



# Town of Friday Harbor Water, Wastewater, and Solid Waste Utilities Summary Reports

[www.fridayharbor.org](http://www.fridayharbor.org)

**Period ending: November 2019**

Data provided by  
Wayne Haefele, PE, Public Works Director  
Water Utility, Mike Deegan, Water System Mgr.  
Frank Byrne, Water Treatment Plant Operator  
Wastewater Utility, Don Reitan, Leadman  
Solid Waste Utility, Dave Smith, Leadman

Analysis & Reports prepared by  
Mike Greene, System Administrator

**Finish Water Flow to Town**  
source: Water Treatment Facility Monthly Report

Revised reporting period: per K. Anderson 03/06/17  
to reflect meter reading dates (?).  
Start/End dates may change monthly.

31 :count of days in reporting period.

| October 15, 2019 |                   | November 14, 2019 |                   |
|------------------|-------------------|-------------------|-------------------|
| day              | flow (total flow) | day               | flow (total flow) |
| 15               | 276               | 1                 | 249               |
| 16               | 245               | 2                 | 258               |
| 17               | 252               | 3                 | 230               |
| 18               | 248               | 4                 | 213               |
| 19               | 265               | 5                 | 300               |
| 20               | 290               | 6                 | 250               |
| 21               | 210               | 7                 | 199               |
| 22               | 242               | 8                 | 265               |
| 23               | 284               | 9                 | 268               |
| 24               | 222               | 10                | 232               |
| 25               | 230               | 11                | 271               |
| 26               | 247               | 12                | 235               |
| 27               | 305               | 13                | 225               |
| 28               | 205               | 14                | 242               |
| 29               | 240               | 15                |                   |
| 30               | 257               | 16                |                   |
| 31               | 253               |                   |                   |

|   |   |
|---|---|
| <u>days</u><br>17 <span style="float: right;">4271</span>                                       | <u>days</u><br>14 <span style="float: right;">3437</span> |
| <hr style="border-top: 3px double #000;"/> TOTAL DAYS <span style="float: right;">31</span>     |   |
| TOTAL FLOW <span style="float: right;"> <hr style="border-top: 3px double #000;"/> 7708 </span> |   |
| 1,000's gallons   |   |

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**Water - use MTD**sourceDate  
10 / 2019  
11 / 2019

Spe=Special, Sfr=Single Family Residential, P.A= Public Authority, Mfr=Multi-family, Ind=Industrial, Com=Commerc

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| <b>Water Class</b> | <b>Accounts</b> | <b>Gallons</b>   |
|--------------------|-----------------|------------------|
| Spe                | 3               | 33,727           |
| Sfr                | 988             | 2,537,410        |
| PA                 | 76              | 989,960          |
| Mfr                | 126             | 1,693,090        |
| Ind                | 14              | 104,840          |
| Com                | 221             | 1,516,500        |
| <b>TOTAL</b>       | <b>1,428</b>    | <b>6,875,527</b> |

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**Water use MTD - accounts with sewer**sourceDate  
10 / 2019  
11 / 2019

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| <b>Sewer Class</b>   | <b>Accounts</b> | <b>Gallons</b>  |
|----------------------|-----------------|-----------------|
| <b>Location: IN</b>  |                 |                 |
| Mfr In/low Strength  | 55              | 494,150         |
| Com In/lo Strength   | 161             | 747,830         |
| Dot In/lo Strength   | 3               | 33,530          |
| Ind In/hi Strength   | 1               | 36,570          |
| Ind In/lo Strength   | 10              | 57,250          |
| Lmf In/lo Strength   | 1               | 2,540           |
| Com In/hi Strength   | 44              | 623,930         |
| Mfr In/lo Strength   | 61              | 641,540         |
| Mhp In/lo Strength   | 2               | 358,900         |
| PA In/hi Strength    | 3               | 65,640          |
| PA In/lo Strength    | 42              | 377,130         |
| Sfr IN Town          | 617             | 1,699,490       |
| Low Rate / IN Town   | 4               | 4,860           |
|                      | <hr/> 1004      | <hr/> 5,143,360 |
| <b>Location: Out</b> |                 |                 |
| UW Out/hi Strength   | 1               | 420,200         |
| Mfr Out/lo Strength  | 1               | 7,100           |
| Sfr Out of Town      | 4               | 7,470           |
|                      | <hr/> 6         | <hr/> 434,770   |

