Save the Rain

First Quarterly Report 2017

January - March 2017

Joanne M. Mahoney
County Executive

Save the Rain
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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Table of Contents

Report from Commissioner

Gray Projects Update

- **Progress of Projects Under Construction**
- **Fact Sheets**

Green Projects Update

- **Projects Summary**
- **Fact Sheets**

Green Improvement Fund Update

- **Green Improvement Fund Program Summary**
- **Fact Sheets**

Metro WWTP Phosphorus Projects/TMDL/Ambient Monitoring Program Update

- **Metro Phosphorus Optimization Project**
- **Metro Phosphorus Work Plan Project**
- **Onondaga Lake Water Quality Model**
- **Ambient Monitoring Program**
  - **Water Quality Sampling**
    - **Tributary Sampling**
    - **Tributary Bacteria Compliance Assessment**
    - **Onondaga Lake Sampling**
- **Biological Monitoring Program Sampling Summary**

Legislative/Regulatory/Media Update

- **Action Items for County Legislature**
- **Action Items for the Environmental Protection Committee**
- **Media Articles**

Financial Update

- **Contracts**
  - **New Contracts**
  - **Amendments to Existing Contracts**
  - **Change Orders**

- **Funding**
  - **State Bond Act Funds**
  - **Federal EPA Funds**

Federal Army Corps of Engineers Funds
EFC Loans

- **Onondaga County Lake Improvement Project**
  Fourth Stipulation of the ACJ
    Clinton/Lower MIS CSO Improvement
    Harbor Brook Drainage Basin CSO Abatement
    Midland CSO Abatement
    Sewer Separation of CSO Areas:
      022/038/040/045/046A/046B/047/048/050/051/053/054
    Save the Rain Education and Outreach Grant

Appendix

- **Project Payments**
- **Lake Improvement Project Status Report**
- **Federal and State Grants/Loans Approved and Received**
- **Chronology of Project Construction Starts**
- **Contractors for Construction Projects**
  - **Metro Treatment Plant**
  - **CSOs**
- **WEP Acronyms**

Project Progress

Report from the Commissioner

Several excellent progress items of note this past quarter:

The 2016 ACJ Annual Report was submitted by the April 1, 2017 deadline. The printed report this year is approximately 4 ½ inches thick. Since that is a tall order for most folks, here are some of the highlights:

1. The stormwater management model was further calibrated in 2016 with significant additional field data. The additional data enabled the SWMM engineers to remove excessive conservatism from the model. The system physical conditions at the end of 2016 are capturing 97.4% of combined sewer overflows. This compares very favorably with the 95% CSO capture required by 2018.
    - The considerable amount of flow metering data captured in 2016 also allowed the SWMM engineers to validate model results by comparing model results to meter measurements. As reported by the 2016 Annual Report, "systemwide, the model is functioning as an excellent tool for predicting flows in the sewer system as evidenced by the fact that the validation results consistently fall within WaPUG guidelines" The SWMM model is now calibrated, verified and shows a high degree of accuracy both in numerical estimates and matching hydrograph shapes.
    - The Save the Rain program has now completed 189 green infrastructure projects. The green infrastructure projects are reducing stormwater runoff by 131 million gallons per year. By capturing this runoff before it reaches the combined sewer system, the program is reducing overflow events and also reducing the amount of flow coming to Metro for pumping and treatment during wet weather events. In addition to stormwater management and CSO mitigation, the green infrastructure projects improve neighborhoods and property values throughout the combined sewer areas of the community.
    - The 2016 Report also included some special metering of four (4) representative green projects. This metering demonstrated that Save the Rain green infrastructure projects are successfully removing significant levels of runoff from the sewer system. The green infrastructure projects are performing so well that they are capturing well over the design requirements of the first inch of rainfall.

2. With spring comes the beginning of a new construction season. Final work is underway on the Garzone's project in CSO 052. Final civil and landscaping project work is set for completion of State Street in April and early May. Work will also begin at McKinley Park. Later this summer green street projects on Lancaster Avenue and Ackerman Avenue will start construction. As always, the Save the Rain program is holding community meetings during the design phase of projects and we typically hold a neighborhood preconstruction meeting before construction begins. Every construction project creates a little bit of disruption in traffic or parking, but I am thankful for our team efforts to meet with the neighbors, try to understand and resolve any issues before and during construction, and make project information readily available at meetings and on the Save the Rain website. We have a lot of green projects on the agenda this

to our neighbors for their patience during construction. We are also very confident that once the work is completed, the neighborhoods will not just be in "as good condition", they will be better than before we started.

3. A small shout out for the recently reported Mercury Minimization Program efforts in the Metro service area. While not part of the ACJ work, this program demonstrates our continuing efforts toward improving water quality and water environment protection. By steady effort, communication with the local dental society, and direct visits/support to dental offices, the Metro service area continues to see steady reduction in influent and effluent mercury levels at the treatment plant. In 2016, the average effluent mercury concentration for the year was 0.000000706 mg/l, or just a tiny bit more than 7/10 of one part per trillion. WOW! As an analogy, one part per trillion is equivalent to 1 square inch in 250 square miles; the surface area of Onondaga County is 806 square miles.

As always, the SavetheRain.us website is a reliable source of information on green project status, our community outreach programs, and all contracts and reports. Presently, we encourage everyone to take part in OCRRA's Earth Day litter cleanup in April. The County's Connect the Drops campaign is all about building awareness that litter doesn't just go away – most of it ends up in our water bodies if not properly managed. Stay tuned for a new facet of the Connect the Drops campaign coming after Earth Day.

Respectfully Submitted,

Tom Rhoads P.E.
Commissioner

GRAY PROJECTS UPDATE

Gray Projects Update

There were no gray projects underway in the Save the Rain program during the first quarter of 2017.

GREEN PROJECTS UPDATE

Green Projects Update

Several Save the Rain projects progressed during the first quarter of 2017.

During the first quarter, the design of the five CSO 060/077 green street candidate projects was advanced. Lancaster Avenue, Ackerman Avenue, and McKinley Avenue reached the 100% design phase and are slated for construction in 2017, beginning in the spring. Additionally, the design of the Comstock Avenue and Roney Lane projects reached 90% design. The designs for these projects are expected to be completed during the second quarter with construction in 2017 and 2018 planned. The County's Save the Rain team has been coordinating the construction schedule with the Outer Comstock Neighborhood Association, Eastside TNT, and other local community groups for these projects. Additional public outreach will continue as these projects advance to construction.

Design of the CSO 067 candidates (McKinley Park, Vacant Lot at 621 West Newell, and Vale Street at Newell Street) proceeded to the final design phase in the fourth quarter with construction anticipated during the 2017 season. The 25% design for the CSO 052 Green Streets (Charmouth Drive, Fairfield Avenue, Hutchison Avenue, South Avenue, and Elmhurst Avenue) was completed during the quarter and an initial community meeting was held on March 27 to gain feedback from the residents within the proposed project areas. Construction of these projects is anticipated in fall 2017 and 2018.

Progress continues to be made through the efforts of the Green Planning Committee (GPC) in identifying and evaluating opportunities for green infrastructure in geographic priority areas. The GPC finalized the candidate projects in the Harbor Brook CSOs (005, 006, 007, 009, and 014) for implementation by 2018. Discussions between the GPC, County, and City on a green infrastructure approach for CSO 029 continued during the first quarter, with the expectation of the development of a plan of action in spring 2017.

Construction of the Green Separation in CSO 052 project transitioned to winter shutdown at the end of last year and will be resumed in the second quarter. The project consists of a new stormwater management facility on the city-owned property (the former location of Garzone's Restaurant) to manage ponding on-site as well as additional stormwater from Cornell and South Avenues. The western detention basin was constructed in 2016, and the eastern detention basin is anticipated to be constructed during the spring of 2017. The separate storm sewer and infiltration facility on Mitchell Ave. was constructed in 2016 and includes stormwater capture between South Avenue and Armstrong Place. The project provides the dual benefit of managing stormwater runoff in CSO 052 and reducing localized flooding episodes in the neighborhood. The County's Save the Rain team continues to stay in close contact with the local neighborhood and has heard positive feedback from many to date.

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FACT SHEET
Green Park:
McKinley Park

Project:	McKinley Park
Project Owner:	City of Syracuse Parks Department
Project Location:	West Newell Street, West Calthrop, and West Pleasant Avenues.
Sewershed:	Midland
CSO:	067
GI Technologies:	Bioretention, Infiltration, and Porous Pavement
Capture Area:	51,000 sq. ft. (estimated)
Runoff Reduction:	945,000 gal/yr (estimated)
Year Contracted:	2017 (projected)
Cost:	$750,000 (engineer's estimate)
Prime Contractor:	TBD

Project Description: The McKinley Park Project is one of many projects being accomplished through the collaborative efforts of Onondaga County and the City of Syracuse Parks Department. As a neighborhood park, McKinley Park has served the recreational needs of the community since 1920. The primary goal of the project is to reduce the volume of stormwater that flows into the combined sewer system along West Newell Street, West Calthrop Avenue, and West Pleasant Avenue – all within the CSO 067 area. The County intends to implement various green infrastructure technologies, including bioretention and porous pavement with an underground infiltration system. This infrastructure will capture runoff from the park and surrounding areas, totaling 51,000 square feet of drainage area. Stormwater will slowly evaporate and/or infiltrate underground, eliminating excess drainage to the sewer system and improving the overall stormwater management and drainage in this area.

A secondary goal of this project is to enhance McKinley Park by increasing green space and improving the basketball court. An existing paved area formerly used as a tennis court will be completely removed and replaced with open green space. Additionally, the current half-court basketball facility will be removed and replaced with a full court porous pavement basketball court in partnership with the Jim and Juli Boeheim Foundation's Courts4Kids Program. This will be the fifth porous pavement basketball court project constructed in partnership with the Foundation since 2011. When complete, it is estimated that 945,000 gallons of stormwater runoff per year will be removed from the CSO 067 combined sewer.

Example of a Courts4Kids Porous Pavement Basketball Court (Skiddy Park)

Rendering of Bioretention Area Along W. Newell Street

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FACT SHEET
Green Separation in CSO 052: South & Mitchell Avenues

Project:	Green Separation in CSO 052
Project Owner:	City of Syracuse
Project Location:	2426 South Avenue and Mitchell Ave. between South Ave. & Armstrong Pl.
Sewershed:	Midland
CSO:	052
GI Technologies:	Detention/Slow Release, Infiltration, and Storm Sewer Separation
Capture Area:	1,031,100 sq. ft.
Runoff Reduction:	3,781,200 gal/yr
Year Contracted:	2016
Bid Cost:	$1,840,000
Prime Contractor:	Marcellus Construction Co., Inc.

Project Description: The Green Separation of CSO 052 Project will be accomplished through the collaborative efforts of Onondaga County and the City of Syracuse. Historically, the area around the proposed detention basin has been prone to severe flooding throughout the year. This is due, in part, to years of illegal dumping that impacted the natural surface and groundwater flow patterns. The County and the City have partnered to help limit this problem through the installation of a slow-release stormwater detention basin and infiltration. Additionally, the County undertook a storm sewer separation project on Mitchell Avenue to separate stormwater from the existing combined sewer system.

The primary goal of the project is to reduce the volume of stormwater that flows into the combined sewer system along South, Cornell, and Mitchell avenues, all within CSO 052. The secondary goal is to reduce the level of flooding experienced in this area. The new detention/slow release facility is currently under construction on property owned by the City of Syracuse and will capture runoff from South and Cornell Avenues as well as from the City's property, totaling 890,400 square feet of drainage area. The facility has storage capacity for 1,155,700 gallons of stormwater. Stormwater will be slowly released to the Armstrong Place combined sewer system over time. It is expected that the detention/slow release facility will improve the stormwater management and drainage in this area and lessen the effects of flooding onto residential properties that adjoin the City-owned property.

Additionally, runoff from 140,700 square feet of drainage area along Mitchell Avenue is collected in a new storm sewer system and directed to an underground stormwater infiltration basin with a runoff reduction volume of approximately 1,241,900 gallons per year. Construction of the Mitchell Avenue storm sewer system began in August 2016 and was completed in September 2016. The western detention/slow release basin off of South Avenue was also constructed in 2016, with expected completion of the eastern basin and project the project as a whole in 2017.

Mitchell Ave Underground Infiltration

South Ave Basin construction

FACT SHEET
Green Street Candidates in CSO 052 Sewershed

Project:	CSO 052 Green Streets
Project Owner:	City of Syracuse
Project Location:	Elmhurst, South, Robineau, Fairfield, Fletcher, Edgewood, and Hutchinson avenues and Charmouth Drive
Sewershed:	CSO-052
Technology:	Infiltration Trench, Bioretention
Runoff Reduction:	7,486,000 gal/yr (total)
Year Contracted:	TBD
Project Cost:	$1,200,000 (engineer's estimate)
Bid Date:	TBD
Prime Contractor:	TBD

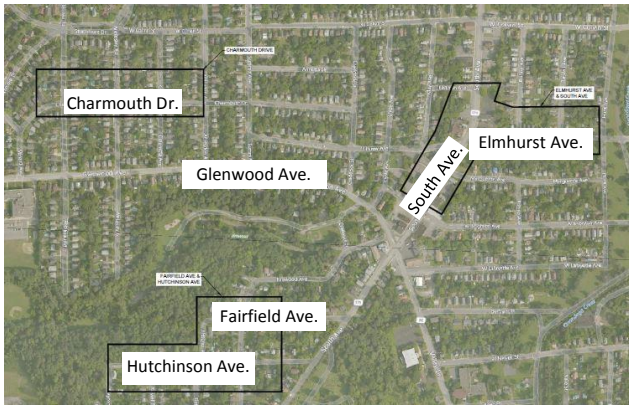
Project Description: The CSO 052 Green Streets Project is another example of the Save the Rain Program targeting a specific area for green infrastructure implementation. This application, within the CSO 052 sewershed, is intended to reduce pollution to Onondaga Creek and Onondaga Lake. The project will be located on eight streets within the City: Elmhurst Avenue, South Avenue, Robineau Avenue, Charmouth Drive, Fairfield Avenue, Fletcher Avenue, Edgewood Avenue, and Hutchinson Avenue.

The project will use three different types of green infrastructure practices: underground infiltration trenches, bioretention, and tree plantings. These green infrastructure practices will provide water quality improvement through infiltration and provide detention storage, thereby reducing overflows. In total, the project consists of 23 underground infiltration trenches, 1 bioretention area and 5 new tree plantings. The underground infiltration trenches provide a very high capture volume without requiring an obtrusive footprint at the surface, maximizing cost efficiency.

The project, upon completion, will capture runoff from approximately 9.75 acres of impervious area, reducing stormwater runoff to the combined sewer by approximately 7.1 million gallons annually. The project areas include:

- Charmouth Drive from Robineau Road to Arlington Avenue – 6 underground infiltration trenches; annual stormwater runoff capture: 1,796,000 gallons
- Fairfield Avenue from Fletcher to South avenues – 1 underground trench, 1 bioretention area; annual stormwater runoff capture: 696,000 gallons
- Hutchinson Avenue from Clayton to South avenues and Fletcher and Edgewood avenues from Hutchinson to Fairfield avenues – 7 underground infiltration trenches; annual stormwater runoff capture: 2,414,000 gallons
- South Avenue from W. Brighton to Eastman avenues – 4 underground infiltration trenches; annual runoff capture: 938,000
- Elmhurst Avenue from Bishop Avenue to Hunt and Randall avenues 4 underground infiltration trenches; annual runoff capture: 1,642,000

Typical Underground Infiltration Trench



Project Locations

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FACT SHEET
Green Street: Newell Street

Project:	Newell Street
Project Owner:	City of Syracuse
Project Location:	Newell Street between Vale and Onondaga Creek Blvd.
Sewershed:	Midland
CSO:	067
GI Technologies:	Underground Infiltration
Capture Area:	5,182 sq. ft.
Runoff Reduction:	91,492 gal/yr
Year Contracted:	2017 (anticipated)
Construction cost:	$ 44,821 (engineer estimate)
Prime Contractor:	TBD

Project Description: The Newell Street Green Street Project demonstrates the continued partnership between Onondaga County and the City of Syracuse through the Save the Rain Program. The project concept was put forth by the Green Project Committee with stakeholder input from county, city, and citizen representatives.

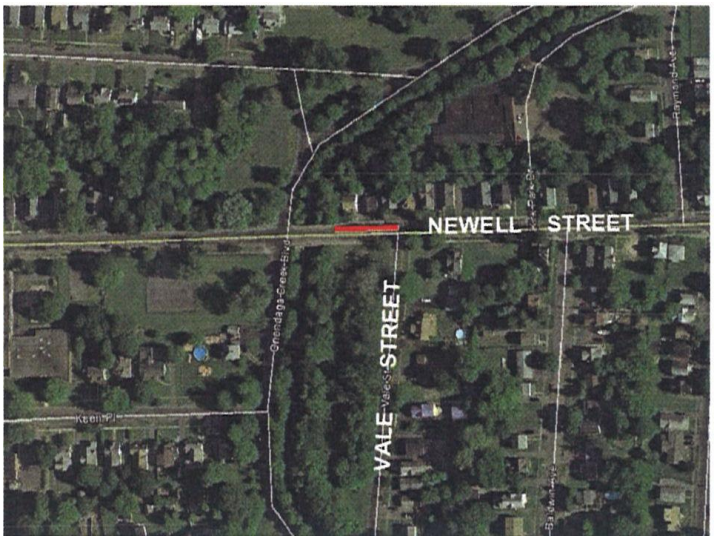
This project involves the construction of an underground infiltration trench which will occupy the north side of Newell Street between the Onondaga Creek Bridge and Vale Street.

The infiltration trench will manage stormwater runoff from an estimated 5,182 square feet of drainage area from Newell Street in the maximum amount of storage space possible without disrupting the existing underground utilities in this area.

Being completely underground, the infiltration trench system will provide high capture efficiency without requiring an obtrusive footprint at the surface.

Upon completion, this green street project will capture nearly 92,000 gallons of stormwater runoff annually.

