- Tributary High flow sampling event: June 13
- Tributary Biweekly sampling event: June 18
- Lake Weekly sampling events: June 3 and 17
- Lake Biweekly sampling event: June 11
- Lake Bacteria sampling event: June 19
- Lake Quarterly sampling event: June 25

**Tributary Bacteria Monthly Compliance Assessment  
(February 2013-April 2013)**

Sampling Site	Compliance <sup>1</sup>		
	February 2013	March 2013	April 2013
<b>Harbor Brook</b>			
Bellevue Avenue	5		
Velasko Road	5		
Hiawatha Boulevard	X		
<b>Dorwin Avenue</b>			
Dorwin Avenue	5		
Water Street	5		
Plum Street	5	NS	NS
Kirkpatrick Street	5	X	X
West Genesee Street (mid transect)	-	X	X
<b>Ley Creek at Park Street</b>			
Ley Creek at Park Street	3		
<b>Ninemile Creek at Lakeland (Route 48)</b>			
Ninemile Creek at Lakeland (Route 48)	5		
<b>Bloody Brook at Onondaga Lake Parkway</b>			
Bloody Brook at Onondaga Lake Parkway			
<b>Tributary 5a at State Fair Boulevard</b>			
Tributary 5a at State Fair Boulevard			

<sup>1</sup> Compliance assessed with the applicable NYS Ambient Water Quality Standard (AWQS) for Fecal Coliform bacteria in the surface water as set forth in 6NYCRR Part 703.4 as follows: "The monthly mean geometric mean, from a minimum of five examinations, shall not exceed 200."

<sup>2</sup> Compliance could not be assessed as the required minimum number of samples (5 samples/month) could not be collected, due to low flow conditions.

<sup>3</sup> Compliance could not be assessed as the required minimum number of samples (5 samples/month) could not be collected, due to ice cover/frozen conditions.

<sup>4</sup> Compliance could not be assessed as the required minimum number of samples (5 samples/month) could not be collected, due to construction related activities.

<sup>5</sup> Compliance could not be assessed as a few samples were delivered to the Lab partially frozen/frozen and results were flagged by the OCDWEP Environmental Laboratory ("V" - Reported Value is an estimate due to variance from quality control or assurance criteria).

NS: Not Sampled.

## BIOLOGICAL MONITORING PROGRAM

### Sampling Summary (April)

- Continued age and growth analysis.

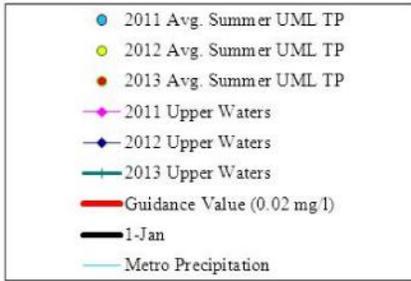
### Sampling Summary (May)

- The spring adult fish electrofishing event was completed on May 22.
- Littoral Profundal Gill Nets - Completed the spring gill net sampling event on May 30.
- Alewife hydroacoustics/gill netting survey - Annual event completed on May 30.
- Littoral Larval Seines - Completed the first of three sampling events.

### Sampling Summary (June)

- Completed age and growth analysis for 2012 scale samples.
- Littoral Larval Seines - Completed the second of three sampling events.
- Nesting Survey - Annual event completed on June 27.

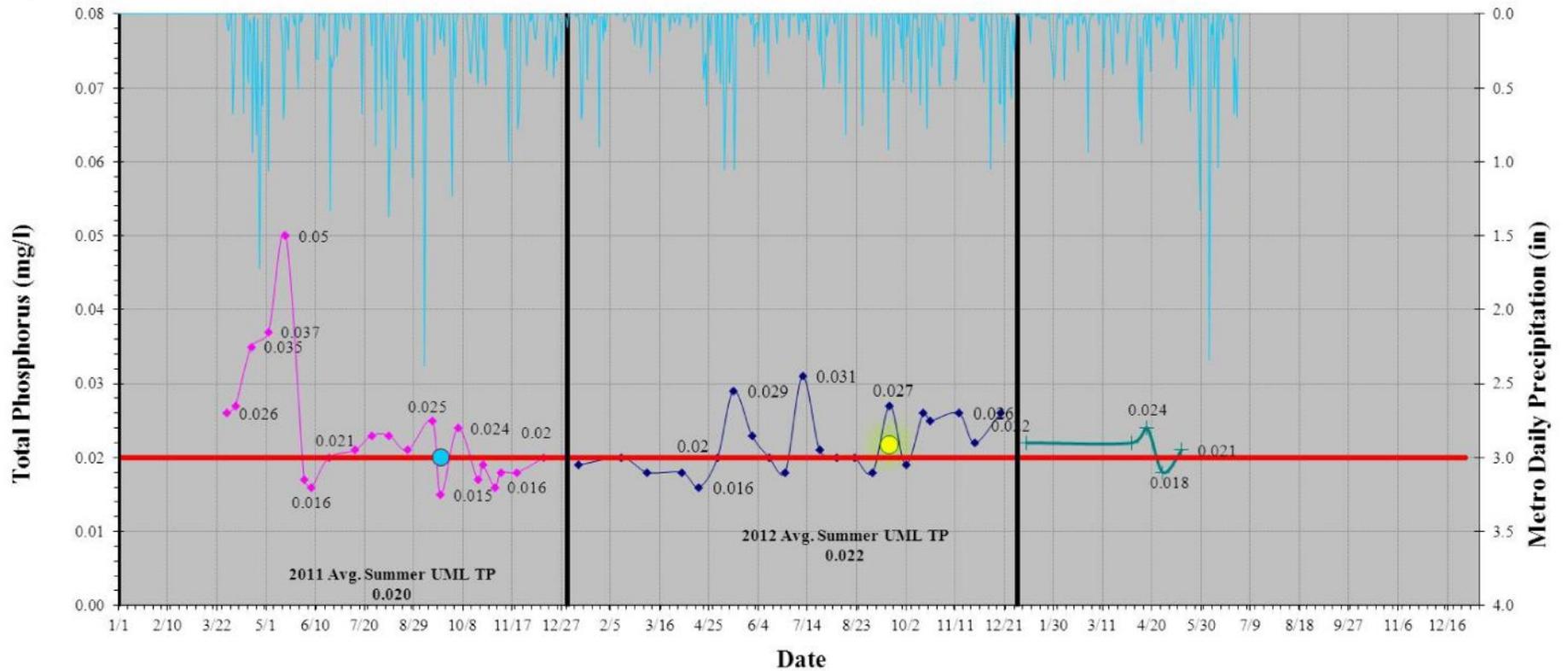
## Onondaga Lake - South Deep Upper Waters Total Phosphorus 2011-2013



**NOTE:** Upper waters= 0m, 1m, and 3m samples

**Note:** Last result is from the 05/14/2013 Sampling event.

**Avg. Summer UML TP period is June-September.**



**LEGISLATIVE / REGULATORY /  
MEDIA UPDATE**



## **Legislative/Regulatory Update**

### **Action Items for the County Legislature (April - June)**

- A resolution authorizing and ratifying the County of Onondaga acting as lead agency for the Harbor Brook CSO 063 conveyance project under the State Environmental Quality Review Act (SEQRA) and the State Environmental Review Process (SERP); determining the classification of a Type 1 Action; adopting a negative declaration and authorizing the publication, circulation, service, and filing of the Environmental Assessment form and the negative declaration.
- A resolution authorizing the purchase of certain permanent and temporary easements from National Grid for the construction, operation, and maintenance of the Harbor Brook CS 063 conveyances project (\$14,200).
- A resolution to amend the 2013 budget and to release Honeywell Contingency Funds for anticipated legal, technical, and scientific expenses associated with the Onondaga Lake Superfund Site (\$75,000).

### **Action Items for the Environmental Protection Committee (May - July)**

- Informational - ACJ Update
- Informational - Infrastructure Capacity Constraints
- Informational - Consolidated Sanitary District Rate Study
- Resolution Pending – Resolution calling a public hearing in connection with authorizing various green and innovative infrastructure projects located outside the Amended Consent Judgment area as outlined in Local Law 1-2011 for the purpose of mitigating inflow and infiltration of stormwater into the consolidated sanitary district sewer system.



## *Worked Up: Wringing the Jobs out of Water*

*How investment in water and wastewater infrastructure is not just good for public health and well-being - it's good for the economy*

**By Angela Godwin, Chief Editor**

When you consider current state of water and wastewater infrastructure in the United States, the statistics are nothing short of astounding. Our massive underground distribution and collection networks are failing, resulting in 240,000 breaks annually. Sewer overflows send 860 billion gallons of untreated sewage into our waterways every year. And, with some 16% of treated drinking water never making it to our taps, we're losing approximately 7 billion gallons of water every day.

The urgency around upgrading and expanding our water and wastewater systems is growing - but so is the price tag. The U.S. Conference of Mayors estimates it will cost us between \$2.5 and \$4.3 trillion over the next 20 years (2009-2028).

There are myriad reasons to make the needed investment in water and wastewater infrastructure a priority: reducing water waste, safeguarding public health, and saving billions of dollars in non-revenue water loss. But equally compelling is the economic benefit of modern, healthy water and wastewater infrastructure.

A 2009 report from the Clean Water Council, coordinated by the National Utility Contractors Association (NUCA), demonstrated that water, sewer and stormwater management projects add significant value to the local economy. Specifically, it found that for every \$1 billion invested in water and wastewater infrastructure, more than 26,000 jobs are created. That same investment results in total national output (i.e., demand for products and services in all industries) of between \$2.87 and \$3.46 billion.



Tree plantings are important to Syracuse's green infrastructure stormwater management strategy because they will contribute to the capturing of the 250 million gallons of rain annually. Photo courtesy of Save the Rain.

The U.S. Department of Commerce's Bureau of Economic Analysis further found that each job created in the local water and wastewater industry creates 3.68 jobs in the national economy, illustrating the far-reaching consequences of investing in water and wastewater infrastructure. The report noted that each public dollar spent yields \$2.62 dollars in economic output in other industries.

The U.S. Conference of Mayors further noted that for \$1 of public investment, private long-term Gross Domestic Product (GDP) output is increased by \$6.35.

"Water infrastructure investment means jobs and it's got to be a top priority," said Amanda Waters, Government Affairs Counsel for the Water Environment Federation (WEF). This is the overarching message of WEF's Water for Jobs Campaign launched last fall. "We're trying to bring the water sector together in an outreach effort to send a clear message to congress," she said.

That's not an easy task. "There are so many different reports and so many organizations that are looking at this," she said. A key goal of Water for Jobs is to create a comprehensive website that compiles in one place the most recent and relevant resources to help water utilities make their cases.

Long-term, Waters envisions the site having a tool or calculator that could help a water utility quantify its capital budget in terms of its impact on the local economy - including job creation.

"That would help locally with justifying rate increases," she explained, "but it would also help those faced with a state, local or regional issue trying to make a case to congress." Municipal public works projects are an essential part of a stable economy, she pointed out. "Showing that they are job creators not only gives them the respect they deserve but also justifies investment needs in order to ensure reliable systems of drinking water delivery and wastewater treatment."

## RAINING JOBS?

Under the larger umbrella of drinking water and wastewater infrastructure, the stormwater sector is a niche where advocacy group Green For All sees significant job potential.

The organization's 2011 report "Water Works: Rebuilding Infrastructure, Creating Jobs, Greening the Environment" looked at a portion of U.S. EPA's 2008 Clean Water Needs Survey pertaining to capital needs for pipes, pipe repair, combined sewer overflow (CSO) mitigation, and stormwater management. They determined that this segment represented \$188.4 billion in investment need.

The report found that if that investment were spread out over five years, it would generate \$265.6 billion in economic activity (i.e., GDP growth) and create nearly 1.9 million direct, indirect, and induced jobs.



Green infrastructure sprouts across urban landscapes. A green roof atop New York City's Jacob K. Javits Convention Center will prevent approximately 6.8 million gallons of stormwater runoff annually. Photo courtesy of Xero Flor America.

"There's enormous potential for jobs in the stormwater sector," said Jeremy Hays, Chief Strategist for State and Local Initiatives at Green For All and a lead author of the study. "And that's just if we fix the stuff that's broken now, that's keeping cities and regions from being in compliance with the Clean Water Act."

The report examined the types of jobs that would be created in the stormwater sector and found that most of them do not require advanced degrees. In fact, most require only a high school diploma with some post-secondary education or training, opening up job opportunities with "family supporting wages" for middle-skilled workers.

Some of the occupations identified in the report include pipelayers, plumbers, construction laborers, machinists, and water and wastewater treatment system operators.

"We're really focused on trying to create jobs that are accessible to people that have struggled to find middle class employment," Hays said. "And some of this green infrastructure employment is just that."

A comparable example, Hays suggested, is landscaping. "The median wage for a landscaper is about \$18/hour," he said. "It's not something you could retire on but it's much better than minimum wage and it represents a really firm stepping stone on a pathway to a middle class career."

The report acknowledges that landscaping is indeed most closely associated with green infrastructure but notes that this field presents some challenges: low wages, limited benefits, and frequent employment violations. It is, however, a very accessible field to workers with low levels of education and training. The report suggests the key will be developing "well structured pathways to careers with associated education and training programs, skill certifications, and bargaining power for workers in the marketplace."

A good example can be found in Syracuse, NY. Onondaga County's "Save the Rain" program is a nationally recognized stormwater management plan intended to reduce pollution to Onondaga Lake and its tributaries through the use of green infrastructure. In its first year (2011), more than 60 projects were implemented - including a 60,000-square-foot green roof atop the Onondaga County Convention Center.

Complementing Onondaga County's ambitious plan is a robust environmental certification program developed by the State University of New York's College of Environmental Science and Forestry (SUNY-ESF). The Green Train Landscaping & Urban Ecology (GLUE) Workforce Training Program provides the knowledge and skills necessary for employment in the field of green infrastructure. It addresses two of Syracuse's critical concerns - poverty and sustainable development - by simultaneously training a local underemployed workforce and enhancing the urban landscape with environmentally conscious renovation.

Hays said, "The key questions are: How can we make the upgrades to our infrastructure that need to be made? How can we green our communities in the process? And how can we create economic opportunity for folks hit hardest by the recession and struggling to find their way into the middle class? We think green infrastructure represents that opportunity."

Hays acknowledged that things are tough in Washington right now. But despite water infrastructure spending cuts and sequester restrictions, Green For All believes now is the time to invest: it would create jobs at a time when we desperately need them; interest rates are at historic lows; and the economic downturn has rendered construction projects less costly.



In fact, the report suggests that delaying investment in water infrastructure until the economy has recovered would diminish the overall positive impact. Labor costs would be higher, the cost of financing would be higher, and with more available work and less competition, the costs of the projects themselves would be higher.

"We made the case in our report that this is the best time, right now, to get good job creation out of this," said Hays. But ultimately, it's not a discretionary spending item, he said. "We have a hole in our roof; we can either put a bucket under it and leave it for our grandkids to fix or we can get on the job and fix it now."

With more cities across the country - cities like Philadelphia, Seattle, Cincinnati, New York, Milwaukee, Portland, OR, Washington, DC, and Kansas City (see page 20) - adopting green infrastructure as a core component of their stormwater management strategies, Hays is encouraged.

"There's a lot of green infrastructure slated, already committed and funded," he said. "We're seeing more and more utility districts integrating it into the way they do business."

As part of Onondaga County's Save the Rain program, a 60,000-square-foot green roof atop the Onondaga County Convention Center will capture an estimated 1 million gallons of stormwater annually.

Ultimately, though, investment in water and wastewater infrastructure must become a national priority. Waters is optimistic that Congress is starting to get the message. "The Transportation and Infrastructure Committee's very first hearing in the 113th Congress was on the federal role in infrastructure," she pointed out. "While they focused a lot on transportation, water/wastewater/stormwater certainly did come up."

In her opinion, despite the widely lamented gridlock on the Hill, there seems to be a real understanding amongst the committee's members of the link between our economic vitality and the need to keep our infrastructure upgraded and competitive with the rest of the world.

