**U.S. EPA Region 8 NPDES Inspection Report**

| **National Database Information** | |
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| Inspection Date: **August 9, 2022** | Inspection Type: **Compliance Evaluation Inspection** |
| Entry / Exit Time: **11:45 AM / 14:50 PM** | NPDES ID: **MTG589009** |
| Major / Non-Major Facility: **Non-Major** | Program Sector(s): **Domestic Wastewater Treatment Facility (WWTF)** |
| NAICS Code: **221320 (Sewage Treatment Facilities)** | Inspection ID: **202208_MTG589009** |
| Inspector and affiliation: **Akash Johnson / U.S. EPA Region 8** | |

| **Facility Location Information** | |
|---|---|
| Site/Facility Name & Location:<br>**Crow Agency WWTF**<br>**Crow Agency (Big Horn County), Montana**<br>**45.613894, -107.454961** | Email Report to:<br>**Chris Dillon, Lead Operator**<br>**Apsaalooke Water and Wastewater Authority**<br>**chris.dillon@crow-nsn.gov** |

| **Contact Information** | |
|---|---|
| | Name(s)/Title |
| | **Chris Dillon / Lead Operator / Apsaalooke Water and Wastewater Authority (not present)** |
| | **James Bell Rock, Jr. / Operator / Apsaalooke Water and Wastewater Authority (present)** |
| | **Antone Lopez / Operator / Apsaalooke Water and Wastewater Authority (present)** |
| Indian Health Service Contacts | **Jason Schneider / Tribal Utility Consultant / Indian Health Service (present)** |
| Tribal Government Contacts | **Marvin "Wes" Stops, Jr. / Environmental Director / Crow Tribe (present)** |
| Person/Company meeting definition of "Owner" | **Crow Tribe** |
| Person/Company meeting definition of "Operator" | **Apsaalooke Water and Wastewater Authority** |

| Permit / Facility Information | |
|---|---|
| Permit on site and available:<br>**N/A – unpermitted at time of inspection** | Permit Application Date:<br>**Received September 30, 2021** |
| Permit Effective Date:<br>**October 19, 2022 (post-inspection)** | Permit Expiration Date:<br>**March 31, 2027** |
| Facility Latitude and Longitude: **45.613894, -107.454961 (lagoon)** | |
| Receiving Water(s): **Little Bighorn River** | |
| Weather Conditions: **Partly cloudy** | |
| Inspector's sources of information: **Facility representatives, Indian Health Service representatives, IHS records and databases, EPA records and databases, and inspection observations** | |

| Areas Evaluated During Inspection | | |
|---|---|---|
| **Permit** | **Self-Monitoring Program** | **Pretreatment** |
| **Records** | Compliance Schedule | Pollution Prevention |
| **Facility Site Review** | Laboratory | Stormwater |
| **Effluent/Receiving Waters** | **Operations and Maintenance** | Combined Sewer Overflow |
| Flow Measurement | Sludge Handling/Disposal | **Sanitary Sewer Overflow** |

| **Report Review and Signature** | | |
|---|---|---|
| Lead Inspector Name/Signature/Final Date | Draft Date | Contact Information |
| AKASH JOHNSON Digitally signed by AKASH JOHNSON Date: 2023.10.31 08:50:10 -06'00' | **August 10, 2023** | **U.S. EPA Region 8**<br>**Denver, Colorado**<br>**johnson.akash@epa.gov**<br>**(303) 312-6067** |
| **NPDES and Wetlands Enforcement Section** | | |
| Reviewer Name | Review Date | Contact Information |
| **Stephanie Passarelli** | **August 21, 2023** | **U.S. EPA Region 8**<br>**Denver, Colorado**<br>**passarelli.stephanie@epa.gov**<br>**(303) 312-6803** |
| **NPDES and Wetlands Enforcement Section** | | |
| Supervisor Reviewer Name/Signature/Approval Date | | Contact Information |
| EMILIO LLAMOZAS Digitally signed by EMILIO LLAMOZAS Date: 2023.10.26 11:15:24 -06'00' | | **U.S. EPA Region 8**<br>**Denver, Colorado**<br>**llamozas.emilio@epa.gov**<br>**(303) 312-6407** |
| **NPDES and Wetlands Enforcement Section Supervisor** | | |

**Inspection Narrative and Facility Description**

## 1.0 Introduction

On Tuesday, August 9, 2022, I, U.S. Environmental Protection Agency (EPA) inspector Akash Johnson, conducted a compliance evaluation inspection of the Crow Agency wastewater treatment facility (facility). The facility serves the unincorporated community of Crow Agency, Montana and is located within the exterior boundaries of the Crow Reservation. The facility comprises a wastewater collection system, treatment lagoon, and related appurtenances, described further throughout this report. The purpose of the inspection was to evaluate compliance with applicable Clean Water Act and National Pollutant Discharge Elimination System (NPDES) requirements.

The inspection was coordinated with the Apsaalooke Water and Wastewater Authority (AWWWA), the Crow Tribe (Tribe), and the Indian Health Service (IHS) several weeks in advance. An inspection notification letter was sent to the Tribe on July 6, 2022.

For the entirety of the inspection, I was accompanied by AWWWA representatives James Bell Rock, Jr. and Antone Lopez, Operators, Tribal government representative Marvin "Wes" Stops, Jr., Environmental Director, and IHS representative Jason Schneider, Tribal Utility Consultant. Throughout the inspection, I took notes on discussions and observations in a bound inspection checklist. Photographs taken during the inspection are included in the enclosed photograph log.

