

**MAINTENANCE DEPARTMENT  
MONTHLY OPERATIONS REPORT  
FOR THE MONTH OF: OCTOBER 2019  
PREPARED: NOVEMBER 2019**

| MEASURE                            | MONTH  | UNITS   | FY YTD | UNITS   |
|------------------------------------|--------|---------|--------|---------|
| WORK ORDERS (W.O.) PROCESSED       | 120    |         | 534    | #       |
| STAFF HOURS REQUIRED FOR W.O.      | 351    | HRS.    | 1429.5 | HRS.    |
| NON-CORE DUTIES HOURS              | 43     | HRS.    | 133.5  | HRS.    |
| CD. MAN HOURS REQUIRED FOR WO      | 308    | HRS.    | 945    | HRS.    |
| PM FIRE HYDRANTS                   | 4      |         | 63     |         |
| FIRE HYDRANT REPAIR                | 0      |         | 2      |         |
| PM VALVE EXERCISED                 | 0      |         | 1      |         |
| MANHOLE INSPECTIONS                | 0      |         | 11     |         |
| CCTV SEWER LINE                    | 0      | L. FT.  | 2,222  | L. FT.  |
| SEWER LINE CLEANED                 | 0      | L. FT.  | 2,366  | L. FT.  |
| SL RAT INSPECTIONS                 | 0      | L. FT.  | 10,229 | L. FT.  |
| VEHICLES SERVICED/REPAIRED         | 26     |         | 51     |         |
| # OF WATER BREAKS                  | 0      |         | 0      |         |
| # OF SEWER BACKUPS                 | 0      |         | 1      |         |
| # OF CLEANOUTS INSTALLED           | 1      |         | 2      |         |
| # OF MISS UTILITY TICKETS          | 101    |         | 420    |         |
| # OF METERS READ                   | 19     |         | 102    |         |
| # OF METERS SHUT OFF               | 1      |         | 12     |         |
| # OF METERS TURNED ON              | 1      |         | 12     |         |
| # OF REPLACED METERS               | 0      |         | 0      |         |
| # OF REPLACED REGISTERS            | 0      |         | 0      |         |
| # OF NEW ACC. METER INSTALLS       | 1      |         | 4      |         |
| # OF LEAK CHECKS                   | 21     |         | 113    |         |
| # OF REPLACED MIUs (Radios)        | 38     |         | 118    |         |
| CUSTOMER COMPLAINTS                | 0      |         | 0      |         |
| WATER COMPLAINTS REC'D             | 0      |         | 0      |         |
| WATER COMPLAINTS RESOLVED          | 100    | %       | 100    | %       |
| WASTEWATER COMPLAINTS REC'D        | 0      |         | 0      |         |
| WASTEWATER COMPLAINTS RES'D        | 100    | %       | 100    | %       |
| BULK WATER GALLONS AT NEW RATE     | 0      | Gallons | 0      | Gallons |
| BULK WATER SALES-(rate \$15.18per) | \$0.00 |         | \$0.00 |         |

**ACCOMPLISHMENTS**

Signage upgrade for Teardrop (Main St./Nursery Ave)  
 Installed STOP letters and painted crosswalks and Stop bars at 20th/A Street Intersection  
 Painted crosswalks on 20th Street  
 Striped parking lots at WWTP and Maintenance Facility  
 Placed radar data signs in several locations for Police Department  
 Weekly cleaning/restocking of dog stations  
 Removed fallen trees from Potts property fence at Hirst Reservoir  
 Weekly mowing operations  
 Maintenance of Chapman DeMary Trail  
 Cleaned and painted board fence at Town Hall/Tabernacle parking lot  
 Installed (4) sets of rumble bars on A Street  
 Assisted with install of tower at Maintenance for meter reading  
 Cleared trees/weeds etc. from bridge abutments and culverts town-wide  
 Pothole repairs  
 Installed (2) blinker crosswalk signs at W&OD trail crossing on Hatcher Ave.  
 Painted meter house at Cooper Springs

