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DANIEL HARRIGAN, MAYOR

DEPARTMENT OF PUBLIC SERVICE

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February 15, 2018

UPS NEXT DAY AIR

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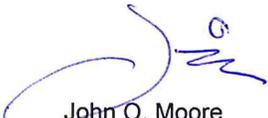
Dean Stoll, P.E.  
Unit Supervisor, Compliance & Enforcement  
Division of Surface Water  
Ohio EPA Northeast District Office  
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Twinsburg, OH 44087

RE: **Consent Decree, City of Akron, Ohio**  
**Case No. 5:09-cv-00272**  
**Judge John R. Adams (Magistrate Pearson)**

**SUBMISSION:** Akron shall submit a Semi-Annual Report to the U.S. EPA and OEPA on August 15, 2010 and every six (6) months thereafter until termination of this Consent Decree: Report No. 16, February 15, 2018.

**CONSENT DECREE REFERENCE:** Consent Decree XV, Reporting Requirements: Paragraph 75.

**CERTIFICATION:** I certify under penalty of law that this document and its attachments were prepared under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained herein. I further certify, based on my inquiry of those individuals immediately responsible for obtaining the information, that I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.



John O. Moore  
Service Director

If you have any questions concerning this submittal, please feel free to contact Patrick Gsellman, AWR Program Manager, Akron Engineering Bureau, at 330-375-2355 or [pgsellman@akronohio.gov](mailto:pgsellman@akronohio.gov).

JOM:PDG:pt

Attachment

cc: Mayor D. Horrigan, E. Belfance, J. Moore, C. Ludle, J. Hewitt, B. Gresser, P. Gsellman, T. Finn (R&A), File 2010-009-00  
ec: Susan Perdomo (USEPA-Region V), Kate Balasa (USEPA-Region V)

**City of Akron  
Consent Decree  
Semi-Annual Report No. 16  
July 1, 2017 – December 31, 2017**

February 15, 2018



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Patrick Gsellman, PE  
AWR Program Manager



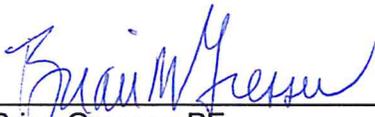
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Akron City Engineer



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Brian Gresser, PE  
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DANIEL HARRIGAN, MAYOR

**City of Akron**  
**Consent Decree**  
**Semi-Annual Report No. 16**  
**July 1, 2017 – December 31, 2017**

February 15, 2018



Department of Public Service  
Akron Engineering Bureau  
Environmental Division

**Semi-Annual Report No. 16  
July 1, 2017 – December 31, 2017**

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- A. EPA Correspondence
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- E. List of Defects
- F. List of Defects – Acute Only
- G. FOG Trouble Spots Cleaned/Inspected

## Section 1: Specific Action Projects

### 1.A Upgrade of the WPCS (Phase 1)

<b>Status of Work Plan Development</b>	The Work Plan for Water Pollution Control Station (WPCS) improvements was submitted to EPA on February 10, 2010 per the Consent Decree.
<b>Status of Design and Construction Activities</b>	Design and construction is complete. Certificate of Achievement of Full Operation was issued and acknowledged on September 20, 2013.
<b>Status of Stress Test Protocol Development</b>	Stress Tests are complete.
<b>Status and Results of Stress Tests</b>	Stress test are complete. The Final Demonstration Testing Evaluation Report was submitted to EPA on October 15, 2015, per the Consent Decree.
<b>Capacity Achieved at the WPCS After Upgrade</b>	The Final Demonstration Testing Evaluation Report concluded that the step feed and clarifier upgrades to Unit 6 have achieved 30 MGD of wet weather treatment capacity.
<b>Project Cost Incurred During Reporting Period</b>	Project costs incurred during the reporting period were approximately \$935.87.

### 1.B Upgrade of the WPCS (Contingency Projects)

The Final Demonstration Testing Evaluation Report concluded that the step feed and clarifier upgrades to Unit 6 achieved 30 MGD of wet weather treatment capacity, therefore, this Consent Decree item is not applicable.

### 1.C Status of Sewer Separation Projects

#### 1.C.1 Rack 8 Separation Project

<b>Activities Undertaken During Reporting Period</b>	Project is complete.
<b>Status of Construction</b>	Construction is complete.
<b>Date of Anticipated Completion</b>	Achievement of Full Operation occurred on December 14, 2012.

**Project Cost Incurred During Reporting Period** No project costs were incurred during the reporting period.

### 1.C.2 Rack 25 Separation Project

**Activities Undertaken During Reporting Period** Project is complete.

**Status of Construction** Construction is complete.

**Date of Anticipated Completion** Achievement of Full Operation occurred on December 14, 2012.

**Project Cost Incurred During Reporting Period** No project costs were incurred during the reporting period.

### 1.C.3. Rack 21 Separation Project

**Activities Undertaken During Reporting Period** Work on this project is substantially complete. This project is now in the warranty period.

**Status of Construction** Construction is substantially complete.

**Date of Anticipated Completion** Achievement of Full Operation occurred on November 9, 2017. Construction was substantially complete November 13, 2017.

**Project Cost Incurred During Reporting Period** Project costs incurred during the reporting period were approximately \$2,032,249.44 (City of Akron \$75,445.09, H.R. Gray \$282,580.98, Kenmore Construction \$1,674,223.37),

### 1.C.4 Rack 13 Separation Project

**Activities Undertaken During Reporting Period** Work on this project is substantially complete. This project is now in the warranty period.

**Status of Construction** Construction is substantially complete.

**Date of Anticipated Completion** Achievement of Full Operation occurred on October 14, 2016. Construction completed November 13, 2016.

**Project Cost Incurred During Reporting Period** Project costs incurred during the reporting period were approximately \$20,329.16.

**1.C.5 Rack 30 Separation Project**

**Activities Undertaken During Reporting Period** Work on this project is substantially complete. This project is now in the warranty period.

**Status of Construction** Construction is substantially complete.

**Date of Anticipated Completion** Achievement of Full Operation occurred on November 9, 2017. Construction on Rack 30 was substantially complete November 13, 2017.

