NPDES Compliance Sampling Inspection Report

Village of Highland Falls Wastewater Treatment Plant

Highland Falls, New York

NY0022586

February 28 – March 1, 2023

Report Prepared by:

ROBERT MORRELL

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Date: 2023.04.25 15:42:54 -04'00'

Robert Morrell, Geologist
Monitoring Operations Section

Date: _____

Report Approved by:

PHILIP COCUZZA

Digitally signed by PHILIP COCUZZA
Date: 2023.04.25 15:52:42 -04'00'

Philip Cocuzza, Supervisor
Monitoring Operations Section

Date: _____

1.0 OBJECTIVE

On February 28 – March 1, 2023, at the request of the Water Compliance Branch, a National Pollutant Discharge Elimination System (NPDES) Compliance Sampling Inspection (CSI) was conducted at the Village of Highland Falls Wastewater Treatment Plant (WWTP) in Highland Falls, New York. The objective of the CSI was to gather information necessary to determine compliance with the requirements and limitations of SPDES Permit No. NY0022586.

2.0 KEY PARTICIPANTS

Listed below are key inspection participants and contact information, grouped by organization.

U.S. Environmental Protection Agency
Robert Morrell, Geologist, Lead Inspector
Morrell.robert@epa.gov, 732-906-6804
Molly Hillenbrand, Life Scientist
Hillenbrand.molly@epa.gov, 732-321-4452

Village of Highland Falls Wastewater Treatment Plant
John Jones, Chief Operator
845-446-5156
James DiSalvo, Village Trustee
jdisalvo@highlandfallsny.org, 845-446-3400

3.0 FACILITY DESCRIPTION

3.1 General Information

The Village of Highland Falls Wastewater Treatment Plant is located on Rose Drive in Highland Falls, New York. The current wastewater treatment plant was completed in 1988 to replace the old wastewater treatment plant. The facility is categorized as Standard Industrial Classification (SIC) Code 4952. The plant operates 24 hours per day, 7 days per week.

3.2 Process Information

The Village of Highland Falls WWTP has a design capacity of 1.34 million gallons per day (mgd). Average flow for the plant is 800,000 gallons per day (gpd). Most of the influent wastewater is domestic. Influent wastewater is collected at the headworks of the plant and flows through a mechanical bar screen into a grit chamber. Solids from the bar screen and grit chamber are collected in a container and transported to the local landfill for disposal.

The influent wastewater flows into a pit and is pumped to one of two primary clarifiers. During the sampling inspection, only one clarifier was in service. Wastewater from the clarifier is pumped to one of eight rotating biological contactors (RBC's). After treatment at the RBC's, the wastewater is conveyed to one of two secondary clarifiers. The clarified wastewater flows into the chlorine contact tank, where chlorine is added during seasonal disinfection from May 15 to October 15. The wastewater flows through a Parshall flume, where a secondary flow monitoring device records the flow continuously. Finally, the wastewater is discharged through Outfall 002 to the Hudson River.

Sludge from the primary and secondary clarifiers is pumped to the sludge thickener. The thickened sludge is then pumped to the primary anaerobic digester. Digested sludge is conveyed to the belt filter press for dewatering. The dewatered sludge is shipped to Spectraserve in Kearny, New Jersey.

3.3 Facility Self-Monitoring Information

Samples are collected and analyzed on-site for temperature, pH, settleable solids, and total residual chlorine (seasonal from May 15 to October 15). Total suspended solids (TSS) and 5-day biochemical oxygen demand (BOD_5) are analyzed by Envirotest in Newburgh, New York. Fecal coliform samples are collected seasonally from May 15 to October 15 and analyzed by Envirotest. Flow is measured continuously at the influent and effluent sampling locations.

4.0 EPA SAMPLING/INSPECTION ACTIVITIES

4.1 Sampling Activities

On February 28, 2023, an automatic composite sampler was set up at the effluent sampling location for Outfall 002. The sampler was programmed to collect an aliquot of the effluent wastewater every 15 minutes for 24 hours. The composite sample container was packed in ice.

Grab samples were collected at the effluent sampling location for the on-site analysis of pH, temperature, settleable solids, and total residual chlorine. The results were recorded in the field notebook.

On March 1, 2023, a 24-hour composite sample was collected from the automatic sampler at the effluent sampling location for Outfall 002. This sample was analyzed for BOD_5 and TSS.

Flow readings were provided by the facility representative. The 24-hour effluent flow was 805,900 gpd.

All sample containers, preservation techniques, and holding times were in accordance with U.S. EPA requirements specified in 40 CFR Part 136. Samples for BOD_5 and TSS were placed in a cooler with wet ice and transported to the U.S. EPA Region 2 Laboratory in Edison, New Jersey. Split samples were offered but declined by the facility representative.