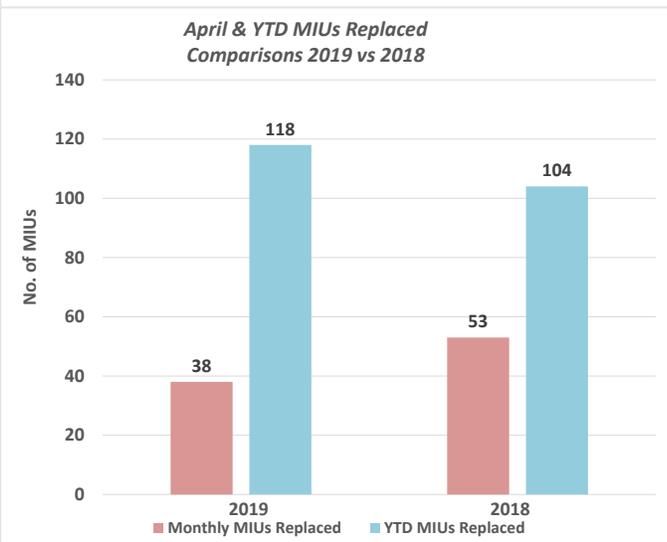
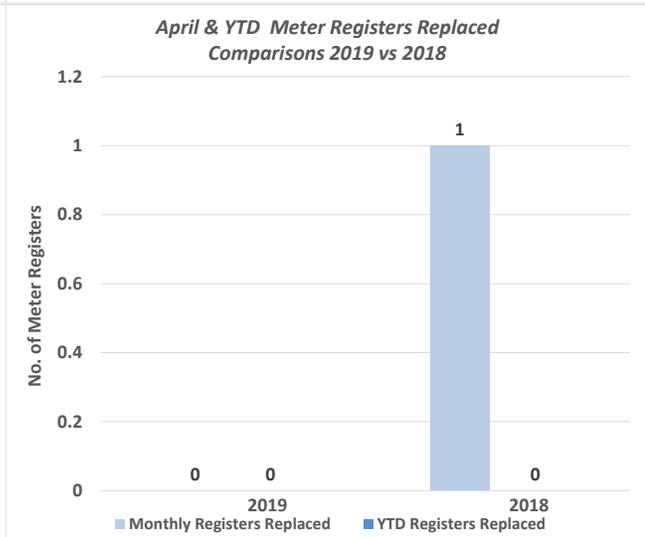
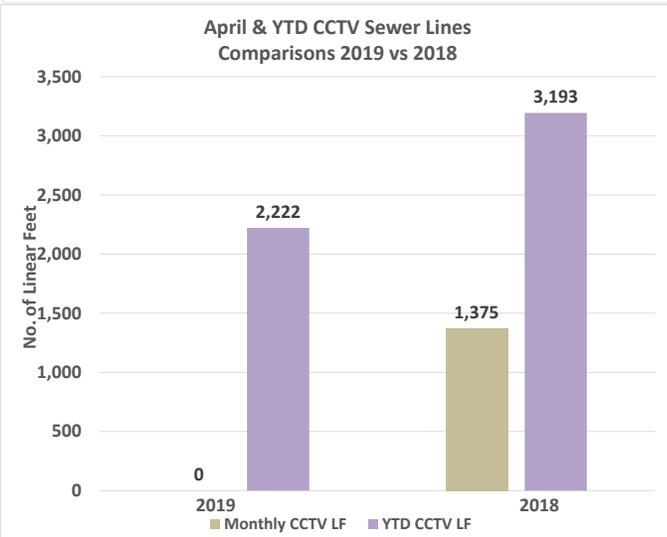
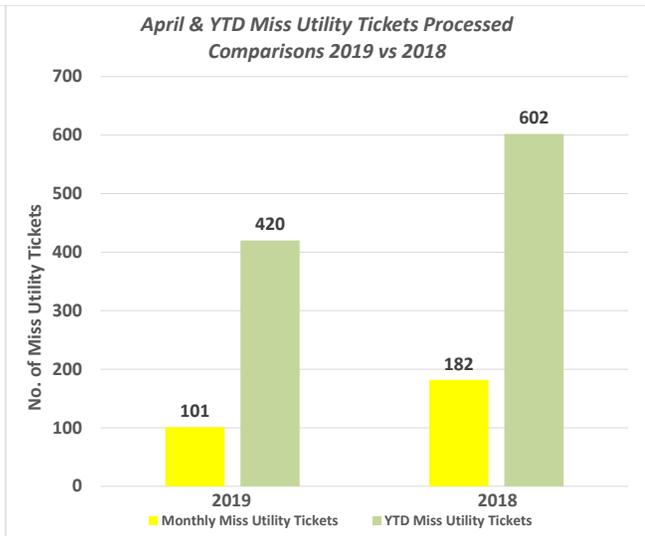
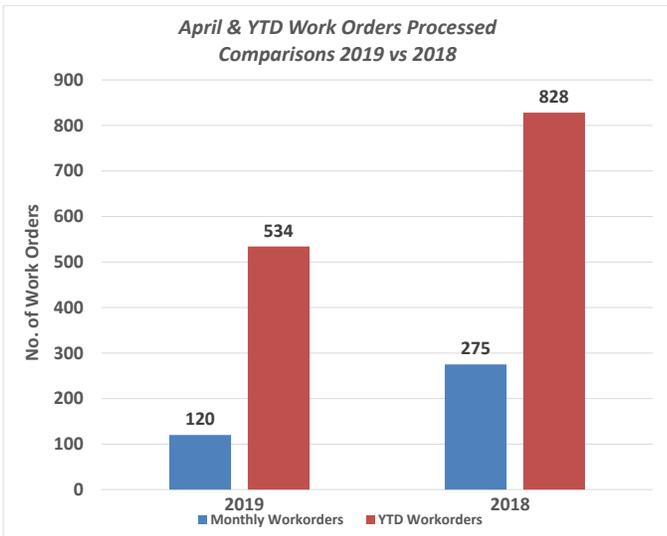
**MAINTENANCE DEPARTMENT  
MONTHLY OPERATIONS REPORT  
FOR THE MONTH OF: OCTOBER 2018  
PREPARED: NOVEMBER 2018**