Photo of the Project Area before Construction at Newell Street, Looking West



Map of the Green Street Project Area

Version 03/20/2016

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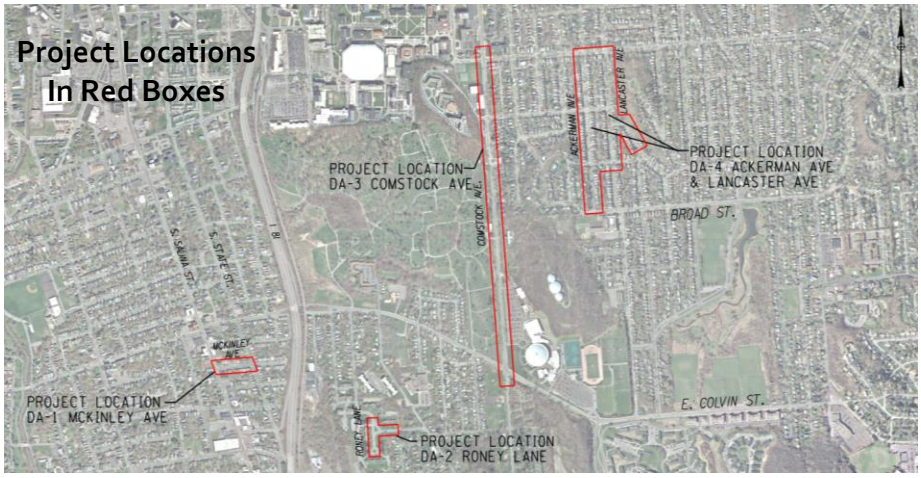
FACT SHEET
Green Streets in CSO 060/077 Sewershed

Project:	Green Streets in CSO 060/077
Property Owner:	City of Syracuse
GI Technologies:	Bioretention, Bioswales, Infiltration Trenches
Project Locations:	McKinley Ave. between S. Salina St. and S. State St. Roney Ln. at Smith Ln. Comstock Ave. between E. Colvin St. and Euclid Ave. Ackerman Ave between Euclid and Kensington Rd Lancaster Ave. between Euclid and Kensington Rd
Sewershed:	Midland
CSO:	060/077
Capture Area:	2,044,114 sq. ft. (total, all areas)
Runoff Reduction:	12,850,000 gal/year (total)
Bid Price:	TBD
Year Contracted:	Estimated 2017/2018
Contractors:	D.E. Tarolli and J&J Landscaping

Project Description: The Green Streets in CSO 060/077 Sewershed projects are comprehensive green street applications located on multiple streets within the CSO 060/077 sewershed. CSO 060/077 is a high priority sewershed that discharges frequently during rain events. The candidate streets are listed below with capture area and runoff reduction estimates:

- McKinley Avenue (Spring 2017)
  Capture Area: 123,709 sq. ft.
  Runoff Reduction: 1,370,000 gal/yr
- Lancaster Avenue (Spring 2017)
  Capture Area: 560,489 sq. ft.
  Runoff Reduction: 3,290,000 gal/yr
- Ackerman Avenue (Summer 2017)
  Capture Area: 387,245 sq. ft.
  Runoff Reduction: 3,450,000 gal/yr
- Roney Lane (Summer 2017)
  Capture Area: 121,303 sq. ft.
  Runoff Reduction: 1,190,000 gal/yr
- Comstock Avenue (Spring 2018)
  Capture Area: 807,144 sq. ft.
  Runoff Reduction: 3,550,000 gal/yr



In 2017-2018, each street identified above will proceed to construction. Each design is intended to demonstrate green infrastructure applications at key points along these streets in order to capture stormwater and enhance local urban streetscapes.

The project is proposed to incorporate street tree plantings in the right-of-way, the installation of infiltration trenches underneath the roadway, tree planters, and rain gardens and bioretention areas throughout the project boundaries.

Example Infiltration Trench

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FACT SHEET
Vacant Lot at 621 W. Newell Street

Project:	Vacant Lot at 621 W. Newell St.
Project Owner:	City of Syracuse
Project Location:	621 West Newell Street
Sewershed:	Midland
CSO:	067
GI Technology:	Bioretention
Capture Area:	20,593 sq. ft.
Runoff Reduction:	159,065.1 gal/yr
Year Contracted:	2017
Price:	$70,270 (estimated)
Contractor:	D.E. Tarolli, Inc J&J Landscaping, LLC

Project Description: This project will be one of two Save the Rain projects on West Newell Street. Previously, the 621 West Newell Street vacant lot was taken into ownership by the City of Syracuse in the year 2000. The lot has remained vacant since then and the site contains soil ideal for infiltration practices. A unique facet of this project is that the site is located approximately three hundred feet from Onondaga Creek and just down the road (approximately three and a half blocks) from McKinley Park, where another Save the Rain project will be constructed.

The green infrastructure technology included with this project is a bioretention basin. The bioretention basin is located between the sidewalk and existing tree line on the vacant lot parcel and is designed to capture stormwater from West Newell Street via existing drainage structures. The drainage area extends on West Newell Street from Vale Street to Baldwin Avenue. The bioretention area will be planted with native vegetation and it will serve as a form of community improvement.

In total, the bioretention basin will capture approximately 159,065 gallons of stormwater annually. Upon completion of the project in 2017, all runoff from this one block stretch of road on West Newell Street will be drained into a green infrastructure practice, instead of the combined sewer system.

Existing Conditions at the Vacant Lot at 621 West Newell Street

Rendering of the Proposed Green Infrastructure at the Vacant Lot at 621 West Newell Street

GREEN IMPROVEMENT FUND

Green Improvement Fund (GIF) Projects Update

The first quarter of 2017 saw the progression of several GIF projects from the technical review phase into the contracting phase. Three of the seven applications submitted prior to the December 16, 2016 deadline were reviewed by the County and progressed into the award and contract phases in the first quarter. The remaining 4 are expected to proceed to the committee review and award phase in the second quarter.

Several previously contracted projects are anticipated to proceed to construction in 2017. It is also anticipated that the 2017 GIF program application period will be open for the season during the second quarter.

Green Improvement Fund Summary (as of 3/31/16)

Projects Completed	88
Contract/Implementation Phase	24
Projects in Award Phase	2
Applications Under Review	4
Inactive/Ineligible	44
Total Applications Received	**162**

METRO WWTP PHOSPHORUS PROJECTS/TMDL/AMBIENT MONITORING PROGRAM UPDATE

ACJ Quarterly Status Report – 1st Quarter 2017

Metro WWTP Phosphorus Optimization Project

This project is currently in the design phase by GHD Consulting Engineers. The final design has been completed and submitted for regulatory review. Project construction is expected to begin this year and be completed in 2019.

Ambient Monitoring Program (AMP)

Water Quality Classification and Designated Best Use

The Onondaga Lake watershed encompasses approximately 285 square miles (740 km^2), almost entirely within Onondaga County, including six natural sub-basins: Onondaga Creek, Ninemile Creek, Ley Creek, Harbor Brook, Bloody Brook, and Sawmill Creek (refer to Figure 1). Tributary 5A and the East Flume direct runoff and industrial discharges into the lake. Onondaga Lake and its tributaries are classified as Class B and Class C waters. The best uses of Class B waters are for primary and secondary water contact recreation and fishing (New York Codes, Rules and Regulations (NYCRR) Part 701.7). Primary water contact recreation includes activities that immerse the body in the water, such as swimming; secondary water contact recreation includes activities without full immersion, such as boating. In addition, Class B waters shall be suitable for fish, shellfish, and wildlife propagation and survival (NYCRR Part 701.7). The best usage of Class C waters is fishing. These waters shall also be suitable for fish, shellfish and wildlife propagation and survival. Class C waters shall be suitable for primary and secondary water contact recreation, although other factors may limit the use for these purposes (NYCRR Part 701.8).

Several segments of Onondaga Lake's tributary streams are included in the 2014 NYSDEC compendium of impaired waters (http://www.dec.ny.gov/chemical/31290.html). NYSDEC places waterbodies on this list when there is evidence that water quality conditions do not meet applicable water quality standards and/or the water bodies do not support their designated use. The regulatory goal of the ACJ is to bring segments of the Onondaga Lake tributaries affected by Onondaga County's municipal discharges into compliance with designated best uses pursuant to 6 NYCRR (New York Code, Rules and Regulations) Parts 701 and 703.

As outlined in the ACJ, specific NYS water quality standards and guidance values that will be used to assess the extent to which these actions are successful include the following:

- Dissolved Oxygen: 6NYCRR Sec. 703.3
- Ammonia: 6 NYCRR Sec. 703.5
- Phosphorus: 6 NYCRR Sec. 703.2
- Nitrogen: 6 NYCRR Sec. 703.2
- Bacteria: 6 NYCRR Sec. 703.4
- Floatable Solids: 6 NYCRR Sec. 703.2
- Turbidity: 6 NYCRR Sec. 703.2

In addition to these parameters, compliance with the Water Quality Standards & Guidelines (NYSDEC Technical Operational Guidance Series 1.1.1) is also evaluated for the CSO affected tributaries.
The County's AMP tributary sampling program includes sites upstream and downstream of CSOs and urban segments of the sub-watersheds at the following stations:

- Harbor Brook (at Hiawatha Boulevard and Velasko Road)
- Ley Creek (at Park Street)
- Onondaga Creek (at Kirkpatrick Street and Dorwin Avenue)

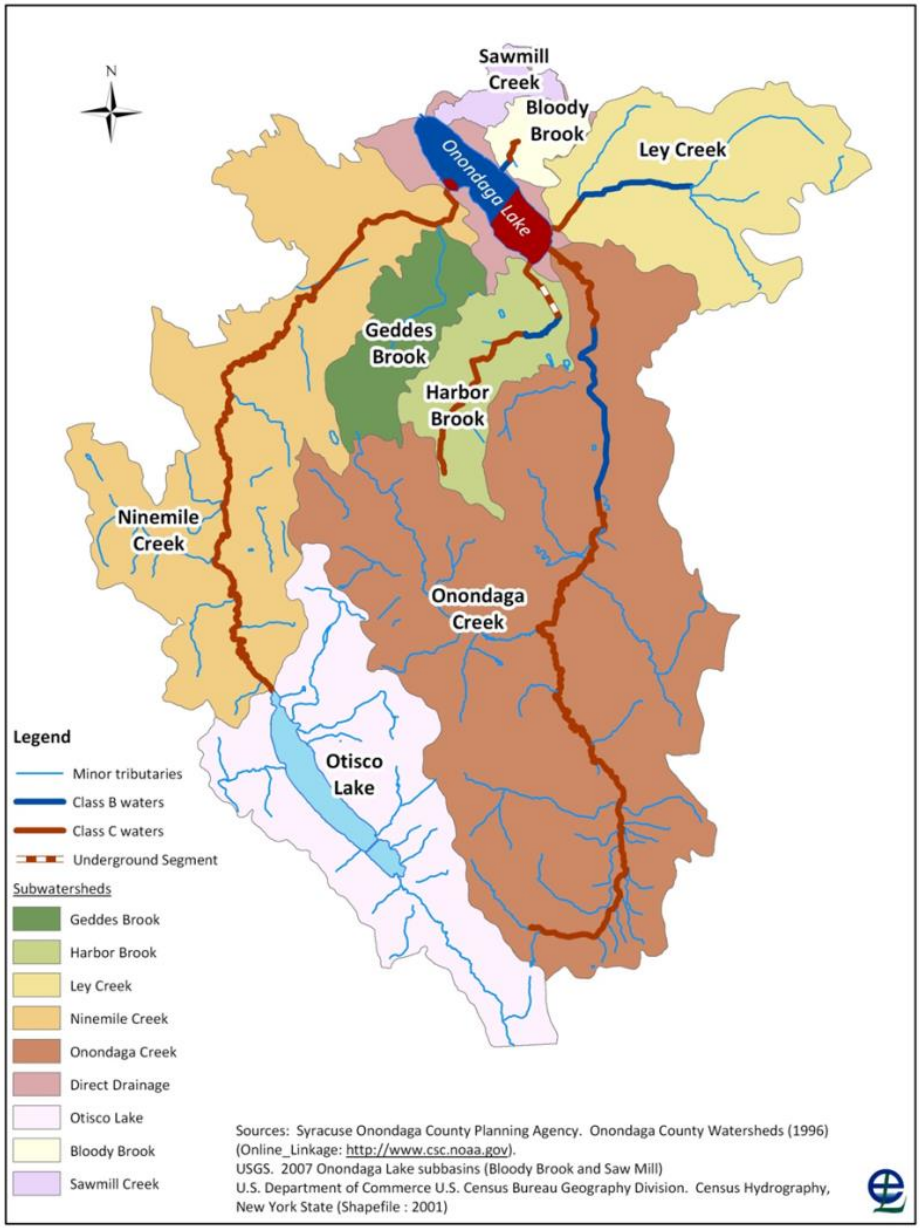


Figure 1: Tributary and Lake regulatory classifications (6NYCRR) and subwatershed boundaries

Section §703.4 of the NYSDEC Water Quality Regulations provides the total and fecal coliform standards for classes B, C, D, SB, SC and I to be met during all periods: (1) when disinfection is required for SPDES permitted discharges directly into, or affecting the best usage of, the water; or (2) when the department determines it necessary to protect human health. As part of the 2016 Annual AMP, the CSO tributaries continued to be sampled on a biweekly basis from January through December, supplemented by sampling conducted during runoff events. Fecal coliform samples are collected five times per month at each of the AMP Tributary sampling sites to support compliance evaluations, which are limited to the April through October disinfection period as specified in the Metro SPDES permit requirements. The

2016 tributary data indicate that the CSO tributaries were generally in compliance with the ambient water quality standards (AWQS) for most parameters. The primary exceptions in meeting AWQS in these tributaries were fecal coliform (FC) bacteria and total dissolved solids (TDS). The concentration of TDS, primarily reflects the concentrations of the major cations and anions (calcium, sodium, magnesium, bicarbonate, potassium, chloride and sulfate). The AWQS for TDS (500 mg/L) is routinely contravened at all of the AMP tributary monitoring sites, and often by a wide margin. Contravention of this standard is primarily associated with the natural hydrogeology of the watershed and not with anthropogenic effects.

Several parameters have narrative standards only including Phosphorus, Nitrogen, Floatables and Turbidity. The AMP data supports the evaluation of water quality conditions and compliance with New York State ambient water quality standards (AWQS). A Proposed Final NYS 2016 Section 303(d) List, dated September 2016 was submitted to USEPA in October for review and approval.

2016 Tributary Fecal Coliform Compliance Assessment

Compliance with the AWQS for fecal coliform bacteria is specified by NYSDEC as the geometric mean of a minimum of five observations per month being less than or equal to 200 colony forming units (cfu) per 100 milliliters (mL). The abundance of fecal coliform bacteria in the tributaries during wet weather is affected by stormwater runoff and functioning of the combined sewer system. CSO remedial measures and improved stormwater management measures are underway. Table 1 summarizes the 2016 fecal coliform compliance with the AWQS for the CSO and non-CSO affected tributaries. Onondaga Creek sampling results indicate non-compliance at in-stream sampling locations upstream of CSO discharges (29%). Results for the non-CSO tributaries indicate other potential contributing sources of fecal coliform including failing septic systems, domestic and wild animal waste, and storm water runoff.

Table 1: 2016 Tributary Fecal Coliform Compliance Summary

Sampling Location	Percentage of months in compliance with the fecal coliform bacteria
Onondaga Creek at Dorwin Avenue	29%
Onondaga Creek at Kirkpatrick Street	14%
Harbor Brook at Hiawatha Boulevard	0%
Ley Creek at Park Street	14%
Ninemile Creek at Route 48	57%
Bloody Brook	29%
Sawmill Creek	57%

Tributary Water Quality Compliance Status

The County's obligation for the ACJ Fourth Stipulation is to achieve compliance with the CSO Stage IV Compliance Schedule for volume limitation. This schedule requires capture for treatment or elimination, within the meaning of EPA's National CSO Control Policy, of no less than 95.0 percent by volume, on a system-wide annual average basis, of the combined sewage generated during precipitation events. The annual capture percentage under 2016 system conditions exceeds the 95.0 percent final capture milestone mandated for 2018. The second key metric of success for infrastructure improvements, as specified in the ACJ Fourth Stipulation, is compliance with water quality standards in the CSO impacted

tributaries for one full year. In light of the upcoming final compliance deadline for the Fourth Stipulation of the ACJ of December 31, 2018, the County has begun to plan out the path forward to meet the requirements of the ACJ and to implement additional CSO control and water quality improvement measures after the ACJ.

On January 25, 2017, a Water Quality Compliance Conference was convened by Atlantic States Legal Foundation (ASLF) in response to the following directive in Appendix I of the ACJ Fourth Stipulation. *"ASLF will assist the County in organizing and convening a conference of experts focusing on water quality assessment and compliance pursuant to the National CSO Policy 59 F.R. 16888, (1994) with the goal of developing scientific and policy recommendations with respect to compliance oriented water quality monitoring, and the formulation of wet weather standards that take into consideration both CSO and non-CSO related conditions, including structural and safety related use constraints."*

The conference was attended by staff from the USEPA Headquarters, NYSDEC Central and Regional offices, ASLF, Onondaga County and members of the County's Onondaga Lake Technical Advisory Committee. The conference provided an opportunity for attendees to learn about progress in other CSO communities and their strategies for managing their CSOs for achieving future compliance with AWQS for bacteria. The challenge of meeting AWQS in urban streams is recognized by CSO communities within New York State and across the country, and Onondaga County is not unique in this regard. It is clear that meeting the goals of the Clean Water Act (CWA) and achieving compliance with bacteria standards in urban streams will remain a national water quality challenge into the foreseeable future.

Tributary Bacteria Compliance Summary (First Quarter 2017)

Fecal Coliform compliance was not assessed for the months of November 2016 - January 2017. As per the AMP 2016 Work Plan, five (5) Fecal Coliform samples per month at the AMP Tributary sampling sites are limited during the April to October disinfection period.