Prior to and since the inspection, I have been engaged in ongoing communications with the AWWWA, the Tribe, and the IHS, and I am generally apprised of changes to AWWWA and facility operations that occurred between the inspection and issuance of this report. Relevant information learned since the inspection is reflected in this report.

## 2.0 Background

### 2.1 Facility Ownership and Operatorship

Until recently, it was the EPA's understanding the facility was wholly owned by the Tribe. However, during preparation of this report, the Tribe provided the EPA some records indicating portions of the facility's collection system, notably, several lift stations, were historically owned and could still be owned by entities other than the Tribe, including the Bureau of Indian Affairs (BIA) and the Apsaalooke Nation Housing Authority (ANHA). I subsequently located additional EPA records to this effect. As of this report, the Tribe and the EPA are in the process of obtaining and reviewing additional documents that may clarify the current ownership status of various facility components. It is expected the Tribe will eventually consult with the BIA, the ANHA, and any other relevant parties to clarify current ownership statuses of facility components and discuss potential transfer agreements, operatorship agreements, financial agreements, or other legal agreements or considerations between the parties related to ownership and operatorship of the facility. Ownership and Tribal land status of the land parcels on which the facility was located was not evaluated during the inspection.

It is my understanding that, since the facility was constructed circa 2010 and continuing through the issuance of this report, the facility has been primarily or solely operated by the AWWWA, a utility organized through Tribal ordinance which provides water and wastewater service to several communities across the Reservation.

2.2 NPDES Permit Status

The EPA is the primary Clean Water Act regulatory authority for the facility. At the time of the inspection, no NPDES permit coverage was in-effect for the facility; prior NPDES permit coverage for the facility had expired on September 15, 2015 and had not yet been reissued.

Prior to the inspection, on September 30, 2021, the AWWWA submitted a Notice of Intent (NOI) for coverage under the EPA Region 8 NPDES Lagoon General Permit (LGP), NPDES Permit No. MTG589###. When the NOI was submitted, the previous version of the LGP was expired and the new version of the LGP had not been finalized, so no LGP coverage could be issued for the facility. The new LGP was finalized in 2022. After the inspection, re-certification of the NOI was submitted by the Tribe on October 7, 2022 and new LGP coverage for the facility was issued effective October 19, 2022.

2.3 Previous Compliance Monitoring Activities

Prior to the inspection, the most recent EPA compliance monitoring activity of the facility was a compliance evaluation inspection conducted on September 10, 2019 (Inspection ID: 201909_MTG589009), summarized in a February 20, 2020 inspection report (2020 inspection report). Dates of some other historical compliance monitoring activities and associated reports are referenced in the 2020 inspection report and are available in EPA records and databases.

2.4 Compliance History and EPA Involvement

Since at least 2012 and continuing through the present, the EPA has been engaged in communications with the AWWWA and the Tribe regarding facility operations, noncompliance with Clean Water Act and NPDES requirements, and associated public health and environmental considerations. In general, these communications have included:

- In-person inspections;
- Facilitation and provision of compliance, technical, and financial assistance;
- Deployment of EPA On-Scene Coordinators to assist with emergency response;
- Coordination with other governmental agencies;
- Clean Water Act Section 308 information requests;
- Administrative enforcement;
- Virtual and in-person meetings; and
- Various related phone calls, emails, letters, and other correspondence.

A full recounting of the facility's compliance history and the EPA's involvement with the facility is not included in this report. Some relevant information is discussed in the 2020 inspection report. Additional information is maintained in EPA records.

As of this report issuance, the EPA, the AWWWA, and the Tribe are engaged in ongoing communications to discuss ongoing financial, managerial, and operational improvements being considered and implemented at the facility.

2.5 Facility Users and Pretreatment Considerations

A comprehensive discussion of facility users is not included in this report. Some documents containing information on this topic are available in EPA and IHS records, including Preliminary Engineering Reports (PERs), maps, and previous EPA inspection reports. A cursory overview of facility users is provided below.

The population of Crow Agency was estimated at 1,657 during the 2020 census. I have not evaluated the accuracy of this population estimate or the number of Crow Agency residents served by the facility versus those on septic. Broadly speaking, facility users include residential dwellings, the Little Big Horn College, the Crow Agency Public School, the Awe Kualawaache Care Center (Care Center), the IHS Crow/Northern Cheyenne Hospital (Hospital), and various government offices, gas stations, convenience stores, restaurants, and churches.

To my knowledge, with the exception of septage fees, discussed further in Section 2.5.2, neither the AWWWA nor the Tribe implement any sewer use ordinances or other regulatory mechanisms pertaining to facility use.

*2.5.1 Solids Interference at the East Frontage Road Lift Station*

Industrial pretreatment concerns have been identified in the southern portion of the collection system, specifically regarding solids interference at the "East Frontage Road" Lift Station. For at least several years, inordinately high numbers (sometimes dozens to hundreds per day) of industrial- or medical-grade disposable rags have been entering the collection system upgradient (generally, south) of the East Frontage Road Lift Station and have repeatedly interfered with lift station and collection system operations.

Two sewer mains flow into the East Frontage Road Lift Station, one from the north and one from the south. A bar screen is installed between each sewer main and the wet well. The south bar screen is often inundated with the subject rags, which sometimes escape through or around the bar screen and are sucked into the pumps. Over the years, numerous pump failures and valve blockages have occurred as a result of these rags, sometimes resulting in sanitary sewer overflows (SSOs) and sewer backups, posing threats to human health and the environment and damaging lift station and collection system components. The AWWWA and the IHS have incurred repair costs and dedicated various other resources towards repairing and preventing damage to the facility caused by these rags.

