SD1
Managing Northern Kentucky's
Wastewater and Storm Water

May 14, 2010

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 Pump Station Overflow Elimination Plan, which received regulatory approval on May 14, 2008.

> 38. **Pump Station Plan.** The District shall provide an annual report within twelve months of approval of the Pump Station Plan on implementation of these watershed projects. Thereafter and until such 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 the 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 email at jeger@sd1.org.

Best regards,

Jeffery A. Eger
Executive Director

JAE/jh
Enclosures

Sanitation District No. 1
May 14, 2010

Pump Station Overflow Elimination 2010 Annual Report

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SD1
Managing Northern Kentucky's
Wastewater and Storm Water

CERTIFICATION

Pump Station Overflow Elimination 2010 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
Executive Director

5/7/10
Date

COMMONWEALTH OF KENTUCKY

)ss.

COUNTY OF Kenton

The foregoing instrument was acknowledged before me this 7 day of May, 2010 by Jeffery A. Eger, Executive Director of Sanitation District. No. 1.

Kathleen A. Jerisch
NOTARY PUBLIC

Kenton County, Kentucky

My commission expires: 9-15-11

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PUMP STATION OVERFLOW ELIMINATION

- 2010 ANNUAL REPORT -

May 14, 2010

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

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LIST OF ACRONYMS AND ABBREVIATIONS

PSOEP	Pump Station Overflow Elimination Plan
SD1	Sanitation District No. 1

SECTION 1: INTRODUCTION

1.1 Report Purpose

One of the requirements of Sanitation District No.1's (SD1) Consent Decree was to develop a Pump Station Overflow Elimination Plan (PSOEP) that identifies watershed projects to eliminate sanitary sewer overflows at specified pump stations throughout the service area. The names of the pump stations that were required to be included in this plan and their respective deadlines for elimination are contained in Exhibit E of the Consent Decree. The PSOEP was submitted in 2007 and received regulatory approval on May 14, 2008. Now that the PSOEP has been approved, the Consent Decree requires SD1 to provide an annual report on its implementation of the watershed projects included in the original plan. This document serves as the second annual update on implementation of the PSOEP.

1.2 Project Status Updates

Each of the 14 pump stations identified in the PSOEP has a unique set of circumstances that requires a customized solution to address and eliminate its sanitary sewer overflows. The progress of each pump station is at a different point along the path to overflow elimination. A detailed listing of the projects and activities conducted to comply with the requirements of the PSOEP, including schedules and project updates for the current reporting period can be found in Appendix A.