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## By the Numbers

650 average number of water main breaks every day

16% percentage of treated drinking water lost on the way to taps

3.68 number of jobs created in the national economy for every one job in water and wastewater

26,000 number of jobs created for every \$1 billion invested

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**Direct jobs** Represents employment opportunities in industries, such as construction and utility sectors, that implement the actual work on projects

**Indirect jobs** Represents employment opportunities in sectors, such as manufacturing, that equipment and machinery to the direct industries

**Induced jobs** Represents employment opportunities created when income earned by newly hired workers and firms is spent throughout the economy



## CRC: "Save the Rain - Balancing Green and Gray Stormwater Infrastructure Solutions in Syracuse"

When **April 09, 2013**

6:00 PM

Location Chatham University,  
Eddy Theatre (On the  
North Squirrel Hill  
campus of Chatham  
University, 15217

Join the Clean Rivers Campaign for...

## Beyond Tunnel Vision: Good Jobs & Green Communities Speaker Series

We are very excited to welcome our April speaker, Matthew Millea! The last couple of months we have featured academic and private sector speakers, but **Matthew comes to us with significant experience in the public sector**. Matthew will share his experience in Syracuse, NY with planning and implementing large-scale green infrastructure!

**Who:** Matthew Millea, Deputy County Executive for Physical Services, Onondaga County, New York

**What:** Reception, Presentation and Q&A -  
"Save the Rain - Balancing Green and Gray Stormwater Infrastructure Solutions in Syracuse"

**When:** Tuesday, April 9 - Reception (with food and drink) at 6:00 pm; Speaker at 6:30 pm

**Where:** Chatham University, Eddy Theatre (On the North Squirrel Hill campus of Chatham University, 15217; Access parking and the theatre from Murray Hill Avenue between Fifth Avenue and Wilkins Avenue)

**Get more details (including a map) and RSVP here:**

[http://org2.democracyinaction.org/o/5452/p/salsa/event/common/public/?event\\_KEY=66059](http://org2.democracyinaction.org/o/5452/p/salsa/event/common/public/?event_KEY=66059)

In the Pittsburgh Region, we often hear people saying, "We can't do green infrastructure here. The slopes are too steep. We get too much rain. We have clay soil..." and so much more! But the truth is - **We CAN do green infrastructure here!**

We have challenges, but we also have opportunities. In regions all over the country, people are meeting challenges similar to ours with creative, sustainable, green solutions, and we can, too!

Join us and our co-sponsor, Chatham University's School of Sustainability and the Environment, on April 9th to learn how we can make green infrastructure a reality!

<http://www.hdcg.org/Events?eventId=665375&EventViewMode=EventDetails>



Greening The City

4:10 PM WED APRIL 10, 2013

## Pittsburgh Opportunities for Green Infrastructure

BY EMILY FARAH

Syracuse, NY has invested \$25 million on more than 100 green infrastructure projects and now it is being held up as a model for what other cities could be doing.

"We've helped to rebuild city parks, we've helped to make improvements to libraries, we've helped to turn regular city streets into green streets that capture millions of gallons of storm water, we've put a green roof on our convention center," Syracuse Mayoral Chief of Staff Matthew Millea said, "So we've just got a great collection of green infrastructure strategies that we've tried all over the city and we're seeing a great return on our investment."

Millea was in town Wednesday to offer advice on environmentally friendly infrastructure as part of Chatham University's Sustainability and the Environment School's "Beyond Tunnel Vision" campaign.

"I think any urbanized area that has lots of impervious surface is a great candidate for softening the edges and adding some elements where storm water can be captured, rather than transported and treated."

Millea said although cities are investing in infrastructure more, there's still work to be done in order to comply with the Clean Water Act (CWA).

"We're still a ways away from achieving the overall objective of the Clean Water Act, which is fishable and swimmable waters of all of the water bodies in the United States," Millea said. "The closer we get to our fiscal capabilities, we still seem to be a bit farther away from the overall compliance objectives of the Clean Water Act."

CWA regulates the nation's water pollution and prohibits dumping toxins into waterways. The goal of the 1972 law was to make water recreation, like swimming and fishing, possible by 1985. CWA does not specifically address storm water drainage.

"There's many challenges, but as we've done in Syracuse, as we've seen happen in New York City, as we've seen in cities like Cincinnati and Cleveland, people working together toward this objective can get there and start making some really worthwhile investments in green infrastructure as they march toward their compliance deadlines," Millea said.

<http://wesa.fm/post/pittsburgh-opportunities-green-infrastructure>



## *Honoring U.S. Water Prize Winners on Earth Day*

Thursday, April 11, 2013

The U.S. Water Alliance will be honoring the 2013 class of U.S. Water Prize winners on Earth Day April 22, 2013 in Washington, D.C.: MillerCoors, Onondaga County, NY, and The Freshwater Trust.

William Reilly, writer, advisor, and former Administrator of the U.S. EPA and President of the World Wildlife Fund, will salute the winners in front of an audience of more than 300 water and business leaders.

Onondaga County, NY, is being recognized for its program to "Save the Rain" and embrace green infrastructure solutions to wet weather problems; The Freshwater Trust is being recognized for its collaborative market-based solutions to restore and protect rivers and streams; and, MillerCoors is being honored for their innovative and comprehensive strategies to protect and conserve water throughout its life cycle. "Our 2013 U.S. Water Prize winners are leading the way, from East to West and all points in between, on the value of water and the power of innovating and integrating for one water sustainability," boasts Alliance President Ben Grumbles. "Our champions are showing how to save the rain, clean the stream, and grow with care, up and down the supply chain throughout the water cycle."

The U.S. Water Prize, first launched in 2011, is organized and administered by the U.S. Water Alliance. Through the prize, the national non-profit underscores the value of water and the need for one water integration, innovation, and collaboration among environmental, business, utility, and community leaders. Sharing these goals, several corporate sponsors are joining together including, to-date: CH2M HILL, Veolia North America, Brown and Caldwell, ARCADIS, CDM Smith, MWH-Global, and HDR.

Please contact Kristyn Abhold at 202.533.1821 or [kabhold@uswateralliance.org](mailto:kabhold@uswateralliance.org) with inquiries about the U.S. Water Prize.

[http://www.uswateralliance.org/2013/04/11/honoring-u-s-water-prize-winners-on-earth-day/?utm\\_source=2013.04+NewsWaves&utm\\_campaign=04%2F13+NewsWaves&utm\\_medium=email](http://www.uswateralliance.org/2013/04/11/honoring-u-s-water-prize-winners-on-earth-day/?utm_source=2013.04+NewsWaves&utm_campaign=04%2F13+NewsWaves&utm_medium=email)



Working for  
**green solutions.**

**Making the right choice.**

## **Matt Millea shares Save the Rain ideas with Pittsburgh**

Posted on [April 12, 2013](#) by [ninemilerun](#)



Matt Millea speaks about Syracuse, NY's Save the Rain program

As part of our monthly Beyond Tunnel Vision speaker series, Matt Millea, Deputy County Executive for Physical Services in Onondaga County, New York, met with Clean Rivers Campaign supporters at Chatham University to present Save the Rain: Balancing Green & Gray Stormwater Infrastructure Solutions in Syracuse.

Speaking to an audience of about fifty people, Millea described the efforts made by the County Executive's office to reduce combined sewer overflows (CSOs) within Syracuse. As per a federal consent order issued in 1998, Onondaga County invested primarily in gray infrastructure to deal with the issue; this plan, however, was modified after County Executive Joanne M. Mahoney took office in 2008. After a district judge allowed for green infrastructure to be

incorporated in conjunction with gray infrastructure, public officials in Syracuse began the 'Project 50' campaign.

Project 50, as described by Millea, was County Executive Mahoney's goal to develop and install fifty new green infrastructure projects within the year 2011 – an impressive feat that they were actually able to exceed. More than 60 projects were completed, including installing porous pavement in municipal parking lots, building stormwater planters with salt-friendly plants, and creating a rain barrel program to educate community members. This also included a workshop to teach participants about the maintenance and techniques required for the projects' upkeep.

Millea concluded his presentation by adding that all of the projects' blueprints and technical details were available for download at the Save the Rain website, thus allowing for other cities to borrow from Syracuse. With so many cities across the US facing the same sewer problems as Syracuse (like Pittsburgh!), it's exciting to see a group of public officials eager to help out.

For more information on the Save the Rain program, check out: <http://savetherain.us/>

<http://cleanriverscampaign.org/2013/04/12/matt-millea-shares-save-the-rain-ideas-with-pittsburgh/>



## **Support for Clean Water Appropriations**

Testimony of Matthew J. Millea

Deputy County Executive for Physical Services, Onondaga County, NY  
representing the Water Environment Federation

Interior and Environment Subcommittee, Committee on Appropriations

U.S. House of Representatives

April 16, 2013

Good morning, Chairman Simpson and Subcommittee Members. My name is Matt Millea, and I am Deputy County Executive for Physical Services in Onondaga County, New York. I also serve as Vice Chair of the Water Environment Federation (WEF) Government Affairs Committee. On behalf of WEF, thank you for the opportunity to testify before the Subcommittee on the need for water infrastructure and water monitoring funding.

As Deputy County Executive, I oversee the operations of nine county departments and assist County Executive Joanie Mahoney in the development and implementation of the annual county budget and a broad range of policy issues. County Executive Mahoney has also charged me with managing the County's "Save the Rain" effort, a multi-million dollar public works program that is utilizing both conventional and green infrastructure approaches to mitigate combined sewer overflows into Onondaga Lake and its tributaries. Prior to joining the Mahoney administration, I served as the Executive Vice President and Acting President of the New York State Environmental Facilities Corporation, which operates the largest Clean Water State Revolving Fund Program in the nation. In 2009, I oversaw the successful deployment of over \$500 million in federal stimulus funding from both the Clean Water and Drinking Water SRF programs and launched New York State's Green Innovation Grant Program, which is now in its fourth round of funding.

Onondaga County is in Central New York and has approximately 450,000 residents. The County operates six waste water treatment facilities, hundreds of pump stations and more than 700 miles of interceptor sewers and force mains that serve approximately 125,000 unique users within the County's Consolidated Sanitary district. As a local government official and past official in a state infrastructure financing authority, I have a good understanding of both the challenges and opportunities we face with regard to increased water infrastructure investment. My testimony today is on behalf of the Water Environment Federation.

### **Water Infrastructure Challenges**

WEF's passion is to preserve and enhance the water environment to support clean and safe water, both in the United States and globally.<sup>1</sup> Local governments have made tremendous investments to

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<sup>1</sup> Founded in 1928, the Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 36,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. WEF members, Member Associations and staff proudly work to achieve our mission to provide bold

improve water quality and achieve Clean Water Act (CWA) compliance over the last 40 years with remarkable success. They have worked tirelessly to provide an essential public service that is critical to safeguarding public health and maintaining our quality of life.

The facts are clear that the nation's water infrastructure faces tremendous challenges ahead. The U.S. Environmental Protection Agency [EPA] released on March 26 the results of the first comprehensive survey looking at the health of thousands of stream and river miles across the country, finding that more than half – 55 percent – are in poor condition for aquatic life<sup>2</sup>. The American Society of Civil Engineers recently gave a collective “D” grade to our Nation's water and wastewater infrastructure<sup>3</sup>.

WEF and 16 other non-profit and industry organizations formed the *Water for Jobs* coalition last year to compile data about water infrastructure needs and educate policy leaders and the public about the benefits more water infrastructure investment will bring to our nation. As a result of this effort, the 2012 Republican Party<sup>4</sup> and Democratic Party<sup>5</sup> National Platforms included water infrastructure investment language and referenced the positive impact on job creation, economic growth, and health. The *Water for Jobs* partnership is hosting the *National Water Infrastructure Summit* this morning [April 16, 2013] at the Ronald Reagan Building. The event is bringing together 150 top leaders and experts to share their perspectives about the need for reliable, resilient water infrastructure systems and their impact on job creation and a strong financial future. The event is being live streamed on the internet and will be available on the *Water for Jobs* website ([www.waterforjobs.org](http://www.waterforjobs.org)) afterwards, and I invite members of the Subcommittee and staff to view the dialogue at a later date.

As the Chairman and almost every member of the Subcommittee noted in their comments during the Subcommittee's March 13, 2013 hearing, our country has very real water infrastructure needs. It is estimated that 16% of treated drinking water, or 7 billion gallons daily, is lost to failing pipes. Approximately 860 billion gallons of raw or partially treated wastewater enters our waterways annually due to overflows<sup>6</sup>. The U.S. Environmental Protection Agency's 2008 Clean Watershed Needs Survey and 2009 Drinking Water Needs Survey has identified a total water infrastructure capital investment need of \$632.9 billion over the next 20 years; at current funding levels, there will be a capital funding gap of at least \$224 billion nationwide unless investment increases. These figures are for capital costs and do not include costs for operating and maintaining water systems, which place an additional strain on local communities and their citizens.

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leadership, champion innovation, connect water professionals, and leverage knowledge to support clean and safe water worldwide.

<sup>2</sup> US EPA, National Rivers and Streams Assessment, 2008-2009, A Collaborative Survey. Office of Wetlands, Oceans and Watersheds, US EPA, Washington, DC (March 2013, EPA 841-F-13-004).

[http://water.epa.gov/type/rsl/monitoring/riverssurvey/upload/NRSA200809\\_FactSheet\\_Report\\_508Compliant\\_130314.pdf](http://water.epa.gov/type/rsl/monitoring/riverssurvey/upload/NRSA200809_FactSheet_Report_508Compliant_130314.pdf)

<sup>3</sup> ASCE 2013 Report Card for America's Infrastructure. American Society of Civil Engineers, Reston, VA (March 2013). <http://www.infrastructurereportcard.org/>

<sup>4</sup> GOP, *We Believe in America*, pp. 1 and 5

<sup>5</sup> DNC, *Moving America Forward*, pp. 40-41

<sup>6</sup> American Rivers, *What's In Your Water: The State of Public Notification in 11 U.S. States* (2007) [http://act.americanrivers.org/site/DocServer/arswg.all.8\\_16\\_07\\_opt.pdf?docID=6521](http://act.americanrivers.org/site/DocServer/arswg.all.8_16_07_opt.pdf?docID=6521)

Unless new investments are made by 2020, unreliable and insufficient water infrastructure will cost the average American household \$900 a year in higher water rates and lower wages; American businesses can expect an additional \$147 billion in increased costs and the economy will lose 700,000 jobs.<sup>7</sup> The U.S. Department of Commerce's Bureau of Economic Analysis found that each job created in the local water and wastewater industry creates 3.68 jobs in the national economy, illustrating the far-reaching consequences of investing in water and wastewater infrastructure. The report noted that each public dollar spent yields \$2.62 dollars in economic output in other industries. The U.S. Conference of Mayors further noted that for \$1 of public investment, private long-term Gross Domestic Product (GDP) output is increased by \$6.35. A 2011 report by Green for All found that an investment of \$188.4 billion spread equally over the next five years would generate \$265.6 billion in new economic activity and create close to 1.9 million jobs.<sup>8</sup>

As someone who manages a large municipal budget, and who in my former role, had the task of prioritizing funding state-wide for infrastructure projects, I can sympathize with the budgetary challenges that the Subcommittee faces. The good news for the Subcommittee is that there is exceptional support by the American public for funding for water infrastructure. Xylem, Inc. completed the *Value of Water* survey in 2012 which found that 85 percent of voters and 83 percent of businesses agree that federal, state or local governments should invest money in upgrading water pipes and systems. The survey also found that 97 percent of American rate water as “extremely important,” on par with electricity and heating as their most important utility.

### **State Revolving Loan Funds**

WEF has been a long-time supporter of federal funding for water infrastructure<sup>9</sup>. Each year the Federation has submitted letters of support to the Subcommittee for increased funding for the Clean Water State Revolving Fund (CWSRF), Drinking Water SRF (DWSRF), Clean Water Act Sect. 106 Operation Grants program, and the Public Water Work System Supervision Program.

Since the CWSRF's creation in 1987 and the DWSRF's creation in 1996, they have been proven to be highly successful at improving water quality and providing communities with funding for critical local infrastructure projects at very low cost. As Congress begins to consider other funding mechanisms, some of which WEF supports, to address the nation's needs, we should not undermine the success of the SRF programs. The clean water and drinking water SRFs are now and will continue to be a highly effective and affordable tool for communities to fund projects that protect the public, the environment and help grow the economy. WEF has long held the position that the SRF programs should be the primary federal funding source available to communities.

