

Region 6 - Enforcement & Compliance Assurance Division

INSPECTION REPORT

Inspection Date(s):	4/20/2022		
Media Program:	Water		
Regulatory Program(s)	CWA		
Company Name:	Cherokee Nation		
Facility Name:	Cherry Tree WW Collection and Treatment System		
Facility Physical Location:	Cherokee Nation - Environmental Protection Commission		
Mailing address:	206 East Allen Road		
(city, state, zip code)	Tahlequah, OK 74464		
County:	Adair		
Facility Phone Number	918-453-5009		
Facility Contact:	Chris Sams	Environmental Protection Commission	
	chris-sams@cherokee.org		
FRS Number:	TBD		
Identification/Permit Number:	OKU002055		
NAICS:	221320 Sewage Treatment Facilities		
SIC:	4952 Sewerage Systems		
Personnel participating in inspection:			
Chris Sams	Cherokee Nation	918-453-5131	chris-sams@cherokee.org
Judge Fourkiller	Cherokee Nation	918-316-7647	judge-fourkiller@cherokee.org
Ronnie Wilson	Cherokee Nation	918-575-0881	ronnie-wilson@cherokee.org
James Bruner	Cherry Tree RWD	918-575-3005	jamesbruner@ctrwd.com
Cason LeBlanc, P.E.	IHS	918-435-5321	cason-leblanc@cherokee.org
Chris Gremillion	ODEQ	918-790-2498	chris.gremillion@deq.ok.gov
Damon McElroy, P.E.	EPA (ECD-WM)	214-665-7159	mcelroy.damon@epa.gov
EPA Lead Inspector Signature/Date			4/28/2022
	Damon McElroy		Date
Supervisor Signature/Date			4/28/2022
	Roberto Bernier		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector Damon McElroy arrived at the Cherry Tree Rural Water District (CTRWD) office - located at 308 West Locust, Stilwell, Oklahoma 74960 - on April 20, 2022, for an announced compliance evaluation inspection (CEI) of the Cherokee Nation Cherry Tree Wastewater Collection and Treatment System (facility). The facility treats the Cherry Tree community municipal wastewater via two no-discharge lagoons. I (Damon McElroy) met with the personnel participating in the inspection listed above at an opening conference (reference also sign-in sheet in Appendix 2). I presented my EPA inspection credentials to the group and informed them that this was an EPA CEI to determine the facility's Clean Water Act compliance. EPA was notified by ODEQ of sanitary sewer overflow (SSO or CWA 301 unauthorized discharge) problems related to Chery Tree community (or CTC) member inquiries. ODEQ requested EPA assistance, referring ODEQ SSO investigative results to EPA. EPA maintains CWA regulatory and investigative authority on Cherokee Nation restricted lands.

FACILITY DESCRIPTION

The facility is owned by Cherokee Nation (or CN) and serves the Cherry Tree, OK community. CTC was originally developed as a Cherokee Nation single family subdivision for tribal members. CTC has been since converted to fee-simple lands. CN owns the wastewater (WW) related easements and street rights-of-ways within CTC. The CN lift station and no-discharge lagoons are located outside of the CTC boundary on CN restricted lands.

The collection system consists of sanitary sewer PVC gravity lines and associated manholes installed 1983 (≈39 years old). In addition, one Lift Station (LS) pumps WW through a force main (FM) to the two no-discharge lagoons. The service area consists of 64 homes (at ≈75 gal/c/d) and one industrial building (at ≈15 gal/c/d). The approximate population served consists of about four people per home, or 256 residents, and 100 industrial employees. The estimated base design wastewater flow is therefore $[64 \text{ (h)} \times 4 \text{ (c/h)} \times 75 \text{ (gal/c/d)}] + [100 \text{ c} \times 15 \text{ (gal/c/d)}] = \underline{20,700 \text{ gal/d}}$.

Initial Operations and maintenance (O&M) is provided by Cherry Tree Rural Water District (CTRWD) via an agreement or MOU with CN. CTRWD limited O&M includes spot repair, daily LS inspection and operation, sanitary sewer overflow (SSO) response, 24-hour-seven-day customer call or complaint center, and LS problem diagnosis. Further operations, funding, ownership, and WW contractual work are provided by Cherokee Nation. CTRWD collects a nominal service fee for each CTC wastewater service connection to provide the O&M assistance. CTRWD also provides drinking water to CTC. The drinking water system is regulated under ODEQ authority. Wastewater is regulated under EPA authority via the CWA. There are two CTRWD WW operators with one ODEQ Class "D" WW license and one Class D license pending. In addition, several CN tribal officials are involved with CT WW related operational responsibilities including remediating SSOs. This includes officials from the Cherokee Nation

Environmental Protection Commission (CN-EPC). There is plan in place for CN to provide future CTC WW O&M work via a new contract with Oklahoma Rural Water Association (ORWA).

