



NPDES Compliance Inspection Report

Lummi Indian Business Council Gooseberry Point Wastewater Treatment Plant

Bellingham, WA

Permit # WA0025666

Inspection Date: August 17, 2022

Prepared by:

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U.S. Environmental Protection Agency, Region 10
Enforcement & Compliance Assurance Division
Water Enforcement & Field Branch
Surface Water Enforcement Section

Inspector Signature/Date:

Supervisor Signature/Date:

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(Unless otherwise noted, all details in this inspection report were obtained from conversations and communications (e.g., emails, submissions, etc.) with Dale D. Andert, District Manager, or Daniel Jeffries, Lab Technician/Plant Operator, and from reviews of documents and direct inspection observations)

I. Facility Information

Facility Name:	Gooseberry Point Wastewater Treatment Plant (WWTP)
Facility Owner/Operator:	Lummi Indian Business Council (Permittee) Lummi Tribal Sewer and Water District (LTSWD), (Owner/Operator)
Physical Address:	2156 Lummi View Drive Bellingham, WA 98226
Lat/Long:	48.720833, -122.661944
Mailing Address:	2156 Lummi View Drive Bellingham, WA 98226
Facility Contacts:	Dale D. Andert, District Manager (cell) (360) 393-7105 DaleA@lummi-nsn.gov Daniel Jeffries, Lab Technician/Plant Operator (cell) (360) 305-6059 DanJ@ltswd.com
Permit Number:	WA0025666
NAICS Code:	221320 – Sewage Treatment Facilities
SIC Code:	4952 – Sewerage Systems
Receiving Water:	Hale Passage, North Puget Sound, Washington

II. Inspection Information

Inspection Date:	August 17, 2022
Inspectors:	Rick Cool; Kyle Masters (SWES NPDES inspector in-training)

Arrival Time:	8:10 AM (at WWTP)
Departure Time:	Approximately 12:15 PM (from Kwina Road MBR wastewater treatment plant)
Weather:	Sunny
Purpose:	To evaluate the Gooseberry Point wastewater treatment plant's (WWTP) compliance with the National Pollutant Discharge Elimination System (NPDES) permit and the Clean Water Act (CWA).

III. Permit Information

This WWTP is permitted to discharge under NPDES permit WA0025666. The permit became effective on December 1, 2011 and has been administratively extended since the expiration date of November 30, 2016.

As of the date of inspection (August 17, 2022), the EPA Region 10 NPDES Permitting Section is proposing reissuance of the permit. According to the EPA Region 10 website, the proposed reissued permit (in draft) was subject to public comment from June 16 – August 2, 2021. The NPDES Permitting Section permit writer reported, on July 22, 2022, permit reissuance is delayed until completion of EPA's Endangered Species Act Section 7 consultation with the National Marine Fisheries Service regarding the biological opinion.

IV. Background

The WWTP is owned and operated by the LTSWD. According to the EPA Region 10 NPDES Permitting Section's June 2021 Fact Sheet (Fact Sheet), the WWTP serves a residential population of approximately 2771 persons. The Fact Sheet states the WWTP has a design flow of 0.375 million gallons per day (MGD) and the reported monthly average flows from the WWTP range from 0.08 to 0.48 MGD. The Fact Sheet states the WWTP collection system has no combined sewers and there are no major industries discharging to the WWTP.

The existing WWTP treatment process begins with a headworks including the influent flow meter, bar screen, comminutor, and aerated grit removal chamber. Screenings from the mechanical fine screen and grit collected in the aerated grit chamber are sent to a landfill. The grit removal chamber flow is split between two primary clarifiers allowing settleable and floatable solids to be removed from the wastewater.

From the primary clarifiers, the flow enters the pre-aeration basin where large amounts of air are entrained in the wastewater before flowing to one of the two rotating biological contactors (RBCs) that provide secondary treatment. The RBC flows are combined and directed to two secondary clarifiers providing settlement of secondary sludge. Sludge from primary and

secondary clarifiers is stabilized using aerobic digesters before land application at a tribal biosolids site.

From the secondary clarifiers, the effluent is disinfected with ultraviolet light (UV) in the UV chamber which was previously the chlorination system chamber. The UV chamber only uses one-half of the decommissioned chlorination two-chamber structure. I observed the second half of the chlorination two-chamber was not in current use. The Fact Sheet reports the UV system replaced the chlorine disinfection system in 2011; however, the WWTP maintains the ability to disinfect with chlorine if there is an operational issue with the UV system.

During the EPA inspection site tour of the WWTP, the EPA inspectors observed a jury-rigged chlorination injection system that LTSWD staff stated was used to inject chlorine into one of the secondary clarifiers, just upstream of where the wastewater would leave the secondary clarifier and enter the UV system chamber.

Disinfected wastewater leaving the UV system then flows over a weir of the outfall box end of the UV chamber, where visual observations can be made prior to the treated effluent entering the discharge piping system to the outfall.

The WWTP discharges to Hale Passage, North Puget Sound (marine waters). The Fact Sheet states the outfall (Outfall 001) is located approximately 925 feet from shore and at a range of 18.8 - 22 feet below the water surface (MLLW) in Hale Passage. The Fact Sheet also states the WWTP's design flow is less than 1.0 MGD, thus the Gooseberry Point WWTP is considered a minor facility.