Tributary Sampling Event Summary (First Quarter 2017)

January 2017:

- Tributary Biweekly sampling events: January 12 and 24

February 2017:

- Tributary Biweekly sampling events February 7 and 22

March 2017:

- Tributary Biweekly sampling events: March 21
- Tributary Quarterly sampling event: March 8

Onondaga LAKE WATER QUALITY MONITORING

Onondaga Lake Quarterly Sampling Event Summary

No lake sampling events were conducted during the winter months from January through March 2017. The AMP has been tracking the development and extent of ice cover on Onondaga Lake since the winter of 1987 (refer to Figure 2). Observations for the winter of 2016-2017 indicate ice cover was first observed on December 16, 2016, and last observed on March 23, 2017. Syracuse had a warmer than normal winter. Routine lake sampling will resume in April.

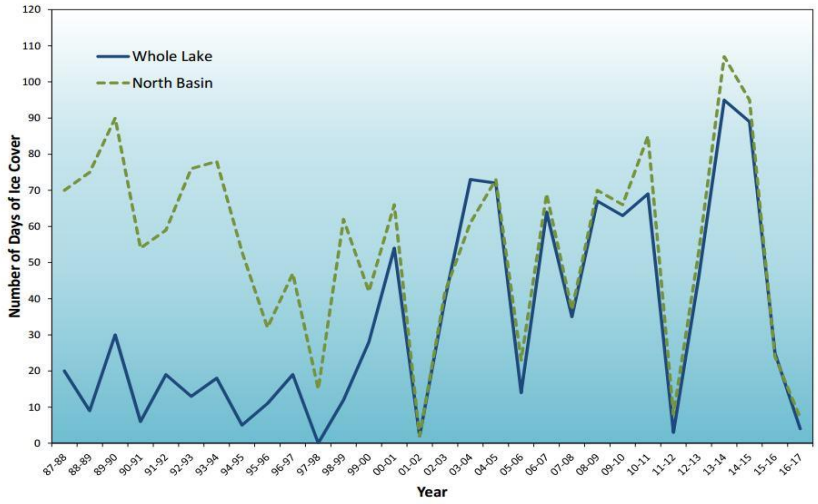


Figure 2: Approximate Number of Days of Full Ice Cover on Onondaga Lake (Whole Lake and North Basin) 1987-2017

BIOLOGICAL MONITORING PROGRAM (January - March 2017)

Sampling Summary (January)

- Started larval fish identification.
- Started age and growth analysis.

Sampling Summary (Feburary)

- Completed larval fish identification.
- Started age and growth analysis
- Started biological database QA/QC

Sampling Summary (March)

- Continued biological database QA/QC.
- Continued age and growth analysis.

Age and Growth of Fish

The scales and other bony parts of fish contain a record of seasonal growth patterns. This is because fish grow faster in the summer than in winter, due to higher temperatures and increased food consumption. Patterns in the scales reflect this change: summer zones are wide, and winter zones are narrow (Figure 3). Fish age, in years, can therefore be determined by counting the number of paired summer/winter growth zones. One pair of such zones is called an annulus (plural, annuli). Thus, the process of ageing fish is similar to finding the age of a tree by counting rings in the wood.

Figure 3: Largemouth Bass Scale from Onondaga Lake.

Once the ages are known for a sample of fish, biologist can measure the rates of various processes affecting these fish. For instance, data on fish size can be combined with age information to provide growth rates (Figure 4). Also, the decrease in abundance from one year (age) to the next gives a measure of mortality rates (due to the combination of fishing and natural causes) (Figure 5). Additionally, age data can be used to determine how long it takes individuals of a species to mature. Together this information can be used to detect changes in growth patterns in response to lake and watershed improvements as in the case for Onondaga Lake.

Figure 4: Average length at age for Largemouth Bass in Onondaga Lake compared to the New York State average.

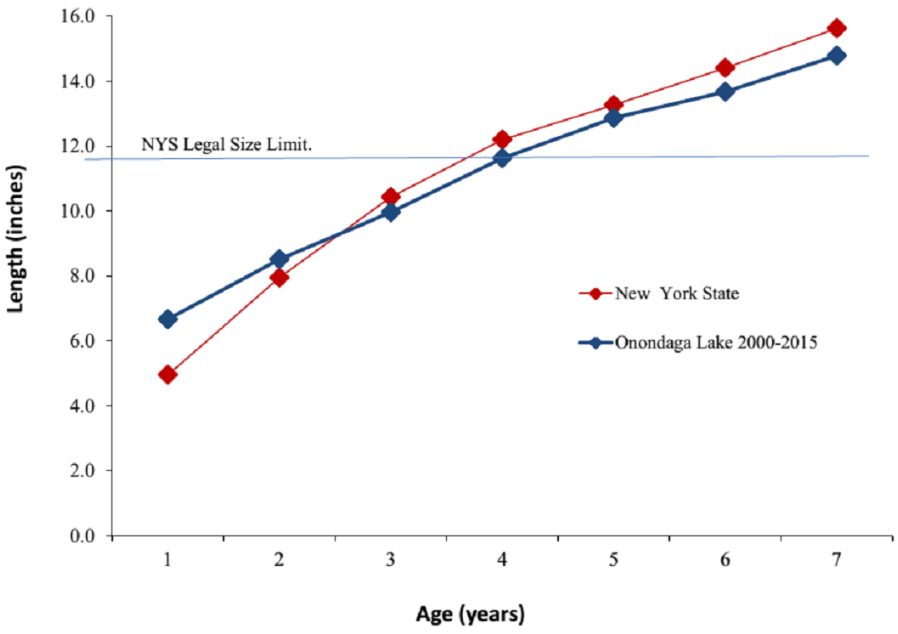
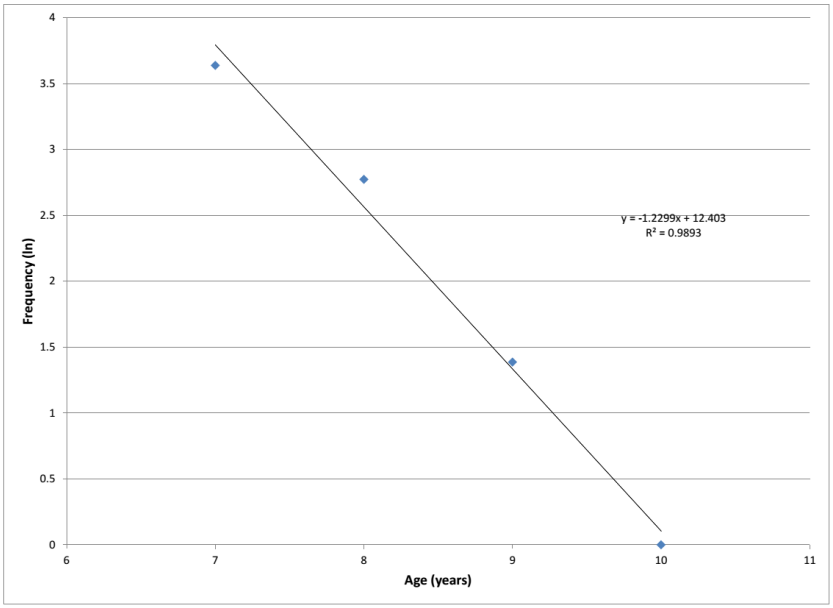


Figure 5: Catch Curve for Largemouth Bass, Onondaga Lake 2015.



LEGISLATIVE/REGULATORY/ MEDIA UPDATE

Legislative/Regulatory Update

Action Items for the County Legislature (January – March)

- Approving the Increased Cost of Proposed Improvements for the Baldwinsville Wastewater Treatment Plant.

- Bond Resolution Authorizing the Issuance of an Additional $1.8 million Serial Bonds to pay the Increased Cost of Certain Improvements for the Baldwinsville Wastewater Treatment Plant.

- Approving the Increased Cost of Proposed Improvements for the Metropolitan Syracuse Wastewater Treatment Plant (Phosphorus Optimization Project).

- Bond Resolution Authorizing the Issuance of an Additional $21.355 million Serial Bonds to pay the Increased Cost of Certain Improvements for the Metropolitan Syracuse Wastewater Treatment Plant. (Phosphorus Optimization Project).

- Approving Proposed Improvements for the Meadowbrook Limestone Wastewater Treatment Plant Disinfection and Collection Systems.

- Bond Resolution Authorizing the Issuance of $11.725 Serial Bonds to pay the Cost of Improvements for the Meadowbrook Limestone Wastewater Treatment Plant Disinfection and Collection Systems.

- Approving Proposed Improvements Consisting of Engineering Design for the Oak Orchard Wastewater Treatment Plant Secondary Clarifier Rehabilitation Project.

- Bond Resolution Authorizing the Issuance of $950,000 Serial Bonds to Pay the Cost of Proposed Improvements Consisting of Engineering Design for the Oak Orchard Wastewater Treatment Plant Secondary Clarifier Rehabilitation Project.

- Approving Proposed Improvements for the Phase I Camillus Force Main Replacement Project.

- Bond Resolution Authorizing the Issuance of $2 million Serial Bonds to Pay the Cost of Proposed Improvements for the Phase I Camillus Force Main Replacement Project.

Action Items for the Environmental Protection Committee (March)

- Calling a Public Hearing in Connection with the Proposed Adoption of an Amended Schedule of Sewer Rents.

Summary

There have been no paid efforts in Q1 2017 due to seasonality of our campaign.

The SavetheRain.us website has still seen great traffic this quarter: 4,000+ sessions with an average of 3+ pages per session.

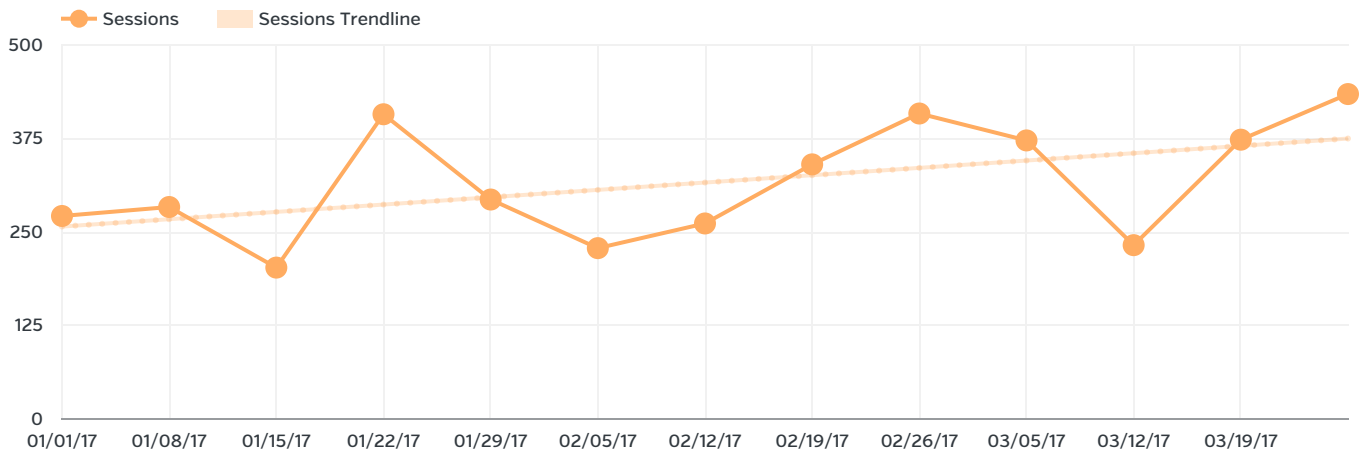
The Facebook page has increased to 2,375 page likes.

The Connect the Drops campaign will relaunch with paid media tactics in April 2017.

Google Analytics - Summary

01/01/2017 - 03/31/2017

OVERVIEW
SESSIONS



ALL TRAFFIC
SESSIONS

4,104

ALL REFERRALS
SESSIONS

697

GOALS
GOAL COMPLETIONS

19

TOP TRAFFIC
ALL USERS

CHANNELS	SESSIONS	NEW USERS	BOUNCE RATE	PAGES / SESSION	AVG. SESSION DURATION
Direct	1,824 (44.44%)	1,644 (51.25%)	71.71%	3.24	1:46
Organic Search	1,580 (38.50%)	1,119 (34.88%)	57.97%	2.90	2:44
Referral	628 (15.30%)	389 (12.13%)	44.43%	3.16	2:45
Social	69 (1.68%)	55 (1.71%)	73.91%	2.00	0:56
(Other)	3 (0.07%)	1 (0.03%)	33.33%	1.67	0:42

TOP SOCIAL NETWORK REFERRALS
ALL USERS

SOCIAL NETWORK	SESSIONS	PAGE VIEWS	AVG. SESSION DURATION	PAGES / SESSION	GOAL CONVERSION RATE
Facebook	29 (42.03%)	84 (60.87%)	1:56	2.90	0.00%
Pinterest	28 (40.58%)	30 (21.74%)	0:03	1.07	0.00%

SOCIAL NETWORK	SESSIONS	PAGE VIEWS	AVG. SESSION DURATION	PAGES / SESSION	GOAL CONVERSION RATE
Twitter	7 (10.14%)	19 (13.77%)	1:02	2.71	0.00%
LinkedIn	3 (4.35%)	3 (2.17%)	0:00	1.00	0.00%
AmericanTowns	1 (1.45%)	1 (0.72%)	0:00	1.00	0.00%
Weebly	1 (1.45%)	1 (0.72%)	0:00	1.00	0.00%

TOP EVENTS
SESSIONS

EVENT CATEGORY	TOTAL EVENTS	UNIQUE EVENTS	EVENT VALUE	AVG. VALUE
Scroll Depth	253 (74.85%)	100 (60.98%)	0 (0.00%)	0.00
Connect the Drops -ScrollTo Nav	28 (8.28%)	14 (8.54%)	0 (0.00%)	0.00
Connect the Drops -Offpage Link	18 (5.33%)	17 (10.37%)	0 (0.00%)	0.00
External Link	15 (4.44%)	14 (8.54%)	0 (0.00%)	0.00
Connect the Drops - IntroButton	11 (3.25%)	10 (6.10%)	0 (0.00%)	0.00
Non-Linked Click Attempt	6 (1.78%)	3 (1.83%)	0 (0.00%)	0.00
Copied Text	4 (1.18%)	3 (1.83%)	0 (0.00%)	0.00
Print	2 (0.59%)	2 (1.22%)	0 (0.00%)	0.00
Connect the Drops - Logo	1 (0.30%)	1 (0.61%)	0 (0.00%)	0.00

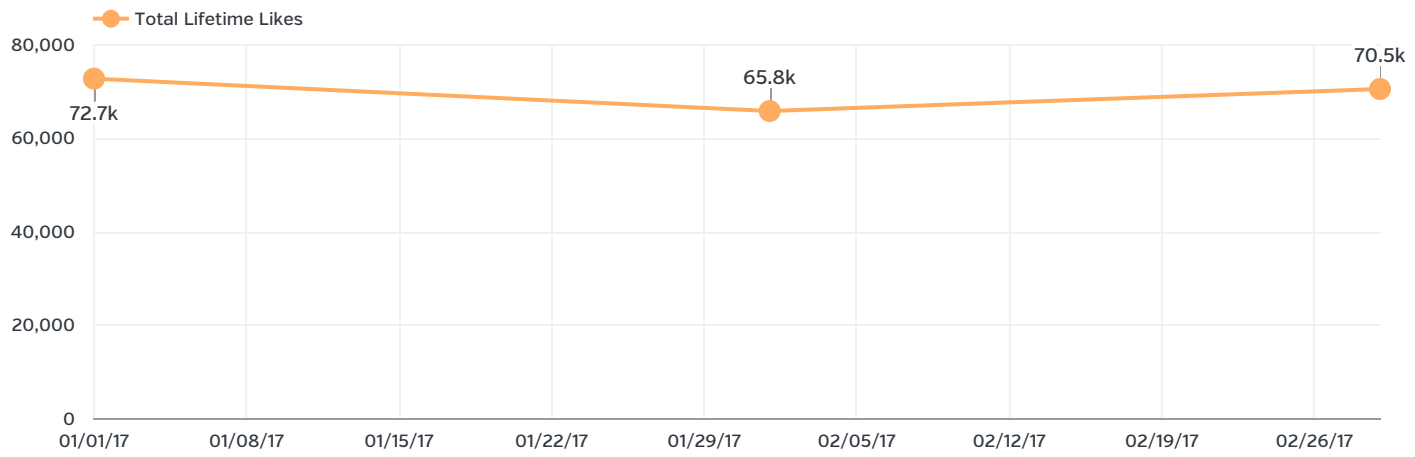
TOP CAMPAIGNS
SESSIONS

SOURCE / MEDIUM	SESSIONS	NEW USERS	BOUNCE RATE	PAGES / SESSION	AVG. SESSION DURATION
(direct) / (none)	1,824 (44.44%)	1,644 (51.25%)	71.71%	3.24	1:46
google / organic	1,394 (33.97%)	970 (30.24%)	56.81%	2.97	2:52
ongov.net / referral	500 (12.18%)	289 (9.01%)	42.60%	3.19	2:47
bing / organic	106 (2.58%)	80 (2.49%)	58.49%	2.86	2:29
yahoo / organic	69 (1.68%)	64 (2.00%)	76.81%	1.74	0:40
pinterest.com / referral	27 (0.66%)	26 (0.81%)	92.59%	1.07	0:03
facebook.com / referral	12 (0.29%)	5 (0.16%)	33.33%	4.50	4:03
stormwater.wef.org /referral	12 (0.29%)	10 (0.31%)	25.00%	5.25	9:26
m.facebook.com / referral	11 (0.27%)	11 (0.34%)	54.55%	2.18	0:40
oei2.org / referral	10 (0.24%)	5 (0.16%)	40.00%	2.50	0:33

Facebook - Summary

01/01/2017 - 03/31/2017

LIKES
ONONDAGA COUNTY SAVE THE RAIN



LIMITED TO A 90-DAY PERIOD

WEEKLY TOTAL REACH
ONONDAGA COUNTY SAVE THE RAIN

620

LIMITED TO A 90-DAY PERIOD

LIKES
ONONDAGA COUNTY SAVE THE RAIN

2,353

LIMITED TO A 90-DAY PERIOD

LIKE SOURCES
ONONDAGA COUNTY SAVE THE RAIN

LIKE SOURCES	LIKES
Page Profile	14
Search	5
Timeline Like Chaining	3
Feed Chaining	1
Favorites	1
Feed Pyml	1
Page Browser	1
External Connect	1
Feed Story	1
Hovercard	1