**Project Cost Incurred During Reporting Period** Project costs incurred during the reporting period were approximately \$963,951.35.

## Section 2: CSO and WPCS Control Measures

### 2.A Status of Document Preparation

Table 2-1 shows the current status of documents as listed in Table 1 in Paragraph 17 of the Consent Decree. Documents listed in **bold** have been completed as of the end date of this reporting period.

**Table 2-1 Status of Document Preparation**

<b>Document</b>	<b>Consent Decree Due Date</b>	<b>Date Submitted or Date of Anticipated Completion</b>
<b>Updated NFA and supplement</b>	November 30, 2009	November 25, 2009
<b>Preliminary Report on Modeling to Predict Size and Number of Overflows</b>	January 15, 2010	January 13, 2010
<b>Preliminary Report on Cost/Benefit Comparison to Predict Sizes and Number of Overflows</b>	March 15, 2010	March 12, 2010
<b>CSO Control Measure Cost/Benefit Tables at Appendix 2 of Attachment A</b>	May 15, 2010	May 14, 2010
<b>Updated Financial Capability Information</b>	May 15, 2010	May 14, 2010
<b>Post-Construction Monitoring Program</b>	August 15, 2010	August 16, 2010
<b>Proposed Long Term Control Plan Update</b>	August 15, 2010	August 16, 2010
<b>Proposed Long Term Control Plan Update Report</b>	August 15, 2010	August 16, 2010
<b>Final Long Term Control Plan Update</b>	October 15, 2010	October 15, 2010 Revised: February 28, 2011
<b>Final Long Term Control Plan Update Report</b>	October 15, 2010	October 15, 2010 Revised: February 28, 2011 Revised: November 15, 2011 USEPA Approved: November 16, 2011 Ohio EPA Approved: April 11, 2012
<b>Report on Revising WPCS Control Measure(s) if Akron achieves 130 MGD through secondary treatment using step feed</b>	October 15, 2016	October 14, 2016
<b>Report on Revising WPCS Control Measure(s) if Akron constructs the WPCS Contingency Project</b>	October 15, 2017	N/A

#### 2.A.1 Development of an Integrated Plan

The City's LTCP Update was approved by USEPA on November 16, 2011 and Ohio EPA on April 11, 2012. The LTCP Update was incorporated into the court-approved Consent Decree on January 17, 2014.

The City submitted an Integrated Plan on July 31, 2015 in accordance with USEPA's June 5, 2012 Integrated Planning Framework (IPF) Guidance. The parties participated in several conferences and exchanged several documents regarding the City's proposed Integrated Plan. The City continued to comply with the requirements within the Consent Decree, including, but not limited to, the LTCP Update, during the ongoing discussions of the proposed Integrated Plan.

The parties subsequently agreed to suspend further discussions over the proposed Integrated Plan. At the same time, it was understood that the City would submit requests to modify the LTCP Update, independent of the integrated planning process. Those proposed modifications are discussed in the following section.

## **2.A.2 Consent Decree Modifications**

As a result of ongoing Consent Decree negotiations, modifications were made pursuant to Exhibit 2 and Exhibit 3 of the Consent Decree, and the Court has approved a First Amendment to Consent Decree. Those modifications, along with pending proposed modifications, are discussed below.

The City received modification approval letters under Exhibit 3 of the LTCP for the following green infrastructure projects:

- Rack 36 – approval letter issued on October 30, 2015;
- Rack 5/7 – approval letter issued on December 7, 2015;
- Rack 22 – approval letter issued on December 7, 2015.

Based upon a subsequent agreement of the parties, the City has constructed the original Rack 22 storage basin in lieu of the approved green infrastructure project.

On January 15, 2016 the City submitted an Alternative Plan to the Sizing of Secondary Treatment Capacity under Exhibit 2 of the LTCP Update. USEPA approved the City's Alternative Plan on February 11, 2016. Based on this approval, the WPCS Phase 2 projects were then subject to the requirements of the LTCP Update Rows 17 and 18.

The parties then filed motions with the Court requesting an amendment to the Consent Decree to (1) change the sequencing of the WPCS Phase 2 projects and (2) replace the MOI parallel relief sewer project with the MOI capping project. The Court approved the parties' request, and entered the First Amendment to the Consent Decree on September 20, 2016. The First Amendment to Consent Decree switched the deadlines for the projects in LTCP Update Rows 17 and 18, and replaced the original LTCP Update Rows 21 and 22 with new Rows 21, 22 and 23.

The case teams for the United States and the State of Ohio have tentatively agreed to two additional modifications of the LTCP Update that were proposed by the City. The first proposed modification will replace the requirement for the BioACTIFLO facility in LTCP Update Row 18 with a BioCEPT facility and a demonstration study. The second proposed modification: (i) replaces the storage basins required in LTCP Update Rows 1, 8 and 9 with upsized underflow drains and pipes and two green infrastructure projects; and (ii) increases the size of the storage basin required in Row 3. On October 13, 2017, the City submitted a formal modification request, with exhibits for replacing the BioACTIFLO facility with a BioCEPT facility and a

demonstration study. The parties have reached agreement on the wording of the other modification request, and the associated exhibits, but it was not submitted during the current report period.

The City has also proposed to modify the requirement for the EHRT unit in LTCP Update Row 11.a., as well as to replace the NSI tunnel in Row 12 with an alternative set of controls. However, the City has informed USEPA and Ohio EPA of its decision to defer those requests to a later date.

## ***2.B Progress Towards Completing Milestones in Approved LTCP Update***

Progress on completing milestones, including status of progress toward Achievement of Full Operation, for each of the WPCS and CSO Control Measures set forth in the approved LTCP Update is provided in Table 2-2. The Consent Decree was entered January 17, 2014 and an amendment was filed September 20, 2016. In addition, under USEPA's Integrated Plan Framework, during this reporting period the City continued with Long Term Control Plan Optimization to evaluate and identify alternative solutions for each of the controls listed in the LTCP Update.