Two non-residential users in the southern portion of the collection system have been identified by the AWWWA as potential sources of these rags, the Care Center and the Hospital. In 2019, the EPA conducted an industrial user inspection of the Care Center (Inspection ID: 201909_MTPU00121), summarized in an inspection reported dated October 2, 2019 and discussed in the 2020 inspection report for the facility. A cursory overview of the Care Center inspection and follow-up is as follows:

- The Care Center is an elder care and nursing home facility, providing both outpatient and inpatient-resident medical care.
- Rags similar or identical to those impacting the East Frontage Road Lift Station were identified in the Care Center, reportedly used in quantities of hundreds per day. Care Center representatives indicated the rags were used primarily by staff for incontinent care of Care Center residents and were not generally flushed, although some residents had obtained boxes of the rags and occasionally clogged in-house plumbing by flushing large numbers of them.

- In response to the EPA's 2019 industrial user inspection and report, the Care Center developed standard operating procedures (SOPs) for controlling and using the rags and conducted SOP training for residents and staff.

The EPA has not performed an industrial user inspection of the Hospital, but understands IHS sanitation facilities engineering personnel have communicated with IHS Hospital personnel regarding potential concerns related to these rags and solids best management practices the Hospital.

Since 2019, the quantity of rags entering the collection system and frequency of associated problems at the East Frontage Road Lift Station have decreased, potentially resulting from better solids management practices at the Care Center and Hospital and more frequent cleaning of the south bar screen by the AWWWA. During the subject inspection, some rags were still observed to be present in sewage flowing to south bar screen. AWWWA representatives indicated they cleaned the East Frontage Road Lift Station bar screens approximately weekly.

Additional information on solids interference at the East Frontage Road lift station is available in records maintained by the EPA, the IHS, and presumably the Tribe and their engineer, including photographs, videos, PERs, technical memorandums, IHS trip reports, previous EPA inspection reports, and documents associated with the Phase 3C project, discussed further in Section 2.8.

*2.5.2 Septage*

Septage is accepted at the lagoon. During the inspection, AWWWA representatives indicated septage haulers utilizing the lagoon were charged a flat fee that was directed to the Tribe's general fund. I have not clarified what the fee amount is and whether it is assessed on a per-load or per-time basis (e.g. weekly or monthly).

Additionally, annually in the third week of August, the Tribe hosts Crow Fair in Crow Agency, a multi-day gathering that can attract upwards of 50,000 people. Based on conversations with AWWWA representatives over the past several years, including during the subject inspection, I understand much of the portable toilet waste from Crow Fair is disposed of in the lagoon, potentially comprising a substantial slug load to the system. To my knowledge, monitoring specifically evaluating the potential short-term and long-term effects of this potential slug load on lagoon treatment efficacy and effluent quality has not been performed.

2.6 AWWWA Staffing and Organization

The AWWWA provides water and wastewater services to the unincorporated communities of Crow Agency, Pryor, and Wyola. At the time of the inspection, the AWWWA employed approximately three or four operators, one of whom was considered a Lead Operator and all of whom performed both water and wastewater duties. As of March 2023, the AWWWA employed approximately ten operators, including a Lead Operator, with at least one operator based in each community served. I understand most of these ten operators performed both water and wastewater duties, but some focused primarily on water treatment operations and distribution system repairs. Some AWWWA operators have historically held wastewater operator licenses; however, I have not clarified how many, if any, AWWWA operators maintain current wastewater operator licenses as of this report.

The AWWWA has previously employed a Manager, but this position was vacated around April 2023 and has not been backfilled as of this report. To my knowledge, AWWWA does not currently employ any administrative support staff and has not employed any such staff for at least several years.

2.7 Billing and Collection

The facility's lagoon was constructed circa 2010 at least in-part with financial assistance from the U.S. Department of Agriculture Rural Development (USDA-RD). In an October 16, 2012 letter from the BIA to the USDA-RD, the BIA disclaimed all right, title, and interest to community wastewater infrastructure in Crow Agency but affirmed service fees paid by the users of the facility would be collected by the BIA "for and on behalf of the Crow Tribe."

As of this report, it is not clear what, if any, portion of water and wastewater fees collected by the BIA have been distributed to the AWWWA or the Tribe. Over the past several years, the Tribe, the EPA, and other federal agencies have engaged the BIA and its parent agency, the U.S. Department of the Interior (DOI), in multiple conversations at various levels to obtain information pertaining to the BIA's water and sewer fee collection procedures in Crow Agency. As of this report, conversations on this topic are ongoing between multiple entities.

Taking the October 16, 2012 letter from the BIA into consideration, there is still some uncertainty regarding ownership of various facility components, as discussed in Section 2.1. The Tribe and the EPA are in the process of clarifying what, if any, ownership of facility infrastructure the BIA may currently retain.

The BIA and the AWWWA each operate independent water treatment plants providing water to the Crow Agency public water system. As of this report issuance, the EPA understands the BIA continues to assess and collect combined water and sewer user fees for some residential and commercial users in Crow Agency, and the AWWWA does not collect any water or sewer user fees in Crow Agency or any other communities it serves, with the exceptions of the septage fees discussed in Section 2.5.2 and a water and sewer billing agreement between the AWWWA and the IHS for an IHS facility in Pryor. Collection rates and the completeness of the user inventory maintained by the BIA for Crow Agency have not been evaluated by the EPA.

