
To: Nevada Division of Environmental Protection
Nevada Environmental Response Trust

Cc: Nevada Environmental Response Trust Stakeholders

From: Michael Del Vecchio, Director Engineering and Project Management

Date: October 20, 2023

Subject: NERT – GWETS Operation Monthly Report – September 2023

At the request of the Nevada Environmental Response Trust (Trust), Envirogen Technologies, Inc. (ETI) is providing this summary of the groundwater extraction and treatment system (GWETS) operation and performance during September 2023.

Summary of GWETS Operation

Envirogen Technologies, Inc. (ETI) mechanically operated the GWETS and ion exchange (IX) system normally in September 2023. Flow from PC-118, PC-119, PC-120, PC-121, and PC-133 were routed to the IX system, bypassing all flow meters associated with the FBR plant for the month of September. The flow rate to the IX system averaged approximately 258 gallons per minute (gpm). The flow rate to the FBR plant averaged approximately 980 gpm. At the end of the month, the filled GW-11 Pond volume was at 43.5 million gallons (MG), which would allow 13.1 days of available additional storage in the event of a FBR plant shutdown with continued well field pumping. The water volume stored in the GW-11 Pond increased since the end of August 2023; Figure 1 in this report depicts the actual GW-11 pond volumes and additional storage available.

The influent perchlorate concentration to the IX system averaged 2.9 mg/L for the month. The influent perchlorate concentration to the FBR plant averaged 51 mg/L for the month, with a maximum concentration of 53 mg/L. In comparison, the influent perchlorate concentration to the FBRs for the month of August 2023 averaged 48 mg/L, with a maximum concentration of 52 mg/L.

Enhanced Operational Metrics

Tables 1 and 2 provide a summary of the current GWETS operational metrics data for flow rates, perchlorate and chromium concentrations, and mass removal. Figure 2 graphically presents historical perchlorate and chromium mass flux information. Attachment A provides a summary of the NPDES permit analytes with numerical discharge limits.

Operational Issues

All routine plant repairs conducted by ETI were performed in accordance with the NERT Perchlorate Treatment System Operations Manual. The following is a list of operational issues and major repairs and/or equipment replaced during this reporting period.

1. GW-11

There were no operational issues with GW-11 in the month of September.

2. Biological Plant

There were influent / effluent diversions during the reporting period generally associated with maintenance activities as well as extraction well short-term shutdown events. Below is a description of the events that occurred:

Diversions Events / Well Shutdowns

- Effluent diversion occurred on September 4, 2023 from 4:19am to 5:16am as a precautionary measure due to elevated levels of perchlorate in the effluent. Adjustments were made to the process and the effluent was returned to the outfall following confirmation via laboratory testing that perchlorate was below the effluent guideline. Approximately 60,000 gallons of water were added to the GW-11 Pond.
- Influent diversion occurred on September 5, 2023 from 12:02pm to 1:36pm due to a malfunctioning I/O rack. Troubleshooting was conducted, a card on the rack was replaced, and the plant was brought back online. Approximately 99,000 gallons of water were added to the GW-11 Pond.
- Effluent diversion occurred on September 12, 2023 from 12:58am to 3:03am as a precautionary measure due to elevated levels of perchlorate in the effluent. Adjustments were made to the process and the effluent was returned to the outfall following confirmation via laboratory testing that perchlorate was below the effluent guideline. Approximately 118,000 gallons of water were added to the GW-11 Pond.
- Extraction well field shutdown of the SWF occurred on September 12, 2023 from 5:09pm to 6:11pm due to maintenance on the temporary electrical generator at Lift Station 1. Maintenance activities were completed and Lift Station 1 was brought back online.
- Extraction well field shutdown of the AWF occurred on September 19, 2023 intermittently from 12:01am to 11:20am due to malfunctioning profibus connectors at Lift Station 3. Maintenance activities were completed, the profibus connectors were replaced, and Lift Station 3 was brought back online.
- Influent diversion occurred on September 21, 2023 from 9:35am to 3:30pm due to a PLC error. Troubleshooting was conducted, the error was resolved, and the plant was brought back online. Approximately 75,000 gallons of water were added to the GW-11 Pond.
- Influent diversion occurred on September 22, 2023 from 10:30pm to September 23, at 6:15am due to a malfunctioning Influent pump. Troubleshooting was conducted, the pump malfunction was resolved, and the plant was brought back online. Approximately 550,000 gallons of water were added to the GW-11 Pond.
- Influent diversion occurred on September 24, 2023 from 12:05pm to September 25, 2023 at 2:05pm due to a malfunctioning I/O rack and communication card signal. Troubleshooting was conducted,

a malfunctioning card on the rack was replaced, and the plant was brought back online. Approximately 1,640,000 gallons of water were added to the GW-11 Pond.