**Table 2-2 Status of Progress and Cost Incurred During Reporting Period  
For Control Measures Set Forth in Approved LTCP Update**

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
1	Rack 3	Storage Basin(s) (Green infrastructure plus upsized underflow received case team approval)	Bidding of Control Measure – June 30, 2018.  Achievement of Full Operation – November 30, 2020.	Advanced facilities planning for the green project is complete and final design has advanced to 60%. Final design for the conveyance project/upsized underflow has advanced to 90%.	Project costs incurred during the reporting period were approximately \$552,556.77.
2	Rack 5 and 7	Green Infrastructure and Sewer Separation (Per Exhibit 3)	Bidding of Control Measure – October 31, 2015.  Achievement of Full Operation – October 31, 2017.	Construction Notice to Proceed was issued on June 21, 2016. The plan for Green Maintenance is being finalized. Achievement of Full Operation occurred on October 26, 2017.  Construction continues on remaining punch list items.	Project costs incurred during the reporting period were approximately \$9,267,638.57.
3	Racks 10 and 11	Storage Basin(s)	Bidding of Control Measure – June 30, 2018. Achievement of Full Operation – December 31, 2020.	The advanced facilities plan was finalized for a 4.5 MG storage basin. Final design has advanced to 90%.	Project costs incurred during the reporting period were approximately \$541,224.15.
4	Rack 12	Storage Basin(s)	Bidding of Control Measure – November 30, 2014.  Achievement of Full Operation – October 31, 2017.	Construction Notice to Proceed was issued on May 29, 2015.  Achievement of Full Operation occurred on October 30, 2017.  Construction continues on remaining punch list items.	Project costs incurred during the reporting period were approximately \$4,098,032.64.
5	Rack 14	Storage Basin(s)	Bidding of Control Measure –	Project complete. All warranty work is	Project costs incurred

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
			October 31, 2014. Achievement of Full Operation – April 30, 2017.	complete.	during the reporting period were approximately \$7,319.45.
6	Rack 15	Storage Basin(s)	Bidding of Control Measure – November 30, 2013. Achievement of Full Operation – October 31, 2015.	Project complete. Final pay application was processed and loan was closed.	Project costs incurred during the reporting period were approximately \$205.25.
7	Rack 22	Storage Basin(s)	Bidding of Control Measure – October 31, 2015. Achievement of Full Operation – December 31, 2017.	Project is in the warranty period. Achievement of Full Operation occurred on November 29, 2017. Construction was substantially complete as of November 13, 2017.	Project costs incurred during the reporting period were approximately \$5,630,679.69.
8	Rack 26 and 28	Storage Basin(s) (received general agreement for IP alternative)	Bidding of Control Measure – October 31, 2021. Achievement of Full Operation – December 31, 2022.	Construction continues for one aspect of the IP alternative, called Aqueduct Green Street Improvements.	Project costs incurred during the reporting period were approximately \$751,745.77.
9	Rack 27 and 29	Storage Basin(s) (received case team approval for IP alternative)	Bidding of Control Measure – January 31, 2018. Achievement of Full Operation – December 31, 2019.	Final design for the project has advanced to 30%. The project delivery method is currently planned to be CMAR.	Project costs incurred during the reporting period were approximately \$47,406.94.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
10	Rack 36	Green Infrastructure and Sewer Separation (Per Exhibit 3)	<p>Bidding of Control Measure – October 31, 2015.</p> <p>Achievement of Full Operation – October 31, 2017.</p>	<p>Project is in the warranty period. The plan for Green Maintenance is being finalized.</p> <p>Achievement of Full Operation occurred on October 30, 2017.</p> <p>Construction was substantially complete as of October 31, 2017.</p>	<p>Project costs incurred during the reporting period were approximately \$3,335,926.48.</p>
11	Racks 4, 16, 17, 18, 19, 20, 23, 24, 37	Ohio Canal Tunnel – Construct a 28-foot internal diameter tunnel, 5,500 feet in length, or any other combination of diameter and length that achieves the design criteria.	<p>Bidding of Control Measure – April 30, 2014.</p> <p>Achievement of Full Operation – December 31, 2018.</p>	<p>Notice to Proceed was issued on November 6, 2015.</p> <p>Construction is ongoing.</p> <p>On September 21, 2017, the City submitted a notification that the City has reason to believe that the Ohio Canal Interceptor Tunnel project will not meet the Achievement of Full Operation deadline. The City submitted an amendment to this notification on October 17, 2017. The parties then participated in a conference call on November 29, 2017 and further discussed the status of the schedule of the project. The parties agreed that the City would submit monthly updates on the status of the schedule of the project.</p>	<p>Project costs incurred during the reporting period were approximately \$26,474,626.05.</p>