The EPA is aware of at least one water and sewer rates study prepared for the AWWWA, conducted approximately 10 years ago. To my knowledge, user fees or other financial arrangements were never implemented in accordance with this rates study. The EPA has not performed an in-depth evaluation of this rates study and it is likely many of the inputs and recommendations are now out-of-date.

2.8 Phase 3C Project and Prior Improvement Projects

For the past several years and continuing through the issuance of this report, a facility collection system improvement project has been underway, referred to as the "Phase 3C" project. The scope of the Phase 3C project includes repair or replacement of several thousand feet of deteriorating sewer main and construction of a new lift station outside a floodplain to replace the existing East Frontage Road Lift Station, which is located in a floodplain.

The Phase 3C project is funded by multiple federal and state agencies, including the EPA. The EPA's funding in this project is being managed by the IHS. For the past several years and continuing through the issuance of this report, multiple entities involved with the project have been meeting approximately

monthly to discuss the status of project engineering and funding. I typically attend these meetings when feasible.

As of this report issuance, the project is in the design and planning phase. A 90% design submittal is undergoing review, and multiple permits, agreements, probable cost updates, funding considerations, and other administrative items are being addressed. Estimated timeframes for final design, construction bidding, and construction are in-flux. Additional information on the Phase 3C project is included in documents maintained by the Tribe, their engineer, and project funders.

In the years preceding the Phase 3C project, the facility underwent several other major improvement projects (including projects referred to as the "Phase 1," "Phase 2," "Phase 3A," and "Phase 3B" projects), which included upgrades to approximately half the collection system and construction of the existing lagoon. The scope of prior improvement projects is not discussed in this report. Documents detailing these projects are available in records maintained by the EPA, the IHS, and presumably the Tribe, their engineer, and other funding agencies.

## 3.0 Facility Description

Broadly speaking, the facility comprises a collection system, three lift stations, a four-cell aerated lagoon, ultraviolet (UV) disinfection, an outfall to the Little Bighorn River, and related appurtenances. A detailed description of the facility is not included in this report. Comprehensive engineering records, including PERs, design and as-built drawings, collection system maps, collection system assessments, operation and maintenance (O&M) manuals etc. are maintained by the EPA, the IHS, and presumably, the Tribe and their engineer.

Relevant information pertaining to facility components observed during the inspection is in included in Section 4.0 and the Findings, Corrective Actions, and Recommendations section.

## 4.0 Inspection Narrative

The inspection began when James, Antone, Wes, Jason, and I convened at the "West Side Lift Station" (also referred to as the "Railroad Lift Station") (approximately 45.600366, -107.464016) at approximately 11:45 AM. I had presented my inspector credentials and conducted an opening conference with James, Antone, and Jason earlier in the day.

### 4.1 West Side (Railroad) Lift Station

At the West Side Lift Station, we observed the interior of the wet well, the lift station control panel (Photographs 174 and 175), and a non-operational remote alarm auto-dialer (Photograph 176) in the control panel housing. AWWWA representatives indicated supervisory control and data acquisition (SCADA) equipment at this lift station and throughout the facility had not been utilized in several years. Additional discussion of facility SCADA functionality is included in Section 4.5. AWWWA representatives indicated this lift station was visited approximately daily during routine rounds and did not typically present any problems.

During the inspection, the lift station appeared generally operable; however, after the inspection, around January or February 2023, this lift station encountered electrical, control, and pump issues and was rendered inoperable. The lift station remains inoperable as of this report. The EPA understands necessary replacement parts have been ordered and are expected imminently and, in the interim, the

**Inspection Narrative and Facility Description**

AWWWA has been visiting the lift station multiple times per day to manually operate pumps and draw down the wet well.

4.2 East Frontage Road Lift Station

We then drove to the East Frontage Road Lift Station (approximately 45.588376, -107.457570), which features two non-submersible pumps (Photograph 180). Some of the industrial- or medical-grade rags discussed in Section 2.5.1 were observed at the south bar screen (Photographs 177-179). We also observed the north bar screen (Photograph 181), pump dry well (Photograph 180), wet well, and control panel (Photographs 182 and 183). AWWWA representatives indicated this lift station was visited approximately daily during regular rounds, the bar screens were cleaned approximately weekly, and both pumps were operational.

During the inspection, the lift station appeared generally operable; however, after the inspection, during preparation of this report, the AWWWA indicated the pumps at this lift station began experiencing problems, including potentially overheating. As of this report, I understand the pumps remain operational but the AWWWA is considering replacing them. As previously discussed in Section 2.8, replacement and decommissioning of this lift station is included in the scope of the Phase 3C project.

Following our observations at the East Frontage Road Lift Station, we paused the inspection at approximately 12:15 for lunch.

4.3 Lagoon Lift Station

We resumed the inspection at approximately 12:45 at the lagoon. We began our observations within the lagoon enclosure at the "Lagoon Lift Station" (Photograph 189), which features two submersible pumps.