- Effluent diversion occurred on September 25, 2023 from 2:10pm to 4:39pm as a precautionary measure following an extended unexpected down time. The effluent was returned to the outfall following confirmation via laboratory testing that perchlorate was below the effluent guideline. Approximately 112,000 gallons of water were added to the GW-11 Pond.

3. IX Treatment Plant

During the month of February 2022, flooding conditions were observed adjacent to the SWF as a result of the City of Henderson's (CoH's) use of inactive Birding Ponds 10 through 13. The discharge to these ponds resulted in an increase in groundwater elevation adjacent to the SWF by approximately 5 feet. This increase in groundwater elevation caused flooding adjacent to the SWF extraction wells and within four extraction well vaults. Flooding conditions were observed again in September 2023 as a result of the CoH's use of inactive Birding Ponds 10 through 13 again in August and September 2023. ETI temporarily increased the pumping rate of extraction wells PC-120 and PC-121 to reduce flooding with the well vaults. Additionally, the concentration of perchlorate in shallow groundwater increased again resulting in increased loading to the IX treatment plant during September 2023. The CoH ceased discharging water to Birding Ponds 10 through 13 in early October 2023. Both the groundwater elevation adjacent to the SWF and the perchlorate concentrations in groundwater are elevated and are expected to remain elevated for an extended period as result of CoH's August/September 2023 use of the inactive Birding Ponds assuming no additional significant usage by the CoH occurs.

4. Spills

There were no reportable spills in the Month of September.

5. Maintenance

- Major maintenance performed by ETI in the reporting month included:
 - I. Cleared the injection line for the ethanol pump for FBR 4.
 - II. Installed a new 2 hp motor on PC-120.
 - III. Replaced the profibus connectors on the VFD's at Lift Station 3.
 - IV. Installed a new 0.5 hp motor and fuses on I-AR.
 - V. Installed new tubing and fittings on the Ferrous Sulfate feed pump.
 - VI. Repaired all pumps and motors on the GW-11 pond corners.
 - VII. Repaired the gear on the EQ diversion valve.
 - VIII. Replaced the sludge pump on the North DAF.
 - IX. Completed the installation of the north Effluent Filtration System membrane.
 - X. Rebuilt the media return pump for Separator 4.
- Preventative maintenance performed by ETI in the reporting month included:
 - I. Cleaned and inspected the fire cabinets.
 - II. Changed the filter on the aeration tank blower.

- III. Inspected connections on the MCC buckets.
- IV. Calibrated the turbidity meters.
- V. Greased all rotating equipment.
- VI. Rotated the recycle pumps.
- VII. Actuated valves around the plant for functionality.
- VIII. Tested and verified the level control valves for the separators.
- IX. Verified flows on the IWF extraction wells.
- X. Tested the call-out alarms for the FBR system.

Attachment B contains a summary of all maintenance activities completed during the reporting period.

6. Treatment System Extension

During July 2023, the flow rate to the TSE averaged approximately 51 gpm. The influent perchlorate concentration to the TSE averaged 9.1 mg/L for the month, with a maximum concentration of 9.8 mg/L. In comparison, the influent perchlorate concentration to the TSE for the month of August 2023 averaged 8.7 mg/L, with a maximum concentration of 8.9 mg/L.

Facility Projects

1. Facility Repair/Replacement Items – Envirogen and the Trust have finalized a list of facility items to be addressed in connection with Amendment 8 to the O&M Agreement. All work with the exception of the replacement of the DAF have been completed. Specific details on in-progress items are provided below:
 - I. (WA 23-03) Dissolved Air Flootation (DAF) Vessel replacement
 1. DAF equipment is on order. The expected delivery is late November 2023.
 - II. Concrete Repair at various locations on FBR pad
 1. Scheduling work with selected contractor. Work is anticipated to be completed in December 2023.
2. Improved Biological Treatment Plant Efficiency – Consistent with Attachment D to the December 2021 GWETS Operation Monthly Report, Envirogen plans to take five FBRs out of service and maintain them in working condition should they be needed in the future. This action will reduce the use of electricity and water and still maintain sufficient treatment capacity to address current groundwater extracted from the IWF, AWF, and the SWF as well as groundwater to be extracted as part of the Unit 4 Source Area In-Situ Bioremediation Treatability Study. FBR A was placed into Offline mode on April 13, 2022. The electrical and mechanical components of the pump skid were inspected and removed when applicable. The removal of the sand media is complete. Final inspection of all internal components is also complete. The remaining FBRs scheduled to be taken out of service will be addressed in the 4th quarter of 2023.
3. Water Reuse – Consistent with the Trust's efforts to reduce its water consumption and acknowledgment of best management practices, accelerated by the Basic Water Company

(BWC) bankruptcy filing, the Trust has actively pursued multiple options to become independent of the BWC water distribution system. To that end, it is the objective of the Trust to replace the water currently distributed by BWC through implementation of an effluent filtration system (EFS) to allow for reuse of the GWETS effluent. The filtered effluent can only be used within treatment operations. The filtration system was delivered to the NERT Site in May 2023 and equipment integration began in June 2023 following receipt of NDEP's approval of the 100 percent design on June 6, 2023. A second identical filtration unit has been delivered the site and integration into the EFS is largely complete. Following integration of the second filtration unit, the two filtration units will be operated in a lead-lag configuration.