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
11a	Racks 16, 17, 18, 19, 20, 23, 24	Ohio Canal Tunnel –ACTIFLO™ Ballasted Flocculation Unit or equivalent technology that meets the Design and Performance Criteria and Disinfection.	Bidding of Control Measure – April 30, 2024.  Achievement of Full Operation – October 31, 2027.	LTCP optimization was performed during this period as part of the Integrated Plan in 2015. No advanced facilities planning or design activities were undertaken during the reporting period.	No costs were incurred during the reporting period.
12	Racks 32, 33, 34, 35	Northside Interceptor Tunnel – Construct a 20-foot internal diameter tunnel, 10,000 feet in length or any other combination of diameter and length that achieves the design criteria.	Bidding of Control Measure – April 30, 2023.  Achievement of Full Operation – December 31, 2026.	The advanced facilities planning for the Integrated Plan projects is ongoing. The two IP projects are known as Gorge Sewer Separation (CSO Rack 34 and 35) and Northside Interceptor Conveyance.	Project costs incurred during the reporting period were approximately – Gorge Sewer Separation: \$594,840.27. Northside Interceptor Conveyance: \$107,082.36.
13a	WPCS Phase 1	Upgrade conventional secondary treatment capacity to 130MGD by implementing step feed operation in Train 6, as described in Paragraph 10.A of the Consent Decree.	Bidding of Control Measure – October 31, 2011.  Achievement of Full Operation – October 15, 2013.	Project completed (see Section 1.A of this Semi-Annual Report).	Project costs incurred during the reporting period were approximately \$935.87.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
13b	WPCS Phase 1	Upgrade conventional secondary treatment capacity to 130MGD by performing the upgrades identified in the Consent Decree in Section V.10.C.	Bidding of Control Measure – January 15, 2016.  Achievement of Full Operation – October 15, 2017.	Since the Final Demonstration Testing Evaluation Report concluded that the step feed and clarifier upgrades to Unit 6 have achieved 30 MGD of wet weather treatment capacity, this Consent Decree item is not required.	No costs were incurred during the reporting period.
14	WPCS Phase 1 BioACTIFLO™ Wet Weather Treatment Pilot Study (the “Pilot Study”)	Conduct the Pilot Study in accordance with Exhibit 1 to this Long Term Control Plan Update.	Pilot Study Start Date – May 1, 2012.  Pilot Study Completion Date – November 30, 2013.  Pilot Study Report submitted to EPA by December 31, 2013.	Study is complete. USEPA issued a concurrence letter on April 8, 2015.	No costs were incurred during the reporting period.
15	WPCS Phase 2 – Part 1*	Upgrade conventional secondary treatment capacity to 170 MGD.	Bidding of Control Measure – February 28, 2019.  Achievement of Full Operation – December 31, 2021.	This project was replaced by WPCS Alternative Plan A Phase 2 – Part 1 per US EPA approval of Alternate Plan A on February 11, 2016.	No costs were incurred during the reporting period.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
16	WPCS Phase 2 – Part 2*	Install BioACTIFLO™ ballasted flocculation to treat all flow that does not receive conventional secondary treatment. In addition, all flows receiving BioACTIFLO™ shall receive disinfection.	<p>Bidding of Control Measure – April 30, 2017.</p> <p>Achievement of Full Operation – April 30, 2019.</p>	<p>This project was replaced by WPCS Alternative Plan A Phase 2 – Part 2 per US EPA approval of Alternate Plan A on February 11, 2016.</p>	<p>No costs were incurred during the reporting period.</p>
17	WPCS Alternative Plan A – Phase 2 – Part 1*	Upgrade conventional secondary treatment capacity to achieve the minimum sustained capacity specified in Alternative Plan A approved by USEPA.	<p>Bidding of Control Measure – April 30, 2017.</p> <p>Achievement of Full Operation – April 30, 2019.</p>	<p>USEPA issued an approval of Alternative Plan A on February 11, 2016 to upgrade conventional secondary treatment capacity to 220 MGD.</p> <p>The construction Notice to Proceed was issued on August 24, 2016.</p> <p>Construction is ongoing.</p> <p>The sequence of the WPCS Alternative A Phase 2, Part 1(Row 17) and Phase 2 Part 2 projects was changed under the First Amendment to the Consent Decree, entered on September 20, 2016. The revised dates are shown in this report.</p>	<p>Project costs incurred during the reporting period were approximately \$11,745,906.41.</p>

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
18	WPCS Alternative Plan A – Phase 2 – Part 2*	Install BioACTIFLO™ ballasted flocculation to achieve the minimum capacity specified in Alternative Plan A approved by USEPA. In addition, all flows receiving BioACTIFLO™ shall receive disinfection.	<p>Bidding of Control Measure – February 28, 2019.</p> <p>Achievement of Full Operation – December 31, 2021.</p>	<p>BioACTIFLO™ ballasted flocculation to achieve a minimum sustained capacity of 60 MGD.</p> <p>The Basis of Design report was completed and reviewed.</p> <p>The sequence of the WPCS Alternative A Phase 2, Part 1 (Row 17) and Phase 2 Part 2 projects was changed under the First Amendment to the Consent Decree, entered on September 20, 2016. Response to Row 17. The revised dates are shown in this report.</p>	Project costs incurred during the reporting period were approximately \$673,280.13.
19	WPCS Alternative Plan B – Phase 2 – Part 1*	Upgrade conventional secondary treatment capacity to achieve the minimum sustained capacity specified in Alternative Plan B approved by USEPA.	<p>Bidding of Control Measure – December 31, 2019.</p> <p>Achievement of Full Operation – December 31, 2021.</p>	Not Applicable	No costs were incurred during the reporting period.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
20	WPCS Alternative Plan B – Phase 2 – Part 2*	Install BioACTIFLO™ ballasted flocculation to achieve the minimum capacity specified in Alternative Plan B approved by USEPA. In addition, all flows receiving BioACTIFLO™ shall receive disinfection.	Bidding of Control Measure – April 30, 2017.  Achievement of Full Operation – April 30, 2019.	Not Applicable	No costs were incurred during the reporting period.

\*Alternative Plan to Upgrading Conventional Secondary Treatment to 170 MGD:

- 1) If US EPA approves in writing an Alternative Plan A, in accordance with Exhibit 2 to the LTCP update, then Akron shall implement the control measures specified in the First Amendment in Rows 17 and 18, instead of the control measures specified in Rows 15 and 16
- 2) If US EPA approves in writing an Alternative Plan B, in accordance with attachment to the LTCP update, then Akron shall implement the control measures specified in the First Amendment in Rows 19 and 20, instead of the control measures specified in Rows 15 and 16