Pertinent CN WW assets are located as shown in following Table:

WW Asset	Latitude	Longitude
Lagoons	35.758688	-94.647095
Lift Station	35.754367	-94.644512
*CO SSO point	35.753999	-94.643037

*WW clean-out (CO) where current SSOs are occurring due to LS failures.

Section II - OBSERVATIONS

I observed that the LS was currently operating and appeared to be in good condition. The previously reported LS SSO issues were fixed via installation of a new pump and new LS electrical components. The LS is now operating automatically and visited by a CT-RWD operator daily. The CTC industrial facility does not use process water for its manufacturing, however WW services for employees are provided. The industrial facility reportedly makes airplane oil filters. The current CTRWD Class D licensure meets ODEQ minimum requirements. I observed that the LS high level or low-level alarm system consisted of both audio and visual (flashing red light) – (reference Photo 4 in Appendix 1). This adheres to ODEQ minimum requirements. The existing LS can operate 24 hours if a failure occurs at high level - meeting ODEQ standards as well.

SSOs have reportedly occurred due to blockages, LS mechanical or pump failures, LS electrical failures, and power outages (including due to lightning). Blockage issues include roots, fats oils and grease, debris in manholes, vandalism, and miscellaneous household debris flushed into the collection system. A “fog” inflow and infiltration (I/I) study was reportedly conducted in 2012. The I/I and peak flow is unknown currently.

Reportedly, for the last several years, SSO problems have been caused by the LS pumps or related electrical systems not working. This has caused SSOs from a down gradient cleanout (CO), then onto private property, then into the street, to a CTC storm drain culvert system (reference Photos 2 and 3 in Appendix 1) and finally to Hanging Dog Creek and Sallisaw Creek. I analyzed CT-RWD work orders from 6/1/2020 to 3/4/2022. The results indicated three SSOs at the same CO that were caused by 1) LS electrical problems, 2) LS pump failure, and 3) LS pump system not operating automatically requiring manual operation or manual pump down. I additionally observed LS SSO issues illustrated in ODEQ investigative reports and several customer inquiries logged with EPA.

Cherokee Nation Cherry Tree Wastewater Improvement Project: The Cherokee Nation’s project objectives are to have an adequate collection system and LS structure to prevent SSOs which will replace the existing total retention lagoons. A permit to construct has been issued by ODEQ and this project will take 9 to 12 months to complete. The construction plans have been finalized. Currently, the last two items remaining before contract bidding and construction is to begin are to: 1) finalize the Stilwell WW

treatment contract and 2) to obtain one last easement. Funding came from: American Rescue Plan Act, Indian Health Service, Oklahoma Rural Water Association, and Cherokee Nation.

Section III – AREAS OF CONCERN

The main concern is the CTC (Cherry Tree Community) WW utility does not have a long-term program for ensuring its sanitary sewer collection system infrastructure is adequately operated and maintained and does not deteriorate to the point of putting human health and the environment at risk or costing a considerably higher amount to abate problems rather than prevent them. The program was also observed to lack adequate sustainability components. The following concerns were discussed at the inspection meeting:

1. The past issues with the LS pumps and electrical system that cause SSOs.
2. The significant lag time to receive funding or equipment from CN to adequately mitigate or stop SSOs in a timely manner.
3. The CTC Utility was observed as reactionary rather than pro-active.

Section IV – RECOMMENDATIONS

1. The facility should develop a capacity, management, operations, and maintenance (CMOM) program tailored to the facility's specific needs. Such CMOM components should include:
 - a. A sanitary sewer assessment program for sanitary sewer pipe, manholes and other critical WW assets.
 - b. A sanitary sewer cleaning program.
 - c. Adequate standard operational procedures.
 - d. A current I/I study to understand peak flow and how to mitigate I/I.
 - e. A blockage control program, including for fats, oils, and grease, as well as roots, rags, etc.
 - f. Adequate spare parts.
2. The WW utility needs a jet system or equivalent to mitigate blockages that cause SSOs.
3. The Utility needs to develop a map of the wastewater collection system assets preferably on geographic coordinate system.

Section V – FOLLOW UP

No additional information was received by EPA after exiting the Facility on 4/20/2022.