The WWTP was last inspected for NPDES permit compliance on June 30 and July 1, 2015 by Brian Levo. The EPA inspection report for the June/July 2015 NPDES compliance inspection stated the LTSWD was acquiring funding for a major upgrade of the WWTP.

In late 2018, EPA and the Lummi Indian Business Council entered into a Compliance Order on Consent, Docket No. CWA-10-2019-0029 (effective December 19, 2018) which, in summary, required the Council to submit a facility plan and annual reports of WWTP construction progress, and a written response to the EPA June/July 2015 inspection report findings.

The Washington State Department of Ecology's December 18, 2017 letter to the LTSWD approved the WWTP's Facility Plan (October 2017; revised December 8, 2017) as an engineering report. The Ecology approval letter stated the proposed construction project was preliminarily approved for a state revolving fund loan of over \$13 million. The Ecology's letter summarized some major wastewater treatment improvement features as follows:

- Construct two new primary clarifiers;
- Construct a new secondary clarifier and upgrade the two existing secondary clarifiers; and
- Convert existing primary clarifiers and the pre-aeration basin to activated sludge stabilization basins.

The WWTP upgrades are being constructed and installed by Faber Construction Corporation (Faber), as the general contractor. According to a Faber *Gooseberry Point Improvements – Monthly Gantt* chart report (dated August 31, 2022), the WWTP improvement contract was awarded on October 29, 2021 with the start-of-construction on March 28, 2022. This Gantt chart report shows an estimated January 17, 2024 as the date of completion of physical work.

The LTSWD's *Gooseberry Point Wastewater Treatment Plant Facility Plan* (October 2017; revised December 8, 2017) (Facility Plan) was prepared by Gray & Osborne, Inc., consulting engineers. This NPDES inspection report incorporates by reference two Facility Plan figures which accurately depict the pre-construction WWTP site and a schematic diagram of the existing (i.e., pre-construction) wastewater treatment process (with the noted exception below about the chlorination contact basin) as noted herein:

- Figure 4-9, Existing WWTP Process Flow Diagram; and
- Figure 4-10, Existing WWTP Site Plan.

As discussed above, the LTSWD dismantled the chlorination disinfection system that used a two-chamber chlorine contact basin when the UV disinfection system was installed in one of the two chambers. The second chamber identified in Figure 4-9 as a backup chlorine contact basin was not in use at the time of the inspection.

V. Inspection Chronology

This was an announced inspection. On July 25, 2022, I sent my introductory email to Mr. Andert, LTSWD District Manager, to discuss scheduling of NPDES inspections of the Gooseberry Point WWTP and Kwina Road Membrane Bioreactor (MBR) Wastewater Treatment Facility. I called Mr. Andert on July 26, 2022 and made arrangements to meet at the WWTP on August 10 and to conduct the Kwina Road MBR Facility inspection on August 17. Due to circumstances beyond my direct control, I had to cancel the WWTP August 10 inspection. Mr. Andert agreed to rescheduling both the WWTP and the Kwina Road MBR Facility inspections for August 17, 2022.

Kyle Masters, SWES NPDES inspector-in-training, accompanied me on the August 17, 2022 NPDES inspections. We arrived at the WWTP on Wednesday, August 17, at approximately 8:10 a.m. I presented my EPA-issued inspector credentials to Mr. Andert and provided him an EPA Small Business Resources Information Sheet. We were accompanied throughout the two inspections by at least one LTSWD representative at all times. We were not denied access to the WWTP or any portion thereof.

We began the combined inspections with a brief opening conference with Dale Andert and Daniel Jeffries, LTSWD Lab Technician/Plant Operator, in Mr. Andert's office. After taking a tour of the WWTP, we visited the WWTP laboratory and conducted a file review of various permit related documents including lab documents.

After completing the WWTP site tour and document/file review, we proceeded to the Kwina Road MBR Facility to conduct the NPDES inspection of that Facility, accompanied by

Mr. Jefferies during the entire inspection. Due to time constraints caused by two inspections with additional travel, and the need to obtain and review additional documents, we arranged with Mr. Andert and Mr. Jefferies to delay the closing conferences for both plants' inspections until a mutually agreeable time could be arranged. We did however discuss next steps which included my sending of follow-up emails to Mr. Jefferies with additional document/file requests and informal requests for information related to the plants' operations and the various documents and files reviewed both during and after the August 17 on-site inspections.

We completed the inspections on Tuesday, September 20, 2022, by conducting a Teams meeting-based closing conference to discuss our preliminary inspection observations and next steps. The closing conference call included Kyle Masters, Dale Andert, Daniel Jeffries, and Ivan Washington, LTSWD Plant Operator.

VI. Opening Conference

Mr. Andert recently joined the LTSWD staff as the (interim) District Manager, with a primary focus to manage the WWTP's construction upgrade project with construction oversight of the Faber Construction Corporation contract.

Mr. Andert stated the LTSWD operations include both potable water and wastewater services with three major wastewater treatment plants (e.g., Gooseberry Point, Sandy Point and Kwina Road MBR), approximately 21 lift stations and 17 drinking water wells.

