



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

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

**Period ending: Oct 2021**

Data provided by  
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Wastewater Utility, Don Reitan, Leadman  
Solid Waste Utility, Dave Smith, Leadman

Analysis & Reports prepared by  
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**Water - use MTD**

sourceDate
/
10 / 2021

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	2	28,549
Sfr	1012	2,808,869
PA	82	747,990
Mfr	132	1,996,934
Ind	14	151,960
Com	221	1,743,714
<b>TOTAL</b>	<b>1,463</b>	<b>7,478,016</b>

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**Water use MTD - accounts with sewer**sourceDate  
/  
10 / 2021

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Sewer Class	Accounts	Gallons
<b>Location: IN</b>		
Mfr In/low Strength	64	838,196
Com In/lo Strength	164	978,960
Dot In/lo Strength	3	37,080
Ind In/hi Strength	1	62,090
Ind In/lo Strength	10	79,880
Lmf In/lo Strength	1	3,310
Com In/hi Strength	43	710,619
Mfr In/lo Strength	57	522,821
Mhp In/lo Strength	2	413,400
PA In/hi Strength	3	101,620
PA In/lo Strength	46	374,740
Sfr IN Town	636	1,841,181
Low Rate / IN Town	6	8,700
	1036	5,972,597
<b>Location: Out</b>		
UW Out/hi Strength	1	132,700
Mfr Out/lo Strength	1	15,900
Sfr Out of Town	4	15,456
	6	164,056

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Sewer Class	Accounts	Gallons
TOTAL	1042	6,136,653

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# Water - use MTD by Location

sourceDate

/  
10 / 2021

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

Water Class	Accounts	Gallons
<b>Location: IN</b>		
Spe	1	26,092
Sfr	659	1,871,201
PA	73	577,640
Mfr	127	1,867,554
Ind	13	148,650
Com	218	1,734,334
	1,091	6,225,471
<b>Location: Out</b>		
Spe	1	2,457
Sfr	353	937,668
PA	9	170,350
Mfr	5	129,380
Ind	1	3,310
Com	3	9,380
	372	1,252,545
<b>TOTAL</b>	<b>1,463</b>	<b>7,478,016</b>

**Refuse - pickups by Class**

sourceDate  
/  
10 / 2021

Location	Class	Pickups
IN	Sfr	2,266.0
	RefuseOnly	329.0
	PA	163.5
	Mfr	602.5
	Ind	22.0
	Com	3,016.5
		<b>6,399.5</b>
Out	Mfr	3.0
		<b>3.0</b>
<b>TOTAL</b>		<b>6,402.5</b>

**Refuse - active accounts**

sourceDate  
/  
10 / 2021

Location	Refuse Type	Accounts
IN		
	Small Dumpster	42
	PA	42
	Medium Dumpste	56
	Large Dumpster	69
	Compactors	4
	Cans Low Rate	6
	Cans	881
		<hr/> 1,100
Out		
	Large Dumpster	1
		<hr/> 1
	<b>TOTAL</b>	<b>1,101</b>

# Recycle - pickups by Class

sourceDate  
/  
10 / 2021

Location	Class	Pickups
IN	Sfr	818
	RefuseOnly	39
	PA	0
	Mfr	69
	Ind	7
	Com	7
		<b>940</b>
Out	Mfr	0
		<b>0</b>
<b>TOTAL</b>		<b>940</b>