PAGE POSTS
ONONDAGA COUNTY SAVE THE RAIN

DATE	POST	LIKES	COMMENTS	REACH
2017-03-27 19:09:30	Thanks to everyone who came out for the community...	2	--	142
2017-03-23 12:00:00	Join Save the Rain at 6 PM on Monday, March 27,...	4	1	539
2017-03-19 17:15:29	Our final #rainbarrel raffle winner for the week...	--	--	1,221
2017-03-19 10:30:29	It's the final day of the Central New York Home &...	5	--	1,049
2017-03-18 19:56:38	Congratulations Vicky O'Connor - tonight's free...	5	--	1,016
2017-03-17 20:29:46	Congratulations Jessica King - tonight's free...	3	--	943
2017-03-17 18:20:27	Stop by the Save the Rain booth at the Central...	10	1	1,169
2017-03-16 19:45:55	Congratulations to Gene Jones, winner of the...	3	--	213
2017-03-16 13:54:47	Save the Rain will be at the Home Builders and...	5	--	974
2017-03-09 15:14:00	The Save the Rain team is looking forward to the...	5	--	261
2017-03-02 16:37:13	Celebrating #TBT with pics of the Save the Rain...	2	--	242
2017-02-25 20:59:34	DID YOU KNOW: The Syracuse Crunch skate on frozen...	45	1	1,418
2017-02-25 20:25:40	Thanks to Syracuse Crunch for highlighting Save...	18	1	727
2017-02-14 11:51:31	Save the Rain is excited to speak to the Eastside...	3	--	218
2017-02-10 11:36:51	While the snow will melt in the spring, litter...	3	--	219
2017-02-07 09:03:29	Today at the New York Water Environment...	1	--	1,695
2017-01-30 10:42:00	When the snow melts, litter can take a trip to...	--	--	49
2017-01-27 14:45:00	You can #ReverseLitter even in the winter, pick...	--	--	50
2017-01-25 12:59:35	Ice Fishing on Onondaga Lake? Help us...	--	--	1,143
2017-01-24 19:47:10	Great turnout and excellent conversation at...	1	--	218
2017-01-23 14:09:01	Onondaga Lake may freeze over this winter, but...	3	--	1,318
2017-01-20 11:42:06	Even in winter we can all keep litter out of our...	6	--	1,376
2017-01-19 10:14:34	Join Save the Rain for a community meeting on...	1	--	1,061
2017-01-18 10:43:34	Snow isn't the only thing that drifts in winter...	1	--	1,286
2017-01-16 09:48:00	Litter doesn't hibernate in the winter. Help keep...	--	--	130
2017-01-15 10:48:15	It's never too early to start planning your...	15	--	1,360
2017-01-14 14:01:05	Syracuse is beautiful in the winter, help keep it...	8	--	890
2017-01-11 11:00:00	Even in winter, litter on our streets can be...	1	--	202
2017-01-09 09:47:02	While the snow will melt in the spring, litter...	11	--	453
2017-01-06 10:36:04	Prevent your trash from becoming litter, make...	4	--	1,491

DATE	POST	LIKES	COMMENTS	REACH
2017-01-03 14:20:29	Photo - Onondaga County Save the Rain's cover...	2	--	171
2017-01-03 14:19:40	Photo - Onondaga County Save the Rain	--	--	--

CNYCENTRAL.com

Eagles return to Onondaga Lake for the Winter

by Brett Hall

January 9, 2017

SYRACUSE, N.Y. — The symbol of America, has become the symbol of rebirth for Onondaga Lake. The Bald Eagles are back.

"The lake has gotten cleaner and that has helped them to return," said Paul Richardson, the immediate past President of the Onondaga Audubon society. "This time of year when the lakes and rivers are freezing over is an important time for the eagles to find locations to feed and find locations to rest."

CNYCentral spotted 7 bald eagles, both adult and juvenile (they don't have the white head yet), over an hours time Monday morning.

Eagles feed in the winter where they can find open water according to Richardson. The discharge from the Metropolitan Syracuse Wastewater Treatment plant keeps the water in southeast end of the lake flowing. Murphy's Island (which is the name given to the piece of land surrounded by Onondaga Lake to the west, Beartrap Creek to the north, Onondaga Creek to the south, and the CSX railroad to the east) has tall trees undisturbed by humans that make conditions ideal for eagle nesting.

Richardson will lead a hike to the Onondaga Lake shoreline Saturday January 14th. He will also head to the Syracuse Inner Harbor to look for waterfowl and wintering gulls.

The hike is open to all. Meet at 9am Saturday January 14th at the Pink lot at Destiny USA (by Hiawatha Blvd.)

CNYCENTRAL.com

Spot a bald eagle on Onondaga Lake

January 14, 2017

SYRACUSE, N.Y. -- Dozens braved the cold this Saturday and gathered at Onondaga Lake Park for the first Bald Eagle-Sighting Tour.

The guided tour was hosted by the Audubon Society and was led by Paul Richardson of the Onondaga Audubon Society.

Birdwatchers gathered at the Onondaga Creekwalk and hiked to the Onondaga Lake shoreline where wintering Bald Eagles roost.

Bald Eagles nearly went extinct 40 years ago, but thanks to conservation actions the bird is now flourishing.

The walk today was so popular that the Audubon Society has scheduled a second walk for next Saturday.

It will be on January 21st beginning at 9:00 a.m. If you would like to attend contact Paul Richardson at 315-488-5022.

Meet the Bald Eagles at Onondaga Lake in Upcoming Audubon Public Event

By Chris Bolt & Nate Bellavia
January 31, 2017

Contrary to what many Central New Yorkers might believe about Onondaga Lake's ecosystem, it has become a winter home for many Bald Eagles. An event coming up February 11th aims to explain why.

Chris Lajewski is director of the Montezuma Audubon Center.

"People here in Central New York for good reason, thought that the lake was dead. Well, we've changed the lake ecosystem. It's now such a more healthy environment for people and for birds and other wildlife, and as a result all of these wildlife are coming back, including our national bird."

Lajewski says the bald eagle suffered a severe population decline after being hunted for their plumage, having their habitats destroyed and struggling with effects of D-D-T pesticides.

Following a repopulation effort started at Montezuma about 40 years ago, Lajewski says roughly 250 pairs of bald eagles now inhabit New York State. Many can be found along the Lake Ontario shoreline, Finger Lakes region, and in Central New York. And when lakes and wetlands freeze over, Onondaga Lake is now one of the few places eagles can still find fish.

"On a typical winter day you can see perhaps two-to-three dozen bald eagles sitting in those trees behind Destiny USA, sitting out on the ice of Onondaga Lake and soaring overhead. That's something we're going to help folks experience with our upcoming event."

Lajewski believes the restoration of Onondaga Lake and its wildlife was largely because of community involvement.

“The lake would not be a cleaner, healthier environment if it wasn’t for the dedicated commitment of over 700 community members, who have helped plant native vegetation in these newly restored areas.”

A free presentation and birding walk celebrating the region’s conservation of bald eagles will be held Saturday, February 11th, from 10 A-M to noon. Those interested can R-S-V-P before February 3rd by emailing montezuma@audubon.org or calling 315-365-3588.

the Stand
south side news
www.mysouthsidestand.com
Syracuse, NY
FEBRUARY 2017 Issue 56 FREE

EMMY WINNER

South Side resident reflects on his career at CNY Central

Acting as a father to all

Teacher serves as a role model for own kids, students

urban forest

How trees benefit environment, beautify our community

Step up Moment

Bringing healthy living to homeless, those in poverty

UPDATE ON LAND BANK

ON THE SIDE

YOUTH WORKERS

The **Onondaga Earth Corps**. (OEC) is accepting applications for youth and young adult workers

Job opportunities are available for young adults ages 15 to 25 and also for supervisory positions for more experienced applicants

- Youth program is open to high schoolers
- Young adult program, for 18- to 25-year-olds out of school, starts with an unpaid professional development program offered the week before interviews for open position
- AmeriCorps Internships are also available

ADDING GREENERY

Volunteers plant trees to naturally soak up stormwater, reduce pollution

Photos by | DeArbea Walker
Urban Affairs reporter

Last Save the Rain planting of 2016 adds 100 trees to the Strathmore Neighborhood

The tree planting initiative is an important component of the Save the Rain program. Onondaga County Executive Joanie Mahoney's comprehensive stormwater management plan uses green and gray infrastructure solutions to capture stormwater and reduce pollution to Onondaga Lake and its tributaries. Some 6,000 trees have been planted to date under the Save the Rain program. — *See related story on Page 12*

ON THE SIDE

ABOUT OEC WORK

Onondaga Earth Corps. crews often work on a variety of projects, from public outreach and education development, to neighborhood demonstration projects and tree-planting programs.

Participants will be provided with basic training in environmental and community development-based work. Public presentation and creating materials, such as PowerPoints, videos, brochures, etc., are often requirements of the work, in addition to daily work outdoors in gardens and landscape settings.

HOW TO APPLY

Submit resume, cover letter and completed application

Find applications online onondagaearthcorps.org or outside the office at SUNY EOC Center 100 New St.

Next, submit all three items by email to onondagaearthcorps@gmail.com

or USPS mail

or drop off in person to the correctly labeled submission box

Onondaga Earth Corps
100 New St., Rm 239
Syracuse, NY 13202

— Submitted by OEC

ON THE SIDE

2016 REPORT

By the numbers

- *Number of trees:* 1,583,000
- *Tree canopy cover:* 27%
- *Carbon storage:* 247,000 tons ($32.8 million)
- *Carbon sequestration:* 6,856 tons/year ($912,000/year)
- *Pollution removal:* 177 tons/year ($6.5 million/year)
- *Avoided stormwater runoff:* 13,275,000 cubic feet/year ($884,000/year)
- *Avoided carbon emissions:* 753 tons ($100,000)
- *Total functional value:* $9.2 million/year
- *Structural value:* $735 million

— Source: State of the Urban Forest Report, City of Syracuse 2016

TO READ THE FULL REPORT

- Visit the New York State Urban Forestry Council at nysufc.org

BENEFITS OF TREES

Arborist explains that 'neighborhoods just look so much nicer'

By | Alex Amico
Staff reporter

County officials stress the financial, ecological and social importance of planting trees

In a new report, "State of the Urban Forest," Syracuse officials estimate the city saves nearly $1 million a year through trees absorbing rainwater runoff that would otherwise overflow the sewer system.

The report lays out several benefits that trees provide to the city, including improving the air quality and temperature of neighborhoods. That awareness has caught on among city residents, like the dozens who gathered one recent weekend in Onondaga Park, west of South Avenue, to plant trees along neighborhood sidewalks.

"Hotter neighborhoods cost more to cool," said Steve Harris, Syracuse's city arborist. "Without trees, it makes pollution worse; it's inhospitable."

The report states that on an 80-degree day, neighborhoods without trees can be as much as 12 degrees warmer than those with trees. On tree-lined streets, natural cooling can have a positive financial impact for local merchants. "It's been determined that business districts with tree-lined streets have people linger longer and spend more money," Harris said.

One of the most tangible benefits trees provide is curbing stormwater runoff. Onondaga County's Save the Rain program has reported that a single tree, through its root system, can soak up 2,000 gallons of water each year.

"Historically, we've had a lot of challenge with combined sewer overflow," said Madison Quinn, a project coordinator with Save the Rain. "When there's too much rainwater, it overflows into the lake and its tributaries," Quinn said, referring to Onondaga Lake. "Trees reduce that occurrence."

Quinn said that the county had once planned to build several water treatment facilities to help clean the lake. When County Executive Joanie Mahoney took office, however, she halted that plan in favor of creating a green infrastructure.

"This is better for the triple bottom line," Quinn said. "Environmentally, economically and socially."

The city estimates that trees soaking up stormwater runoff save close to $900,000 a year, over the cost of treatment plants. Inevitably, not all trees survive. Save the Rain combats that, Quinn said, by continuing to plant trees. To date, it has planted more than 6,000 trees.

One Saturday in November 2016, nearly 100 volunteers gathered in Onondaga Park to plant more than 100 trees in adjacent neighborhoods. Volunteers ranged in age from young children to older adults — dressed in boots, jeans and neon safety vests.

> Representatives from Save the Rain, National Grid and Onondaga Earth Corps led a tree planting last year. | DeArbea Walker, Staff Photo

"I've never planted a tree before, so I'm excited," said Becca Rock, a student at State University of New York College of Environmental Science and Forestry who heard about the event from an advertisement on campus.

Representatives from Save the Rain, National Grid and the Onondaga Earth Corps led the planting, after first demonstrating to the volunteers the best methods for tree planting. First, they hacked away the top level of sod and grass, then dug into the ground. They put in the sapling, poured the dirt back on top and stomped it down, then spread rich, black mulch around the roots with their hands.

Jim Maloney, an arborist with National Grid, led a group of volunteers into a neighborhood to start the day's planting. By noon, he and his group had worked three hours. "Most of this planting is driven by the rainwater benefits," Maloney said. "But the reciprocal value is the communities get trees."

In the neighborhood, Maloney pointed out the places where trees would be planted, which had been spray-painted on the grass. After setting up one group, he jogged across the street to help another one get ready. A truck pulled up with shovels. Maloney gave shovels to the volunteers, and they went to work.

"Neighborhoods just look so much nicer with trees," he said.

Livin’ in Liverpool: Bald eagles make lake their winter home

By Russ Tarby
February 3, 2017

Over the past decade, ornithologists have observed two to three dozen pairs of breeding bald eagles spending the winter at Onondaga Lake. The beautiful birds of prey — the symbol of our nation — are not actually “bald,” but white-headed.

Bald eagles are routinely found near large bodies of open water with an abundant food supply and old-growth trees for nesting. The bird subsists mainly on fish, which it swoops down and snatches from the water with its sharp and deadly talons.

Because the eagles have made our lake their cold-weather abode, the New York State Bald Eagle Restoration Project has declared Onondaga Lake a priority Audubon Important Bird Area.

This Saturday, Feb. 11, the Onondaga Lake Conservation Corps hosts a program from 10 a.m. to noon at Destiny USA’s sixth-floor Skydeck, called “Restoring the Bald Eagle: A 40-Year Journey.” The program will be presented by Mike Allen, a retired wildlife technician and biologist. After Allen’s talk, an Audubon naturalist will lead a birding hike along the Onondaga Creekwalk.

Founded in 1976, the state’s Bald Eagle Restoration Project was developed to reestablish the birds’ population in the Empire State. Over a 13-year period, 198 nestling bald eagles were collected from Alaska and the Midwest states, transported and then released in New York.

The project established 10 breeding pairs by 1989, which has multiplied to more than 250 pairs breeding around New York.

The Onondaga Lake Conservation Corps is an expanding organization of community volunteers who are aiding restoration projects creating or improving wildlife habitat in the Onondaga Lake watershed. To learn more about the corps, email montezuma@audubon.org or call 365-3588.

The Post-Standard
syracuse.com

Onondaga Lake photo exhibit highlights birds that have returned to shoreline

A bald eagle perches in a tree near Onondaga Lake. This photo, by Greg Craybas, is part of an exhibit, "Images of a Restored Habitat," at the Honeywell Visitors Center on the lake shore Saturday and Sunday. *(Special to Syracuse.com)*

By Glenn Coin | gcoin@syracuse.com
Follow on Twitter
on March 21, 2017 at 10:32 AM, updated March 21, 2017 at 10:34 AM

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Syracuse, N.Y. -- A wildlife photography exhibit this weekend will feature shots of birds that have returned to newly restored areas along Onondaga Lake.

"Images of a Restored Habitat" will run 9 a.m. to 4 p.m. Saturday and 1 to 4 p.m. Sunday at the Honeywell's Onondaga Lake Visitors Center, along the southwest shore in Geddes. The exhibit is free, and photographers will be available to discuss their work.

The exhibit includes photos of bald eagles, great egrets, red-tailed hawks and other bird species that have returned to the lakeshore as the cleanup continues.

Onondaga Lake was named a priority Audubon Important Bird Area in 1998 and was adopted by Honeywell, Montezuma Audubon Center, and Onondaga Audubon Society because of its value to waterfowl and bald eagles, according to a news release announcing the exhibit.

As part of the cleanup, Honeywell has restored more than 70 acres of wetlands, the release said

"The restoration of Onondaga Lake has transformed the shoreline into an unrecognizable wetland that people and wildlife have not seen before," said Greg Craybas, a local photographer with photos in the exhibit.

To get to the visitor's center, take exit 7 off I-690 and follow the signs.

Local Photographers Capture Birds Returning to Onondaga Lake

Greg Craybas dusts off the photos displayed of the birds at Onondaga Lake.

CREDIT SCOTT WILLIS / WAER NEWS

By Scott Willis & Katie Zilcosky
March 23, 2017

The latest exhibit of photos taken by local photographers of a diverse range of birds returning to Onondaga Lake is coming up this weekend. The photos were taken in recently restored and enhanced areas along the lake shoreline.

Photographer Greg Craybas of Camillus started snapping photos six years ago after he noticed bald eagles on the commute to his dental practice on University Hill.

"Driving back and forth to work you look to the left and you see that there is a lot of activity. It was an invite that I took advantage of and got down to the lake. That's where everything started."

Craybas says it takes plenty of time and patience to get just the right photo. Then there's just plain luck.

"You come down and spend time on the lake. You're surprised that something pops up right in front of you, and you've got to be ready. There are plenty of days when you come to the lake and you're photographing and you come up and you don't have anything. But you still come back."

And he has. This year, the milder winter has made it a bit more of a challenge to capture the eagle. Craybas says colder winters make them more active. But, luck was on his side as he ventured into a newly restored area and spotted one in a tree.