Mr. Andert provided a copy of a June 2022 LTSWD water and sewer organizational chart showing at least 6 wastewater/sewer operators under the designated sewer supervisor's oversight, with another two water operators (under the water supervisor's oversight) trained in both wastewater/sewer and water operations. In sum, the LTSWD has 8 operators for wastewater and sewer related duties and operations and of those 8 operators, Mr. Andert said six operators are certified.

Mr. Andert stated there had not been any major or significant changes in the WWTP operations in the last five years. He did note the WWTP chlorination system had been dismantled with the implementation of the UV disinfection system. The Fact Sheet states the UV system was installed in 2011. During the September 20 closing conference, Mr. Jeffries noted LTSWD staff no longer take total residual chlorine (TRC) samples when chlorine is not being added to the WWTP – this comment was made in response to an EPA inspector question about “zero” entries for the TRC boxes in the recent WWTP discharge monitoring reports (DMRs).

In response to EPA questions about UV system operations and maintenance procedures, Mr. Jefferies stated operators observe total suspended solids (TSS) levels as an indicator of potential UV bulb fouling. Operators brush the UV bulbs monthly and bulbs are changed out annually.

In response to EPA questions about how WWTP 24-hour composite sampling was conducted, Mr. Jefferies stated a 300-ml sample is taken each hour during the 24-hour sampling period and

this time-based interval sampling regime is also used for the Kwina Road MBR Facility's 24-hour composite sampling regime.

In response to EPA questions about the frequency of WWTP conveyance system sanitary sewer overflows, LTSWD staff stated there were no identified routine overflows except for the recently reported August 4, 2022 estimated 300-gallon overflow from Pump Station No. 6. Mr. Andert indicated there may have been another sewer conveyance system overflow in March 2022 but no additional information has been provided about this potential overflow incident.

In response to EPA questions about the status of operations of the WWTP effluent flow monitoring device, LTSWD staff stated a new device was installed about six years ago and malfunctioned about one year ago. Mr. Andert said a new effluent flow monitoring device was ordered approximately one month ago, with an estimated mid-September delivery date for device installation.

In response to EPA questions about what visual observations are made by LTSWD staff regarding the Permit, Part I.B.3 (i.e., "free from" condition), no discharge of floating solids, visible foam, etc. on the surface of the receiving water, LTSWD staff stated observations are not made of the outfall's surface water vicinity in Hale Passage. LTSWD staff said operators make observations of the treated effluent as it leaves the UV system chamber into the outfall box before entering the outfall piping system but those observations are not recorded.

In response to EPA questions about WWTP conveyance system inflow and infiltration (I&I) corrective action work, Mr. Andert said I&I preventative and corrective actions are taken routinely (e.g., annual smoke testing) but in light of the substantial, unexpected increased cost of the WWTP upgrades, no current plans exist for formal proposals for major I&I construction-related upgrades.

In regard to the ongoing WWTP construction, Mr. Andert said construction began approximately April 1, 2022 and as of August 17, about 20% of the construction had been completed.

VII. Site Tour

After the opening conference, Mr. Andert took us around the WWTP site to observe the ongoing construction, including earthwork, structural re-rod installations for eventual concrete pours, and new concrete-completed wall installations. We made observations of the partial completion of the new headworks, new primary clarifiers and the new operations building.

Mr. Andert then escorted us to the WWTP laboratory where we engaged Mr. Jefferies regarding file and document review. Then Mr. Jefferies took us around the WWTP site to observe the existing WWTP structures and equipment.

At the headworks, we inspected the headworks screening system (**Photo 1**), the influent flow device/monitor (**Photo 2**) and the aerated grit chamber (**Photo 3**) before flow is split and conveyed to the two primary clarifiers. We also observed and confirmed with Mr. Jefferies the

influent 24-hour composite ISCO sampling device was not connected to the influent flow monitoring device/system.

We observed the primary clarifiers which were loaded with a large amount of surface scum **(Photo 4)**. Mr. Jefferies said a service company had been called to come and remove the scum.

From the primary clarifiers, the wastewater enters the pre-aeration basin **(Photo 5)** where large amounts of air are entrained in the wastewater (see Photo showing bubbles on basin surface) before flowing to one of the two rotating biological contactors (RBCs) that provide secondary treatment. Mr. Jefferies opened up one of the RBCs so we could observe the filter media. Mr. Jefferies told us they clean the RBCs annually.

RBC effluent is directed to the secondary clarifiers **(Photo 6)** where Mr. Jefferies said the contractors had inadvertently disconnected the overhead water spray systems to the clarifiers' surface. From the secondary clarifiers, the effluent is directed to the UV system chamber **(Photo 7)**. I observed the adjacent back-up chlorine contact basin was not in use.

As the disinfected effluent exits the UV system chamber, it enters the outfall box where the sampling occurs and where operators can make visual observations of treated effluent as it enters the outfall piping system **(Photos 8 and 9)**. We also observed and confirmed with Mr. Jefferies the effluent 24-hour composite ISCO sampling device was not connected to the effluent flow monitoring device system.

We did not make any visual detailed observations of the WWTP's aerobic digester systems.

