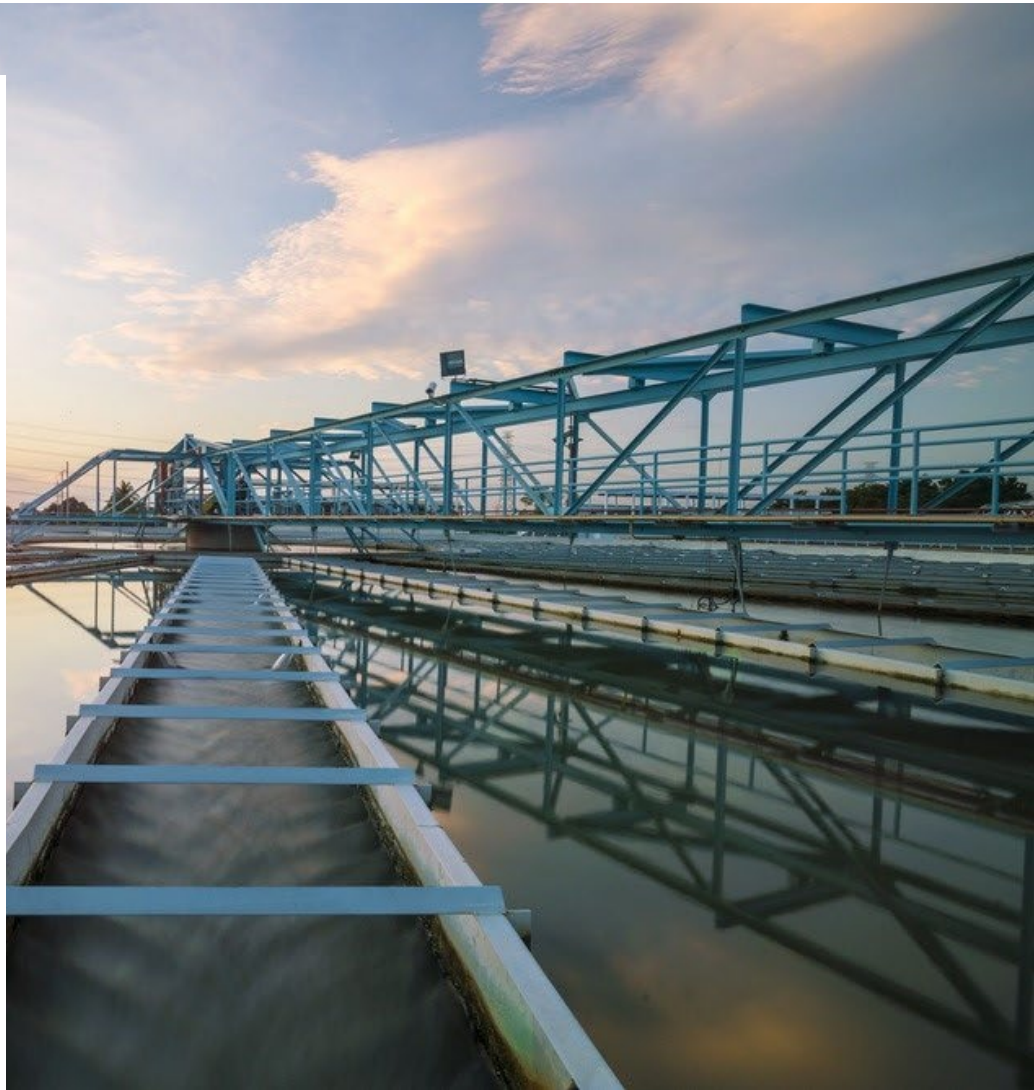


UTILITY REPORT



OCTOBER 2024

**King George County
Service Authority**

**Authored by:
Inboden Environmental
Services, Inc.**



INTRODUCTION

This Utility Report provides information on operations, facility performance, equipment issues, and regulatory compliance for the month prior. Information includes items related to water facility productions and wastewater effluent discharge volumes, laboratory analytical data, operations notes, and compliance auditing.

WATER

Operational Notes:

- KGM replaced the faulty starting capacitor on Circle 2.
- Bac Ts collected; all passed.
- Continuing to backwash green sand filters.
- Effectively dosing sodium hypochlorite to maintain disinfection.
- IES found that the air release valve on Filter 2 at Fairview Water Plant had become stuck open, allowing water to leak. KGM cleaned and restored the area to normal operations.

Canterbury Subdivision – PWSID 6099085

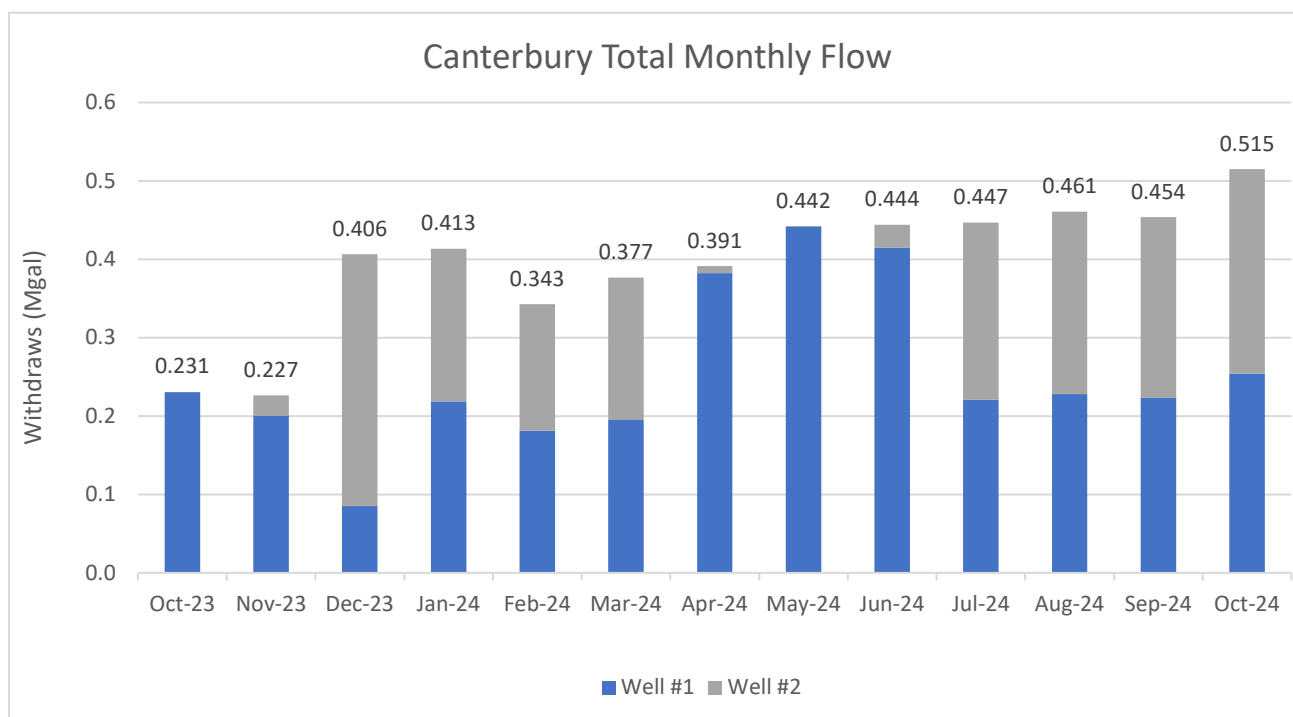
Water Quality:

The Water Treatment facility and distribution system maintained compliance with all required sampling. Routine bacteriological sample results are shown in the table below.

Bacteriological Analysis:

| Location Code | Location Address | Date | Result |
|---------------|------------------|------------|--------|
| 020 | 12343 Kent Road | 10/11/2024 | Absent |

System Production:



Circle – PWSID 6099100

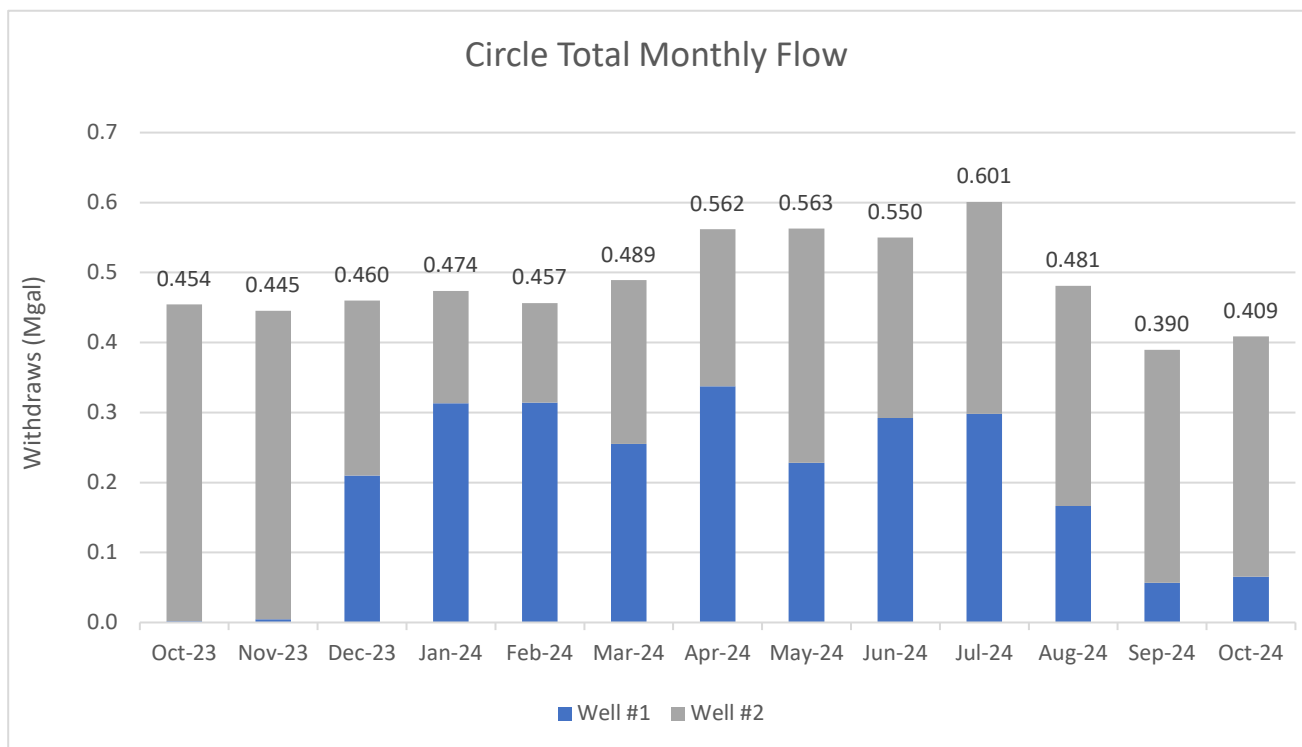
Water Quality:

The Water Treatment facility and distribution system maintained compliance with all required sampling. Routine bacteriological sample results are shown in the table below.

