SD1
Managing Northern Kentucky's
Wastewater and Storm Water

June 7, 2013

Director of the Division of Enforcement
Department for Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
601 D street NW
Washington, DC 20005
DOJ Case No. 90-5-1-1-08591

Chief, Water Program Enforcement Branch
Water Management Division
U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

Re: Consent Decree Case No. 2:05-cv-00199-WOB

To Whom It May Concern:

Pursuant to the above-referenced Consent Decree, Sanitation District No. 1 (SD1) is required to submit an annual report on the implementation of the initial watershed projects identified in Exhibit D of SD1's Consent Decree:

> **37. Initial Watershed Program Project List.** The District shall complete the initial watershed projects identified in ***Exhibit D*** as a requirement of this Consent Decree in accordance with the schedule set forth in ***Exhibit D***. The District shall provide an annual report within twelve months of entry of this Consent Decree on implementation of these watershed projects. Thereafter and until these projects are complete, the District shall provide an annual report on its implementation progress within sixty days after each anniversary date of the initial report.

A certification as required by the Consent Decree is also enclosed (Consent Decree paragraph 38).

I am confident in the integrity of the enclosed document, and I am certain that its content not only satisfies regulatory requirements, but also helps further the mission and vision of SD1 by demonstrating aggressive, proactive, achievable measures underway in Northern Kentucky to protect water resources and enhance the quality of life.

If you have any questions or concerns, do not hesitate to contact me at 859-578-7465 or by e-mail at drager@sd1.org.

Best regards,

David E. Rager
Executive Director

DER/wck
Enclosures

Sanitation District No. 1
June 7, 2013

Initial Watershed Projects
2013 Annual Report

SD1

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CERTIFICATION

Initial Watershed Projects 2013 Annual Report
Consent Decree Case No. 2:05-cv-00199-WOB

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

David E. Rager
Executive Director

6-5-13
Date

COMMONWEALTH OF KENTUCKY

)ss.

COUNTY OF Kenton

The foregoing instrument was acknowledged before me this 5 day of June, 2013 by David E. Rager, Executive Director of Sanitation District. No. 1.

Angela M. Cook
Notary Public
Kentucky, State at Large
Comm. Exp. 07-30-16
Notary ID 471543

NOTARY PUBLIC

Campbell County, Kentucky

My commission expires: 6-30-16

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INITIAL WATERSHED PROJECTS
2013 ANNUAL REPORT

June 7, 2013

Sanitation District No. 1
1045 Eaton Drive
Ft. Wright, KY 41017

TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

CIP	Capital Improvement Project
SD1	Sanitation District No. 1

SECTION 1. INTRODUCTION

On April 18, 2007, Sanitation District No. 1 (SD1) entered into a Consent Decree with the U.S. Environmental Protection Agency, the U.S. Department of Justice, and the Kentucky Energy and Environment Cabinet to address sanitary sewer overflows and combined sewer overflows in an effort to improve water quality throughout SD1's service area. A significant component to jumpstarting the effort was to identify capital projects that had already commenced or were scheduled to commence while the Consent Decree was still under negotiation, which would aid in achieving the overarching goals of the legal agreement. The projects were termed "initial watershed projects," and SD1 committed itself to completing these projects within the time frames specified in Exhibit D of the Consent Decree.

Appendix A includes the revised Exhibit D, submitted by SD1 as Attachment 2 in its responses to the Action Items of the Watershed Plan Meeting of July 26, 2012.

Pursuant to the Consent Decree, SD1 is required to submit annual reports on its implementation of the initial watershed projects until all projects are complete**.** This is SD1's sixth and final Initial Watershed Projects Annual Report.

SECTION 2. OVERVIEW OF INITIAL WATERSHED PROJECTS

2.1 Status Updates

Many of SD1's initial watershed projects started as early as 2003, while others were anticipated to be complete as late as 2013. Of the originally identified projects, all but one have been completed ahead of or on schedule.

The remaining project, C-039-00 (Western Regional – Richwood Sewer and Forcemain), was requested to be removed from the initial watershed projects list, with the March 31, 2011 submittal of SD1's revised Integrated Watershed Plan. Removal of project C-039-00 from Exhibit D was found acceptable in a letter dated May 13, 2013 from the Kentucky Department for Environmental Protection and the United States Environmental Protection Agency, as shown in Appendix B.

With the approved removal of C-039-00 from the list and the completion of the remaining projects, the reporting requirement for the initial watershed projects has been fulfilled and no further annual reports will be submitted.

Cumulatively, SD1's initial watershed projects totaled approximately $402.9 million in capital spending through FY2013, not including financing. The estimate is based on SD1's adjusted FY 2013 CIP budget, which provides the most current actual costs. The estimated total of capital spending may be different than projections included in

previous reports. Appendix C provides updated schedules, descriptions, overflow reduction impacts, approximate final costs, and the status for each of the projects, as of June 7, 2013.