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
<b>(2) Collection System Measures</b>					
21	Main Outfall Sewer Upgrades – Phase I	Installation of pneumatically placed, steel reinforced mortar cap over the entire length of the brick-arch section of the Main Outfall Interceptor (“MOI”) that runs between Survey Station 83+00 and the rectangular bridge section that is located upstream of the WPCS (“the Bridge Section”). The Bridge Section is not of brick-arch construction, and the approximately 400-foot portion of the MOI between the Bridge Section and the WPCS is covered with soil. As part of Phase I, a limited amount of additional soil will be added to the brick-arch portion of the MOI between the Bridge Section and the WPCS headworks.	Bidding of Control Measures: May 4, 2016  Achievement of Full Operation: November 30, 2017.	Due to physical constraints in the upper end of the MOI, and after consultation with USEPA and Ohio EPA, the City implemented a Pilot Capping Project replacing the brick arch cap on the first 287 feet of the MOI with a rectangular concrete cap. Since the Pilot Capping Project was a component of the overall MOI project, and completed prior to the bid date, the City met the bid date for the MOI Project.  Achievement of Full Operation occurred on November 22, 2016.  Construction is substantially complete.	Project costs incurred during the reporting period were approximately \$19,447.76.
22	Main Outfall Sewer Upgrades – Phase II	Additional soil will be added to the soil cap on the brick-arch portion of the MOI between the Bridge Section and the WPCS headworks, after the completion of, and subject to the results of, a geotechnical and engineering evaluation will be to determine the amount of additional soil cover, up to 2 feet, that can be placed on the remaining brick-arch portion of the MOI between the Bridge Section and the existing WPCS headworks without causing excessive settlement of that portion of the MOI. The parties understand that the City may eliminate and/or improve some of the brick-arch portion of the MOI between the Bridge Section and the existing WPCS headworks project. Any improvements to the brick-arch portion of the MOI between the Bridge Section and the existing WPCS headworks through construction of a proposed WPCS headworks	Completion of engineering evaluation: May 30, 2017  Completion of placement of additional soil: November 30, 2017	Engineering evaluation completed and submitted to EPA on May 22, 2017.  Achievement of Full Operation for the Soil Cap occurred on November 15, 2017.	Project costs incurred during the reporting period were approximately \$262,174.00.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
		project. Any improvements to the brick-arch portion of the MOI between the Bridge Section and the existing WPCS headworks project shall ensure structural integrity such that the improved portion of the enclosed conduit of the MOI withstands at least 5 feet of surcharge.			
23	Main Outfall Sewer Inspection	Perform inspection and rehabilitation consistent with the Main Outfall Sewer Supplement to the Approved CMOM Program as outlined in Section VII of the Consent Decree	Full Operation shall be maintained consistent with Main Outfall Sewer Supplement to the Approved CMOM Program	Project complete.	No costs were incurred during the reporting period.

## **2.C Project Cost Incurred**

Project costs incurred by the City during the reporting period for each of the WPCS and CSO Control Measures set forth in the approved LTCP Update are provided in Table 2-2. The City incurred additional costs for regulatory support, design management, program controls, technical and right of way support and program management of \$1,643,895.10 during the reporting period.

## **2.D Status of Implementation of the Post-Construction Monitoring Program**

The Post-Construction Monitoring Program was submitted on August 15, 2010, and in the revised Long Term Control Plan on February 29, 2011. In response to comments from U.S. EPA, the City submitted a revised Program on December 14, 2012.

## **2.E Listing of All CSO Discharges**

CSO discharges from each CSO Outfall for the period July 1, 2017 through December 31, 2017 are listed in Appendix B. The listing also provides data on the depth and duration of rainfall at each of the City's thirteen (13) rain gauges. Racks 8, 9, 25, 30, 31, 38 and 39 are not included in the table. Racks 13, 8, 25, 9 and 39 were separated on June 14, 2016, May 21, 2012, April 26, 2012, July 27, 2004 and August 18, 2000, respectively. Racks 5, 7, 21 and 36 were separated on October 13, 2017, October 3, 2017, July 18, 2017 and August 16, 2017, respectfully. Racks 30 and 31 have been consolidated with Rack 40 into the Cuyahoga Street Storage Facility. Rack 38 is a diversion chamber that routes flow within the combined sewer system. Rack 30 was separated on November 9, 2017.

## **2.F Status of Development of the Supplemental Compliance Plan**

As of this reporting period, the Supplemental Compliance Plan is not required.

## **2.G Status of Public Participation Plan Implementation**

The City of Akron continued its public participation program with regular updates to the AWR! Stakeholders Group, formally known as the Integrated Plan Stakeholder Group and as the CSO Community Action Group (CAG), prior to that. During the reporting period, the following IP Stakeholder group meeting was held:

- AWR! Stakeholders Group (October 31, 2017)

The City's public participation efforts also included presentations made at the following events and public meetings during the reporting period:

- Hosted three trolley tours of the sewer sites for the public (July 2017)
- Attended the Rib White and Blue Fest (July 2017)
- Hosted a public meeting for Kelly Green-Kelly Conveyance CSO Rack 3 (July 2017)
- Held three rain barrel workshops (July and Aug 2017)
- Hosted seven trolley tours for the public (Aug 2017)
- Held AWR! update meeting with new State rep (Aug 2017)
- Held the All Akron Student Engineering Close-out Luncheon (Aug 2017)
- Rosie Christening (Aug 2017)

- Held the “Rosie Digs Akron” event (Aug 2017)
- Eco attended the mascot bash at the RubberDucks game (Aug 2017)
- Held an Aqueduct Street – Green Improvements update meeting (Aug 2017)
- Blue Heron Herald “Special Edition” printed and disseminated to every Akron address (Aug 2017)
- Completed Rosie Report and disseminated to stakeholders (Aug, Oct, Nov, Dec 2017)
- Hosted five trolley tours (Sept 2017)
- Eco attended Akron Marathon’s Children’s fun run (Sept 2017)
- Attended and participated in a meeting for the Middlebury Separation – Green Project CSO Rack 5 & 7 (Sept 2017)
- Hosted eight trolley tours (Oct 2017)
- Eco attended a University of Akron event (Oct 2017)
- Rosie began boring and a public info meeting was given (Oct 2017)
- Stakeholders meeting held at Camp Brook Storage Basin CSO Rack 12 (Oct 2017)
- Planned and hosted PISCES (Nov 2017)
- Attended an EANDC meeting to give updates about Kelly Green-Kelly Conveyance (Nov 2017)
- Held trolley tour for local private school (Nov 2017)
- Hosted AWR! and APS Outreach Event (Nov 2017)
- Participated in the City of Akron Christmas parade (Nov 2017)
- Hosted meeting for Hazel Storage Basin CSO Rack 10 & 11 (Nov 2017)
- Hosted two trolley tours for the public (Dec 2017)
- Helped plan and coordinate student’s winter STEM Fest (Dec 2017)

Copies of presentations and distributed materials are included in Appendix C.