1.3 Project Solution Updates and Revisions

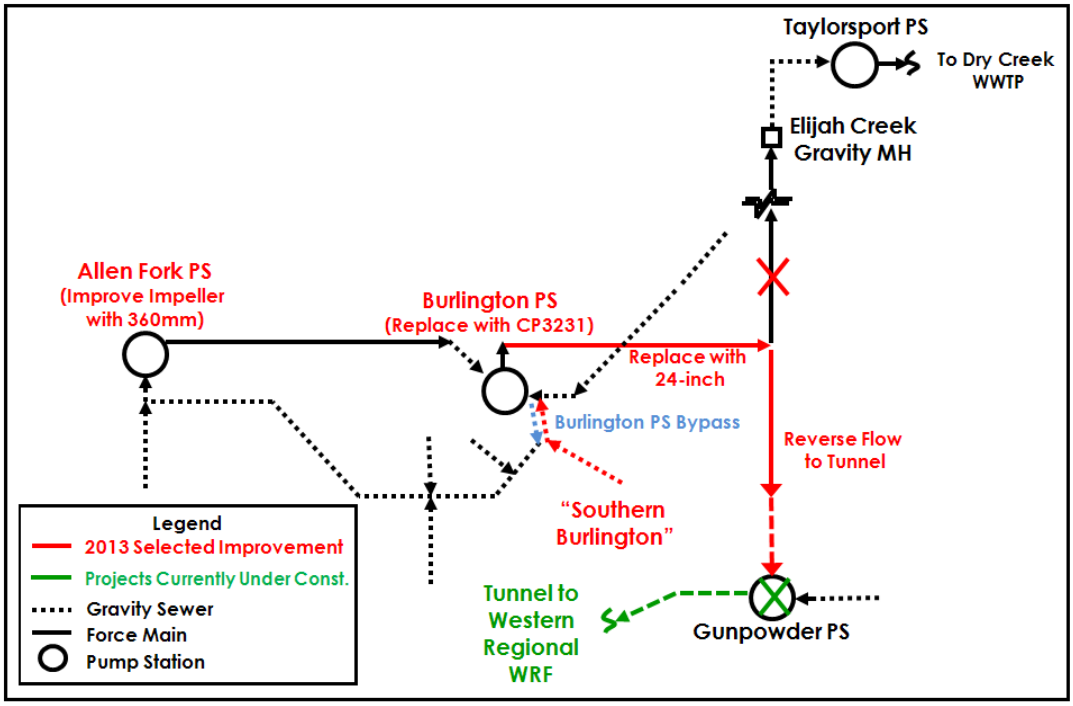
1.3.1 Allen Fork Pump Station

The new Western Regional Water Reclamation Facility and the associated conveyance system (described in Section 7.6.1 of the Watershed Plans dated June 30, 2009) are scheduled for completion in 2013. Once complete, the Gunpowder Pump Station will be eliminated by a new gravity sewer to the Western Regional conveyance system. The flows from the Burlington Pump Station will then be taken off of the Taylorsport Pump Station service area and redirected to this new gravity sewer. The new discharge route for the Burlington Pump Station will lower its discharge head, which will increase the pump station's capacity. Once the Burlington Pump Station has increased capacity, the Allen Fork Pump Station will also have increased capacity.

The details for these projects have been further evaluated and defined over the last several months, and the solution selected for eliminating the Allen Fork Pump Station overflow in a typical year (located at manhole 2390002) is depicted in Figure 1.1. The solution consists of the following improvements, which are estimated to cost $12.77 million:

- Replacement of the pump impellers at the Allen Fork Pump Station with larger impellers to increase pump station's capacity
- Installation of approximately 1,300 feet of new conveyance sewer in order to re-route gravity sewers from southern Burlington, which currently flow to the Allen Fork Pump Station, to the Burlington Pump Station
- Replacement of the pump impellers and volutes at the Burlington Pump Station to increase the pump station's capacity
- Upsizing the discharge piping at the Burlington Pump Station to prevent high velocities in the existing piping and the installation of a surge mitigation tank to prevent damaging surge pressures in the force main
- Replacement and upsizing of approximately 16,335 feet of force main to 24-inch diameter and the installation of approximately 2,100 linear feet of 30-inch diameter gravity sewer to redirect flows from the Burlington Pump Station to the Western Regional Tunnel
- Continued work to identify and reduce inflow and infiltration upstream of the Allen Fork Pump Station

Figure 1.1 Allen Fork Pump Station Overflow Elimination Solution



The work associated with these improvements is currently on schedule to meet the PSOEP deadline of December 31, 2014.

1.3.2 Sunset Pump Station

The original plan outlined in SD1's PSOEP for the Sunset Pump Station was to replace the current pump station with a new 0.77 million gallon per day pump station at the existing site. Subsequently, 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 service area. This revised approach was described in the Addendum to the PSOEP dated November 11, 2007 and in the Watershed Plans submitted June 30, 2009.

The revised approach included the construction of a new pump station (Arcadia Pump Station) to eliminate the Sunset Pump Station and the associated overflow, which would 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 would discharge to a gravity sewer tributary to the new Alex-Licking Pump Station. The original schedule provided in the PSOEP stated construction would be complete by spring of 2009. However, due to the significant economic downturn and the slow-down in the housing and lending markets, SD1's partnership with the developer to construct the new Arcadia Pump Station was delayed.

The new Arcadia Pump Station and associated gravity sewer and forcemain were under design at the time the Watershed Plans were submitted in the spring of 2009. At that time, SD1 was optimistic that the economy would recover and that the partnership with the developer would be restored in order to complete the new Arcadia Pump Station construction and eliminate the overflow at the Sunset Pump Station by the Consent Decree deadline of December 31, 2010. Unfortunately, the partnership with the private developer is still currently on-hold due to the slow recovery in the economy.

Due to these circumstances, SD1 has evaluated other short-term alternatives to eliminate the overflow at the Sunset Pump Station. These alternatives included constructing storage at the pump station or increasing the pump station's pumping capacity. SD1 determined that the most cost-effective, short-term alternative to eliminate the overflow at the pump station is to construct a new 8-inch force main to replace the existing 4-inch force main. This will allow the existing pumps to operate more efficiently and provide more pumping capacity without having to make modifications to the pumps. In addition, a diesel driven, self-priming pump will be installed to provide additional pumping capacity during wet weather and serve as a backup power solution. This alternative will eliminate the overflow at the Sunset Pump Station in a typical year. These improvements are anticipated to be in-service by December 31, 2010 in order to meet the Consent Decree deadline. Once the economy sufficiently recovers, SD1 will explore the partnership with the developer to build the Arcadia Pump Station and eliminate the Sunset Pump Station from service.