As the administrators of the SRF funds, states are quite often challenged to distribute funding to the large number of applicants seeking assistance. Demand is far exceeding supply. For instance, in my home state of New York, the Department of Health estimates that approximately 95 percent

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<sup>7</sup> American Society of Civil Engineers (ASCE), *Failure to Act* (2011)

<sup>8</sup> Green for All, *Water Works: Rebuilding Infrastructure Creating Jobs Greening the Environment* (2011)

<sup>9</sup> See, for example, WEF Position Statement, *Financial Sustainability for Water Infrastructure*, adopted by WEF Board of Trustees on February 5, 2010 (Water Environment Federation, Alexandria, VA).

<http://www.wef.org/GovernmentAffairs/PolicyPositionStatement/WaterInfrastructure/>

of the projects submitted for inclusion in the Drinking Water SRF program remain unfunded due to a lack of available funds.<sup>10</sup> Any new funding mechanisms that Congress enacts, such as an infrastructure bank, trust fund, or lending authority, should not be funded as the expense of the SRF programs.

For the FY14 budget, WEF respectfully asks the Subcommittee to fund the CWSRF and DWSRF at the FY12 levels of \$1.466 billion and \$917.892 million, respectively. The amounts allocated in the FY13 Continuing Resolution were not an accurate reflection of the true value of the SRF programs, and, as the Chairman expressed during the Subcommittee's March 13 hearing, the cuts proposed by the Senate were unnecessarily deep. The need to control federal spending is understandable, but the SRF's are investments in public infrastructure that need to occur now. As was stated earlier in this testimony, investment in infrastructure saves jobs, creates new jobs and will help our nation rebound from our current economic downturn. Additionally, substantial SRF funding now will help states fund more projects now rather than waiting until an emergency repair is needed and costs are significantly higher.

### **Water Infrastructure Finance and Innovation Authority**

In an effort to ensure that the most communities are assisted and the regulatory goals of the Clean Water Act and Drinking Water Act are met, many states choose to distribute the SRF funds to smaller and medium sized projects, rather than spending all or most of their allocated SRF funding on one or two large projects. Unfortunately, that gives communities with larger projects little or no access to federal support to comply with CWA and SDWA mandates.

To address this issue, WEF supports the creation of a Water Infrastructure Finance and Innovation Authority (WIFIA), which would be modeled after the highly successful Transportation Infrastructure Finance and Innovation Authority (TIFIA). The new lending authority would support large, regional water and wastewater projects at a small long-term cost to the federal government. WIFIA must be designed to complement – not replace – the SRFs. A pilot version of WIFIA was recently passed by the Senate Environment and Public Work Committee in S. 601, Water Resources Development Act of 2013 (WRDA). Additionally, Transportation and Infrastructure Committee Water Resources Subcommittee Ranking Member Tim Bishop (D-NY) has included authority to create a WIFIA program in a draft comprehensive water infrastructure bill that he is planning to reintroduce in this Congress. WEF has endorsed the Senate WIFIA provision in WRDA and Rep. Bishop's bill, and I ask at this time that WEF's endorsement letters be included in the record.

### **National Water Quality Assessment Program**

WEF's members are largely engineers and scientists—the water quality experts. They and the organizations they work for need reliable data to fulfill their Clean Water Act responsibilities and assess progress in restoring water quality in their communities and identify emerging problems. The National Water Quality Assessment Program (NAWQA) at the U.S. Geological Survey is an important source of scientific information to guide governmental and private actions

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<sup>10</sup> [http://www.health.ny.gov/environmental/water/drinking/infrastructure\\_needs.htm](http://www.health.ny.gov/environmental/water/drinking/infrastructure_needs.htm)

to protect the Nation's water resources. Twenty-two years ago Congress established NAWQA to provide long-term, nationally consistent data and information on water-quality conditions and ecosystem health nationwide, to measure changes over time, and to determine how natural features and human actions affect water quality. NAWQA is the only federal program with this mission, and it has the proven capability to accomplish it. NAWQA's findings have and continue to be used by national, regional, State, and local governments and the private sector to develop more effective, science-based policies and actions to protect and restore water quality even as population and threats to water quality grow and change. Its findings target actions that can achieve the greatest water quality benefits and can determine whether the billions of dollars invested in pollution control are actually having the anticipated results.

For example, NAWQA assessments of nitrogen and phosphorous loadings from the Mississippi River Basin to the Gulf of Mexico are providing increasingly detailed information about the location of the specific sources of nutrients that contribute to hypoxia in the Gulf. This information allows the Environmental Protection Agency and States to develop and target nutrient pollution prevention plans. NAWQA monitoring nationwide uncovered the existence of Methyl Tertiary Butyl Ether (MTBE) in groundwater which alerted the public and policy makers to unintended consequences of the compound designed to enable gasoline to burn cleaner. Congress and states then acted to remove MTBE from fuel. NAWQA scientists in the Puget Sound area identified the sources of nutrients to the Sound, enabling the state to target its pollution control efforts to alleviate low dissolved oxygen levels throughout the Sound.

Unfortunately, the regular reductions in NAWQA's annual budget is threatening the program's ability to collect enough data to monitor the Nation's streams and groundwater, much less to conduct the assessments necessary to turn data into information that decision makers and managers can use. The National Research Council strongly recommended that NAWQA restore and enhance its monitoring networks as the top priority for the program. At least 313 sites, each actively monitored each year, have been proposed to enable assessments of critical short-term changes as well as long term trends in nutrients, pesticides, sediment, and other contaminants. This data is also essential to assess runoff to local streams and to more distant receiving waters, such as in the Great Lakes, Gulf of Mexico, Chesapeake Bay, and San Francisco Bay.

As the Subcommittee prepares the FY14 USGS budget, WEF respectfully requests that the NAWQA program be funded at the program's FY10 level of \$66.5 million. As they have done in previous years, the Administration [Department of Interior] will likely propose to reprogram about \$5 million of NAWQA's budget to support the WaterSMART Program. So, essentially a FY14 appropriation would be \$61.5 million, which would permit the program to continue to monitor only 100 stream sites. Nonetheless, the NAWQA program provides such critical data about the health of the nation's aquatic systems that it is vitally important that the program continues to receive the highest level of funding possible and nothing less than \$66.5 million in FY14.

Thank you for the opportunity to testify. I would be happy to answer any questions you may have.



# Onondaga County wins U.S. Water Prize for green infrastructure program

By Briana Jones

When [Onondaga County, N.Y.](#), was charged with the task of reducing the frequency of combined sewer overflow events that released sanitary flow and stormwater into Onondaga Lake, county officials stepped up and created the Save the Rain program. And the hard work has paid off, with the stormwater abatement program receiving a U.S. Water Prize from the U.S. Water Alliance.

"The [Save the Rain](#) program is our green infrastructure component of our stormwater initiative," says Joanie Mahoney, county executive for Onondaga County. "We are under a consent order to stop raw sewage from making its way into the lake. In the past the solution has been to capture those overflows and treat them and then put the treated water into Onondaga Creek where it makes its way to the lake."

Onondaga is the first county with a consent order to use green infrastructure. "We took it very seriously being the first and we talked as a team about the fact that other communities were going to look to us as a role model," Mahoney says. "We wanted to be successful so that the next community down the road would have an easier time of making the argument that it's a better way to go."

The county initially planned to build additional wastewater treatment facilities in downtown Syracuse to treat the sanitary flows, however, when Mahoney took office in 2008, she wanted to find a better alternative.

"A consent order required us to build sewage treatment plants," Mahoney says. "But we convinced the federal court to amend the consent order to give us a more balanced requirement of gray and green infrastructure.

"What we're doing now is taking the stormwater out of the system in part by using green infrastructure so we don't have the overflows in the first place. Then the balance that we don't capture with green infrastructure, we're storing until the rain event subsides and it can make its way to the Metropolitan Wastewater Treatment Plant for full treatment."

Green infrastructure projects include green roofs on commercial buildings and residential homes, rain gardens and wetlands. "There are a lot of different components of green infrastructure depending on what the project is," Mahoney says. "It's been something that has happened here and there for people across the country, but there hasn't been a comprehensive municipal sewershed that's used green infrastructure as a solution."



*A young girl paints her rain barrel at an instructional workshop provided by Onondaga County's Save the Rain program.*

Design and consulting firm [CH2M HILL](#) helped Onondaga County with their green initiatives. "They are our consultant on everything green," Mahoney says. "They have given us advice about which green infrastructure projects to implement and where to implement them. They have also overseen the implementation of those projects."



The consulting firm is also one of several corporate sponsors of the U.S. Water Prize. "We have had the privilege to partner with Onondaga County on their Save the Rain program and know firsthand the innovation and leadership the county has demonstrated in becoming a national model for implementing green infrastructure solutions. I congratulate Onondaga County and all the winners on receiving this prestigious award," says Bob Bailey, CH2M HILL Water president, in a press release from the company.

The Save the Rain team is appreciative for the recognition, and the public is taking a greater interest in greening their community, Mahoney says. "If you live in the area, you can qualify for a free rain barrel," she says. "Anybody can have a free rain barrel who lives in the sewershed as long as they come to a 20-minute program that shows them how to use the rain barrel. There's a lot of opportunity for the public."

Mahoney says the way the public has embraced Save the Rain is the most encouraging. "I think people are proud to be from a community that's leading the way in green infrastructure and they ask how they can do their part," she says.

"We're very proud to be recognized. It really is unbelievable the recognition Save the Rain is getting," she continues. "I tell the Save the Rain team they're changing the world. I think that makes them very proud. To get the outside recognition from the U.S. Water Alliance as further validation is very inspiring."

Check out a full story on Onondaga County's complete stormwater management efforts at [www.mswmag.com/editorial/2012/09/a\\_better\\_way\\_forward](http://www.mswmag.com/editorial/2012/09/a_better_way_forward).

[http://www.mswmag.com/online\\_exclusives/2013/04/onondaga\\_county\\_wins\\_u.s.\\_water\\_prize\\_for\\_green\\_infrastructure\\_program](http://www.mswmag.com/online_exclusives/2013/04/onondaga_county_wins_u.s._water_prize_for_green_infrastructure_program)

## Earth Day Celebrates U.S. Water Prize Winners

April 23, 2013

(Washington, D.C.) In an Earth Day ceremony at National Geographic Headquarters, in Washington D.C., the U.S. Water Alliance presented its U.S. Water Prize to three winners: MillerCoors, The Freshwater Trust, and Onondaga County (NY). The Honorable William K. Reilly (U.S. EPA Administrator 1989-93) addressed the audience of 300 environmental leaders gathered to honor the awardees, recounting environmental challenges over the years and the growing need for innovative solutions. The U.S. Water Alliance presents the annual award to foster action and public support for water sustainability. Nominations were reviewed by an independent panel of judges including some of the most respected names in the water and environmental sector. “We’re honoring three champions who are diverse in so many ways yet united in their passion and action



to integrate and innovate for “one water” sustainability” proclaims Ben Grumbles, president of the Alliance. “They are winners for their courage to think and act outside the box and sometimes against the current. They offer leadership that coalesces public, private, and NGO partnerships to produce economic, environmental and social benefits.”

“CH2M HILL is pleased to sponsor the U.S. Water Prize, which highlights the value water brings to our nation and recognizes the efforts of those who painstakingly work to preserve, protect and enhance our water supplies,” says CH2M HILL Water President Bob Bailey. “We have had the privilege to partner with Onondaga County on their ‘Save the Rain’ program and know firsthand the innovation and leadership the County has demonstrated in becoming a national model for implementing green infrastructure solutions. I congratulate Onondaga County and all the winners on receiving this prestigious award.”

Kim Marotta, MillerCoors Director of Sustainability, accepted the award for **MillerCoors** and acknowledged her co-partners in the effort, The Nature Conservancy and the Idaho Silver Creek barley farmers. “Together, our national organizations and the farmers in this project have made a real difference in watershed stewardship, hundreds of miles away from the ultimate purchasers and consumers of our MillerCoors products.” The company’s comprehensive water strategy, which has also seen great success in reducing the water footprint in its breweries, presents an action plan for the company’s water future. “When we invest in water, it’s about more than capital investments,” explains Marotta. “Our employees have been a driving force in our success, 80 percent of the solution is driven by our breweries embracing water sustainability.”

“More barley crop per water drop, is the way I like to characterize how MillerCoors is leading the way with footprinting stewardship and education. MillerCoors deserves the 2013 U.S. Water Prize for more than the efficiency changes in their facilities,” describes Grumbles. “It’s the innovative reach beyond and up the agriculture supply chain that caught our attention.” The company is working with barley growers in Silver Creek Valley in Idaho to help increase water conservation. It’s paying off. They’ve noted a 20 percent reduction in water use.

**The Freshwater Trust (TFT)**, an Oregon-based, national non-profit, wins the Prize for its cutting-edge, collaborative work to save rivers and streams in the Pacific Northwest. For seven years, their program has been enabling regulated entities to achieve

<http://newsroom.ch2mhill.com/news/earth-day-celebrates-u-s-water-245495>

regulatory compliance by restoring rivers and streams. The program includes new tools such as market-based trading to create incentives and efficiencies to keep cleaner, cooler water flowing. “We’re insuring it’s not a shell game,” described President Joe Whitworth when accepting the award. “We’re avoiding massive expenditures, by having watershed-based parameters in the system that offers transparency and is verifiable.”

TFT-patented software calculates and quantifies the ecosystem services nature provides and then turns them into credits that can be purchased and traded by wastewater treatment facilities and power plants to achieve regulatory compliance on impaired waterways. Their work is done in partnership with water agencies, irrigators, regulators, and farmers and gets away from traditional, costly “built” solutions such as cooling towers or narrowly focused restoration projects on limited acreage. They are also “scaling” their ideas. They’ve developed “[Streambank](#),” a patented web-based platform that allows more efficient implementation of restoration work, covering the nuts and bolts such as funding, procurement, permitting, and such. “The key to much of their success,” explains Grumbles, “is collaboration. President Joe Whitworth, and his team, are very good at convening regulators, agricultural producers, and the energy sector to get better environmental results than traditional command and control strategies and concrete structures might offer.”

Executive Joanie Mahoney accepted the award for **Onondaga County**. “As the first County with a consent order to use green infrastructure, we knew we were going to be a model,” explains Mahoney. “Receiving the U.S. Water Prize affirms that we made the right decision.” When faced with the task of reducing the frequency of combined sewer overflows Onondaga County officials had a choice: spend millions on building new wastewater treatment plants or try an alternative approach, a new, greener, method for stormwater abatement. They convinced the federal court to amend the consent order to allow a more balanced approach where green and gray (pipes in the ground) infrastructure complement each other. It was a bold step that saved \$20 million in projected savings and paid off in lots of social benefits beyond the dollars saved.

Public private partnerships were an essential ingredient for their success. Onondaga County built a team that includes Syracuse University, the local business community, environmental organizations and others. Focused public education campaigns engaged and involved the community as their pride in the program continues to grow right along with the green roofs, urban wetlands, parks and bio-swales. Harvesting and reusing stormwater for ice making at the professional hockey arena, is another creative feature along with permeable pavement. “The secret, which the U.S. Water Alliance wants to shout out around the country,” explains Grumbles, “is to think beyond the traditional, risk-averse strategies and build collaborative teams for integrating and innovating on some of water’s most challenging opportunities.”

The U.S. Water Prize, first launched in 2011, is organized and administered by the U.S. Water Alliance. Through the prize, the national non-profit underscores the value of water and the need for one water integration, innovation, and collaboration among environmental, business, utility, and community leaders. Sharing these goals, sponsors joined together to make the celebration possible including: CH2M HILL, Veolia North America, Brown and Caldwell, ARCADIS, CDM Smith, and MWH-Global.

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## *Earth Day Celebrates U.S. Water Prize Winners*

Tuesday, April 23, 2013

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<http://www.uswateralliance.org/2013/04/23/earth-day-celebrates-u-s-water-prize-winners/>

"More barley crop per water drop, is the way I like to characterize how MillerCoors is leading the way with footprinting stewardship and education. MillerCoors deserves the 2013 U.S. Water Prize for more than the efficiency changes in their facilities," describes Grumbles. "It's the innovative reach beyond and up the agriculture supply chain that caught our attention." The company is working with barley growers in Silver Creek Valley in Idaho to help increase water conservation. It's paying off. They've noted a 20 percent reduction in water use.