As we were completing the WWTP site tour, we observed a jury-rigged chlorination system located next to one of the secondary clarifiers **(Photo 10)**, consisting of a pump from one of three chlorine containers (i.e., one blue 55-gallon drum and two blue 15-gallon containers). Mr. Jefferies said this chlorination system was used just once recently when the UV system became inoperable due to a temporary electric device disruption. The WWTP's DMRs indicate this system was used and sampled in November 2021 based on TRC entries in the November 2021 DMR.

Note, the 2017/2018 Facility Plan contains a detailed, engineering description of each of the WWTP's existing structures, equipment and treatment processes. For additional description details, the reader is recommended to consult the Facility Plan (a copy was provided to EPA by the Washington Department of Ecology).

As part of the site tour, we visited and made observations of the WWTP laboratory procedures, documentation and equipment; additionally, some of the laboratory documentation was reviewed after the August 17 on-site portion of the inspections as a result of a post on-site inspection informal document request.

The WWTP laboratory had an unsigned March 7, 2016 Quality Assurance Manual (QAM) which was reviewed as part of the overall inspection process and included, as applicable, substantive content and implementation issues addressed in this inspection report's areas-of-concern.

It appears from the documentation (e.g., 2021 and 2022 chains-of-custody) the WWTP sends out the ammonia, oil and grease, total dissolved solids and nutrient samples to Edge Analytical, Inc. for analysis for the three LTSWD wastewater treatment plant permits.

The WWTP permit requires daily pH readings of the effluent but there were gaps in the pH calibration meter log, i.e., days with no documented calibration. The pH buffer containers were viewed and they were not expired.

The thermometer in the lab refrigerator was observed and it showed a temperature of 3°C.

The laboratory scale was observed and it had a sticker showing its recent annual calibration (dated January 18, 2022).

VIII. File Review

We reviewed the following records and documents as part of the total inspection process, including post-August 17 informal information requests:

- NPDES Permit No. WA002566. The WWTP had a copy of the 2011 NPDES permit on file.
- Discharge Monitoring Reports (DMRs). I reviewed DMR data pulls from the EPA Integrated Compliance Information System (ICIS) for June 2015 through June 2022.
- EPA-Generated Violations Report & NCEP Report. I reviewed an ICIS-generated Violations Report and a National Compliance Evaluation Program (NCEP) Report for the time period of June 1, 2015 through July 25, 2022. These two EPA reports are incorporated into this inspection report by reference.
- Non-Compliance Reports. I reviewed any non-compliance reports located in EPA Region 10's NetDMR ICIS Reports folder and to extent used, I also reviewed the "Comments" section of the applicable DMR for any applicable non-compliance reporting.
- Operation and Maintenance (O&M) Plan. We requested to review the O&M Plan required by the Permit, Part II.B. LTSWD staff pointed out the WWTP retains equipment manufacturers' operations manuals in the laboratory; however, the WWTP has not created or generated an updated O&M plan that describes routine, practical standard operating procedures for WWTP processes, and operator-friendly trouble-shooting procedures.
- Quality Assurance Plan (QAP). I reviewed the WWTP's unsigned March 7, 2016 Quality Assurance Manual (QAM).

- QAP Annual Reviews & Letters. The Permit, Part II.C. requires the Permittee to certify to EPA the QAP is being implemented and is reviewed with staff annually. The Permittee is required to register these reviews with EPA by submittal of a staff attendance sheet used for the review sessions, along with a cover letter confirming QAP review and identifying the enclosed attendance record. This Part II.C. requires the Permittee to submit the annual QAP review letter and attendance sheet with the January DMR of each subsequent year. A review of EPA files and records failed to show the Permittee's submission of any annual QAP review letter(s) or attendance sheet(s) for any calendar years 2016-2021. I requested the WWTP to produce any such letters or attendance sheets and was apprised by WWTP laboratory staff these annual staff reviews are not conducted and no related documents exist.
- Emergency Response and Public Notification Plan (ERPNNP). The Permit, Part II.E., requires the Permittee to develop and implement an ERPNNP to protect public health from overflows, bypasses or upsets.
- LTSWD Lab-Generated Excel Spreadsheets (January – March 2022). During the on-site August 17 lab discussion, we were apprised the WWTP lab transfers their bench data, and if applicable, private lab report data, to a monthly Excel spreadsheet which also includes other measurement data (e.g., WWTP flow rates, pH readings, etc.). The spreadsheet is then used to fill out monthly DMRs. I requested copies of and reviewed the LTSWD lab-generated Excel spreadsheets for three months, January – March 2022 and compared those spreadsheet entries to the ICIS-generated DMR reports.

IX. Areas of Concern

I note the following areas of concern, most of which were summarized and discussed with the LTSWD staff during the September 21, 2022 closing conference:

A. Effluent Limit Exceedances

The Permit, Part I.B.1, requires in part “the permittee must limit and monitor discharges from outfall 001 as specified in Table 1, below . . . The permittee must comply with the effluent limits in the tables at all times”

The EPA Violations Report and NCEP Report generated from WWTP-submitted DMR data for the period of June 1, 2015 through July 25, 2022 show the WWTP has exceeded effluent limits in 22 months of the approximate 79-month time period. No effluent limit exceedances were reported from the EPA ICIS system for the period of June 2018 through May 2022, a 47-month time period. The NCEP report says in June 2022, the WWTP exceeded the TSS percent removal requirement at 84% with a permit required effluent percent limit of 85%.

