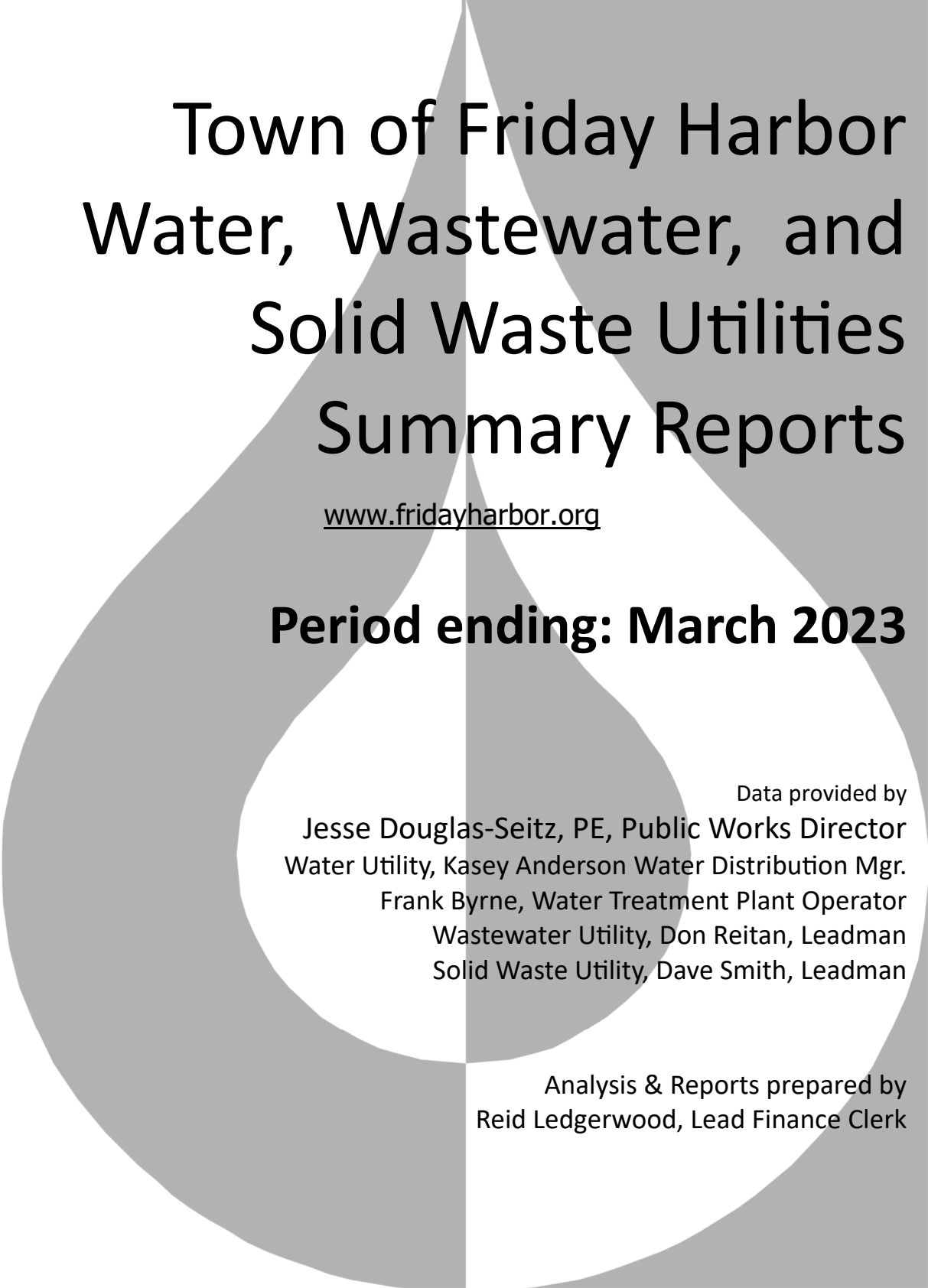




Town of Friday Harbor Water, Wastewater, and Solid Waste Utilities Summary Reports

www.fridayharbor.org

Period ending: March 2023

Data provided by
Jesse Douglas-Seitz, PE, Public Works Director
Water Utility, Kasey Anderson Water Distribution Mgr.
Frank Byrne, Water Treatment Plant Operator
Wastewater Utility, Don Reitan, Leadman
Solid Waste Utility, Dave Smith, Leadman