The Freshwater Trust (TFT), an Oregon-based, national non-profit, wins the Prize for its cutting-edge, collaborative work to save rivers and streams in the Pacific Northwest. For seven years, their program has been enabling regulated entities to achieve regulatory compliance by restoring rivers and streams. The program includes new tools such as market-based trading to create incentives and efficiencies to keep cleaner, cooler water flowing. "We're insuring it's not a shell game," described President Joe Whitworth when accepting the award. "We're avoiding massive expenditures, by having watershed-based parameters in the system that offers transparency and is verifiable."

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Onondaga County's Deputy County Executive Matthew Millea who joined the County Executive in accepting the award spoke to the common threads running through all the award presentations: collaboration and courage. "Executive Joanie Mahoney has been a prime model of these attributes," explains Millea. "She was determined to do the right thing for the County despite numerous obstacles for using green infrastructure to complement gray."

Public private partnerships were an essential ingredient for their success. Onondaga County built a team that includes Syracuse University, the local business community, environmental organizations and others. Focused public education campaigns engaged and involved the community as their pride in the program continues to grow right along with the green roofs, urban wetlands, parks and bio-swales. Harvesting and reusing stormwater for ice making at the professional hockey arena, is another creative feature along with permeable pavement. "The secret, which the U.S. Water Alliance wants to shout out around the country," explains Grumbles, "is to think beyond the traditional, risk-averse strategies and build collaborative teams for integrating and innovating on some of water's most challenging opportunities."

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PHOTO – 2013 U.S. Water Prize Winners: (R to L) David Primozich, TFT; Kim Marotta, MillerCoors; Ben Grumbles, USWA; Joe Whitworth, TFT, Matthew Millea, Onondaga Co. (NY)

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### **About The U.S. Water Alliance**

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*SOURCE: The U.S. Water Alliance*

Wednesday, May 29, 2013

6:00pm  
to  
8:00pm

## Community Meeting

(Other)

Pre-Construction Meeting: Westcott Street Green Corridor

The Westcott Street Green Corridor green infrastructure project is a partnership between Onondaga County's Save the Rain Program and the City of Syracuse. The project will occur in the Westcott Street Business District between Dell Street and South Beech Street. Work, which will begin in June, will include a road narrowing, installation of curb extensions at intersections, and porous parking lanes on both sides of the street. The meeting will include discussion of expected construction schedule, process and communications.

Location: T.A. Levy School Cafeteria (now H.W. Smith)

Price: free

Sponsoring department/organization: : Onondaga County Department of Water Environment Protection (Save the Rain)

Contact: Khris Dodson

 [kdodson@syracusecoe.org](mailto:kdodson@syracusecoe.org)

 443-8818



copy this event into your personal desktop calendar

LEARNING

by cimatthe

# SAVE THE RAIN: RAIN BARREL WORKSHOP



**SAVE EVENT TO CALENDAR**

5:30 pm, May 22, 2013 | Fre

**Tickets:** <http://www.brownpapertickets.com/event/361876>

Soule Branch Library

Save money on your water bill by using rain water stored in rain barrels to water your flower beds or for clean-up projects around your yard. All city residents are eligible to receive a free rain barrel if they attend the workshop. Pre-registration is recommended but not required and is available through Brown Paper Tickets: <http://www.brownpapertickets.com/event/361876>

Save money on your water bill by using rain water stored in rain barrels to water your flower beds or for clean-up projects around your yard. All city residents are eligible to receive a free rain barrel if they attend the workshop. Pre-registration is recommended but not required and is available through Brown Paper Tickets: <http://www.brownpapertickets.com/event/361876>

**Where:** Soule Branch Library

**Phone:** 315-435-5320

**Address:** 101 Springfield Road, Syracuse

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# Mr. Millea Goes to Washington

May 25, 2013

## *WEF member testifies on the need for and benefits of funding water projects*

On April 16, Matt Millea, vice chair of the Water Environment Federation (WEF; Alexandria, Va.) Government Affairs Committee, appeared before members of the U.S. House of Representatives, urging them to fund programs critical to successful operation of wastewater and water treatment services.

Millea, deputy county executive for physical services in Onondaga County, N.Y., represented WEF during his [testimony](#). He presented the need for infrastructure funding, the importance of both the Clean Water and Drinking Water State Revolving fund (SRF) programs, the potential role for the Water Infrastructure Finance and Innovation Authority (WIFIA), and the importance of the National Water Quality Assessment (NAWQA) program.



Matt Millea, on the right at the table, gives a testimony urging members of the U.S. House of Representatives to fund programs for the operation of wastewater and water treatment services. Photo courtesy Steve Dye, McAllister & Quinn (Washington, D.C.).

## **Presenting the facts for funding water infrastructure**

Millea presented facts supporting the need for and benefit of funding water infrastructure. With the health of 55% of streams and rivers in poor condition for aquatic life and the grade of “D” for water and wastewater infrastructure in the U.S., there is a great need for funding, Millea said during the testimony. He described the [Water for Jobs coalition](#) and how it was formed to compile data about water infrastructure needs and educate policy leaders and the public about benefits of investment.

Millea also described the numbers behind infrastructure funding. The U.S. Environmental Protection Agency has said that \$632.9 billion in total water infrastructure capital investment is needed during the next 20 years. There will be a funding gap of at least \$224 billion nationwide unless investment increases, Millea said. And this does not include the costs of operating and maintaining systems, he added.

“Unless new investments are made by 2020, unreliable and insufficient water infrastructure will cost the average American household \$900 a year in higher water rates and lower wages; American businesses can expect an additional \$147 billion in increased costs, and the economy will lose 700,000 jobs,” Millea said. But research shows

<http://news.wef.org/mr-millea-goes-to-washington/>

that there's a high return on investment for water infrastructure projects and that Americans support investing in upgrades to water infrastructure, he said.

### **Introducing the funding options**

When considering ways to fund infrastructure, the SRFs have been successful at “improving water quality and providing communities with funding for critical local infrastructure projects at very low cost,” Millea said. “We should not undermine the success of the SRF programs.” He emphasized that new mechanisms to fund projects should not be created if it will be at the expense of the SRF programs.

Millea conveyed WEF's request to fund both SRF programs at fiscal year 2012 levels, he said, emphasizing that it is necessary to fund projects now, rather than wait until emergency repairs are needed at higher costs.

Millea also explained how WIFIA, a lending authority to support larger regional water and wastewater projects at small long-term costs to the government, supplements SRFs. Most communities use SRFs to fund a greater number of smaller and medium projects, rather than a few larger projects, he said during the testimony.

“WIFIA must be designed to complement — not replace — the SRFs,” Millea said. He explained that a pilot version of WIFIA was passed by the U.S. Senate Environment and Public Works Committee in S. 601, the Water Resources Development Act of 2013. In addition, Tim Bishop (D–N.Y.) has included authority to create a WIFIA program in the draft of a comprehensive water infrastructure bill he is planning to reintroduce. WEF endorses both the provision in the act and this bill, and encourages the U.S. Congress to do the same, Millea said during the testimony.

### **Expressing a need to support the NAWQA program**

Water sector professionals, such as WEF members, need reliable data to meet the Clean Water Act requirements. The NAWQA program has provided an important source of scientific information for this task, Millea testified.

Established 22 years ago by Congress, the NAWQA program provides “nationally consistent data and information on water quality conditions and ecosystem health nationwide,” Millea said. “NAWQA's findings have and continue to be used by national, regional, state, and local governments and the private sector to develop more-effective science-based policies and actions to protect and restore water quality.”

But the program's budget has been reduced, threatening both the ability to collect thorough data and water professionals' abilities to do their jobs, Millea said. WEF requests that the program be funded at the fiscal year 2010 level of \$66.5 million, he said. “The NAWQA program provides such critical data about the health of the nation's aquatic systems that it is vitally important that the program continues to receive the highest level of funding possible,” he said.

— Jennifer Fulcher, *WEF Highlights*

<http://news.wef.org/mr-millea-goes-to-washington/>

## Greening of an Industrial City: Onondaga County's "Save the Rain" Syracuse Tour

The City of Syracuse is busy sprouting more and more green as a result of the award winning "Save the Rain" initiative spearheaded by Onondaga County. In 2009, Onondaga County Executive Joanie Mahoney championed an effort to find a "Better Way Forward" to address water quality issues in the City of Syracuse, and developed the nationally recognized Save the Rain program. The initiative is a comprehensive stormwater management program using gray and innovative green infrastructure technologies to abate combined sewer overflows that help to protect the health and ecosystems of Onondaga Lake. To date, Onondaga County has constructed or financed more than 100 green infrastructure projects in the City of Syracuse, including green roofs, rain gardens, bioswales, tree plantings, rain barrels, cisterns and porous pavement. Onondaga County is a US Environmental Protection Agency designated national green infrastructure demonstration community and was recently awarded the US Water Prize by the US Water Alliance (see awards sidebar). Visit [www.SaveTheRain.us](http://www.SaveTheRain.us) for more information on the program and to view project details, plans and technical specifications for all of the Save the Rain projects.



Onondaga County  
Executive Joanie  
Mahoney

Those attending the NYWEA Spring Conference in Syracuse on June 2-5 (see page 54) can see firsthand various Save the Rain projects downtown on the Green Infrastructure Tour to be conducted Monday afternoon of the conference, sponsored by the Environmental Science Committee. The tour follows a morning keynote address by Onondaga County Executive Mahoney, leader of this green initiative.

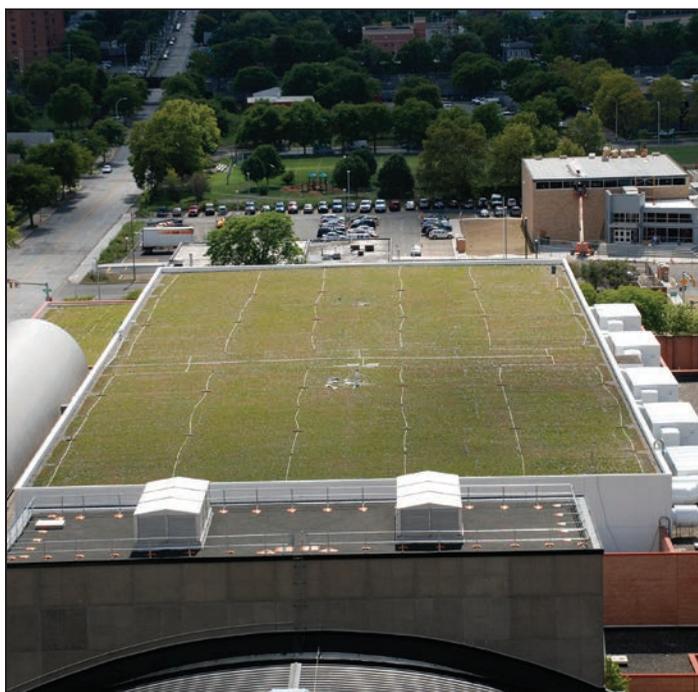
The following are the projects to be visited during the Syracuse Green Infrastructure Tour. (Specific details will be posted on the NYWEA website, [www.nywea.org](http://www.nywea.org).)

**Green Roof at Oncenter's Nicholas J. Pirro Convention Center:** A 66,000-square-foot green roof system was installed on the rooftop of the Nicholas J. Pirro Convention Center in Summer 2011. The roof includes a waterproof membrane liner covered with a layer of lightweight growing medium and planted with a mix of sedums (low-growing succulent vegetation). The new rooftop landscape is a self-sustaining system, requiring little maintenance once established, and relies upon natural processes to retain and evapotranspire stormwater runoff. This is one of the largest green roofs in the Northeast region and it captures over one million gallons of stormwater each year.

**Green Street on Harrison Street:** The stormwater retrofit project along the 300 block of Harrison Street (next to the Oncenter) features the installation of a new sidewalk planter that uses bioretention to capture surface runoff from the adjacent roadway. Runoff enters the planter via four new curb stormwater inlets, irrigating the new native shade trees, ornamental shrubs and colorful perennials, and then infiltrates through an aggregate trench into the ground below. This "green street" captures approximately 180,000 gallons of stormwater runoff annually.

**Rain Gardens at Oncenter Municipal Parking Garage:** Rain gardens were constructed on the existing landscape in front of the Oncenter Municipal Parking Garage to capture and infiltrate the stormwater runoff from the roof leaders and pipe/downspout infrastructure of the parking garage facility. Disconnecting the existing infrastructure from the conventional sewer system resulted in an annual runoff reduction of approximately 1.3 million gallons of stormwater each year.

**Oncenter Parking Lot:** This stormwater retrofit project at the Oncenter Parking Lot included repaving the existing parking lot with porous asphalt along three sides. The remainder of the lot is paved with traditional asphalt and graded to drain into the porous sections. In addition to the pavement resurfacing, the project



Green roof at Oncenter's Nicholas J. Pirro Convention Center



Oncenter parking lot

features the design and construction of an infiltration trench along three sides of the parking lot to manage runoff from the entire lot as well as from adjacent streets. The project also features a new tree infiltration trench and a new section of sidewalk. The green infrastructure in this parking lot will reduce stormwater runoff by almost 1.3 million gallons annually.

**Townsend Street Parking Lot:** Completed in 2010, the stormwater retrofit project at the County Parking Lot at S. Townsend Street involved repaving the lot with new asphalt pavement, restriping lanes and installing two eight-foot-wide tree infiltration trenches. The two tree trenches feature the use of structural soil to provide adequate rooting volume for the trees and additional native vegetation. Runoff from the repaved lot enters the tree trenches, providing irrigation for the trees and vegetation before eventually infiltrating into the ground below the trench. The infiltration trench design features overflow control measures to prevent localized flooding and oversaturation of the structural soils. This project captures approximately 975,000 gallons of stormwater per year from the lot and adjacent pavement areas.

**War Memorial Arena Stormwater Re-use Cistern System:** The innovative water re-use system is located in the basement of the arena and includes approximately 15,000 gallons of below-ground

rainwater storage and associated filtration, disinfection and water reuse technology. The project captures rain water and snow melt runoff from the War Memorial Arena roof, reusing the stormwater primarily for ice production and ice maintenance for events at the

*continued on page 46*



War Memorial Arena stormwater re-use cistern system



Rain gardens at Oncenter Municipal Parking Garage



Green Street on Harrison Street



Townsend Street parking lot

continued from page 45

arena, including sporting events and family entertainment. This stormwater cistern system reduces stormwater runoff by 400,000 gallons each year.

**Water Street Green Gateway:** The Water Street Green Gateway Project is a comprehensive “green street” application located on the 300 block of Water Street and is the first of the Save the Rain gateway projects intended to demonstrate a variety of green infrastructure applications at key entry points into the City of Syracuse. Several green infrastructure elements were installed to capture stormwater and enhance the urban landscape, including streetscaping with enhanced tree plantings in the right-of-way; installation of porous pavers in parking lanes; use of infiltration trenches and stormwater planters; and, additional landscaping features throughout the footprint of the block. This green gateway project captures approximately 924,000 gallons of stormwater runoff each year.

*Information for this article was provided by Madison Quinn Public Information Specialist, Save the Rain Program, Onondaga County, US Water Alliance, and NYWEA.*



Water Street green gateway

## Onondaga County Wins 2013 US Water Prize

In Washington, DC on February 26, along the Reflecting Pool between the Washington Monument and the Lincoln Memorial, the US Water Alliance announced the 2013 winners of the coveted US Water Prize. One of the select three nationwide was Onondaga County, New York for its program to “Save the Rain” and embrace green infrastructure solutions to wet weather problems.

“Our 2013 US Water Prize winners are leading the way, from East to West and all points in between, on the value of water and the power of innovating and integrating for one water sustainability,” said Alliance President Ben Grumbles. “Our champions are showing how to save the rain, clean the stream, and grow with care, up and down the supply chain throughout the water cycle.”

The three winners are honored on Earth Day, April 22, 2013 in Grosvenor Auditorium at the National Geographic headquarters in Washington D.C. “Our three winners reflect America’s spirit of diversity, creativity, and collaboration,” explains Dick Champion, chair of the US Water Alliance. “These are the best in public, private, and nongovernmental sectors. It’s fitting that we honor them at *National Geographic*, itself known for public education of natural resources. We intend to elevate, celebrate and educate the public about these good stewards for the blue planet’s most precious resource.” More than 300 water leaders from the federal, state and municipal level will participate in the distinguished ceremony.