DMR Comment sections routinely report I&I is a major cause of the exceedances associated with the TSS and BOD 85% removal limits. Of the 22 months with reported effluent limit exceedances, 16 months of exceedances were solely related to the Permit's

85% removal limits associated with one or both of the TSS and BOD pollutant parameters.

B. Non-Receipt of Sampling Results in DMRs; DMR Completeness & Accuracy

The Permit, Part III.B., requires in part the Permittee must summarize all monitoring results each month in the DMR or its equivalent. The Permit, Part V.E.4, provides DMRs are certified as “true, accurate, and complete.”

The DMRs submitted for the February 2022 and December 2021 did not include a temperature entry and for April 2016, did not include a BOD entry.

In a written response dated September 1, 2022, the LTSWD lab technician reported the missing data was retrieved and revised DMRs have been submitted with the data.

C. Flow Proportional Composite Samples

The Permit, Part I.B.1, Table 1, specifies “24-hour composite” as the required sample type for multiple parameters, and Part VI. Definitions, subitem 24, includes the definition for “24-hour composite” which states the composite must be flow proportional.

EPA inspectors did not observe either WWTP ISCO sampler was connected electronically to the associated influent or effluent flow monitoring device. Additionally, the LTSWD lab technician described the 24-hour composite sampling regime to consist of a 300-ml sample being taken on an hourly basis for the 24-hour period. EPA is not aware of any WWTP flow evidence regarding daily flow rate patterns that support use of this time-based sampling method.

D. Lack of Visual Monitoring & Recordkeeping

The Permit, Page 1, generally provides the Permittee is authorized to discharge from the WWTP in accordance with the Permit-designated effluent limitations, monitoring requirements and other conditions set forth therein. The Permit, Part I.B.3, requires the Permittee must not discharge any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen *on the surface of the receiving water*. (italics added for emphasis). The Permit, Part III.C, requires the Permittee to prepare and implement a QAP to “reflect all monitoring required by this permit . . .” The Permit, Part III.E., requires in summary records of monitoring must include various informational elements including date, place and time of sampling or measurement, name of individual taking the sample or measurement, and results. The Permit, Part IV.A, requires the Permittee to comply with all conditions of the Permit.

The EPA-generated monthly DMR template includes two separate sets of visual-based entries associated with the Permit, Part I.B.3 “free from” condition. The EPA DMR template has a visual-based entry (ICIS Data Element No. 45613) for floating solids waste or visible foam and a visual-based entry (ICIS Data Element No. 84066) for oil and

grease. Note, the Permit also required a periodic oil and grease effluent sample for concentration results.

The unsigned March 7, 2016 QAP does not appear to include any monitoring and related recordkeeping procedures related to the Part I.B.3 condition or to the two DMR template entries noted above. In response to EPA questions about how the WWTP establishes compliance with this condition and whether WWTP staff make receiving surface water observations for the Permit's "free from" condition, WWTP staff said no such monitoring of the receiving surface water is done. However, the WWTP lab technician said operators will observe effluent surface conditions in the WWTP's exit chamber (outfall box) of UV system, just prior to the treated effluent entering the outfall pipe. These operator observations are not formally documented and recorded.

E. Lack of Noncompliance Reports in DMRs; DMR Completeness & Accuracy

The Permit, Part III.H, Other Noncompliance Reporting, requires in part the Permittee must report all instances of noncompliance, not required to be reported within 24-hours, at the time DMRs are submitted. The Permit, Part V.E.4, provides DMRs are certified as "true, accurate, and complete."

The Permittee has a routine of submitting an explanation for the reported DMR noncompliance (e.g., limit exceedances or missing entries) by placing the explanation in the DMR Comment section. However, the Permittee did not submit the required noncompliance report for the non-submission of monitoring data for the following DMRs: the DMRs submitted for the February 2022 and December 2021 without temperature entries; and for April 2016 without a BOD entry.

F. Quality Assurance Plan Content and Implementation

The Permit, Part III.C, states "the QAP must include the following: a) Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements; b) Map(s) indicating the location of each sampling point; c) Qualification and training of personnel; d) Name(s), address(es) and telephone number(s) of the laboratories used by or proposed to be used by the Permittee."

I reviewed the LTSWD's QAM (unsigned March 7, 2016) which states the QAM is applicable to the LTSWD's three wastewater treatment plants (i.e., Gooseberry Point, Sandy Point and Kwina Road MBR). I noted the following areas of concern (AOC) about this QAM:

- The QAM is not signed, leaving open the question of whether LTSWD management reviewed, certified and approved the QAM in its entirety with a commitment to its full and complete implementation. This AOC is supported in part by the apparent LTSWD failure to conduct and document QAM annual reviews in accord with the Permit, Part

II.C., as further described in AOC IX.G. below, and the lack of documentation of QAM QA/QC quarterly audits.

