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

www.fridayharbor.org

Period ending: October 2016

Data provided by
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Frank Byrne, Water Treatment Plant Operator
Wastewater Utility, Don Reitan, Leadman
Solid Waste Utility, Dave Smith, Leadman

Analysis & Reports prepared by
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Utilization of Sustainable Annual Water System Capacity

Period start: Nov-15
Period end: Oct-16

Sustainable Annual Yield (TFH Comprehensive Water System Plan Update, June, 2013, page 3-6)	205 million gallons
Annual use - 12 month period	109.6 million gallons
percent of Sustainable Annual Yield	53.5%
exceeds Sustainable Yield?	**No**

TOWN OF FRIDAY HARBOR

Water Consumption & Production

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

Period		USE (consumption)	Cumulative Use YTD	Flow (production)	Unaccounted over / (under)	Cumulative Flow YTD	Average Daily Flow	
2014	Jan-14	6,503,233		6,740,000	-236,767		217,419	
gallons	Feb-14	6,450,822	12,954,055	6,689,000	-238,178	13,429,000	238,893	
	Mar-14	5,893,800	18,847,856	6,429,000	-535,200	19,858,000	207,387	
	Apr-14	7,328,888	26,176,744	7,681,000	-352,112	27,539,000	256,033	
	May-14	7,715,702	33,892,446	8,168,000	-452,298	35,707,000	263,484	
	Jun-14	10,361,418	44,253,864	10,768,000	-406,582	46,475,000	358,933	
	Jul-14	11,760,337	56,014,200	13,299,000	-1,538,663	59,774,000	429,000	YTD
	Aug-14	15,787,533	71,801,734	13,906,000	1,881,533	73,680,000	448,581	Unaccounted
	Sep-14	10,760,881	82,562,615	11,851,000	-1,090,119	85,531,000	395,033	as % of Flow
Average	Oct-14	8,163,830	90,726,445	8,173,000	-9,170	93,704,000	263,645	3.41%
Monthly Use	Nov-14	7,175,022	97,901,467	7,430,000	-254,978	101,134,000	247,667	
8,729,984	Dec-14	6,858,342	104,759,809	7,322,000	-463,658	108,456,000	236,194	-3,696,191
YEAR TOTAL:	12	104,759,809	Cumulative	108,456,000	-3,696,191	Cumulative	296,856	
		Metered/Other	Use YTD		Unaccounted	3% meter loss	2,915,731	
2015	Jan-15	6,286,099		6,914,000	-627,901		223,032	
gallons	Feb-15	6,998,687	13,284,786	6,878,000	120,687	13,792,000	245,643	
	Mar-15	6,090,737	19,375,522	6,236,000	-145,263	20,028,000	201,161	
	Apr-15	7,225,841	26,601,363	7,872,000	-646,159	27,900,000	262,400	
	May-15	8,210,759	34,812,122	8,742,000	-531,241	36,642,000	282,000	
	Jun-15	11,286,945	46,099,067	12,507,000	-1,220,055	49,149,000	416,900	
	Jul-15	13,826,203	59,925,270	14,230,000	-403,797	63,379,000	459,032	YTD
	Aug-15	14,436,669	74,361,940	13,882,000	554,669	77,261,000	447,806	Unaccounted
	Sep-15	10,528,598	84,890,537	10,774,000	-245,402	88,035,000	359,133	as % of Flow
Average	Oct-15	8,139,595	93,030,132	8,142,000	-2,405	96,177,000	262,645	3.21%
Monthly Use	Nov-15	7,189,486	100,219,619	7,264,000	-74,514	103,441,000	242,133	
8,877,187	Dec-15	6,306,620	106,526,239	6,616,000	-309,380	110,057,000	213,419	-3,530,761
YEAR TOTAL:	12	106,526,239	Cumulative	110,057,000	-3,530,761	Cumulative	301,276	
		Metered/Other	Use YTD		Unaccounted	3% meter loss	2,989,222	
2016	Jan-16	6,904,531		6,697,000	207,531		216,032	
gallons	Feb-16	6,043,999	12,948,530	6,221,000	-177,001	12,918,000	222,179	
	Mar-16	5,087,613	18,036,143	6,060,000	-972,387	18,978,000	195,484	
	Apr-16	7,613,121	25,649,264	7,620,000	-6,879	26,598,000	254,000	
	May-16	8,678,417	34,327,681	8,996,000	-317,583	35,594,000	290,194	
	Jun-16	10,308,890	44,636,572	10,723,000	-414,110	46,317,000	357,433	
	Jul-16	12,724,140	57,360,712	12,966,000	-241,860	59,283,000	418,258	YTD
	Aug-16	14,723,626	72,084,337	15,815,000	-1,091,374	75,098,000	510,161	Unaccounted
	Sep-16	12,583,251	84,667,588	12,596,000	-12,749	87,694,000	419,867	as % of Flow
Average	Oct-16	8,473,803	93,141,391	8,052,000	421,803	95,746,000	259,742	2.72%
Monthly Use	Nov-16	0	93,141,391	0	0	95,746,000	0	
9,314,139	Dec-16	0	93,141,391	0	0	95,746,000	0	-2,604,609
YEAR TOTAL:	10	93,141,391	Cumulative	95,746,000	-2,604,609	Cumulative	314,335	
		Metered/Other	Use YTD		Unaccounted	3% meter loss	2,632,591	