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| Sewer Class | Accounts | Gallons   |
|-------------|----------|-----------|
| TOTAL       | 1010     | 5,578,130 |

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**Water - use MTD by Location**sourceDate  
10 / 2019  
11 / 2019

Spe=Special, Sfr=Single Family Residential, P.A= Public Authority, Mfr=Multi-family, Ind=Industrial, Com=Commerc

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| <b>Water Class</b>   | <b>Accounts</b> | <b>Gallons</b>   |
|----------------------|-----------------|------------------|
| <b>Location: IN</b>  |                 |                  |
| Spe                  | 3               | 33,727           |
| Sfr                  | 635             | 1,714,450        |
| PA                   | 68              | 550,820          |
| Mfr                  | 121             | 1,548,420        |
| Ind                  | 13              | 101,360          |
| Com                  | 217             | 1,410,110        |
|                      | <hr/>           |                  |
|                      | 1,057           | 5,358,887        |
| <b>Location: Out</b> |                 |                  |
| Sfr                  | 353             | 822,960          |
| PA                   | 8               | 439,140          |
| Mfr                  | 5               | 144,670          |
| Ind                  | 1               | 3,480            |
| Com                  | 4               | 106,390          |
|                      | <hr/>           |                  |
|                      | 371             | 1,516,640        |
| <b>TOTAL</b>         | <b>1,428</b>    | <b>6,875,527</b> |

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**Refuse - pickups by Class**sourceDate  
10 / 2019  
11 / 2019

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| Location | Class        | Pickups        |
|----------|--------------|----------------|
| IN       | Sfr          | 1,763.0        |
|          | RefuseOnly   | 243.5          |
|          | PA           | 213.5          |
|          | Mfr          | 451.5          |
|          | Ind          | 15.5           |
|          | Com          | 1,933.5        |
|          |              | <hr/> 4,620.5  |
| Out      | Mfr          | 1.5            |
|          |              | <hr/> 1.5      |
|          | <b>TOTAL</b> | <b>4,622.0</b> |

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**Refuse - active accounts**sourceDate  
10 / 2019  
11 / 2019

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| <b>Location</b> | <b>Refuse Type</b> | <b>Accounts</b> |
|-----------------|--------------------|-----------------|
| IN              |                    |                 |
|                 | Small Dumpster     | 46              |
|                 | PA                 | 39              |
|                 | Medium Dumpste     | 54              |
|                 | Large Dumpster     | 61              |
|                 | Compactors         | 3               |
|                 | Cans Low Rate      | 4               |
|                 | Cans               | 834             |
|                 |                    | <hr/>           |
|                 |                    | 1,041           |
| Out             |                    |                 |
|                 | Large Dumpster     | 1               |
|                 |                    | <hr/>           |
|                 |                    | 1               |
|                 | <b>TOTAL</b>       | <b>1,042</b>    |

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**Recycle - pickups by Class**sourceDate  
10 / 2019  
11 / 2019

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| Location | Class        | Pickups    |
|----------|--------------|------------|
| IN       | Sfr          | 616        |
|          | RefuseOnly   | 15         |
|          | PA           | 0          |
|          | Mfr          | 45         |
|          | Ind          | 2          |
|          | Com          | 9          |
|          |              | <hr/> 687  |
| Out      | Mfr          | 0          |
|          |              | <hr/> 0    |
|          | <b>TOTAL</b> | <b>687</b> |

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TOWN OF FRIDAY HARBOR

## Flow to Town (Gross Water Production) 2019

Revised reporting period: per K. Anderson 03/06/17  
to reflect meter reading dates (?).

