



June 5, 2009

Acting 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

Dear Gentlemen:

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). The Cabinet and EPA have 90 days from receipt to review submittals unless SD1 receives notification before the expiration of the 90-day period that review will take longer (Consent Decree paragraph 44).

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June 5, 2009

I am confident in the integrity of the enclosed document, and I am certain that the initial watershed projects detailed in this report help further the mission and vision of SD1 by protecting water resources and enhancing the quality of life in Northern Kentucky.

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

Best regards,

A handwritten signature in blue ink, appearing to read "Jeffery A. Eger".

Jeffery A. Eger
General Manager

JAE/jh
Enclosures

Initial Watershed Projects 2009 Annual Report

Sanitation District No. 1
June 5, 2009



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CERTIFICATION

Initial Watershed Projects 2009 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.



Jeffery A. Eger
General Manager

June 5, 2009

Date

COMMONWEALTH OF KENTUCKY

COUNTY OF Kenton

)ss.

The foregoing instrument was acknowledged before me this 5 day of June, 2009 by Jeffery A. Eger, General Manager of Sanitation District No. 1.



NOTARY PUBLIC

State Large County, Kentucky

My commission expires: May 9, 2010

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INITIAL WATERSHED PROJECTS 2009 ANNUAL REPORT

June 5, 2009



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

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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 this effort was to identify capital projects that had already commenced or were scheduled to commence while the Consent Decree was still under negotiation that would aid in achieving the overarching goals of the legal agreement. These 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 (see Appendix A). 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 second Initial Watershed Projects Annual Report.

SECTION 2. OVERVIEW OF INITIAL WATERSHED PROJECTS

2.1 Revisions

The following section identifies revisions SD1 has made in its implementation of the initial watershed projects. These revisions are reflected in the project summary spreadsheet provided in Appendix B.

East Watershed Projects - CIP Code: C-080-00

Revision: Project Separation

Due to the size and nature of the project scope listed under CIP Code C-080-00, the two projects described are now identified separately as CIP Code C-080-00: Eastern Regional – Contract 8A - Alex-Licking Pump Station and CIP Code C-080-01: Eastern Regional – Contract 8B – Sunset Pump Station Relocation.

East Watershed Projects - CIP Codes: C-077-01 and C-080-01

Revision: Construction Schedule Change

The original plan for the Sunset Pump Station was to replace the current pump station with a new 0.77 million gallons per day pump station at the existing site. Since the original plan was developed, a private developer proposed to partner with SD1 to construct a new pump station farther north to serve a new development as well as the existing Sunset Pump Station area. This revised approach was described in the Addendum to the Pump Station Overflow Elimination Plan dated November 11, 2007,

and an update was provided in the 2009 Pump Station Overflow Elimination Annual Report.

The new pump station (Arcadia Pump Station) will eliminate the Sunset Pump Station and overflow and will have a firm capacity of 1.3 million gallons per day to provide capacity to convey peak dry and wet weather flows for current and future conditions. The new Arcadia Pump Station will discharge to a gravity sewer tributary to the new Alex-Licking Pump Station. The new Arcadia Pump Station and associated gravity sewer and force main are currently under design. The original schedule provided in the Pump Station Overflow Elimination Plan stated construction would be complete by spring of 2009. Due to the collapse of the economy and the housing and lending markets, SD1's partnership with the developer to construct the new pump station has been delayed. At this point in time, SD1 is optimistic that the economy will recover and the partnership will be restored in order to complete the new pump station construction and Sunset Pump Station overflow elimination by the Consent Decree deadline of December 31, 2010.

West Watershed Projects - CIP Code: C-039-00

Revision: Implementation Change – Removed as an Initial Watershed Project

The implementation schedule of the Richwood sewer and force main project has been adjusted to better align with goals established through SD1's watershed planning efforts. The upgrade of Richwood Pump Station and the construction of a new force main to redirect flows to the Western Regional System was originally included in the Initial Watershed Projects due to the Pump Station's potential lack of dry and wet weather capacity and its perceived reduction in overflow volume in the Lakeview system. Based on flow monitoring conducted in 2007 and 2008 as part of the hydraulic model calibration and validation and subsequent hydraulic modeling, SD1 has found that the Richwood Pump Station does not bypass during wet weather and has sufficient capacity to convey all dry and wet weather flows. In addition, redirecting the flows from the Richwood Pump Station to the Western Regional system did not significantly reduce overflows downstream in the Lakeview system. The potential future need to construct this project will be based on monitoring the existing upstream and downstream sewer system after the Western Regional WRF is in operation. The timing of the upgrade and redirection of the Richwood Pump Station to the Western Regional System will be evaluated based on monitoring the available capacity of the Pump Station and the downstream Lakeview sewer system. Richwood Pump Station will receive a backup power solution as well to eliminate any overflows due to power outages.