3 YEAR AVERAGES:	Use	Flow	Daily Flow	3 Year Loss as % of Flow
	5,820,624 :gal/month	9,242,912 :gal/month	205,203	3.13%

source: Monthly Water Treatment Plant Report & utility.mdb's

3 yr cumulative flow	314,259,000
3 yr unaccounted	-9,831,562

WATER CONSUMPTION (Use) BY CUSTOMER CLASS

source: utilTry08 & 13.mdb

2015

CLASS:	COM	IND	MFR	P.A	SFR	Special	other uses	TOTAL	% of Use	Avg.Daily Use
JAN	1,349,300	48,920	1,363,977	542,000	2,363,112	23,078	595,712	6,286,099	5.9%	202,777
FEB	1,892,940	67,230	1,576,753	482,620	2,493,437	11,959	473,748	6,998,687	6.6%	241,334
MAR	1,460,250	69,170	1,444,510	440,680	2,253,832	10,914	411,381	6,090,737	5.7%	196,475
APR	1,746,771	82,970	1,459,222	677,720	2,500,673	14,043	744,442	7,225,841	6.8%	240,861
MAY	2,060,691	86,750	1,568,468	790,080	3,011,579	134,625	558,566	8,210,759	7.7%	264,863
JUN	2,509,601	171,820	1,961,460	1,092,070	4,256,884	276,461	1,018,649	11,286,945	10.6%	376,231
JUL	3,258,698	213,530	2,182,630	1,682,810	5,315,959	400,551	772,025	13,826,203	13.0%	446,007
AUG	3,776,909	178,630	2,501,604	2,161,460	5,155,475	203,659	458,932	14,436,669	13.6%	465,699
SEP	2,786,980	174,980	1,902,161	1,173,348	3,697,147	167,906	626,076	10,528,598	9.9%	350,953
OCT	2,194,977	158,820	1,652,185	817,056	2,808,453	21,514	486,590	8,139,595	7.6%	262,568
NOV	1,733,704	126,390	1,628,950	689,406	2,527,208	30,057	453,771	7,189,486	6.7%	239,650
DEC	1,501,864	53,100	1,519,280	530,340	2,401,774	14,632	285,630	6,306,620	5.9%	203,439
								106,526,239	100.0%	291,055
TOTAL	26,272,685	1,432,310	20,761,200	11,079,590	38,785,533	1,309,399	6,885,522	**106,526,239**	:USE for Year	
AVERAGE	2,189,390	119,359	1,730,100	923,299	3,232,128	109,117	573,793	8,877,187	-3,530,761	:LOSS for Year
% of USE	24.7%	1.3%	19.5%	10.4%	36.4%	1.2%	6.5%	100.0%	110,057,000	:FLOW (Use+Loss)
% of FLOW	23.9%	1.3%	18.9%	10.1%	35.2%	1.2%	6.3%	96.8%	-3.2%	Loss as % of Flow

