



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

www.fridayharbor.org

Period ending: April 2020

Data provided by
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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

Water - use MTDsourceDate
4 / 2020

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

Water Class	Accounts	Gallons
Spe	3	41,241
Sfr	993	2,823,760
PA	77	421,860
Mfr	128	1,845,470
Ind	14	67,640
Com	221	855,070
TOTAL	1,436	6,055,041

Water use MTD - accounts with sewersourceDate
4 / 2020

Sewer Class	Accounts	Gallons
Location: IN		
Mfr In/low Strength	57	646,940
Com In/lo Strength	162	489,170
Dot In/lo Strength	3	17,260
Ind In/hi Strength	1	14,270
Ind In/lo Strength	10	42,230
Lmf In/lo Strength	1	5,300
Com In/hi Strength	45	305,460
Mfr In/lo Strength	61	651,040
Mhp In/lo Strength	2	364,000
PA In/hi Strength	3	22,880
PA In/lo Strength	42	155,330
Sfr IN Town	619	1,872,050
Low Rate / IN Town	6	7,530
	<hr/> 1012	<hr/> 4,593,460
Location: Out		
UW Out/hi Strength	1	20,800
Mfr Out/lo Strength	1	7,560
Sfr Out of Town	4	7,170
	<hr/> 6	<hr/> 35,530
TOTAL	1018	4,628,990

Water - use MTD by LocationsourceDate
4 / 2020

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

Water Class	Accounts	Gallons
Location: IN		
Spe	2	39,781
Sfr	640	1,907,700
PA	68	266,760
Mfr	123	1,718,000
Ind	13	67,640
Com	218	847,220
	<hr/>	
	1,064	4,847,101
Location: Out		
Spe	1	1,460
Sfr	353	916,060
PA	9	155,100
Mfr	5	127,470
Ind	1	0
Com	3	7,850
	<hr/>	
	372	1,207,940
TOTAL	1,436	6,055,041

Refuse - pickups by ClasssourceDate
4 / 2020

Location	Class	Pickups
IN	Sfr	1,785.0
	RefuseOnly	164.5
	PA	59.0
	Mfr	501.5
	Ind	16.5
	Com	1,221.5
		<hr/> 3,748.0
Out	Mfr	8.0
		<hr/> 8.0
	TOTAL	3,756.0

Refuse - active accountssourceDate
4 / 2020

Location	Refuse Type	Accounts
IN	Small Dumpster	46
	PA	38
	Medium Dumpste	53
	Large Dumpster	61
	Compactors	4
	Cans Low Rate	6
	Cans	842
		<hr/> 1,050
Out	Large Dumpster	1
		<hr/> 1
	TOTAL	1,051