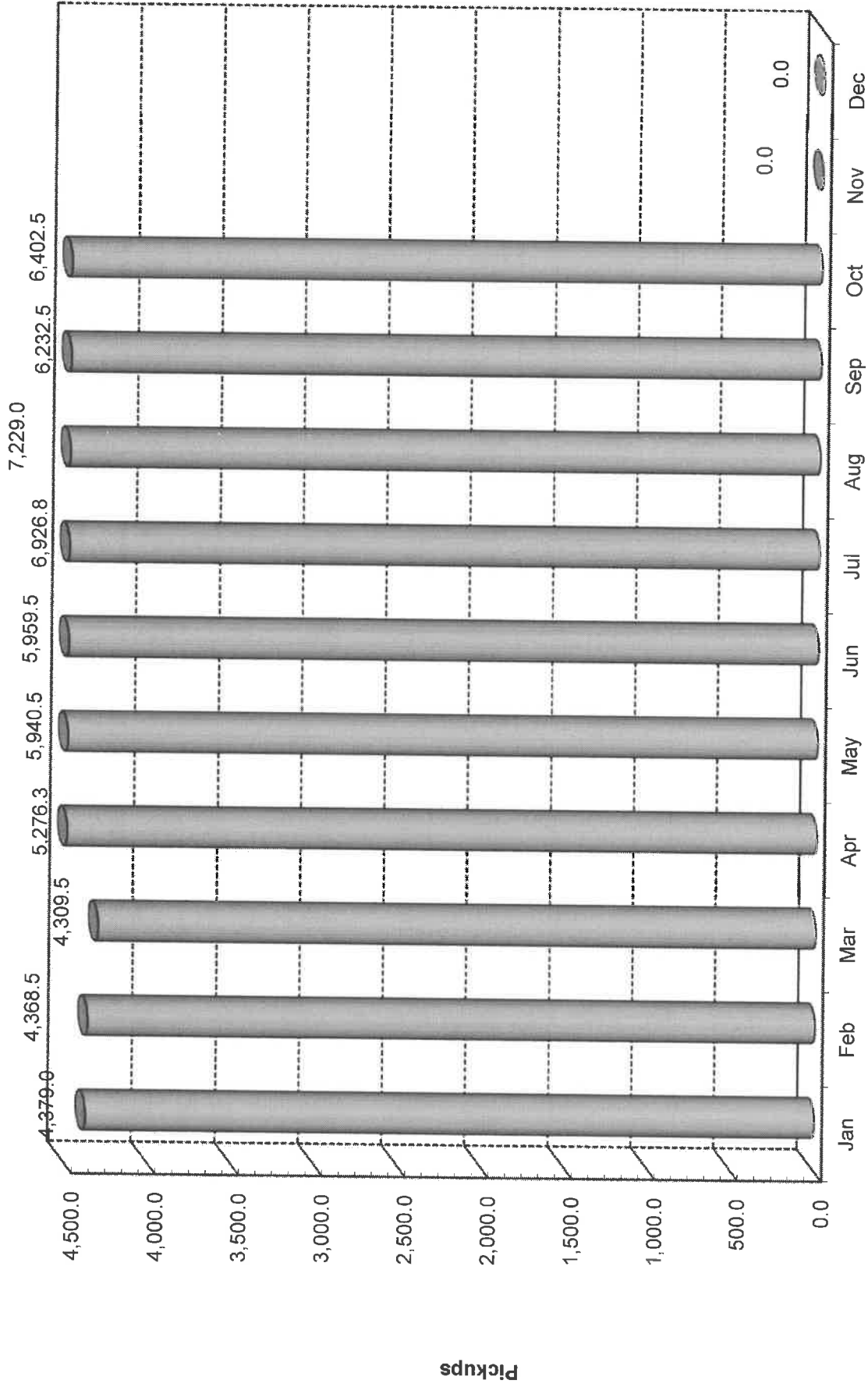


Town of Friday Harbor

## Refuse Pickups - 2021 YTD

Account Type	SFR	Refuse Only	P.A	MFR	IND	COM	Other	Total
Jan	1,990.0	221.0	90.0	613.0	14.0	1,444.0	7.0	4,379.0
Feb	1,912.0	196.0	103.5	548.5	19.5	1,581.0	8.0	4,368.5
Mar	1,696.0	191.0	107.0	531.5	22.5	1,754.5	7.0	4,309.5
Apr	2,038.0	234.5	131.5	571.0	20.8	2,273.5	7.0	5,276.3
May	2,440.0	244.0	121.0	641.5	19.0	2,466.0	9.0	5,940.5
Jun	2,169.0	294.0	114.0	618.0	19.0	2,735.5	10.0	5,959.5
Jul	2,323.0	386.5	85.0	659.0	20.0	3,439.3	14.0	6,926.8
Aug	2,443.0	408.0	89.0	657.0	21.5	3,599.5	11.0	7,229.0
Sep	2,129.0	339.0	140.5	576.0	19.0	3,017.0	12.0	6,232.5
Oct	2,266.0	329.0	163.5	602.5	22.0	3,016.5	3.0	6,402.5
Nov								0.0
Dec								0.0
YTD	21,406.0	2,843.0	1,145.0	6,018.0	197.3	25,326.8	88.0	57,024.1

# Refuse Pickups by Month - 2020



**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.

30 :count of days in reporting period.

September 15, 2021	October 14, 2021
day flow (total flow)	day flow (total flow)
13	1     234
14	2     315
15	3     253
16	4     246
17	5     304
18	6     265
19	7     277
20	8     253
21	9     448
22	10    193
23	11    273
24	12    293
25	13    276
26	14    242
27	15
28	16
29	
30	
31	
<u>days</u> 16                      4630	<u>days</u> 14                      3872
TOTAL DAYS	30
TOTAL FLOW	8502
	1,000's gallons

TOWN OF FRIDAY HARBOR