Tables

Operational Metrics

| Nevada Environmental Response Trust Groundwater Extraction and Treatment System Monthly Stakeholder Metrics | | | | |
|---|-------------------------|---------------------------------|-----------------------------------|----------------------------------|
| Location ID | Average Flow Rate (gpm) | Perchlorate (mg/L) ⁴ | Chromium (TR) (mg/L) ⁴ | Chromium(VI) (mg/L) ⁴ |
| SWF Total Extraction ¹ | 740 ³ | 13 | 0.0026 | 0.0015 |
| AWF Total Extraction ¹ | 451 ³ | 53 | 0.12 | 0.13 |
| IWF Total Extraction ¹ | 42 ³ | 361 | 5.3 | 5.6 |
| AP Area Total Extraction ¹ | 8.1 ³ | 598 | 0.19 | 0.21 |
| Chromium Treatment Subsystem Effluent ² | 56 | 404 | 0.84 | 0.00038 |
| GW-11 Influent ¹ | 0.21 | 30 | 0.053 | 0.062 |
| FBR Influent ² | 980 | 51 | 0.092 | 0.037 |
| Treatment System Extension Influent ² | 51 | 9.4 | 0.20 | 0.21 |

Notes:

- 1: Perchlorate and chromium TR sampled monthly, values reported from Eurofins TestAmerica.
- 2: Perchlorate, chromium TR, and chromium (VI) sampled weekly, values reported from Eurofins TestAmerica.
- 3: Sum of daily average flow for individual wells.
- 4: All concentrations reported are monthly flow weighted averages.

| Nevada Environmental Response Trust Groundwater Extraction and Treatment System Monthly Stakeholder Metrics | | | |
|---|--------------------------------------|--|--|
| Location ID | Perchlorate (lbs/month) ¹ | Chromium (TR) (lbs/month) ¹ | Chromium (VI) (lbs/month) ¹ |
| SWF Total Extraction | 2,972 | 0.58 | 0.32 |
| AWF Total Extraction | 8,612 | 19 | 21 |
| IWF Total Extraction | 5,425 | 80 | 84 |
| AP Area Total Extraction | 1,758 | 0.57 | 0.61 |
| Chromium Treatment Subsystem Effluent | 8,228 | 17 | 0.0078 |
| GW-11 Influent | 2.3 | 0.0040 | 0.0047 |
| FBR Influent ¹ | 17,962 | 33 | 13 |
| Treatment System Extension Influent ¹ | 173 | 3.6 | 3.9 |

Notes:

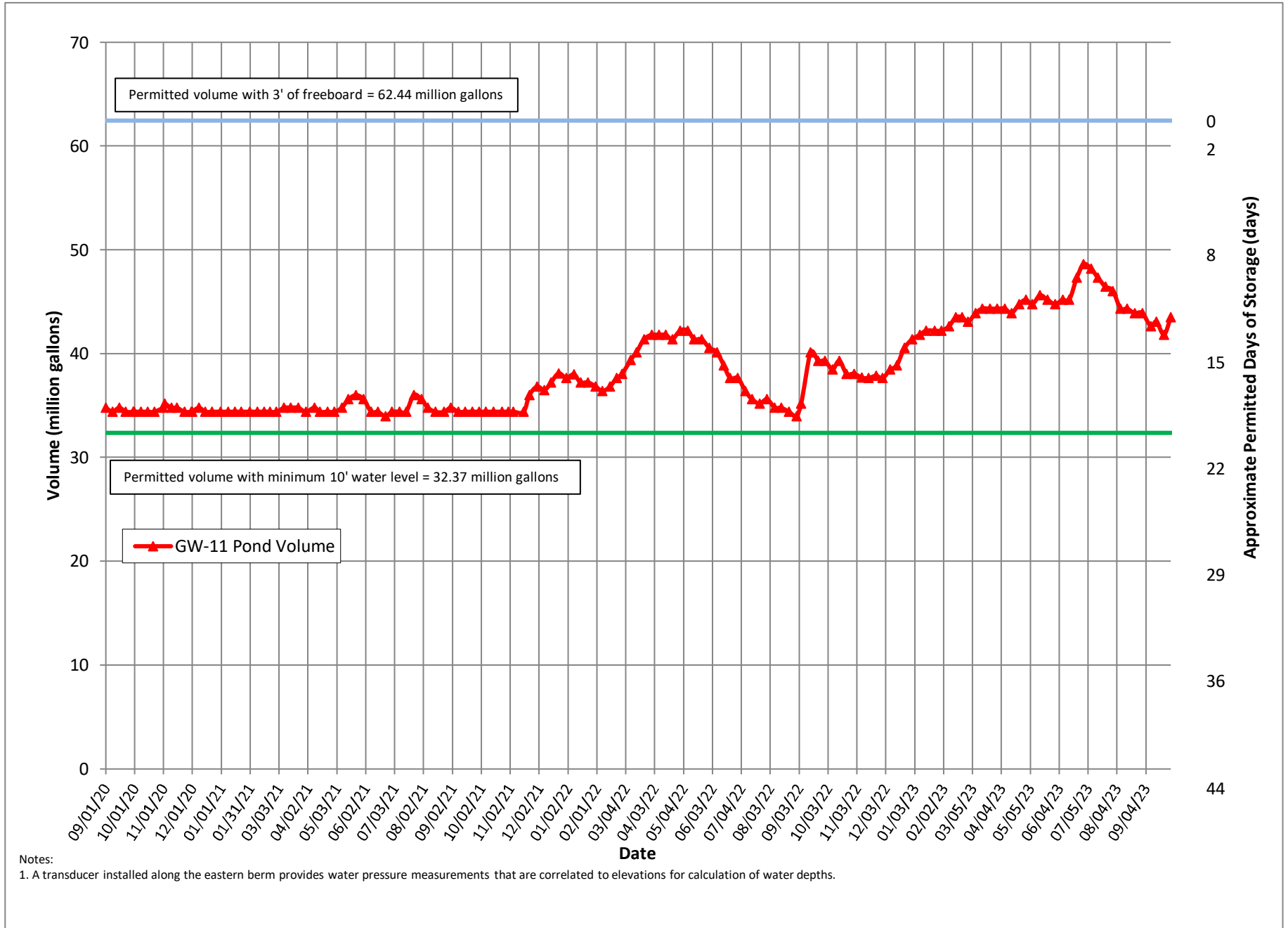
TR = Total Recoverable.