Bacteriological Analysis:

| Location Code | Location Address | Date | Result |
|---------------|------------------|------------|--------|
| 020 | 12013 Ridge Road | 10/11/2024 | Absent |

System Production:



KGC Courthouse – PWSID 6099050

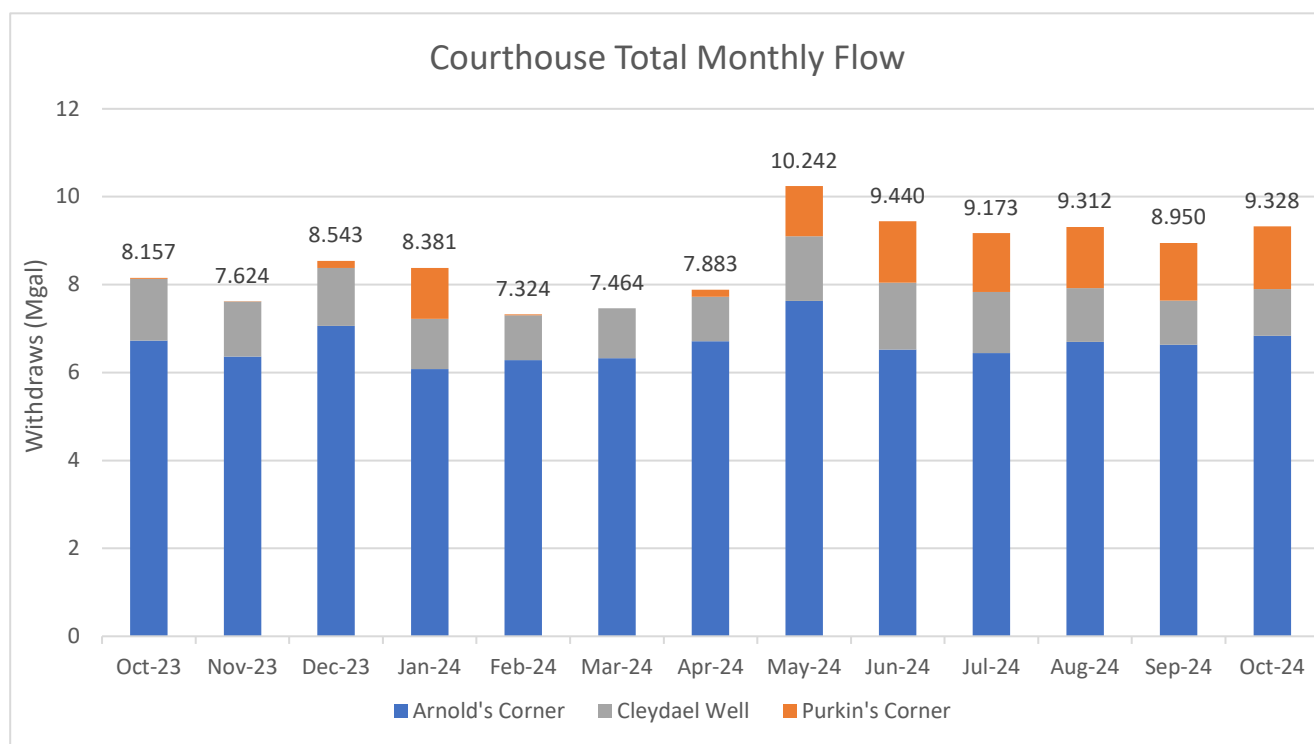
Water Quality:

The Water Treatment facility and distribution system maintained compliance with all required sampling. Routine bacteriological sample results are shown in the table below.

Bacteriological Analysis:

| Location Code | Location Address | Date | Result |
|---------------|--------------------------|------------|--------|
| 07 | 12128 Cleydael Boulevard | 10/9/2024 | Absent |
| 010 | 10404 Eisenhower Drive | 10/9/2024 | Absent |
| 03D | 9245 Kings Highway | 10/9/2024 | Absent |
| 013 | 8095 Washington Drive | 10/9/2024 | Absent |
| 02U | 8117 Kings Highway | 10/16/2024 | Absent |

System Production:



Dahlgren – PWSID 6099295

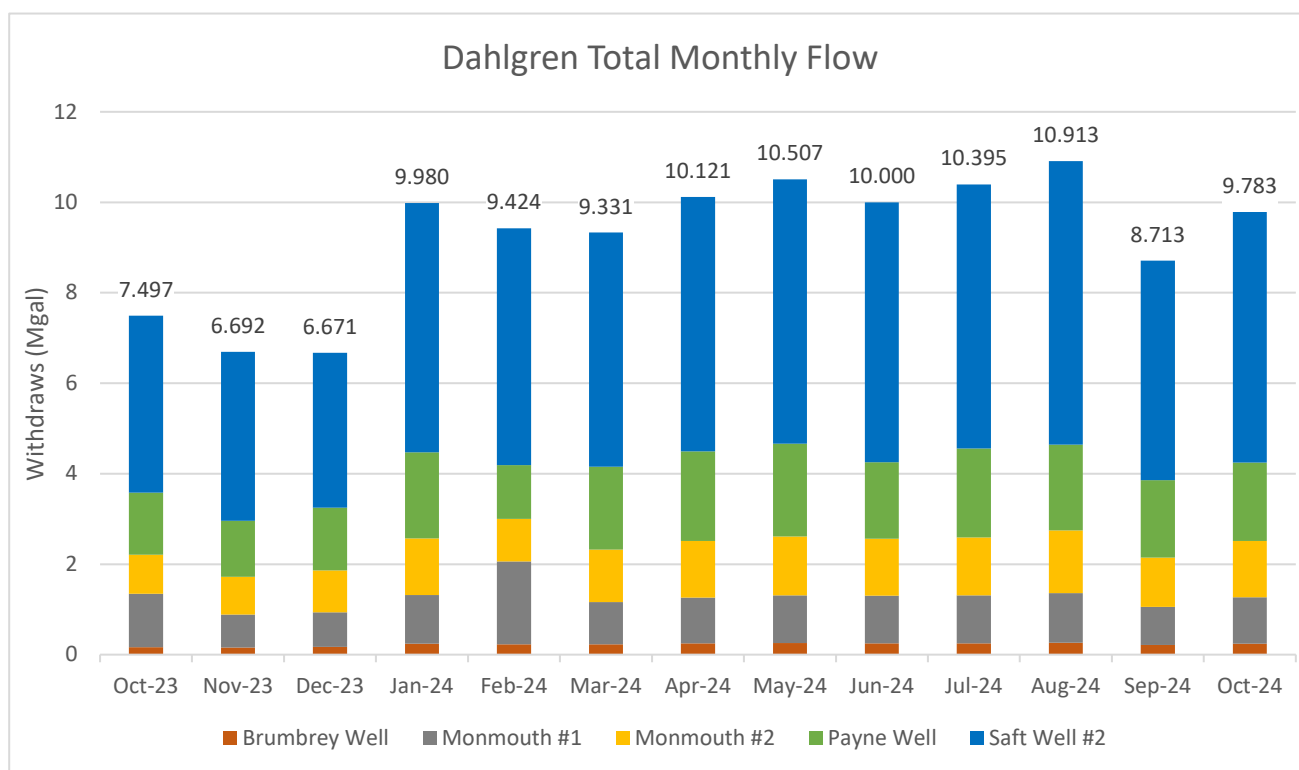
Water Quality:

The Water Treatment facility and distribution system maintained compliance with all required sampling. Routine bacteriological sample results are shown in the table below.

Bacteriological Analysis:

| Location Code | Location Address | Date | Result |
|---------------|----------------------|------------|--------|
| 03 | 5394 Gordon Drive | 10/16/2024 | Absent |
| 01 | 15375 Dahlgren Road | 10/16/2024 | Absent |
| 04U | 17065 Twelfth Street | 10/16/2024 | Absent |

System Production:



Fairview Beach – PWSID 6099250

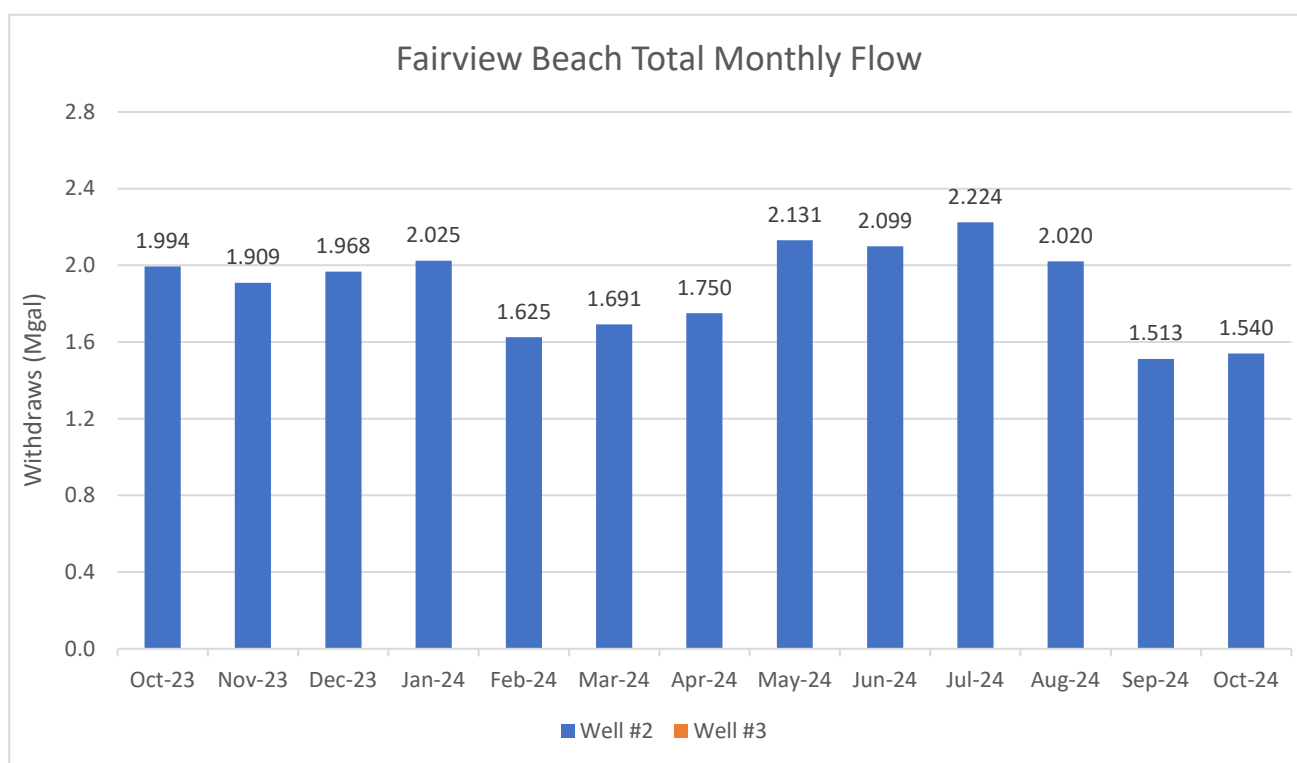
Water Quality:

The Water Treatment facility and distribution system maintained compliance with all required sampling. Routine bacteriological sample results are shown in the table below.