Upon approval of SD1's Watershed Plans, the status and evaluation of the Richwood Pump Station project will be reported in future watershed plan updates and will no longer be reported as an initial watershed project.

2.2 Status Updates

There are a total of 51 initial watershed projects, including the revisions outlined above in Section 2.1. These projects have start dates as early as 2003 and anticipated completion dates as late as 2013. Out of the 51 projects, 39 are complete, six are under construction, and six are under design. Cumulatively, it is projected that SD1's initial watershed projects will total more than \$415.4 million in capital spending. Appendix B provides the updated schedules, descriptions, impacts on overflow reduction, costs and current status for each of the 51 projects as of June 5, 2009.

Eastern Regional Water Reclamation Facility

SD1's Eastern Regional Water Reclamation Facility won the American Council of Engineering Companies Kentucky Chapter Grand Award and is a "Finalist" in the national Engineering Excellence Awards Competition. The Engineering Excellence Awards competition recognizes engineering firms for projects that demonstrate a high degree of achievement, value and innovation.

This project was recognized because of the following accomplishments realized through three unique guiding principles, established by SD1 and its design firm, GRW, during the project planning phase:

- **Reliability** beyond what is conventionally seen in the industry was achieved through excess flow storage; completely redundant treatment processes and equipment; backup power sized to run the complete plant; and a high degree of automation to quickly recognize and respond to potential system problems.
- **Environmental Stewardship** was implemented throughout the project. Examples include the elimination of eight million gallons of untreated sewage discharged into the environment annually; utilization of natural light within buildings; restoration of native grasses and wildflowers; and restoration of retention basins along Brush Creek with riparian plantings.
- SD1's desire to be a **Good Neighbor** was accomplished through the reduction of odor, noise, light and visual pollution at the site. No odor or noise is noticeable at or outside the site's fence line. Buildings at the site blend into the community using aesthetically pleasing architectural design. Light pollution is reduced through the use of downward-directed site lighting that maintains safety without major light carry over to adjacent properties.

Western Regional System Related Projects

Construction is underway on a number of collection system improvements within the Western Regional service area, including the Western Regional Water Reclamation Facility and Conveyance Tunnel. The photographs provided in Figures 2.1 through 2.4 highlight the construction activity for several of the projects.

Figure 2.1 Western Regional Water Reclamation Facility & Conveyance Tunnel

	
<p>Site work has started at the property location of the water reclamation facility. Once online, the plant will serve the majority of Boone County and portions of western and southern Kenton County. This state-of-the art facility will utilize ultraviolet light disinfection technology and will be designed with a startup capacity of 20 million gallons per day.</p>	<p>Crews have started pre-production pipe testing for the gravity conveyance tunnel. The tunnel project consists of approximately 32,500 linear feet of rock tunnel (approximately 6 miles) and 8.5' diameter carrier pipe inside the rock tunnel, 5 tunnel shaft structures, including 1 vortex drop shaft and 1 flow control gate shaft.</p>

Figure 2.2 Gunpowder Interceptor Sewers

	
<p>The Gunpowder Interceptor consists of 13,350 feet of 72" gravity sewer, 370 feet of 36" gravity sewer and 141 feet of 24" sewer that will convey flows from a point near Fowler Creek Road along Gunpowder Creek to the entrance of the Western Regional Conveyance Tunnel along Camp Ernst Road.</p>	<p>Sections of Gunpowder Creek that were disturbed during the construction of the sewer project were restored to pre-construction conditions through the installation of toe rock, wrapped Earth, native plants and sewer crossings.</p>

Figure 2.3 Union Sewer

The Union Sewer project was the first sanitary sewer project SD1 began as part of the Western Regional Collection System. The project consists of 12,600 feet of 36" gravity sewer and 57 manholes along Fowler Creek from the City of Union to Gunpowder Creek. As part of the construction process crews had to reroute a water main located in the path of the new sewer.