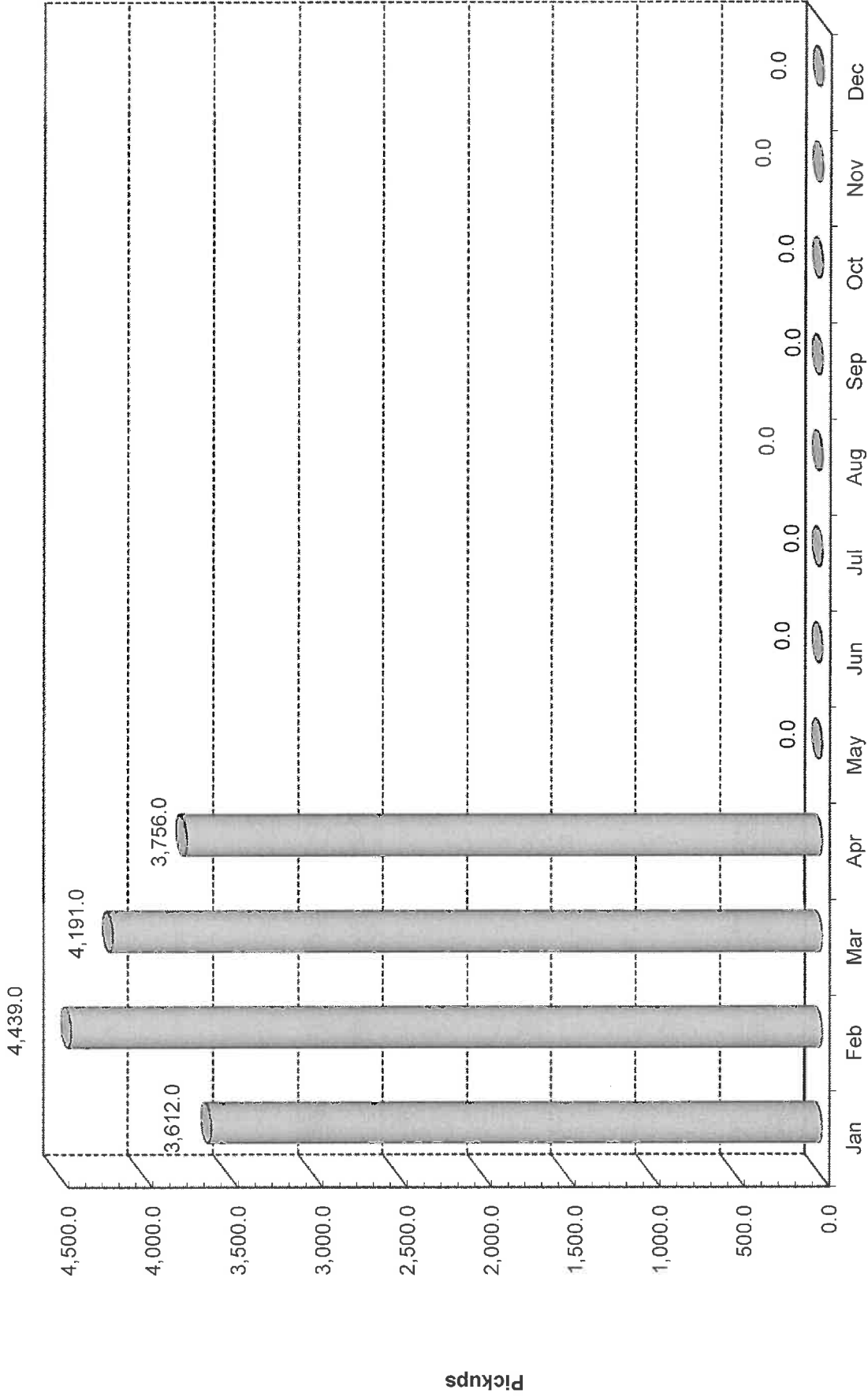
Recycle - pickups by ClasssourceDate
4 / 2020

Location	Class	Pickups
IN	Sfr	605
	RefuseOnly	18
	PA	0
	Mfr	52
	Ind	4
	Com	4
		<hr/> 683
Out	Mfr	0
		<hr/> 0
	TOTAL	683

Refuse Pickups - 2020 YTD

Account Type	SFR	Refuse Only	P.A	MFR	IND	COM	Other	Total
Jan	1,273.0	188.0	143.5	410.0	15.5	1,578.5	3.5	3,612.0
Feb	1,593.0	239.5	166.0	473.0	21.5	1,943.0	3.0	4,439.0
Mar	1,482.0	223.5	153.0	426.5	19.0	1,883.5	3.5	4,191.0
Apr	1,785.0	164.5	59.0	501.5	16.5	1,221.5	8.0	3,756.0
May								0.0
Jun								0.0
Jul								0.0
Aug								0.0
Sep								0.0
Oct								0.0
Nov								0.0
Dec								0.0
YTD	6,133.0	815.5	521.5	1,811.0	72.5	6,626.5	18.0	15,998.0

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.

	March 16, 2020		April 14, 2020
day	flow (total flow)	day	flow (total flow)
13		1	194
14		2	196
15		3	204
16	231	4	315
17	252	5	216
18	209	6	174
19	262	7	240
20	188	8	258
21	267	9	260
22	193	10	231
23	249	11	197
24	279	12	253
25	222	13	278
26	181	14	289
27	201	15	
28	185	16	
29	316		
30	185		
31	259		
days	3679	days	3305
TOTAL DAYS		30	
TOTAL FLOW			6984
			1,000's gallons