- The QAM, page 5, states a QA/QC report is prepared quarterly by staff and given to the LTSWD wastewater supervisor, who will then provide the written report to the District Manager. The QAM further provides the checklist at the QAM's Appendix C should be used to assist in drafting these QA/QC reports and otherwise assessing lab capability and performance. No documentation was provided to EPA inspectors demonstrating these QAM required audits were being conducted routinely and documented in written reports. When asked, the LTSWD lab technician/plant operator said quarterly audits were not being conducted.
- Incorrect records retention period: The QAM, Paragraphs 2.a. & 6 state three years for records retention. Both the WWTP and Kwina Road MMR permits, Part III.F., require five year record retention.
- The QAM fails to address all pollutant parameters – the following parameters covered by one or both WWTP and Kwina Road MBR permits are not expressly addressed in the QAM regarding analytical methods, sample collection, type of sample, frequency, etc.
 - Enterococci
 - Total Dissolved Solids
 - Total Phosphorus
 - Total Kjeldahl Nitrogen
 - Total Nitrite/Nitrate
 - Oil & Grease (visual and/or specified effluent concentration monitoring)
 - Floating Solids, visible foam, oily wastes (visual)
- The QAM does not state expressly the “qualification” or the actual “training” (e.g., frequency, types, examples of what topics are trained up for which individuals, etc.) for the lab technician, operators or any other WWTP staff that might have duties associated with permit sampling, monitoring, reporting, recordkeeping, etc.
- The QAM does not contain WWTP maps showing sampling locations.
- The QAM does not describe or address the WWTP permit's requirement the 24-hour composite samples must be flow-proportional.
- The QAM, Sec. 5.b., requires at least daily calibration of the pH meter. The WWTP permit requires daily pH readings of the effluent but as noted during the lab document review, there were gaps in the pH calibration meter log, i.e., days with no documented pH meter calibration.
- The QAM appears to reflect 2012 Standard Methods sample preservation provisions for the Permit-required pollutant parameters like the specified QAM preservation temperature of 4⁰ C.

QAM, Table 1, specifies sample preservation temperatures at 4⁰ C for all parameters having a specified preservation temperature. It is not clear Table 1 reflects the most up-to-date Standard Methods preservation requirements because the QAM is based on Standard Methods 22nd edition (January 2012) and the current Standard Methods 23rd edition (January 2017) post-dates the 2016 QAM.

- An AOC exists regarding the Permittee's attention to and implementation of sampling procedures that maintain sample container temperatures at or below the specified QAM preservation temperature of 4⁰C. The Chains of Custody reviewed for samples taken for the WWTP, Sandy Point facility and the Kwina Road MBR facility showed the private laboratory routinely received WWTP samples substantially exceeding the 2016 QAM Table 1 preservation temperatures of 4⁰C for pollutant parameters subject to the 4⁰C QAM preservation temperature. Here are some examples of recent Chain-of-Custodies (COCs) and the laboratory sample receipt temperature entered onto the COC:

Date of COC (Month/Year)	Temperature Sample Receipt Lab Entry (⁰ C)
March 2021	6-7
June 2021	12
September 2021	9.6
March 2022	15.3
May 2022	17.6

- The QAM-base private consulting laboratory information needs to be updated to reflect Edge Analytical, Inc. and its new address.
- The QAM Table 1 is not expressly captioned or identified as to which of the three LTSWD's wastewater treatment plants it is applicable to; however, the Table 1 data is not complete, accurate or comprehensive for either the Kwina Road MBR facility or the Gooseberry Point WWTP. For example, the Kwina Road MBR TSS/BOD sampling for "plant performance" (PP) purposes is not weekly as noted in Table 1 but 2/month and temperature sampling is not "grab" but continuous recording. Another example is WWTP temperature monitoring which the Permit requires once/week but Table 1 designates *daily* temperature monitoring for PP-based effluent sampling. Finally, for the WWTP, Table 1 does not address dissolved oxygen, oil and grease and total dissolved solids. These examples are only illustrative of AOCs and this set of examples may not be a complete, all-inclusive list of QAM inaccuracies, incompleteness, etc. for all three facilities' permits pollutant parameters.

G. Lack of QAM Annual Reviews and LTSWD Review Letters

The Permit, Part II.C. requires the Permittee to certify to EPA the QAP is being implemented and is reviewed with staff annually. The Permittee is required to annually

register these annual reviews with EPA by submittal of a staff attendance sheet used for the annual review sessions, along with a cover letter confirming QAP review and identifying the enclosed attendance record. This Part II.C. requires the Permittee to submit the annual QAP review letter and attendance sheet with the January DMR of each subsequent year. A review of EPA files and records failed to show the Permittee's submission of any annual QAP review letter(s) or attendance sheet(s) for any calendar years 2016-2021. I requested the WWTP to produce any such letters or attendance sheets and was apprised by WWTP laboratory staff these annual staff reviews are not conducted and no related documents exist.

H. Operations and Maintenance Plan Not Current

We requested to review the O&M Plan required by the Permit, Part II.B. The Permit, Part II.B, states the O&M Plan "must be kept up to date as changes occur in operation and maintenance of the wastewater treatment facility." LTSWD staff responded by pointing out the WWTP retains equipment manufacturers' operations manuals in the laboratory; however, the WWTP has not created or generated an updated O&M Plan that expressly and specifically describes routine, practical standard operating and maintenance procedures for WWTP processes, equipment and procedures, and that contains operator-friendly trouble-shooting O&M procedures.