1: Total mass extracted is calculated from flow weighted average concentration and average flow (see Table 1).

Figures

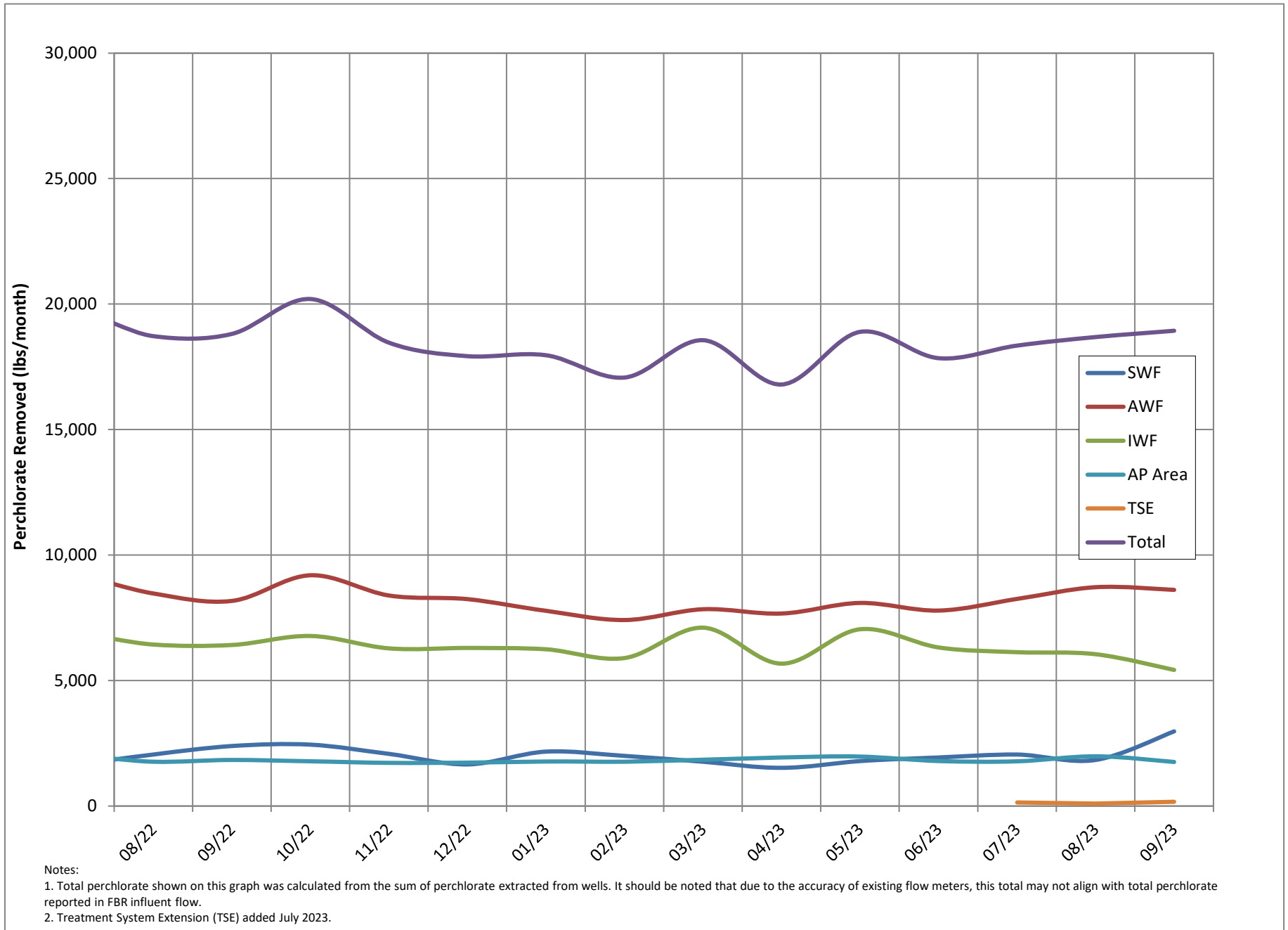
Operational Metrics

Figure 1 - GW-11 Pond Volume Through 09/30/2023



Notes:
 1. A transducer installed along the eastern berm provides water pressure measurements that are correlated to elevations for calculation of water depths.

Figure 2 - Historical Perchlorate Mass Removed From Environment



Attachment A

NPDES Tracking Sheet (Prepared by Ramboll)

Attachment B

Equipment Tracking Form

| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|-----------------------------|--------|--|---------------------|---------|--------------------------|---|
| Main Plant Equipment | | | | | | |
| 1 | | Seep Wells and Lift Station 1 | | | | |
| 1.01 | | Seep Well Field, 9 wells | Running | | 2 | Replaced the fuses on PC-120 and PC-121. Replaced the motor on PC-120. |
| 1.02 | | Lift Station 1 Lift Pump A | Running | | | |
| 1.03 | | Lift Station 1 Lift Pump B | Standby | | | |
| 1.04 | | Area in and around Lift Station 1 | Running | | | |
| 2 | | Athens Road Wells and Lift Station 3 | | | | |
| 2.01 | | Athens Road Well Field, 9 wells | Running | | | |
| 2.02 | | Lift Station 3 Lift Pump A | Standby | | | |
| 2.03 | | Lift Station 3 Lift Pump B | Running | | | |
| 2.04 | | Area in and around Lift Station 3 | Running | | 2 | Replaced the profibus connectors on the VFD's. |
| 3 | | Lift Station 2 and Transmission Pipelines | | | | |
| 3.01 | | Influent Pipeline | In operation | | | |
| 3.02 | | Effluent Pipeline | Running | | | |