4.2 Inspection Activities

A walk-through inspection of the Village of Highland Falls WWTP was conducted and the inspection findings are listed in Section 6.2.

4.3 Deviations and/or Environmental Conditions

During the sampling inspection, one of the primary clarifiers was out of service for maintenance.

5.0 ANALYTICAL RESULTS

Village of Highland Falls Wastewater Treatment Plant
February 28 – March 1, 2023
Outfall 002

Parameter	Effluent	Permit Limit
Flow (mgd)	0.8059	1.35
BOD_5 (mg/l) **	21.7	30 (30-day arithmetic mean)
BOD_5 (lbs/day) **	146	338 (30-day arithmetic mean)
TSS (mg/l) **	46	30 (30-day arithmetic mean)
TSS (lbs/day) **	309	338 (30-day arithmetic mean)
Temperature (°C)	6.0	Monitor only
pH (su)	6.13	6.0 – 9.0
Total Residual Chlorine (mg/l)	0.04	0.5 – 2.0 (seasonal)
Settleable Solids (ml/l)	0.2	0.3

** Permit limit is an average; EPA result is for a single sample.

6.0 FINDINGS

6.1 Sampling Result Findings

The EPA analytical results obtained during this inspection show the following parameter(s) as being outside of the acceptable limits:

TSS (see above table). As noted above, the EPA analytical result is for a single sample. The permit limit is 45 mg/l for a 7-day arithmetic mean and 30 mg/l for a 30-day arithmetic mean.

6.2 Inspection Findings

In addition to the sampling, an inspection of the facility operations was conducted as discussed in Section 4.2 above. Nothing was observed or noted during the inspection that contravened the requirements of the permit or the applicable regulations.

7.0 ATTACHMENTS

Photographs (#1 - #2)
EPA Laboratory Data Report
Chain of Custody / Field Data Form

Photo #1: View of the effluent sampling location for Outfall 002.

Photo #2: Another view of the effluent sampling location.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory
2890 Woodbridge Avenue
Edison , New Jersey 08837
732-906-6886 Phone
732-906-6165 Fax

March 13, 2023

Philip Cocuzza
Monitoring & Assessment Branch
LSASD/MAB
Edison, NJ 08837

RE: Village of Highland Falls WWTP - 2302020

Enclosed are the results of analyses for samples received by the laboratory on 03/01/2023. The signature below reflects the laboratory's approval of the reported results. If you have any questions concerning this report, please refer to Project Number 2302020 and contact the laboratory.

Sincerely,

John R. Bourbon
Chief, LSASD/LB

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Final Report

Project: Village of Highland Falls WWTP - 2302020

Project Number: 2302020

Project Narrative:

The National Environmental Laboratory Accreditation Conference Institute (TNI) is a voluntary environmental laboratory accreditation association of State and Federal agencies. TNI established and promoted a National Environmental Laboratory Accreditation Program (NELAP) that provides a uniform set of standards for the generation of environmental data that are of known and defensible quality. The EPA Region 2 Laboratory is NELAP accredited. The Laboratory tests that are accredited have met all the requirements established under the TNI Standards.

Condition Comments

None

Comment(s):

The "Sample Analysis Date and Time" is included in the results section for any analyte with a prescribed holding time of 72 hours or less.

Data Qualifier(s):

U- The analyte was not detected at or above the Reporting Limit.
J- The identification of the analyte is acceptable; the reported value is an estimate.
K- The identification of the analyte is acceptable; the reported value may be biased high.
L- The identification of the analyte is acceptable; the reported value may be biased low.
NJ- There is presumptive evidence that the analyte is present; the analyte is reported as a tentative identification. The reported value is an estimate.

Final Report

Project: Village of Highland Falls WWTP - 2302020

Project Number: 2302020

Reporting Limit(s):

The Laboratory was able to achieve the appropriate limit for each analyte requested.

SUMMARY REPORT FOR SAMPLES

Field ID	Laboratory ID	Matrix	Date Sampled	Date Received
Outfall 002- 24Hr. Comp.	2302020-01	Aqueous	03/01/2023 10:33	03/01/2023 12:55

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Final Report

Project: Village of Highland Falls WWTP - 2302020

Project Number: 2302020

SUMMARY REPORT FOR METHODS

Analysis	Method	Certification	Matrix
Biochemical Oxygen Demand	SM 5210B SOP C-21 Rev 2.8	NELAP	Aqueous
Residue, Non-Filterable	SM 2540D SOP C-33 Rev 3.8	NELAP	Aqueous

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Final Report

Project: Village of Highland Falls WWTP - 2302020

Project Number: 2302020

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: Outfall 002- 24Hr. Comp.			**Sample ID: 2302020-01**			
Sanitary						
Biochemical Oxygen Demand	21.7		2.00	mg/L	B303006	03/07/2023 07:29
Total Suspended Solids	46.0		10.0	mg/L	B303010	