The primary (west) wet well of the Lagoon Lift Station receives all wastewater from the collection system and pumps it into the lagoon. We observed the interior of the primary wet well, which was operating, and the interior of the expansion (east) wet well (referred to in the 2019 inspection report as the "backup wet well") (Photograph 184). The expansion wet well was constructed to accommodate potential future expansion of the service area and, insofar as the AWWWA, the IHS, and the EPA are aware, is not connected to any live sewer mains. There is an open overflow pipe between the two wet wells near the top of the wet wells. Several feet of what appeared to be sewage, potentially mixed with groundwater or precipitation, was present in the expansion wet well (Photograph 184). The water in the expansion wet well appeared stagnant and, based on our observations and discussions, it is presumed any sewage in the expansion wet well entered via the overflow from the primary wet well at a time when water levels in the primary wet well became elevated, potentially due to high flows or a pump or power outage. A similar observation was made during the 2019 inspection. During the subject inspection, we discussed the potentially pumping the presumed wastewater out of the expansion wet well; however, during a follow-up discussion after the inspection, IHS representatives pointed-out that, given the groundwater table is suspected to be within several feet of the surface in the vicinity of the lift station (discussed further in the paragraph below), maintaining some liquid in the expansion vault could help prevent potential vault flotation.

We also observed the lift station control panel (Photograph 185). AWWWA representatives indicated the Lagoon Lift Station controls would not automatically reset after power outages, so operators had to

visit the lift station after power outages to reset the controls and restart the pumps. A similar observation was made during the 2019 inspection.

We also observed the interior of the valve vault between the lift station and lagoon (Photographs 186-188). Approximately 2-3 feet of suspected infiltrated groundwater was present in the vault. Pipes in the vault were fully submerged and rust was observed on their exterior. A similar observation was made during EPA inspections in 2018 and 2019. As discussed in the 2020 inspection report, the AWWWA reported the vault was pumped dry between the EPA's 2018 and 2019 inspections, but water had returned to approximately the same level. Given the similar depth of water recurring in the vault and the generally clear quality of the water (compared to sewage), it is presumed the water in the vault is infiltrated groundwater, indicating depth to groundwater is likely only several feet in the vicinity of the lift station. A sump pit was present in the valve vault floor, but no sump pump was installed (Photograph 188). We discussed potentially sealing the vault joints or installing a sump pump to keep the vault dry.

What appeared to be two pipes were present in one of the of the sides of the valve vault (Photograph 187). We were not able to discern what, if anything, the pipes may have been connected to.

What appeared to be an in-line meter and associated wiring was observed along the force main leading to the lagoon (Photograph 187), but we were not able to clarify what the meter may have been capable of measuring, where any readings from this meter might be recorded or displayed, or where the wiring leaving the vault went. After the inspection, I performed a cursory review of some engineering design drawings for this valve vault; the drawings indicate there were plans for a magnetic in-line flow meter in approximately this location.

4.4 Lagoon Cells

We then proceeded to observe the lagoon cells (Photographs 190-193). The lagoon comprises four synthetically-lined aerated cells, which were being operated in series.

Bubble patterns in the cells appeared uneven in some of the cells, and AWWWA representatives indicated some air valves, lines, or aerator heads may have been in need of repair or replacement. Two of the four blowers were out of service, discussed further in Section 4.5, so it is also possible the variation in aeration intensity could have been caused or exacerbated by inadequate air flow.

4.5 Blower Building

We then observed the interior of the blower building, which housed four blowers (Photograph 196) and some control equipment (Photograph 197). Two of the four blowers were not operational (Photograph 194). A similar observation was made during EPA inspections in 2018 and 2019.

We also observed a non-operational remote alarm auto-dialer in the blower building (Photograph 197). AWWWA representatives indicated SCADA equipment in the blower building and throughout the facility had not been utilized in several years. It was unknown whether any SCADA functionality still existed or could be restored for the facility. Based on conversations with AWWWA and IHS representatives spanning several years prior to and during the subject inspection, the full potential functionality of SCADA equipment installed throughout collection system and lagoon components is

not known, but it is possible connectivity could be established with at least some lift stations, the blowers, aeration system, UV disinfection system, and influent or effluent flow measurement.

4.6 UV Disinfection Building

We then observed the interior of the UV disinfection building (Photographs 198-203). The UV system comprises two banks of horizontally arranged bulbs (Photographs 198 and 201), with one display panel per bank (Photograph 199). Effluent sample collection and flow measurement is conducted between the UV treatment train and where effluent flows into closed piping conveying it to the Little Bighorn River (Photograph 200). Based on discussions with AWWWA representatives that have occurred since inspection, I understand a square-shaped bucket is used to measure effluent flow at this location, utilizing the "bucket-and-stopwatch" approach.

AWWWA representatives indicated they cleaned the UV bulbs monthly but were generally unfamiliar with other O&M procedures for the UV system and did not have a copy of the UV system O&M manual. It was not clear how many bulbs were operational and whether the lamp status indicators (Photographs 198 and 201) and display panels (Photograph 199) were functioning properly. No intensity reading was displayed on the display panels (Photograph 199). It was unclear how many, if any, spare UV bulbs were available (Photograph 203). Similar observations were made during the EPA's 2018 and 2019 inspections.

After the inspection, Jason located a copy of the UV system O&M manual, which has since been shared with AWWWA representatives and is maintained in IHS and EPA records.

4.7 Outfall

We then left the lagoon enclosure and drove to the outfall in the Little Bighorn River (Photographs 204 and 205). It appeared part of the concrete outfall structure had detached from the riverbank and fallen into the river.