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APPENDIX A:

Consent Decree Exhibit D - Revised

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SD1 Responses to Action Items

SD1/USEPA/KDOW Watershed Plan Meeting of July 26, 2012

Attachment 2

Exhibit D - Initial Watershed Projects

CIP Code	CIP Title	Anticipated Start Date	Anticipated Completion Date
North Watershed Projects			
C-042-00	Strawberry Pump Station Elimination	2005	2006
C-438-01	Beechwood Outfall Sewer Replacement	2006	2007
East Watershed Projects			
C-006-00	Eastern Regional - Design and Construction of Eastern Regional Outfall Sewer	2005	2008
C-054-00	Eastern Regional - Contract 1--Pond Creek Force Main and Gravity Sewer to Eastern Regional WWTP	2005	2008
C-056-00	Eastern Regional - Contract 2--Kahn's Gravity Sewer and Gravity Sewer to the Pond Creek PS	2005	2008
C-073	U.S. 27 at Summit Assessment	2005	2008
C-075-00	Eastern Regional - Contract 3--Riley Force Main and Gravity Sewer to the ERWWTP	2006	2009
C-076-00	Eastern Regional - Contract 4--Alex Licking Gravity Sewer to Contract 1	2006	2009
C-077-00	Eastern Regional - Contract 5--Sunset Force Main and Gravity Sewer, Alex-Licking Force Main	2006	2009
C-078-00	Eastern Regional - Contract 6--Pond Creek Pump Station	2005	2008
C-079-00	Eastern Regional - Contract 7--Riley Road #2 Pump Station	2006	2009
C-080-00	Eastern Regional - Contract 8--Alex-Licking and Sunset Pump Stations	2006	2009
C-081-00	Parkside Pump Station Relocation	2005	2008
C-426-00	Eastern Regional Wastewater Treatment Plant	2004	2008
C-414-17	Highland Heights Pump Station Study	2005	2006
C-620-01	Wilson/Waterworks Road Relief Sewer Study	2005	2008
C-607-01	Pinehill/Skyview Terrace Sewer	2005	2006

Exhibit D - Initial Watershed Projects

CIP Code	CIP Title	Anticipated Start Date	Anticipated Completion Date
West Watershed Projects			
C-001-00	Western Regional Conveyance System to Western Regional WWTP	2008	2013
C-002-00	Western Regional - Sunnybrook Sewer	2008	2013
C-003-00	Western Regional - Frogtown Interceptor Sewer (from Sunnybrook Dr. to Frogtown Rd.)	2010	2014
C-004-00	Western Regional - South Fork Gunpowder Interceptor Sewer and Rosetta Sewer	2008	2013
C-005-00	Western Regional - Narrows Road Diversion Pump Station	2008	2013
C-030-00	Western Regional - KDOT - Turkeyfoot Road Force Main	2003	2006
C-037-00	Western Regional - Union Sewer (North and South)	2007	2013
C-038-00	Western Regional - Gunpowder Interceptor Sewer	2008	2013
C-039-00	Western Regional - Richwood Sewer and Force Main	Removed	Removed
C-063-00	Western Regional - Turkeyfoot Industrial Road Force Main	2007	2013
C-414-02	American Sign Pump Station Rehabilitation	2006	2008
C-424-00	Western Regional Wastewater Treatment Plant	2008	2013
C-068-00	Allen Fork Collection System - Phase I Improvements	2006	2009
C-031	Duncan Drive Assessment Project	2005	2007

Exhibit D - Initial Watershed Projects

CIP Code	CIP Title	Anticipated Start Date	Anticipated Completion Date
Central Watershed Projects			
C-014-00	Banklick Pump Station Screening Facility	2004	2006
C-036-01	Stevenson Road Relief Sewer Project Phase II	2004	2006
C-040-05	Latonia Combined Sewer Separation	2006	2009
C-046-00	Licking River Sewer Crossing Study	2005	2007
C-072-00	McMillan Pump Station Removal	2005	2006
C-414-16	Meyer Road Pump Station Rehabilitation	2006	2008
C-414-43	Macke Pump Station Rehabilitation	2006	2008
C-414-45	Richwood Pump Station Improvements	2005	2006
C-480-02	Patton Street Sewer Study	2005	2006
C-615-01	South Hills Outfall	2006	2008
North & East Watershed Projects			
C-475-00	Grit Chamber Projects	2006	2010
North & Central Watershed Projects			
S-577-01	Fort Wright Illicit Discharge Removal	2004	2007
C-040-03	Fort Wright Sanitary Sewer Rehabilitation	2004	2007
C-458-00	Fort Wright Outfall Sewer - Phase II	2003	2006
North, East & Central Watershed Projects			
C-044-00	Dry Creek Treatment Plant - Grit Removal Modifications	2004	2006
C-024-00	Large Diameter Sewer Assessment Program - Phase III	2005	2007
C-040-06	Brookwood Subdivision SSES Study	2005	2006
C-040-08	Southern Kenton Drainage Study	2005	2007
C-090	Wilson Road Sewer Assessment Project	2005	2006
C-484	Apple Drive Sewer Outfall	2005	2006
North, East, West & Central Watershed Projects			
C-480-01	Bluegrass Swim Club Sewer Separation	2005	2008

APPENDIX B:

May 13, 2013 Letter from KDEP and EPA

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STEVEN L. BESHEAR
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF ENFORCEMENT
300 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

LEONARD K. PETERS
SECRETARY

May 13, 2013

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mark W. Wurschmidt, P.E., BCEE
Deputy Executive Director of Engineering
Sanitation District #1of Northern Kentucky
1045 Eaton Drive
Ft. Wright, Kentucky 41017

Re: Sanitation District No. 1 Watershed Plans
Civil Action No. 2:05-CV-199-WOB

Dear Mr. Wurschmidt:

The Kentucky Department for Environmental Protection (KDEP) and the United States Environmental Protection Agency (EPA) have reviewed your emailed submittal of October 26, 2012, which addressed the Action Items for SD1 identified at our meeting at SD1's offices on July 27, 2012, and in follow-up emails and phone calls. KDEP and EPA have the following comments on your responses to the Action Items.

