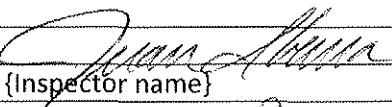
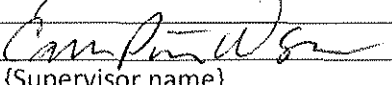




Region 6 Compliance Assurance and Enforcement Division INSPECTION REPORT

Inspection Date(s):	06/12/2014		
Media:	Water		
Regulatory Program(s)	CWA		
Company Name:	Harper Valley Home Owners Association		
Facility Name:	Harper Valley HOA WWTP		
Facility Physical Location:	East side of Road 6070		
(city, state, zip code)	Farmington, New Mexico 87401		
Mailing address:	#90 Road 6050, NBU #1001		
(city, state, zip code)	Farmington, New Mexico 87401		
County/Parish:	San Juan County		
Facility Contact:	Larry Hathaway	President of HOA	
	lhathaway@sjcounty.net		
FRS Number:	N/A		
Identification/Permit Number:	N/A		
Media Number:	NM0029025		
NAICS:	221320		
SIC:	4952		
Facility Representatives:	Larry Hathaway	President of HOA	505-334-4550
	Daniel Flack, P.E.	Valley Water & Sanitation District / Consultant	505-598-5163
EPA Inspectors:	Juan Ibarra	Env. Scientist/6EN-WR	214-665-8493
State Inspector(s):	N/A		
Other Inspector(s):	N/A		
Metadata	Title:	Harper Valley Home Owners Association Harper Valley HOA WWTP Farmington San Juan County New Mexico	
	Author:	US EPA Region 6 Compliance Assurance and Enforcement Division Dallas TX	
	Subject:	Inspection Report Clean Water Act CWA National Pollutant Discharge Elimination System NPDES	
	Keywords:	Wastewater Treatment Facility WWTF	
EPA Lead Inspector Signature/Date	 {Inspector name}		06/26/2014 Date
Supervisor Signature/Date	 {Supervisor name}		6/27/14 Date

Section I - INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector Juan Ibarra arrived at the Harper Valley Home Owners Association (HOA)/Harper Valley HOA WWTP at 0920 on June 12, 2014 for an announced inspection. I met with Mr. Larry Hathaway/President of the Harper Valley HOA at the Opening Conference, and later met with Mr. Daniel Flack, P.E. to discuss a potential sewer line connection to the Valley Water and Sanitation District lift station which pumps wastewater to the City of Farmington POTW. I presented my credentials to Mr. Hathaway and informed him that this was an EPA inspection to determine compliance with the facility's EPA NPDES permit and the Clean Water Act (CWA). The scope of the inspection was to conduct a Compliance Evaluation Inspection (CEI), which included an evaluation of the facility's compliance with their permit discharge limits, operational management of the plant, process control, laboratory data and records management.

FACILITY DESCRIPTION

The Harper Valley HOA wastewater treatment plant (WWTP) is a 0.096 MGD (design capacity) minor activated sludge plant with an off-site neighborhood lift station that receives flow from a residential housing development of 135 homes. The lift station, which lacks protective fencing and locks on the wet well, has a visual alarm (light beacon) and about 10 hours of holding capacity should it experience an electrical or mechanical failure (depending on the time of day and flow rates). Otherwise, there is no back-up power at the WWTP or lift station.

Wastewater enters the single aeration basin (equipped with a fixed mechanical aerator on timer, but no bar screen), and discharges thru an effluent weir and channel to the clarifier. The clarifier has a traveling bridge sludge removal system which operates in-place every two hours. The operator (Mr. Mike West, 505-801-1534-not present during the inspection) tends to the WWTP three times a week during evening hours, at which time he runs the traveling bridge back and forth. Effluent from the clarifier weirs enters the chlorine contact chamber, followed by the effluent weir box and outfall. Solids from the clarifier are either returned (Return Activated Sludge) to the aeration basin or wasted (Waste Activated Sludge) to the aerobic digester. Disinfection is accomplished by mixing HTH chlorine tablets in a drum, and feeding chlorine via a continuous drip dosing system, followed by sodium bi-sulfite tablets for de-chlorination prior discharge to the San Juan River

Section II – OBSERVATIONS

Lift Station

The lift station lacks protective fencing and locks on the wet well. Otherwise, the lift station appeared to be working normally, and did not show any signs of overflows.