## Flow to Town (Gross Water Production) 2020

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

Reporting (meter reading) period				Gross	Flow to Town
<i>from WTP Chem. Wts. &amp; Finish Flow to Town Report</i>		days in		<i>flow to Town</i>	(millions)
		period			
15-Dec	to	14-Jan	31	7,320,000	7,320
15-Jan	to	14-Feb	31	7,539,000	7,539
15-Feb	to	14-Mar	28	7,160,000	7,160
15-Mar	to	14-Apr	31	8,464,000	8,464
15-Apr	to	16-May	32	10,115,000	10,115
17-May	to	14-Jun	29	10,626,000	10,626
15-Jun	to	14-Jul	30	13,725,000	13,725
15-Jul	to	15-Aug	32	14,978,000	14,978
16-Aug	to	14-Sep	30	12,019,000	12,019
15-Sep	to	14-Oct	30	8,502,000	8,502
	to		0	0	
	to		0	0	
			304	100,448,000	100448.0

TOWN OF FRIDAY HARBOR

Net Water Production - 2021

amounts in gallons

	Jan	Feb	Mar	Apr	May	Jun
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	7,320,000	7,539,000	7,160,000	8,464,000	10,115,000	10,626,000
3% meter loss	187,489	187,543	167,449	212,616	256,002	288,936
Flushing	172,750	555,250	405,350	101,100	208,700	116,850
SJC#3 FD use	5,000	5,000	5,000	5,000	30,400	10,000
Leaks	203,330	125,650	112,190	263,380	496,735	246,740
notes						
other non-metered use						
notes						
Additional water in storage						
notes						
Total other uses	-568,569	-873,443	-689,989	-582,096	-991,837	-662,526
<b>Net production</b>	<b>6,751,431</b>	<b>6,665,557</b>	<b>6,470,011</b>	<b>7,881,904</b>	<b>9,123,163</b>	<b>9,963,474</b>