| MEASURE                            | MONTH  | UNITS   | FY YTD  | UNITS   |
|------------------------------------|--------|---------|---------|---------|
| WORK ORDERS (W.O.) PROCESSED       | 275    |         | 828     | #       |
| STAFF HOURS REQUIRED FOR W.O.      | 284.25 | HRS.    | 1786.55 | HRS.    |
| NON-CORE DUTIES HOURS              | 23.5   | HRS.    | 405.5   | HRS.    |
| CD. MAN HOURS REQUIRED FOR WO      | 260.75 | HRS.    | 1160.5  | HRS.    |
| PM FIRE HYDRANTS                   | 56     |         | 69      |         |
| FIRE HYDRANT REPAIR                | 0      |         | 0       |         |
| PM VALVE EXERCISED                 | 31     |         | 191     |         |
| MANHOLE INSPECTIONS                | 54     |         | 133     |         |
| CCTV SEWER LINE                    | 1,375  | L. FT.  | 3,193   | L. FT.  |
| SEWER LINE CLEANED                 | 0      | L. FT.  | 229     | L. FT.  |
| SL RAT INSPECTIONS                 | 9,507  |         | 29,885  | L. FT.  |
| VEHICLES SERVICED/REPAIRED         | 9      |         | 30      |         |
| # OF WATER BREAKS                  | 0      |         | 0       |         |
| # OF SEWER BACKUPS                 | 0      |         | 0       |         |
| # OF CLEANOUTS INSTALLED           | 0      |         | 0       |         |
| # OF MISS UTILITY TICKETS          | 182    |         | 602     |         |
| # OF METERS READ                   | 29     |         | 134     |         |
| # OF METERS SHUT OFF               | 0      |         | 17      |         |
| # OF METERS TURNED ON              | 1      |         | 19      |         |
| # OF REPLACED METERS               | 1      |         | 3       |         |
| # OF REPLACED REGISTERS            | 0      |         | 0       |         |
| # OF NEW ACC. METER INSTALLS       | 14     |         | 40      |         |
| # OF LEAK CHECKS                   | 7      |         | 90      |         |
| # OF REPLACED MIUs (Radios)        | 53     |         | 104     |         |
| CUSTOMER COMPLAINTS                | 0      |         | 11      |         |
| WATER COMPLAINTS REC'D             | 0      |         | 0       |         |
| WATER COMPLAINTS RESOLVED          | 100    |         | 100     |         |
| WASTEWATER COMPLAINTS REC'D        | 0      |         | 0       |         |
| WASTEWATER COMPLAINTS RES'D        | 100    |         | 100     |         |
| BULK WATER GALLONS AT NEW RATE     | 0      | Gallons | 0       | Gallons |
| BULK WATER SALES-(rate \$15.18per) | \$0.00 |         | \$0.00  |         |