In addition, EPA and KDEP have provided responses below to the Action Items identified at the July 27, 2012, meeting for EPA and KDEP to address.

Action Items for SD1:

Action Item No. 1: Prepare minutes of meeting and list of action items.
Minutes of the meeting were reviewed by EPA and KDEP with comments provided August 31, 2012. No further comment.

Action Item No. 2: Draft a new Exhibit E to reflect schedule.
The revised Exhibit E in Attachment 1 which includes the Ash Street pump station project with a deadline, as requested by EPA and KDEP at the July meeting, is acceptable.

For the revised Exhibit D in Attachment 1, removing project C-039-00 [Western Regional – Richwood Sewer and Force Main] is acceptable. However, there are some discrepancies between the "Summary of Initial Watershed Projects" table provided in the Annual Reports and Exhibit E. Please explain the discrepancies below before we determine whether the revised Exhibit D is acceptable.

1. C-006-00 [Eastern Regional – Design and Construction of Eastern Regional Outfall Sewer]. This project does not appear on the summary table in the Annual Report.
2. C-077-00 [Eastern Regional – Contract 5—Sunset Force Main and Gravity Sewer, Alex Licking Force Main]. This project does not appear on the summary table in the Annual Report.
3. C-080-00 [Eastern Regional – Contract 8—Alex Licking and Sunset Pump Stations]. This project has a different CIP Title in the summary table in the Annual Report.
4. C-414-93 [Sunset Pump Station and Forcemain Improvements]. This project is in the summary table in the Annual Report but is not in Exhibit E

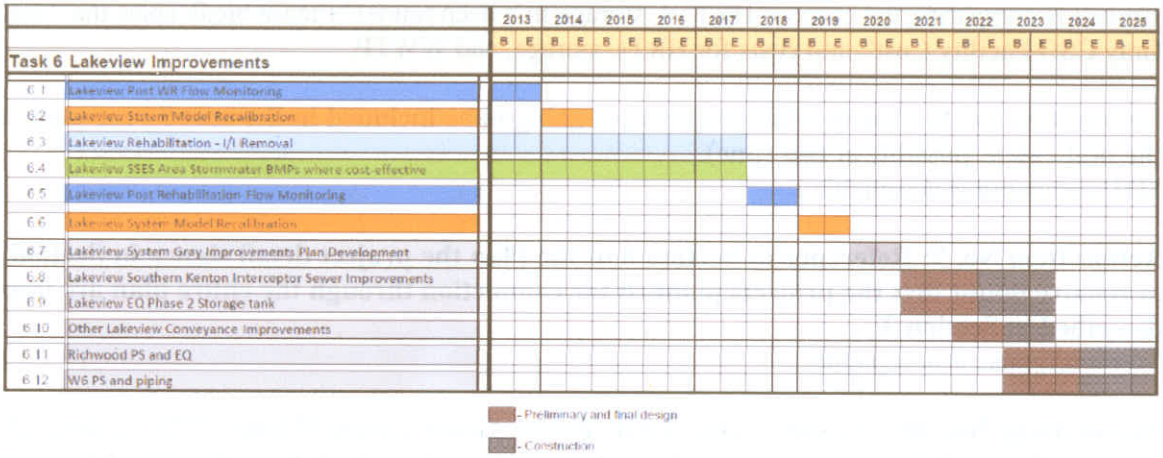
Action Item No. 3: For the Combined Sewer System, provide information concerning total annual system volume, the portion of this volume that is storm water, the volume passing through secondary treatment, the volume passing through the High Rate Treatment Facilities and the remaining annual overflow volume at the end of the Consent Decree period. Also, clarify the source of this information (i.e. Modeled and/or flow monitored).
SD1's response is acceptable. Similar tables showing the model predicted volumes for the Typical Year and at the end of the 5-Year Improvement Program should also be included in the Watershed Plan.

Action Item No. 4: Provide more specific information concerning the revised deadline date for elimination of the remaining 1 million gallons of annual overflow from the Lakeview Pump Station. Include the start and end dates for the gray project that will eliminate this overflow. For the Lakeview Pump Station, in addition to the specific information concerning the revised deadline date for elimination of the remaining 1 million gallons of annual overflow from the Lakeview Pump Station, include information about the rationale for the timing of project inception and duration of the project that will eliminate this overflow.
SD1's Action Item 4 response describes the ultimate elimination of SSOs at the Lakeview PS and includes the table on page 3 of SD1's responses (below) that indicates that final project completion for elimination of the Lakeview PS constructed overflow outfall is requested to be December 31, 2025, which coincides with the final compliance date of the Consent Decree to eliminate non-Exhibit E SSOs. However, the March 31, 2011 Watershed Plans indicate on Figure 8-2, page 8-7 that the Richwood PS and WS6 PS and associated projects are "facility planning[1]" projects not associated with the SSOs currently plaguing the system and therefore will not be considered as necessary projects needed to meet any regulatory deadlines to eliminate the SSO at the Lakeview PS. EPA and KDEP agree that a deadline of December 31, 2023 is reasonable for final elimination of the SSO located at the Lakeview PS.

Each Watershed Plan Update should re-evaluate whether the ultimate elimination of the SSO at the Lakeview PS can be eliminated sooner than December 31, 2023.

[1] *Watershed Plan* (3/31/2011), page 8-3 "Facility Planning Projects: Project and costs associated with the 2030 planning horizon that are not associated with current SSOs. These projects provide the trunk sewers and pump stations necessary to meet the demand of service area growth and not create new SSOs."