The City of Akron has posted updated program information to the Akron Waterways Renewed (AWR!) website ([www.akronwaterwaysrenewed.com](http://www.akronwaterwaysrenewed.com)). Figure 2-1 is a picture of the home page of the AWR! website.

The City of Akron has also established a Facebook page for the Akron Waterways Renewed! Program. The link for this page is [www.facebook.com/akronwaterwaysrenewed](https://www.facebook.com/akronwaterwaysrenewed). Figure 2-2 represents the Facebook page for the program.

A Twitter Account has been established to communicate program updates and general interest topics. The account is @AkronWaterways. Instagram @AkronWaterwaysRenewed has allowed the program to share and showcase the many improvements that are a result of the projects and stakeholder collaborations.



Figure 2-1 Akron Waterways Renewed Home Webpage

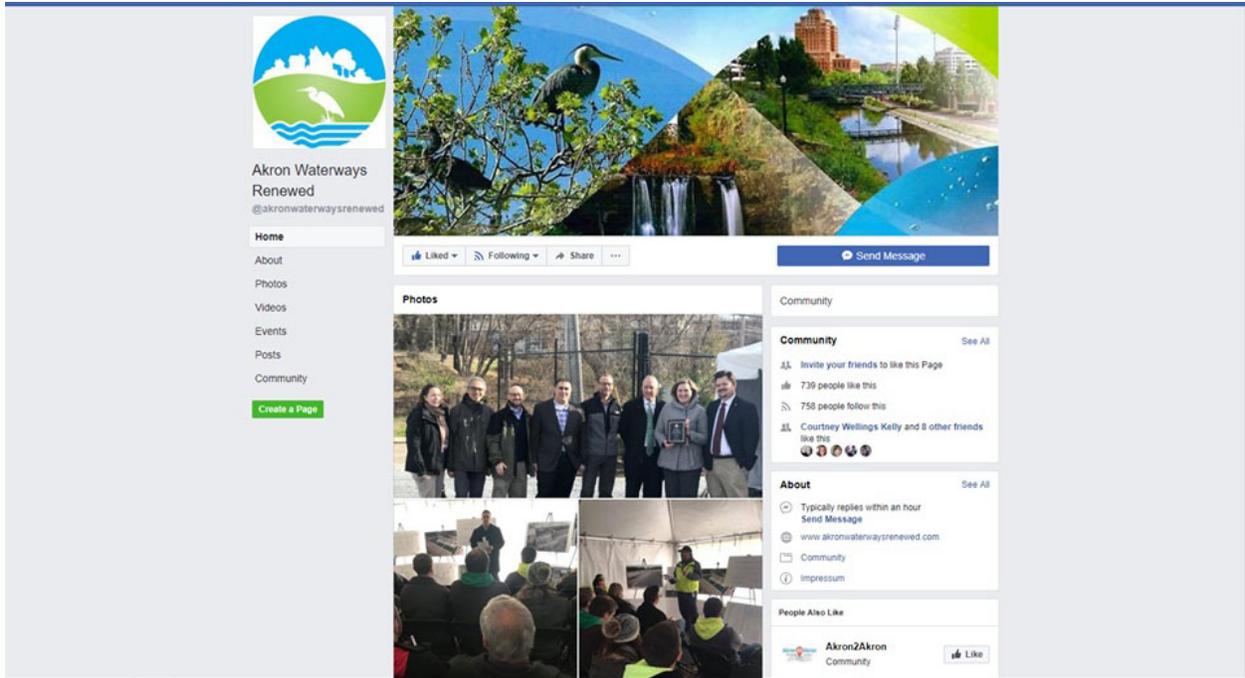


Figure 2-2 Akron Waterways Renewed Facebook Page

### **Section 3: CMOM, Grease Control, and Emergency Response Programs**

#### **3.A *List of all SSO and CSS Releases During Reporting Period***

Appendix D provides a list of SSOs and CSS Releases, including Building/Property Backups, during the reporting period.

#### **3.B *System Inspection***

Table 3-1 provides the number of miles and percent of system inspected during the reporting period.

#### **3.C *Manhole Inspection***

Table 3-2 provides the number and percent of manholes inspected during the reporting period.

#### **3.D *System Cleaning***

The number of miles and percent of system cleaned during the reporting period is provided in Table 3-3.

#### **3.E *List of Defects***

The comprehensive list of defects identified in Akron's system, identifying acute defects, and a schedule to repair the defects (including date repaired if the defect has already been repaired) are included in Appendices E and F.

**Table 3-1 System Inspection**

Period	Current Reporting Period		Previous Year		Previous Five Years		Accumulative Totals	
	Miles Inspected	Percentage Inspected	Miles Inspected	Percentage Inspected	Miles Inspected	Percentage Inspected	Miles Inspected	Percentage Inspected
July 1 – December 31, 2017 (2 <sup>nd</sup> half of Year 3 of 5)	100.4	11.9*	165.0	19.5*	408.6	48.4*	508.9	60.2*

\*Based on 845 miles in system

**Table 3-2 Manhole Inspection**

Period	Current Reporting Period		Previous Year		Previous Five Years		Accumulative Totals	
	Manholes Inspected	Percentage Inspected	Manholes Inspected	Percentage Inspected	Manholes Inspected	Percentage Inspected	Manholes Inspected	Percentage Inspected
July 1 – December 31, 2017 (2 <sup>nd</sup> half of Year 3 of 5)	802	4.2*	2587	13.6*	9680+	50.8*	10482	55.0*

\*Based on 19068 manholes in system

†Due to a recording error discovered during this recording period, 1087 additional manhole inspections that were recorded during the previous three semi-annual reports are now not included in the table.