**ACCOMPLISHMENTS**

Repaired road at Cooper Springs  
 Cleaned drying beds at Water Treatment Facility  
 Completed snow equipment dry run  
 Planted trees at Village Case

**Maintenance Department  
2019 vs 2018 Comparisons**



**WATER TREATMENT PLANT  
MONTHLY OPERATIONS REPORT  
FOR THE MONTH OF: OCTOBER 2019  
PREPARED: NOVEMBER 2019**

| WATER                                  | MONTH             | UNITS        | AVG./DAY         | UNITS        |
|----------------------------------------|-------------------|--------------|------------------|--------------|
| ALUMINUM SULFATE                       | 1,105.9           | lbs.         | 35.7             | lbs.         |
| POLYMER                                |                   |              |                  |              |
| METAPHOSPHATE                          | 220.5             | lbs.         | 7.1              | lbs.         |
| SODA ASH                               | 1,335.6           | lbs.         | 43.1             | lbs.         |
| FLUORIDE (WTP & WELLS)                 | 180.7             | lbs.         | 5.8              | lbs.         |
| POTASSIUM PERMANGANATE                 | 27.1              | lbs.         | 0.9              | lbs.         |
| CHLORINE (HYPOCHLORITE @ WTP)          | 301.9             | lbs.         | 9.7              | lbs.         |
| CHLORINE RESIDUAL (TANK)               |                   |              | 2.0              | mg/L         |
| AVERAGE PH (FINISHED)                  |                   |              | 7.5              | SU           |
| BULK WATER SALES                       | 0                 | gals.        | 0.0              | gals.        |
| INLINE METER, COOPER SPRINGS           | 4,265,318         | gals.        | 137,590.9        | gals.        |
| JEFFERIES WELL                         | 514,800           | gals.        | 16,606.5         | gals.        |
| WATER PLANT GALLONS                    | 8,268,100         | gals.        | 266,712.9        | gals.        |
| MARSH WELL                             | 1,944,700         | gals.        | 62,732.3         | gals.        |
| MOUNTAIN VIEW WELL                     | 582,051           | gals.        | 18,775.8         | gals.        |
| MAIN STREET VILLAGES WELLS (MS-1 & VC) | 3,210,529         | gals.        | 103,565.5        | gals.        |
| CORNWELL #2 WELL                       | 1,653,670         | gals.        | 53,344.2         | gals.        |
| FORBES WELL                            | 1,394,153         | gals.        | 44,972.7         | gals.        |
| HIRST #2 WELL                          | 0                 | gals.        | 0.0              | gals.        |
| <b>TOTAL WATER FLOW</b>                | <b>17,053,203</b> | <b>gals.</b> | <b>550,103.3</b> | <b>gals.</b> |

| RESERVOIR LEVELS: | 1-Oct-2019 | 31-Oct-2019 |
|-------------------|------------|-------------|
| FRONT LAKE:       | 4.68'      | 4.80'       |
| BACK LAKE         | 3.38'      | 3.82'       |
| RAINFALL:         | 4.25"      |             |