The new manholes installed were coated with a corrosion resistant liner to protect the structure from damage caused by hydrogen sulfide.

Figure 2.4 Sunnybrook Sewer

The Sunnybrook Sewer project is part of the Western Regional Collection System and includes 12,900 feet of 36" gravity sewer and 51 manholes along Goose Branch Creek. The project consists of more than 1,500 feet of sewer installation via tunneling within a steel casing pipe.



Ductile iron pipe wrapped in polyethylene (for corrosion protection) was used for the installation of the diversion pump station force main, which ties into the Sunnybrook sewer. Marking tape and tracing wire was installed so that the force main could be located once the project is complete.

APPENDIX A:
Consent Decree Exhibit D

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Exhibit D - Initial Watershed Projects

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



Western Regional Sewer 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	2008	2013
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

Project ID	Project Name	Start Year	End Year
Central Wastewater 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 and West Wastewater Projects			
C-475-00	Grit Chamber Projects	2006	2010
South and West Wastewater 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 Kenton, Wood and Central Wastewater Treatment Wastewater 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 Outfall Sewer	2005	2006
North Kenton, Wood and Central Wastewater Treatment Wastewater Projects			
C-480-01	Bluegrass Swim Club Sewer Separation	2005	2008

APPENDIX B:
Project Summary Spreadsheet

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Summary of Initial Watershed Projects

CIP Code	CIP Title	Project Manager	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	Bob Wilson	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	Darleen McGuire	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	Darleen McGuire	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 all overflows throughout this system in a typical year.	\$5.7	Complete
C-056-00	Eastern Regional - Contract 2--Kahn's Gravity Sewer and Gravity Sewer to the Pond Creek Pump Station	Darleen McGuire	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 all overflows throughout this system in a typical year.	\$4.3	Complete
C-073-00	US 27 at Summit Assessment	Bob Wilson	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	Darleen McGuire	2006	2009	n/a	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 all overflows throughout this system in a typical year.	\$5.7	Construction of the force main and gravity sewer is complete. Waiting to tie-in to Riley Road Pump Station.
C-076-00	Eastern Regional - Contract 4--Alex Licking Gravity Sewer & Force Main to Contract 1	Bob Wilson	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 all overflows throughout this system in a typical year.	\$3.9	Complete
C-077-01	Eastern Regional - Contract 5--Sunset Force Main and Gravity Sewer	Brandon Vatter	2006	2010	n/a	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 station (Arcadia PS). 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 all overflows throughout this system in a typical year.	\$0.5	Under Design
C-078-00	Eastern Regional - Contract 6--Pond Creek Pump Station	Darleen McGuire	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 all overflows throughout this system in a typical year.	\$4.1	Complete
C-079-00	Eastern Regional - Contract 7--Riley Road #2 Pump Station	Brandon Vatter	2006	2009	n/a	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.	\$7.1	Under Construction
C-080-00	Eastern Regional - Contract 8A--Alex-Licking Pump Station	Jim Turner	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 all overflows throughout this system in a typical year.	\$2.3	Complete
C-080-01	Eastern Regional - Contract 8B - Sunset Pump Station Relocation	Brandon Vatter	2009	2010	n/a	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 station called the Arcadia PS. 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 all overflows throughout this system in a typical year.	\$1.8	Under Design
C-081-00	Parkside Pump Station Relocation	Darleen McGuire	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	Chris Novak	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 all overflows throughout this system in a typical year.	\$41.7	Complete
C-414-17	Highland Heights Pump Station Study	Brandon Vatter	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-620-01	Wilson/Waterworks Road Relief Sewer Study	Jim Turner	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	\$0.04	Complete
C-607-01	Pinehill/Skyview Terrace Sewer	Bob Wilson	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

¹The project costs represent the future and spent dollars for each project as of June 5, 2009.