Analysis & Reports prepared by
Reid Ledgerwood, Lead Finance Clerk

Water - Use MTD

Water Class	Accounts	Gallons
Spe	2	28,906
Sfr	1,019	2,190,836
PA	86	414,776
Mfr	134	1,549,966
Ind	14	69,471
Com	223	1,036,345
TOTAL	1,478	5,290,300

Water - Use MTD by Location

Water Class	Accounts	Gallons
Location: IN		
Spe	2	28,906
Sfr	662	1,489,699
PA	77	317,301
Mfr	129	1,458,073
Ind	13	69,471
Com	220	1,023,816
	1,103	4,387,266
Location: Out		
Sfr	357	701,137
PA	9	97,475
Mfr	5	91,893
Ind	1	0
Com	3	12,529
	375	903,034
TOTAL	1,478	5,290,300

03-May-23

Water use MTD - Accounts with Sewer

Sewer Class	Accounts	Gallons
Location: IN		
Mfr In/low Strength	61	600,521
Com In/lo Strength	168	589,428
Dot In/lo Strength	3	32,180
Ind In/hi Strength	1	21,535
Ind In/lo Strength	10	45,864
Lmf In/lo Strength	1	1,980
Com In/hi Strength	41	418,668
Mfr In/lo Strength	60	608,244
Mhp In/lo Strength	2	194,700
PA In/hi Strength	3	48,074
PA In/lo Strength	48	172,879
Sfr IN Town	637	1,448,957
Low Rate / IN Town	10	17,158
	1,045	4,200,188
Location: Out		
UW Out/hi Strength	1	61,200
Mfr Out/lo Strength	1	11,012
Sfr Out of Town	4	5,085
	6	77,297
TOTAL	1,051	4,277,485

03-May-23

Refuse - Pickups by Class

Class	Pickups
Com	2,624.0
Ind	18.5
Mfr	490.5
PA	151.0
Refuse Only	318.0
Sfr	1,767.0
TOTAL	5,369.0

[illegible]

Refuse Type	Accounts
Cans	879
Cans Low Rate	12
Compactors	4
Large Dumpster	76
Medium Dumpste	57
PA	41
Small Dumpster	43