| Reporting (meter reading) period                                |           |        | days in<br>period | Gross<br>flow to Town | Flow to Town<br>(millions) |
|---|-----------|--------|-------------------|-----------------------|----------------------------|
| <i>from WTP Chem. Wts. &amp;<br/>Finish Flow to Town Report</i> | <i>to</i> |        |                   |                       |                            |
| 17-Dec  | <i>to</i> | 14-Jan | 29                | 6,982,000             | 6,982                      |
| 15-Jan  | <i>to</i> | 14-Feb | 31                | 7,865,000             | 7,865                      |
| 15-Feb  | <i>to</i> | 14-Mar | 28                | 7,468,000             | 7,468                      |
| 15-Mar  | <i>to</i> | 14-Apr | 31                | 8,604,000             | 8,604                      |
| 15-Apr  | <i>to</i> | 14-May | 30                | 9,522,000             | 9,522                      |
| 15-May  | <i>to</i> | 16-Jun | 33                | 12,495,000            | 12,495                     |
| 17-Jun  | <i>to</i> | 14-Jul | 28                | 12,159,000            | 12,159                     |
| 15-Jul  | <i>to</i> | 14-Aug | 31                | 13,977,000            | 13,977                     |
| 15-Aug  | <i>to</i> | 15-Sep | 32                | 12,723,000            | 12,723                     |
| 16-Sep  | <i>to</i> | 14-Oct | 29                | 8,868,000             | 8,868                      |
| 15-Oct  | <i>to</i> | 14-Nov | 31                | 7,708,000             | 7,708                      |
|   | <i>to</i> |        | 0                 | 0                     |                            |
|   |           |        | 333               | 108,371,000           | 108371.0                   |

# Net Water Production - 2019

amounts in gallons

|  | Jan               | Feb               | Mar               | Apr              | May              | Jun               |
|--|-------------------|-------------------|-------------------|------------------|------------------|-------------------|
| Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report | 6,982,000         | 7,865,000         | 7,468,000         | 8,604,000        | 9,522,000        | 12,495,000        |
| 3% meter loss  | 164,951           | 197,550           | 159,994           | 208,847          | 234,165          | 334,827           |
| Flushing   | 308,800           | 309,700           | 341,200           | 245,100          | 183,500          | 144,000           |
| SJC#3 FD use   | 5,000             | 5,000             | 5,000             | 5,000            | 5,000            | 35,900            |
| Leaks  | 216,000           | 316,000           | 226,000           | 432,000          | 432,000          | 352,400           |
| notes  |                   |                   |                   |                  |                  |                   |
| other non-metered use  |                   |                   |                   |                  |                  |                   |
| notes  |                   |                   |                   |                  |                  |                   |
| Additional water in storage  |                   |                   |                   |                  |                  |                   |
| notes  |                   |                   |                   |                  |                  |                   |
| Total other uses   | -694,751          | -828,250          | -732,194          | -890,947         | -854,666         | -867,127          |
| <b>Net production</b>  | <b>6,287,249</b>  | <b>7,036,750</b>  | <b>6,735,806</b>  | <b>7,713,053</b> | <b>8,667,335</b> | <b>11,627,873</b> |
|  | Jul               | Aug               | Sep               | Oct              | Nov              | Dec               |
| Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report | 12,159,000        | 13,977,000        | 12,723,000        | 8,868,000        | 7,708,000        | 0                 |
| 3% meter loss  | 340,444           | 395,959           | 348,663           | 229,403          | 206,266          | 0                 |
| Flushing   | 201,600           | 180,000           | 108,000           | 275,900          | 108,000          |                   |
| SJC#3 FD use   | 5,000             | 5,000             | 5,000             | 5,000            | 5,000            |                   |
| Leaks  | 226,800           | 86,400            | 86,400            | 258,400          | 86,400           |                   |
| notes  |                   |                   |                   |                  |                  |                   |
| other non-metered use  |                   |                   |                   |                  |                  |                   |
| notes  |                   |                   |                   |                  |                  |                   |
| Total other uses   | -773,844          | -667,359          | -548,063          | -768,703         | -405,666         | 0                 |
| <b>Net production</b>  | <b>11,385,156</b> | <b>13,309,641</b> | <b>12,174,937</b> | <b>8,099,297</b> | <b>7,302,334</b> | <b>0</b>          |

TOWN OF FRIDAY HARBOR

# Water Consumption & Production

Revised meter loss reporting begin 07/09 (per Robert Krebs, Evergreen Rural Water Assoc.)