"You're now looking at an eagle and an eagle is looking back at you and staring at you," said Craybas. "It's a pretty intimate, up close, personal moment where it's just you and the bird. To have the national symbol of the country to be able to look at you, and you're in Syracuse, New York, it's pretty inspiring."

Chris Lajewski is center director at the Montezuma Audubon center and points to the restorations as the reason for the increase in the bird population.

"Because over 70 acre of wetlands and shorelines have been restored, these wonderful birds are starting to come back to these habitats," said Lajewski. "Over 80 species of bird are using these restored areas. Many of them are threatened with extinction still in New York State. So species that were not found here 40 or 50 years ago are now finding a home here."

He says that includes birds of prey from eagles and falcons to red tailed hawks and the northern harrier who are now seen along shorelines and in the lake's surrounding wetlands.

The photo exhibit runs Saturday from 9 to 4 and Sunday from 1 to 4 at the Honeywell visitors center off I-690 in Geddes.

Treating CSOs Naturally: Onondaga County's CSO 018 Constructed Wetlands Pilot Treatment System

Zach Monge, P.E.
Project Manager
CH2M Syracuse
February 7, 2017

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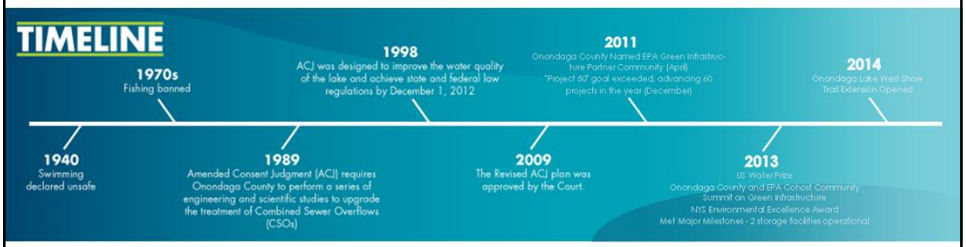
Save the Rain Program

- Onondaga County under an Amended Consent Judgment (ACJ) with the US EPA to reduce CSOs tributary to Onondaga Lake
- Program initiated by County Executive Joanie Mahoney in 2009
- Program goals are to improve the water quality of Onondaga Lake and its tributaries by 2018 by reducing CSOs via:
  - Gray Infrastructure
  - Green Infrastructure (GI) – 185+ projects, 125+ MG stormwater captured to date!



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Harbor Brook CSO 018 Constructed Treatment Wetland

- CSO treatment without significant energy costs, labor, chemical costs, mechanical equipment, etc.
- Features a grit and floatables removal system prior to wetland treatment
- Full scale pilot of three treatment wetland systems; operate in series, parallel, or series/parallel
  - Floating Wetland Islands (FWI)
  - Vertical Downflow Wetland (VDF)
  - Surface Flow Wetland (SF)
- Designed to treat CSO discharges up to the 1-year, 2-hour storm event that previously discharged without treatment

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Harbor Brook CSO 018 Constructed Treatment Wetland

Harbor Brook

CSO 018 Outfall

Compensatory Storage Area

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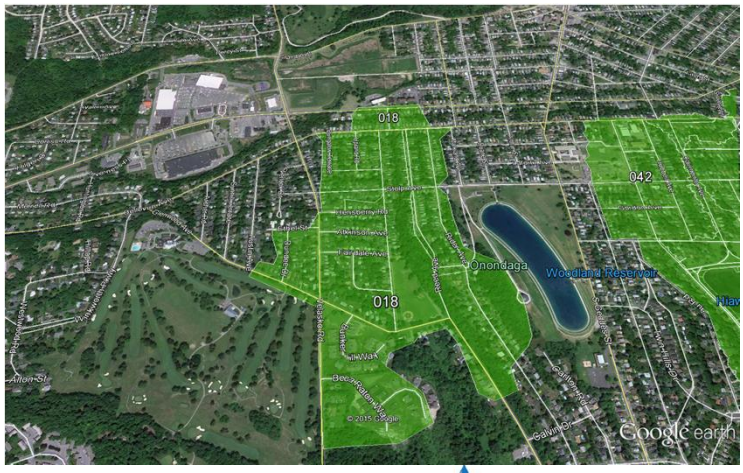
CSO 018 Drainage Area: 152 ac



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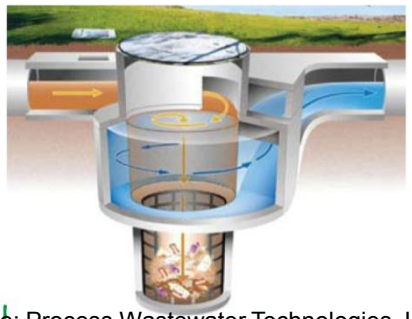
Grit and Floatables Unit

- SanSep by Process Wastewater Technologies
  - CSO flow enters separator units and "swirls," clean water exits unit, while solids larger than 1mm settle out into the bottom of the unit
    - Solids flow by gravity to storage manhole, then are released to sewer after event



Source: Process Wastewater Technologies, LLC

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Grit and Floatables Unit

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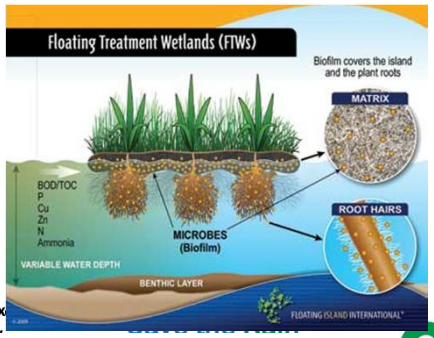
CSO 018 Wetlands – Different Wetland Types

- Floating Wetland Island
  - Similar to a surface flow wetland, however plants grow on islands
  - Free standing water present at surface
  - Treatment primarily occurs in plant root structures
  - PVC lined



Source: Reinsel, Mark (Water World Magazine)

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Cell 1: Floating Wetland Island - 2014

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Cell 1: Floating Wetland Island - 2016

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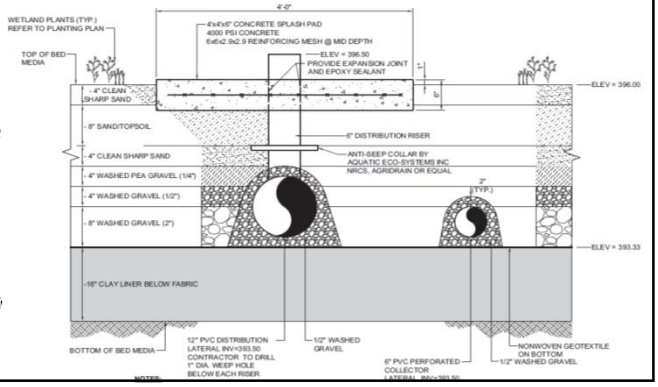
CSO 018 Wetlands – Different Wetland Types

- Vertical Downflow (Subsurface Flow) Wetland
  - Water enters system underground
  - Water is piped to the surface and flows through soil media for treatment
  - Free standing water not present at surface
  - Treatment occurs throughout system
  - When in series – cell is dosed at defined rate
  - Clay lined



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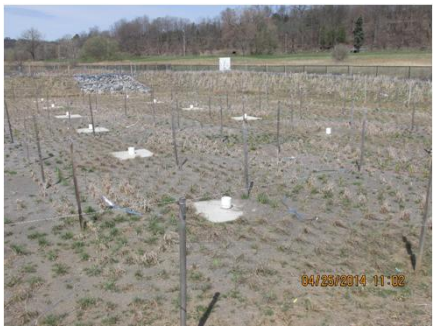
Cell 2: Vertical Downflow - 2014



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Cell 2: Vertical Downflow - 2016

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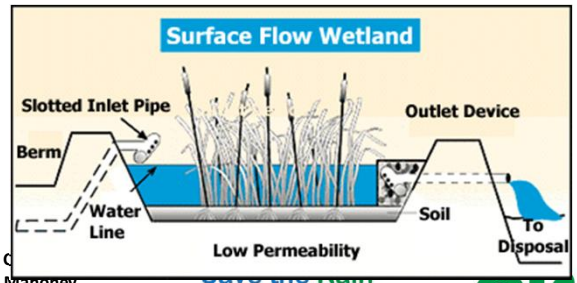
CSO 018 Wetlands – Different Wetland Types

- Surface Flow Wetland
  - Resembles a natural wetland with free standing water
  - CSO enters the system at the surface and moves through a soil media with plants
  - Constructed with “deep zones” for anoxic or anaerobic treatment and solids storage
  - Open to surrounding groundwater



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Source: Water Online

Cell 3: Surface Flow - 2016

Maintenance

- Contractor maintenance for first 2 years post construction
- Watering, weeding, invasive species management, waterfowl management
- Minimal maintenance after initial establishment period

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System Operation

- CSO flow greater than 6cfs → Facility Activated
  - Dry weather flow ~1.3cfs
- Flow diverted through G&F unit for solids removal then sent to wetland cells for further treatment
  - Cells can be operated in series, parallel, or series and parallel modes
  - Set to series over winter months
- Flows above 44cfs → Facility Bypassed
  - Two occurrences to date

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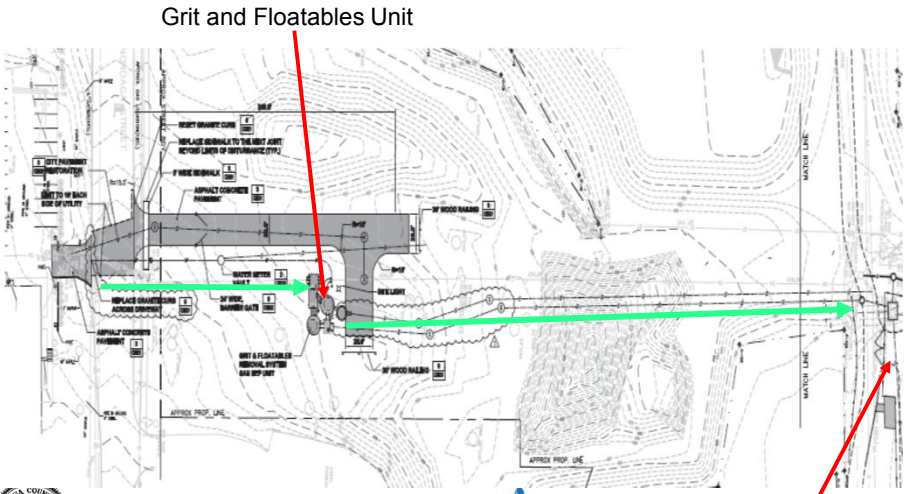
System Operations – Grit and Floatables



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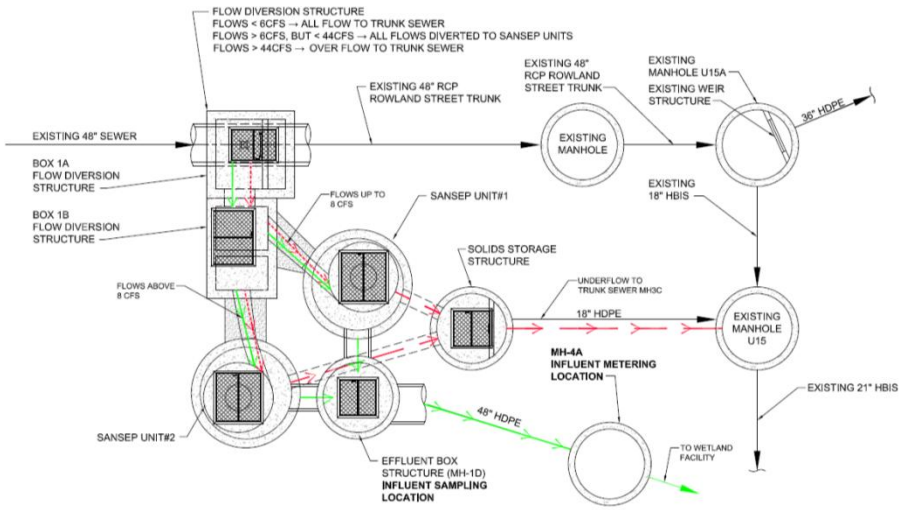
System Operations – Grit and Floatables



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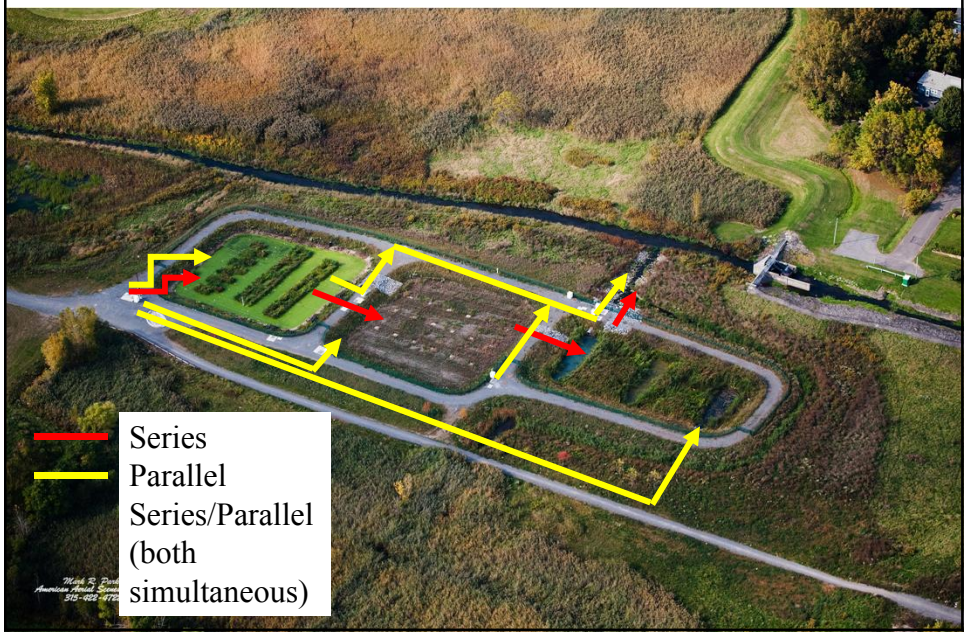
Wetland System Operation Modes



Monitoring Program

- Wet Weather Sampling
  - NYSDEC requires sampling at the influent and effluent during each qualifying storm event
  - Automatic alarms generated by system; County notifies sampling staff
  - Grab samples are collected within 30 minutes of the start of an event and every 4 hours thereafter as applicable
  - Samples delivered to County Lab for analysis
  - "Optimization" samples collected from cells to assess performance
- Groundwater Sampling
  - NYSDEC requires quarterly groundwater sampling to asses the impacts of the facility on surrounding groundwater

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Flow Monitoring

- Flows monitored at upstream manhole from facility for control (ISCO LaserFlow)
- Flows monitored and reported:
  - Downstream of G&F for reporting influent volume
  - After wetland cells for reporting effluent discharge volume
  - Bypass flow around wetland facility

Above: 2150 with AV sensor and Battery Module

Right: up to 4 Modules stack together for multi-stream or redundant measurements

Source: Teledyne Isco

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Results – Wet Weather Sampling
Average Discharge Concentrations

Red = Series
Blue = Parallel
Orange = Series/Parallel

Event	BOD_5	TSS	Settleable Solids	Fecal Coliform	NH_3	TP
	mg/L	mg/L	mL/L	#/100 mL	mg/L	mg/L
Event 1 (4/23/15)	4	14	0.3	2,784	0.79	0.09
Event 2 (2/25/16)	< 3.3	< 7.16	< 0.2	-	0.89	0.11
Event 3 (3/11/16)	< 4.5	11	< 0.5	-	0.96	0.20
Event 4 (4/1/16)	3	8	< 0.3	8,643	0.32	0.10
Event 5 (4/12/16)	6.5	11.67	< 2.67	5,902	0.67	0.35
Event 6 (8/10/16)	23	42	< 0.35	321,559	1.01	0.47
Event 7 (8/13/16)	11	31	< 0.2	360,000	1.12	0.63
Event 8 (10/20/16)	10	33	< 0.23	-	0.66	0.58
Event 9 (12/18/16)	5	23	< 0.2	-	0.37	0.15

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Results – Wet Weather Sampling
Removal Efficiencies

Red = Series
Blue = Parallel
Orange = Series/Parallel

Event	BOD_5	TSS	Settleable Solids	Fecal Coliform	NH_3	TP
	mg/L	mg/L	mL/L	#/100 mL	mg/L	mg/L
Event 1 (4/23/15)	82%	35%	0%	98.9%	53%	80%
Event 2 (2/25/16)	> 83%	> 82%	0%	-	6%	73%
Event 3 (3/11/16)	> 81%	76%	> 38%	-	28%	66%
Event 4 (4/1/16)	89%	84%	57%	98%	83%	85%
Event 5 (4/12/16)	70%	36%	0%	97%	48%	23%
Event 6 (8/10/16)	0%	0%	> 68%	11%	0%	0%
Event 7 (8/13/16)	54%	78%	56%	92%	4%	0%
Event 8 (10/20/16)	43%	0%	0%	-	55%	0%
Event 9 (12/18/16)	88%	71%	> 85%	-	81%	79%

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Results – Wet Weather Sampling
Storage Volume – 770,000 gallons when full

- Influent Volume (2015+2016) = 26.82 MG
- Effluent Volume (2015+2016) = 11.86 MG
  - **14.96 MG previously released to Harbor Brook that is stored, treated and released into surrounding GW/evapotranspired**
  - **56% of total diverted; majority during spring snowmelt**
- Influent Events (2015+2016) = 77
- Effluent Events (2015+2016) = 23
  - **54 previously occurring CSO discharge events eliminated (70%)**
- Pollutant Elimination
  - BOD_5 = 3,000 lb
  - TSS = 6,100 lb (excluding solids removed at G&F)
  - NH_3-N = 180 lb
  - Phosphorus = 65 lb

Results – Wet Weather Sampling
"Optimization" % Reduction

Red = Series
Blue = Parallel
Orange = Series/Parallel

Event	BOD_5	TSS	Fecal Coliform	NH_3	TP
	mg/L	mg/L	#/100 mL	mg/L	mg/L
Event 2: INF – Cell 1	42%	0%	-	0%	80%
Event 2: Cell 1 – 2	-	81%	-	55%	79%
Event 2: Cell 2 – 3/EFF	-	0%	-	0%	66%
Event 7: INF – Cell 1	54%	79%	94%	0%	0%
Event 7: INF – Cell 2	75%	84%	92%	0%	57%
Event 7: INF – Cell 3/EFF	54%	78%	93%	0%	0%
Event 8: INF – Cell 1	71%	57%	-	0%	41%
Event 8: Cell 1 – 2	40%	0%	-	45%	57%
Event 8: Cell 2 – 3/EFF	0%	0%	-	0%	0%

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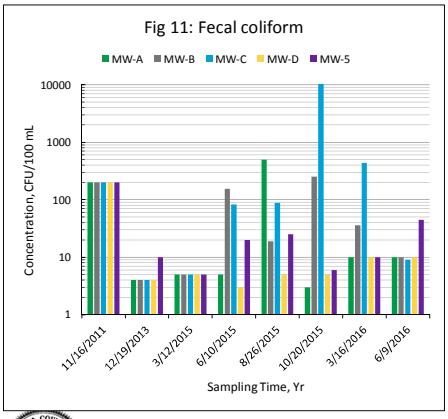
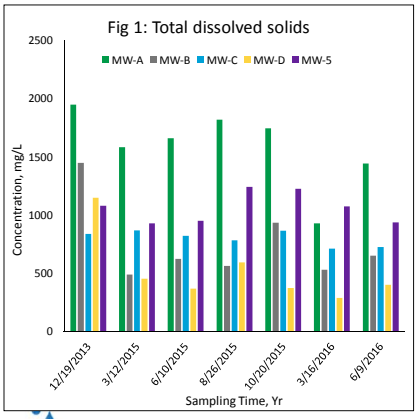
Results – Groundwater Sampling

- No long term impact to surrounding groundwater evident to date





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  - OCDWEP: Tom Rhoads, P.E., Adam Woodburn, RLA
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- SUNY ESF: Wet Weather Sampling and Groundwater Sampling
- OCDWEP Environmental Laboratory
- Savin Engineers: Flow Meter Maintenance

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Questions?