**ACCOMPLISHMENTS**

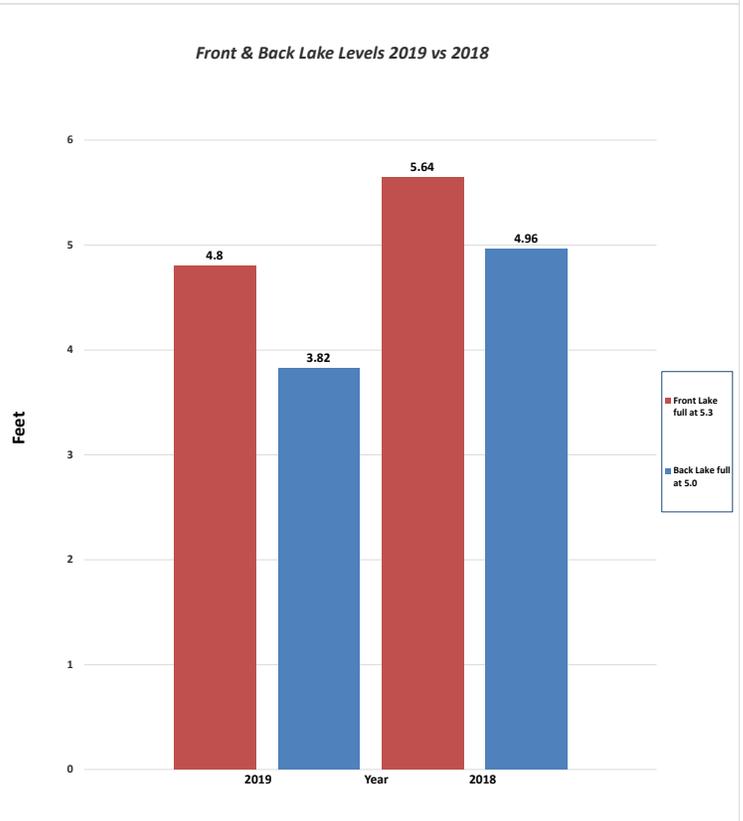
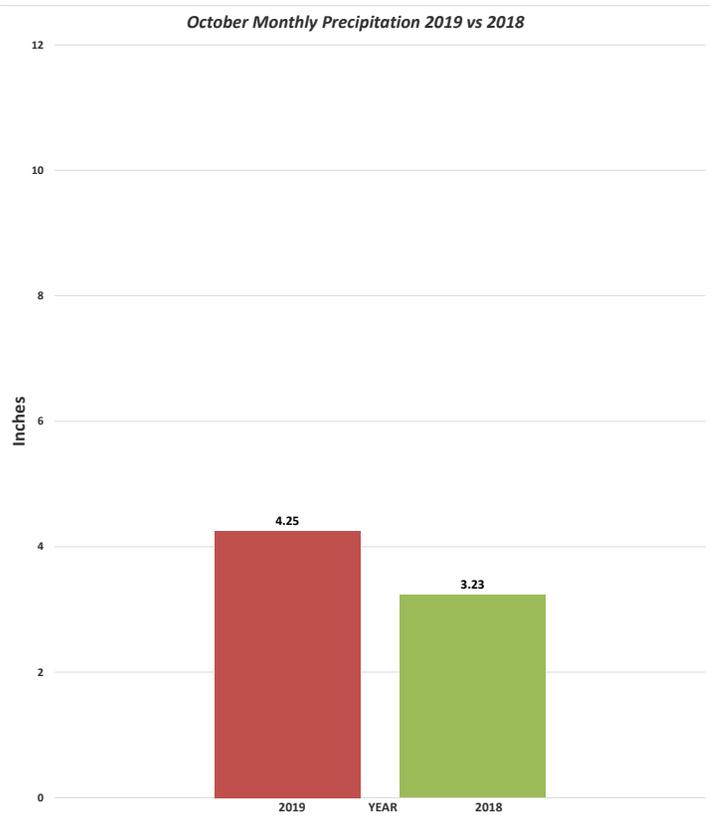
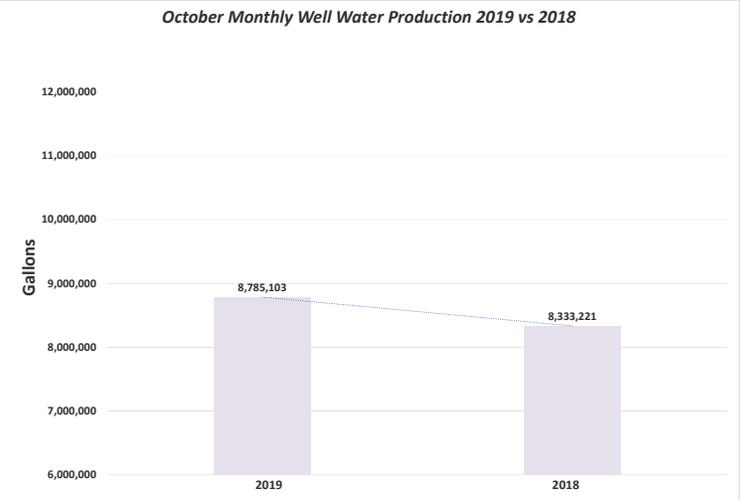
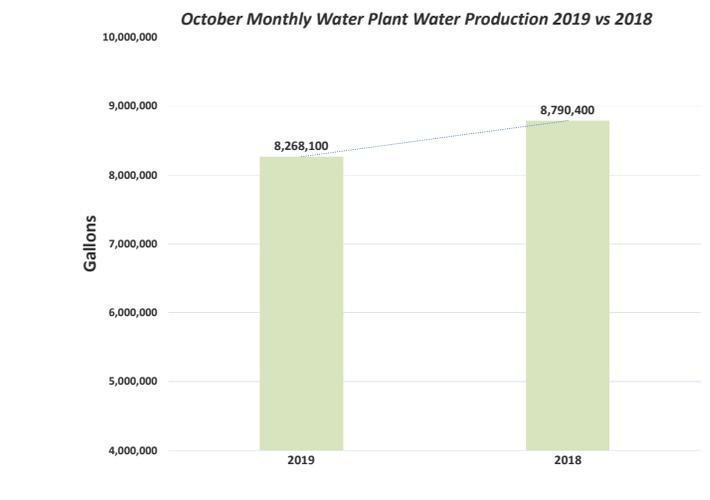
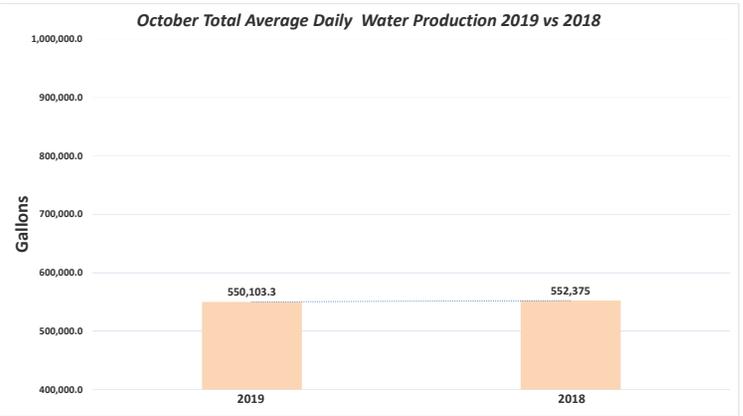
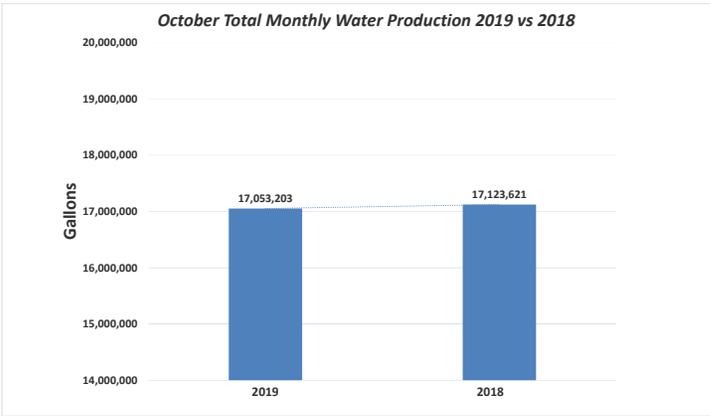
NPDES Discharge Monitoring Report due 10/10 was mailed on 10/02/19.  
VDH ODW Monthly Operating Report due 11/10 was submitted electronically on 11/08/2019.  
Four Weekly Water Production Reports were completed.