| Period             | USE<br>(consumption) | Cumulative<br>Use YTD | Flow<br>(production)                   | Unaccounted<br>over / (under) | Cumulative<br>Flow YTD | Average<br>Daily Flow                      |                      |
|--------------------|----------------------|-----------------------|--|-------------------------------|------------------------|--|----------------------|
| <b>2017</b>        |                      |                       |  |                               |                        |  |                      |
| <i>gallons</i>     | Jan-17               | 8,403,985             | 8,484,000                              | -80,015                       |                        | 273,677                                    |                      |
|                    | Feb-17               | 6,321,628             | 14,725,613                             | -770,372                      | 15,576,000             | 253,286                                    |                      |
|                    | Mar-17               | 6,110,787             | 20,836,401                             | -688,213                      | 22,375,000             | 219,323                                    |                      |
|                    | Apr-17               | 8,344,725             | 29,181,126                             | -1,394,275                    | 32,114,000             | 324,633                                    |                      |
|                    | May-17               | 7,085,245             | 36,266,371                             | 672,245                       | 38,527,000             | 206,871                                    |                      |
|                    | Jun-17               | 10,048,456            | 46,314,827                             | -256,544                      | 48,832,000             | 343,500                                    |                      |
|                    | Jul-17               | 14,681,313            | 60,996,140                             | -353,687                      | 63,867,000             | 485,000                                    | YTD                  |
|                    | Aug-17               | 13,661,250            | 74,657,390                             | -1,147,750                    | 78,676,000             | 477,710                                    | Unaccounted          |
|                    | Sep-17               | 14,093,015            | 88,750,405                             | -874,985                      | 93,644,000             | 498,933                                    | as % of Flow         |
| Average            | Oct-17               | 7,823,149             | 96,573,554                             | -216,851                      | 101,684,000            | 259,355                                    | 5.10%                |
| Monthly Use        | Nov-17               | 6,680,806             | 103,254,360                            | -592,194                      | 108,957,000            | 242,433                                    |                      |
| 9,176,124          | Dec-17               | 6,859,133             | 110,113,492                            | -211,867                      | 116,028,000            | 228,097                                    | -5,914,508           |
| <b>YEAR TOTAL:</b> | 12                   | 110,628,322           | Cumulative<br>Metered/Other<br>Use YTD | 116,028,000                   | -5,914,508             | Cumulative<br>Unaccounted<br>3% meter loss | 317,735<br>2,915,731 |
| <b>2018</b>        |                      |                       |  |                               |                        |  |                      |
| <i>gallons</i>     | Jan-18               | 6,473,834             | 7,347,000                              | -873,166                      |                        | 237,000                                    |                      |
|                    | Feb-18               | 6,318,823             | 12,792,658                             | -735,177                      | 14,401,000             | 251,929                                    |                      |
|                    | Mar-18               | 5,860,732             | 18,653,389                             | -705,268                      | 20,967,000             | 211,806                                    |                      |
|                    | Apr-18               | 7,416,815             | 26,070,204                             | -839,185                      | 29,223,000             | 275,200                                    |                      |
|                    | May-18               | 7,687,108             | 33,757,312                             | -244,892                      | 37,155,000             | 255,871                                    |                      |