Bacteriological Analysis:

| Location Code | Location Address | Date | Result |
|---------------|----------------------|-----------|--------|
| 030 | 6338 Riverview Drive | 10/9/2024 | Absent |

System Production:



Hopyard Farm – PWSID 6099283

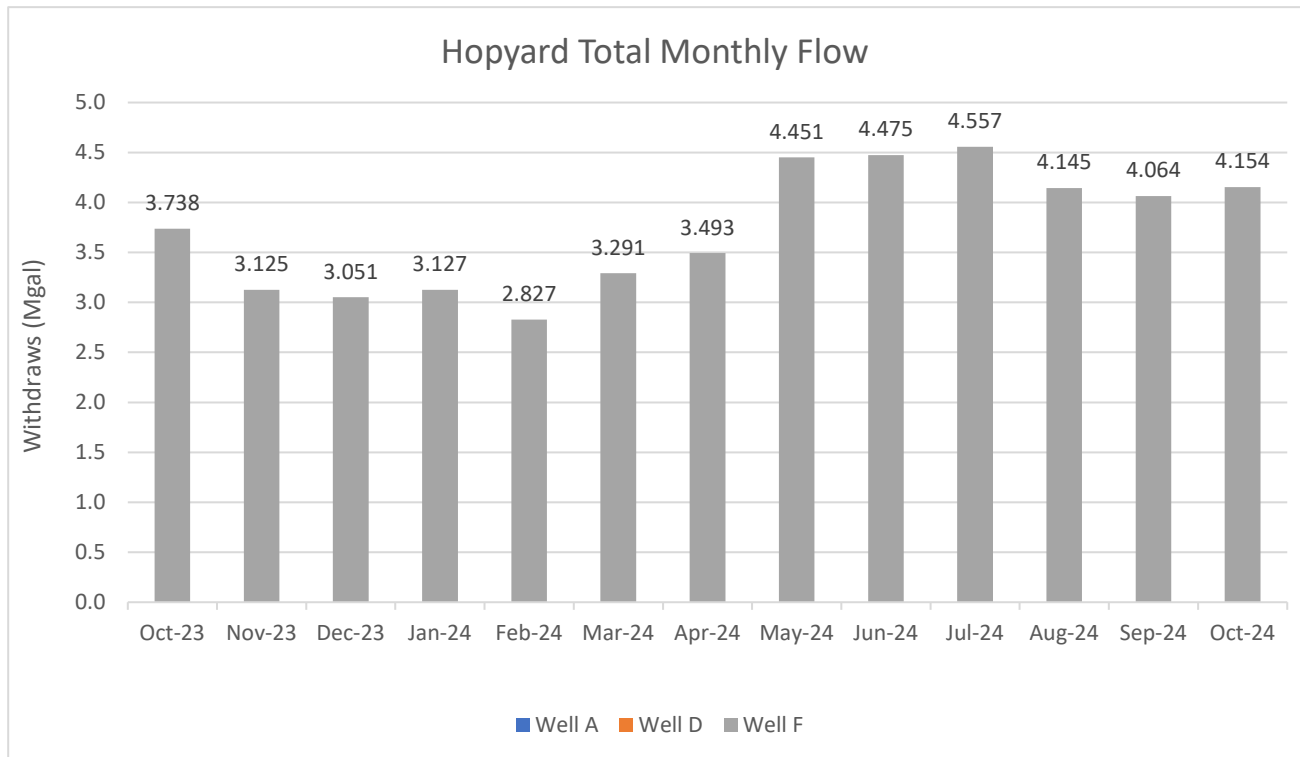
Water Quality:

The Water Treatment facility and distribution system maintained compliance with all required sampling. Routine bacteriological sample results are shown in the table below.

Bacteriological Analysis:

| Location Code | Location Address | Date | Result |
|---------------|--------------------|-----------|--------|
| 040 | 5759 Coakley Drive | 10/4/2024 | Absent |
| 010 | 5964 Parsons Lane | 10/4/2024 | Absent |

System Production:



KGC School Board Office – PWSID 6099296

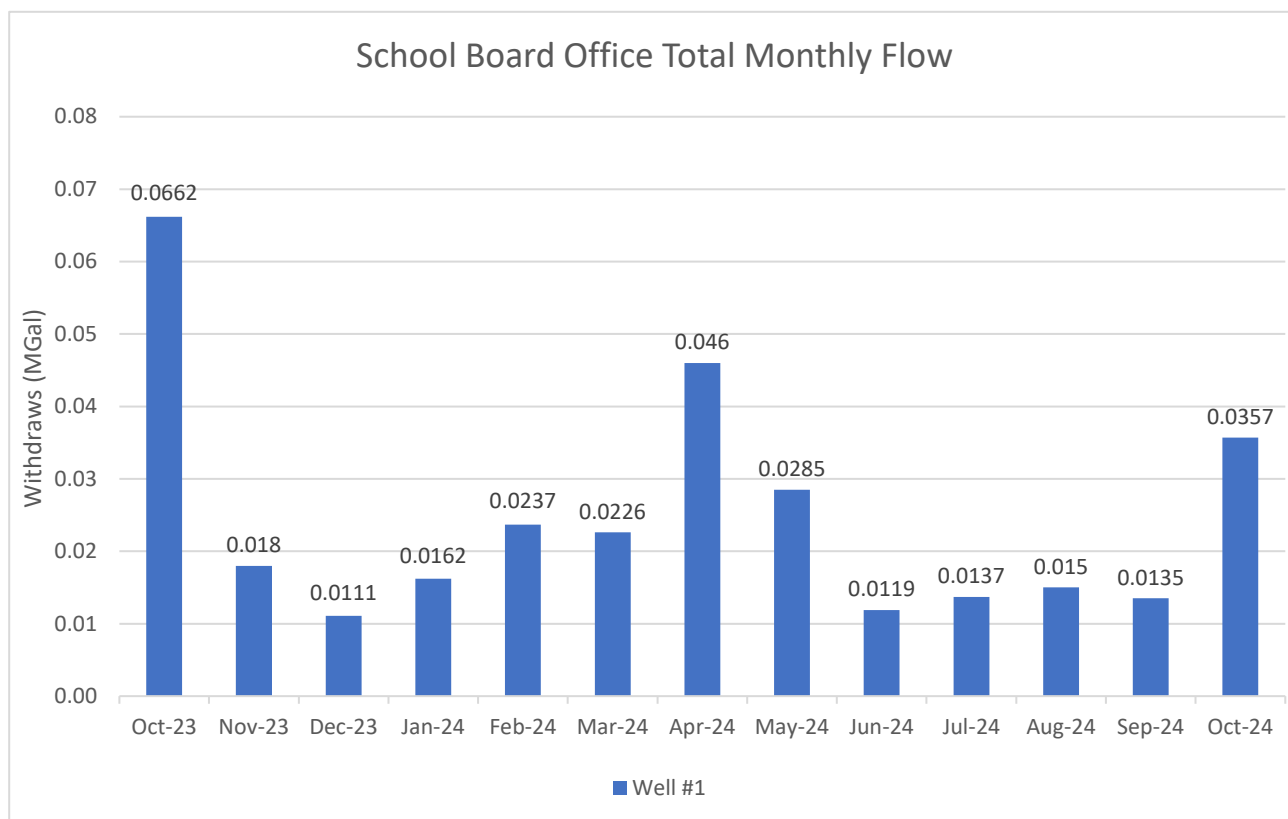
Water Quality:

The Water Treatment facility and distribution system maintained compliance with all required sampling. Routine bacteriological sample results are shown in the table below.

Bacteriological Analysis:

| Location Code | Location Address | Date | Result |
|---------------|---|------------|--------|
| 020 | 9100 St. Anthony's Road Teacher's Bathroom 2 nd Floor | 10/11/2024 | Absent |

System Production:



Ninde's Store – PWSID 6099300

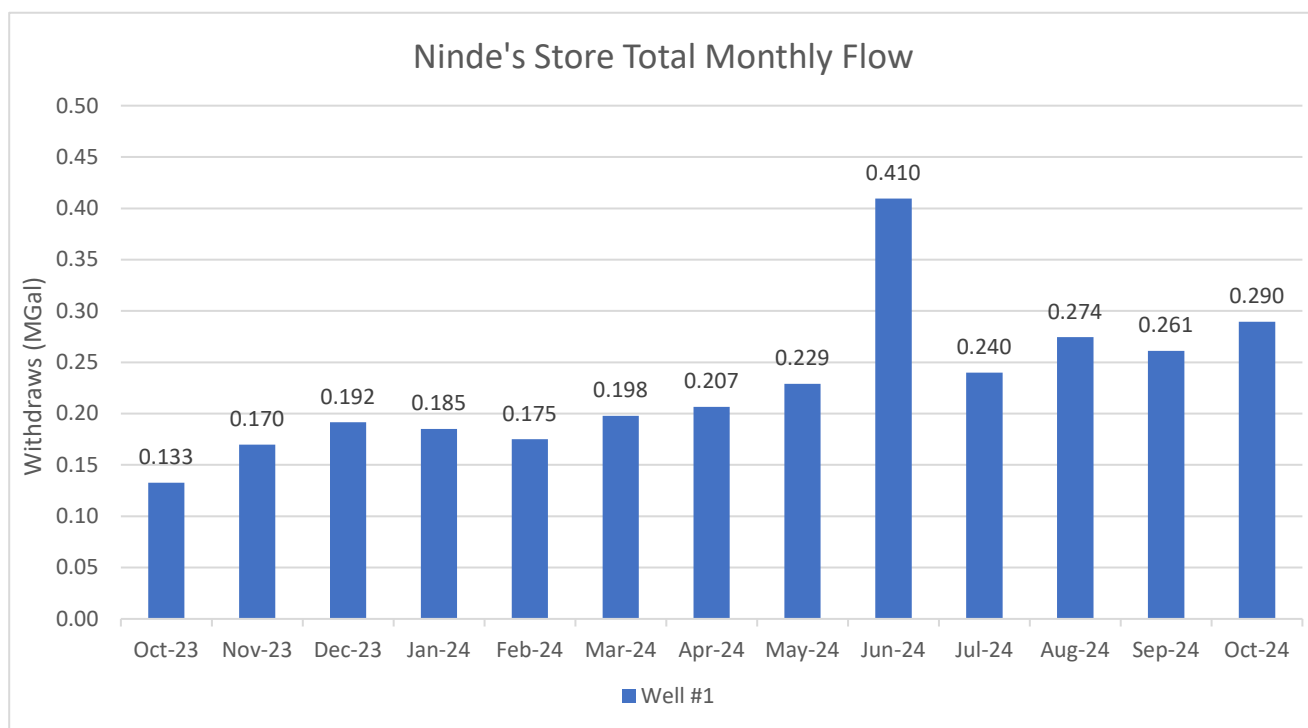
Water Quality:

The Water Treatment facility and distribution system maintained compliance with all required sampling. Routine bacteriological sample results are shown in the table below.