Final Report

Project: Village of Highland Falls WWTP - 2302020

Project Number: 2302020

Sanitary - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B303006									
Blank (B303006-BLK1)									
Biochemical Oxygen Demand	--- U	2.00	mg/L						
LCS (B303006-BS1)									
Biochemical Oxygen Demand	170		mg/L	198.0		85.7	84.6-115.4		
LCS (B303006-BS2)									
Biochemical Oxygen Demand	177		mg/L	198.0		89.3	84.6-115.4		
LCS (B303006-BS3)									
Biochemical Oxygen Demand	187		mg/L	198.0		94.3	84.6-115.4		
Duplicate (B303006-DUP1)	**Source: 2302020-01**								
Biochemical Oxygen Demand	19.0	2.00	mg/L		21.7			13.4	25
Matrix Spike (B303006-MS1)	**Source: 2302020-01**								
Biochemical Oxygen Demand	494	2.00	mg/L	396.0	21.7	119	75-125		
Matrix Spike Dup (B303006-MSD1)	**Source: 2302020-01**								
Biochemical Oxygen Demand	468	2.00	mg/L	396.0	21.7	113	75-125	5.46	200
Batch B303010									
Blank (B303010-BLK1)									
Residue, Non-Filterable	--- U	10.0	mg/L						
Blank (B303010-BLK2)									
Residue, Non-Filterable	--- U	10.0	mg/L						

NOTE: The results recorded in this report relate only to the samples as received on the date and at the time noted

Final Report

Project: Village of Highland Falls WWTP - 2302020

Project Number: 2302020

Sanitary - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B303010									
LCS (B303010-BS1)									
Residue, Non-Filterable	55.0	10.0	mg/L	55.10		99.8	85-115		
LCS Dup (B303010-BSD1)									
Residue, Non-Filterable	61.0	10.0	mg/L	55.10		111	85-115	10.3	20
Duplicate (B303010-DUP1)	**Source: 2302020-01**								
Residue, Non-Filterable	42.0	10.0	mg/L		46.0			9.09	20

NOTE: The results recorded in this report relate only to the samples as received on the date and at the time noted

Reported: 3/13/2023

US EPA REGION 2 LABORATORY
CHAIN OF CUSTODY/ FIELD DATA FORM

SURVEY NAME & LOCALITY: Village of Highland Falls WWTP

PROJECT LEADER: Bob Morrell

SITE ID ______ OPERABLE UNIT ______ PROGRAM RESULTS CODE ______

PROGRAM: SF ☐ : RCRA ☐ D210 | RCRA ENF ☐ D307 | NPDES ☑ B304 | SDWA ☐ C215 | AM ☐ B224 | CAA ☐ A305 | TSCA ☐ L306 | OD ☐ B253 | FIFRA ☐ | CRIMINAL ENF ☐

Decision Unit Code Y206

Permit #: NY0022586

LAB ID/ FIELD ID	# OF CONTERS	MATRIX	CHECK IF SPLIT SAMPLE	DESCRIPTION & INSTRUCTIONS INCLUDING LOCATION, ESTIMATED CONCENTRATIONS, SPECIAL REPORTING LIMITS,	Res CL Checked	Preservative (circle)	Collection Time (24hr clock) Begin	Collection Time End	Collection Date mm/dd/yy
Outfall 002-24 Hr. Comp	3	B	☐	2 1-liter plastic jars for BOD5	☐	0 1 2 3 4 5 6 7 8 9 10	1033		02/28/23
			☐	1 500-ml plastic jar for TSS	☐	0 1 2 3 4 5 6 7 8 9 10		1033	03/01/23
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			

COMMENTS & SPECIAL REQUIREMENTS:

Preservative Added & Checked

0=ice
1=H2SO4 pH<2
2=HNO3 pH<2
3=HCl pH<2
4=Na2S2O3
5=NaOH pH>9
6=Ascorbic Acid
7=FAS
8=ZnAc
9=NaOH pH>12
10=NH4Cl

		Time	Date
	Person Assuming Responsibility for Sample(s): Robert A. Morrell Jr.	1033	3/1/23
Relinquished By: Robert A. Morrell Jr.	Received By: [signature]	12:55	3/1/23
Relinquished By:	Received By:		
Relinquished By:	Received By:		

Matrix:
A=aqueous
B=aqueous (chlorinated)
C=soil
D=sediment
E=sludge
F=multiphasic
G=solvent
H=biota
I=oil
J=other

Survey Complete? Y ☑ N ☐

revised 10/25/2004

Direct from Sampling, chilled → [illegible] 3/1/23