2016

CLASS:	COM	IND	MFR	P.A	SFR	Special	other uses	TOTAL	% of Use	Avg.Daily Use
JAN	1,664,577	68,270	1,869,710	384,671	2,703,079	5,840	208,384	6,904,531	7.4%	222,727
FEB	1,454,230	59,880	1,473,200	387,389	2,311,898	45,999	311,403	6,043,999	6.5%	208,414
MAR	1,289,760	50,970	1,293,480	39,011	2,037,459	5,352	371,581	5,087,613	5.5%	164,117
APR	2,038,700	89,660	1,647,250	674,030	2,773,755	14,635	375,091	7,613,121	8.2%	253,771
MAY	2,138,441	96,100	1,611,560	755,090	3,364,589	82,198	630,439	8,678,417	9.3%	279,949
JUN	2,523,510	180,940	1,850,070	889,950	4,118,817	125,927	619,676	10,308,890	11.1%	343,630
JUL	3,059,288	307,040	2,072,320	1,989,341	4,633,220	212,713	450,218	12,724,140	13.7%	410,456
AUG	3,288,099	215,300	2,157,820	2,013,639	5,207,580	413,315	1,427,873	14,723,626	15.8%	474,956
SEP	3,132,430	216,890	2,046,580	1,767,570	4,537,516	247,704	634,561	12,583,251	13.5%	419,442
OCT	2,026,450	197,000	1,723,530	864,190	3,241,231	62,262	359,140	8,473,803	9.1%	273,348
NOV							0	0	0.0%	0
DEC							0	0	0.0%	0
								93,141,391	100.0%	305,382
TOTAL	22,615,485	1,482,050	17,745,520	9,764,881	34,929,144	1,215,945	5,388,366	**93,141,391**	:USE for Year	
AVERAGE	2,261,549	148,205	1,774,552	976,488	3,492,914	121,595	449,030	7,761,783	-2,604,609	:LOSS for Year
% of USE	24.3%	1.6%	19.1%	10.5%	37.5%	1.3%	5.8%	100.0%	95,746,000	:FLOW (Use+Loss)
% of FLOW	23.6%	1.5%	18.5%	10.2%	36.5%	1.3%	5.6%	97.3%	-2.7%	Loss as % of Flow

Net Water Production - 2016

amounts in gallons

	Jan	Feb	Mar	Apr	May	Jun
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	6,697,000	6,221,000	6,060,000	7,620,000	8,996,000	10,723,000
3% meter loss	200,884	171,978	141,481	217,141	241,439	290,676
Flushing	2,500	134,425	225,100	152,950	384,000	324,000
SJC#3 FD use	5,000	5,000	5,000	5,000	5,000	5,000
Leaks	0	0	0	0	0	
notes						
other non-metered use						
notes						
Additional water in storage						
notes						
Total other uses	*-208,384*	*-311,403*	*-371,581*	*-375,091*	*-630,439*	*-619,676*
Net production	6,488,616	5,909,597	5,688,419	7,244,909	8,365,561	10,103,324

	Jul	Aug	Sep	Oct	Nov	Dec
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	12,966,000	15,815,000	12,596,000	8,052,000	0	0
3% meter loss	368,218	398,873	358,461	243,440	0	0
Flushing	77,000	924,000	271,100	108,000		
SJC#3 FD use	5,000	5,000	5,000	7,700		
Leaks	0	100,000	0	0		
notes		*Tucker Ave.*				
other non-metered use						
notes						
notes						
Total other uses	*-450,218*	*-1,427,873*	*-634,561*	*-359,140*	*0*	*0*
Net production	12,515,782	14,387,127	11,961,439	7,692,860	0	0