|                    | Jun-18               | 11,419,190            | 45,176,502                             | -519,810                      | 49,094,000             | 397,967                                    |                      |
|                    | Jul-18               | 13,151,864            | 58,328,366                             | -1,029,136                    | 63,275,000             | 457,452                                    | YTD                  |
|                    | Aug-18               | 14,508,241            | 72,836,607                             | -855,759                      | 78,639,000             | 495,613                                    | Unaccounted          |
|                    | Sep-18               | 12,454,526            | 85,291,133                             | -1,314,474                    | 92,408,000             | 458,967                                    | as % of Flow         |
| Average            | Oct-18               | 8,624,468             | 93,915,601                             | -551,532                      | 101,584,000            | 296,000                                    | 8.25%                |
| Monthly Use        | Nov-18               | 7,401,706             | 101,317,307                            | -920,294                      | 109,906,000            | 277,400                                    |                      |
| 9,031,729          | Dec-18               | 7,063,439             | 108,380,746                            | -1,161,561                    | 118,131,000            | 265,323                                    | -9,750,254           |
| <b>YEAR TOTAL:</b> | 12                   | 108,380,746           | Cumulative<br>Metered/Other<br>Use YTD | 118,131,000                   | -9,750,254             | Cumulative<br>Unaccounted<br>3% meter loss | 323,377<br>2,989,222 |
| <b>2019</b>        |                      |                       |  |                               |                        |  |                      |
| <i>gallons</i>     | Jan-19               | 6,193,133             | 6,982,000                              | -788,867                      |                        | 225,226                                    |                      |
|                    | Feb-19               | 7,413,239             | 13,606,372                             | -451,761                      | 14,847,000             | 280,893                                    |                      |
|                    | Mar-19               | 6,065,311             | 19,671,683                             | -1,402,689                    | 22,315,000             | 240,903                                    |                      |
|                    | Apr-19               | 7,852,517             | 27,524,200                             | -751,483                      | 30,919,000             | 286,800                                    |                      |
|                    | May-19               | 8,660,158             | 36,184,358                             | -861,842                      | 40,441,000             | 307,161                                    |                      |
|                    | Jun-19               | 12,028,022            | 48,212,379                             | -466,978                      | 52,936,000             | 416,500                                    |                      |
|                    | Jul-19               | 12,121,969            | 60,334,348                             | -37,031                       | 65,095,000             | 392,226                                    | YTD                  |
|                    | Aug-19               | 13,865,988            | 74,200,336                             | -111,012                      | 79,072,000             | 450,871                                    | Unaccounted          |
|                    | Sep-19               | 12,170,164            | 86,370,500                             | -552,836                      | 91,795,000             | 424,100                                    | as % of Flow         |
| Average            | Oct-19               | 8,415,461             | 94,785,961                             | -452,539                      | 100,663,000            | 286,065                                    | 5.82%                |
| Monthly Use        | Nov-19               | 7,281,193             | 102,067,154                            | -426,807                      | 108,371,000            | 256,933                                    |                      |
| 9,278,832          | Dec-19               | 0                     | 102,067,154                            | 0                             | 108,371,000            | 0  | -6,303,846           |
| <b>YEAR TOTAL:</b> | 11                   | 102,067,154           | Cumulative<br>Metered/Other<br>Use YTD | 108,371,000                   | -6,303,846             | Cumulative<br>Unaccounted<br>3% meter loss | 324,334<br>2,821,068 |