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	
2018							
<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	5.10%
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	-5,914,508
YEAR TOTAL:	12	108,899,956	Cumulative Metered/Other Use YTD	118,131,000	-9,750,254	Cumulative Unaccounted 3% meter loss	323,377 2,915,731
2019							
<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	8.25%
Monthly Use	Nov-19	7,281,193	102,067,154	-426,807	108,371,000	256,933	
9,060,242	Dec-19	6,655,754	108,722,907	-760,246	115,787,000	239,226	-9,750,254
YEAR TOTAL:	12	108,722,907	Cumulative Metered/Other Use YTD	115,787,000	-7,064,093	Cumulative Unaccounted 3% meter loss	317,242 2,989,222
2020							
<i>gallons</i>	Jan-20	6,490,802	6,771,000	-280,198		218,419	
	Feb-20	7,358,842	13,849,644	-632,158	14,762,000	285,393	
	Mar-20	6,480,584	20,330,228	-688,416	21,931,000	231,258	
	Apr-20	6,676,813	27,007,042	-307,187	28,915,000	232,800	
	May-20	0	27,007,042	0	28,915,000	0	
	Jun-20	0	27,007,042	0	28,915,000	0	
	Jul-20	0	27,007,042	0	28,915,000	0	YTD
	Aug-20	0	27,007,042	0	28,915,000	0	Unaccounted
	Sep-20	0	27,007,042	0	28,915,000	0	as % of Flow
Average	Oct-20	0	27,007,042	0	28,915,000	0	6.60%
Monthly Use	Nov-20	0	27,007,042	0	28,915,000	0	
6,751,760	Dec-20	0	27,007,042	0	28,915,000	0	-1,907,958
YEAR TOTAL:	4	27,007,042	Cumulative Metered/Other Use YTD	28,915,000	-1,907,958	Cumulative Unaccounted 3% meter loss	241,968 738,316

3 YEAR AVERAGES:	Use	Flow	Daily Flow	3 Year Loss as % of Flow
	4,853,821 :gal/month	9,386,893 :gal/month	186,403	6.69%

source: Monthly Water Treatment Plant Report & utility.mdb's 3 yr cumulative flow 262,833,000
 3 yr unaccounted -17,572,720

Utilization of Sustainable Annual Water System Capacity

Period start: May-19

Period end: Apr-20

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

113.8 million gallons
55.5%

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	-2.00
Jul-13	-21.00	Jul-16	-21.00	Jul-19	-16.00
Aug-13	-34.25	Aug-16	-36.50	Aug-19	-26.25
Sep-13	-39.25	Sep-16	-49.50	Sep-19	-40.00
Oct-13	-43.50	Oct-16	-51.00	Oct-19	-46.25
Nov-13	-44.75	Nov-16	-45.50	Nov-19	-49.75
Dec-13	-26.00	Dec-16	-10.35	Dec-19	-49.50
Jan-14	0.00	Jan-17	0.00	Jan-20	-11.00
Feb-14	0.00	Feb-17	0.00	Feb-20	0.00
Mar-14	0.00	Mar-17	2.75	Mar-20	0.00
Apr-14	8.25	Apr-17	9.00	Apr-20	4.00
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 (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
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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				
FEB	2.95	4.83	2.99	3.80	1.76	5.34				
MAR	3.62	2.88	3.27	1.48	0.87	1.25				
APR	0.51	0.75	2.20	3.10	1.61	1.38				
MAY	0.30	0.48	1.61	0.07	1.29					
JUN	0.14	1.22	0.75	0.72	0.61					
JUL	0.36	0.32	0.15	0.18	0.75					
AUG	0.94	0.11	0.11	0.01	0.84					
SEP	1.28	1.40	0.71	1.27	2.74					
OCT	3.53	4.80	4.28	2.23	3.33					
NOV	6.19	3.47	4.32	4.32	2.1					
DEC	5.26	4.02	3.83	4.26	3.63					
Total	29.05	26.45	25.82	26.54	23.40	15.29	0.00	0.00	0.00	0.00

Cumulative thru

DEC	29.05	26.45	25.82	26.54	23.40	15.29	0.00	0.00	0.00	0.00
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Prevention of Wastewater Facility Overloading

Period start: Apr-19
 Period end: Mar-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 35%	% of Design Criteria 59%	% of Design Criteria 44%
exceeds Design Criteria? No	exceeds Design Criteria? No	exceeds Design Criteria? No
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? No	exceeds Planning Threshold for 3 consecutive months? No	exceeds Planning Threshold for 3 consecutive months? No