

Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	12/19/2019	
Media Program:	Water	
Regulatory Program(s)	CWA – NPDES	
Company Name:	City of Socorro	
Facility Name:	Socorro Wastewater Treatment Facility	
Facility Physical Location:	301 Main Street	
(city, state, zip code)	Socorro, NM 87801	
Mailing address:	P.O. Drawer K	
(city, state, zip code)	Socorro, NM 87801	
County/Parish:	Socorro County	
Facility Phone Number	575-838-1606	
Facility Contact:	Jordan Lloyd Martinez lmartinez@socorronm.gov	Water/Wastewater Department Supervisor
FRS Number:	110000734590	
Identification/Permit Number:	NM0028835	
Media Identifier Number:		
NAICS:	221320	
SIC:	4952	
Personnel participating in inspection:		
Amy Andrews, P.E.	USEPA/6EN-WMH	Environmental Engineer
Joe Melendrez	City of Socorro	Water/Wastewater Superintendent
Cody Polston	City of Socorro	Wastewater Treatment Plant Chief Operator
EPA Lead Inspector Signature/Date		
	Amy Andrews	Date
Supervisor Signature/Date		
	Carol Peters	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

Environmental Protection Agency (EPA) Region 6 inspector, Amy Andrews, arrived at the City of Socorro Wastewater Treatment Plant (WWTP) at approximately 10:30 am on December 19, 2019 for an unannounced Compliance Evaluation Inspection (CEI). I met with Joe Melendrez, Waste Water/Production Superintendent, Cody Polston, Wastewater Treatment Plant Chief Operator, for the Opening Conference. I presented my credentials to Mr. Melendrez and explained that this was an EPA inspection to determine compliance with the facility's National Pollutant Discharge Elimination System (NPDES) permit and the Clean Water Act (CWA). The inspection was conducted under the authority of the NPDES permit program, in accordance with the Federal CWA.

This report is based on information supplied by representatives of the City of Socorro (the permittee), observations made by the EPA inspector, and records and reports maintained by the permittee and/or the EPA.

FACILITY DESCRIPTION

The Socorro WWTP is a Sequencing Batch Reactor (SBR) with an intermittent cycle extended aeration system (ICEAS) and aerobic sludge digestion. It is classified as a major municipal discharger under the CWA, Section 402 NPDES permit program, authorized to discharge 1.3 million gallons per day (MGD) of wastewater, with an average actual flow of around 0.7 MGD. Discharge is into receiving waters named Luis Lopez Drain, thence to Socorro Riverside Drain, thence to the Rio Grande River. This segment includes designated uses of irrigation, marginal warmwater aquatic life, livestock watering, public water supply, wildlife habitat and primary contact.

Wastewater from the 23 lift stations in the City of Socorro is conveyed to a manhole on Main Street near the treatment facility and flows by gravity to the entrance works of the plant. The entrance works consist of a 5,000 gallon, below-grade septage receiving tank, where the influent wastewater from the last manhole is mixed with septage received by the facility; mechanical bar screen with bypass channel equipped with a manual bar screen. A lift station with three 20 horsepower submersible pumps then pumps the wastewater past a grit removal unit that has been out of service for years to a splitter box which sends the wastewater to the three ICEAS SBR basins. In the ICEAS process, the wastewater flows continuously into a pre-react zone in the SBR which is separated from the main react zone by a non-hydrostatic baffle wall. The pre-react zone acts as a biological selector to minimize filamentous growth. Wastewater then flows through openings at the bottom of the baffle wall and into the main react zone where treatment occurs by aeration and mixing. At the end of the aeration stage, aeration and mixing are stopped to allow solids separation, at which time the sludge settles to the bottom of the basin, leaving a layer of clear water at the top of the basin. At the end of the settling stage, the clear water is removed from each basin by an automated, time controlled decant mechanism and sludge is wasted

using submersible pumps. Chlorine gas is injected into the effluent for disinfection, and then it travels through two baffled chlorine contact chambers that operate in parallel before being dechlorinated using sulfur dioxide. The effluent then flows through a flow meter before it is discharged over the cascade aeration unit, through an underground pipe, and out of Outfall 001 into the Luis Lopez Drain. The waste biosolids generated at the facility is first sent to a gravity thickener unit. The thickened sludge is then transported to two aerobic digesters that are operated in series. The supernatant from the thickener and the aerobic digesters are sent back to the plant headworks. The digested sludge is sent to the belt filter press to be dewatered. The final dried biosolids are disposed of at the City of Socorro Landfill.