|                         |                             |                              |                       |                                      |
|-------------------------|-----------------------------|------------------------------|-----------------------|--------------------------------------|
| <b>3 YEAR AVERAGES:</b> | Use<br>6,077,014 :gal/month | Flow<br>9,786,571 :gal/month | Daily Flow<br>215,904 | 3 Year Loss<br>as % of Flow<br>6.41% |
|-------------------------|-----------------------------|------------------------------|-----------------------|--------------------------------------|

source: Monthly Water Treatment Plant Report & utility.mdb's      3 yr cumulative flow 342,530,000  
3 yr unaccounted -21,968,608

## Utilization of Sustainable Annual Water System Capacity

Period start: Dec-18

Period end: Nov-19

Sustainable Annual Yield (TFH  
Comprehensive Water System Plan  
Update, June, 2013, page 3-6)

205 million gallons

Annual use - 12 month period  
percent of Sustainable Annual Yield

116.6 million gallons  
56.9%

exceeds Sustainable Yield?

**No**

## Trout Lake Reservoir Level

Months with positive levels may reflect that a removable 7.25 inch riser has been added to the top of the original spillway.

| end of | Inches above/(below) original spillway | end of | Inches above/(below) original spillway | end of | Inches above/(below) original spillway |
|--------|--|--------|--|--------|--|
| Jan-12 | -1.75                                  | Jan-15 | 0.00                                   | Jan-18 | 0.00                                   |
| Feb-12 | 0.00                                   | Feb-15 | 0.00                                   | Feb-18 | 0.00                                   |
| Mar-12 | 0.00                                   | Mar-15 | 0.00                                   | Mar-18 | 8.75                                   |
| Apr-12 | 8.00                                   | Apr-15 | 6.50                                   | Apr-18 | 8.25                                   |
| May-12 | 0.00                                   | May-15 | 0.00                                   | May-18 | 1.50                                   |
| Jun-12 | 7.00                                   | Jun-15 | -13.00                                 | Jun-18 | -10.50                                 |
| Jul-12 | -19.00                                 | Jul-15 | -29.50                                 | Jul-18 | -29.50                                 |
| Aug-12 | -32.75                                 | Aug-15 | -42.25                                 | Aug-18 | -42.00                                 |
| Sep-12 | -45.00                                 | Sep-15 | -49.50                                 | Sep-18 | -50.00                                 |
| Oct-12 | -48.00                                 | Oct-15 | -54.50                                 | Oct-18 | -54.50                                 |
| Nov-12 | -24.25                                 | Nov-15 | -17.25                                 | Nov-18 | -55.50                                 |
| Dec-12 | 0.00                                   | Dec-15 | 0.00                                   | Dec-18 | -26.00                                 |
| Jan-13 | 0.00                                   | Jan-16 | 0.00                                   | Jan-19 | 0.00                                   |
| Feb-13 | 0.00                                   | Feb-16 | 0.00                                   | Feb-19 | 0.00                                   |
| Mar-13 | 0.00                                   | Mar-16 | 0.00                                   | Mar-19 | 2.75                                   |
| Apr-13 | 8.50                                   | Apr-16 | 6.00                                   | Apr-19 | 2.75                                   |
| May-13 | 3.75                                   | May-16 | -2.50                                  | May-19 | -0.75                                  |
| Jun-13 | -3.75                                  | Jun-16 | -11.00                                 | Jun-19 | -16.00                                 |
| Jul-13 | -21.00                                 | Jul-16 | -21.00                                 | Jul-19 | -26.25                                 |
| Aug-13 | -34.25                                 | Aug-16 | -36.50                                 | Aug-19 | -40.00                                 |
| Sep-13 | -39.25                                 | Sep-16 | -49.50                                 | Sep-19 | -46.25                                 |
| Oct-13 | -43.50                                 | Oct-16 | -51.00                                 | Oct-19 | -49.75                                 |
| Nov-13 | -44.75                                 | Nov-16 | -45.50                                 | Nov-19 | -49.75                                 |
| Dec-13 | -26.00                                 | Dec-16 | -10.35                                 | Dec-19 |  |
| Jan-14 | 0.00                                   | Jan-17 | 0.00                                   | Jan-20 |  |
| Feb-14 | 0.00                                   | Feb-17 | 0.00                                   | Feb-20 |  |
| Mar-14 | 0.00                                   | Mar-17 | 2.75                                   | Mar-20 |  |
| Apr-14 | 8.25                                   | Apr-17 | 9.00                                   | Apr-20 |  |
| May-14 | 5.00                                   | May-17 | 4.75                                   | May-20 |  |
| Jun-14 | 7.00                                   | Jun-17 | -4.00                                  | Jun-20 |  |
| Jul-14 | -20.50                                 | Jul-17 | -19.00                                 | Jul-20 |  |
| Aug-14 | -30.25                                 | Aug-17 | -32.00                                 | Aug-20 |  |
| Sep-14 | -42.75                                 | Sep-17 | -43.00                                 | Sep-20 |  |
| Oct-14 | -45.25                                 | Oct-17 | -50.50                                 | Oct-20 |  |
| Nov-14 | -46.50                                 | Nov-17 | -48.00                                 | Nov-20 |  |
| Dec-14 | 0.00                                   | Dec-17 | -11.50                                 | Dec-20 |  |