The nominations were reviewed by an independent panel of judges including some of the most respected names in the water and environmental sector: Rich Anderson, Senior Advisor for the US Conference of Mayors’ Water Council; Veronica Blette, Chief of the WaterSense Branch, EPA Office of Wastewater Management; Monica Ellis, CEO of the Global Environment & Technology Foundation; Jody Freeman, Archibald Cox Professor of Law at Harvard Law School and founding director of its Environmental Law and Policy Program; and Jim Ziglar, Senior Counsel at Van Ness Feldman Law Firm and former Assistant Secretary of Interior and Commissioner of the IRS.

The US Water Prize, first launched in 2011, is organized and administered by the US Water Alliance. Through the prize, the national non-profit underscores the value of water and the need for one water integration, innovation, and collaboration among environmental, business, utility and community leaders.

## DESCRIPTION OF AWARD:

### *Onondaga County, New York*

Onondaga County received the US Water Prize for its Save the Rain program, a combined sewer overflow (CSO) abatement/water quality program focused on balancing the use of conventional wastewater/stormwater treatment technologies, with advanced, innovative green infrastructure best management practices. Rather than advance a costly project (\$100 million estimated), County Executive Joanie Mahoney joined with USEPA and New York State to petition the federal courts to change course and establish a new, more affordable and sustainable CSO abatement program. As a result, the Save the Rain program was born in November of 2009. Federal Justice Frederick Scullin approved a CSO abatement program that allowed the County to change course and advance a program that balanced the use of wet weather storage as well as a requirement to use green infrastructure. It was the first settlement of its kind in the nation to endorse and require green infrastructure as a stormwater management solution.

— • —

## NYWEA Awards Onondaga County for Sustainability Efforts

In 2011, NYWEA recognized Onondaga County for being a statewide leader in sustainability on several fronts, presenting it the NYWEA Sustainability Award for:

- An aggressive green infrastructure program to reduce combined sewer overflows in the City of Syracuse and to reduce infiltration/inflow in separate sanitary sewers in communities’ tributary to the county’s wastewater treatment system.
- Involvement of communities and community groups in developing and implementing infrastructure improvements for abatement of combined sewer overflows.
- Support of “Smart Growth” policies and practices to reduce urban sprawl and encourage re-development of existing urban centers.
- Consolidation of government services where appropriate and when supported by the public for water, wastewater, snow plowing and administrative services to provide more sustainable and cost effective County, City, Town and Village government systems in Onondaga County.

Congratulations, Onondaga County!

We hope members will join us in Syracuse to see many of these projects first hand!



## U.S. Water Prize Recipients Recognized in Washington, D.C.

— Jun 03, 2013

On Earth Day, April 22, the U.S. Water Alliance presented its 2013 U.S. Water Prize to the three winners in a ceremony appropriately held at the National Geographic headquarters in Washington, D.C. This year's recipients were MillerCoors, The Freshwater Trust and Onondaga County, N.Y.

The Honorable William K. Reilly (U.S. EPA Administrator 1989-93) addressed the audience of 300 environmental leaders who gathered to honor the awardees, recounting environmental challenges over the years and the growing need for innovative solutions.

Kim Marotta, MillerCoors director of sustainability, accepted the award for MillerCoors and acknowledged her co-partners in the effort — the Nature Conservancy and the Idaho Silver Creek

barley farmers. "Together, our national organizations and the farmers in this project have made a real difference in watershed stewardship, hundreds of miles away from the ultimate purchasers and consumers of our MillerCoors products," said Marotta. The company's comprehensive water strategy, which has also seen great success in reducing the water footprint in its breweries, presents an action plan for the company's water future.

The Freshwater Trust (TFT), an Oregon-based, national non-profit, was awarded the Water Prize for its cutting-edge, collaborative work to save rivers and streams in the Pacific Northwest. For seven years, the program has been enabling regulated entities to achieve regulatory compliance by restoring rivers and streams and includes new tools such as market-based trading to create incentives and efficiencies to keep cleaner, cooler water flowing. "We're insuring it's not a shell game," described President Joe Whitworth when accepting the award. "We're avoiding massive expenditures, by having watershed-based parameters in the system that offers transparency and is verifiable."

Joanie Mahoney accepted the award for Onondaga County, N.Y. "As the first county with a consent order to use green infrastructure, we knew we were going to be a model," explained Mahoney, an executive with Onondaga County. "Receiving the U.S. Water Prize affirms that we made the right decision." When faced with the task of reducing the frequency of combined sewer overflows Onondaga County officials convinced the federal court to amend the consent order to allow a more balanced approach where green and gray (pipes in the ground) infrastructure complement each other. It was a bold step that saved \$20 million in projected savings and paid off in social benefits beyond the dollars saved. Public-private partnerships were also an essential ingredient in the county's success.

The U.S. Water Alliance presents the annual award to foster action and public support for water sustainability. Nominations were reviewed by an independent panel of judges including some of the most respected names in the water and environmental sector. "We're honoring three champions who are diverse in so many ways, yet united in their passion and action to integrate and innovate for 'one water' sustainability," proclaimed Ben Grumbles, president of the U.S. Water Alliance. "They are winners for their courage to think and act outside the box and sometimes against the current."

The U.S. Water Prize, first launched in 2011, is organized and administered by the U.S. Water Alliance. Through the prize, the national non-profit underscores the value of water and the need for one water integration, innovation, and collaboration among environmental, business, utility and community leaders. Sharing these goals, sponsors joined together to make the celebration possible including: CH2M HILL, Veolia North America, Brown and Caldwell, ARCADIS, CDM Smith and MWH-Global.



<http://uimonline.com/index/webapp-stories-action/id.952/title.u.s.-water-prize-recipients-recognized-in-washington,-d.c.>



## Save the Rain project enters its fourth year with expansion on the horizon

Published: 6/13 10:40 am

Updated: 6/13 10:42 am

### Images



Syracuse (WSYR-TV) - While Central New Yorkers may be weary of persistent June rains, the precipitation is being put to good use through the Save the Rain Project, according to Onondaga County officials.

The four-year-old system keeps storm runoff from clogging sewer systems and officials say they plan on expanding it.

In addition, the rain water that is collected can, in some cases, be put to use. The ice the Syracuse Crunch skate on, for example, is made from gathered rain water.

The County Executive's office says they plan to add about 25 to 40 more green space sites to absorb and collect rain water over the next few years.

They say other cities have begun looking at the Save the Rain project as a model.



[http://www.9wsyr.com/news/local/story/Save-the-Rain-project-enters-its-fourth-year-with/DSk2INhAJUmMQzb565\\_SSw.csp](http://www.9wsyr.com/news/local/story/Save-the-Rain-project-enters-its-fourth-year-with/DSk2INhAJUmMQzb565_SSw.csp)  
<http://www.9wsyr.com/mediacenter/local.aspx?videoid=4094797>

## **Downtown detour starts today to allow Syracuse sewer work**



By **Tim Knauss** | [tknauss@syracuse.com](mailto:tknauss@syracuse.com)  
on June 24, 2013 at 11:37 AM, updated June 24, 2013 at 11:38 AM

SYRACUSE, N.Y. - The city has closed one downtown block of Fayette Street for two weeks, beginning today, to accommodate sewer construction. Motorists will have to detour around the block of Fayette between South Clinton and South Franklin streets.

Here are directions: Traveling west, take a left off West Fayette onto South Clinton, then a right onto Walton Street and follow it back to West Fayette. Traveling east, take a left from West Fayette onto South Franklin, a right on West Washington and a right on South Clinton to get back to Fayette.

The detour makes way for a sewer separation project that is part of Onondaga County's Save the Rain program. Combined sewers will be separated into storm sewers and sanitary sewers to reduce the amount of storm runoff that can infiltrate sewers. During heavy rains, water can overwhelm sewer mains, causing untreated sewage to backup into basements and overflow into Onondaga Lake and its tributaries.

People with further questions should contact the City of Syracuse Department of Public Works at 448-CITY (2483) or the Onondaga County Department of Water Environment Protection at 435-2260.



# FINANCIAL UPDATE



## Financial Update

### Contracts

#### New Contracts

##### **Green Infrastructure Program**

- Contract with Barrett Paving for work on the West Fayette Street sewer separation project

Contract Amount: \$446,269

Executed: 4/26/13

##### **Green Infrastructure Program**

- Contract with John R. Dudley Construction, Inc. for work on the West Onondaga Street Corridor

Contract Amount: \$1,265,474

Executed: 5/16/13

##### **Green Infrastructure Program**

Contract with Davis Wallbridge, Inc. for work on the Westcott Street Green Corridor

Contract Amount: \$852,000

Executed: 6/14/13

##### **Green Infrastructure Program**

- Contract with Onondaga Earth Corps, Inc. for work on the Community-Based Tree Planting and Maintenance Program

Contract Amount: \$142,122

Executed: 6/17/13

##### **Green Improvement Fund**

- Contract with Erie Bruce Corp. for green improvements in the Clinton sewershed

Contract Amount: \$151,700

Executed: 4/19/13

##### **Green Improvement Fund**

- Contract with Syracuse Business Center for green improvements in the Clinton sewershed

Contract Amount: \$288,400

Executed: 4/19/13

##### **Green Improvement Fund**

- Contract with Bethany Baptist Church for green improvements in the Clinton sewershed

Contract Amount: \$200,273.50

Executed: 5/17/13

##### **Green Improvement Fund**

- Contract with Near West Side Initiative, Inc. for green improvements in the Clinton sewershed

Contract Amount: \$94,300

Executed: 5/17/13

**Green Improvement Fund**

- Contract with Visiting Nurse Association of CNY, Inc. for green improvements in the Harbor Brook sewershed

Contract Amount: \$65,800

Executed: 5/17/13

**Green Improvement Fund**

- Contract with All Times Publishing, LLC for green improvements in the Clinton sewershed

Contract Amount: \$76,500

Executed: 6/14/13

**Amendments to Existing Contracts****Green Infrastructure Program**

Contract with Onondaga Environmental Institute amended to provide ongoing maintenance of City-owned parking lots.

Amendment Amount: \$35,000

Executed: 6/14/13

**Save the Rain**

- Contract with Syracuse University amended to provide education and outreach services for the Save the Rain Program

Amendment Amount: \$535,000

Executed: 6/17/13

**Green Improvement Fund**

- Contract with Tash Taskale amended to provide additional green improvements in the Clinton Sewershed

Amendment Amount: \$10,800

Executed: 6/17/13

**Change Orders****Harbor Brook CSO 018 Wetlands Pilot**

- Contract with J.J. Lane Construction amended to include cost of contaminated soils and groundwater management

Change Order Amount: \$300,000

Executed: 5/1/13

**Lower Harbor Brook Storage Project**

- Contract with J.J. Lane Construction amended to include cost of additional piles and repair and replacement of water lines

Change Order Amount: \$382,676.54

Executed: 5/16/13

### **Lower Harbor Brook Storage Project**

- Contract with C.O. Falter Construction amended to include cost of additional backfill, piles, and new water meter

Change Order Amount: \$165,421.17

Executed: 5/17/13

### **Lower Harbor Brook Storage Project**

- Contract with J.J. Lane Construction amended to include cost of groundwater treatment, additional pipe installation, new access road, and relocation of water service

Change Order Amount: \$248,223.31

Executed: 5/17/13

### **Clinton CSO Storage Project**

- Contract with Jett Industries amended to include additional cost of micro-tunneling

Change Order Amount: \$1,154,303.48

Executed: 6/14/13

## **Funding**

### Grants

- GIGP **requested:**  
April: War Memorial Grant for \$750,000 on 4/24/13
- GIGP **received:**  
May: War Memorial for \$712,500 on 5/17/13

### State Bond Act Funds

- Reimbursements **requested:** None
- Reimbursements **received:** None

### Federal EPA Funds

- Reimbursements **requested:**  
May: Harbor Brook for \$2,279,965.66 on 5/8/13  
June: Harbor Brook for \$1,670,409.84
- Reimbursements **received:**  
June: Harbor Brook for \$2,279,965.66 on 6/3/13

### Federal Army Corps of Engineers Funds

- Reimbursements **requested:** None
- Reimbursements **received:** None

## **EFC Loans**

- Reimbursements **requested:**  
May: Clinton Short Term for \$9,598,602.60 on 5/8/13  
Clinton Short Term for \$536,639.45 on 5/13/13  
Sewer Separation 022/045 Long Term for \$593,747.13

- Reimbursements **received:**

- May: Harbor Brook Short Term for \$9,163,615.99 on 5/2/13

- Clinton Short Term for \$9,598,602.59 on 5/16/13

- Clinton Short Term for \$536,639.45 on 5/23/13

- Sewer Separation 022/045 Long Term for \$444,895.33 on 5/23/13

Total reimbursement monies received to date through EFC loans for the funded ACJ projects: \$213,759,450 (short term) and \$56,613,916 (long term).

**Onondaga County Lake Improvement Project**

4th Stipulation of the ACJ

Clinton/Lower MIS CSO Improvements

Summary of Current and County Authorizations

<b><i>Project/Task/Line Item</i></b>	<b>Total Project Costs</b>		
	<b>Total Proposed Budget</b>	<b>Expended To Date</b>	<b>Authorization Remaining</b>
<b><i>Clinton Street CSO Facility Planning (Original)</i></b>			
Engineering Services (EEA)	\$ 751,266	\$ 751,266	\$ (0)
<b>Original Facility Plan Subtotal</b>	<b>\$ 751,266</b>	<b>\$ 751,266</b>	<b>\$ (0)</b>
<b><i>Clinton Street CSO Conveyances Project</i></b>			
Contract No. 1 - Phase 1 Conveyances (Delaney)	\$ 14,478,053	\$ 14,478,053	\$ (0)
Contract No. 2 - Phase 2A Conveyances (Delaney)	\$ 4,074,455	\$ 4,074,455	\$ (0)
Construction Testing (CME)	\$ 5,095	\$ 206,963	\$ (201,868)
Engineering/Construction Services (CDM/C&S)	\$ 2,738,000	\$ 2,746,814	\$ (8,814)
<b>Conveyances Subtotal</b>	<b>\$ 21,295,603</b>	<b>\$ 21,506,285</b>	<b>\$ (210,682)</b>
<b><i>Clinton Storage Project <sup>(1)</sup></i></b>			
Construction Estimate (with contingency)	\$ 58,000,000	\$ 48,122,737	\$ 9,877,263
Engineering Services (EEA and others)	\$ 8,500,000	\$ 9,784,257	\$ (1,284,257)
Construction Management and Administration	\$ 3,600,000		\$ 3,600,000
Project Escalation to Midpoint of Construction	\$ 3,500,000		\$ 3,500,000
<b>CSO Storage Subtotal</b>	<b>\$ 73,600,000</b>	<b>\$ 57,906,994</b>	<b>\$ 15,693,006</b>
<b><i>Facility Plan for CSOs 027 &amp; 029</i></b>			
Construction Estimate	\$ 3,100,000		\$ 3,100,000
Engineering Services (Ch2MHill)	\$ 88,944	\$ 91,186	\$ (2,242)
Engineering Services (TBD)	\$ 770,000	\$ 11,865	\$ 781,865
County Administration and Other Costs	\$ -		\$ -
<b>Facility Plan Subtotal</b>	<b>\$ 3,958,944</b>	<b>\$ 103,051</b>	<b>\$ 3,879,624</b>
<b><i>Clinton/Lower MIS Green Implementation Program</i></b>			
Construction Contracts incl. GIF Public/Private	\$ 38,508,611	\$ 16,775,697	\$ 21,732,914
Ch2MHill Program Management & Engineering	\$ 15,900,000	\$ 10,116,457	\$ 5,783,543
<b>Green Subtotal</b>	<b>\$ 54,408,611</b>	<b>\$ 26,892,155</b>	<b>\$ 27,516,456</b>
<b><i>Program Management</i></b>			
Project Management (CDM/C&S)	\$ 1,811,903	\$ 3,070,106	\$ (1,258,203)
Project Management for Facility Plan (CDM/C&S) <sup>(2)</sup>	\$ -		\$ -
<b>Program Management Subtotal</b>	<b>\$ 1,811,903</b>	<b>\$ 3,070,106</b>	<b>\$ (1,258,203)</b>
<b><i>Miscellaneous County Costs</i></b>			
Land Acquisition	\$ 4,132,400	\$ 3,726,350	\$ 406,050
IMA	\$ 4,861,000	\$ 3,944,762	\$ 916,238
Legal	\$ 64,564	\$ 67,270	\$ (2,706)
Consulting (John Clare & Mezey)	\$ 226,334	\$ 226,334	\$ 0
Debt	\$ 175,832	\$ 184,885	\$ (9,053)
Other	\$ 117,644	\$ 254,244	\$ (136,600)
<b>Miscellaneous Subtotal</b>	<b>\$ 9,577,774</b>	<b>\$ 8,403,845</b>	<b>\$ 1,173,929</b>
<b>Total</b>	<b>\$ 165,404,101</b>	<b>\$ 118,633,701</b>	<b>\$ 46,794,130</b>
Authorized Master Budget 165,500,000			