I. Proper Operation and Maintenance – Effluent Flow Measuring Device

The Permit, Part IV.E, states "the permittee must 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." In response to EPA questions about the status of operations of the WWTP effluent flow monitoring device, LTSWD staff said a new device was installed about six years ago but it malfunctioned about one year ago. Mr. Andert said a new effluent flow monitoring device was ordered approximately one month ago, with an estimated mid-September delivery date for device installation. The delay in ordering a new flow monitoring device is an AOC.

J. Duty to Mitigate – Chlorine Drum & Containers

The Permit, Part IV.D, requires "the permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment." As EPA inspectors were completing the WWTP site tour, we observed a jury-rigged chlorination system located on the ground next to one of the secondary clarifiers (**Photo 10**), consisting of a pump from one of three chlorine containers (i.e., one blue 55-gallon drum and two blue 15-gallon containers). These chlorine containers were not located in secondary containment and there were no visible precautions taken to prevent contact, leakage, tippage, etc. but the drum and containers were located out in the open with the potential for discharge to the environment and employee exposure. One of the blue 15-gallon containers had an open bung, subjecting it to precipitation inflow and potential for container overflow.

K. DMR Completeness & Accuracy – Lab Spreadsheet Transcription Errors

The Permit, Part V.E.4, provides DMRs are certified as “true, accurate, and complete.” I reviewed the WWTP lab Excel spreadsheets (SS) for January – March 2022, and identified the following transcription errors between SS and DMR entries:

- February 2022 DMR: SS has 87% Mo Avg BOD removal & 83% Mo Avg TSS removal but DMR reports 85% & 75% respectively which actually reflects the SS’ Week No. 4 removal results; and
- March 2022 DMR: SS has 82% Mo Avg BOD removal & 79% Mo Avg TSS removal but DMR reports 75% & 76% respectively which actually reflects the SS’ Week No. 3 removal results.

L. DMR Completeness & Accuracy – January 2022 DMR – BOD Entry

The Permit, Part V.E.4, provides DMRs are certified as “true, accurate, and complete.” I reviewed the WWTP lab Excel spreadsheets (SS) for January – March 2022, and identified the following discrepancy. The January 2022 Lab Spreadsheet discrepancy is it only reflects one BOD sample and analysis conducted in Week 3. The DMR entries do not coincide with January 2022 Lab Spreadsheet’s BOD entry results. For context, the LTSWD lab technician noted in a September 13, 2022 email during Week 1 of January 2022, the BOD and TSS combined sample was taken to Edge Analytical, Inc. by a LTSWD employee because the lab technician was off work. The Edge Analytical lab had issues with the BOD sample being in the same sample bottle with the TSS sample so the BOD sample was not analyzed that week. No further explanation was provided to explain the identified discrepancy.

M. Violations Report – DMR Non-Receipt Violations

The Permit, Part V.E.4, provides DMRs are certified as “true, accurate, and complete.” The Permit, Part III.B, requires the permittee to summarize monitoring results each month on the DMR or its equivalent and submit the DMR to EPA. The ICIS-generated Violations Report for the time period of June 1, 2015 through July 25, 2022, noted DMR Non-Receipt violations (non-monthly averages) for the following DMR reporting months which had been resolved, that is, back in compliance or resolved manually: April 2016; November 2016; February 2017 and August 2020. The Violations Report also noted ongoing reportable non-compliance for the following DMR-reporting months and related pollutant parameters: November 2020 for oil and grease; May 2021 for oil and grease; and December 2021 for temperature.

N. Emergency Response and Public Notification Plan

The Permit, Part II.C.1, states in part at a minimum the emergency response and public notification plan (ERPMP) must include mechanisms to “ensure appropriate responses including assurance that reports of an overflow or of an unanticipated bypass or upset that exceed any effluent limitation in the permit are immediately dispatched to appropriate personnel for investigation and response” and ensure immediate notification to the public, health agencies and other affected public entities, in addition to other minimum ERPMP content requirements.