General WWTP Condition

The WWTP, which was built in the late 1970's (according to Mr. Hathaway), is showing signs of metal deterioration such as worn weirs, a missing bar screen, and recently replaced clarifier Return Activated Sludge (RAS)/Waste Activated Sludge (WAS) line (due to metal deterioration which may indicate a similar condition of the bottom clarifier scrapper). As such, the facility is over 30 years old, and is reaching the end of its useful life unless funds are committed to a WWTP capital improvement project. Also, the plant no longer has a bar screen to keep debris from entering the WWTP. The clarifier sludge line was replaced in 11/2013.

Operations

Effluent solids have accumulated in the chlorine contact and effluent weir basins due to solids carry-over from the clarifier. The clarifier may be discharging excessive solids into the chlorine contact and effluent weir basins because the traveling bridge traverses the clarifier basin only when the operator arrives to maintain the facility for short periods of time (three days a week). Although the clarifier traveling bridge is operable, and runs in-place (without moving across the clarifier) every two hours, solids may be building up in the rest of the clarifier length, adversely affecting effluent quality. At the time of the inspection, pin floc and solids carry-over were observed significantly contributing to the facility's numerous and significant E. coli and fecal coliform violations. As such, more frequent removal of accumulated solids in the chlorine contact and effluent weir basins is required to eliminate the numerous bacterial effluent violations.

Additionally, the facility needs to obtain a sludge judge to assess the amount of solids accumulation in the clarifier, in order to determine the effectiveness of their current solids removal procedures, and if required, make adjustments as to how often the traveling bridge solids removal system is operated. Excessive old sludge will bulk to the surface and increase solids carry-over to the chlorine contact basin, thus reducing disinfection potential and solids discharged to the outfall.

Process Control

Additional process control is required to determine the frequency of solids wasting, sludge age (or MCRT for solids inventory), and solids accumulation in the clarifier, chlorine contact and effluent weir basins. The plant operator currently estimates their solids management based on visual appearance of the RAS and WAS. Other process control testing would include, but not be limited to, 30-minute settleability, mixed liquor suspended solids (MLSS), clarifier sludge judge, DO, etc. Additionally, the operator must assess the chlorine residual after the 20-minute disinfection basin hold time. The residual after 20 minutes must be at least 1.0 mg/l, however, the facility does not currently know what the chlorine residual is after disinfection, prior to de-chlorination. Also, the facility lacked a sludge judge to evaluate its solids blanket levels in the clarifier.

Effluent Violations

The tables below, for the discharge period of 1/1/2011 to present, show that the facility has had numerous effluent violations. There are seven quarters (Q) of BOD violations, ten Q of TSS violations, twelve Q of E. coli violations, three Q of TDS violations, and seven Q of fecal coliform violations.

00310 BOD, 5-day, 20 deg. C / Location 1 / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2006	6/30/2011	GRAB	Quarterly

Limit			
Limit Unit Desc	Pounds per Day	Milligrams per Liter	Milligrams per Liter
Statistical Base	30DA AVG	30DA AVG	7 DA AVG
Limit Value	24.02	30.	45.
DMR Values			
3/31/12	66.6	198.4	198.4
12/31/12		64	64
3/31/13		85.5	85.5
6/30/13		83.4	83.4
9/30/13		37.2	
12/31/13	37.8		
3/31/14	49		

00530 Solids, total suspended / Location 1 / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2006	6/30/2011	GRAB	Quarterly