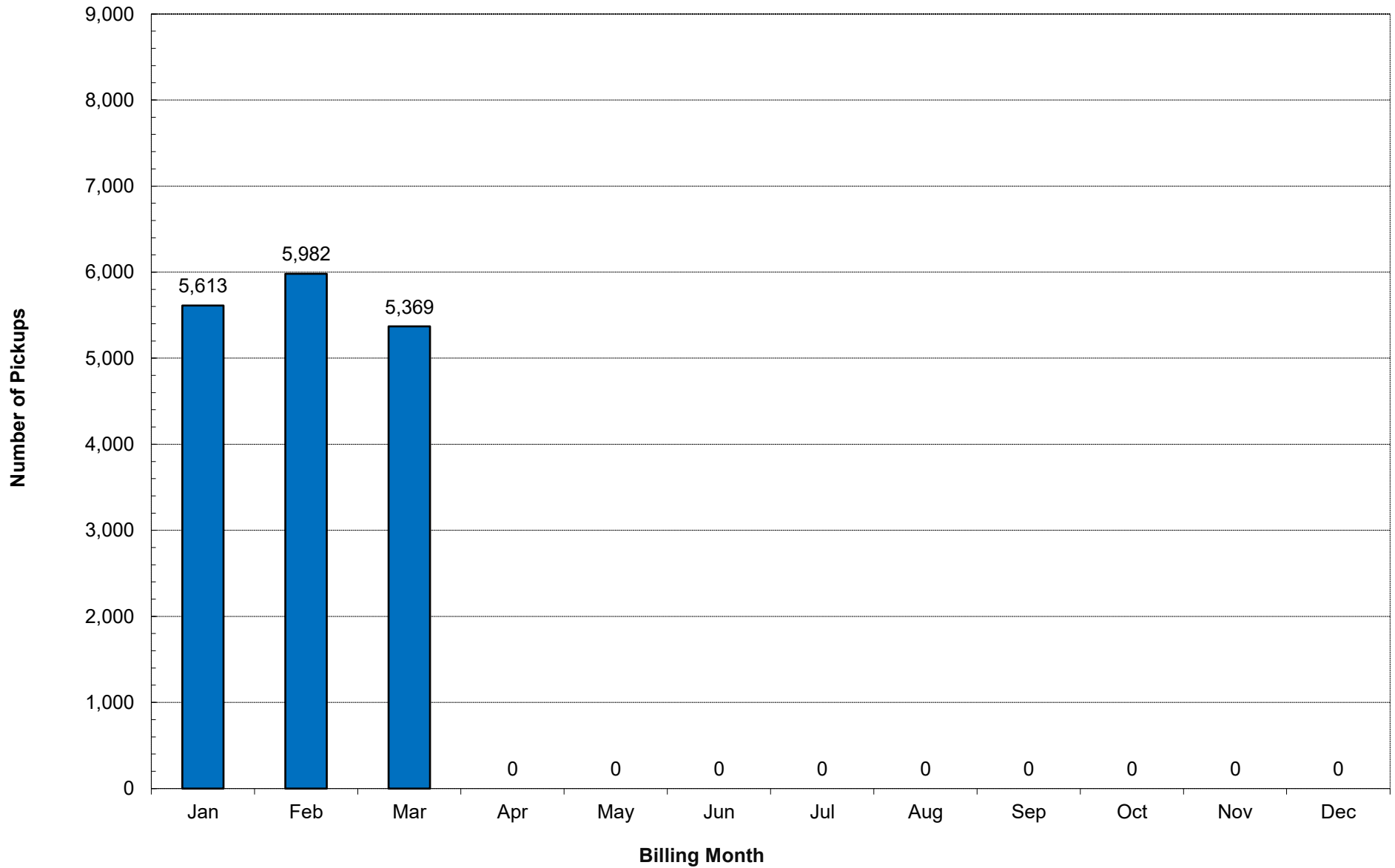
Recycle - pickups by Class

Class	Pickups
Com	0
Ind	1
Mfr	69
PA	0
RefuseOnly	22
Sfr	707
TOTAL	799

Refuse Pickups by Account Type - 2023 YTD

Billing Month	SFR	Refuse Only	PA	MFR	IND	COM	Total
Jan	1,790.0	340.0	97.0	507.5	24.0	2,854.5	5,613.0
Feb	1,974.0	399.5	135.0	595.0	17.5	2,861.0	5,982.0
Mar	1,767.0	318.0	151.0	490.5	18.5	2,624.0	5,369.0
Apr							-
May							-
Jun							-
Jul							-
Aug							-
Sep							-
Oct							-
Nov							-
Dec							-
YTD	5,531.0	1,057.5	383.0	1,593.0	60.0	8,339.5	16,964.0

Total Refuse Pickups by Month - 2023



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-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	-55.00
Dec-15	0.00	Dec-18	-26.00	Dec-21	3.00
Jan-16	0.00	Jan-19	0.00	Jan-22	8.00
Feb-16	0.00	Feb-19	0.00	Feb-22	8.00
Mar-16	0.00	Mar-19	2.75	Mar-22	8.75
Apr-16	6.00	Apr-19	2.75	Apr-22	8.75
May-16	-2.50	May-19	-0.75	May-22	7.75
Jun-16	-11.00	Jun-19	-2.00	Jun-22	3.50
Jul-16	-21.00	Jul-19	-16.00	Jul-22	-5.50
Aug-16	-36.50	Aug-19	-26.25	Aug-22	-19.00
Sep-16	-49.50	Sep-19	-40.00	Sep-22	-34.50
Oct-16	-51.00	Oct-19	-46.25	Oct-22	-43.00
Nov-16	-45.50	Nov-19	-49.75	Nov-22	-42.25
Dec-16	-10.35	Dec-19	-49.50	Dec-22	-34.00
Jan-17	0.00	Jan-20	-11.00	Jan-23	0.00
Feb-17	0.00	Feb-20	0.00	Feb-23	1.50
Mar-17	2.75	Mar-20	0.00	Mar-23	2.75
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	