**WATER TREATMENT PLANT  
MONTHLY OPERATIONS REPORT  
FOR THE MONTH OF: OCTOBER 2018  
PREPARED: NOVEMBER 2018**

| WATER                                  | MONTH             | UNITS        | AVG./DAY       | UNITS        |
|----------------------------------------|-------------------|--------------|----------------|--------------|
| ALUMINUM SULFATE                       | 1,158.0           | lbs.         | 37.4           | lbs.         |
| POLYMER                                |                   |              |                |              |
| METAPHOSPHATE                          | 248.5             | lbs.         | 8.0            | lbs.         |
| SODA ASH                               | 1,747.0           | lbs.         | 56.4           | lbs.         |
| FLUORIDE (WTP & WELLS)                 | 165.4             | lbs.         | 5.3            | lbs.         |
| POTASSIUM PERMANGANATE                 | 23.0              | lbs.         | 0.7            | lbs.         |
| CHLORINE (HYPOCHLORITE @ WTP)          | 273.8             | lbs.         | 8.8            | lbs.         |
| CHLORINE RESIDUAL (TANK)               |                   |              | 1.7            | mg/L         |
| AVERAGE PH (FINISHED)                  |                   |              | 7.7            | SU           |
| BULK WATER SALES                       | -                 | gals.        | 0              | gals.        |
| INLINE METER, COOPER SPRINGS           | 4,465,409         | gals.        | 144,045        | gals.        |
| JEFFERIES WELL                         | 0                 | gals.        | 0              | gals.        |
| WATER PLANT GALLONS                    | 8,790,400         | gals.        | 283,561        | gals.        |
| MARSH WELL                             | 1,918,400         | gals.        | 61,884         | gals.        |
| MOUNTAIN VIEW WELL                     | 723,800           | gals.        | 23,348         | gals.        |
| MAIN STREET VILLAGES WELLS (MS-1 & VC) | 2,802,211         | gals.        | 90,394         | gals.        |
| CORNWELL #2 WELL                       | 1,905,815         | gals.        | 61,478         | gals.        |
| FORBES WELL                            | 982,995           | gals.        | 31,710         | gals.        |
| HIRST #2 WELL                          | 0                 | gals.        | 0              | gals.        |
| <b>TOTAL WATER FLOW</b>                | <b>17,123,621</b> | <b>gals.</b> | <b>552,375</b> | <b>gals.</b> |

| RESERVOIR LEVELS: | 1-Oct-2018 | 31-Oct-2018 |
|-------------------|------------|-------------|
| FRONT LAKE:       | 5.6'       | 5.64'       |
| BACK LAKE         | 5.2'       | 4.96'       |
| RAINFALL:         | 3.23"      |             |