- CSO Treatment at far superior capital and O&M cost
  - > 80% BOD_5, > 97% Fecal Coliform reductions
  - Minimal nutrient contribution to Harbor Brook/Onondaga Lake
    - < 1ppm NH_3-N, < 0.5ppm TP
  - Significant pollutant discharge quantity eliminated
  - Series operation of cells maximizes storage volume and treatment efficiency
  - Each cell performs similarly when looked at individually
  - No long term effects to surrounding groundwater

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Onondaga County Connect the Drops: Floatable Control Through Source Control and Public Outreach

Madison M. Quinn, Project Coordinator
Onondaga County Dept. of Water Environment Protection
NYWEA Annual Meeting
February 7, 2017

Presentation Overview

- Save the Rain program overview and background
- Remove litter from our water
- Source control – catch basin retrofits & maintenance
- "Connect the Drops" education & outreach campaign
- Community partnerships
- Events to spread "Connect the Drops" messaging in the community & beyond
- Social media and website analytics
- Questions

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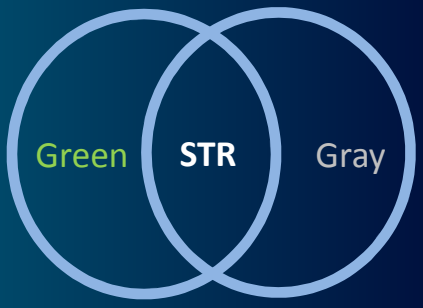
Save the Rain Program Overview

- County Executive Joanie Mahoney wanted a better way to meet environmental goals without building more Regional Treatment Facilities (RTFs)
- Combined approach – gray and green infrastructure



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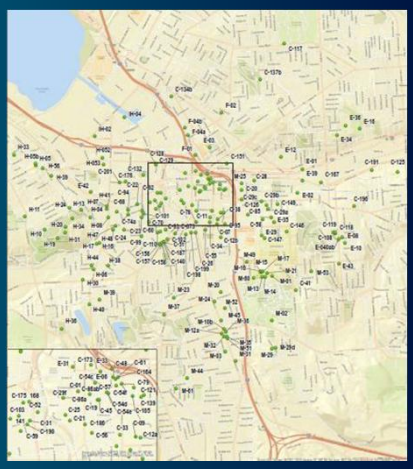
Green Infrastructure Projects

- 189 green projects implemented to date (2010-2016)
- Variety of green infrastructure technology, project size & land ownership



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Green Infrastructure Technologies

Floatables Control Facility (FCF) Plan

- County proposed performing a limited floatables assessment on remaining CSOs in Onondaga Creek & Harbor Brook service areas – quantity & composition of floatables at 18 CSOs
- Amended FCF plan included:
  - Source controls to augment Syracuse's current MS4 program
  - Public outreach to reduce street litter
  - Continued operations of end of pipe controls – skimmer boat, existing FCFs
- Holistic approach – environmentally and financially sustainable

Assessment Results

- Street derived materials ranged 68% to 100% at individual CSOs
- Sampling at FCF and Inner Harbor Skimmer boat was 98% to 99% street derived
- Connect the Drops public outreach program emphasizes reducing street litter – i.e. plastics, paper, foam
- Geofencing social media promotions

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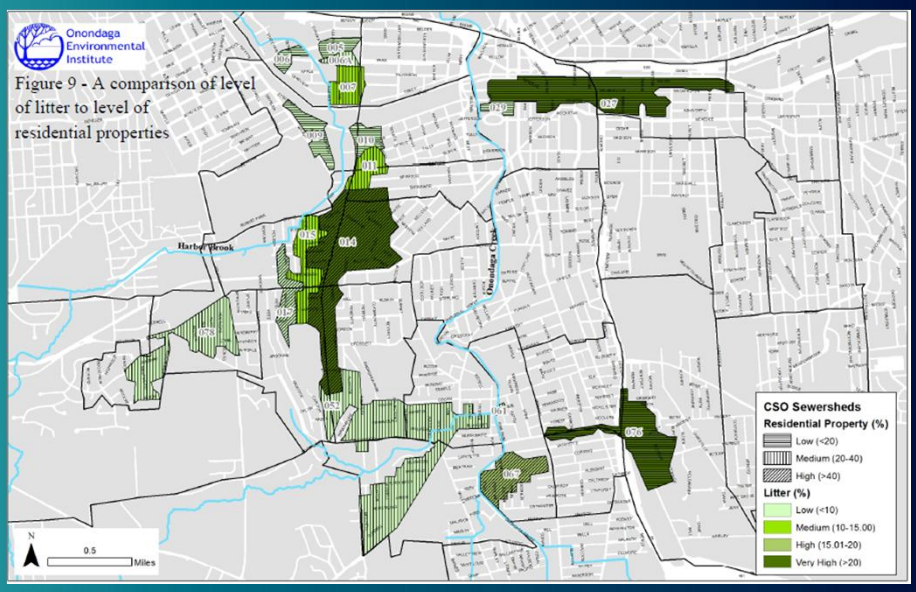

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Removing Trash from Waterways

- Onondaga Creek Floatable Control Facilities (in stream net bag operations)
- Approximately 35 tons of material captured in 2016

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Removing Trash from Waterways

- Skimmer boat runs April - November
- Over 23 tons removed in 2016

Collection at CSO Storage Facilities

- Clinton (6.5 MG)
- Lower Harbor Brook (4.9 MG)

Collection at CSO Storage Facilities

- 588 cubic yards of material removed in 2016 (mostly grit)

Source Control: Catch Basin Retrofits

- Increased catch basin rehabilitation
  - 81 catch basin hood retrofits completed in 2016
  - 64 filter insert installations in green infrastructure projects in 2016

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Source Control: Catch Basin Maintenance

- 484 catch basins cleaned in 2016 through floatable control program,
- 348 cubic yards removed

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Connect the Drops Education & Outreach

- Making the connection between litter “drops” and rain “drops” carrying litter into our system

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Connect the Drops Education & Outreach

Connect the Drops Education & Outreach

- Traditional, digital, & social media
- Downtown marketing tactics targeting pedestrians
  - Bus shelter wraps
  - Sidewalk art, rain activated: "Keep litter out of the forecast," #ConnectTheDrops

Community Partnerships

- Onondaga Earth Corps
- Onondaga County Resource Recovery Agency (OCRRA) Earth Day Cleanup
- Downtown Committee of Syracuse

Onondaga Earth Corps Clean Streets Crew

- Door-to-door outreach engaging businesses and residents in litter prevention
- 200+ community members engaged
- 100+ surveys administered
- Over 500 lbs of trash picked up
- Trash-ket ball
- Talking trash can
- Neighborhood cleanup at Kirk Park

Connect the Drops 2016 Events

- Earth Day activities – collaborated with Onondaga County Resource Recovery Agency (OCRRA) Earth Day Cleanup
  - Earth Day weekend community-wide litter cleanup
- Tabling at summer festivals & events
- Save the Rain Clean Water Fair, September 10, 2016

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Connect the Drops & Trash Free Waters

- Presented to EPA Region 2 Trash Free Waters Meeting on March 24, 2016
- Continuing participation in TFW Partnership – a collaborative initiative of organizations from public, private, and nonprofit sector in NY, NJ, and beyond

new york | new jersey
TRASH FREE
WATERS

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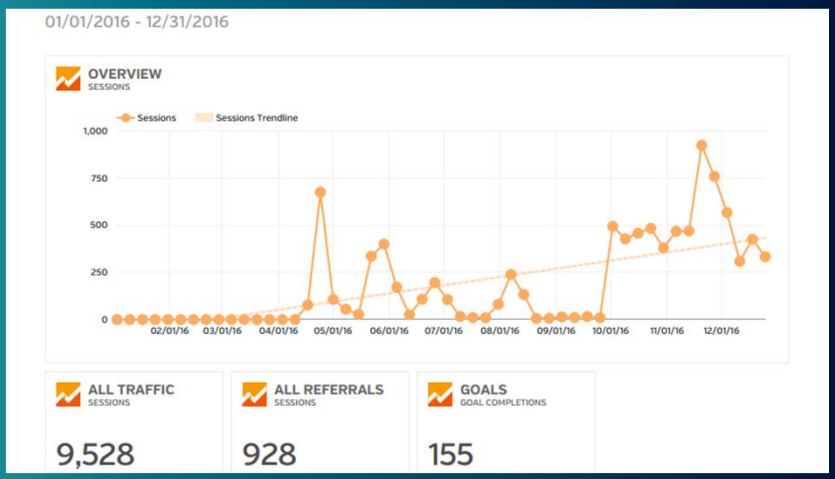
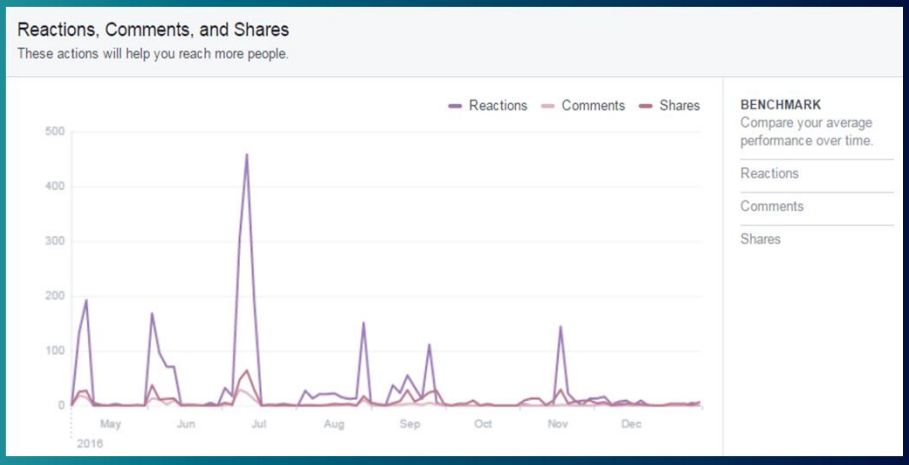
Connect the Drops Website

- Connect the Drops information on Save the Rain website, social media, YouTube videos & spots on local radio stations
- www.savetherain.us/drops

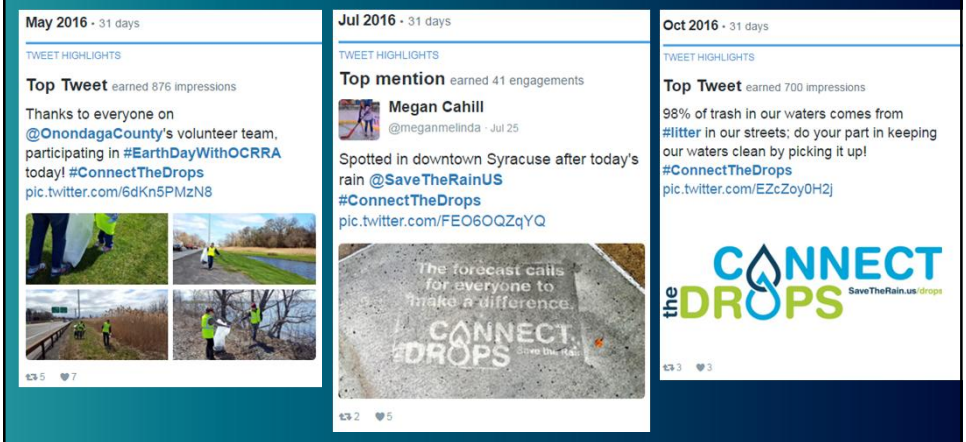
Google Analytics Summary 2016



Facebook Highlights



Twitter Highlights



Outreach in 2017 and Beyond

- Look to wrap trashcans to add to street level messaging tactics
- Working with neighborhood organizations to co-host litter cleanups

Onondaga County Executive
Joanne M. Mahoney

Save the Rain
www.savetherain.us

Questions?

MadisonQuinn@ongov.net

Please visit our website: www.SaveTheRain.us/drops

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FINANCIAL UPDATE

Financial Update

Contracts

New Contracts

- **Green Improvement Fund**
- Contract with 712-714 East Fayette Group, LLC for reimbursement of green improvements in the Clinton sewershed.
- Contract Amount: $47,800. Executed: 2/15/17.

Amendments to Existing Contracts

- **Save the Rain Education & Outreach**
- Contract with Pinckney Hugo Group, LLC amended for continuing public education for 2017.
- Contract Amount: $200,000. Executed: 1/27/17.

Change Orders

- **Green Infrastructure Program**
- Contract with Marcellus Construction, Inc. amended to include costs associated with the removal and disposal of unforeseen rock at the project site.
- Amendment Amount: $432,958.15. Executed: 1/17/17.

Funding

Grants

State Bond Act Funds

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

Federal EPA Funds

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

Federal Army Corps of Engineers Funds

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

- GIGP Grants
  Requested: None
  Received: None

EFC Reimbursements **Requested:**

LT Clinton for $86,343.00 on 3/15/17
LT Midland for $83,682.38 on 3/15/17
LT HB $175,272.02 on 3/15/17

EFC Reimbursements **Received:**

LT Clinton for $86,343.00 on 3/30/17
LT Midland for $83,682.38 on 3/30/17
LT HB $175,272.02 on 3/30/17

Total reimbursement monies received to date through EFC loans for the funded ACJ projects: $247,603,598 (short term) and $120,852,676 (long term).

Onondaga County Lake Improvement Project

4th Stipulation of the ACJ

Clinton/Lower MIS CSO Improvements

Summary of Current and County Authorizations

Project **/Task**/Line Item	Total Project Costs Total Proposed Budget	Expended To 3/31/17	Authorization Remaining
Clinton Street CSO Facility Planning (Original)			
Engineering Services (EEA)	$ 751,266	$ 751,266	$ (0)
Original Facility Plan Subtotal	**$ 751,266**	**$ 751,266**	**$ (0)**
Clinton Street CSO Conveyances Project			
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)
Engineering/Construction Services (CDM/C&S)	$ 2,738,000	$ 2,738,000	$ 0
Conveyances Subtotal	**$ 21,290,508**	**$ 21,290,508**	**$ (0)**
Clinton Storage Project (1)			
Construction Estimate	$ 77,742,858	$ 79,831,600	$ (2,088,742)
Engineering Services (EEA and others)	$ 12,122,013	$ 11,925,712	$ 196,301
Construction Management and Administration (CDM/C&S)	$ 4,833,411	$ 4,519,246	$ 314,165
Construction Testing (CME)	$ 327,847	$ 277,716	$ 50,131
			$ -
CSO Storage Subtotal	**$ 95,026,129**	**$ 96,554,274**	**$ (1,528,145)**
Facility Plan for CSOs 027 & 029			
Construction Estimate	$ 3,100,000		$ 3,100,000
Engineering Services (Ch2MHill)	$ 91,211	$ 91,186	$ 25
Engineering Services (TBD) Floatables Arcadis	$ 782,032	$ 12,816	$ 769,216
County Administration and Other Costs	$ -		$ -
Facility Plan Subtotal	**$ 3,973,243**	**$ 104,001**	**$ 3,869,242**
Clinton/Lower MIS Green Implementation Program			
Construction Contracts incl. GIF Public/Private	$ 38,508,611	$ 32,242,532	$ 6,266,079
Ch2MHill Program Management & Engineering	$ 15,900,000	$ 11,588,243	$ 4,311,757
Green Subtotal	**$ 54,408,611**	**$ 43,830,775**	**$ 10,577,836**
Program Management			
Project Management (CDM/C&S)			$ -
Project Management for Facility Plan (CDM/C&S) (2)	$ -		$ -
Program Management Subtotal	**$ -**	**$ -**	**$ -**
Miscellaneous County Costs			
Land Acquisition	$ 3,726,350	$ 3,726,350	$ -
IMA	$ 4,861,000	$ 3,959,746	$ 901,254
Legal	$ 126,115	$ 350,857	$ (224,742)
Consulting (John Clare & Mezey)	$ 301,334	$ 226,334	$ 75,000
Debt	$ 234,885	$ 869,953	$ (635,068)
Other	$ 310,738	$ 740,944	$ (430,206)
Contingency	$ 489,863		$ 489,863
Miscellaneous Subtotal	**$ 10,050,285**	**$ 9,874,184**	**$ 176,101**
	$ 185,500,042	**$ 172,405,009**	**$ 13,095,033**
Authorized Budget 185,500,042			