Limit			
Limit Unit Desc	Pounds per Day	Milligrams per Liter	Milligrams per Liter
Statistical Base	30DA AVG	30DA AVG	7 DA AVG
Limit Value	24.02	30.	45.
DMR Values			
6/30/11		115.8	173.7
3/31/12		44.6	
6/30/12	28		
9/30/12	32	32	
12/31/12	70	70	70
3/31/13		53	53
6/30/13		81	81
9/30/13		88	88
12/31/13	60.2		
3/31/14	65		

51040 E. coli / Location 1 / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2006	6/30/2011	GRAB	Quarterly

Limit		
Limit Unit Desc	Colony Forming Units per 100ml	Colony Forming Units per 100ml
Statistical Base	30DAVGEO	7DAV GEO
Limit Value	126.	410.
DMR Values		
3/31/11	4109	4109
6/30/11	24000	24000
9/30/11	6198	6198
3/31/12	24196	24196
6/30/12	24196	24196
9/30/12	15581	15581
12/31/12	161	
3/31/13	24196	24196
6/30/13	24196	24196
9/30/13	1733	1733
12/31/13	24196	24196
3/31/14	770.1	770.1

70295 Solids, total dissolved / Location V / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2006	6/30/2011	GRAB	Quarterly

Limit	
Limit Unit Desc	Milligrams per Liter
Statistical Base	7 DA AVG
Limit Value	400.
DMR Values	
6/30/11	480
9/30/11	402
3/31/13	404

74055 Coliform, fecal general / Location 1 / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2006	6/30/2011	GRAB	Quarterly

Limit		
Limit Unit Desc	Colony Forming Units per 100ml	Colony Forming Units per 100ml
Statistical Base	30DAVGEO	7DAV GEO
Limit Value	100.	200.
DMR Values		
3/31/11	158	
6/30/11	7950	7950
9/30/11	2407	2894
3/31/12	5900	5900
3/31/13	41000	41000
6/30/13	20000	20000
12/31/13	12650	12650

Solids Management

Sludge has not been pumped out of the aerobic digester in about 18 months. Vacuumed solids are sent to the City of Farmington WWTP for disposal.

Records

The facility failed to take the first Q WWTP effluent sample in 2014, and mistakenly reported the April 22, 2014 sample as the first Q sample on the DMR. A revised DMR must be submitted for the first Q, indicating that no sample was taken. Additionally, EPA records indicate that no DMR was received for the fourth Q of 2011. Mr. Hathaway was informed to make this submission if he finds the paperwork. Also, the pH buffer bottles (4, 7, and 10) were not marked with an expiration date.

Permit

The WWTP is operating under its expired permit, which has not been reissued by EPA. The permit (NM0029025) expired on 6/30/2011. EPA issued a Cease and Desist Administrative Order on 2/5/2013 (CWA-06-2013-1757) for discharging treated effluent to the San Juan River without a permit. In response, the facility applied for permit renewal. The application, which has been received by EPA Permits Section (Tung Nguyen), was dated 3/6/2013. The proposed permit will go out for public comment on 6/28/2014.

Plans for Future Lift Station Connection to Farmington

At this time, Mr. Hathaway states that the HOA is seeking State funding to construct a 6" force main sewer line connection to the Valley Water & Sanitation District lift station, located about 6675' from the current HOA lift station. The force main project is estimated to cost about \$600,000, and a preliminary engineering report is being developed at this time. Therefore, the Harper Valley HOA will have to decide between the lift Station connection to the City of Farmington and decommissioning of the WWTP, or a rehabilitation of the current WWTP to achieve its permit limits.

Section III – AREAS OF CONCERN

The following areas of concern were observed during the inspection, and summarized during the exit interview with Mr. Hathaway.