Summary of Initial Watershed Projects

CIP Code	CIP Title	Project Manager	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	Brandon Vatter	2008	2013	n/a	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 in the Lakeview Service Area by approximately 60% in a typical year based on SD1's calibrated and verified hydraulic model.	\$141.3	Under Construction
C-002-00	Western Regional - Sunnybrook Sewer	Brandon Vatter	2008	2013	n/a	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 in the Lakeview Service Area by approximately 60% in a typical year based on SD1's calibrated and verified hydraulic model.	\$7.5	Under Construction
C-003-00	Western Regional - Frogtown Interceptor Sewer (from Sunnybrook Dr. to Frogtown Rd.)	Brandon Vatter	2010	2014	n/a	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 in the Lakeview Service Area by approximately 60% in a typical year based on SD1's calibrated and verified hydraulic model.	\$6.6	Under Design
C-004-00	Western Regional - South Fork Gunpowder Interceptor Sewer and Rosetta Sewer	Brandon Vatter	2008	2013	n/a	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 in the Lakeview Service Area by approximately 60% in a typical year based on SD1's calibrated and verified hydraulic model.	\$19.5	Under Design
C-005-00	Western Regional - Narrows Road Diversion Pump Station	Brandon Vatter	2008	2013	n/a	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 in the Lakeview Service Area by approximately 60% in a typical year based on SD1's calibrated and verified hydraulic model.	\$11.6	Under Design
C-030-00	Western Regional - KDOT - Turkeyfoot Road Force Main	Brandon Vatter	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 in the Lakeview Service Area by approximately 60% 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)	Darleen McGuire	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 in the Lakeview Service Area by approximately 60% in a typical year based on SD1's calibrated and verified hydraulic model.	\$6.9	Complete
C-038-00	Western Regional - Gunpowder Interceptor Sewer	Bob Wilson	2008	2013	n/a	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 in the Lakeview Service Area by approximately 60% in a typical year based on SD1's calibrated and verified hydraulic model.	\$14.0	Under Construction
C-063-00	Western Regional - Turkeyfoot Industrial Road Force Main	Bob Wilson	2007	2013	n/a	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 in the Lakeview Service Area by approximately 60% in a typical year based on SD1's calibrated and verified hydraulic model.	\$3.3	Construction on two sections are complete. Remaining sections are under design.
C-414-02	American Sign Pump Station Rehabilitation	Jim Turner	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	Brandon Vatter	2008	2013	n/a	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 in the Lakeview Service Area by approximately 60% in a typical year based on SD1's calibrated and verified hydraulic model.	\$89.3	Under Construction
C-068-00	Allen Fork Collection System - Phase I Improvements	Brandon Vatter	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	Bob Wilson	2005	2007	2006	This project extended sanitary sewer service to eliminate 35 failing septic systems from this area.	See Project Description	\$1.0	Complete

¹The project costs represent the future and spent dollars for each project as of June 5, 2009.

Summary of Initial Watershed Projects

CIP Code	CIP Title	Project Manager	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	Bob Wilson	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	Bob Wilson	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	\$2.1	Complete
C-040-05	Latonia Combined Sewer Separation	Darleen McGuire	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.	\$2.6	Complete
C-046-00	Licking River Sewer Crossing Study	Brandon Vatter	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	Darleen McGuire	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	Jim Turner	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	Jim Turner	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	Bob Wilson	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	Brandon Vatter	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	\$0.2	Complete
C-615-01	South Hills Outfall	Brandon Vatter	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 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.	\$3.1	Complete
North & East Watershed Projects									
C-475-00	Grit Chamber Projects	Bob Wilson	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	\$3.8	Complete
North & Central Watershed Projects									
S-577-01	Fort Wright Illicit Discharge Removal	Bob Wilson	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	Bob Wilson	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%.	\$1.7	Complete
C-458-00	Fort Wright Outfall Sewer - Phase II	Bob Wilson	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%.	\$1.0	Complete
North, East & Central Watershed Projects									
C-044-00	Dry Creek Treatment Plant - Grit Removal Modifications	Chris Novak	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	Brandon Vatter	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	\$0.5	Complete
C-040-06	Brookwood Subdivision SSES Study	Brandon Vatter	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	Brandon Vatter	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	Bob Wilson	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	Bob Wilson	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	Bob Wilson	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.	\$0.9	Complete
Total Project Costs								\$415.4	

¹The project costs represent the future and spent dollars for each project as of June 5, 2009.