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

	Total Project Costs		
***Project*/Task/Line Item**	Total Proposed Budget	Expended to 3/31/17	Authorization Remaining
Harbor Brook CSO Abatement Project			
Original Engineering Expenses	**$ 5,500,000**	**$ 5,500,000**	**$ -**
HBIS Replacement and CSO Abatement Project			
Construction Contract No. 1 (1) (JJ Lane)	$ 18,289,918	$ 23,391,425	$ (5,101,507)
Other Miscellaneous Work	$ 2,482,920	$ -	$ 2,482,920
Engineering/Construction Sevices (CDM/C&S)	$ 2,012,615	$ 2,651,315	$ (638,700)
County Administration and Other Costs	$ 114,547	$ 953,749	$ (839,202)
HBIS Replacement and CSO Abatement Project Total	**$ 22,900,000**	**$ 26,996,490**	**$ (4,096,490)**
Lower Harbor Brook Storage & Conveyance			
Construction Estimate (with contingency)	$ 34,502,000	$ 29,279,884	$ 5,222,116
Engineering Services (EEA)	$ 4,200,000	$ 3,971,487	$ 228,513
Engineering Services (CDM/C&S)	$ 3,390,000	$ 1,497,536	$ 1,892,464
Project Escalation to Midpoint of Construction	$ 2,280,000	$ 5,360,579	$ (3,080,579)
Lower Harbor Brook Storage & Conv Total	**$ 44,372,000**	**$ 40,109,486**	**$ 4,262,514**
Harbor Brook CSOs FCF Program			
Construction Estimate	$ 12,000,000		$ 12,000,000
Engineering Services (Arcadis)	$ 1,878,731	$ 144,843	$ 1,733,888
County Administration and Other Costs	$ 800,000	$ 15,300	$ 784,700
Project Escalation to Midpoint of Construction	$ 400,000		$ 400,000
FCF Program Total	**$ 15,078,731**	**$ 160,143**	**$ 14,918,588**
Other Harbor Brook Green			
Construction Contracts incl. GIF Public/Private & Rain Barrels	$ 13,000,000	$ 16,343,958	$ (3,343,958)
Ch2MHill Engineering & Program Management	$ 3,650,000	$ 6,222,691	$ (2,572,691)
Harbor Brook Green Project Total	**$ 16,650,000**	**$ 22,566,649**	**$ (5,916,649)**
Program Management			
Project Management (CDM/C&S)	$ 499,269	$ 2,813,628	$ (2,314,359)
Project Management for FCF Plan Implem (CDM/C&S)	$ -		
Program Management Total	**$ 499,269**	**$ 2,813,628**	**$ (2,314,359)**
Harbor Brook Mitigation	**$ 3,500,000**	**$ 3,265,000**	**$ 235,000**
Total Costs for Harbor Brook CSO Area under 4th Stip	**$ 108,500,000**	**$ 101,411,396**	**$ 7,088,604**

Onondaga County Lake Improvement Project

4th Stipulation of the ACJ

Midland CSO Abatement

Summary of Current and Proposed Costs, and County Authorizations

	Total Project Costs		
***Project*/Task/Line Item**	Total Proposed Budget	Expended to Date 3/31/17	Authorization Remaining
Midland Ave. RTF & Conveyances			
Midland Phase 1 Conveyances - Construction	$ 1,836,434	$ 1,836,434	$ (0)
Midland Phase 2 RTF & Conveyances - Construction	$ 53,372,689	$ 53,372,689	$ (0)
Midland Demolition Contracts - Construction	$ 748,483	$ 748,483	$ 0
Other Construction	$ 137,000	$ 136,342	$ 658
Phase 1 and 2 Engineering (Parsons & EEA)	$ 14,717,163	$ 12,503,353	$ 2,213,810
CME Construction Testing	$ 227,341	$ 219,815	$ 7,526
RTF Modifications (Construction, Eng, CM, Admin)	$ 3,000,000		$ 3,000,000
Facility Plan Total	**$ 74,039,110**	**$ 68,817,116**	**$ 5,221,994**
			$ 5,221,994
CSO 044 Conveyances Project			
Contract No. 6. - JJ Lane	$ 12,296,549	$ 12,098,662	$ 197,887
Construction Contingency 5%	$ 64,800	$ -	$ 64,800
Engineering Services (EEA)	$ 750,000	$ 729,224	$ 20,776
Construction Management Sevices (CDM/C&S) see below			$ -
Conveyances Project Total	**$ 13,111,349**	**$ 12,827,887**	**$ 283,462**
			$ 283,462
FCF Facility Plan			
Construction Estimate	$ 1,300,000	$ -	$ 1,300,000
Engineering Services (Arcadis and others)	$ 623,954	$ 46,039	$ 577,915
Construction Management and Administration	$ 210,000		$ 210,000
Project Escalation to Midpoint of Construction	$ -		
Clinton Storage Project Total	**$ 2,133,954**	**$ 46,039**	**$ 2,087,915**
			$ 2,087,915
Facility Plan for Midland CSOs			
Construction Estimate	$ 14,900,000	$ -	$ 14,900,000
Engineering Services (Ch2MHill)	$ 121,401	$ 121,368	$ 33
Engineering Services, County Admin, ect (TBD)	$ 3,720,000	$ -	$ 3,720,000
Facility Plan Total	**$ 18,741,401**	**$ 121,368**	**$ 18,620,033**
			$ 18,620,033
Midland Green Implementation Program			
Construction Contracts incl. GIF Public/Private	$ 7,500,000	$ 7,011,426	$ 488,574
Ch2MHill Program Management & Engineering	$ 3,917,636	$ 3,024,903	$ 892,733
Clinton Green Program Total	**$ 11,417,636**	**$ 10,036,329**	**$ 1,381,307**
			$ 1,381,307
Program Management			
Project Management (CDM/C&S) includes CSO 044	$ 6,530,602	$ 6,636,528	$ (105,926)
Project Management for Facility Plan (CDM/C&S) [1]		$ -	
Program Management Total	**$ 6,530,602**	**$ 6,636,528**	**$ (105,926)**
			$ (105,926)
Miscellaneous County Costs			
Land Acquisition	$ 1,809,802	$ 1,809,802	$ -
IMA			
Legal	$ 182,323	$181,975	$ 348
Consulting (John Clare & Mezey)	$ 194,317	$ 194,317	$ 0
Debt	$ 635,031	$ 694,647	$ (59,616)
Contingency	$ 2,591,117	$ -	$ 2,591,117
Other	$ 526,211	$ 529,813	$ (3,602)
Miscellaneous Costs Total	**$ 5,938,801**	**$ 3,410,553**	**$ 2,528,248**
Total Cost for Midland project under 4th stipulation	**$ 131,912,853**	**$ 101,895,820**	**$ 30,017,033**
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

	Total Project Costs		
Project **/Task/Line Item**	Total Proposed Budget	Expended to 3/31/17	Authorization Remaining
Sewer Separation Construction Contracts			
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	$5,611,423	$1,138,577
Construction Total	**$24,102,102**	**$22,889,082**	**$1,213,020**
Service Contracts (Engineering /Consulting /Program Management)			
ACE	$484,286	$484,286	$0
CDM/C&S	$1,446,468	$1,997,539	-$551,071
CME	$109,492	$49,704	$59,788
Department of the Army	$153,504	$153,504	$0
Spectra	$437,996	$437,996	$0
Engineering/Management Total	**$2,631,746**	**$3,123,029**	**-$491,283**
Miscellaneous County Costs			
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
Miscellaneous Costs Total	**$380,553**	**$397,652**	**-$17,099**
Total	**$27,114,401**	**$26,409,763**	**$704,638**
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
March 2017

Funding Sources			**Appropriations**
Program Funding			
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
2014 Green Grant education			$ 400,000
2015 Green Grant education			$ 100,000
2016 Green Grant education			$ 185,000
2017 Green Grant education			
Total Appropriation			$ 2,885,000
Funding Uses			
Retz Advertising + Design	**Contract Amount**	**Expended to Date**	**Difference + (-)**
2010/2011 Marketing Services	$ 411,789	$ 411,789	
2012 Marketing Services	$ 224,303	$ 224,303	
Marketing Services Subtotal	$ 636,092	$ 636,092	*$ (0)*
Environmental Finance Center Education and Outreach	**Contract Amount**	**Expended to Date**	**Difference + (-)**
2011 Education and Outreach	$ 346,677	$ 346,677	
2012 Education and Outreach	$ 241,815	$ 241,815	
2013 Education and Outreach	$ 237,758	$ 237,758	
2014 Education and Outreach	$ 350,126	$ 350,125	
Education & Outreach Subtotal	$ 1,176,376	$ 1,176,376	$ 0
Baltimore Woods			
Supplies	$ 13,590	$ 5,060	$ 8,530
Transport	$ 26,731	$ 13,956	$ 12,775
Travel	$ 4,055	$ 637	$ 3,418
Env Educator Hours	$ 48,282	$ 30,842	$ 17,440
Administrative Hours	$ 47,336	$ 26,975	$ 20,361
Baltimore Education & Outreach	$ 139,995	$ 77,471	$ 62,524
Miscelaneous Ed/Outreach Expenses	**Contract Amount**	**Expended to Date**	**Difference + (-)**
2010/2011 Miscellaneous Exp.	$ 105,764	$ 105,764	
2012 Miscellaneous Exp.	$ 79,852	$ 79,852	
2013 Miscellaneous Exp	$ 34,158	$ 34,158	
2014 Miscellaneous Exp	$ 46,657	$ 46,657	
2015 Miscellaneous Exp	$ 20,988	$ 20,988	
2016 Miscellaneous Exp	$ 48,494	$ 48,494	
2017 Miscellaneous Exp	$ 296,064		
Travel			
Purchase card/Petty cash		$ 217	
Endeavor entertainment		$ 300	
Mahar bus forms		$ 2,540	
Paiges seeds		$ 2,430	
Focus Greater Syr	$ 20,000	$ 10,375	
OEI - RB Workshops	$ 30,309	$ 25,506	
Pinckney Hugo Grp	$ 400,000	$ 169,327	
Environmental Design and Research	$ 20,000	$ 20,000	
2010/2011 media	$ 28,750	$ 28,750	
2012 Media	$ 1,500	$ 1,500	
	$ -	$ -	$ -
Miscellaneous Subtotal	$ 1,132,536	$ 596,859	$ 535,677
STR Education and Outreach Totals	**Contract Amount**	**Expended to Date**	**Difference + (-)**
	$ 3,085,000	**$ 2,486,798**	**$ 598,202**
Remaining Balance			**$ 598,202**

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

APPENDIX

March 2017

	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
METRO - CURRENT											
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[c]								$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				
PHOS TREAT OPTIMIZATION (587601)											
CSO - CURRENT											
CLINTON ST CONVEYANCE & RTF	$31,245,000	$54,870,000	$54,870,000			$70,288,890	$41,834,264	$78,568,119	$39,896,650		
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	$15,378,304	$53,689,500	$46,700,136	$62,477,416	$26,113,432		
HIAWATHA INTERCEPTOR/RTF[a]	$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	$37,339,317	$20,417,481		
MIDLAND AVE PHASE III	$27,000,000					$10,000,000					
MIDLAND AVE MITIGATION COSTS											
NEWELL ST FCF[b]	$1,310,000	$367,737	$367,737								
ONONDAGA CREEK FCF	$3,000,000	$442,154	$442,154								
SEWER SEPARATION[a]	$7,704,000							$11,332,407	$10,276,648	$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		
OTHER											
AMBIENT WATER MONITORING	$8,000,000										
OXYGENATION DEMO	$2,400,000										
SEQR REGULATORY	$50,000										
TOTAL DOLLARS	***$380,000,000**	$163,650,000	$163,650,000	$103,609,200	$103,609,200	$296,103,257	$247,603,598	$241,244,447	$121,708,598	$17,456,177	$17,456,177

***Original budget figures were based on 1997 dollars**

NYS includes awards beyond original pledge (i.e. civic strip)

(a) NOTE: PROJECT IS US ARMY CORPS OF ENGINEERS PROJECT

(b) NOTE: PROJECT RECEIVED $40,500 COST SHARE GRANT FROM (NYSERDA)

(c)NOTE: PROJECT RECEIVED $87,500 COST SHARE GRANT FROM (NYSERDA)

Lake Improvement Project Status Report For The Period Ending 3/31/2017

	Project Title	ACJ START DATE	ACJ FINISH DATE	COUNTY FINISH DATE	ORIGINAL BUDGET(2)	AUTHORIZED BUDGET	ENGINEER
	METRO - Current						
1	AERATION SYSTEM UPGRADE		7/1/2002	01/03/00	$ 8,500,000	$ 6,925,115	EEA
2	AMMON. REMOVAL DEMONSTRATION	11/1/1998	3/1/2000	12/31/99	$ 2,000,000	$ 1,347,187	EEA
3	BIOSOLIDS - MECHANICAL THICKENERS					$ 14,815,674	
4	DIGESTER MOD/CHEMICAL STORAGE		7/1/2002	10/31/00	$ 5,600,000	$ 5,092,545	C&S
5	DIGITAL SYSTEMS IMPROVEMENTS		7/1/2002	06/31/01	$ 2,900,000	$ 3,520,317	Systems Integrated
6	MISCEL. IMPROVEMENTS		7/1/2002	01/31/99	$ 1,400,000	$ 1,400,000	
7	ODOR CONTROL		7/1/2002	12/20/00	$ 7,700,000	$ 8,393,855	OBG
8	AMMONIA REMOVAL FULL SCALE/	10/1/2001	11/1/2003	11/01/03	$ 125,000,000	$ 128,688,040	EEA
	STAGE II PHOSPHORUS REMOVAL	10/1/2003	4/1/2005		$ 65,000,000		
9	PHOSPHORUS REMOVAL - PILOT	4/1/2006	4/1/2007	12/31/00	$ 5,000,000	$ 4,111,714	EEA
	PHOSPHORUS OPTIMIZATION (587601)					$ 2,840,000	GHD
	CSO - Current						
10	CLINTON ST. CONVEYANCE/	5/1/2003	5/1/2007	10/28/06	$ 15,987,190	$ 185,500,042	EEA
	CLINTON ST. RTF	5/1/2007	1/1/2012	12/28/10	$ 15,258,090		
11	ERIE BLVD STORAGE SYSTEM		7/1/2002	04/13/02	$ 3,000,000	$ 2,684,523	Barton & Loguidice
12	FRANKLIN ST. FCF	4/26/1999	5/1/2000	05/01/00	$ 3,200,000	$ 4,948,516	EEA
13	HARBOR BROOK FCF		7/1/2002	07/01/02	$ 250,000	$ 889,109	EEA
14	HARBOR BROOK CSO ABATEMENT		7/1/2002		$ 5,443,980	$ 108,500,000	Moffa & Assoc.
15	HIAWATHA INTERCEPTOR/RTF (3)		7/1/2002	12/31/00	$ 8,000,000	$ 6,047,183	EEA/Parsons
16	KIRKPATRICK ST. PUMP STATION		7/1/2002	10/29/02	$ 5,641,860	$ 12,558,335	EEA
17	MALTBIE STREET FCF	8/31/1998	7/1/2002	04/26/99	$ 250,000	$ 362,028	EEA
18	MIDLAND AVE RTF & CSO ABATEMENT	5/1/1999	5/1/2004	12/06/00	$ 75,000,000	$ 131,912,853	EEA
19	MIDLAND AVE MITIGATION COSTS					$ 3,000,000	
20	NEWELL STREET RTF		7/1/2002	07/01/01	$ 1,310,000	$ 473,132	Moffa & Assoc.
21	ONONDAGA CREEK FCF		7/1/2002	07/01/02	$ 3,000,000	$ 648,342	Parsons
22	SEWER SEPARATION		1/1/2012	01/01/12	$ 7,703,880	$ 27,684,286	OBG
23	SIPHON REHABILITATION		7/1/2002	06/11/99	$ 1,230,000	$ 1,026,391	C&S
24	TEALL BROOK FCF		7/1/2002	12/01/01	$ 175,000	$ 1,235,346	EEA
25	WEST ST SEWER SEPARATION	5/1/1999		01/14/00	$ 1,000,000	$ 2,720,572	CHA
26	ERIE BLVD CSO ABATEMENT						New Project
	OTHER						
27	AMBIENT WATER MONITORING(4)		7/1/2002		$ 8,000,000		
28	OXYGENATION DEMO PROJECT	5/1/1999	4/1/2003	02/25/04	$ 2,400,000	$ 10,087	
29	SEQRA REGULATORY COMPLIANCE(1)				$ 50,000		Parsons
	TOTAL DOLLARS (2)			*	$ 380,000,000	$ 667,335,192	
	***Original budget figures were based on 1997 dollars**						

(1) SEQR costs are reflected in the individual projects under total payments to date