**Table 3-3 System Cleaning**

Period	Current Reporting Period		Previous Year		Previous Five Years		Accumulative Totals	
	Miles Cleaned	Percentage Cleaned	Miles Cleaned	Percentage Cleaned	Miles Cleaned	Percentage Cleaned	Miles Cleaned	Percentage Cleaned
July 1 – December 31, 2017 (2 <sup>nd</sup> half of Year 3 of 5)	100.4	11.9*	165.0	19.5*	408.6	48.4*	508.9	60.2*

\*Based on 845 miles in system

### **3.F Maintenance and Training Activities**

- A. Pump station and force main preventive maintenance activities were conducted in accordance with Item 2.E of the approved CMOM program.
- B. 802 manholes were inspected during the period beginning July 1 through December 31, 2017 and five were documented to have signs of heavy infiltration. Those that are confirmed to be in need of repairs will be included in a future capital improvement plan.

**Table 3-4 Manholes Documented with Heavy Infiltration**

<b>Manhole Asset ID</b>	<b>Location</b>
303243	PPN6717471
301365	471 Cuyahoga Street
301996	Arlington/ E North
309379	1300 Starlight Drive
289563	2481 Nesmith Lake Blvd. (in rear)

- C. The following sewer construction and rehabilitation projects were completed or are ongoing within the City of Akron during the reporting period:
  - a) Sanitary Sewer Reconstruction 2014, Phase II (File 2014-012-00)  
To rehabilitate the City's sanitary and combined sewer system, part of the City's annual sewer reconstruction program.
  - b) Sanitary Sewer Reconstruction 2016 (File 2015-048-00)  
To rehabilitate the City's sanitary and combined sewer system, part of the City's annual sewer reconstruction program.
  - c) White Pond Pump Station (File 2014-013-01)  
Pump station rehabilitation as a result of existing equipment reaching the end of its useful life.
  - d) White Pond Parkway Sewer Extension (File 2015-049-00)  
Extend and reconstruct the existing sanitary sewer system to serve the proposed development on White Pond Parkway.
  - e) Middlebury Separation Green Project (CSO Rack 5&7) (File 2013-043-01)  
The existing combined sewer system is being separated into a storm water system and a sanitary sewer system. This will eliminate combined sewer overflows from the Rack 5 and 7 drainage basins.
  - f) CSO Rack 12 Storage Basin (File 2012-066-00)  
Construction of a 6.5 MG storage basin to control combined sewer overflows.
  - g) Tallmadge Firestone Sewer Lining (File 2015 -026-00)  
Rehabilitate the existing combined sewers in Tallmadge Avenue, Firestone Boulevard and Firestone Parkway
  - h) Aqueduct Street Green Improvements (File 2015 -003-00)

Included in this street improvement project is the rehabilitation, both spot repairs and lining via cured-in-place pipe (CIPP) of existing sewers.

- i) Akron General W Cedar Street Relief Sewer (2016-034-00)  
Installation of a 24-inch sanitary sewer that runs parallel to the existing combined sewer.
- j) Merriman Separation Green Project (CSO Rack 36) (File 2013-045-01)  
The existing combined sewer system is being separated into a storm water system and a sanitary sewer system. This will eliminate combined sewer overflows from the Rack 36 drainage basin.
- k) CSO Rack 21 Sewer Separation (File 2012-024-00)  
The existing combined sewer system is being separated into a storm water system and a sanitary sewer system. This will eliminate combined sewer overflows from the Rack 21 drainage basin.
- l) Howard Storage Basin (File 2013-044-00)  
Construction of a 2.4 MG storage basin to control combined sewer overflows.
- m) Stoney Point Commons (File 2017-010-00)  
Construction of storm and sanitary sewer extensions in Vernon Odom Boulevard, west of Romig Road intersection.

D. Root control program activities were conducted in accordance with Item 2.K of the approved CMOM program. The Root List, part of the overall Trouble Spot List, requires more frequent attention than the system wide maintenance activities. The City's approach is to inspect each of these root list locations on a modified schedule, and provide cleaning only when it is determined those pipes are in need of maintenance.

E. Training activities were conducted on the following topics. Date of training and number of employees receiving training are indicated in Table 3-5.

**Table 3-5 Training Activities**

<b>Date</b>	<b>Course Title/Description</b>	<b>Number of Employees</b>
7/25, 7/26, 7/27/2017	Fire Extinguisher	36
8/24, 8/25, 8/29, 9/6/2017	Confined Space	31
9/1/2017	Preventing Workplace Accidents	2
10/17, 10/19, 10/20/2017	What Causes Accidents	33
11/3, 11/6, 11/8, 11/9/2017	High Pressure Water Blasting	38
12/6/2017	Trench Training	13
12/7, 12/8/2017	Snow and Ice Training (Refresher & Full)	20

### **3.G Grease Control Program**

In accordance with Grease Control provisions in the approved CMOM program, this program includes inspection and/or cleaning of the known trouble spots on what was previously called the "Speed Rodder List."

#### **3.G.1 List of SSO and CSS Releases Caused by Fats, Oils, and Grease (FOG)**

There were no releases due to FOG this reporting period.

#### **3.G.2 List of FOG Trouble Spots**

A complete list of FOG Trouble Spots inspected and/or cleaned during the reporting period is included in Appendix G.

As stated in previous Semi-Annual Reports, to optimize the current schedule for the cleaning of locations suspected to have recurring grease accumulation, in 2013, the City began the CCTV inspection of each grease location on or around the next scheduled cleaning cycle to determine if significant grease accumulation has occurred. Based on the findings of the CCTV inspection, the frequency of cleaning at each grease location is adjusted accordingly. With the improvements initiated to control FOG at the source, it is anticipated that scheduled cleaning will be less efficient than periodic inspection, and cleaning only when needed.

#### **3.G.3 FOG Education Efforts Undertaken During Reporting Period**

The following educational effort was undertaken and completed during the reporting period:

- A. Akron Waterways Renewed Team developed a Program Website (<http://akronwaterwaysrenewed.com>) which includes a link to the City's educational FOG brochure, among the topics covered was that of the proper handling of fats, oils, and grease.