Notes:

(1) Includes engineering costs from original Clinton RTF Project

(2) CDM/C&S Project Management costs are included in the total facility plan costs

**Onondaga County Lake Improvement Project**  
4th Stipulation of the ACJ  
Harbor Brook Drainage Basin CSO Abatement  
Summary of Current and Proposed Costs, and County Authorizations

<u>Project/Task/Line Item</u>	Total Project Costs		
	Total Proposed Budget	Expended to Date	Authorization Remaining
<b><u>Harbor Brook CSO Abatement Project</u></b>			
<b>Original Engineering Expenses</b>	\$ 5,500,000	\$ 5,500,000	\$ -
<b><u>HBIS Replacement and CSO Abatement Project</u></b>			
Construction Contract No. 1 (1) (JJ Lane)	\$ 18,289,918	\$ 22,859,110	\$ (4,569,192)
Other Miscellaneous Work	\$ 2,482,920	\$ -	\$ 2,482,920
Engineering/Construction Services (CDM/C&S)	\$ 2,012,615	\$ 3,254,667	\$ (1,242,052)
County Administration and Other Costs	\$ 114,547	\$ 261,339	\$ (146,792)
<b>HBIS Replacement and CSO Abatement Project Total</b>	<b>\$ 22,900,000</b>	<b>\$ 26,375,117</b>	<b>\$ (3,475,117)</b>
<b><u>Lower Harbor Brook Storage &amp; Conveyance</u></b>			
Construction Estimate (with contingency)	\$ 34,502,000	\$ 16,647,986	\$ 17,854,014
Engineering Services (EEA)	\$ 4,200,000	\$ 2,978,788	\$ 1,221,212
Engineering Services (CDM/C&S)	\$ 3,390,000	\$ 245,212	\$ 3,144,788
Project Escalation to Midpoint of Construction	\$ 2,280,000	\$ 4,151,536	\$ (1,871,536)
<b>Lower Harbor Brook Storage &amp; Conv Total</b>	<b>\$ 44,372,000</b>	<b>\$ 24,023,522</b>	<b>\$ 20,348,478</b>
<b><u>Harbor Brook CSOs FCF Program</u></b>			
Construction Estimate	\$ 12,000,000		\$ 12,000,000
Engineering Services (Arcadis)	\$ 1,878,731	\$ 139,611	\$ 1,739,120
County Administration and Other Costs	\$ 800,000		\$ 800,000
Project Escalation to Midpoint of Construction	\$ 400,000		\$ 400,000
<b>FCF Program Total</b>	<b>\$ 15,078,731</b>	<b>\$ 139,611</b>	<b>\$ 14,939,120</b>
<b><u>Other Harbor Brook Green</u></b>			
Construction Contracts incl. GIF Public/Private & Rain Barrels	\$ 9,300,000	\$ 6,452,241	\$ 2,847,759
Ch2MHill Engineering & Program Management	\$ 3,650,000	\$ 2,953,590	\$ 696,410
<b>Harbor Brook Green Project Total</b>	<b>\$ 12,950,000</b>	<b>\$ 9,405,831</b>	<b>\$ 3,544,169</b>
<b><u>Program Management</u></b>			
Project Management (CDM/C&S)	\$ 499,269	\$ 1,584,764	\$ (1,085,495)
Project Management for FCF Plan Implem (CDM/C&S)	\$ -		
<b>Program Management Total</b>	<b>\$ 499,269</b>	<b>\$ 1,584,764</b>	<b>\$ (1,085,495)</b>
<b><u>Harbor Brook Mitigation</u></b>	<b>\$ 3,500,000</b>	<b>\$ 3,265,000</b>	<b>\$ 235,000</b>
<b>Total Costs for Harbor Brook CSO Area under 4th Stip</b>	<b>\$ 104,800,000</b>	<b>\$ 70,293,845</b>	<b>\$ 34,506,155</b>

**Onondaga County Lake Improvement Project**

4th Stipulation of the ACJ

Midland CSO Abatement

Summary of Current and Proposed Costs, and County Authorizations

<i>Project/Task/Line Item</i>	Total Project Costs		
	Total Proposed Budget	Expended to Date	Authorization Remaining
<b><u>Midland Ave. RTF &amp; Conveyances</u></b>			
Midland Phase 1 Conveyances - Construction	\$ 1,836,434	\$ 1,836,434	\$ (0)
Midland Phase 2 RTF & Conveyances - Construction	\$ 53,372,390	\$ 53,372,689	\$ (299)
Midland Demolition Contracts - Construction	\$ 748,483	\$ 748,483	\$ 0
Other Construction	\$ 124,579	\$ 136,342	\$ (11,763)
Phase 1 and 2 Engineering (Parsons & EEA)	\$ 14,717,163	\$ 12,503,353	\$ 2,213,810
CME Construction Testing	\$ 213,745	\$ 218,486	\$ (4,741)
RTF Modifications (Construction, Eng, CM, Admin)	\$ 3,000,000	\$	\$ 3,000,000
<b>Facility Plan Total</b>	<b>\$ 74,012,794</b>	<b>\$ 68,815,787</b>	<b>\$ 5,197,007</b>
<b><u>CSO 044 Conveyances Project</u></b>			
Contract No. 6. - JJ Lane	\$ 7,701,898	\$ 11,099,322	\$ (3,397,424)
Construction Contingency 5%	\$ 770,190	\$ -	\$ 770,190
Engineering Services (EEA)	\$ 664,921	\$ 705,173	\$ (40,252)
Construction Management Services (CDM/C&S) see below	\$	\$	\$ -
<b>Conveyances Project Total</b>	<b>\$ 9,137,009</b>	<b>\$ 11,804,495</b>	<b>\$ (2,667,486)</b>
<b><u>FCF Facility Plan</u></b>			
Construction Estimate	\$ 5,000,000	\$ -	\$ 5,000,000
Engineering Services (Arcadis and others)	\$ 623,954	\$ 43,659	\$ 580,295
Construction Management and Administration	\$ 210,000	\$	\$ 210,000
Project Escalation to Midpoint of Construction	\$ -	\$	\$
<b>Clinton Storage Project Total</b>	<b>\$ 5,833,954</b>	<b>\$ 43,659</b>	<b>\$ 5,790,295</b>
<b><u>Facility Plan for Midland CSOs</u></b>			
Construction Estimate	\$ 14,900,000	\$ -	\$ 14,900,000
Engineering Services (Ch2MHill)	\$ 118,384	\$ 121,368	\$ (2,984)
Engineering Services, County Admin, ect (TBD)	\$ 3,720,000	\$ -	\$ 3,720,000
<b>Facility Plan Total</b>	<b>\$ 18,738,384</b>	<b>\$ 121,368</b>	<b>\$ 18,617,016</b>
<b><u>Midland Green Implementation Program</u></b>			
Construction Contracts incl. GIF Public/Private	\$ 7,500,000	\$ 1,705,683	\$ 5,794,317
Ch2MHill Program Management & Engineering	\$ 3,202,341	\$ 1,673,876	\$ 1,528,465
<b>Clinton Green Program Total</b>	<b>\$ 10,702,341</b>	<b>\$ 3,379,560</b>	<b>\$ 7,322,781</b>
<b><u>Program Management</u></b>			
Project Management (CDM/C&S) includes CSO 044	\$ 6,530,602	\$ 6,487,068	\$ 43,534
Project Management for Facility Plan (CDM/C&S) <sup>(1)</sup>	\$	\$ -	\$
<b>Program Management Total</b>	<b>\$ 6,530,602</b>	<b>\$ 6,487,068</b>	<b>\$ 43,534</b>
<b><u>Miscellaneous County Costs</u></b>			
Land Acquisition	\$ 1,806,946	\$ 1,809,802	\$ (2,856)
IMA	\$	\$	\$
Legal	\$ 182,323	\$ 181,975	\$ 348
Consulting (John Clare & Mezey)	\$ 208,317	\$ 194,317	\$ 14,000
Debt	\$ 635,031	\$ 597,119	\$ 37,912
Other	\$ 509,615	\$ 521,624	\$ (12,009)
<b>Miscellaneous Costs Total</b>	<b>\$ 3,342,232</b>	<b>\$ 3,304,837</b>	<b>\$ 37,395</b>
<b>Total Cost for Midland project under 4th stipulation</b>	<b>\$ 128,297,316</b>	<b>\$ 93,956,774</b>	<b>\$ 34,340,542</b>
Authorized Master Budget \$128,300,000			

**Onondaga County Lake Improvement Project**

4th Stipulation of the ACJ

Sewer Separation of CSO Areas 022/038/040/045/046A/046B/047/048/050/051/053/054

Summary of Current and Proposed Costs, and County Authorizations

<b><u>Project /Task/Line Item</u></b>	<b>Total Project Costs</b>		
	<b>Total Proposed Budget</b>	<b>Expended to Date</b>	<b>Authorization Remaining</b>
<b><u>Sewer Separation Construction Contracts</u></b>			
CSO 024 (Falter)	\$698,864	\$698,864	\$0
CSO 053/054 (Falter)	\$2,000,817	\$2,000,817	\$0
CSO 038//40/046A/046B (Falter)	\$3,598,931	\$3,524,487	\$74,444
CSO 047/048 (Falter)	\$1,654,022	\$1,654,022	\$0
CSO 050 (Lane)	\$4,362,188	\$4,362,188	\$0
CSO 051 (Lane)	\$5,037,280	\$5,037,280	\$0
CSO 022/045 (estimated Project Costs)	\$6,750,000	\$4,475,479	\$2,274,521
<b>Construction Total</b>	<b>\$24,102,102</b>	<b>\$21,753,138</b>	<b>\$2,348,964</b>
<b><u>Service Contracts (Engineering /Consulting /Program Management)</u></b>			
ACE	\$484,286	\$484,286	\$0
CDM/C&S	\$1,446,468	\$1,827,770	-\$381,302
CME	\$109,492	\$49,704	\$59,788
Department of the Army	\$153,504	\$153,504	\$0
Spectra	\$437,996	\$437,996	\$0
<b>Engineering/Management Total</b>	<b>\$2,631,746</b>	<b>\$2,953,260</b>	<b>-\$321,514</b>
<b><u>Miscellaneous County Costs</u></b>			
City of Syracuse	\$135,084	\$135,084	\$0
Consulting (John Clare & Mezey)	\$101,425	\$101,425	\$0
Debt	\$116,269	\$142,816	-\$26,547
Legal	\$14,235	\$14,235	\$0
Other	\$13,540	\$4,093	\$9,447
<b>Miscellaneous Costs Total</b>	<b>\$380,553</b>	<b>\$397,652</b>	<b>-\$17,099</b>
<b>Total</b>	<b>\$27,114,401</b>	<b>\$25,104,050</b>	<b>\$2,010,351</b>
Authorized by Legislature \$27,684,286			

**Onondaga County Lake Improvement Project**  
 Save The Rain Education and Outreach Grant  
 Summary of Current and Additional Costs, and County Appropriations  
 June 30, 2013

Funding Sources			Appropriations
<b>Program Funding</b>			
09,10,11 Appropriations			\$ 875,000
2011 Suburban Green Infrastructure			\$ 200,000
2012 Appropriation			\$ 400,000
2011 Trolley Lot Parking Mitigation Appropriation*			\$ 125,000
2012 Green grant education			\$ 200,000
2013 Green Grant education			\$ 400,000
<b>Total Appropriation</b>			\$ 2,200,000
<b>Funding Uses</b>			
<b><u>Retz Advertising + Design</u></b>	<b>Contract Amount</b>	<b>Expended to Date</b>	<b>Difference + (-)</b>
2010/2011 Marketing Services	\$ 411,789	\$ 411,789	\$ -
2012 Marketing Services	\$ 234,635	\$ 224,303	\$ 10,331
2013 Marketing Services			
<b>Marketing Services Subtotal</b>	\$ 646,424	\$ 636,092	\$ 10,331
<b><u>Environmental Finance Center Education and Outreach</u></b>	<b>Contract Amount</b>	<b>Expended to Date</b>	<b>Difference + (-)</b>
<b>2011 Education and Outreach</b>	\$ 346,677	\$ 346,677	\$ (0)
<b>2012 Education and Outreach</b>	\$ 241,815	\$ 241,815	\$ -
Environmental Finance Center	\$ 163,357	\$ -	\$ 163,357
SUNY ESF	\$ 66,889	\$ -	\$ 66,889
Onondaga Environmental Institute	\$ 186,716	\$ -	\$ 186,716
Onondaga Earth Corps	\$ -	\$ -	\$ -
Baltimore Woods Nature Center	\$ 40,000	\$ -	\$ 40,000
Centro Campaign	\$ 49,000	\$ -	\$ 49,000
ASLF	\$ -	\$ -	\$ -
<b>Non Labor Expenses (EFC)</b>			
Printing (incl purch serv)	\$ 9,373	\$ -	\$ 9,373
Postage	\$ 300	\$ -	\$ 300
Travel	\$ 2,000	\$ -	\$ 2,000
Facilities	\$ 5,000	\$ -	\$ 5,000
Program Related Supplies	\$ 7,000	\$ -	\$ 7,000
Research eq & demo mat	\$ 38,818	\$ -	\$ 38,818
Indirect/Overhead	\$ 71,951	\$ -	\$ 71,951
<b>2013 Education and Outreach</b>	\$ 640,404	\$ -	\$ 640,404
<b>Education &amp; Outreach Subtotal</b>	\$ 1,228,896	\$ 588,492	\$ 640,404
<b><u>Miscellaneous Ed/Outreach Expenses</u></b>	<b>Contract Amount</b>	<b>Expended to Date</b>	<b>Difference + (-)</b>
2010/2011 Miscellaneous Exp.	\$ 105,764	\$ 105,764	\$ -
2012 Miscellaneous Exp.	\$ 79,852	\$ 79,852	\$ -
2013 Miscellaneous Exp	\$ 108,814	\$ -	\$ 108,814
Paige's seeds		\$ 2,132	
Purchase card/petty cash		\$ 424	
Just the right stuff		\$ 1,526	
Park Outdoor Adv		\$ 470	
great music comp		\$ 400	
Speedpro (bk printing)		\$ 315	
Travel		\$ 2,543	
MediaOne		\$ 10,400	
Mark Nicotra		\$ 400	
WW Grainger		\$ 952	
2010/2011 media	\$ 28,750.00	\$ 28,750	\$ -
2012 Media	\$ 1,500	\$ 1,500	\$ -
2013 Media	\$ -	\$ -	\$ -
<b>Miscellaneous Subtotal</b>	\$ 324,680	\$ 235,429	\$ 89,251
<b>STR Education and Outreach Totals</b>	<b>Contract Amount</b>	<b>Expended to Date</b>	<b>Difference + (-)</b>
	\$ 2,200,000	\$ 1,460,014	\$ 739,986
<b>Remaining Balance</b>			\$ 739,986

\*Trolley lot parking mitigation money is from the Clinton CSO Storage Facility Budget and is funding education and outreach specific to that project.