# Rainfall - Trout Lake Water Treatment Facility

Source: Water Treatment Plant Weather Reports

*all figures in inches*

|       | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | Average<br>(2005-14) |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| JAN   | 5.49  | 6.87  | 6.51  | 2.34  | 3.82  | 4.73  | 5.90  | 3.46  | 4.14  | 2.86  | 4.61                 |
| FEB   | 1.01  | 1.61  | 2.83  | 1.78  | 1.50  | 1.24  | 2.74  | 3.38  | 1.32  | 4.22  | 2.16                 |
| MAR   | 2.33  | 0.91  | 3.70  | 1.99  | 2.05  | 3.30  | 3.37  | 3.09  | 3.63  | 3.88  | 2.83                 |
| APR   | 1.37  | 2.23  | 1.49  | 1.32  | 2.07  | 1.47  | 2.96  | 1.91  | 2.70  | 1.94  | 1.95                 |
| MAY   | 1.08  | 1.24  | 0.78  | 1.26  | 1.69  | 2.09  | 3.07  | 1.09  | 2.20  | 1.05  | 1.56                 |
| JUN   | 1.63  | 0.56  | 1.03  | 1.16  | 0.35  | 1.10  | 0.68  | 2.60  | 0.83  | 0.52  | 1.05                 |
| JUL   | 0.70  | 0.26  | 1.56  | 0.21  | 0.45  | 0.11  | 0.84  | 1.04  | 0.00  | 0.36  | 0.55                 |
| AUG   | 1.60  | 0.03  | 0.64  | 1.88  | 0.81  | 0.72  | 0.29  | 0.00  | 0.95  | 0.49  | 0.74                 |
| SEP   | 0.94  | 1.15  | 0.54  | 0.84  | 1.58  | 4.35  | 0.72  | 0.12  | 5.08  | 1.34  | 1.67                 |
| OCT   | 3.50  | 1.89  | 2.12  | 1.83  | 5.24  | 1.38  | 2.29  | 6.40  | 1.42  | 4.00  | 3.01                 |
| NOV   | 4.28  | 10.43 | 2.32  | 5.15  | 6.76  | 2.94  | 4.50  | 3.32  | 2.49  | 4.00  | 4.62                 |
| DEC   | 2.89  | 3.74  | 4.59  | 3.70  | 1.80  | 6.55  | 1.88  | 4.79  | 2.28  | 3.37  | 3.56                 |
| Total | 26.82 | 30.92 | 28.11 | 23.46 | 28.12 | 29.98 | 29.24 | 31.20 | 27.04 | 28.03 | 28.29                |

Cumulative thru

|     |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DEC | 26.82 | 30.92 | 28.11 | 23.46 | 28.12 | 29.98 | 29.24 | 31.20 | 27.04 | 28.03 |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

*all figures in inches*

|       |       |       |       |       |       |      |      |      |      |      |
|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| JAN   | 2015  | 2016  | 2017  | 2018  | 2019  | 2020 | 2021 | 2022 | 2023 | 2024 |
| FEB   | 3.97  | 2.17  | 1.60  | 5.10  | 3.87  |      |      |      |      |      |
| MAR   | 2.95  | 4.83  | 2.99  | 3.80  | 1.76  |      |      |      |      |      |
| APR   | 3.62  | 2.88  | 3.27  | 1.48  | 0.87  |      |      |      |      |      |
| MAY   | 0.51  | 0.75  | 2.20  | 3.10  | 1.61  |      |      |      |      |      |
| JUN   | 0.30  | 0.48  | 1.61  | 0.07  | 1.29  |      |      |      |      |      |
| JUL   | 0.14  | 1.22  | 0.75  | 0.72  | 0.61  |      |      |      |      |      |
| AUG   | 0.36  | 0.32  | 0.15  | 0.18  | 0.75  |      |      |      |      |      |
| SEP   | 0.94  | 0.11  | 0.11  | 0.01  | 0.84  |      |      |      |      |      |
| OCT   | 1.28  | 1.40  | 0.71  | 1.27  | 2.74  |      |      |      |      |      |
| NOV   | 3.53  | 4.80  | 4.28  | 2.23  | 3.33  |      |      |      |      |      |
| DEC   | 6.19  | 3.47  | 4.32  | 4.32  | 2.1   |      |      |      |      |      |
| Total | 5.26  | 4.02  | 3.83  | 4.26  |       |      |      |      |      |      |
| Total | 29.05 | 26.45 | 25.82 | 26.54 | 19.77 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Cumulative thru

|     |       |       |       |       |       |      |      |      |      |      |
|-----|-------|-------|-------|-------|-------|------|------|------|------|------|
| DEC | 29.05 | 26.45 | 25.82 | 26.54 | 19.77 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|-----|-------|-------|-------|-------|-------|------|------|------|------|------|