| 3.03 | | Lift Station 2 Lift Pump A | Running | | | |
| 3.04 | | Lift Station 2 Lift Pump B | Standby | | | |
| 3.05 | | Area in and around Lift Station 2 | Running | | | |
| 4 | | Interceptor Wells and Cr Treatment Plant | | | | |
| 4.01 | | IWF Well Field, 30 wells | Running | | 2 | Replaced the motor and fuses on I-AR |
| 4.02 | | Ferrous Sulfate Feed System | Running | | 3 | New tubing was installed on the pump. |
| 4.03 | | Polymer Feed System | Running | | | |
| 4.04 | | Clarifier | In operation | | | |
| 4.05 | | Filter Press | Running | | | |
| 4.06 | | GWTP Effluent Tank | In operation | | | |
| 4.07 | | Interceptor Booster Pump A | Running | | 2 | Opened and cleaned the volute of the pump and cleared debris from the impeller. |
| 4.08 | | Interceptor Booster Pump B | Standby | | | |
| 4.09 | | Area In And Around GWTP | Running | | | |
| 5 | | Equalization Area and GW-11 Pond | | | | |
| 5.01 | PID10A | Pond GW-11 | In operation | | 3 | Pulled, inspected, and replaced all necessary equipment for the pond corners. |
| 5.02 | PID10A | Pond Water Pump - P101A | Running | | | |
| 5.03 | PID10A | Pond Water Pump - P101B | Standby | | | |
| 5.04 | PID10A | Equalization Tanks | In operation | | | |
| 5.05 | PID10A | Area in and Around EQ | In operation | | 3 | Repaired the gear on the diversion actuator. |
| 5.06 | PID10A | Raw Water Feed Pump - P102A | | | | |
| 5.07 | PID10A | Raw Water Feed Pump - P102B | | | | |

Status Codes

Running - Unit is in operation
 Standby - Spare or duplicate, not currently in operation
 Maintenance - Out of service for maintenance
 Off - Not currently needed for use, but can be placed in service