# APPENDIX



**June 2013**

FINANCIAL TRACKING SUMMARY: FEDERAL & STATE GRANTS/LOANS APPROVED & RECEIVED											
		NYS	NYS	FED EPA	FED EPA	SHORT-TERM	SHORT-TERM	LONG-TERM	LONG-TERM	ACE	ACE
	PROJECT	GRANT	GRANT	GRANT	GRANT	EFC LOAN	EFC LOAN	EFC LOAN	EFC LOAN	GRANT	GRANT
PROJECT NAME	BUDGET	APPROVED	RECEIVED	APPROVED	RECEIVED	APPROVED	RECEIVED	APPROVED	RECEIVED	APPROVED	RECEIVED
<b>METRO - CURRENT</b>											
AERATION SYSTEM UPGRADE	\$8,500,000	\$5,834,381	\$5,834,381			\$7,365,000	\$6,868,954	\$1,049,185	\$14,613		
AMMONIA REMOVAL DEMO	\$2,000,000	\$1,145,109	\$1,145,109			Full-Scale	\$202,078				
BIOSOLIDS-MECHANICAL THICKENERS <sup>(c)</sup>								\$14,676,422	\$14,711,148		
DIGESTER MOD/CHEMICAL STORAGE	\$5,600,000	\$4,319,819	\$4,319,819			\$4,938,419	\$4,938,419	\$775,509	\$154,126		
DIGITAL SYSTEM IMPROVEMENTS	\$2,900,000	\$1,563,317	\$1,563,317			\$1,849,000	\$1,849,000	\$285,682	\$3,833		
MISCELLANEOUS IMPROVEMENTS	\$1,400,000										
ODOR CONTROL	\$7,700,000							\$7,413,199	\$7,389,197		
AMMONIA REMOVAL FULL SCALE/ STAGE II PHOSPHORUS REMOVAL	\$190,000,000	\$47,331,203	\$47,331,203	\$54,705,015	\$54,705,015	\$108,000,000	\$105,860,930	\$17,200,000	\$989,323		
PHOSPHORUS REMOVAL PILOT	\$5,000,000					Full Scale	\$1,936,991				
<b>CSO - CURRENT</b>											
CLINTON ST CONVEYANCE & RTF	\$31,245,000	\$54,870,000	\$54,832,500			\$37,788,890	\$25,526,636	\$15,603,494	\$4,981,444		
ERIE BLVD SEW SEP STORAGE	\$3,000,000	\$1,700,000	\$1,700,000			\$2,301,876	\$2,094,314	\$923,162	\$216,543		
FRANKLIN ST FCF	\$3,200,000	\$3,828,053	\$3,828,053			\$4,726,762	\$4,589,759	\$1,179,012	\$296,823		
HARBOR BROOK FCF	\$250,000	\$384,200	\$384,200					\$343,500	\$348,596		
HARBOR BROOK CSO ABATEMENT	\$5,444,000	\$3,880,000	\$3,880,000	\$14,003,569	\$9,768,777	\$53,689,500	\$29,163,616				
HIAWATHA INTERCEPTOR/RTF <sup>(a)</sup>	\$8,000,000							\$2,710,169	\$37,749	\$3,406,000	\$3,406,000
KIRKPATRICK ST PUMP STATION	\$5,642,000	\$7,502,302	\$7,502,302			\$12,000,000	\$10,940,632	\$4,246,376	\$828,115		
MALTBIE ST FCF	\$250,000	\$211,097	\$211,097			\$212,000	\$188,106				
MIDLAND AVE CONVEYANCE	\$3,000,000	\$26,055,238	\$26,055,238	\$34,900,616	\$33,525,880						
MIDLAND AVE PHASE II & RTF	\$45,000,000					\$15,000,000	\$15,000,000	\$36,550,745	\$17,785,646		
MIDLAND AVE PHASE III	\$27,000,000					\$10,000,000					
MIDLAND AVE MITIGATION COSTS											
NEWELL ST FCF <sup>(b)</sup>	\$1,310,000	\$367,737	\$367,737								
ONONDAGA CREEK FCF	\$3,000,000	\$442,154	\$442,154								
SEWER SEPARATION <sup>(a)</sup>	\$7,704,000							\$11,332,407	\$8,842,439	\$14,050,177	\$14,050,177
SIPHON REHABILITATION	\$1,230,000	\$870,768	\$870,768			\$1,435,500	\$1,024,433	\$140,623	\$1,958		
TEALL BROOK FCF	\$175,000	\$1,045,162	\$1,045,162			\$1,236,594	\$1,094,139	\$188,809	\$5,743		
WEST ST SEWER SEPARATION	\$1,000,000	\$2,299,460	\$2,299,460			\$3,059,716	\$2,481,443	\$395,540	\$6,621		
<b>OTHER</b>											
AMBIENT WATER MONITORING	\$8,000,000										
OXYGENATION DEMO	\$2,400,000										
SEQR REGULATORY	\$50,000										
<b>TOTAL DOLLARS</b>	<b>*\$380,000,000</b>	\$163,650,000	\$163,612,500	\$103,609,200	\$97,999,673	\$263,603,257	\$213,759,450	\$115,013,834	\$56,613,916	\$17,456,177	\$17,456,177
<b>*Original budget figures were based on 1997 dollars</b>											
<b>NYS includes awards beyond original pledge (i.e. civic strip)</b>											
<b>(a) NOTE: PROJECT IS US ARMY CORPS OF ENGINEERS PROJECT</b>											
<b>(b) NOTE: PROJECT RECEIVED \$40,500 COST SHARE GRANT FROM (NYSERDA)</b>											
<b>(c) NOTE: PROJECT RECEIVED \$87,500 COST SHARE GRANT FROM (NYSERDA)</b>											





June 2013

	Project Title	TOTAL PAYMENTS TO DATE 6-30-13	TOTAL PAYMENTS TO DATE 5-31-13	Change
	<b>METRO - Current</b>			
1	AERATION SYSTEM UPGRADE	\$ 6,925,115	\$ 6,925,115	\$ -
2	AMMON. REMOVAL DEMONSTRATION	\$ 1,347,187	\$ 1,347,187	\$ -
3	BIOSOLIDS - MECHANICAL THICKENERS	\$ 14,815,674	\$ 14,815,674	\$ -
4	DIGESTER MOD/CHEMICAL STORAGE	\$ 5,092,545	\$ 5,092,545	\$ -
5	DIGITAL SYSTEMS IMPROVEMENTS	\$ 3,520,317	\$ 3,520,317	\$ -
6	MISCEL. IMPROVEMENTS	\$ 1,400,000	\$ 1,400,000	\$ -
7	ODOR CONTROL	\$ 8,393,855	\$ 8,393,855	\$ -
8	AMMONIA REMOVAL FULL SCALE/ STAGE II PHOSPHORUS REMOVAL	\$ 128,688,040	\$ 128,688,040	\$ -
		\$ -	\$ -	
9	PHOSPHORUS REMOVAL - PILOT	\$ 4,111,714	\$ 4,111,714	\$ -
	<b>CSO - Current</b>			\$ -
10	CLINTON ST. CONVEYANCE/ CLINTON ST. RTF	\$ 118,633,701	\$ 115,176,425	\$ 3,457,276
		\$ -		\$ -
11	ERIE BLVD STORAGE SYSTEM	\$ 2,684,523	\$ 2,684,523	\$ -
12	FRANKLIN ST. FCF	\$ 4,948,516	\$ 4,948,516	\$ -
13	HARBOR BROOK FCF	\$ 889,109	\$ 889,109	\$ -
14	HARBOR BROOK CSO ABATEMENT	\$ 70,293,844	\$ 66,484,556	\$ 3,809,287
15	HIAWATHA INTERCEPTOR/RTF	\$ 6,047,183	\$ 6,047,183	\$ -
16	KIRKPATRICK ST. PUMP STATION	\$ 12,558,335	\$ 12,558,335	\$ -
17	MALTBIE STREET FCF	\$ 362,028	\$ 362,028	\$ -
18	MIDLAND AVE RTF & CSO ABATEMENT	\$ 93,956,775	\$ 93,811,121	\$ 145,655
19	MIDLAND AVE MITIGATION COSTS	\$ 3,000,000	\$ 3,000,000	\$ -
20	NEWELL STREET RTF	\$ 473,132	\$ 473,132	\$ -
21	ONONDAGA CREEK FCF	\$ 648,342	\$ 648,342	\$ -
22	SEWER SEPARATION	\$ 25,104,050	\$ 25,044,056	\$ 59,994
23	SIPHON REHABILITATION	\$ 1,026,391	\$ 1,026,391	\$ -
24	TEALL BROOK FCF	\$ 1,235,346	\$ 1,235,346	\$ -
25	WEST ST SEWER SEPARATION	\$ 2,720,572	\$ 2,720,572	\$ -
26	ERIE BLVD CSO ABATEMENT	\$ -	\$ -	\$ -
	<b>OTHER</b>			
27	AMBIENT WATER MONITORING	\$ 16,943,938	\$ 16,943,938	\$ -
28	OXYGENATION DEMO PROJECT	\$ 10,087	\$ 10,087	\$ -
29	SEQRA REGULATORY COMPLIANCE	\$ -	\$ -	\$ -
				\$ -
	<b>TOTAL DOLLARS</b>	\$ 535,830,319	\$ 528,358,107	\$ 7,472,212

# Chronology of Project Construction Starts

	<u>Status</u>	<u>Location</u>
<u>Pre-ACJ Signing (1/20/98)</u>		
• General Improvements	Complete	Metro
• Odor Control and Residuals Handling	Complete	Metro
 <u>1998</u>		
• Digital Systems Upgrade	Complete	Metro
• Ammonia Removal Demonstration	Complete	Metro
• Aeration System Upgrade	Complete	Metro
• Hiawatha RTF - ACOE	Complete	Regional Market
• Newell St. RTF Demo/Improvements	Complete	W. Newell/Vale St.
• Maltbie St. FCF	Complete	Maltbie/Plum St.
• Siphon Rehab	Complete	Various
 <u>1999</u>		
• Digester Modifications/Chemical Storage	Complete	Metro
• Franklin St. FCF	Complete	I-690/Franklin
• West Street Sewer Separation	Complete	W. Genesee, Plum, Tracy, N. West St.
• Ammonia Trackdown	Complete	Metro
 <u>2000</u>		
• Midland Ave. Conveyance Phase I	Complete	Tallman/Oxford St.
• Phosphorus Removal – Phase I Pilot	Complete	Metro
 <u>2001</u>		
• Erie Blvd. Storage System Upgrade	Complete	Franklin to Teall
• Full Scale Ammonia Removal/ Stage II Phosphorus Removal	Complete	Metro
• Kirkpatrick St. Pump Station & Force Main	Complete	Kirkpatrick St.
• Onondaga Creek FCF	Complete	Inner Harbor
• Teall Brook FCF	Complete	Teall Ave.
• Water Street Sewer Separation (CSO 024)	Complete	Water Street
 <u>2002</u>		
• Harbor Brook FCF	Complete	W. Hiaw./I-690
• Brighton Ave Sewer Separation (CSO 053/054)	Complete	Brighton/Bishop Ave

<u>Project</u>	<u>Status</u>	<u>Location</u>
<u>2004</u>		
• Tallman/Onondaga Sewer Separation (CSO 038, 040, 046A & 046B)	Complete	Tallman/Onondaga
• Midland Phase II RTF/Conveyances	Complete	Blaine/Oxford St.
<u>2005</u>		
• Phosphorus Removal – Phase II Pilot	Complete	Metro
• Biosolids Handling Improvements	Complete	Metro
<u>2006</u>		
• Sewer Separation – CSO 047 & 048	Complete	South Ave/ Bissell St.
<u>2007</u>		
• Sewer Separation – CSO 050	Complete	Parkway/Rockland
• Clinton Phase I Conveyances	Complete	
<u>2008</u>		
• Clinton Phase IIA Conveyances	Complete	
<u>2009</u>		
• Sewer Separation – CSO 051	Complete	Colvin St.
<u>2010</u>		
• Harbor Brook Interceptor Sewer	Authorized/Underway	Velasko/Fayette
<u>2011</u>		
• Midland CSO 044	Authorized/Underway	W. Castle/South Ave
• Clinton Storage Facility	Authorized/Underway	Armory Square
• Lower Harbor Brook (Conveyance & Storage)	Authorized/Underway	Hiawatha/State Fair Blvd.
• Save the Rain Green Projects	Authorized/Underway	Various
• CSO 022 Sewer Separation Project	Authorized/Underway	West Genesee/Franklin
• CSO 045 Sewer Separation Project	Authorized/Underway	South Avenue
<u>2012</u>		
• Save the Rain Green Projects	Authorized/Underway	Various

**CONTRACTORS FOR  
CONSTRUCTION PROJECTS  
Metro Treatment Plant**

**AERATION SYSTEM UPGRADE**

Bongiovanni Construction (General)	\$ 5,626,956.41
Ridley Electric (Electrical)	\$ 846,154.00

**DIGITAL SYSTEM UPGRADE**

Systems Integrated	\$ 2,974,514.27
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**ODOR CONTROL CONTRACT #1**

Falconet, Inc. (General)	\$ 4,872,660.53
Scriba Electric (Electrical)	\$ 315,580.30
Burns Bros. (Heating/Ventilation)	\$ 82,459.00
Burns Bros. (Plumbing)	\$ 50,168.00

**ODOR CONTROL CONTRACT #2**

Murnane Construction	\$ 1,636,000.00
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**PHASE III IMPROVEMENTS CONTRACT 1 - DIGESTER & LAGOON IMPROVEMENTS**

Maxim Construction	\$ 645,730.74
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**PHASE III IMPROVEMENTS CONTACT 2 - CHEMICAL STORAGE & FEED FACILITIES**

C.O. Falter Construction Corp. (General)	\$ 2,527,300.08
Barry & Barry Electrical Co. (Electrical)	\$ 193,665.22
Burns Bros. (HVAC)	\$ 224,232.51
Edward Joy Company (Plumbing)	\$ 38,669.35

**PHASE III IMPROVEMENTS CONTRACT 3 - DIGESTER & LAGOON CLEANING**

Waste Stream Environmental Inc.	\$ 727,881.80
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**FULL SCALE AMMONIA/PHOSPOHORUS REMOVAL - FIELD OFFICE**

James & Son Constrcution	\$ 28,388.00
Resun Leasing, Inc.	\$ 112,224.00
Ridley Electric Co.	\$ 32,295.00
Burns Brothers	\$ 18,440.00

**FULL SCALE AMMONIA/PHOSPHORUS REMOVAL**

U.S. Filter - Kruger Products, Inc.	\$ 8,261,182.00
U.S. Filter - Kruger Products, Inc.	\$ 3,918,080.00

**CONTRACTORS FOR  
CONSTRUCTION PROJECTS  
Metro Treatment Plant**

**FULL SCALE AMMONIA/PHOSPHORUS REMOVAL**

**SITE PREPARATION - CONTRACT 2**

C.O. Falter Construction Corp. (General)	\$ 22,243,604.98
Ridley Electric (Electrical)	\$ 255,627.00
C.O. Falter Construction Corp. (Pile Testing)	\$ 431,008.00
Moretrench Environmental	\$ 4,602,086.57

**PILE INSTALLATION - CONTRACT 3**

M.A. Bongiovanni Construction	\$ 9,045,731.95
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**GENERAL - CONTRACT 4**

The Pike Company (General)	\$ 46,860,263.46
Ridley Electric Co. (Electrical)	\$ 6,927,238.00
Edward Joy Company (HVAC)	\$ 3,009,057.61
Burns Brothers (Plumbing/Fire Protection)	\$ 1,217,583.74

**BIOSOLIDS HANDLING IMPROVEMENTS**

C. O. Falter Construction Corp. (General)	\$ 10,929,016.19
Ridley Electric (Electrical)	\$ 1,476,223.00
Airside Technology (HVAC)	\$ 532,187.00
Burns Bros. (Plumbing)	\$ 173,679.09
Independent Fiedl Svs (Cogen)	\$ 20,000.00

**CSO's**

**CLINTON CONVEYANCES PHASE I & 2A**

The Delaney Group, Inc.	\$ 14,478,053.39
The Delaney Group, Inc.	\$ 4,074,455.32
SIDA	\$ 2,620,015.43
MOU (City of Syracuse)	\$ 168,000.00
MOU City of Syracuse (Connective Corridor)	\$4,446,000.00