Bacteriological Analysis:

| Location Code | Location Address | Date | Result |
|---------------|------------------|------------|--------|
| 020 | 16156 Ridge Road | 10/11/2024 | Absent |

System Production:



Oakland Park – PWSID 6099350

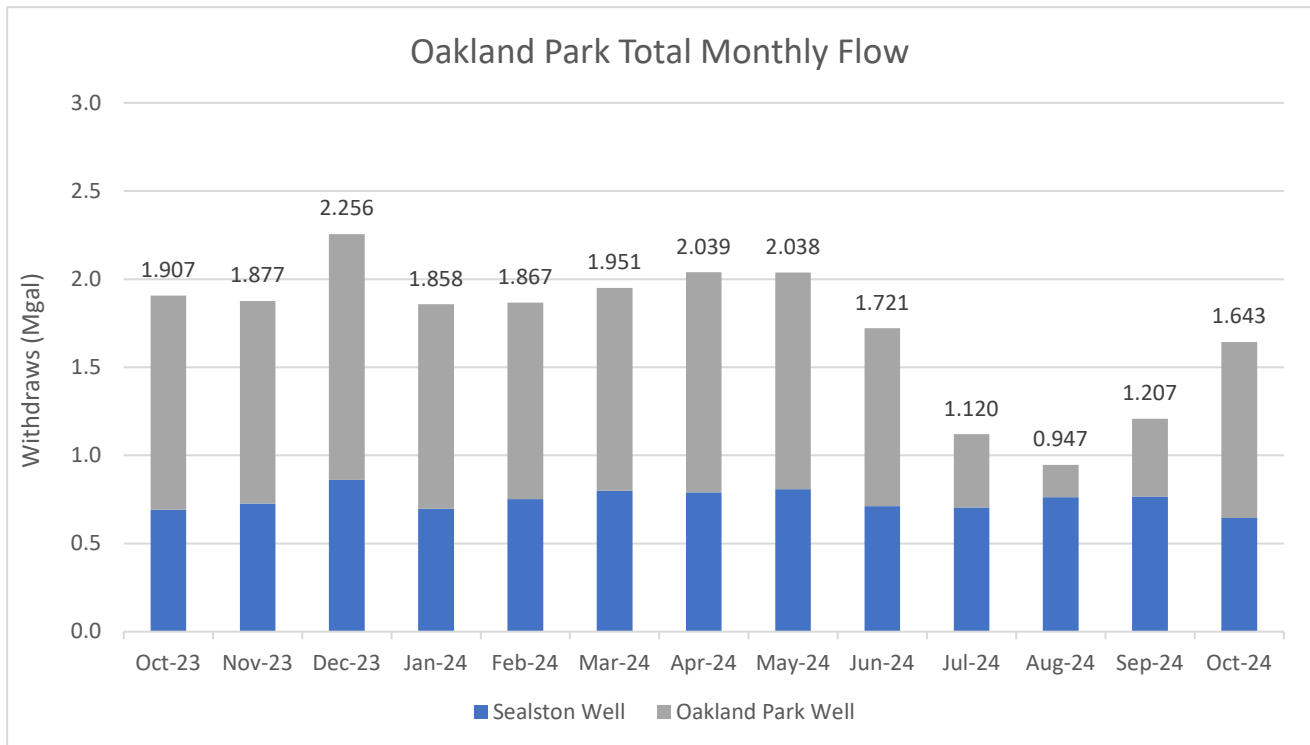
Water Quality:

The Water Treatment facility and distribution system maintained compliance with all required sampling. Routine bacteriological sample results are shown in the table below.

Bacteriological Analysis:

| Location Code | Location Address | Date | Result |
|---------------|-----------------------|-----------|--------|
| 03 | 9121 Covington Street | 10/9/2024 | Absent |
| 01 | 11084 Dennis W Kerns | 10/9/2024 | Absent |

System Production:



St. Paul's/Owens – PWSID 6099550

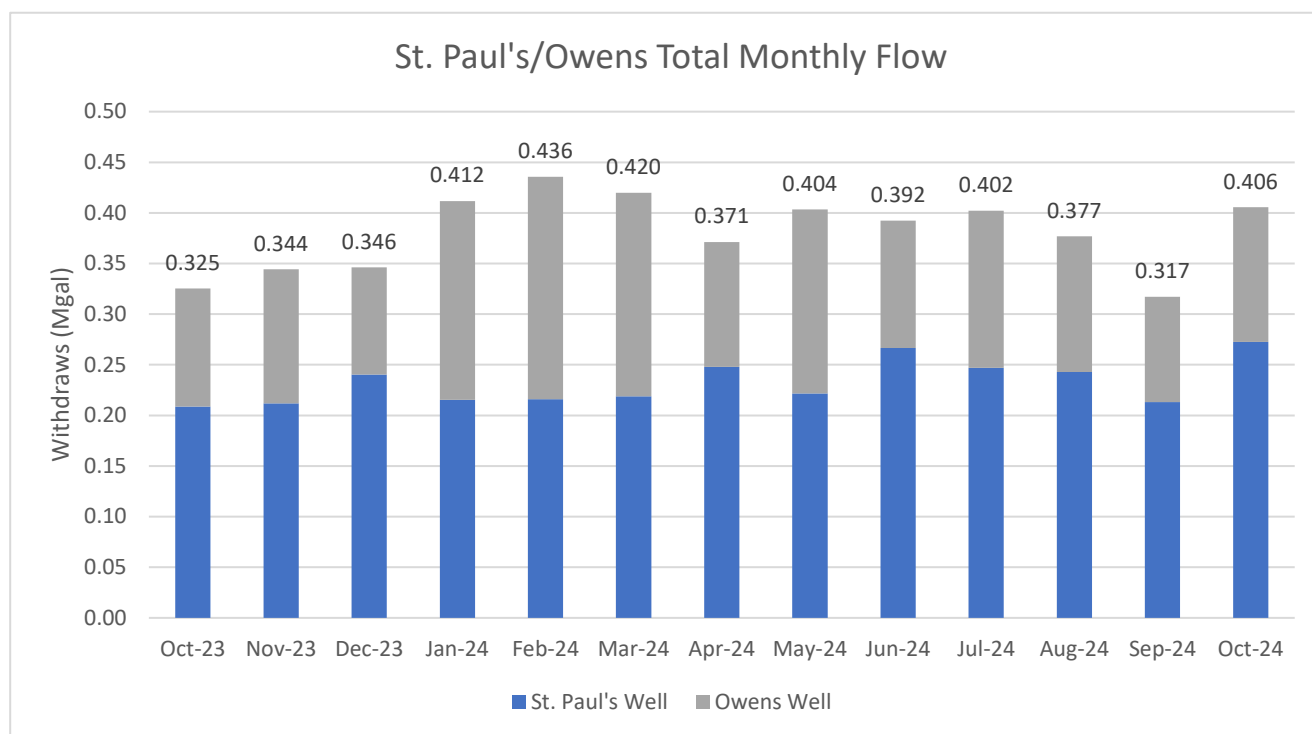
Water Quality:

The Water Treatment facility and distribution system maintained compliance with all required sampling. Routine bacteriological sample results are shown in the table below.

Bacteriological Analysis:

| Location Code | Location Address | Date | Result |
|---------------|----------------------|------------|--------|
| 010 | 5486 St. Paul's Road | 10/11/2024 | Absent |

System Production:



WASTEWATER

Dahlgren WWTP

Effluent Quality:

The wastewater treatment facility maintained compliance with all permit-required sampling.

Wastewater Treatment:

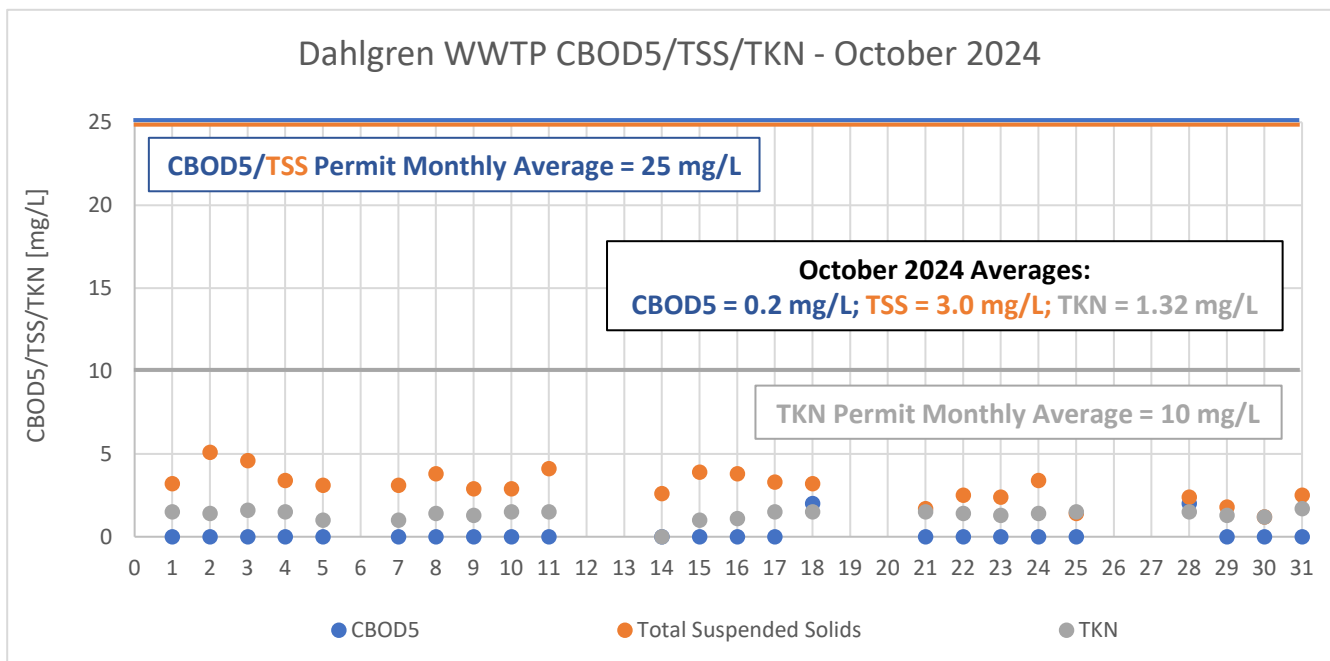
The Dahlgren WWTP met the sewer service area's sanitation demand with an average daily discharge of 0.398 MGD for a total monthly discharge of 12.352 MG.