(2) Original budget figures were based on 1997 dollars

(3) Hiawatha project costs did not all appear on county account partial ACE

(4) AMP is paid through operating funds not in projects

Lake Improvement Project Status Report For The Period Ending 3/31/2017

	SOFT COST CONTRACTS	CONSTRUCTION CONTRACT AMOUNTS		TOTAL PAYMENTS TO DATE	FORECASTED COSTS	TOTAL ESTIMATED COST	OVER/UNDER BUDGET	% COMPLETED EXPENDITURES
1	$ 352,747	$ 6,473,110		$ 6,925,115		$ 6,925,115	$ (1,574,885)	100.00%
2	$ 1,346,856			$ 1,347,187		$ 1,347,187	$ (652,813)	100.00%
3	$ 1,266,345	$ 13,131,105		$ 14,815,674		$ 14,815,674	$ 14,815,674	100.00%
4	$ 748,386	$ 4,357,480		$ 5,092,545		$ 5,092,545	$ (507,455)	100.00%
5	$ 451,713	$ 2,974,514		$ 3,520,317		$ 3,520,317	$ 620,317	100.00%
6				$ 1,400,000		$ 1,400,000	$ -	100.00%
7	$ 999,299	$ 6,956,868		$ 8,393,855		$ 8,393,855	$ 693,855	100.00%
8	$ 21,289,868	$ 106,962,810		$ 128,688,040		$ 128,688,040	$ (61,311,960)	100.00%
9	$ 4,055,734			$ 4,111,714		$ 4,111,714	$ (888,286)	100.00%
	$ 1,749,597			$ 602,252	$ 2,237,748	$ 2,840,000	$ 2,840,000	21.21%
10	$ 34,268,363	$ 126,891,045		$ 172,405,009	$ 13,095,033	$ 185,500,042	$ 154,254,762	92.94%
11	$ 901,556	$ 1,734,929		$ 2,684,523		$ 2,684,523	$ (315,477)	100.00%
12	$ 973,543	$ 3,920,238		$ 4,948,516		$ 4,948,516	$ 1,748,516	100.00%
13	$ 436,363	$ 373,370		$ 889,109		$ 889,109	$ 639,109	100.00%
14	$ 22,429,850	$ 77,338,472		$ 101,411,395	$ 7,088,605	$ 108,500,000	$ 103,056,020	93.47%
15	$ 540,945	$ 5,535,152		$ 6,047,183		$ 9,453,183	$ 1,453,183	63.97%
16	$ 2,520,394	$ 9,882,154		$ 12,558,335		$ 12,558,335	$ 6,916,475	100.00%
17	$ 109,483	$ 152,418		$ 362,028		$ 362,028	$ 112,028	100.00%
18	$ 25,808,343	$ 73,418,667		$ 101,895,821	$ 30,017,032	$ 131,912,853	$ 56,912,853	77.24%
19				$ 3,000,000	$ -	$ 3,000,000	$ 3,000,000	100.00%
20	$ 472,572			$ 473,132		$ 473,132	$ (836,868)	100.00%
21	$ 503,551			$ 648,342		$ 648,342	$ (2,351,658)	100.00%
22	$ 2,600,778	$ 22,879,464		$ 26,409,763	$ 1,274,523	$ 27,684,286	$ 19,980,406	95.40%
23		$ 1,021,823		$ 1,026,391		$ 1,026,391	$ (203,609)	100.00%
24	$ 320,039	$ 903,566		$ 1,235,346		$ 1,235,346	$ 1,060,346	100.00%
25	$ 403,332	$ 2,311,126		$ 2,720,572		$ 2,720,572	$ 1,720,572	100.00%
26						$ -		
27				$ 20,618,235	$ -	$ -		
28	$ 10,087			$ 10,087		$ 10,087	$ (2,389,913)	100.00%
29								
	$ 124,559,741	$ 467,218,312		$ 634,240,485	$ 53,712,941	$ 670,741,192	$ 298,791,192	

	Project Title	TOTAL PAYMENTS TO DATE 3-31-17	TOTAL PAYMENTS TO DATE 12-31-16	Change
	METRO - Current			
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/	$ 128,688,040	$ 128,688,040	$ -
	STAGE II PHOSPHORUS REMOVAL	$ -	$ -	
9	PHOSPHORUS REMOVAL - PILOT	$ 4,111,714	$ 4,111,714	$ -
	PHOSPHORUS OPTIMIZATION	$ 602,252	$ 566,607	$ 35,645
	CSO - Current			$ -
10	CLINTON ST. CONVEYANCE/	$ 172,405,009	$ 171,720,368	$ 684,641
	CLINTON ST. RTF	$ -	0	$ -
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	$ 101,411,395	$ 101,297,366	$ 114,029
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	$ 101,895,821	$ 101,026,952	$ 868,869
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	$ 26,409,763	$ 26,409,763	$ -
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	$ -	$ -	$ -
	OTHER			$ -
27	AMBIENT WATER MONITORING	$ 20,618,235	$ 20,618,235	$ -
28	OXYGENATION DEMO PROJECT	$ 10,087	$ 10,087	$ -
29	SEQRA REGULATORY COMPLIANCE	$ -	$ -	$ -
				$ -
	TOTAL DOLLARS	$ 634,240,485	$ 632,537,301	$ 1,703,184

Chronology
of
Project Construction Starts

	Status	Location
Pre-ACJ Signing (1/20/98)		
• General Improvements	Complete	Metro
• Odor Control and Residuals Handling	Complete	Metro
1998		
• 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
1999		
• 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
2000		
• Midland Ave. Conveyance Phase I	Complete	Tallman/Oxford St.
• Phosphorus Removal – Phase I Pilot	Complete	Metro
2001		
• 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
2002		
• Harbor Brook FCF	Complete	W.Hiaw./I-690
• Brighton Ave Sewer Separation (CSO 053/054)	Complete	Brighton/Bishop Ave

	Project	Status	Location
2004			
	• Tallman/Onondaga Sewer Separation (CSO 038, 040, 046A &046B)	Complete	Tallman/Onondaga
	• Midland Phase II RTF/Conveyances	Complete	Blaine/Oxford St.
2005			
	• Phosphorus Removal – Phase II Pilot	Complete	Metro
	• Biosolids Handling Improvements	Complete	Metro
2006			
	• Sewer Separation – CSO 047 & 048	Complete	South Ave/ Bissell St.
2007			
	• Sewer Separation – CSO 050	Complete	Parkway/Rockland
	• Clinton Phase I Conveyances	Complete	
2008			
	• Clinton Phase IIA Conveyances	Complete	
2009			
	• Sewer Separation – CSO 051	Complete	Colvin St.
2010			
	• Harbor Brook Interceptor Sewer	Complete	Velasko/Fayette
2011			
	• Midland CSO 044	Complete	W. Castle/South Ave
	• Clinton Storage Facility	Complete	Armory Square
	• Lower Harbor Brook (Conveyance & Storage)	Complete	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
2012			
	• Save the Rain Green Projects	Completed	Various
2013			
	• Save the Rain Green Projects	Completed	Various
2014			
	• Save the Rain Green Projects	Completed	Various
	• Harbor Brook CSO 063 Conveyances Project	Underway	Hiawatha/State Fair Blvd.

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
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
PHASE III IMPROVEMENTS CONTRACT 1 - DIGESTER & LAGOON IMPROVEMENTS	
Maxim Construction	$ 645,730.74
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
FULL SCALE AMMONIA/PHOSPHORUS REMOVAL - FIELD OFFICE	
James & Son Construction	$ 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

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 Field Svs (Cogen)	$ 18,019.75

CSO's

CLINTON CONVEYANCES PHASE I & 2A

The Delaney Group, Inc.	$ 14,478,053.39
The Delaney Group, Inc.	$ 4,074,455.32
SIDA	$ 2,634,999.43
MOU (City of Syracuse)	$ 168,000.00
MOU City of Syracuse (Connective Corridor)	$3,825,000.00

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)	$ 79,762,239.12
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)	$	638,997.06
MOU City of Syracuse (Dr. Weeks)	$	89,000.00
MOU City of Syracuse (Bank Alley)	$	108,000.00
MOU City of Syracuse (Upstate)	$	1,500,000.00
Wallbridge (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)	$	1,847,459.81
Orchard Earth & Pipe (Syr School dist Park Lot)	$	430,172.42
Slate Hill Construction (E. Water St)	$	147,952.84
Davis Wallbridge (Onon Cty Pub Library)	$	320,291.95
Tumbers, Schichtels Nursery (Trees), Martisco, Dixie, Pro Scapes	$	833,289.61
Acts II (Seymour Academy)	$	373,309.00
Paul R. Vitale (City Lot 4)	$	607,852.44
John R. Dudley (Leavenworth Park)	$	719,311.20
VIP (Onon Public Library)	$	51,382.74
Ballard Construction (Westcott Comm Ctr)	$	52,500.00
Cornerstone Paving (Oswego St)	$	109,046.54
John Dudley Construction (W. Onondaga St.)	$	1,371,475.75
Barrett Paving (W. Fayette St.)	$	588,982.07
Davis Wallbridge (Westcott St.)	$	870,263.89
ProScapes (Sunnycrest Arena)	$	87,585.22
Acts II (E. Washington St)	$	155,591.53
John R. Dudley (690 Downspout)	$	597,965.65
Josall (Maganelli Comm Ctr)	$	378,400.00
Spectra (Butternut Circle)	$	65,640.00
Barton & Loguidice (State St)	$	159,400.00
D E Tarolli (annual green)	$	430,266.47
J&J Landscape (annual green)	$	197,991.00
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)	$	100,011.00
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

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

CNY Philanthropy (GIF)	$	62,700.00
American Beech (GIF)	$	53,050.00
Park Central Presbyterian Church (GIF)	$	61,050.00
Loon Creek (GIF)	$	137,350.00
NHW Syracuse (GIF)	$	129,400.00
McMahan/Ryan Child Advocacy (GIF)	$	178,050.00
Jeffrey DeRoberts (GIF)	$	99,311.00
Bethany Baptist Church (GIF)	$	301,930.00
St. Lucy's Church (GIF)	$	69,000.00
500 W. Onondaga St. Inc. (GIF)	$	34,347.00
Onondaga Commons LLC (GIF)	$	124,200.00
Onondaga Commons LLC (GIF)	$	198,300.00
Onondaga Commons LLC (GIF)	$	175,787.00
Onondaga Commons LLC (GIF)	$	77,800.00
Gemmi Boy (GIF)	$	47,537.00
Mr. Lady Bug (GIF)	$	46,700.00
Grace Episcopal Church (GIF)	$	99,000.00
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)	$	57,700.00
Graham Millwork (GIF)	$	90,500.00
Onondaga Commons LLC (GIF)	$	124,100.00
Onondaga Commons LLC (GIF)	$	33,400.00
Onondaga Commons LLC (GIF)	$	294,300.00
PEACE (GIF)	$	52,200.00
Syracuse Business Center (GIF)	$	288,400.00
Erie Bruce Corp (GIF)	$	151,700.00
538 Erie Boulevard West (GIF)	$	130,850.00
Near West Side Initiatives, Inc. (GIF)	$	94,300.00
JNJ Syracuse (GIF)	$	32,600.00
UAS (GIF)	$	57,600.00
Brewster Medical (GIF)	$	221,000.00
Richmond UAS Properties (GIF)	$	299,200.00
J C Smith Inc. (GIF)	$	337,250.00
Burnet Railroad (GIF)	$	357,400.00
Taksum Assoc. (GIF)	$	45,200.00
Zip Networks (GIF)	$	205,775.00
Ra lin Inc. (GIF)	$	137,000.00
Ra lin Inc. (GIF)	$	206,450.00
Butternut St. LLC (GIF)	$	104,430.00
Nojaim Inc. (GIF)	$	234,800.00
St. Joseph's Hospital Health Center (GIF)	$	145,900.00

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

Auto Row (GIF)	$ 138,000.00
WCNY (GIF)	$ 98,527.00
Auto Row (GIF)	$ 164,000.00
University Hill Apts. (GIF)	$ 36,500.00
J C Smith Inc. (GIF)	$ 84,411.00
St. Joseph's Hospital Health Center (GIF)	$ 33,100.00
Housing Visions Unlimited (GIF)	$ 70,200.00
Thomas J Cerio (GIF)	$ 36,750.00
R J Westcott (GIF)	$ 125,750.00
R J Westcott (GIF)	$ 119,687.00
R J Westcott (GIF)	$ 18,000.00
Nick's Garage (GIF)	$ 382,000.00
Tan A Grocery (GIF)	$ 52,000.00
Consuela's-Tato Britter Transp. (GIF)	$ 38,237.50

ERIE BOULEVARD STORAGE SYSTEM

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

FRANKLIN STREET FCF

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)	$ 23,391,425.07
Bette Cring (Elephant Barn Greening)	$ 207,701.00
John Dudley Construction (Geddes St)	$ 279,068.06
J&B Installations (Hazard Library/Erie Canal Museum)	$ 67,275.00
Economy Paving (Rosamond Gifford Zoo)	$ 688,638.00
J.J. Lane (Lower HB)	$ 5,373,078.94
A.J. Montclair (HB CSO Storage)	$ 260,000.00
C.O. Falter (HB CSO Storage)	$ 30,259,100.80
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), Proscapes, Dixie	$ 327,868.48
City of Syracuse	$ 3,342,875.63
VIP	$ 51,382.74
Steadman Old Farm	$ 11,480.00
Marcellus Const. (CSO 063)	$ 6,065,362.00
OnSite	$ 8,755.00
J J Lane (CSO 18)	$ 4,370,168.29

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

Patricia Electric (Wetland Pilot)	$ 197,767.56
MOU City of Syracuse (Road Reconstruction)	$ 138,165.00
Bette Cring (Zoo Wetlands)	$ 1,290,064.10
Davis Wallbridge (Wadsworth Park)	$ 345,524.55
Acts II (Lewis Park)	$ 217,285.58
J & J Landscape (Annual Green)	$ 2,407.00
DE Tarolli (Green Structures)	$ 10,329.00
Knapp Electric (Wetlands)	$ 41,856.00
Vitale Excavating (Bedding Sand), Butler Fence	$ 232,533.35
Syracuse Academy of Science (GIF)	$ 158,600.00
NYSARC, Inc. (GIF)	$ 78,907.14
Vibrant Spaces, LLC (GIF)	$ 153,618.00
James Ranalli, W. Genesee (GIF)	$ 616,100.00
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
Richard Destito (GIF)	$ 152,300.00
Burnet Park Newstand (GIF)	$ 59,256.00
Visiting Nurse Assoc. of CNY (GIF)	$ 60,349.20
All Times (GIF)	$ 92,600.00

HARBOR BROOK FCF

C.O. Falter Construction Corp. (General)	$ 373,370.21

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 FCF

Over & Under Piping	$ 152,418.00

MIDLAND AVENUE CONVEYANCES

Marcellus Construction (General)	$ 1,836,434.47

MIDLAND AVENUE PHASE II CONVEYANCES & RTF

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

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

MIDLAND AVENUE PHASE III CONVEYANCES

Titan Wrecking & Environmental, LLC (Demolition)	$ 290,801.39
Tumbers, Schichtels Nursery (Trees)	$ 311,406.42
J.J. Lane	$ 12,098,662.37
Acts II (Hugh's Magnet School Parking Lot)	$ 314,439.81
Davis Wallbridge (Onon Cty Pub Library)	$ 116,033.35
J & J Landscape (annual green)	$ 45,796.00
VIP (Onon Public Library)	$ 25,691.39
Green Culture (Rain Barrels)	$ 44,335.50
Weather Guard Tecta (USPO Salina St)	$ 242,860.00
MOU City of Syracuse (Road Reconstruction)	$ 408,332.04
MA Bongiovanni (storage Tank)	$ 66,130.00
MOU City of Syracuse (ESF)	$ 100,000.00
Env. Design (Gazones Stormwater)	$ 92,825.15
Barton & Loguidice (green design)	$ 334,800.00
D E Tarolli (Annual green)	$ 1,146,326.95
Jubilee Homes of Syracuse (GIF)	$ 100,000.00
Dunbar Association, Inc. (GIF)	$ 99,840.00
Syracuse Model Neighborhood (GIF)	$ 250,000.00
People's AME Zion Church (GIF)	$ 61,300.00
People's Community Dev. Corp (GIF)	$ 80,825.00
Salina Shoe Salon (GIF)	$ 48,000.00
People's AME Zion Church (GIF)	$ 5,000.00
Matawon Development Group (GIF)	$ 24,214.00
Tucker Missionary Baptist Church (GIF)	$ 146,700.00
Swallows (GIF)	$ 111,900.00
Southside Comm. Coalition (GIF)	$ 59,800.00

SEWER SEPARATION - CSO 022/045

Joy Process Mechanical (Plumbing)	$ 853,536.68
Joseph J. Lane Construction	$ 4,757,886.66

SEWER SEPARATION - CSO 024

C.O. Falter Construction Corp.	$ 698,863.74

SEWER SEPARATION - CSO 053/054

C.O. Falter Construction Corp.	$ 2,000,817.40

SEWER SEPARATION - CSO 038, 040, 046A&B

C.O. Falter Construction Corp.	$ 3,524,487.29

SEWER SEPARATION - CSO 047 & 048

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

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

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 FCF	
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
ARRA	American Recovery and Reinvestment Act
ASLF	Atlantic States Legal Foundation
AWQS	Ambient Water Quality Standards
BAF	Biological Aerated Filter (Biostyr)
BMP	Best Management Practices
BOD	Biological Oxygen Demand
BPJ	Best Professional Judgment
Brew	WEP's Standard Abbreviation for the Brewerton Wastewater Treatment Plant
Bville	WEP's Standard Abbreviation for the Baldwinsville Wastewater Treatment Plant
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
ECL	Environmental Conservation Law
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
FOG	Fats, Oil, and Grease
GIF	Green Improvement Fund

HRFS	High Rate Flocculation Settling
I & I	Inflow & Infiltration
IW	Industrial Wastewater
km	Kilometers
km^2	Square Kilometers
LA	Load Allocations
LF	Linear Feet
m	Meters
MCP	Municipal Compliance Plan
MDV	Multiple Discharge Variance
Metro	WEP's Standard Abbreviation for the Metropolitan Syracuse Wastewater Treatment Plant
MGD	Million Gallons Per Day
mg/L	Milligrams Per Liter
MIS	Main Interceptor Sewer
ML	WEP's Standard Abbreviation for the Meadowbrook/Limestone WWTP
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
NPDES	National Pollutant Discharge Elimination System
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
OAK	WEP's Standard Abbreviation for the Oak Orchard WWTP
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
PWL	Priority Waterbodies List
RTF	Regional Treatment Facility
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
SORP	Sewer Overflow Response Plan
SPCC	Spill Prevention, Control, and Countermeasures
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
TBEL	Stechnology-Based Effluent Limits
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
USGBC	United States Green Building Council
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
WET	Whole Effluent Toxicity
WLA	Waste Load Allocations
WQBEL	Water Quality-Based Effluent Limits
WR	WEP's Standard Abbreviation for the Wetzel Road Wastewater Treatment Plant
WSE	Waste Stream Environmental