**CLINTON CSO ABATEMENT**

Ruston Paving (Farmers' market Lot)	\$ 188,046.14
Davis Wallbridge (Pearl St/Lot 3)	\$ 635,873.93
Davis Wallbridge (Townsend St.)	\$ 476,625.39
J&B (Pirro Conv. Center)	\$ 1,083,727.39
C.O. Falter (War Memorial)	\$ 692,298.87
Ridley (War Memorial)	\$ 447,957.66
Economy Paving (On Center)	\$ 1,094,119.49
J&B (Erie Canal Museum)	\$ 73,480.00
Jett Industries (Clinton Storage)	\$ 71,999,989.36
Joy Process Mechanical (Cistern War Memorial)	\$ 82,615.00
C&S Technical (Cistern War Memorial)	\$ 233,652.56
Green Culture (Rain Barrels)	\$ 44,335.50
Syracuse Utilities (Duct Bank)	\$ 59,982.56
Water Cooling Corp. (Storage Tank)	\$ 2,875.00

**CONTRACTORS FOR  
CONSTRUCTION PROJECTS  
CSO's (cont)**

MOU City of Syracuse (Road Reconstruction)	\$ 1,100,000.00
MOU City of Syracuse (Dr. Weeks)	\$ 97,000.00
MOU City of Syracuse (Bank Alley)	\$ 108,000.00
MOU City of Syracuse (Upstate)	\$ 1,500,000.00
Walbridge (Streetscape/Water St)	\$ 1,432,437.86
Ruston Paving (Sunnycrest Parking Lot)	\$ 410,372.20
MA Bongiovanni Inc.	\$ 3,000.00
Acts II Construction (Skiddy Park)	\$ 550,916.44
D.E. Tarolli (Otisco Street)	\$ 1,766,635.35
Orchard Earth & Pipe (Syr School dist Park Lot)	\$ 422,796.00
Slate Hill Construction (E. Water St)	\$ 147,952.84
Davis Wallbridge (Onon Cty Pub Library)	\$ 320,291.95
Tumbers, Schichtels Nursery (Trees)	\$ 238,123.00
Acts II (Seymour Academy)	\$ 373,309.00
Paul R. Vitale (City Lot 4)	\$ 607,852.44
John R. Dudley (Leavenworth Park)	\$ 654,450.00
VIP (Onon Public Library)	\$ 54,160.06
Ballard Construction (Westcott Comm Ctr)	\$ 52,500.00
Cornerstone Paving (Oswego St)	\$ 109,046.54
John Dudley Construction (W. Onondaga St.)	\$ 1,265,474.00
Barrett Paving (W. Fayette St.)	\$ 446,269.00
Davis Wallbridge (Westcott St.)	\$ 852,000.00
ProScapes (Sunnycrest Arena)	\$ 87,585.22
Jeffrey DeRoberts (GIF)	\$ 99,311.00
King & King Architects (GIF)	\$ 100,000.00
Jefferson Clinton Commons (GIF)	\$ 100,000.00
ESF Foundation, Abby Lane Housing (GIF)	\$ 78,000.00
Hotel Skyler (GIF)	\$ 100,000.00
Near West Side Initiatives, Inc. (GIF)	\$ 22,730.69
Near West Side Initiatives, Inc. (GIF)	\$ 78,000.00
Tash Taskale (GIF)	\$ 82,750.00
St. Lucy's Church (GIF)	\$ 125,000.00
Putnam Properties (GIF)	\$ 75,757.00
Centro (GIF)	\$ 65,390.00
500 W. Onondaga St. Inc. (GIF)	\$ 52,740.00
CNY Jazz Arts Foundation (GIF)	\$ 52,188.00
Jim & Juli Boeheim Foundation (GIF)	\$ 163,203.51
Home Headquarters, Inc. (GIF)	\$ 40,500.00
Galleries of Syr, 147 E. Onondaga St. (GIF)	\$ 100,000.00
Syracuse Housing (GIF)	\$ 120,290.00
Kopp billing Agency (GIF)	\$ 25,300.00
American Beech (GIF)	\$ 53,050.00
Park Central Presbyterian Church (GIF)	\$ 61,050.00
CNY Philanthropy (GIF)	\$ 62,700.00
Loon Creek (GIF)	\$ 137,350.00
McMahan/Ryan Child Advocacy (GIF)	\$ 178,050.00
St. Lucy's Church (GIF)	\$ 17,700.00

**CONTRACTORS FOR  
CONSTRUCTION PROJECTS  
CSO's (cont)**

Bethany Baptist Church (GIF)	\$ 200,273.50
St. Lucy's Church (GIF)	\$ 51,900.00
500 W. Onondaga St. Inc. (GIF)	\$ 34,347.00
Our Lady of Pompei (GIF)	\$ 142,031.00
Onondaga Commons LLC (GIF)	\$ 124,200.00
Onondaga Commons LLC (GIF)	\$ 199,500.00
Onondaga Commons LLC (GIF)	\$ 198,949.00
Onondaga Commons LLC (GIF)	\$ 77,800.00
Gemmi Boy (GIF)	\$ 47,537.00
Mr. Lady Bug (GIF)	\$ 46,700.00
Grace Episcopal Church (GIF)	\$ 99,400.00
Snapse Downtown (GIF)	\$ 35,700.00
360 Warren Associates (GIF)	\$ 107,864.00
Housing Visions Unlimited (GIF)	\$ 194,650.00
Near West Side Initiatives, Inc. (GIF)	\$ 34,500.00
Scannell Properties (GIF)	\$ 204,000.00
Genesee Armory (GIF)	\$ 144,400.00
Third National Associates (GIF)	\$ 533,300.00
Center for Peace & Social Justice (GIF)	\$ 53,100.00
Graham Millwork (GIF)	\$ 123,326.00
Onondaga Commons LLC (GIF)	\$ 124,100.00
Onondaga Commons LLC (GIF)	\$ 33,400.00
Onondaga Commons LLC (GIF)	\$ 294,300.00
PEACE (GIF)	\$ 23,500.00
Syracuse Business Center (GIF)	\$ 288,400.00
Erie Bruce Corp (GIF)	\$ 151,700.00
Visiting Nurses Association (GIF)	\$ 65,800.00
Near West Side Initiatives, Inc. (GIF)	\$ 94,300.00

**ERIE BOULEVARD STORAGE SYSTEM**

M. Hubbard Construction	\$ 1,556,752.00
Rdiley Electric (Electrical)	\$ 154,059.00
Endeco/YSI (SE33923)	\$ 24,117.90

**FRANKLIN STREET FCE**

Burns Bros (Mechanical)	\$ 179,167.67
Scriba electric (Electrical)	\$ 144,640.61
Burns Bros. (Plumbing)	\$ 28,400.00
Maxim	\$ 3,568,029.43

**HARBOR BROOK CSO ABATEMENT**

Joseph J. Lane Construction (Interceptor Sewer Replacement)	\$ 23,432,053.20
Bette Cring (Elephant Barn Greening)	\$ 207,701.00
John Dudley Construction (Geddes St)	\$ 279,068.06
J&B Installaions (Hazard Library/Erie Canal Museum)	\$ 67,275.00

**CONTRACTORS FOR  
CONSTRUCTION PROJECTS  
CSO's (cont)**

Economy Paving (Rosamond Gifford Zoo)	\$ 688,638.00
J.J. Lane (Lower HB)	\$ 4,778,787.85
A.J. Montclair (HB CSO Storage)	\$ 260,000.00
C.O. Falter (HB CSO Storage)	\$ 26,479,352.79
Davis Wallbridge (onon Cty Pub Library)	\$ 378,920.43
Cornerstone Paving (Parking Lots)	\$ 149,195.48
Green Culture	\$ 80,665.00
Tumbers, Schichtels Nursery (trees)	\$ 81,068.00
City of Syracuse	\$ 3,342,875.63
VIP	\$ 54,160.06
Steadman Old Farm	\$ 11,480.00
Butler	\$ 11,338.85
OnSite	\$ 8,755.00
J J Lane (CSO 18)	\$ 3,483,939.60
Patricia Electric (Wetland Pilot)	\$ 120,440.00
MOU City of Syracuse (Road Reconstruction)	\$ 138,165.00
Davis Wallbridge (Wadsworth Park)	\$ 344,596.29
Acts II (Lewis Park)	\$ 210,800.00
Knapp Electric (Wetlands)	\$ 41,856.00
Vitale Excavating (Bedding Sand)	\$ 208,169.00
Bette Cring (Zoo Wetlands)	\$ 1,242,512.00
Vibrant Spaces, LLC (GIF)	\$ 153,618.00
NYSARC, Inc. (GIF)	\$ 78,907.14
Consuela's Westside Taqueria (GIF)	\$ 29,988.00
Consuela's Tato Britter (GIF)	\$ 8,249.50
PEACE (GIF)	\$ 28,700.00
Vibrant Spaces, LLC (GIF)	\$ 198,680.00
Brooklyn Pickle (GIF)	\$ 30,555.00
St. Patrick's Loft (GIF)	\$ 177,300.00
Smith Housing (GIF)	\$ 52,600.00

**HARBOR BROOK FCE**

C.O. Falter Construction Corp. (General)	\$ 373,370.21
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**KIRKPATRICK ST. PUMP STATION & FORCE MAIN**

C.O. Falter Construction Corp.	\$ 4,398,009.12
C.O. Falter Construction Corp.	\$ 4,425,766.31
Patricia Electric	\$ 761,184.63
King & King Mechanical	\$ 245,569.51
G.J. Adams Plumbing	\$ 51,624.16

**MALTBIE STREET FCE**

Over & Under Piping	\$ 152,418.00
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**MIDLAND AVENUE CONVEYANCES**

Marcellus Construction (General)	\$ 1,836,434.47
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**CONTRACTORS FOR  
CONSTRUCTION PROJECTS  
CSO's (cont)**

**MIDLAND AVENUE PHASE II CONVEYANCES & RTE**

Empire Dismantlement Corp. (Demolition)	\$ 457,681.50
Murnane Building Contractors, Inc. (General)	\$ 47,929,392.75
Ridley Electric Company (Electrical)	\$ 2,904,771.00
Edward Joy Company (HVAC)	\$ 2,053,808.50
Edward Joy Company (Plumbing)	\$ 484,717.17

**MIDLAND AVENUE PHASE III CONVEYANCES**

Titan Wrecking & Environmental, LLC (Demolition)	\$ 290,801.39
J.J. Lane	\$ 12,296,549.05
Acts II (Hugh's Magnet School Parking Lot)	\$ 314,439.81
Davis Wallbridge (Onon Cty Pub Library)	\$ 116,033.35
VIP (Onon Public Library)	\$ 27,080.03
Green Culture (Rain Barrels)	\$ 44,335.50
Tumbers, Schichtels Nursery (trees) (Trees)	\$ 26,998.00
Weather Guard Tecta (USPO Salina St)	\$ 242,860.00
MOU City of Syracuse (Road Reconstruction)	\$ 408,332.04
MOU City of Syracuse (ESF)	\$ 100,000.00
Jubilee Homes of Syracuse (GIF)	\$ 100,000.00
Dunbar Association, Inc. (GIF)	\$ 99,840.00
Syracuse Model Neighborhood (GIF)	\$ 250,000.00
Alexander Property West (GIF)	\$ 81,000.00
Viraj, NY, LLC (GIF)	\$ 95,650.00
People's AME Zion Church (GIF)	\$ 54,700.00
People's Community Dev. Corp (GIF)	\$ 80,825.00
Matawon Development Group (GIF)	\$ 24,214.00
Salina Shoe Salon (GIF)	\$ 85,000.00
People's AME Zion Church (GIF)	\$ 80,677.00
Viraj, NY, LLC (GIF)	\$ 48,437.00
Lauren Tawil (GIF)	\$ 212,400.00

**SEWER SEPARATION - CSO 022/045**

Joy Process Mechanical (Plumbing)	\$ 1,205,567.00
Joseph J. Lane Construction	\$ 4,867,219.35

**SEWER SEPARATION - CSO 024**

C.O. Falter Construction Corp.	\$ 698,863.74
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**SEWER SEPARATION - CSO 053/054**

C.O. Falter Construction Corp.	\$ 2,000,817.40
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**SEWER SEPARATION - CSO 038, 040, 046A&B**

C.O. Falter Construction Corp.	\$ 3,524,487.29
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**CONTRACTORS FOR  
CONSTRUCTION PROJECTS  
CSO's (cont)**

**SEWER SEPARATION - CSO 047 & 048**

C.O. Falter Construction Corp. \$ 1,654,022.34

**SEWER SEPARATION - CSO 050**

Joseph J. Lane Construction \$ 4,360,527.06

**SEWER SEPARATION - CSO 051**

Joseph J. Lane Construction \$ 5,029,323.00

**SIPHON REHABILITATION**

Insituform Metropolitan \$ 1,021,822.99

**TEALL BROOK FCE**

C.O. Falter Construction Corp. (General) \$ 877,095.43

Scriba Electric (Electrical) \$ 26,470.20

**WEST STREET AREA SEWER SEPARATION**

Maxim Construction (General) \$ 2,311,125.85

## WEP ACRONYMS

ACJ	Amended Consent Judgment
AMP	Ambient Monitoring Program
AMSA	Association of Metropolitan Sewerage Agencies
AWQS	Ambient Water Quality Standards
ARRA	American Recovery and Reinvestment Act
ASLF	Atlantic States Legal Foundation
BAF	Biological Aerated Filter (Biostyr)
BMP	Best Management Practice
BPJ	Best Professional Judgment
CAA	Clean Air Act
CALM	Consolidated Assessment and Listing Methodology
CAMP	Community Air Monitoring Plan
CIP	Capital Improvement Plan
CMOM	Capacity, Management, Operation, and Maintenance
CSLAP	Citizens Statewide Lake Assessment Program
CSO	Combined Sewer Overflow
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
EBM	Ecosystem-Based Management
ECM	Energy Conservation Measures
EECBG	Energy Efficiency and Conservation Block Grant
ELAP	Environmental Laboratory Approval Program
EMS	Environmental Management System
ERM	Environmental Resource Mapper
FCF	Floatable Control Facility
GIF	Green Improvement Fund
HRFS	High Rate Flocculation Settling
I & I	Inflow & Infiltration
IW	Industrial Wastewater
km	Kilometers
km <sup>2</sup>	Square Kilometers

LA	Load Allocations
LF	Linear Feet
LAN	Local Area Network
m	Meters
MCP	Municipal Compliance Plan
Metro	Metropolitan Syracuse Wastewater Treatment Plant
MGD	Million Gallons Per Day
mg/L	Milligrams Per Liter
MIS	Main Interceptor Sewer
MS4s	Municipal Separate Storm Sewer Systems
mt	Metric Tons
NACWA	National Association of Clean Water Agencies
NBP	National Biosolids Partnership
NELAC	National Environmental Laboratory Accreditation Conference
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSEFC	New York State Environmental Facilities Corp.
NYWEA	New York Water Environmental Association
OLP	Onondaga Lake Partnership
OLWQM	Onondaga Lake Water Quality Model
OU	Odor Unit
P2	Prevention Program
P2CO	Prevention Program County Operations
PdM	Predictive Maintenance
PIDs	Photo-ionization Detectors
PFRP	Process to Further Reduce Pathogens
PLA	Project Labor Agreement
POTW	Publicly Owned Treatment Works
RTF	Regional Treatment Facility
PWL	Priority Waterbodies List
SCA	Sediment Consolidation Area
SCADA	Supervisory Control and Data Acquisition
SEPS	Secondary Effluent Pump Station
SEQR	State Environmental Quality Review

SGIP	Suburban Green Infrastructure Program
SHB	Solids Handling Building
SMPs	Storm Water Management Practices
SOP	Standard Operating Procedure
SPDES	State Pollutant Discharge Elimination System
SRP	Soluble Reactive Phosphorus
SSES	Sanitary Sewer Evaluation Study
SSI	Sewage Sludge Incinerator
SSV	Site-Specific Variance
SUNY-ESF	State University of New York College of Science and Forestry
SWMM	Storm Water Management Modeling
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TDP	Total Dissolved Phosphorus
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TSI	Trophic State Index
UAA	Use Attainability Analysis
UFI	Upstate Freshwater Institute
ug/l	Micrograms per liter
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WAN	Wide Area Network
WLA	Waste Load Allocations
WEF	Water Environment Federation
WEP	Water Environment Protection
WSE	Waste Stream Environmental