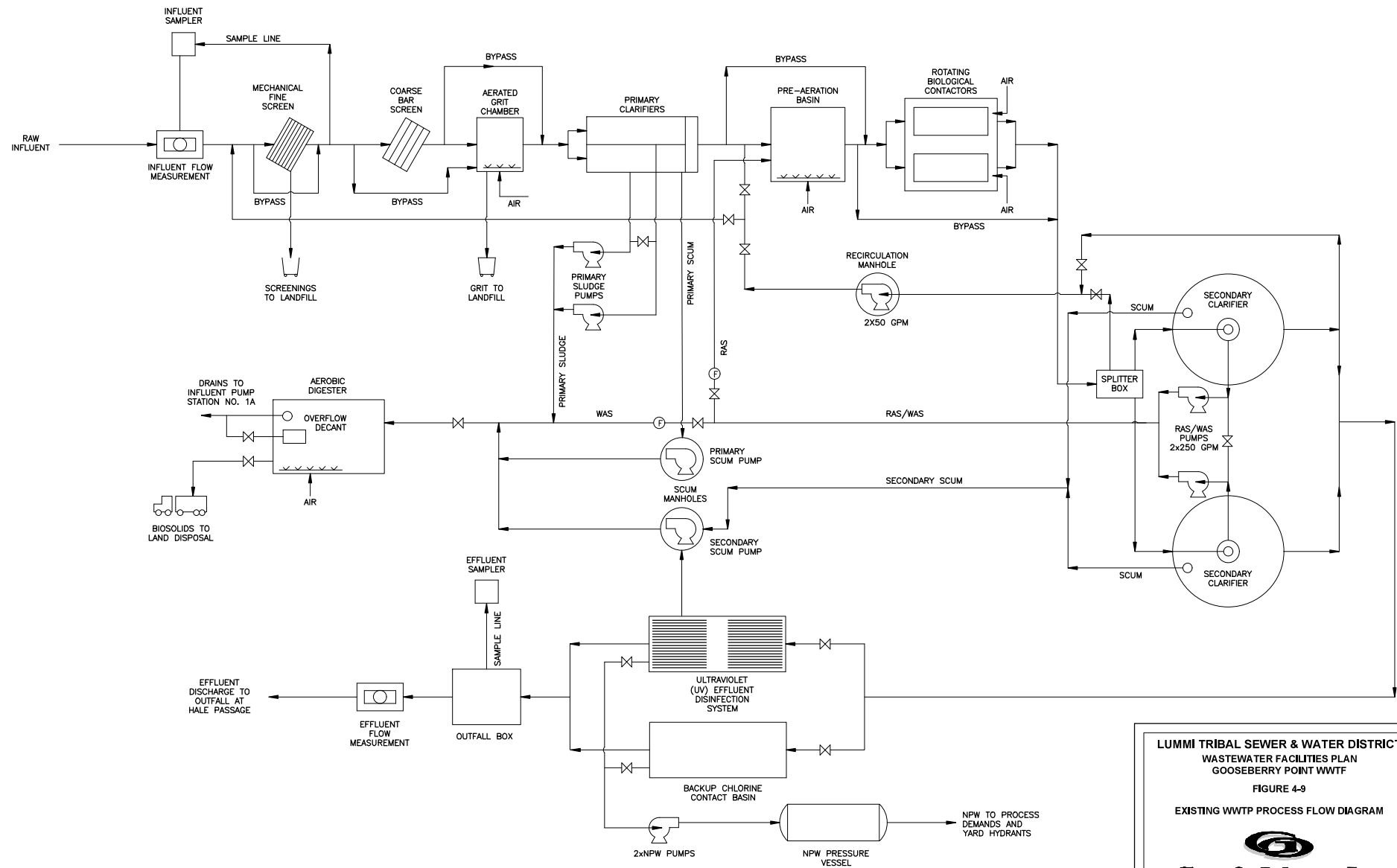
The LTSWD provided a copy of a two page ERPNP to EPA after the on-site August 17 inspection. Based on an inspector review of the ERPNP, the ERPNP does not expressly and in detail describe or include the following:

- How LTSWD will provide notice to the general public;
- How LTSWD (what procedures used) will ensure it is aware of overflows from the WWTP collection system, and WWTP bypasses/upsets;
- Procedures or which individuals are charged with reporting overflows/bypasses/upsets to ensure LTSWD staff are dispatched to investigate and respond to these incidents;
- Procedures to ensure appropriate LTSWD personnel are aware of the Plan content and are trained; and
- Emergency operations (e.g., what response options are available to fit the particular emergency situation, response equipment availability, etc.).

X. Closing Conference

I held a closing conference on Tuesday, September 20, 2022, by conducting a Teams meeting-based closing conference to discuss our inspection observations and next steps. The closing conference call included Kyle Masters, Dale Andert, Daniel Jeffries, and Ivan Washington, LTSWD Plant Operator. We discussed most of the areas of concern identified during the inspections and as summarized above, noting these were preliminary areas of concern subject to review and revision. I gave a brief overview of the post-inspection process during this inspection proceeding. I thanked the entire LTSWD team for their time and assistance.

ATTACHMENT A – Existing WWTP Process Flow Diagram



LUMMI TRIBAL SEWER & WATER DISTRICT
WASTEWATER FACILITIES PLAN
GOOSEBERRY POINT WWTF
FIGURE 4-9
EXISTING WWTP PROCESS FLOW DIAGRAM

Gray & Osborne, Inc.
 CONSULTING ENGINEERS

ATTACHMENT B – Photograph Log

(Photographs were taken by Rick Cool with a Panasonic Lumix FH-25 camera)



Photo 1

08/17/2022

Headworks screening system



Photo 2

08/17/2022

Influent flow measuring device/monitor



Photo 3

08/17/2022

Aerated grit chamber



Photo 4

08/17/2022

Primary clarifier



Photo 5

08/17/2022

Pre-aeration basin



Photo 6

08/17/2022

Secondary clarifier



Photo 7

08/17/2022

UV system chamber



Photo 8

08/17/2022

Outfall box/effluent sampling location



Photo 9

08/17/2022

Outfall box at end of UV disinfection system chamber



Photo 10

08/17/2022

Chlorination system and drum/containers next to secondary clarifier

**REMAINING PAGES LEFT BLANK INTENTIONALLY
EXCEPT FOR PHOTO CROSS-REFERENCE LOG BELOW**

Photo Cross Reference Log

Photo 1 = P1010389
Photo 2 = P1010390
Photo 3 = P1010391
Photo 4 = P1010392
Photo 5 = P1010393
Photo 6 = P1010394
Photo 7 = P1010395
Photo 8 = P1010396
Photo 9 = P1010397
Photo 10 = P1010398