Flow to Town (Gross Water Production) 2023

Billing Month	Start Date		End Date	Days in Period	Gross Flow to Town
Jan	13-Dec	to	9-Jan	28	6,934,000
Feb	10-Jan	to	7-Feb	29	6,653,000
Mar	8-Feb	to	4-Mar	25	5,829,000
Apr		to		-	-
May		to		-	-
Jun		to		-	-
Jul		to		-	-
Aug		to		-	-
Sep		to		-	-
Oct		to		-	-
Nov		to		-	-
Dec		to		-	-
				82	19,416,000

Rainfall - Trout Lake Water Treatment Facility

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

Mar	8.83	9.39	13.04	6.11	7.37	9.27	12.01	9.93	9.09	10.96
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	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	average (2015-Current)
Jan	3.97	2.17	1.60	5.10	3.87	7.32	4.36	4.49	1.57		3.83
Feb	2.95	4.83	2.99	3.80	1.76	5.34	3.41	1.38	2.18		3.18
Mar	3.62	2.88	3.27	1.48	0.87	1.25	1.18	2.64	1.99		2.13
Apr	0.51	0.75	2.20	3.10	1.61	1.38	1.12	2.25			1.61
May	0.30	0.48	1.61	0.07	1.29	1.49	0.40	1.70			0.92
Jun	0.14	1.22	0.75	0.72	0.61	1.25	0.69	1.70			0.89
Jul	0.36	0.32	0.15	0.18	0.75	0.86	0.00	0.68			0.41
Aug	0.94	0.11	0.11	0.01	0.84	0.68	0.30	0.09			0.39
Sep	1.28	1.40	0.71	1.27	2.74	2.34	3.76	0.01			1.69
Oct	3.53	4.80	4.28	2.23	3.33	3.39	4.34	3.78			3.71
Nov	6.19	3.47	4.32	4.32	2.1	4.68	11.31	3.67			5.01
Dec	5.26	4.02	3.83	4.26	3.63	6.81	4.59	3.55			4.49
Total	29.05	26.45	25.82	26.54	23.40	36.79	35.46	25.94	5.74	0.00	28.26

Cumulative thru

Mar	10.54	9.88	7.86	10.38	6.50	13.91	8.95	8.51	5.74	0.00
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Net Water Production - 2023

Amounts in Gallons

	Jan	Feb	Mar	Apr	May	Jun
Gross Production	6,934,000	6,653,000	5,829,000	-	-	-
3% meter loss	178,437	168,827	158,709	-	-	-
Flushing	65,195	113,030	35,200			
SJC#3 FD use	5,000	5,000	5,000			
Leaks	100,000	50,000	103,100			
Other non-metered use	-					
Total other uses	(348,632)	(336,857)	(302,009)	-	-	-
Net production	6,585,368	6,316,143	5,526,991	-	-	-

	Jul	Aug	Sep	Oct	Nov	Dec
Gross Production	-	-	-	-	-	-
3% meter loss	-	-	-	-	-	-
Flushing						
SJC#3 FD use						
Leaks						
Other non-metered use						
Total other uses	-	-	-	-	-	-
Net production	-	-	-	-	-	-