Criticality Codes

1= Critical - Cannot continue with operation until repairs made
 2 = Important - Can still operate safely and in compliance with permits, but risks are increased
 3 = Moderate - Work needs to be performed, but plant can still operate with redundancy that is in place
 4 = Low - Minor repairs that in no way alter the performance of the plant

| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------|--------|---|---------------------|---------|--------------------------|---|
| 5.08 | PID10A | F-101 Filters | Running | | | |
| 5.09 | PID10B | Carbon Absorber - LGAC 201A | | | | |
| 5.10 | PID10B | Carbon Absorber - LGAC 201B | | | | |
| 5.11 | PID10B | Carbon Absorber - LGAC 201C | | | | |
| 6 | | First Stage FBRs A, 1 & 2 | | | | |
| 6.01 | PID14 | FBR A | | | | EQUIPMENT OFFLINE |
| 6.02 | PID14 | Separator Tank - 1401 | | | | EQUIPMENT OFFLINE |
| 6.03 | PID14 | Media Return Pump - P 1401 | | | | EQUIPMENT OFFLINE |
| 6.04 | PID14 | P1401A | | | | EQUIPMENT OFFLINE |
| 6.05 | PID01A | P1401B | | | | EQUIPMENT OFFLINE |
| 6.06 | PID01A | FBR 1 | Running | | | |
| 6.07 | PID02A | FBR 2 | Running | | | |
| 6.08 | PID01A | First Stage Separator Tank - T2011 | Running | | | |
| 6.09 | PID01A | Media Return Pump - P2011 | Running | | | |
| 6.10 | PID01A | First Stage FBR Pump - P1011 | Standby | | | |
| 6.11 | PID01A | First Stage FBR Pump - P1012 | | | | |
| 6.12 | PID01A | First Stage FRB Pump - P101A | Running | | | |
| 6.13 | PID07A | FBR A pH Feed Pump - P71A | Off | | | |
| 6.14 | PID07A | FBR 1 pH Feed Pump - P711 | Off | | | |
| 6.15 | PID07A | FBR 2 pH Feed Pump - P712 | Off | | | |
| 6.16 | PID07A | FBR A Nutrient (Urea) Feed Pump - P72A | Off | | | |
| 6.17 | PID07A | FBR 1 Nutrient (Urea) Feed Pump - P721 | Off | | | |
| 6.18 | PID07A | FBR 2 Nutrient (Urea) Feed Pump - P722 | Off | | | |
| 6.19 | PID15 | FBR A Nutrient (Phos Acid) Feed Pump - P1520A | Running | | | Equipment offline |
| 6.20 | PID15 | FBR 1 Nutrient (Phos Acid) Feed Pump - P1521 | Running | | | |
| 6.21 | PID15 | FBR 2 Nutrient (Phos Acid) Feed Pump - P1522 | Running | | | |
| 6.22 | PID07B | FBR A Electron Donor Assembly Pump - P73A | Running | | | |
| 6.23 | PID07B | FBR 1 Electron Donor Assembly Pump - P731 | Running | | | |
| 6.24 | PID07B | FBR 2 Electron Donor Assembly Pump - P732 | Running | | | |
| 7 | | First Stage FBRs 3 & 4 | | | | |
| 7.01 | PID01B | FBR 3 | Running | | 3 | Inspected and cleared the lines on the INF flowmeter. |
| 7.02 | PID01B | FBR 4 | Running | | | |
| 7.03 | PID02B | First Stage Separator Tank - T2012 | Running | | 3 | Installed a new positioner on the actuator. |
| 7.04 | PID01B | Media Return Pump - P2012 | Running | | | |
| 7.05 | PID01B | First Stage FBR Pump - P1013 | Running | | | |
| 7.06 | PID01B | First Stage FRB Pump - P1014 | Running | | | |
| 7.07 | PID01B | First Stage FBR Pump - P102A | Running | | | |
| 7.08 | PID07A | FBR 3 pH Feed Pump - P713 | Running | | | |

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Criticality Codes

1= Critical - Cannot continue with operation until repairs made
 2 = Important - Can still operate safely and in compliance with permits, but risks are increased
 3 = Moderate - Work needs to be performed, but plant can still operate with redundancy that is in place
 4 = Low - Minor repairs that in no way alter the performance of the plant

| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------|--------|--|---------------------|---------|--------------------------|---|
| 7.09 | PID07A | FBR 4 pH Feed Pump - P714 | Running | | | |
| 7.10 | PID07A | FBR 3 Nutrient (Urea) Feed Pump - P723 | | | | |
| 7.11 | PID07A | FBR 4 Nutrient (Urea) Feed Pump - P 724 | Off | | | |
| 7.12 | PID15 | FBR 3 Nutrient (Phos Acid) Feed Pump - P1523 | Running | | | |
| 7.13 | PID15 | FBR 4 Nutrient (Phos Acid) Feed Pump - P1524 | Running | | | |
| 7.14 | PID07B | FBR 3 Electron Donor Assembly Pump - P733 | Running | | | |
| 7.15 | PID07B | FBR 4 Electron Donor Assembly Pump - P734 | Running | | 3 | Cleared the check valve at the injection point on the piping. |
| 8 | | Second Stage FBRs 5 & 6 | | | | |
| 8.01 | PID03A | FBR 5 | Running | | | |
| 8.02 | PID03A | FBR 6 | Running | | | |
| 8.03 | PID03C | Second Stage Separator Tank - T3011 | Running | | | |
| 8.04 | PID03A | Media Return Pump - P3011 | Running | | | |
| 8.05 | PID03A | Second Stage FBR Pump - P3015 | Running | | | |
| 8.06 | PID03A | Second Stage FBR Pump - P3016 | Standby | | | |
| 8.07 | PID03A | Second Stage FBR Pump - P301A | Running | | | |
| 8.08 | PID07A | FBR 5 pH Feed Pump - P715 | Off | | | |
| 8.09 | PID07A | FBR 6 pH Feed Pump - P716 | Off | | | |
| 8.1 | PID07A | FBR 5 Nutrient (Urea) Feed Pump - P725 | Off | | | |
| 8.11 | PID07A | FBR 6 Nutrient (Urea) Feed Pump - P726 | Off | | | |
| 8.12 | PID07B | FBR 5 Electron Donor Assembly Pump - P735 | Running | | | |
| 8.13 | PID07B | FBR 6 Electron Donor Assembly Pump - P736 | Running | | | |
| 9 | | Second Stage FBRs 7 & 8 | | | | |
| 9.01 | PID03B | FBR 7 | Running | | | |
| 9.02 | PID03B | FBR 8 | Running | | | |
| 9.03 | PID03D | Second Stage Separator Tank - T3012 | Running | | | |
| 9.04 | PID03B | Media Return Pump - P3012 | Running | | | |
| 9.05 | PID03B | Second Stage FBR Pump - P3017 | Running | | | |
| 9.06 | PID03B | Second Stage FBR Pump - P3018 | Running | | | |
| 9.07 | PID03B | Second Stage FBR Pump - P302A | Running | | | |
| 9.08 | PID07A | FBR 7 pH Feed Pump - P717 | Off | | | |
| 9.09 | PID07A | FBR 8 pH Feed Pump - P718 | Off | | | |
| 9.10 | PID07A | FBR 7 Nutrient (Urea) Feed Pump - P727 | Off | | | |
| 9.11 | PID07A | FBR 8 Nutrient (Urea) Feed Pump - P728 | Off | | | |
| 9.12 | PID07B | FBR 7 Electron Donor Assembly Pump - P737 | Running | | | |
| 9.13 | PID07B | FBR 8 Electron Donor Assembly Pump - P738 | Running | | | |
| 10 | | Aeration and DAF System | | | | |
| 10.01 | PID04 | Aeration Tank | In operation | | | |
| 10.02 | PID04 | Aeration Blower - B401 | Running | | | |

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| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------|--------|--|---------------------|---------|--------------------------|---|
| 10.03 | PID04 | Bio filter | In operation | | | |
| 10.04 | PID04 | Nutrient Solution | Running | | | |
| 10.05 | PID04 | Bio filter Sump | | | | |
| 10.06 | PID04 | Nutrient Pump - P401 | Running | | | |
| 10.07 | PID04 | Bio filter Sump Pump - P402A | Standby | | | |
| 10.09 | PID04 | Bio filter Blower | Running | | | |
| 10.10 | PID05 | DAF Pressure Tanks | In operation | | | |
| 10.11 | PID05 | DAF Vessel - D501 | Running | | | |
| 10.12 | PID05 | DAF Pressure Pump - P501 | Running | | | |
| 10.13 | PID05 | DAF Float Pump - P502 | Running | | | |
| 10.14 | PID05 | DAF Vessel - D551 | Running | | | |
| 10.15 | PID05 | DAF Pressure Pump - P551 | Running | | | |
| 10.16 | PID05 | DAF Float Pump - P552 | Running | | 2 | Replaced the pump and installed a new clack flap. |
| 10.17 | PID05 | Screw Conveyer Drive | Standby | | | |
| 10.18 | PID05 | Skimmer Drive | Running | | | |
| 11 | | Pumping System (Old Effluent) | | | | |
| 11.01 | PID06 | Effluent Tank 601 | In operation | | | |
| 11.02 | PID06 | Effluent Pump - P601 | Running | | | |
| 11.03 | PID06 | Effluent Pump - P602 | | | | |
| 12 | | Sand Filter System | | | | |
| 12.01 | PID17 | Sand Filter | | | | |
| 12.02 | PID17 | Filter Reject Tank | In operation | | | |
| 12.03 | PID17 | Filter Reject Pump - P1701A | Standby | | | |
| 12.04 | PID17 | Filter Reject Pump - P1701B | Running | | | |
| 13 | | Effluent Tank and Pumping | | | | |
| 13.01 | PID10C | UV Effluent Tank | Running | | | |
| 13.02 | PID10C | Effluent Booster Pump - P1302A | Running | | | |
| 13.03 | PID10C | Effluent Booster Pump - P1302B | Standby | | | |
| 13.04 | PID10C | Area Around Effluent and North D-1 | Running | | 4 | Ongoing installation of the UF membrane system. |
| 14 | | Solids Collection and Pressing System | | | | |
| 14.01 | PID16 | Sludge Storage Tank | In operation | | | |
| 14.02 | PID16 | Solids Storage Effluent Pump - P1601 | Running | | | |
| 14.03 | PID16 | Solids Cond. Tank | In operation | | | |
| 14.04 | PID09 | Sludge Mixer | Running | | | |
| 14.05 | PID09 | Filter Press Pump - P901 | Running | | | |
| 14.06 | PID09 | Filter Press Pump - P902 | | | 3 | Cleaned out the air ends on the pumps. |
| 14.07 | PID09 | West Press | Standby | | | |
| 14.08 | PID09 | East Press | Running | | | |