Lakeview System Improvements Schedule



Action Item No. 5: Provide more detailed descriptions and the projected schedule for the list of GI projects. Clarify that GI is proposed for SSO areas as a way to reduce volume of SSO and provide additional water quality benefit.
SD1's response is acceptable.

Action Item No. 6: Provide components of the formula and calculations regarding the 85% removal.
SD1's response states that the sanitary component of wet weather flow was calculated by taking the average dry weather flow and dividing by 3 because modeling showed that wet weather conditions occurred 1/3 of the typical year. Please justify why this method was used instead of having the model determine the amount of sanitary flow that occurred during wet weather conditions.
It is understood that the assumed antecedent moisture condition is "saturated," (AMC III) however more details regarding the criteria distinguishing a "wet weather event" are requested. Please define what SD1 is using as a "wet weather condition" including details relating rainfall and runoff, the duration of periods with no measurable precipitation prior to the "wet weather condition" and/or pump station flow levels that may dictate the onset of a "wet weather event".
Does the modeling show that there are any times where there is flow that bypasses secondary treatment at Dry Creek WWTP when it is not a wet weather condition?
Similar tables showing the model predicted volumes for the Typical Year and at the end of the 5-Year Improvement Program should also be included in the Watershed Plan.

Action Item No. 7: For the Dry Creek Treatment Plant, provide information concerning the current and future blending operations after all upgrades have been completed. Address off-site feasible alternatives to blending, including storage and controlled pumping rate to obtain 100% secondary treatment.
There is confusion about what Table 3 on page 7 in SD1's responses to the Action Items is representing. Are the 100, 130, and 160 MGD secondary treatment scenarios in Table 3 the same as the ones in Appendix 7-A of the Watershed Plans in the No Feasible Alternatives analysis (which do not include combined flow proposed to be treated at HRTs)? Does Table 3 include separate sanitary flow? Or are these capacities just for combined flow from Bromley pump

station? Is $344 million for total CSO facility costs in Table 3.33 of the Watershed Plans included in each scenario in Table 3? If so, why are HRTs being included in the costs when Table 3 is comparing the costs of HRT vs. storage in a deep tunnel? Please break apart the "Total Gray CSO Facility Cost" into costs for HRTs, storage, and WWTP.

Action Item No. 8: Clarify what projects are going to be included in the next 5 year plan (to the best extent possible at this time).
SD1's response is acceptable.

Action Item No. 9: Reference in Section 8 of the Plan the project detail shown in Section 3 to remove doubt that the projects planned for completion through the entire plan are those described in Section 3.
SD1's response is acceptable.

Action Item No. 10: Provide more detail in the Gantt charts (Figure 8.2) to show the various phases of the projects. If possible, show the decision point in the timeline when SD1 will need to move forward with gray infrastructure projects to meet the Consent Decree deadline dates.
SD1's response is acceptable.

Action Item No. 11: Prepare a discussion of Kentucky HB 26 and other state laws that impact rate-setting.
SD1's response is acceptable.

Action Item No. 12: Provide red-lined revisions to the Plan and, upon agreement, incorporate into a clean revised Plan.
A red-line or marked-up revised Watershed Plan has not been provided for review.

Action Item No. 13: For the Lakeview Pump Station, in addition to the specific information concerning the revised deadline date for elimination of the remaining 1 million gallons of annual overflow from the Lakeview Pump Station, include information about the rationale for the timing of project inception and duration of the project that will eliminate this overflow.
See EPA/KDEP comments under Action Items Nos. 2 and 4 above.

Action Item No. 14: For the Green Infrastructure projects, in addition to providing more detailed descriptions and the projected schedule for the list of projects, EPA requests additional information on the process and timing that to be utilized of when these projects will be further evaluated for inclusion into the plan, i.e. evaluated and included or evaluated and excluded.
SD1's response is acceptable.

Action Item No. 15: For the entirety of the submittal, edit the documents to remove the concept of "conceptual". The documents submitted should be the plans and activities SD1 proposes that will meet the specifics of the consent decree, their NPDES permit requirements and the Clean Water Act.
See EPA/KDEP comment under Action Item No. 12 above. Replacing the word "conceptual" with "preliminary" does not necessarily remove the concept of "conceptual". Please review the

language in section 8.8 on pages 8-40 to 8-41 of the Watershed Plans. EPA and KDEP cannot approve Watershed Plans with a statement such as on the bottom of page 8-40 that says that "SD1 cannot commit to full implementation of this Integrated Plan by 2025..." Also please review the bolded paragraph on page 4-16 of the Watershed Plans. EPA and KDEP cannot approve Watershed Plans with statements such as "If this occurs, SD1 will have no choice but to modify the [Five Year Improvement] program to reflect changed regional priorities and the ratepayers' ability to pay," which suggests that SD1 may make unilateral decisions to not complete the approved projects within the schedule approved in the Watershed Plans. The Five Year Improvement Program is not conceptual or preliminary. It is a final plan and if the parties agree to modify it, those modifications must be made in accordance with the Consent Decree.

Action Item No. 16: For review of feasible alternatives, SD1 should provide their alternatives analysis for options within the sewershed(s). As discussed, prior siting efforts for the Eastern & Western Regional systems should be included to demonstrate prior feasible alternatives chosen to illustrate the feasible options available to SD1.
SD1's response is acceptable.

Action Items for EPA/KDEP:

Action Item No. 1: Confirm that SD1 has identified all of the action items that will address the agencies' concerns so that the technical Plan can be approved.
EPA responded by email on August 31, 2012, with clarifying comments on the Action Items identified by SD1 in the minutes of the July 27, 2012, meeting.