	Jul	Aug	Sep	Oct	Nov	Dec
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	13,725,000	14,978,000	12,019,000	8,502,000	0	0
3% meter loss	390,597	424,109	332,273	224,340	0	0
Flushing	42,500	13,350	49,500	197,280		
SJC#3 FD use	5,000	5,000	5,000	5,000		
Leaks	133,390	144,000	168,140	100,000		
notes						
other non-metered use						
notes						
Total other uses	-571,487	-586,459	-554,913	-526,620	0	0
<b>Net production</b>	<b>13,153,513</b>	<b>14,391,541</b>	<b>11,464,087</b>	<b>7,975,380</b>	<b>0</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 (consumption)	Cumulative Use YTD	Flow (production)	Unaccounted over / (under)	Cumulative Flow YTD	Average Daily Flow	
<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	7,865,000	-451,761	14,847,000	280,893	
Mar-19	6,065,311	19,671,683	7,468,000	-1,402,689	22,315,000	240,903	
Apr-19	7,852,517	27,524,200	8,604,000	-751,483	30,919,000	286,800	
May-19	8,660,158	36,184,358	9,522,000	-861,842	40,441,000	307,161	
Jun-19	12,028,022	48,212,379	12,495,000	-466,978	52,936,000	416,500	
Jul-19	12,121,969	60,334,348	12,159,000	-37,031	65,095,000	392,226	YTD
Aug-19	13,865,988	74,200,336	13,977,000	-111,012	79,072,000	450,871	Unaccounted
Sep-19	12,170,164	86,370,500	12,723,000	-552,836	91,795,000	424,100	as % of Flow
Average	8,415,461	94,785,961	8,868,000	-452,539	100,663,000	286,065	8.25%
Monthly Use	7,281,193	102,067,154	7,708,000	-426,807	108,371,000	256,933	
9,060,242	6,655,754	108,722,907	7,416,000	-760,246	115,787,000	239,226	-9,750,254
<b>YEAR TOTAL:</b>	<b>12</b>	<b>108,722,907</b>	<b>Cumulative</b>	<b>115,787,000</b>	<b>-7,064,093</b>	<b>Cumulative</b>	<b>317,242</b>
		<b>Metered/Other</b>	<b>Use YTD</b>		<b>Unaccounted</b>	<b>3% meter loss</b>	<b>2,989,222</b>
<b>2020</b>							
<i>gallons</i>							
Jan-20	6,490,802		6,771,000	-280,198		218,419	
Feb-20	7,358,842	13,849,644	7,991,000	-632,158	14,762,000	285,393	
Mar-20	6,480,584	20,330,228	7,169,000	-688,416	21,931,000	231,258	
Apr-20	6,676,813	27,007,042	6,984,000	-307,187	28,915,000	232,800	
May-20	7,865,550	34,872,592	7,971,000	-105,450	36,886,000	257,129	
Jun-20	8,582,651	43,455,243	9,137,000	-554,349	46,023,000	304,567	
Jul-20	10,700,054	54,155,297	10,903,000	-202,946	56,926,000	351,710	YTD
Aug-20	14,438,668	68,593,965	14,737,000	-298,332	71,663,000	475,387	Unaccounted
Sep-20	11,071,680	79,665,645	11,463,000	-391,320	83,126,000	382,100	as % of Flow
Average	8,587,339	88,252,984	8,823,000	-235,661	91,949,000	284,613	4.25%
Monthly Use	7,286,104	95,539,088	7,733,000	-446,896	99,682,000	257,767	
8,492,978	6,376,646	101,915,733	6,754,000	-377,355	106,436,000	217,871	-4,520,267
<b>YEAR TOTAL:</b>	<b>12</b>	<b>101,915,733</b>	<b>Cumulative</b>	<b>106,436,000</b>	<b>-4,520,267</b>	<b>Cumulative</b>	<b>291,584</b>
		<b>Metered/Other</b>	<b>Use YTD</b>		<b>Unaccounted</b>	<b>3% meter loss</b>	<b>2,827,251</b>
<b>2021</b>							
<i>gallons</i>							
Jan-21	6,818,211		7,320,000	-501,789		236,129	
Feb-21	7,124,868	13,943,079	7,539,000	-414,132	14,859,000	269,250	
Mar-21	6,271,616	20,214,695	7,160,000	-888,384	22,019,000	230,968	
Apr-21	7,669,307	27,884,002	8,464,000	-794,693	30,483,000	282,133	
May-21	9,525,250	37,409,253	10,115,000	-589,750	40,598,000	326,290	
Jun-21	10,293,730	47,702,983	10,626,000	-332,270	51,224,000	354,200	
Jul-21	13,591,377	61,294,359	13,725,000	-133,623	64,949,000	442,742	YTD
Aug-21	14,723,426	76,017,785	14,978,000	-254,574	79,927,000	483,161	Unaccounted
Sep-21	11,630,682	87,648,467	12,019,000	-388,318	91,946,000	400,633	as % of Flow
Average	8,004,636	95,653,104	8,502,000	-497,364	100,448,000	274,258	4.77%
Monthly Use	0	95,653,104	0	0	100,448,000	0	
9,565,310	0	95,653,104	0	0	100,448,000	0	-4,794,896
<b>YEAR TOTAL:</b>	<b>10</b>	<b>95,653,104</b>	<b>Cumulative</b>	<b>100,448,000</b>	<b>-4,794,896</b>	<b>Cumulative</b>	<b>329,977</b>
		<b>Metered/Other</b>	<b>Use YTD</b>		<b>Unaccounted</b>	<b>3% meter loss</b>	<b>2,671,355</b>