## Section 4: Mud Run Pump Station

### 4.A Status of Mud Run Study and Report of Findings

<b>Status of Study and Report of Findings</b>	No activity during this reporting period. The Report of Findings was submitted to USEPA on January 15, 2012.
<b>Date of Report Completion</b>	No activity during this reporting period. Report of Findings submitted on January 15, 2012, per the Consent Decree.
<b>Project Cost Incurred During Reporting Period</b>	Report complete. No costs incurred during the reporting period.

### 4.B Status of Mud Run Pump Station Remedial Report

<b>Status of Remedial Report</b>	The Remedial Report is complete.
<b>Date of Report Completion</b>	The Remedial Report was completed on October 15, 2012. Additional comments were received after completion and were included in the revised Remedial Report submitted on August 13, 2013. Final written approval dated February 26, 2014 was received via email on March 3, 2014.
<b>Project Cost Incurred During Reporting Period</b>	Report complete. No costs incurred during the reporting period.

### 4.C Status of Mud Run Pump Station Design and Construction of Projects

<b>Projects Status</b>	Table 4-1 shows the current status of the Mud Run Pump Station design projects. Table 4-2 shows the current status of the Mud Run Pump Station construction projects.
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**Table 4-1 Status of Mud Run Pump Station Design Projects**

<b>Project</b>	<b>Status</b>
Mud Run Trunk Sewer Lining	Design complete
Sevilla Trunk Sewer Reconstruction	Design 100% complete
Mud Run Pump Station Improvements	Design complete
Mud Run Storage Basin Improvements	Design complete
Mud Run District Capacity Improvements	Design complete
Mud Run District Infiltration/Inflow Improvements	Design complete

**Table 4-2 Status of Mud Run Pump Station Construction Projects**

<b>Project</b>	<b>Status</b>
Mud Run Trunk Sewer Lining	Construction is 100% complete
Sevilla Trunk Sewer Reconstruction	Construction begins Summer 2018
Mud Run Pump Station and Storage Basin Improvements***	Construction is 100% complete
Mud Run District Capacity Improvements***	Construction is 100% complete
Mud Run District I/I Repairs	Construction is 100% complete
Mud Run District I/I Rehabilitation	Construction is 100% complete
NOTE: *** projects indicate those required for CD compliance.	

Construction of the Mud Run Pump Station and Storage Basin is complete.

Mud Run District I/I Repairs is complete.

Mud Run District I/I Rehabilitation is complete.

The Mud Run District Capacity Improvements project is complete. The completion date was September 16, 2015.

**Anticipated Date of Report Completion**

The Report of Findings was completed on January 15, 2012. The Remedial Report was submitted on August 13, 2013. Approval of the Remedial Report was issued on February 26, 2014. On October 31, 2014, a letter was issued by USEPA that agrees to extend the October 15, 2015 construction deadline set forth in paragraph 25 of the Consent Decree to January 8, 2016 in order to construct and achieve full operation of the projects approved under the Mud Run Pump Station Remedial Report. The projects marked with \*\*\* will require an Achievement of Full Operation date of January 8, 2016 to be in compliance with the Consent Decree. The other projects are not required to be completed by January 8, 2016 since the anticipated I/I reductions were not used in determining the required storage basin capacity to meet the Consent Decree requirements.

**Project Cost Incurred During Reporting Period**

Mud Run District Capacity Improvements - \$0.00  
Mud Run Pump Station & Storage Basin - \$329,191.51  
Mud Run District I/I Repairs - \$42,143.28  
Mud Run District I/I Rehabilitation - \$383,337.70

### **Section 5: Supplemental Environmental Project**

The City's third and final payment to the Supplemental Environmental Project (SEP) escrow account was made during the January – July 2011 reporting period. At the request of the State of Ohio, the City transferred the funds in the SEP escrow account (\$905,972.49) to the Friends of the Crooked River, via wire transfer. The wire transfer occurred on October 13, 2017, and the State of Ohio was provided with confirmation of the wire transfer. The City is not required to do anything further regarding the SEP.

### **Section 6: Other Necessary Information**

Not applicable

### List of Abbreviations and Acronyms

AFP	Advanced Facilities Plan
CAG	Community Action Group
CCTV	Closed-Circuit Television
CD	Consent Decree
CIPP	Cured in Place Process
CMOM	Capacity, Management, Operations, and Maintenance
CSO	Combined Sewer Overflow
CSS	Combined Sewer Systems
EPA	Environmental Protection Agency
FOG	Fats, Oils and Grease
FSE	Food Service Establishments
GI	Green Infrastructure
GIS	Geographic Information System
HVAC	Heating, Ventilation, and Air Conditioning
ID	Identification
IP	Integrated Plan
IPF	Integrated Planning Framework
IPS	Integrated Plan Stakeholders
LCI	Little Cuyahoga Interceptor
LF	Lineal Feet
LTCP	Long Term Control Plan
Mg/l	Milligrams per Liter
MGD	Million Gallons per Day
MH	Manhole
MLSS	Mixed Liquor Suspended Solids
MOI	Main Outfall Interceptor
NASSCO	National Association of Sewer Service Companies
NFA	No Feasible Alternative
No.	Number
NOI	Notice of Intent
NTP	Notice To Proceed
OCI	Ohio Canal Interceptor
OCIT	Ohio Canal Interceptor Tunnel
OHPO	Ohio Historic Preservation Office
OSHA	Occupational Safety and Health Administration
PER	Preliminary Engineering Report
PTI	Permit to Install
QAPP	Quality Assurance Project Plan
RAS	Return Activated Sludge
RCA	Root Cause Analysis
RIO	Remote Input/Output
SCPHD	Summit County Public Health Department
SEP	Supplemental Environmental Project
SOP	Standard Operating Procedure
SORNP	Sewer Overflow and Response Notification Plan

### **List of Abbreviations and Acronyms**

USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WAS	Waste Activated Sludge
WPCLF	Water Pollution Control Loan Fund
WPCS	Water Pollution Control Station
WRF	Water Reclamation Facility (See: WPCS)