Section II – OBSERVATIONS

The City of Socorro has recently obtained financing from a United States Department of Agriculture (USDA) Rural Development grant for WWTP upgrades. As reported in a previous inspection report (date 7/24/2018), the perimeter wall of the SBR basin has been showing stress cracking in the concrete as well as significant deflection of the wall. Multiple and ongoing engineering assessments of the stability of the wall have been conducted. The engineer has concluded that the wall is currently stable and doesn't need to be replaced, but does need to be reinforced. All treatment basins will be cleaned and re-lined, including the chlorine contact chamber and the previously reported short-circuit within that basin.

The current permit expires on February 28, 2021 and a renewal application must be submitted at least 180 days before this expiration date. Due to advances in Global Positioning Satellite (GPS) technology, the location of Outfall 001 must be updated with more accurate coordinates in this application.

After the opening meeting, we began the inspection with a tour of the plant. No evidence of operational issues was observed, however the discharge going over the effluent weir appeared to have a slight greenish color, which may have been due to the greenish blue color paint that had been used inside the basin. A hole in the perimeter fencing was noted during the inspection, however facility personnel reported that the hole was fixed not long after the inspection.

After the tour of the plant was completed, a tour of the laboratory was conducted. Samples run by the facility include pH, biochemical oxygen demand (BOD), total suspended solids (TSS), E. coli bacteria, and total residual chlorine. Total and dissolved aluminum is sent to Hall Environmental Laboratory in Albuquerque, New Mexico, and whole effluent toxicity testing is done by Bio Aquatics Laboratory in Carrollton, Texas. The laboratory appeared clean and well-maintained.

Section III – AREAS OF CONCERN

Requirement 1

NPDES Permit NM0028835, Part I: A.1. Effluent Limits.

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
POLLUTANT	STORET CODE	lbs./day, unless noted 30-DAY AVG	7-DAY AVG	mg/l, unless noted 30-DAY AVG	7-DAY AVG	DAILY MAX	MEASURE-MENT FREQUENCY	SAMPLE TYPE
Total Aluminum	01105	N/A	0.943 (*3)	N/A	N/A	87 µg/l	1/Month	24-Hr Composite

Concern 1

During the month of October 2019, an exceedance of Total Aluminum was recorded at 100 micrograms per liter (µg/l). Facility personnel suspect this violation was a passthrough from an industrial user (solar panel manufacturer) in the area. Facility personnel contacted the industrial user and no exceedances have been recorded since that date.

Requirement 2

NPDES Permit NM0028835, Part I: A.1. Effluent Limits.

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
POLLUTANT	STORET CODE	lbs./day, unless noted 30-DAY AVG	7-DAY AVG	mg/l, unless noted 30-DAY AVG	7-DAY AVG	DAILY MAX	MEASURE-MENT FREQUENCY	SAMPLE TYPE
Flow	50050	Report MGD	Report MGD	N/A	N/A	N/A	Continuous	Totalizing Meter

Concern 2

It is unclear what is being used to calculate the reported 7-day average flow. The average flow for each week must be calculated, and the highest of these weekly values is the reportable value.

Month	Reported Flow	Calculated Flow
September 2019	0.77 MGD	0.61 MGD
October 2019	0.77 MGD	0.61 MGD
November 2019	0.68 MGD	0.66 MGD

Requirement 3

NPDES Permit NM0028835, Part III: B.3.a. Proper Operation and Maintenance: *The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit.*

Concern 3

There is still a crack in one of the walls of the chlorine contact chamber which is causing a short circuit in the chlorine contact chamber and potentially shortening the total duration of chlorination. It is likely that this short circuit was caused by the same structural failure that is causing the cracking and deflection in the SBR basin, as the eastern wall of the chlorine contact chamber is in line with the eastern wall of the SBR basin.

Requirement 4

NPDES Permit NM0028835, Part III: C.3. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application.

Concern 4

Most laboratory data is entered directly into bench sheets on a computer in Excel, however some of the data is written on “scratch” sheets prior to being entered into the computer, and these scratch sheets are not retained as records of laboratory measurements. All hand-written data collected during laboratory analysis must be retained with proper record contents as listed in NPDES Permit NM0028835, Part III: C.4. and according to record retention requirements.

EPA Region 6 inspector, Amy Andrews, conducted a closing conference at the City of Socorro WWTP at 2:00 PM on 12/19/2019, for the inspection. During the closing conference, Areas of Concern numbered 1, 3, and 4, listed above were reviewed as noted during the inspection. Area of Concern number 2 was noted during the records review, after the inspection.

Section IV – FOLLOW UP

Follow-up correspondence emails received from the facility after the close of the inspection were received on 12/19/2019, 12/26/2019, and 1/7/2020 regarding information about laboratory testing, fencing repair and the engineering reports of the SBR wall cracking and deflection.

Section V – LIST OF APPENDICES

[No Appendices]