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
2021							
	Jan-21	6,818,211	6,818,211	7,320,000	-501,789	7,320,000	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
	Aug-21	14,723,426	76,017,785	14,978,000	-254,574	79,927,000	483,161
	Sep-21	11,630,682	87,648,467	12,019,000	-388,318	91,946,000	400,633
Average	Oct-21	8,004,636	95,653,104	8,502,000	-497,364	100,448,000	274,258
Monthly Use	Nov-21	7,027,754	102,680,858	7,580,000	-552,246	108,028,000	252,667
9,093,646	Dec-21	6,442,893	109,123,751	6,975,000	-532,107	115,003,000	225,000
Year Total:	12	109,123,751	Cumulative	115,003,000	-5,879,249	Cumulative	314,786
2022							
	Jan-22	7,027,619	7,027,619	7,491,000	-463,381	7,491,000	241,645
	Feb-22	6,558,369	13,585,988	7,118,000	-559,631	14,609,000	254,214
	Mar-22	6,259,412	19,845,401	6,844,000	-584,588	21,453,000	220,774
	Apr-22	7,840,892	27,686,293	8,245,000	-404,108	29,698,000	274,833
	May-22	7,171,370	34,857,663	8,041,000	-869,630	37,739,000	259,387
	Jun-22	8,327,182	43,184,845	8,658,000	-330,818	46,397,000	288,600
	Jul-22	11,063,132	54,247,977	11,349,000	-285,868	57,746,000	366,097
	Aug-22	12,697,078	66,945,055	13,224,000	-526,922	70,970,000	426,581
	Sep-22	12,245,810	79,190,866	12,855,000	-609,190	83,825,000	428,500
Average	Oct-22	10,371,973	89,562,839	10,891,000	-519,027	94,716,000	351,323
Monthly Use	Nov-22	6,853,115	96,415,954	7,442,000	-588,885	102,158,000	248,067
8,587,165	Dec-22	6,630,021	103,045,975	7,372,000	-741,979	109,530,000	237,806
Year Total:	12	103,045,975	Cumulative	109,530,000	-6,484,025	Cumulative	299,819
2023							
	Jan-23	6,296,532	6,296,532	6,934,000	-637,468	6,934,000	223,677
	Feb-23	5,964,425	12,260,957	6,653,000	-688,575	13,587,000	237,607
	Mar-23	5,592,309	17,853,266	5,829,000	-236,691	19,416,000	188,032
	Apr-23	0	17,853,266	0	0	19,416,000	0
	May-23	0	17,853,266	0	0	19,416,000	0
	Jun-23	0	17,853,266	0	0	19,416,000	0
	Jul-23	0	17,853,266	0	0	19,416,000	0
	Aug-23	0	17,853,266	0	0	19,416,000	0
	Sep-23	0	17,853,266	0	0	19,416,000	0
Average	Oct-23	0	17,853,266	0	0	19,416,000	0
Monthly Use	Nov-23	0	17,853,266	0	0	19,416,000	0
5,951,089	Dec-23	0	17,853,266	0	0	19,416,000	0
Year Total:	3	17,853,266	Cumulative	19,416,000	-1,562,734	Cumulative	216,439
3 Year Average							
		Use 8,519,370 gal/month		Flow 9,035,148 gal/month			Daily Flow 277,015

Utilization of Sustainable Annual Water System Capacity

Period start: Apr-22

Period end: Mar-23

Sustainable Annual Yield (TFH Comprehensive Water System Plan Update, June, 2013, page 3-6)	205 million gallons
Annual use - 12 month period	107 million gallons
percent of Sustainable Annual Yield	52%
Exceeds Sustainable Yield?	No

Finish Water Flow to Town

Source: Water Treatment Facility Monthly Report

Revised reporting period per K. Anderson

Start/end dates may change monthly.

25 Days in reporting period.

February 8, 2023		March 4, 2023	
Day	Flow	Day	Flow
8	231	1	248
9	218	2	224
10	226	3	237
11	194	4	227
12	233	5	
13	225	6	
14	232	7	
15	288	8	
16	261	9	
17	279	10	
18	220	11	
19	213	12	
20	270	13	
21	221	14	
22	160	15	
23	242	16	
24	279	17	
25	290	18	
26	168	19	
27	226	20	
28	217	21	
21	4,893	4	936