<b>3 YEAR AVERAGES:</b>	Use	Flow	Daily Flow	3 Year Loss as % of Flow
	6,011,059 :gal/month	9,490,324 :gal/month	207,187	5.91%

source: Monthly Water Treatment Plant Report & utility.mdb's  
 3 yr cumulative flow 322,671,000  
 3 yr unaccounted -19,065,417

# Utilization of Sustainable Annual Water System Capacity

Period start: Nov-20

Period end: Oct-21

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

114.9 million gallons  
56.1%

Exceeds Sustainable Yield?

**No**

TOWN OF FRIDAY HARBOR

**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.*

<i>end of</i>	<i>Inches above/(below) original spillway</i>	<i>end of</i>	<i>Inches above/(below) original spillway</i>	<i>end of</i>	<i>Inches above/(below) original spillway</i>
Jan-15	0.00	Jan-18	0.00	Jan-21	0.00
Feb-15	0.00	Feb-18	0.00	Feb-21	0.00
Mar-15	0.00	Mar-18	8.75	Mar-21	8.25
Apr-15	6.50	Apr-18	8.25	Apr-21	4.30
May-15	0.00	May-18	1.50	May-21	4.30
Jun-15	-13.00	Jun-18	-10.50	Jun-21	-5.50
Jul-15	-29.50	Jul-18	-29.50	Jul-21	-34.00
Aug-15	-42.25	Aug-18	-42.00	Aug-21	-48.00
Sep-15	-49.50	Sep-18	-50.00	Sep-21	-48.00
Oct-15	-54.50	Oct-18	-54.50	Oct-21	-54.50
Nov-15	-17.25	Nov-18	-55.50	Nov-21	
Dec-15	0.00	Dec-18	-26.00	Dec-21	
Jan-16	0.00	Jan-19	0.00	Jan-22	
Feb-16	0.00	Feb-19	0.00	Feb-22	
Mar-16	0.00	Mar-19	2.75	Mar-22	
Apr-16	6.00	Apr-19	2.75	Apr-22	
May-16	-2.50	May-19	-0.75	May-22	
Jun-16	-11.00	Jun-19	-2.00	Jun-22	
Jul-16	-21.00	Jul-19	-16.00	Jul-22	
Aug-16	-36.50	Aug-19	-26.25	Aug-22	
Sep-16	-49.50	Sep-19	-40.00	Sep-22	
Oct-16	-51.00	Oct-19	-46.25	Oct-22	
Nov-16	-45.50	Nov-19	-49.75	Nov-22	
Dec-16	-10.35	Dec-19	-49.50	Dec-22	
Jan-17	0.00	Jan-20	-11.00	Jan-23	
Feb-17	0.00	Feb-20	0.00	Feb-23	
Mar-17	2.75	Mar-20	0.00	Mar-23	
Apr-17	9.00	Apr-20	4.00	Apr-23	
May-17	4.75	May-20	0.00	May-23	
Jun-17	-4.00	Jun-20	-0.75	Jun-23	
Jul-17	-19.00	Jul-20	-8.50	Jul-23	
Aug-17	-32.00	Aug-20	-22.50	Aug-23	
Sep-17	-43.00	Sep-20	-34.00	Sep-23	
Oct-17	-50.50	Oct-20	-42.50	Oct-23	
Nov-17	-48.00	Nov-20	-45.25	Nov-23	
Dec-17	-11.50	Dec-20	-28.25	Dec-23	