Operational Notes:

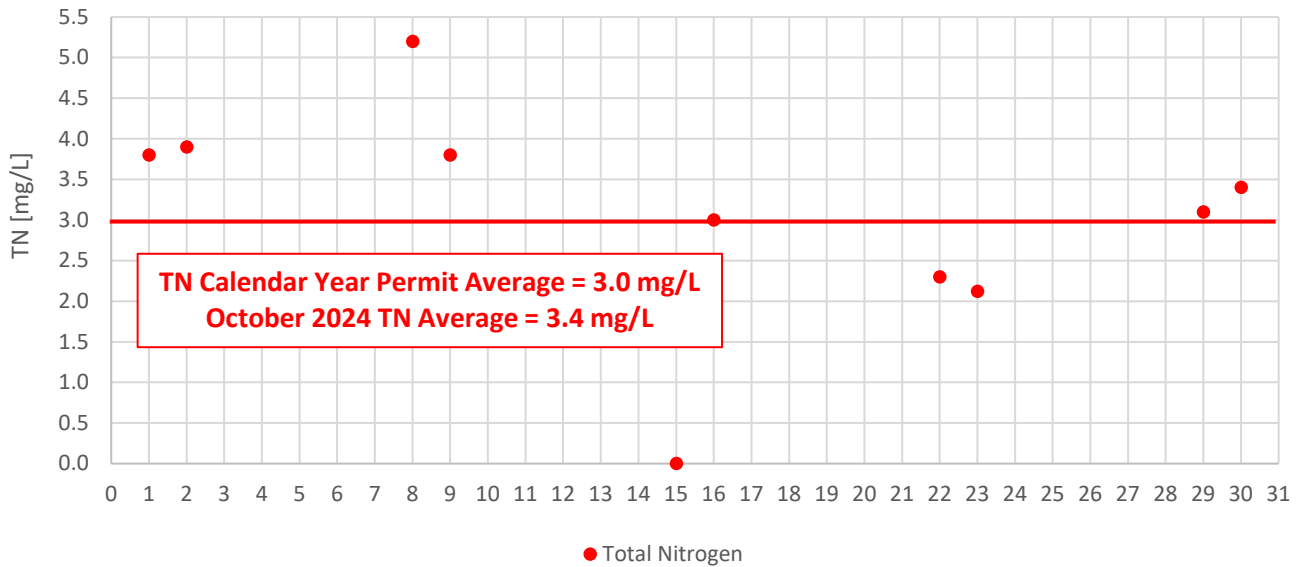
- Drained, pressure washed, and used green clean pro (algaecide) on the post aeration chamber.
- KGM replaced WAS meter; still needs to be programmed.
- Replaced the roller assembly on the BioCarb feed pump.
- KGM installed a new eye wash and emergency shower station in the chemical feed building.

Data Trending:

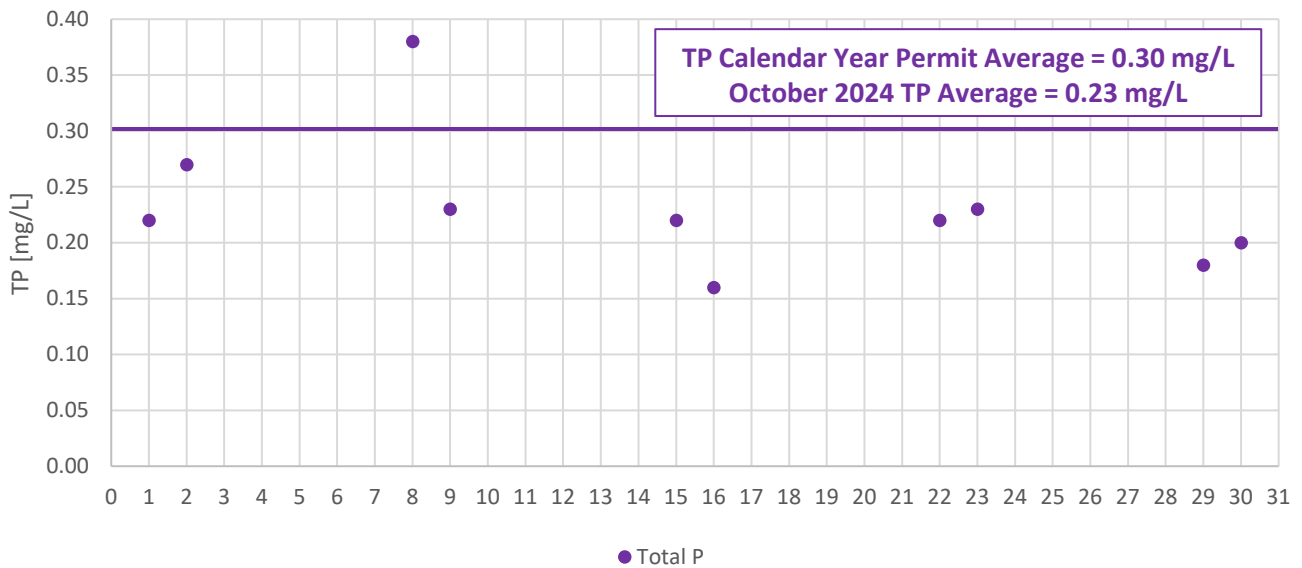
The following charts depict a graphical analysis of effluent quality monitoring and treatment plant daily and total monthly flows.

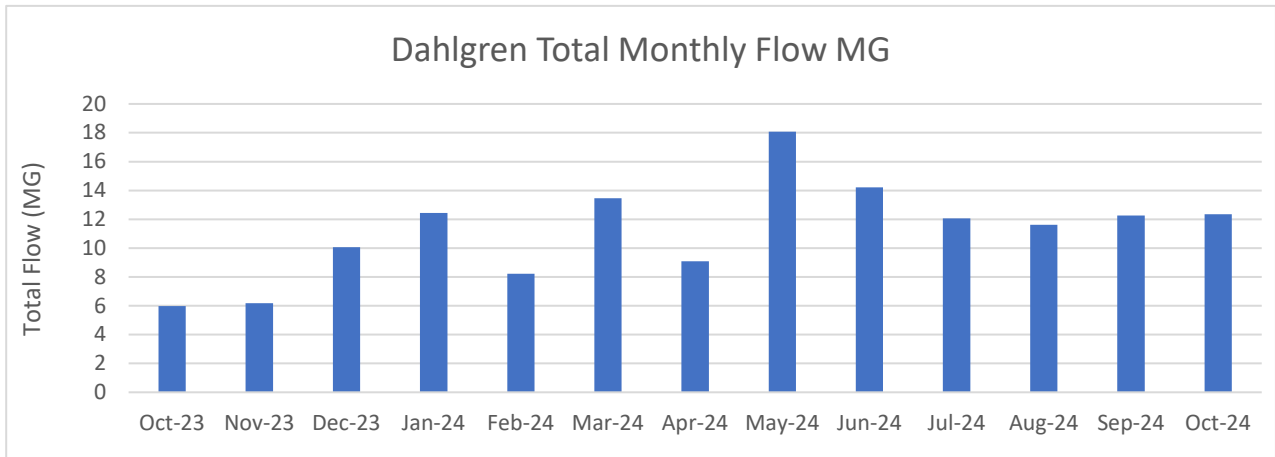
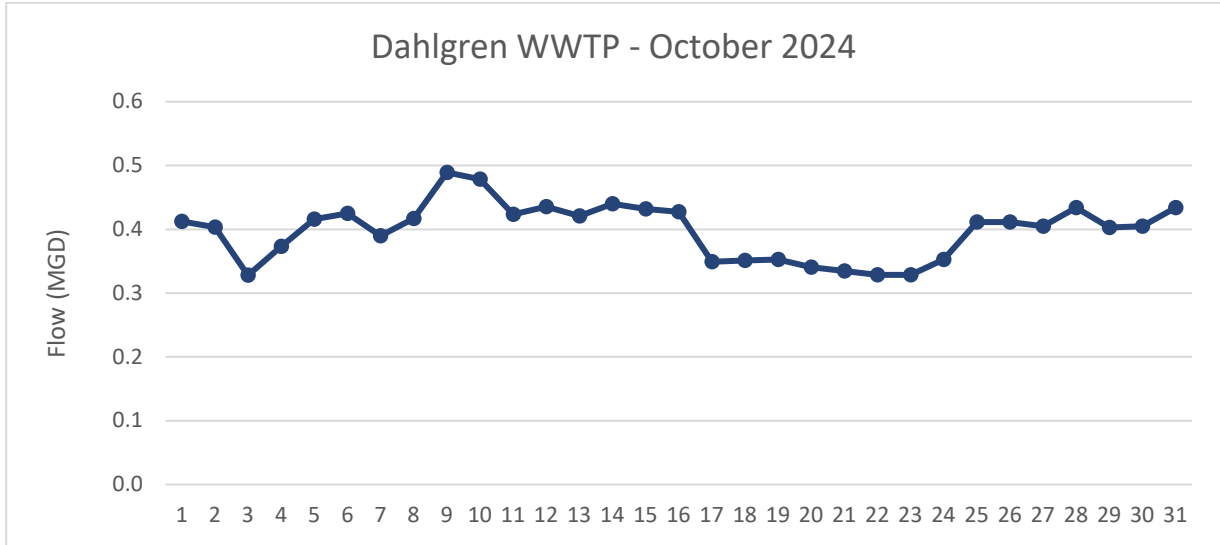


Dahlgren WWTP Total Nitrogen - October 2024



Dahlgren WWTP Total Phosphorus - October 2024





Hopyard Farms WWTP

Effluent Quality:

The wastewater treatment facility maintained compliance with all permit-required sampling.