Total Days 25

Total Flow 5,829

1,000's of gallons

TOWN OF FRIDAY HARBOR

Water Consumption By Customer Class

2022	COM	IND	MFR	PA	SFR	Special	Other Uses	TOTAL	% of Use	Avg Daily Use
Jan	1,349,356	106,940	1,859,134	390,738	2,869,118	6,043	446,290	7,027,619	6.8%	226,697
Feb	1,044,244	99,730	1,679,131	523,331	2,437,867	16,677	757,389	6,558,369	6.4%	226,151
Mar	1,111,601	108,470	1,526,387	851,547	2,141,873	12,600	506,934	6,259,412	6.1%	201,917
Apr	1,482,269	129,010	1,761,595	896,903	2,560,915	5,281	1,004,919	7,840,892	7.6%	261,363
May	1,485,784	134,610	1,709,947	742,139	2,679,584	25,247	394,059	7,171,370	7.0%	231,335
Jun	1,771,620	188,788	1,755,772	912,234	3,102,069	17,907	578,792	8,327,182	8.1%	277,573
Jul	2,260,944	205,140	2,180,450	1,456,449	4,349,214	40,747	570,188	11,063,132	10.7%	356,875
Aug	2,511,136	275,399	2,223,989	1,730,159	5,306,988	50,230	599,177	12,697,078	12.3%	409,583
Sep	2,501,949	256,415	2,158,719	1,524,596	4,978,195	126,874	699,062	12,245,810	11.9%	408,194
Oct	2,129,765	206,125	1,966,126	1,031,142	4,334,714	48,306	655,795	10,371,973	10.1%	334,580
Nov	1,277,356	136,594	1,526,385	596,316	2,660,072	23,049	633,343	6,853,115	6.7%	228,437
Dec	1,150,611	86,957	1,635,626	523,905	2,603,272	63,882	565,768	6,630,021	6.4%	213,872
Total	20,076,635	1,934,178	21,983,261	11,179,459	40,023,881	436,843	7,411,718	103,045,975	100.0%	281,546
Average	1,673,053	161,182	1,831,938	931,622	3,335,323	36,404	617,643	Total Use		103,045,975
								Total Loss		6,484,025
% of Use	19.5%	1.9%	21.3%	10.8%	38.8%	0.4%	7.2%	Flow (Use+Loss)		109,530,000
% of Flow	18.3%	1.8%	20.1%	10.2%	36.5%	0.4%	6.8%	Loss as % of Flow		5.9%

2023	COM	IND	MFR	PA	SFR	Special	Other Uses	TOTAL	% of Use	Avg Daily Use
Jan	1,232,316	71,100	1,688,526	489,071	2,448,171	18,716	348,632	6,296,532	35.3%	203,114
Feb	1,124,538	85,828	1,586,772	465,051	2,356,600	8,779	336,857	5,964,425	33.4%	205,670
Mar	1,036,345	69,471	1,549,966	414,776	2,190,836	28,906	302,009	5,592,309	31.3%	180,397
Apr							-	-	0.0%	-
May							-	-	0.0%	-
Jun							-	-	0.0%	-
Jul							-	-	0.0%	-
Aug							-	-	0.0%	-
Sep							-	-	0.0%	-
Oct							-	-	0.0%	-
Nov							-	-	0.0%	-
Dec							-	-	0.0%	-
Total	3,393,199	226,399	4,825,264	1,368,898	6,995,607	56,401	987,498	17,853,266	100.0%	196,190
Average	1,131,066	75,466	1,608,421	456,299	2,331,869	18,800	82,292	Total Use		17,853,266
								Total Loss		1,487,772
% of Use	19.0%	1.3%	27.0%	7.7%	39.2%	0.3%	5.5%	Flow (Use+Loss)		19,416,000
% of Flow	17.5%	1.2%	24.9%	7.1%	36.0%	0.3%	5.1%	Loss as % of Flow		7.7%

Prevention of Wastewater Facility Overloading

Period start: Mar-22

Period end: Feb-23

INFLUENT BOD LOADING

(Pounds per Day)

Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month

1,600

85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1)

1,360

Month with highest average loading in period

Jun-22

Highest average monthly loading in period

1,127

% of Design Criteria

70%

Exceeds Design Criteria?

No

Previous month's loading

820

Following month's loading

803

Exceeds Planning Threshold for 3 consecutive months?

No

AVG. EFFLUENT FLOW

(Millions of Gallons per Day)

Design Criteria (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.A) max.month

0.69000

85% Capacity Planning Threshold (06/06 NPDES Permit #WA-002358-2, pg 12, paragraph S4.B.1)

0.58650

Month with highest average flow in period

Dec-22

Highest average monthly flow in period

0.2907

% of Design Criteria

42%

Exceeds Design Criteria?

No

Previous month's flow

0.2066

Following month's flow

0.2771

Exceeds Planning Threshold for 3 consecutive months?

No

SUSPENDED SOLIDS LOADING

(Pounds per Day)

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)

944

Month with highest average loading in period

Aug-22

Highest average monthly loading in period

526

% of Design Criteria

47%

Exceeds Design Criteria?

No

Previous month's loading

357

Following month's loading

347

Exceeds Planning Threshold for 3 consecutive months?

No