# Prevention of Wastewater Facility Overloading

Period start: Nov-18  
 Period end: Oct-19

| INFLUENT BOD LOADING<br>(pounds per day)   | AVG. EFFLUENT FLOW<br>(millions of gallons per day)  | SUSPENDED SOLIDS LOADING<br>(pounds per day)   |
|--|--|--|
| 1,600  | 0.69000  | 1,110  |
| Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month         | Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month         | Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month         |
| 85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1) | 85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1) | 85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1) |
| Month with highest average loading in period   | Month with highest average flow in period  | Month with highest average loading in period   |
| Jan-19   | Jan-19   | Jan-19   |
| Highest average monthly loading in period<br>(pounds per day)                              | Highest average monthly flow in period<br>(millions of gallons per day)                    | Highest average monthly loading in period<br>(pounds per day)                              |
| 559  | 0.4088414  | 488  |
| % of Design Criteria   | % of Design Criteria   | % of Design Criteria   |
| <b>35%</b>   | <b>59%</b>   | <b>44%</b>   |
| exceeds Design Criteria?   | exceeds Design Criteria?   | exceeds Design Criteria?   |
| <b>No</b>  | <b>No</b>  | <b>No</b>  |
| Previous month's loading   | Previous month's flow  | Previous month's loading   |
| 509  | 0.2541   | 319  |
| Following month's loading  | Following month's flow   | Following month's loading  |
| 524  | 0.2799   | 245  |
| exceeds Planning Threshold for 3 consecutive months?                                       | exceeds Planning Threshold for 3 consecutive months?                                       | exceeds Planning Threshold for 3 consecutive months?                                       |
| <b>No</b>  | <b>No</b>  | <b>No</b>  |



## Refuse Pickups - 2019 YTD

| Account Type | SFR             | Refuse Only    | P.A            | MFR            | IND          | COM             | Other       | Total           |
|--------------|-----------------|----------------|----------------|----------------|--------------|-----------------|-------------|-----------------|
| Jan          | 1,327.5         | 196.5          | 148.5          | 353.5          | 18.0         | 1,699.5         |             | 3,743.5         |
| Feb          | 1,387.0         | 182.5          | 152.0          | 367.0          | 21.5         | 1,535.5         | 4.5         | 3,650.0         |
| Mar          | 1,324.0         | 221.0          | 170.0          | 367.0          | 18.0         | 1,767.5         | 4.0         | 3,871.5         |
| Apr          | 1,617.0         | 271.0          | 180.5          | 426.5          | 21.0         | 1,947.0         | 4.0         | 4,467.0         |
| May          | 1,486.0         | 292.5          | 205.5          | 412.0          | 19.0         | 2,178.0         | 6.0         | 4,599.0         |
| Jun          | 2,033.0         | 397.5          | 227.5          | 502.5          | 16.5         | 2,413.5         | 7.0         | 5,597.5         |
| Jul          | 1,827.0         | 420.0          | 192.0          | 454.0          | 16.0         | 2,565.5         | 9.0         | 5,483.5         |
| Aug          | 1,830.0         | 423.5          | 220.5          | 474.5          | 16.5         | 2,812.0         | 10.0        | 5,787.0         |
| Sep          | 1,889.0         | 368.5          | 236.0          | 516.0          | 19.0         | 2,593.0         | 8.5         | 5,630.0         |
| Oct          | 1,534.0         | 276.0          | 212.0          | 418.5          | 17.0         | 2,041.5         | 2.0         | 4,501.0         |
| Nov          | 1,763.0         | 243.5          | 213.5          | 451.5          | 15.5         | 1,933.5         | 1.5         | 4,622.0         |
| Dec          |                 |                |                |                |              |                 |             | 0.0             |
| <b>YTD</b>   | <b>18,017.5</b> | <b>3,292.5</b> | <b>2,158.0</b> | <b>4,743.0</b> | <b>198.0</b> | <b>23,486.5</b> | <b>56.5</b> | <b>51,952.0</b> |

# Refuse Pickups by Month - 2019