4.8 Moccasin Street/Bala Street and Two Leggins Avenue

We then drove to the intersection of Moccasin Street/Bala Street and Two Leggins Avenue to observe a manhole (approximately 45.607791, -107.461445) located in a vacant residential lot that was surcharging during the EPA's 2018 and 2019 inspections. In the spring of 2021, collection system cleaning associated with the Phase 3C project had occurred in this area and the SSO was reportedly been resolved. This was confirmed during the inspection, as the area around the previously overflowing manhole and the interior of the manhole were dry (Photographs 206-208). It was unclear what, if any, sewer service lines or mains tied into the manhole, and I understand closed circuit television inspection of the collection system in this area was not completed in conjunction with the spring 2021 cleaning because potentially collapsed sewer lines prevented camera access. Repair or replacement of sewer main in this area is included in the scope of the Phase 3C project.

**5.0 Post-Inspection Activities and Conclusion**

As stated in Section 1.0, since the inspection, I have remained engaged in ongoing communications with the Tribe, AWWWA, and IHS and am generally apprised of changes to AWWWA and facility operations that have occurred between the inspection and issuance of this report. These discussions include, but are not limited to, monthly compliance assistance calls, monthly Phase 3C project calls, the

| Inspection Narrative and Facility Description |
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| provision of compliance assistance related to discharge monitoring report (DMR) submittals, and various other phone calls and emails on an ad-hoc basis. Relevant information learned since the inspection is included throughout this report.<br><br>During preparation of this report, I reviewed DMR data submitted for the monitoring periods spanning November 2022 (the first full month of LGP coverage) through June 2023 (the last month for which monitoring results were due at the time of report preparation), accessed via the EPA's Integrated Compliance Information System (ICIS) database on August 7, 2023, displayed in Appendix A.<br><br>Findings, requested corrective actions, and recommendations are identified in the section below. |

**Findings, Corrective Actions, and Recommendations**

**Finding 1:**

Required monitoring and reporting has not been conducted.

The LGP requires routine monitoring of influent, effluent, and the receiving water. As shown in Appendix A, no monitoring was conducted in November 2022, only partial monitoring was conducted and reported for December 2022 through February 2023, and no monitoring has been reported since.

I understand the AWWWA has been conducting some or all the required monitoring, but results have not been reported since the previous AWWWA NetDMR certifying official resigned around April 2023. Based on recent conversations with representatives from the AWWWA and the Tribe, I understand AWWWA and Tribal officials are in the process of registering for NetDMR and plan to submit overdue DMRs. The EPA has provided, and will continue to provide, compliance assistance relating to registering for and using NetDMR.

**Permit Requirements:**

Monitoring and reporting requirements are reflected in the LGP authorization letter and Parts 3 and 5 of the LGP, which are attached to this report.

**Corrective Action:**

Conduct all required monitoring and reporting in accordance with the LGP authorization letter and the LGP. Ensure appropriate individual(s) obtain access to NetDMR and submit overdue DMRs from March 2023 through the present.

In a response to the EPA, provide the date this corrective action was completed and copies of any field measurement documentation (e.g. pH, temperature, flow); and laboratory analytical results supporting the data reported on DMRs for the August 2023 monitoring period.

**Finding 2:**

The ownership status of all facility components is unclear.

Until recently, it was the EPA's understanding the facility was wholly owned by the Tribe. However, during preparation of this report, the Tribe provided the EPA some records indicating portions of the facility's collection system, notably, several lift stations, were historically owned and could still be owned by entities other than the Tribe, including the BIA and the ANHA. I subsequently located additional EPA records to this effect.

The September 30, 2021 NOI submitted by the AWWWA and recertified by the Tribe on October 7, 2022 identifies the Tribe as the sole owner of the facility. At the times the NOI and recertification were submitted, the EPA understands the AWWWA and the Tribe were not aware any entities other than the Tribe could potentially own any facility components.

| Findings, Corrective Actions, and Recommendations |
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| **NOI and Permit Requirements:**<br><br>Part 7.6 of the LGP states:<br><br>When the Permittee becomes aware that it failed to submit any relevant facts in an NOI, or submitted incorrect information in the NOI or any report to the EPA, it shall promptly submit such facts or information.<br><br>**Clean Water Act Requirements:**<br><br>Determination of facility ownership is important to clarify liability for compliance with Clean Water Act and NPDES requirements, as both facility owners and operators may be held liable for Clean Water Act violations.<br><br>**Corrective Action:**<br><br>Clarify ownership and operatorship responsibilities for all facility components.<br><br>As of this report, the Tribe and the EPA are in the process of obtaining and reviewing additional documents that may clarify the current ownership status of various facility components. It is expected the Tribe will eventually consult with the BIA, the ANHA, and any other relevant parties to clarify current ownership statuses of facility components and discuss potential transfer agreements, operatorship agreements, financial agreements, or other legal agreements or considerations between the parties related to ownership and operatorship of the facility. It is expected the EPA will receive copies of any relevant documentation pertaining to this clarification during the course of ongoing communications with the AWWWA and the Tribe.<br><br>At this time, no response to the EPA is requested pursuant to this corrective action. |
| **Finding 3:**<br><br>As of this report, the West Side Lift Station is generally inoperable.<br><br>During the inspection, the lift station appeared generally operable; however, after the inspection, around January or February 2023, this lift station encountered electrical, control, and pump issues and was rendered inoperable. The lift station remains inoperable as of this report. The EPA understands necessary replacement parts have been ordered and are expected imminently and, in the interim, the AWWWA has been visiting the lift station multiple times per day to manually operate pumps and draw down the wet well.<br><br>**Permit Requirements:**<br><br>Part 6.6 of the LGP states:<br><br>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 the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up |

or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit…

**Corrective Action:**

Restore functionality to the West Side Lift Station.