- Operations and Maintenance concerns include the aging WWTP which appears to be approaching the end of its useful life unless a capital improvement project is initiated, or the HOA decides to connect to the City of Farmington WWTP.
- The WWTP is missing its bar screen, and has an unsecured lift station which lacks fencing and locks on the wet well door.
- The plant does not have a sludge judge to evaluate clarifier solids accumulation. A sludge judge is needed to help evaluate whether the operational strategy of only moving the traveling bridge three times a week is adequate to prevent excessive solids accumulation at the bottom of the clarifier, or if operation and process adjustments are required to properly manage RAS and WAS solids.
- The plant appears to have solids carry-over which is contributing to the numerous and significant bacterial permit exceedances. The facility does not have sufficient process control to optimize plant performance, including a lack of knowledge as to whether there is a chlorine residual at the end of the disinfection basin, sludge age, settleability, DO, etc.
- The WWTP has had numerous effluent violations for the evaluation period of 1/1/2011 to present.
- The facility has several DMR reporting violations. The facility failed to take the first Q WWTP effluent sample in 2014, and mistakenly reported the April 22, 2014 sample as the first Q sample on the DMR. Additionally, EPA records indicate that no DMR was received for the fourth Q of 2011. Also, the pH buffer bottles were not labeled with the expiration dates.
- The WWTP is operating and discharging treated effluent to the San Juan River with an expired permit. Also, the plant operator does not hold any Wastewater Certifications from the State of New Mexico.

Section IV – FOLLOW UP

The inspection report will be forwarded to the Enforcement Officer to determine whether an enforcement action will be taken.

Section V – LIST OF APPENDICES

Appendix 1 – 3560 Cover Sheet

Appendix 1

3560 Cover Sheet

EPA**NPDES Compliance Inspection Report**

Section A: National Data System Coding

Transaction Code		NPDES										yr/mo/day					Inspection Type		Inspector		Fac Type							
1	N	2	5	3	N	M	0	0	2	9	0	2	5	11	12	1	4	0	6	1	2	17	18	C	19	R	20	2
		21	S	I	C		C	O	D	E	:	4	9	5	2													66
Inspection Work Days				Facility Evaluation Rating				BI		QA		-----Reserved-----																
67				69				70	1	71	N	72	N	73				74									80	

Section B: Facility Data

Name and Location of Facility Inspected		Entry Time/Date		Permit Effective Date	
Harper Valley Home Owners Association WWTP is located within the Harper Valley Subdivision, at the far east end of Road 6070, in Farmington, San Juan County, New Mexico.		0920 / 6/12/14		07/01/06	
		Exit Time/Date		Permit Expiration Date	
		1230 / 6/12/14		06/30/11	
Name(s) of On-Site Representatives		Title(s)		Phone	
Larry Hathaway		President of Harper Valley HOA		505-334-4550	
Daniel Flack, P.E.		Valley Water & Sanitation Dist./Consultant		505-598-5163	
Name, Address of Responsible Official		Title			
Larry Hathaway		President of Harper Valley HOA			
Harper Valley Home Owners Association		Phone Number		Contacted: YES ☒ NO ☐	
#90 Road 6050 NBU #1001		505-334-4550			
Farmington, NM 87401					

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

U	Permit	S	Flow Measurement	N	Storm Water	S	CSO/SSO (Sewer Overflow)
U	Records/Reports	M	Self-Monitoring Program	M	Sludge Handling/Disposal	N	Pollution Prevention
U	Facility Site Review	N	Compliance Schedules	N	Pretreatment	N	Multimedia
U	Effluent/Receiving Waters	N	Laboratory	U	Operations & Maintenance		

Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

The facility had numerous Areas of Concern which are detailed in the attached inspection report (page 7).

Attachments: Inspection report

Name(s) and Signature(s) of Inspector(s)		Agency/Office/Telephone		Date	
Juan Ibarra		US EPA/6EN-WR/(214) 665-8493		26 June 2014	
Signature of Reviewer		Agency/Office		Date	
		US EPA/6EN-WR			