Wastewater Treatment:

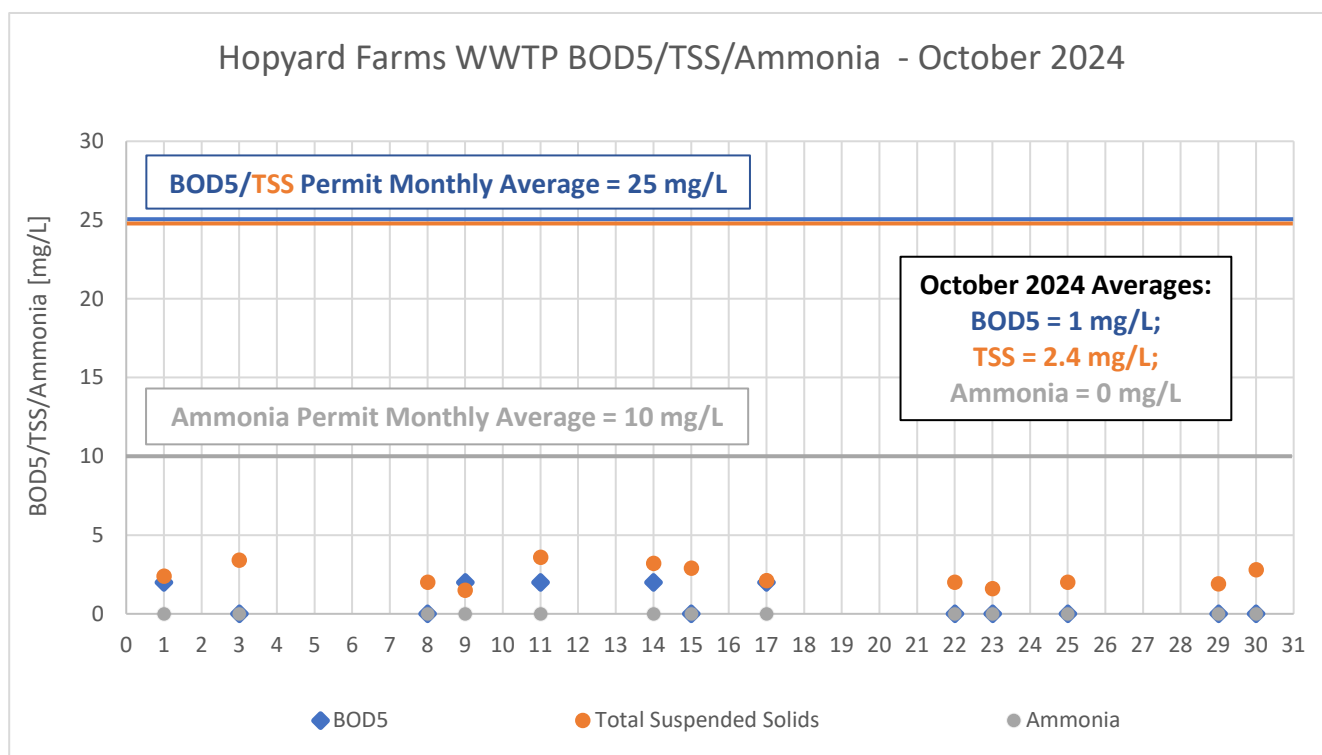
The Hopyard Farms WWTP met the sewer service area's sanitation demand with an average daily discharge of 0.095 MGD for a total monthly discharge of 2.568 MG (27 days with flow).

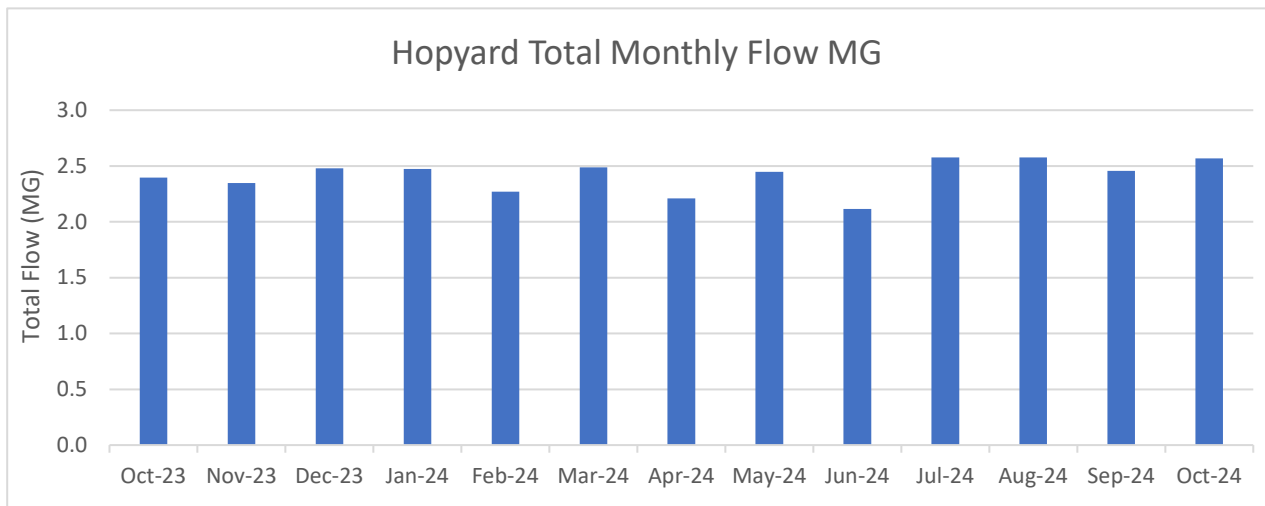
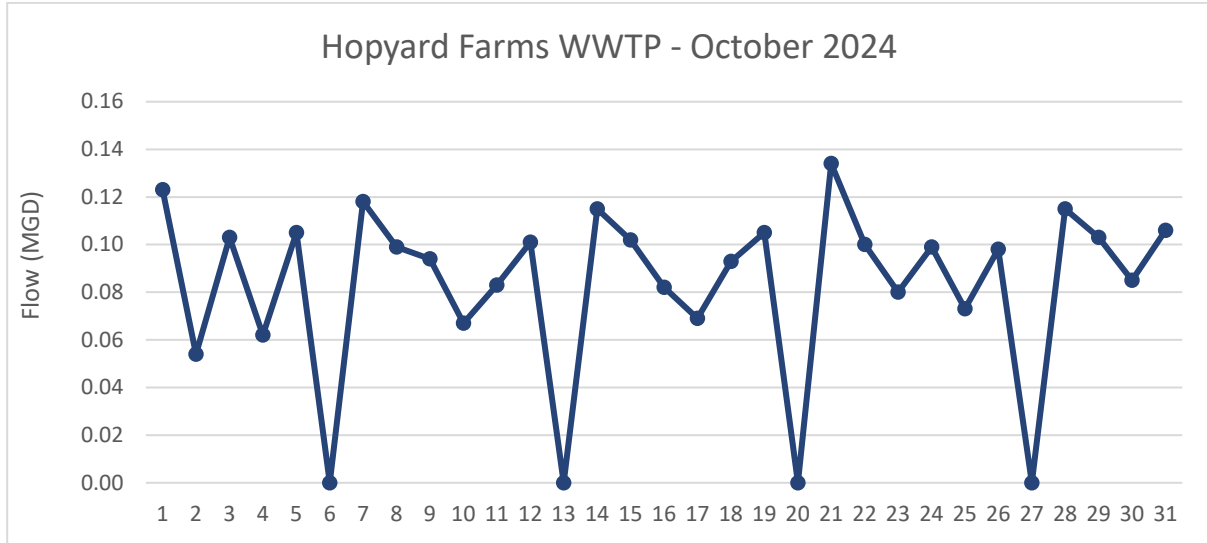
Operational Notes:

- Drained and pressure washed the post aeration chamber.
- KGM changed the fluorescent bulbs to LED bulbs in the control building.

Data Trending:

The following charts depict a graphical analysis of effluent quality monitoring and treatment plant daily and total monthly flows.





Purkins Corner WWTP

Effluent Quality:

The wastewater treatment facility maintained compliance with all permit-required sampling. TKN exceedances were noted as explained below.

Wastewater Treatment:

The Purkins Corner WWTP met the sewer service area's sanitation demand with an average daily discharge of 0.072 MGD for a total monthly discharge of 2.22 MG.

Operational Notes:

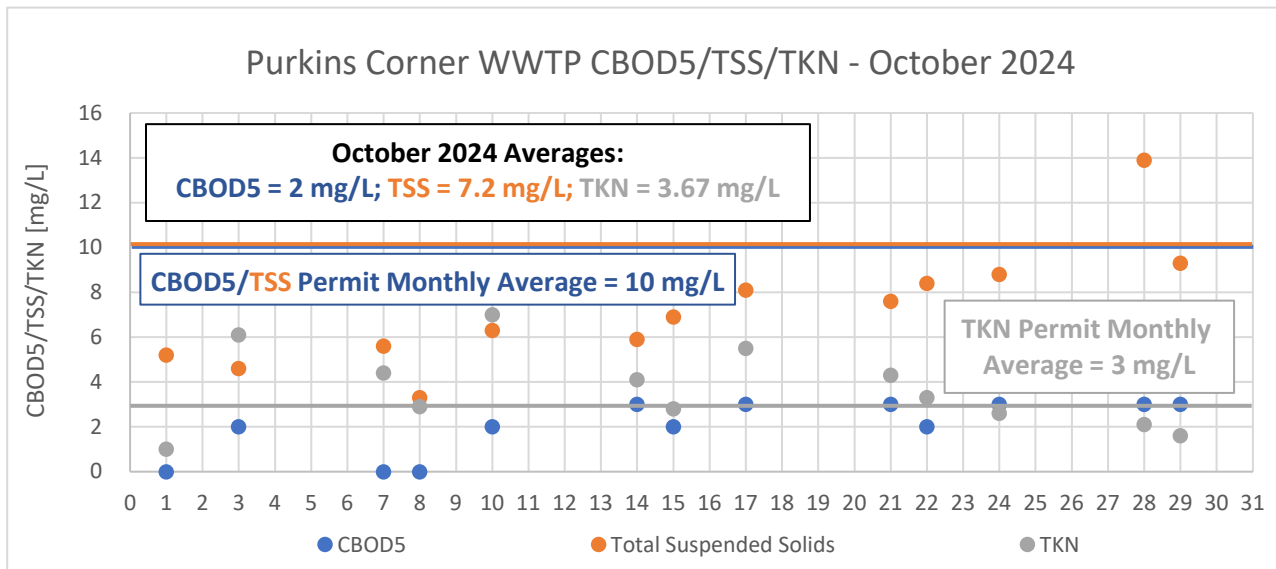
- Operations ran normally.