Section VI – LIST OF APPENDICES

Appendix 1 – Photo Log – seven photos taken 4/20/2022

Appendix 2– Sign-in Sheet

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: Cherokee Nation		
Community: Cherry Tree	County: Adair	State: Oklahoma



Photo File Name: DSCN0779.JPG

Photographer: DLM

Time: 9:19

Description: Cherry Tree RWD Office



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: Cherokee Nation		
Community: Cherry Tree	County: Adair	State: Oklahoma



Photo File Name: DSCN0780.JPG

Time: 10:37

Photographer: DLM

Description: Most Recent SSO due to LS failure location.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: Cherokee Nation		
Community: Cherry Tree	County: Adair	State: Oklahoma



Photo File Name: DSCN0784.JPG

Photographer: DLM

Time: 10:40

Description: Most recent SSO flow path.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: Cherokee Nation		
Community: Cherry Tree	County: Adair	State: Oklahoma



Photo File Name: DSCN0787.JPG

Photographer: DLM

Time: 10:41

Description: Cherokee Nation Lift Station.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: Cherokee Nation		
Community: Cherry Tree	County: Adair	State: Oklahoma



Photo File Name: DSCN0789.JPG

Photographer: DLM

Time: 10:41

Description: Inside lift station wet well.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: Cherokee Nation		
Community: Cherry Tree	County: Adair	State: Oklahoma



Google Earth aerial view

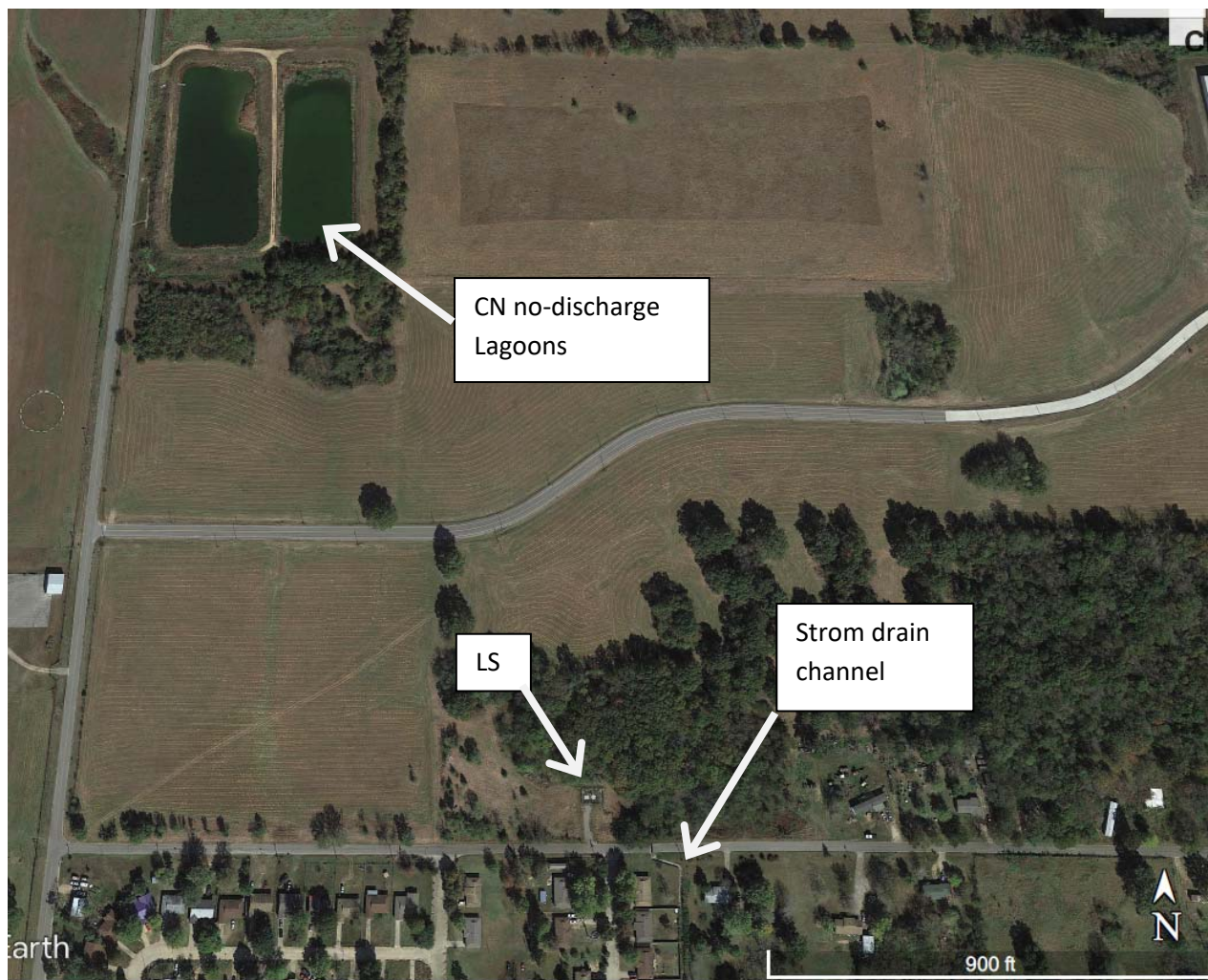


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: Cherokee Nation		
Community: Cherry Tree	County: Adair	State: Oklahoma



Google Earth aerial view

Appendix 2

Sign-in Sheet