**Water Well Production Facilities  
October 2019 vs 2018 Comparisons**



**WATER RECLAMATION FACILITY  
MONTHLY OPERATIONS REPORT  
FOR THE MONTH OF: Octoberber 2019  
PREPARED: November 2019**

**WATER RECLAMATION FACILITY  
MONTHLY OPERATIONS REPORT  
FOR THE MONTH OF: October 2018  
PREPARED: November 2018**

| MEASURE              | MONTH          | AVG./DAY    |
|----------------------|----------------|-------------|
| INFLUENT FLOW        | 13,429,400 GAL | 447,600 GAL |
| EFFLUENT FLOW        | 14,283,900 GAL | 476,100 GAL |
| MAXIMUM DAY INFLUENT | 1,009,300 GAL  |             |
| FERRIC CHLORIDE      | 2,800 GAL      | 89 GAL      |
| CITRIC ACID          | 358 GAL        | 72 GAL      |
| SODIUM HYPOCHLORITE  | 485 GAL        | 69 GAL      |
| METHANOL             | 885 GAL        | 29 GAL      |
| RAIN                 | 6.05 IN.       | 0.20 IN.    |

| MEASURE              | MONTH          | AVG./DAY    |
|----------------------|----------------|-------------|
| INFLUENT FLOW        | 17,185,700 GAL | 554,400 GAL |
| EFFLUENT FLOW        | 17,614,400 GAL | 568,200 GAL |
| MAXIMUM DAY INFLUENT | 778,600 GAL    |             |
| FERRIC CHLORIDE      | 2,479 GAL      | 80 GAL      |
| CITRIC ACID          | 287 GAL        | 72 GAL      |
| SODIUM HYPOCHLORITE  | 455 GAL        | 65 GAL      |
| METHANOL             | 1,062 GAL      | 34 GAL      |
| RAIN                 | 3.00 IN.       | 0.10 IN.    |

**MONTHLY TOTAL NUTRIENT DISCHARGE**

|                        |      |      |
|------------------------|------|------|
| TOTAL NITROGEN         | 30   | LBS. |
| TOTAL NITROGEN YTD     | 663  | LBS. |
| AVG. DAILY NITROGEN    | 0.24 | MG/L |
| VPDES NITROGEN LIMIT   | 4.0  | MG/L |
| TOTAL PHOSPHORUS       | 21   | LBS. |
| TOTAL PHOSPHORUS YTD   | 306  | LBS. |
| AVG. PHOSPHORUS DAILY  | 0.17 | MG/L |
| VPDES PHOSPHORUS LIMIT | 0.3  | MG/L |

**MONTHLY TOTAL NUTRIENT DISCHARGE**

|                        |       |      |
|------------------------|-------|------|
| TOTAL NITROGEN         | 144   | LBS. |
| TOTAL NITROGEN YTD     | 1,201 | LBS. |
| AVG. DAILY NITROGEN    | 0.96  | MG/L |
| VPDES NITROGEN LIMIT   | 4.0   | MG/L |
| TOTAL PHOSPHORUS       | 24    | LBS. |
| TOTAL PHOSPHORUS YTD   | 288   | LBS. |
| AVG. PHOSPHORUS DAILY  | 0.16  | MG/L |
| VPDES PHOSPHORUS LIMIT | 0.3   | MG/L |

**ACCOMPLISHMENTS**

All Staff received training on (EMS) Facility Waste management,  
(Plant Process)Methanol Feed System, (Safety) Vehicle Safety, (LAB)Pipetting, Temperature Correction Factors  
Planned WWTF Preventive Maintenance YTD 76 Pieces out of 98 Scheduled per Year  
7 planned maintenance activities on equipment and buildings, vehicles 4 and 4 planned maintenance activities on pump stations.  
72 wet tons of bio-solids was loaded and hauled for land application.  
Submitted VDEQ discharge monitoring report, Virginia's nutrient report .  
Annual VDEQ required Toxic Management Program Samples were pulled and set off for analysis

NIA

No information available at this time.

## Basham Simms Water Reclamation Facility 2019 vs 2018 Comparisons