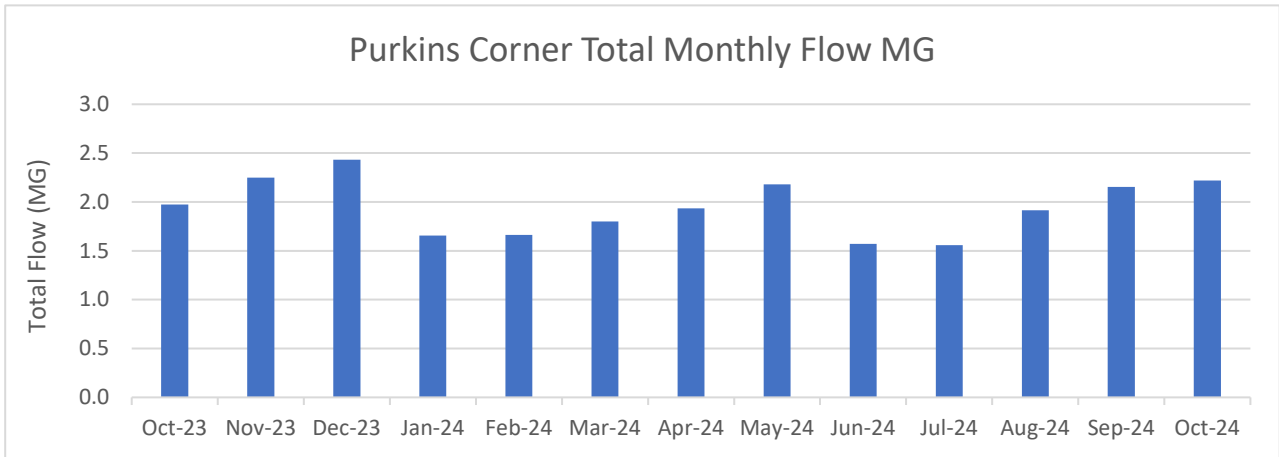
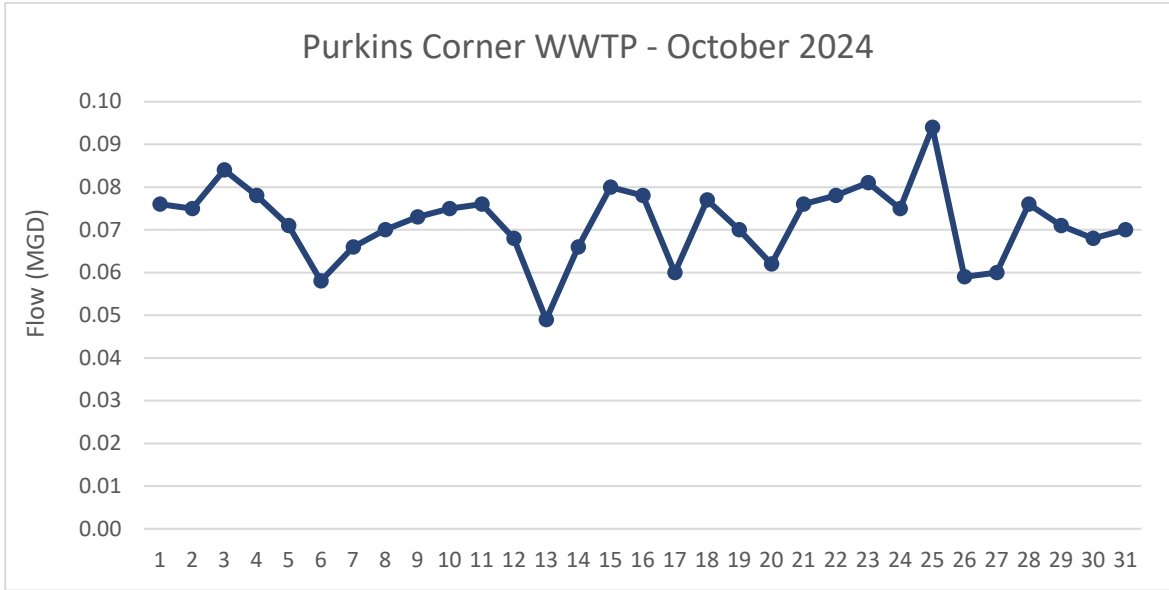
Exceedance Details:

- During the October monitoring period, TKN exceeded the weekly permit limit (4.5 mg/L) at 4.77 mg/L, and the monthly permit limit (3.0 mg/L) at 3.67 mg/L. The elevated TKN concentrations were due to a failed anoxic tank mixer on the B side of the plant. A temporary mixer was put in place, but it was not as effective as the original. This required the WWTP staff to feed influent into the aeration zone, limiting denitrification. A replacement mixer was delivered and installed on November 4th.

Data Trending:

The following charts depict a graphical analysis of effluent quality monitoring and treatment plant daily and total monthly flows.





Oakland Park WWTP

Effluent Quality:

The wastewater treatment facility maintained compliance with all permit-required sampling. TKN exceedances were noted as explained below.

Wastewater Treatment:

The Oakland Park WWTP met the sewer service area's sanitation demand with an average daily discharge of 0.040 MGD for a total monthly discharge of 1.244 MG.

Operational Notes:

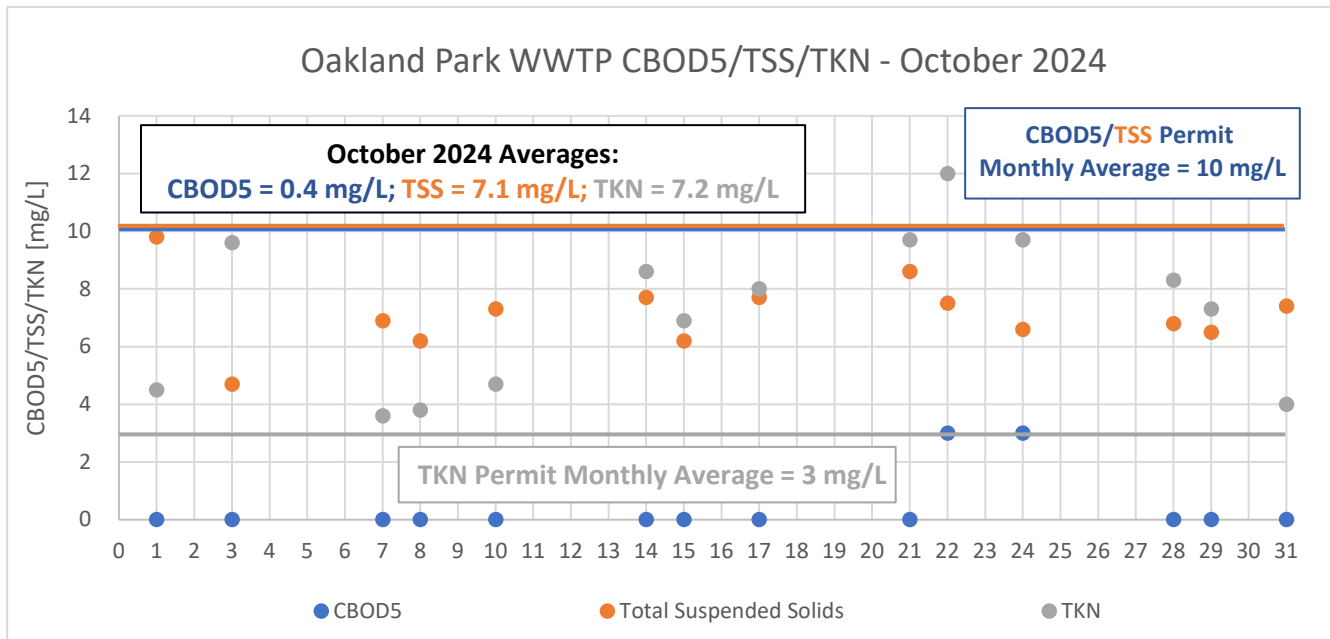
- Maintenance delivered sand and anthracite to the wastewater plant.

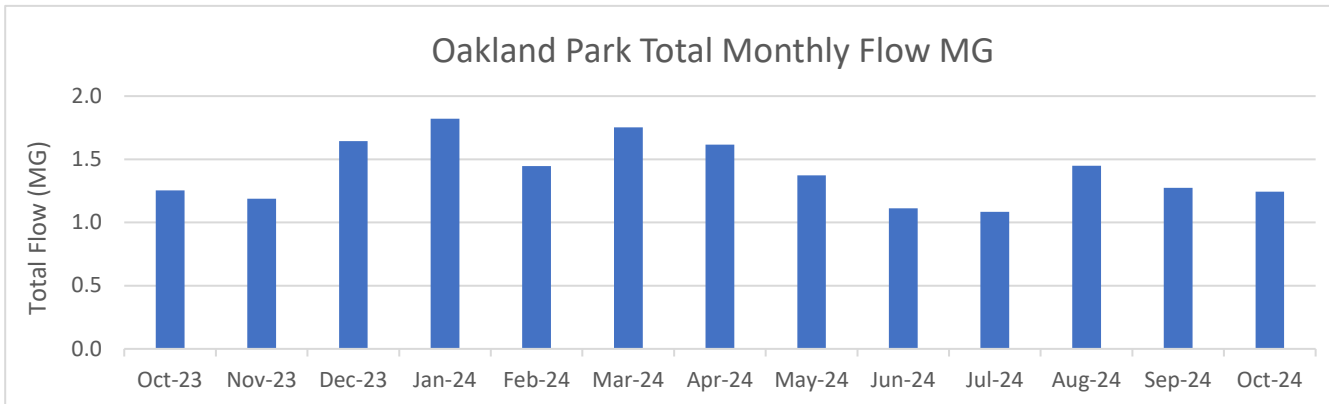
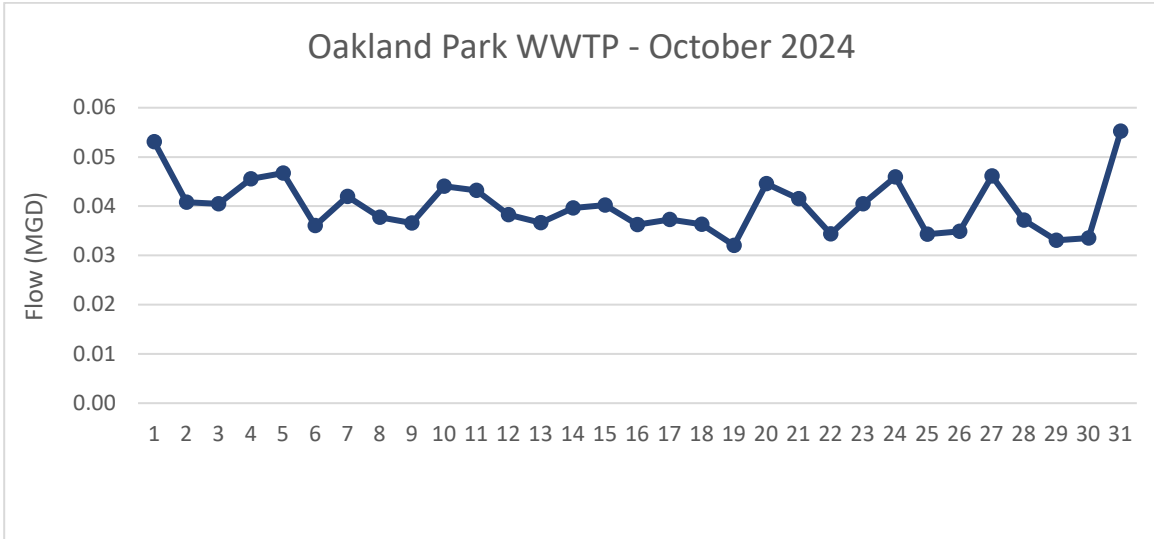
Exceedance Details:

- During the October monitoring period, TKN exceeded the weekly permit limit (4.5 mg/L) twice at 7.83 and 10.47 mg/L, and the monthly permit limit (3.0 mg/L) at 7.19 mg/L. The elevated TKN was due to a clogged RAS line in Plant A and a ruptured BioCarb feed line. Both lines have since been unclogged/repared.