Action Item No. 2: Clarify position on Dry Creek treatment plant blending.
EPA and KDEP have reviewed the No Feasible Alternatives analysis in Appendix 7-A of the Watershed Plans. Many of the criteria for approval of a CSO-related bypass have been addressed; however, EPA and KDEP have the following comments:

- The Watershed Plan includes consideration of most of the alternatives to a bypass suggested by the CSO Policy except for non-biological secondary treatment. Please include alternatives for High Rate Treatment units at Dry Creek WWTP in Appendix 7-A. In addition, since biological High Rate Treatment has become a feasible technology, it should also be included as a cost-effective secondary treatment alternative to a bypass.

- The Watershed Plan does not provide justification for the cut-off point at which the flow will be diverted from the secondary portion of the Dry Creek WWTP. It is reasonable to accept 160 MGD as the maximum capacity to consider for primary or secondary treatment, given the capacity limitations of getting wastewater to the WWTP and of the outfall pipe. However, the following information is missing:

    - On page 3 of the NFA in Appendix 7-A, a "previous collection system alternative evaluation showed that peak flows from the separate system at Dry Creek WWTP would reach a maximum of 100MGD under future build-out conditions and capacity increases in the collection system to alleviate current bottlenecks and wet weather overflows" is referenced but not included. Please provide this evaluation.

    - Please provide justification for choosing 130 MGD to evaluate for secondary treatment vs. a higher or lower peak flow rate.

- There is no supporting information for the flow volumes listed in Table 4-3 of Appendix 7-A, "Incremental Increase in Typical Year Secondary Treatment (MG per Year)". Please provide a graph and/or summary of flows showing how often flows are predicted to be higher than each flowrate evaluated, including the duration, total volume, and highest flowrate for each high flow event.

- The criteria in the bypass regulation at 40 CFR 122.41(m)(4)i(B) of scheduling maintenance during normal periods of equipment downtime as a feasible alternative to a bypass is not readily addressed in the Watershed Plan. Please address this criteria.

Action Item No. 3: Complete review of Financial Capability Assessment.
The Financial Capabilities Analysis (FCA) has been completed and, based on numbers provided by SD1, our FCA corroborated SD1's results for High Burden.

As agreed upon during the July 27, 2012 meeting and in subsequent discussions, SD1 will provide a red-line/marked-up revision of the Watershed Plans within 90 days of receipt of this letter. Also, please provide the additional information requested in EPA and KDEP's responses above within 60 days of receipt of this letter. If you have any questions, please contact Jill Bertelson at (502) 564-3410, extension 4912, or you may contact Dennis Sayre of EPA Region 4 at (404) 562-9756.

Sincerely,

Jeffrey Cummins, Director
Division of Enforcement
KY Department for Environmental Protection

for

Denisse Diaz, Chief
Clean Water Enforcement Branch
Water Protection Division
EPA, Region 4

JAC/jmb

cc: Denisse D. Diaz, Chief, CWEB, U.S. EPA Region 4

APPENDIX C:

Project Summary Spreadsheet

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Summary of Initial Watershed Projects