In a response to the EPA, provide an update on the status of the ordered parts, the expected date(s) of part delivery, and the expected date(s) of lift station repair and restoration to an operable state.

**Finding 4:**

At the Lagoon Lift Station, several feet of what appeared to be sewage, potentially mixed with groundwater or precipitation, was present in the expansion wet well (Photograph 184). The water in the expansion wet well appeared stagnant and, based on our observations and discussions, it is presumed any sewage in the expansion wet well entered via the overflow from the primary wet well at a time when water levels in the primary wet well became elevated, potentially due to high flows or a pump or power outage. A similar observation was made during the 2019 inspection. During the subject inspection, we discussed the potentially pumping the presumed wastewater out of the expansion wet well; however, during a follow-up discussion after the inspection, IHS representatives pointed-out that, given the groundwater table is suspected to be within several feet of the surface in the vicinity of the lift station, maintaining some liquid in the expansion vault could help prevent potential vault flotation.

**Permit Requirements:**

Part 6.6 of the LGP states:

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 the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit…

**Corrective Action:**

Evaluate the potential pros and cons of removing or replacing water in the expansion wet well. It is recommended this evaluation be performed in consultation with the IHS.

In a response to the EPA, provide a narrative explaining the considerations and outcome of this evaluation, and, if applicable, any next steps.

**Finding 5:**

The Lagoon Lift Station controls would not automatically reset after power outages.

Operators had to visit the lift station after power outages to reset the controls and restart the pumps. A similar observation was made during the 2019 inspection.

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**Permit Requirements:**

Part 6.6 of the LGP states:

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 the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit…

**Corrective Action:**

Perform an assessment of all components of the Lagoon Lift Station, determine what, components are in need of repair or replacement, and develop and implement a plan and schedule for performing necessary repairs.

In a response to the EPA, provide a narrative explaining the steps taken to perform this assessment, the findings of the assessment, and a plan and schedule for performing necessary repairs.

**Recommendation:**

In conjunction with the assessment of the Lagoon Lift Station controls, evaluate whether pump hours are or could be displayed or recorded. Information on pump hours may be useful in evaluating lift station performance and pump longevity.

At this time, no response to the EPA is requested pursuant to this recommendation.

**Finding 6:**

Approximately 2-3 feet of suspected infiltrated groundwater was present in the valve vault at the Lagoon Lift Station (Photographs 186-188).

Pipes in the vault were fully submerged and rust was observed on their exterior. A similar observation was made during EPA inspections of the facility in 2018 and 2019. As discussed in the 2020 inspection report, the AWWWA reported the vault was pumped dry between the EPA's 2018 and 2019 inspections, but water had returned to approximately the same level. Given the similar depth of water recurring in the vault and the generally clear quality of the water (compared to sewage), it is presumed the water in the vault is infiltrated groundwater, indicating depth to groundwater is likely only several feet in the vicinity of the lift station. A sump pit was present in the valve vault floor, but no sump pump was installed (Photograph 188). We discussed potentially sealing the vault joints or installing a sump pump to keep the vault dry.

**Permit Requirements:**

Part 6.6 of the LGP states:

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| 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 the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit…<br><br>**Corrective Action:**<br><br>Evaluate the potential pros and cons of removing the water in the Lagoon Lift Station valve vault and sealing the vault joints or installing a sump pump. It is recommended this evaluation be performed in consultation with the IHS.<br><br>In a response to the EPA, provide a narrative explaining the considerations and outcome of this evaluation, and, if applicable, any next steps. |
| **Finding 7:**<br><br>What appeared to be two pipes were present in one of the of the sides of the valve vault (Photograph 187).<br><br>During the inspection, we were not able to discern what, if anything, the pipes may have been connected to, and a thorough evaluation of the pipes, compliance-based or otherwise, could not be performed.<br><br>**Corrective Action:**<br><br>Determine what, if anything, the subject pipes in the side of the Lagoon Lift Station valve vault are connected to.<br><br>In a response to the EPA, provide a narrative explaining the outcome of this determination. |
| **Finding 8:**<br><br>What appeared to be an in-line meter and associated wiring was observed along the force main leading to the lagoon (Photograph 187).<br><br>During the inspection, we were not able to clarify what the meter may have been capable of measuring, where any readings from this meter might be recorded or displayed, or where the wiring leaving the vault went. After the inspection, I performed a cursory review of some engineering design drawings for this valve vault; the drawings indicate there were plans for a magnetic in-line flow meter in approximately this location.<br><br>**Permit Requirements:**<br><br>Part 6.6 of the LGP states:<br><br>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 the Permittee to achieve compliance |

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| with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit…<br><br>**Recommendation:**<br><br>Determine the measurement capabilities of the subject meter and evaluate the feasibility and potential pros and cons of restoring functionality to the meter.<br><br>At this time, no response to the EPA is requested pursuant to this recommendation. |
| **Finding 9:**<br><br>Bubble patterns in the lagoon cells appeared uneven in some of the cells, and AWWWA representatives indicated some air valves, lines, or aerator heads may have been in need of repair or replacement.<br><br>As discussed in Section 4.5, two of the four blowers were out of service, so it is also possible the variation in aeration intensity could have been caused or exacerbated by inadequate air flow.<br><br>**Permit Requirements:**<br><br>Part 6.6 of the LGP states:<br><br>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 the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit…<br><br>**Corrective Action:**<br><br>Perform an assessment of all components of the air delivery system, determine what, if any, components are in need of repair or replacement, and, if applicable, develop and implement a plan and schedule for performing necessary repairs. It is recommended this assessment be performed in consultation with the IHS.<br><br>In a response to the EPA, provide a narrative explaining the steps taken to perform this assessment, the findings of the assessment, and, if applicable, a plan and schedule for performing necessary repairs. |
| **Finding 10:**<br><br>Two of the four blowers for the lagoon aeration system were not operational (Photograph 194).<br><br>A similar observation was made during EPA inspections of the facility in 2018 and 2019. |