Data Trending:

The following charts depict a graphical analysis of effluent quality monitoring and treatment plant daily and total monthly flows.





Fairview Beach WWTP

Effluent Quality:

The wastewater treatment facility and maintained compliance with all permit-required sampling.

Wastewater Treatment:

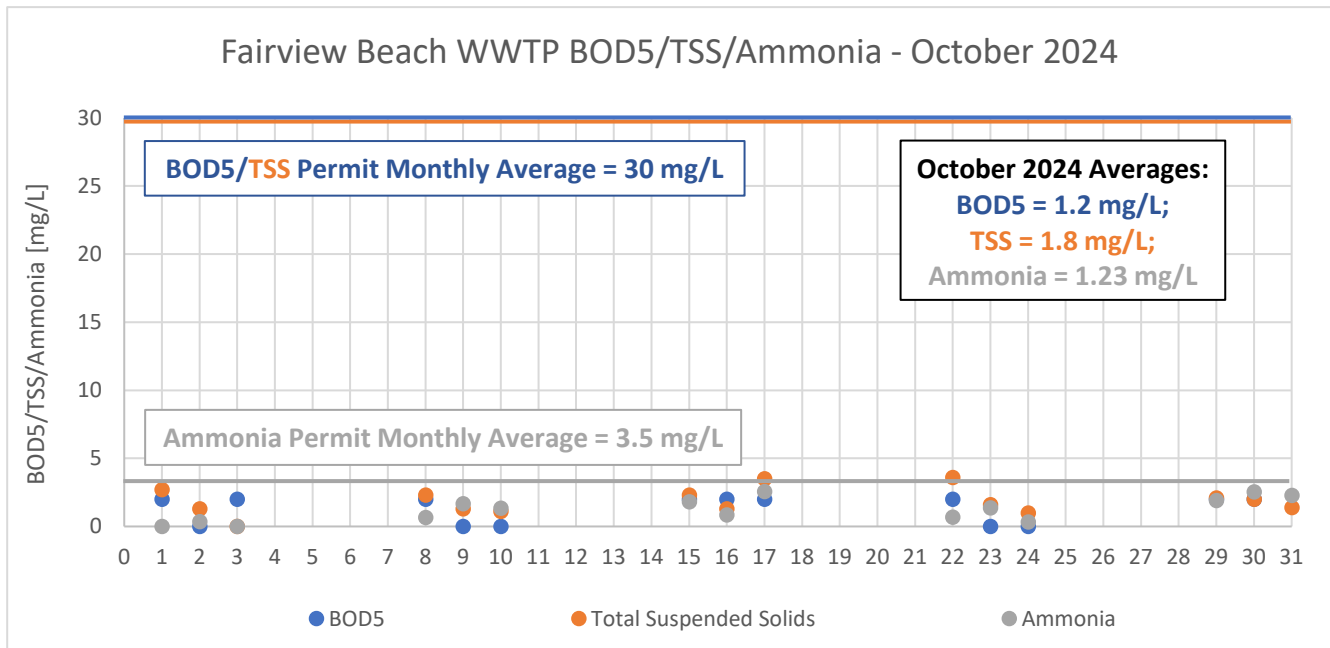
The Fairview Beach WWTP met the sewer service area's sanitation demand with an average daily discharge of 0.052 MGD for a total monthly discharge of 1.392 MG (27 days with flow).

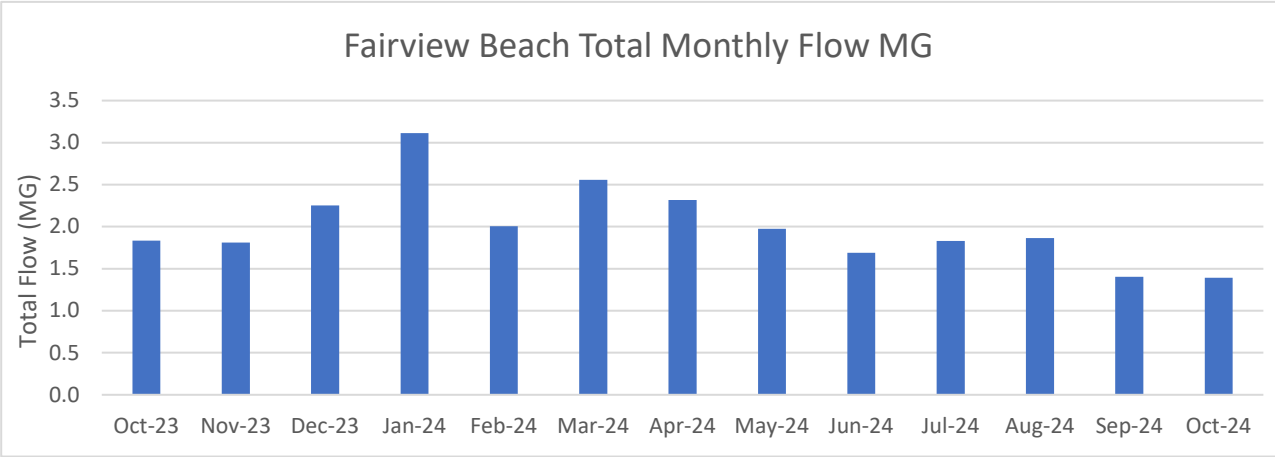
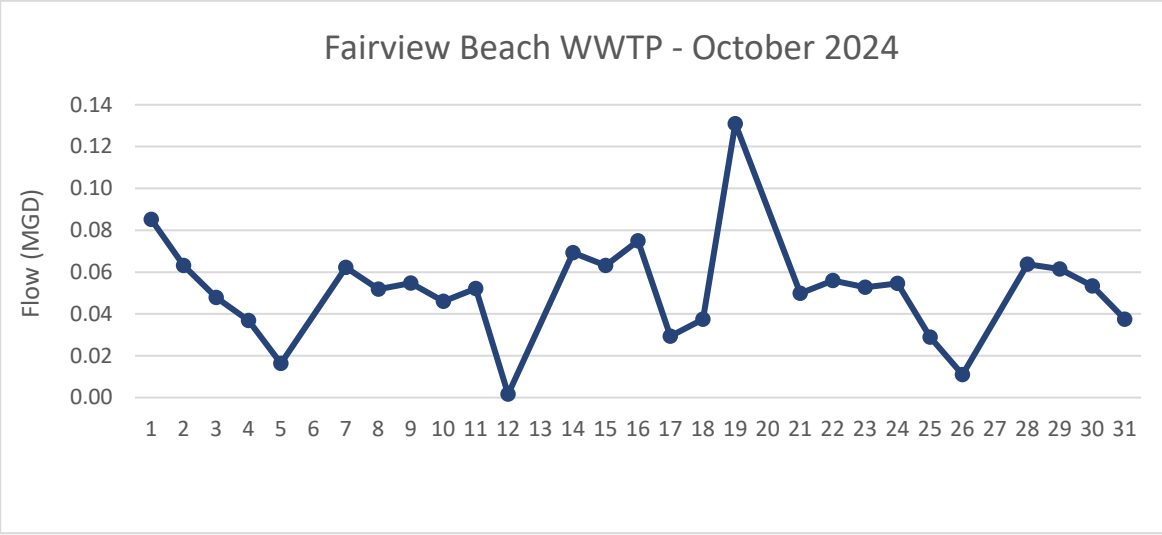
Operational Notes:

- Maintenance replaced the contactor for #1 pre-EQ blowers (contactor was sticking on).
- KGM fixed and adjusted the level indicator for the pre-EQ.
- Cleaned UV lights as part of preventive maintenance.
- IES cleaned and calibrated DO probes.

Data Trending:

The following charts depict a graphical analysis of effluent quality monitoring and treatment plant daily and total monthly flows.





Glossary

| | |
|--------------------|--|
| Bacteria | E.coli and/or Total Coliform |
| BOD5 | 5-day Biochemical Oxygen Demand |
| CBOD | Carbonaceous Biochemical Oxygen Demand |
| cfu | colony forming unit |
| CIP | Capital Improvement Plan or Cast/cleaned-in-place |
| Cl | Chloride Ion |
| Cl2 | Chlorine |
| CMF | Continuous Membrane Filtration? |
| D.O. | Dissolved Oxygen |
| F/M ratio | Food to Microorganism ratio |
| FOG | Fats, Oil and Grease |
| GST | Ground Storage Tank |
| HWTP | Harmony Water Treatment Plant |
| I&I | Infiltration and Inflow |
| Inorganic Nitrogen | Nitrate + Nitrite |
| LS | Lift Station |
| mg/L | Milligrams per Liter |
| MGD | Million Gallons Per Day |
| mL | Milliliters |
| MLSS | Mixed Liquor Suspended Solids |
| MLVSS | Mixed Liquor Volatile Suspended Solids |
| MPN | Most Probable Number -bacteriological well sample |
| MW | Monitoring Well |
| N/N | Nitrate/Nitrite |
| Organic Nitrogen | TKN |
| P/A | Presence/Absence- bacteriological samples for drinking water |
| PFAS | polyfluoroalkyl substances |
| PLC | Programmable Logic Controller |
| POE | Point of Entry |
| RAS | Return Activated Sludge |
| SCADA | Supervisory Control and Data Acquisition |
| STEP | Septic Tank Effluent Pump |
| TKN | Total Kjeldahl Nitrogen |
| TN | Total Nitrogen |
| TP | Total Phosphorous |
| TR-6 | Copper sequestering chemical for wastewater |
| TSS | Total Suspended Solids |
| UV | Ultraviolet Light |
| WTP | Water Treatment Plant |
| WWTP | Wastewater Treatment Plant |
| | |
| | |
| | |