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| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------------------------|------------------------------|--|---------------------|---------|--------------------------|-------|
| 14.09 | PID09 | Filtrate Tank | In operation | | | |
| 14.10 | PID09 | Filtrate Tank Effluent (recycle) Pump - P903 | Running | | | |
| Chemical Systems | | | | | | |
| 15 | Electron Donor System | | | | | |
| 15.01 | PID07B | Electron Donor Tank | In operation | | | |
| 15.02 | PID07B | Booster Pump P739A | Running | | | |
| 15.03 | PID07B | Booster Pump P739B | Standby | | | |
| 17 | PID07C | Micro Nutrient System | In operation | | | |
| 18 | PID07C | Hydrogen Peroxide System | In operation | | | |
| 19 | PID07C | De-Foam System | In operation | | | |
| 20 | PID15 | Nutrient (Phosphoric Acid) System (Tank only - pumps included in FBRs) | In operation | | | |
| 21 | PID07A | Nutrient (Urea) System (Tank only - pumps included in FBRs) | In operation | | | |
| 22 | PID07A | pH System (Tank and effluent pH feed pump only - other pumps included in FBRs) | In operation | | | |
| 23 | PID07C | Ferric Chloride | In operation | | | |
| 24 | PID07B | Polymer Systems - DAF | In operation | | | |
| 25 | PID09 | Polymer System - Solids Dewatering (2 tanks, 2 centrifugal pumps, mixer, volumetric feeder) | In operation | | | |
| Utility Systems | | | | | | |
| 26 | Compressed Air System | | | | | |
| 26.01 | PID08 | West Compressor | Running | | | |
| 26.02 | PID08 | East Compressor | Running | | | |
| 26.03 | PID08 | O2 Compressor | Running | | | |
| 26.04 | PID08 | Compressed Air Receiver Tank | In operation | | | |
| 26.05 | PID08 | Air Dryer | Running | | | |
| 26.06 | PID08 | Oil Removal Filter | In operation | | | |
| 26.07 | PID08 | Particulate Filter | In operation | | | |
| 27 | PID16 | Oxygen System | In operation | | | |
| 28 | | GWETS Plant Controls/ Siemens Controls | In operation | | | |
| 29 | | Well Control System/ Allen Bradley Controls | In operation | | | |
| 30 | | MCC FBR Pad | In operation | | | |
| 31 | | MCC in D-1 | In operation | | | |
| 32 | | MCC in EQ area | In operation | | | |
| Miscellaneous Systems | | | | | | |
| 33 | | Operations Office/Network | In operation | | | |

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 Maintenance - Out of service for maintenance
 Off - Not currently needed for use, but can be placed in service

Criticality Codes

1= Critical - Cannot continue with operation until repairs made
 2 = Important - Can still operate safely and in compliance with permits, but risks are increased
 3 = Moderate - Work needs to be performed, but plant can still operate with redundancy that is in place
 4 = Low - Minor repairs that in no way alter the performance of the plant

| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------|------|---|---------------------|---------|--------------------------|-------|
| 34 | | Laboratory Analyzers | In operation | | | |
| 35 | | Security Systems | In operation | | | |
| | | Shelf Spares | | | | |
| | | Media Return Pump Rebuild Kit | In stock | | | |
| | | pH Feed Pump | In stock | | | |
| | | Nutrient Feed Pump | In stock | | | |
| | | Electron Donor Feed Pump | In stock | | | |
| | | Phosphoric Acid Feed Pump | In stock | | | |
| | | Interceptor Well Pumps (4 each) | In stock | | | |
| | | Seep Well Pump (1 each, same as Athens so total of 2) | In stock | | | |
| | | Athens Road Well Pump (1 each, same as Seep so total of 2) | In stock | | | |

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