**Findings, Corrective Actions, and Recommendations**

**Permit Requirements:**

Part 6.6 of the LGP states:

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 the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit…

**Corrective Action:**

Repair the two inoperable blowers. If completion of this corrective action is not feasible within 30 days of receiving this report, develop and implement a plan and schedule for repairing the inoperable blowers.

In a response to the EPA, provide the date this corrective action was completed or narrative including a plan and schedule for performing all necessary blower repairs.

**Finding 11:**

Non-functioning remote alarm auto-dialers were observed in the control panel housing at the West Side Lift Station (Photograph 176) and in the blower building (Photograph 197).

AWWWA representatives indicated SCADA equipment throughout the facility had not been utilized in several years. It was unknown whether any SCADA functionality still existed or could be restored for the facility. Based on conversations with AWWWA and IHS representatives spanning several years prior to and during the subject inspection, the full potential functionality of SCADA equipment installed throughout collection system and lagoon components is not known, but it is possible connectivity could be established with at least some lift stations, the blowers, aeration system, UV disinfection system, and influent or effluent flow measurement.

**Permit Requirements:**

Part 6.6 of the LGP states:

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 the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit…

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| **Recommendation:**<br><br>Determine the current functionality, if any, of SCADA equipment installed at the facility and evaluate the potential pros and cons and feasibility of restoring, improving, and expanding facility SCADA capabilities. It is recommended this evaluation be performed in consultation with the IHS.<br>At this time, no response to the EPA is requested pursuant to this recommendation. |
| **Finding 12:**<br><br>The UV disinfection system was not being properly operated or maintained.<br><br>AWWWA representatives indicated they cleaned the UV bulbs monthly but were generally unfamiliar with other O&M procedures for the UV system and did not have a copy of the UV system O&M manual. It was not clear how many bulbs were operational and whether the lamp status indicators (Photographs 198 and 201) and display panels (Photograph 199) were functioning properly. No intensity reading was displayed on the display panels (Photograph 199). It was unclear how many, if any, spare UV bulbs were available (Photograph 203). Similar observations were made during the EPA's 2018 and 2019 inspections.<br><br>After the inspection, Jason located a copy of the UV system O&M manual, which has since been shared with AWWWA representatives and is maintained in IHS and EPA records.<br><br>**Permit Requirements:**<br><br>Part 6.6 of the LGP states:<br><br>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 the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit…<br><br>**Corrective Action:**<br><br>Perform an assessment of all components of the UV disinfection system, determine what, if any, components are in need of repair or replacement, and develop and implement a plan and schedule for performing necessary repairs.<br><br>In a response to the EPA, provide a narrative explaining the steps taken to perform this assessment, the findings of the assessment, and, if applicable, a plan and schedule for performing necessary repairs.<br><br>**Corrective Action:**<br><br>In consultation with the UV system O&M Manual and the inspection and O&M requirements of Parts 6.5 and 6.6 of the LGP, develop and implement O&M procedures, SOPs, or other work assignment and tracking mechanisms to ensure the UV system is properly operated and maintained in accordance with the O&M manual and LGP requirements. |

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| In a response to the EPA, provide a copy of the O&M procedures, SOPs, or other work assignment and tracking mechanisms developed to ensure proper O&M of the UV system. |
| **Finding 13:**<br><br>It appeared part of the concrete outfall structure in the Little Bighorn River had detached from the riverbank and fallen into the river (Photographs 204 and 205).<br><br>**Permit Requirements:**<br><br>Part 6.6 of the LGP states:<br><br>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 the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit…<br><br>**Corrective Action:**<br><br>Perform an assessment of the concrete outfall structure's condition, determine what, if any, repairs may be needed to return it to its intended state, and, if applicable develop and implement a plan and schedule for performing necessary repairs.<br><br>In a response to the EPA, provide a narrative explaining the steps taken to perform this assessment, the findings of the assessment, and, if applicable, a plan and schedule for performing necessary repairs. |
| **Recommendation:**<br><br>LGP coverage was not in-effect for the facility at the time of the inspection. However, since the inspection, the facility obtained LGP coverage on October 19, 2022. Part 6 of the LGP contains multiple requirements that were not evaluated during the inspection or preparation of this report, including requirements pertaining to conducting and documenting routine inspections, developing and implementing O&M procedures, and conducting an Industrial Waste Survey. The EPA recommends the AWWWA and the Tribe review and implement these requirements and all other requirements of the LGP.<br><br>At this time, no response to the EPA is requested pursuant to this recommendation. |
| **Recommendation:**<br><br>In 2019, H&S Environmental, LLC performed a performance evaluation of the lagoon and issued a report dated July 26, 2019 summarizing the evaluation and providing O&M recommendations for optimizing treatment efficacy at the facility. The EPA recommends the AWWWA and the Tribe review this report and consider the recommendations therein. The EPA can provide a copy of this report, if needed.<br>At this time, no response to the EPA is requested pursuant to this recommendation. |