Water - use MTD

sourceDate
10 / 2016

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

Water Class	Accounts	Gallons
Spe	3	62,262
Sfr	963	3,241,231
P.A	71	864,190
Mfr	113	1,723,530
Ind	16	197,000
Com	219	2,026,450
TOTAL	**1,385**	**8,114,663**

Water - use MTD by Location

sourceDate
10 / 2016

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

Water Class	Accounts	Gallons
Location: IN		
Spe	3	62,262
Sfr	610	2,018,421
P.A	65	598,390
Mfr	108	1,620,520
Ind	13	180,230
Com	215	1,983,360
	1,014	6,463,183
Location: Out		
Sfr	353	1,222,810
P.A	6	265,800
Mfr	5	103,010
Ind	3	16,770
Com	4	43,090
	371	1,651,480
TOTAL	**1,385**	**8,114,663**

Flow to Town (Gross Water Production) 2016

reporting (meter reading) period *from WTP Chem. Wts. & Finish Flow to Town Report*			days in period	Gross *flow to Town*	Flow to Town (millions)
21-Dec	*to*	20-Jan	31	6,697,000	6.70
21-Jan	*to*	20-Feb	31	6,221,000	6.22
21-Feb	*to*	20-Mar	28	6,060,000	6.06
21-Mar	*to*	20-Apr	31	7,620,000	7.62
21-Apr	*to*	20-May	30	8,996,000	9.00
21-May	*to*	20-Jun	31	10,723,000	10.72
21-Jun	*to*	20-Jul	30	12,966,000	12.97
21-Jul	*to*	20-Aug	31	15,815,000	15.82
21-Aug	*to*	20-Sep	31	12,596,000	12.60
21-Sep	*to*	20-Oct	30	8,052,000	8.05
21-Oct	*to*	20-Nov	31		
21-Nov	*to*	20-Dec	30		
			365	95,746,000	95.746

Finish Water Flow to Town

source: Water Treatment Facility Monthly Report

day	Previous Month flow (total flow)
21	230
22	260
23	335
24	288
25	311
26	192
27	406
28	162
29	408
30	246
31	
	2,838

day	Current Month flow (total flow)
1	254
2	254
3	251
4	347
5	261
6	246
7	278
8	250
9	289
10	248
11	251
12	280
13	264
14	259
15	203
16	328
17	144
18	337
19	271
20	199
	5,214