CIP Code	CIP Title	Anticipated Start Date	Anticipated Completion Date	Actual Completion Date	Project Description	Impact on Overflow Reduction	Project Cost ($ Millions)[1]	Status
North Watershed Projects								
C-042-00	Strawberry Pump Station Elimination	2005	2006	2005	The elimination of this station will help to attenuate the flow throughout the gravity portion which will address surcharging in the system.	See Project Description	$0.2	Complete
C-438-01	Beechwood Outfall Sewer Replacement	2006	2007	2007	This project will eliminate Infiltration and Inflow (I/I) from the creek and eliminate one SSO and several suspected SSOs. The project will also remove I/I from the downstream combined sewer system.	See Project Description	$2.3	Complete
East Watershed Projects								
C-054-00	Eastern Regional - Contract 1--Pond Creek Force Main and Gravity Sewer to Eastern Regional WRF	2005	2008	2007	This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project also eliminates the existing Pond Creek Wastewater Treatment Plant and allows for the immediate removal of the Dairy Mart Wastewater Treatment Plant.	The sewer improvements and new treatment plant in the Eastern Regional system will eliminate overflows throughout this system in a typical year.	$5.9	Complete
C-056-00	Eastern Regional - Contract 2--Kahn's Gravity Sewer and Gravity Sewer to the Pond Creek Pump Station	2005	2008	2007	This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project also eliminates the existing Southern Campbell County Wastewater Treatment Plant (2330TP1). It will allow for future elimination of package plants in close proximity to the new gravity portions of this sewer.	The sewer improvements and new treatment plant in the Eastern Regional system will eliminate overflows throughout this system in a typical year.	$4.3	Complete
C-073-00	US 27 at Summit Assessment	2005	2008	2006	This project extended sanitary sewer service to eliminate 12 failing septic systems from this area.	See Project Description	$0.4	Complete
C-075-00	Eastern Regional - Contract 3--Riley Force Main and Gravity Sewer to the ERWRF	2006	2009	2010	This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project along with the Riley Road Pump Station (C-079) will also eliminate a major SSO (2230PS3) from the existing Riley Road No. 1 Pump Station.	The sewer improvements and new treatment plant in the Eastern Regional system will eliminate overflows throughout this system in a typical year.	$5.7	Complete
C-076-00	Eastern Regional - Contract 4--Alex Licking Gravity Sewer & Force Main to Contract 1	2006	2009	2008	This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project along with the Alex-Licking Pump Station (C-080) will eliminate a major SSO (2200PS1) from the existing Alex-Licking Pump Station.	The sewer improvements and new treatment plant in the Eastern Regional system will eliminate overflows throughout this system in a typical year.	$4.6	Complete
C-078-00	Eastern Regional - Contract 6--Pond Creek Pump Station	2005	2008	2007	This project provides wet weather flow pumping capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers and providing a new pump station. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams.	The sewer improvements and new treatment plant in the Eastern Regional system will eliminate overflows throughout this system in a typical year.	$4.2	Complete
C-079-00	Eastern Regional - Contract 7--Riley Road #2 Pump Station	2006	2009	2009	This project provides wet weather flow pumping capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers and providing a new pump station. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project will eliminate a major SSO (2230PS3) from the existing Riley Road. No. 1 and Riley Road No. 2 stations.	The sewer improvements and new treatment plant in the Eastern Regional system will eliminate all overflows throughout this system in a typical year.	$6.8	Complete
C-080-00	Eastern Regional - Contract 8A--Alex-Licking Pump Station	2006	2009	2009	This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers and providing a new pump stations. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project will eliminate a major SSO (2200PS1) from the existing Alex-Licking Pump Station.	The sewer improvements and new treatment plant in the Eastern Regional system will eliminate overflows throughout this system in a typical year.	$2.1	Complete
C-081-00	Parkside Pump Station Relocation	2005	2008	2007	This project allows for the elimination of the existing Southern Campbell County Wastewater Treatment Plant (2330TP1). It will allow for future elimination of package plants in close proximity to the new gravity portions of this sewer.	See Project Description	$0.9	Complete
C-426-00 & 01	Eastern Regional Water Reclamation Facility	2004	2008	2008	This project consists of a new wastewater treatment plant to treat dry and wet weather flows from the collection system. This project will receive flow from the new collection system serving to eliminate SSOs in the Eastern Regional collection system. The design concept of "Transport and Treat" is being built to include equalization at this new treatment plant. The elimination of four treatment plants plus the new infrastructure will accommodate the future elimination of many smaller package treatment plants in the Eastern Regional system. This project will also accommodate the future elimination of many failing septic systems in this region. The end result is improvement of water quality in the local streams.	The sewer improvements and new treatment plant in the Eastern Regional system will eliminate overflows throughout this system in a typical year.	$42.9	Complete
C-414-17	Highland Heights Pump Station Study	2005	2006	2006	This study will evaluate the redirection of flows from parts of the separate sewer and combined sewer systems to areas of the system with available capacity. This project will identify potential solutions to bring CSOs in the area into compliance with the 1994 CSO policy and reduce the activity of the downstream CSOs. This project will also identify potential solutions to at least three known SSOs and several suspected SSOs.	See Project Description	$0.3	Complete
C-414-93	Sunset Pump Station and Forcemain Improvements *(Satisfies requirement of C-077-00)*	2010	2010	2010	This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing the existing force main and making pumping modifications to increase the pump station capacity. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project will eliminate a major SSO (2450PS2) from the existing Sunset Pump Station.	The sewer improvements and new treatment plant in the Eastern Regional system will eliminate overflows throughout this system in a typical year.	$0.3	Complete
C-620-01	Wilson/Waterworks Road Relief Sewer Study	2005	2008	2007	This study will evaluate alternatives to increasing wet weather capacity in the existing sanitary and combined sewers in order to reduce the activity of one known CSO, eliminate at least one SSO, current basement backups, and several suspected SSOs.	See Project Description	$0.7	Complete
C-607-01	Pinehill/Skyview Terrace Sewer	2005	2006	2005	This project was completed to replace a failing sewer in a landslide behind several houses. The project eliminated broken pipe that was leaking sewage in the backyards.	See Project Description	$0.3	Complete

[1]The project costs represent the future and spent dollars for each project as of June 7, 2013.