APPENDIX A:

Pump Station Overflow Elimination Plan Project Status Updates

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Pump Station Overflow Elimination Plan: Project Status Updates **As of May 2010**

Pump Station	Required Overflow Elimination Date	Solution Summary	Current Status
Alex-Licking	December 31, 2010	Overflow elimination through replacement of the station with a new pump station sized to convey peak wet weather flows.	Complete
Allen Fork	December 31, 2014	See updated solution summary in Section 1.3.1 of the 2010 Annual Report.	
Crestview	December 31, 2014	A final solution will be selected according to the following schedule: 1) Calibrate hydraulic model and develop future condition models by June 12, 2008 (complete); 2) Select alternative solution for design by March 1, 2013, 3) Prepare final design for alternative solution selected by June 1, 2014; 4) Begin construction on selected alternative solution by September 1, 2014; 5) Complete construction by December 31, 2014.	Completed CCTV work on the pipes upstream of the pump station. Finishing the evaluation of the inspection data to determine the best rehabilitation methods. CIPP lining and other public infrastructure rehabilitation work to eliminate I/I is anticipated to start in the spring of 2010. Once work is complete post-monitoring will be conducted to determine the effectiveness of these measures in eliminating I/I and the overflow at the pump station. If the overflow is still active, private source I/I removal will be examined versus an upsized pump station and force main or storage and the selected alternative will be designed and constructed.
Harrison Harbor	December 31, 2010	Remove this station from the Exhibit E list, as monitoring and documentation show no overflow activity.	Complete
Highland Acres	December 31, 2010	Overflow elimination through pump station removal. Peak wet weather flows will be conveyed to the Kentucky Aire Pump Station through a new gravity sewer. Once the Western Regional system improvements are completed in 2013, flow from the Kentucky Aire Pump Station will be conveyed via a new gravity sewer sized to convey peak wet weather flows under ultimate build-out conditions.	Final design is nearly complete; in easement acquisition phase. Construction of new gravity sewer to begin in summer 2010.
Kentucky Aire	December 31, 2013	Overflow elimination through pump station removal. Flows will be conveyed to the new Western Regional WRF by a new gravity sewer sized to convey peak wet weather flows under ultimate build-out conditions.	Initial Design. Potential routes and tie-in points to the Western Regional Frogtown Sewer are being evaluated. Pump station overflow will be eliminated when Western Regional improvements are complete and in service in 2013.
Lakeview	The Watershed Plan provides for a delay in the December 31, 2013 Consent Decree deadline to eliminate the bypass at the Lakeview PS. Currently awaiting approval.	The proposed solution includes: 1) Increase in the pump station capacity and reliability to 22.5 MGD through the planned pumps replacement project; 2) Redirect a portion of the Lakeview tributary area to the new Western Regional System and reduce the annual predicted overflow at Lakeview in a typical year by 98% to 1 MG; 3) Conduct SSES investigations and targeted, cost-effective, I/I removal in the area remaining tributary to Lakeview to reduce extraneous wet weather flows.	The status of each component is as follows: 1) The pump replacement project is under initial design; 2) The Western Regional improvements are all on schedule to be complete and in service in 2013; 3) The priority I/I source identification & removal program is under initial design.
Riley Road No.1	December 31, 2010	Overflow elimination through pump station removal. The new Riley Road Pump Station eliminates both the existing Riley Road No. 1 and Riley Road No. 2 stations.	Complete. The new Riley Road Pump Station was placed in service as of December 21, 2009.
Ripple Creek	December 31, 2010	Overflow elimination through pump station removal. A new gravity sewer will convey peak dry and wet weather flows to the existing Wolpert Pump Station. Storage will be constructed at the Wolpert Pump Station to store excess wet weather flow to ensure capacity is not exceeded during wet weather. Additionally, targeted I/I removal and rehabilitation of the existing sewers upstream of the Ripple Creek Pump Station will be conducted.	Final design is nearly complete; in easement acquisition phase. Construction of new gravity sewer to begin in summer 2010.
South Hampton	March 31, 2013	Overflow elimination through pump station removal. Flows will be conveyed to the new Western Regional WRF by a new gravity sewer sized to convey peak wet weather flows under ultimate build-out conditions.	Design of new gravity sewer (Frogtown) 90% complete. Pump station overflow will be eliminated when Western Regional improvements are complete and in service in 2013.
South Park	December 31, 2010	SSES and flow monitoring work concluded that there are no dry or wet weather capacity-related issues at this station. To date, only two overflows have occurred at the South Park Pump Station and both were due to power outages. To eliminate any potential future overflows due to power outages, a backup power solution will be installed at this pump station.	Complete. A backup self-priming pump with a diesel engine was installed as the backup power solution in April 2010.
Sunset	December 31, 2010	See updated solution summary in Section 1.3.2 of the 2010 Annual Report.	
Taylorsport	December 31, 2010	Overflow elimination through pump station upgrades to convey wet weather flows.	Complete
Union	March 31, 2013	Overflow elimination through pump station removal. Flows will be conveyed to the new Western Regional WRF by the new Union gravity sewer sized to convey peak wet weather flows under ultimate build-out conditions.	Construction of the new Union sewer is complete. Pump station overflow will be eliminated when Western Regional improvements are complete and in service in 2013.