TOTAL FLOW

8,052

1,000's gallons

8,052,000 gallons

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	
Feb-12	0.00		Feb-15	0.00		Feb-18	
Mar-12	0.00		Mar-15	0.00		Mar-18	
Apr-12	8.00		Apr-15	6.50		Apr-18	
May-12	0.00		May-15	0.00		May-18	
Jun-12	7.00		Jun-15	-13.00		Jun-18	
Jul-12	-19.00		Jul-15	-29.50		Jul-18	
Aug-12	-32.75		Aug-15	-42.25		Aug-18	
Sep-12	-45.00		Sep-15	-49.50		Sep-18	
Oct-12	-48.00		Oct-15	-54.50		Oct-18	
Nov-12	-24.25		Nov-15	-17.25		Nov-18	
Dec-12	0.00		Dec-15	0.00		Dec-18	
Jan-13	0.00		Jan-16	0.00		Jan-19	
Feb-13	0.00		Feb-16	0.00		Feb-19	
Mar-13	0.00		Mar-16	0.00		Mar-19	
Apr-13	8.50		Apr-16	6.00		Apr-19	
May-13	3.75		May-16	-2.50		May-19	
Jun-13	-3.75		Jun-16	-11.00		Jun-19	
Jul-13	-21.00		Jul-16	-21.00		Jul-19	
Aug-13	-34.25		Aug-16	-36.50		Aug-19	
Sep-13	-39.25		Sep-16	-49.50		Sep-19	
Oct-13	-43.50		Oct-16	-51.00		Oct-19	
Nov-13	-44.75		Nov-16			Nov-19	
Dec-13	-26.00		Dec-16			Dec-19	
Jan-14	0.00		Jan-17			Jan-20	
Feb-14	0.00		Feb-17			Feb-20	
Mar-14	0.00		Mar-17			Mar-20	
Apr-14	8.25		Apr-17			Apr-20	
May-14	5.00		May-17			May-20	
Jun-14	7.00		Jun-17			Jun-20	
Jul-14	-20.50		Jul-17			Jul-20	
Aug-14	-30.25		Aug-17			Aug-20	
Sep-14	-42.75		Sep-17			Sep-20	
Oct-14	-45.25		Oct-17			Oct-20	
Nov-14	-46.50		Nov-17			Nov-20	
Dec-14	0.00		Dec-17			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	JAN	4.61
FEB	1.01	1.61	2.83	1.78	1.50	1.24	2.74	3.38	1.32	4.22	FEB	2.16
MAR	2.33	0.91	3.70	1.99	2.05	3.30	3.37	3.09	3.63	3.88	MAR	2.83
APR	1.37	2.23	1.49	1.32	2.07	1.47	2.96	1.91	2.70	1.94	APR	1.95
MAY	1.08	1.24	0.78	1.26	1.69	2.09	3.07	1.09	2.20	1.05	MAY	1.56
JUN	1.63	0.56	1.03	1.16	0.35	1.10	0.68	2.60	0.83	0.52	JUN	1.05
JUL	0.70	0.26	1.56	0.21	0.45	0.11	0.84	1.04	0.00	0.36	JUL	0.55
AUG	1.60	0.03	0.64	1.88	0.81	0.72	0.29	0.00	0.95	0.49	AUG	0.74
SEP	0.94	1.15	0.54	0.84	1.58	4.35	0.72	0.12	5.08	1.34	SEP	1.67
OCT	3.50	1.89	2.12	1.83	5.24	1.38	2.29	6.40	1.42	4.00	OCT	3.01
NOV	4.28	10.43	2.32	5.15	6.76	2.94	4.50	3.32	2.49	4.00	NOV	4.62
DEC	2.89	3.74	4.59	3.70	1.80	6.55	1.88	4.79	2.28	3.37	DEC	3.56
Total	26.82	30.92	28.11	23.46	28.12	29.98	29.24	31.20	27.04	28.03	Total	28.29
Cumulative thru OCT	**19.65**	**16.75**	**21.20**	**14.61**	**19.56**	**20.49**	**22.86**	**23.09**	**22.27**	**20.66**		

all figures in inches

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
JAN	3.97	2.17									JAN
FEB	2.95	4.83									FEB
MAR	3.62	2.88									MAR
APR	0.51	0.75									APR
MAY	0.30	0.48									MAY
JUN	0.14	1.22									JUN
JUL	0.36	0.32									JUL
AUG	0.94	0.11									AUG
SEP	1.28	1.40									SEP
OCT	3.53	4.80									OCT
NOV	6.19										NOV
DEC	5.26										DEC
Total	29.05	18.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total
Cumulative thru OCT	**17.60**	**18.96**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	

NOTE: The Wastewater Treatment Concurrency Threshold report will be available following receipt of monthly results at the conclusion of the current testing cycle.