Summary of Initial Watershed Projects

CIP Code	CIP Title	Anticipated Start Date	Anticipated Completion Date	Actual Completion Date	Project Description	Impact on Overflow Reduction	Project Cost ($ Millions)[1]	Status
West Watershed Projects								
C-001-00	Western Regional Conveyance System to Western Regional WRF	2008	2013	2012	This project diverts flow from the existing Lakeview Pump Station sewer service area, which experiences sanitary sewer overflows at the station and from manholes upstream and addresses current SSOs upstream of the existing Gunpowder Pump Station. The diverted flow will be conveyed and stored within a new approximately 8.5 feet diameter tunnel to the new Western Regional Treatment Plant. The Lakeview Pump Station service area pumps both combined and separate flows to the collection system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system.	Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model.	$130.0	Complete
C-002-00	Western Regional - Sunnybrook Sewer	2008	2013	2010	Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to the collection system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system.	Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model.	$7.8	Complete
C-003-00	Western Regional - Frogtown Interceptor Sewer (from Sunnybrook Dr. to Frogtown Rd.)	2010	2014	2012	Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to the collection system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system.	Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model.	$5.4	Complete
C-004-00	Western Regional - South Fork Gunpowder Interceptor Sewer and Rosetta Sewer	2008	2013	2012	Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system.	Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model.	$14.8	Complete
C-005-00	Western Regional - Narrows Road Diversion Pump Station	2008	2013	2012	Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. It also eliminates two known SSOs and several suspected SSOs. Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system.	Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model.	$10.0	Complete
C-030-00	Western Regional - KDOT - Turkeyfoot Road Force Main	2003	2006	2005	Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system.	Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model.	$1.0	Complete
C-037-00	Western Regional - Union Sewer (North and South)	2007	2013	2008	Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system.	Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model.	$7.2	Complete
C-038-00	Western Regional - Gunpowder Interceptor Sewer	2008	2013	2010	Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. It also addresses current overflows from the existing Gunpowder Pump Station (Manhole 2380001). Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system.	Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model.	$15.8	Complete
C-039-00	Western Regional - Richwood							Removed
C-063-00	Western Regional - Turkeyfoot Industrial Road Force Main	2007	2013	2013	Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system.	Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model.	$3.4	Complete
C-414-02	American Sign Pump Station Rehabilitation	2006	2008	2008	This project constructs a new pump station to replace an existing high maintenance intensive pump station. The new pump station is sized to provide additional wet weather capacity to eliminate a constructed sewer bypass upstream and will provide back-up power to the pump station via an onsite engine generator.	The new pump station is sized to provide additional wet weather capacity to eliminate a constructed sewer bypass upstream.	$0.5	Complete
C-424-00	Western Regional Water Reclamation Facility	2008	2013	2012	The new Western Regional Treatment Plant will receive and treat diverted flow from the Lakeview Pump Station and Gunpowder Pump Station service areas, which experience overflows at the stations and from manholes upstream. The treatment plant is being sized initially to treat 20 mgd dry weather flow and 30 mgd peak wet weather flow. Flows above this peak flow will be stored in the upstream tunnel (project C-001). Future upgrades to the treatment plant will allow treatment capacity up to 45 mgd dry weather flow and 60 mgd peak wet weather flow. The existing Lakeview Pump Station service area pumps both combined and separate flows to the collection system so this project will: (1) free up capacity at the Dry Creek Treatment Plant, thereby allowing additional CSO area flows to be treated; and (2) increase capacity in the conveyance system tributary to Lakeview and the Gunpowder Pump Stations, decreasing overflows in this system.	Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model.	$91.2	Complete
C-068-00	Allen Fork Collection System - Phase I Improvements	2006	2009	2007	This project provides wet weather flow sanitary sewer capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers. This project also constructs a new pump station to intercept flows and provide additional dry and wet weather pumping capacity in order to reduce upstream and downstream SSOs. This project will address two known SSOs and several suspected SSOs in the Burlington area.	This project will reduce Consent Decree listed overflow volumes upstream of Allen Fork PS by approximately 85% in a typical year based on SD1's calibrated and verified hydraulic model.	$7.3	Complete
C-031-00	Duncan Drive Assessment Project	2005	2007	2006	This project extended sanitary sewer service to eliminate 35 failing septic systems from this area.	See Project Description	$1.0	Complete

[1]The project costs represent the future and spent dollars for each project as of June 7, 2013.