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

Cumulative thru

<b>DEC</b>	<b>26.82</b>	<b>30.92</b>	<b>28.11</b>	<b>23.46</b>	<b>28.12</b>	<b>29.98</b>	<b>29.24</b>	<b>31.20</b>	<b>27.04</b>	<b>28.03</b>
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*all figures in inches*

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
JAN	3.97	2.17	1.60	5.10	3.87	7.32	4.36			
FEB	2.95	4.83	2.99	3.80	1.76	5.34	3.41			
MAR	3.62	2.88	3.27	1.48	0.87	1.25	1.18			
APR	0.51	0.75	2.20	3.10	1.61	1.38	1.12			
MAY	0.30	0.48	1.61	0.07	1.29	1.49	0.40			
JUN	0.14	1.22	0.75	0.72	0.61	1.25	0.69			
JUL	0.36	0.32	0.15	0.18	0.75	0.86	0.00			
AUG	0.94	0.11	0.11	0.01	0.84	0.68	0.30			
SEP	1.28	1.40	0.71	1.27	2.74	2.34	3.76			
OCT	3.53	4.80	4.28	2.23	3.33	3.39	4.34			
NOV	6.19	3.47	4.32	4.32	2.1	4.68				
DEC	5.26	4.02	3.83	4.26	3.63	6.81				
<b>Total</b>	<b>29.05</b>	<b>26.45</b>	<b>25.82</b>	<b>26.54</b>	<b>23.40</b>	<b>36.79</b>	<b>19.56</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Cumulative thru

<b>DEC</b>	<b>29.05</b>	<b>26.45</b>	<b>25.82</b>	<b>26.54</b>	<b>23.40</b>	<b>36.79</b>	<b>19.56</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
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# Prevention of Wastewater Facility Overloading

Period start: Jan-20  
 Period end: Dec-20

INFLUENT BOD LOADING (pounds per day)	AVG. EFFLUENT FLOW (millions of gallons per day)	SUSPENDED SOLIDS LOADING (pounds per day)
Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month 1,600	Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month 0.69000	Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month 1,110
85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1) 1,360	85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1) 0.58650	85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1) 944
Month with highest average loading in period Jan-19	Month with highest average flow in period Jan-19	Month with highest average loading in period Jan-19
Highest average monthly loading in period (pounds per day) 559	Highest average monthly flow in period (millions of gallons per day) 0.4088414	Highest average monthly loading in period (pounds per day) 488
% of Design Criteria <b>35%</b>	% of Design Criteria <b>59%</b>	% of Design Criteria <b>44%</b>
exceeds Design Criteria? <b>No</b>	exceeds Design Criteria? <b>No</b>	exceeds Design Criteria? <b>No</b>
Previous month's loading 509	Previous month's flow 0.2541	Previous month's loading 319
Following month's loading 524	Following month's flow 0.2799	Following month's loading 245
exceeds Planning Threshold for 3 consecutive months? <b>No</b>	exceeds Planning Threshold for 3 consecutive months? <b>No</b>	exceeds Planning Threshold for 3 consecutive months? <b>No</b>