Summary of Initial Watershed Projects

CIP Code	CIP Title	Anticipated Start Date	Anticipated Completion Date	Actual Completion Date	Project Description	Impact on Overflow Reduction	Project Cost ($ Millions)[1]	Status
Central Watershed Projects								
C-014-00	Banklick Pump Station Screening Facility	2004	2006	2005	This project installed a new bar screen to remove solids and floatables that were clogging the pumps and preventing the pump station from running properly during wet weather. The pump station can now run continuously without clogging, reducing the frequency of suspected SSOs and known CSOs upstream.	See Project Description	$1.2	Complete
C-036-01	Stevenson Road Relief Sewer Project Phase II	2004	2006	2006	This project was constructed to increase the wet weather capacity in the Lakeview Pump Station service area collection system to reduce the frequency and volume of two known SSOs and several suspected SSOs.	See Project Description	$2.0	Complete
C-040-05	Latonia Combined Sewer Separation	2006	2009	2007	This project provides sewer separation through the construction of a new storm sewer to separate and intercept storm water flow to keep it out of the combined sewers in Latonia. This project will eliminate existing basement backups in this area and reduce the overflow volume from downstream CSOs.	Eliminate existing basement backups & bring one CSO into compliance with control policy.	$2.4	Complete
C-046-00	Licking River Sewer Crossing Study	2005	2007	2007	This study will evaluate alternatives and identify potential cost-effective solutions to increasing wet weather capacity in the existing sanitary and combined sewer service areas in order to eliminate 10 SSOs, several suspected SSOs, and CSOs and known basement backups.	See Project Description	$0.2	Complete
C-072-00	McMillan Pump Station Removal	2005	2006	2005	This project provided increased dry and wet weather sewer capacity by constructing a new sewer to eliminate an existing maintenance intensive pump station and to eliminate resulting upstream sanitary sewer overflows.	The new pump station is sized to provide additional wet weather capacity to eliminate sanitary sewer overflows upstream.	$0.7	Complete
C-414-16	Meyer Road Pump Station Rehabilitation	2006	2008	2008	This project constructs a new pump station and force main to replace an existing high maintenance intensive pump station. The new pump station is sized to provide additional wet weather capacity to eliminate sanitary sewer overflows upstream and will provide back-up power to the pump station via an onsite engine generator.	The new pump station is sized to provide additional wet weather capacity to eliminate sanitary sewer overflows upstream.	$0.3	Complete
C-414-43	Macke Pump Station Rehabilitation	2006	2008	2008	This project constructs a new pump station to replace an existing high maintenance intensive pump station. The new pump station is sized to provide additional wet weather capacity to eliminate a constructed bypass and will provide back-up power to the pump station via an onsite engine generator.	The new pump station is sized to provide additional wet weather capacity to eliminate sanitary sewer overflows upstream.	$0.4	Complete
C-414-45	Richwood Pump Station Improvements	2005	2006	2005	Provided additional dry and wet weather pumping capacity at the pump station to reduce the frequency of overflows upstream. This project also eliminated odor complaints by installing a new oxygen-based odor control system to reduce hydrogen sulfide in the waste stream and the resulting odors.	See Project Description	$0.3	Complete
C-480-02	Patton Street Sewer Study	2005	2006	2006	This study will evaluate alternatives within the Patton Street Pump Station combined sewer service area to bring four CSOs into compliance with the 1994 CSO control policy, eliminate river water intrusion into the combined sewers and interceptors during high river levels, rehabilitate existing deteriorated rock sewers, and examine pilot project alternatives to provide floatable capture and control from the CSOs.	See Project Description	$0.9	Complete
C-615-01	South Hills Outfall	2006	2008	2007	This project constructs a new 24-inch sewer via horizontal directional drilling on grade (first in the country of this size and slope) to eliminate a CSO at a street intersection. This new sewer will divert combined sewer flows off of the Lakeview Pump Station service area and into the Bromley Pump Station combined sewer service area, thereby consolidating flows within the combined system and reducing overflows upstream of the Lakeview Pump Station. This project also eliminates a failing sewer located within a landslide area that has resulted in past sanitary sewer overflows.	Eliminate one CSO and decrease Lakeview Pump Station bypass overflows approximately 20% within a typical year based on SD1's calibrated and verified hydraulic model.	$2.9	Complete
North & East Watershed Projects								
C-475-00	Grit Chamber Projects	2006	2010	2008	This project constructs three grit chambers to capture grit and other debris within the main sewer interceptors along the Ohio and Licking Rivers to maximize flows in the collection system and to the Dry Creek Treatment Plant. One has already been installed just upstream from our Bromley Pump Station and is working effectively to capture grit and other debris for removal and to maximize flow to the pump station and treatment plant.	See Project Description	$2.6	Complete
North & Central Watershed Projects								
S-577-01	Fort Wright Illicit Discharge Removal	2004	2007	2006	This program assists us in addressing both SSOs and CSOs by developing sewer separation projects to remove storm water from the sanitary and combined sewers.	Eliminated three illicit discharges and reduced private source I/I by 30%.	$1.5	Complete
C-040-03	Fort Wright Sanitary Sewer Rehabilitation Phase 1	2004	2007	2006	This project was a result of the above project and installed new sanitary and storm sewers to separate sanitary and storm flows in this area. This project resulted in eliminating sewage from getting into existing storm sewers and the local creeks and reduced the wet weather flow tributary to the Lakeview Pump Station service area, thereby reducing overflows downstream.	Eliminated three illicit discharges and reduced private source I/I by 30%.	$1.6	Complete
C-458-00	Fort Wright Outfall Sewer - Phase II	2003	2006	2006	This project constructed a new sanitary sewer to remove the existing sanitary sewer from the creek, thereby reducing I/I from storm and creek water into the sanitary sewer.	Eliminated three illicit discharges and reduced private source I/I by 30%.	$1.1	Complete
North, East & Central Watershed Projects								
C-044-00	Dry Creek Treatment Plant - Grit Removal Modifications	2004	2006	2005	This project was constructed to increase the treatment capacity of the preliminary treatment system at the Dry Creek Treatment Plant. This, along with diverting flows from Lakeview Pump Station service area, will help maximize flows to the Dry Creek plant.	See Project Description	$2.7	Complete
C-024-00	Large Diameter Sewer Assessment Program - Phase III	2005	2007	2006	This program helped us prioritize and evaluate the condition of the combined and separate sewer systems in order to maximize flows in our system and identify areas that need rehabilitation and/or replacement with the goal of reducing and addressing the frequency of overflows from our CSOs and SSOs. This program was integrated into the CSAP for future phases.	See Project Description	$2.9	Complete
C-040-06	Brookwood Subdivision SSES Study	2005	2006	2006	This study evaluated the sanitary sewer and storm sewers in the Brookwood subdivision to identify locations of storm water I/I into the separate sanitary sewer system in order to identify projects to be performed to remove this identified I/I. Flows from this area are tributary to the Lakeview Pump Station service area. This project will reduce I/I, which will result in reducing the frequency and overflow volumes of downstream SSOs.	See Project Description	$0.1	Complete
C-040-08	Southern Kenton Drainage Study	2005	2007	2006	This study will evaluate alternatives and identify potential cost-effective solutions to increasing wet weather capacity in the existing sanitary sewer portion of the Lakeview Pump Station service area in order to eliminate the Lakeview Pump Station bypass and the upstream SSOs.	See Project Description	$0.2	Complete
C-090-00	Wilson Road Sewer Assessment Project	2005	2006	2005	This project extended sanitary sewer service to eliminate six failing septic systems from this area.	See Project Description	$0.1	Complete
C-484-00	Apple Drive Sewer Outfall	2005	2006	2006	This project extended sanitary sewer service to remove a package treatment plant.	See Project Description	$0.5	Complete
North, East, West & Central Watershed Projects								
C-480-01	Bluegrass Swim Club Sewer Separation	2005	2008	2007	This project will separate existing storm water connections to our sanitary sewers in Fort Wright, thereby reducing wet weather flows in our sanitary sewer system. This project will reduce the frequency and volume of downstream SSOs and CSOs.	Eliminate one CSO and decrease Lakeview Pump Station bypass overflows approximately 20% within a typical year based on SD1's calibrated and verified hydraulic model.	$1.0	Complete
						Total Project Costs	**$402.9**	

[1]The project costs represent the future and spent dollars for each project as of June 7, 2013.