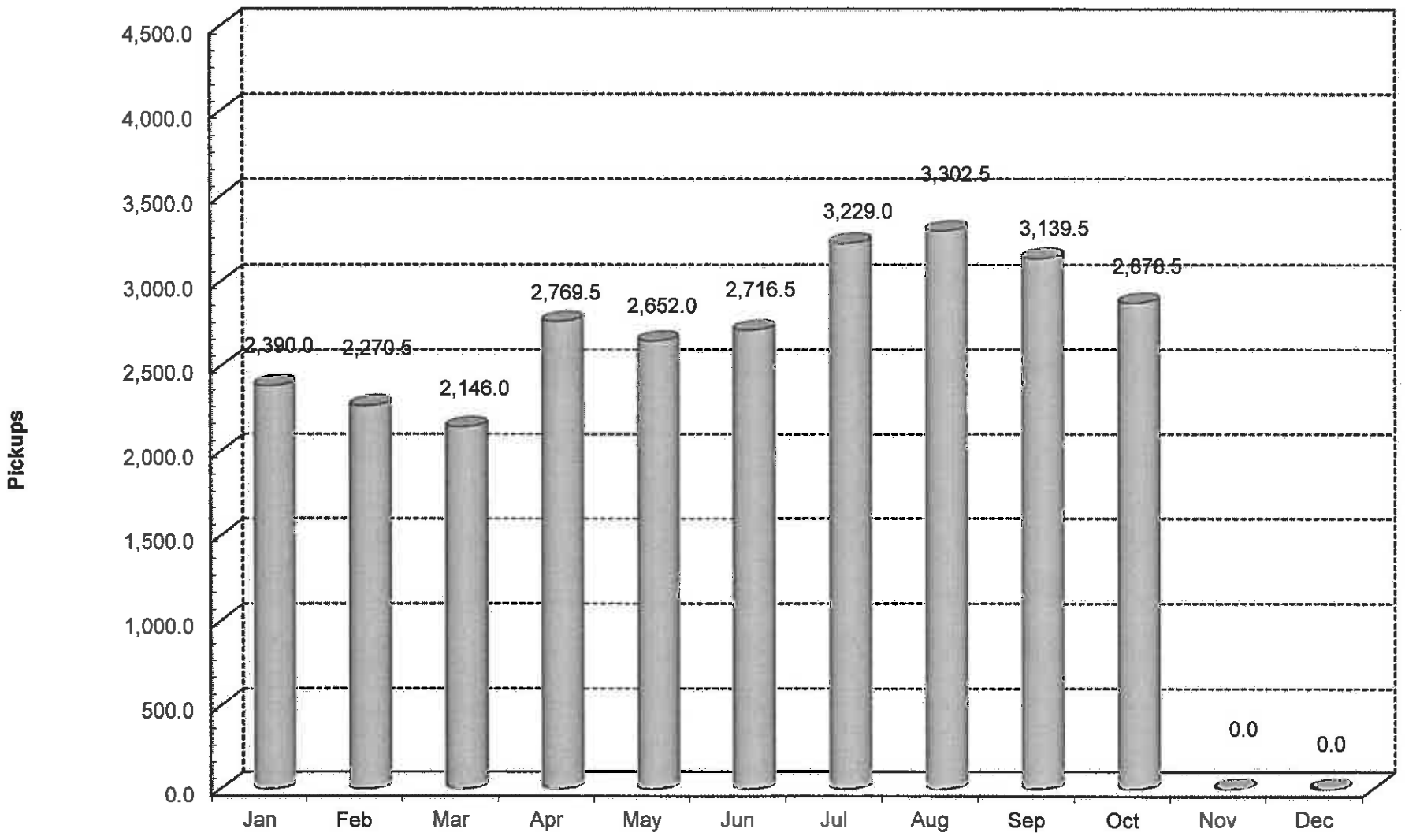
Water use MTD - accounts with sewer

sourceDate
10 / 2016

Sewer Class	Accounts	Gallons
Location: IN		
Sfr IN Town	589	1,983,961
P.A In/lo Strength	42	478,920
P.A In/hi Strength	2	4,290
Mhp In-LO Strength	2	362,400
Mfr In/low Strength	103	1,210,870
Low Rate / IN Town	8	18,180
Lmf In/lo Strength	1	5,380
Ind In/lo Strength	11	166,330
Dot In-LO Strength	3	58,740
Com In/lo Strength	160	1,051,820
Com In/hi Strength	42	886,020
	963	6,226,911
Location: Out		
U.W Out-HI Streng	1	228,600
Sfr Out of Town	4	13,140
Mfr Out/lo Strength	1	3,820
	6	245,560
TOTAL	**969**	**6,472,471**

Town of Friday Harbor

Refuse Pickups by Month - 2016



Refuse Pickups - 2016 YTD

Account Type	SFR	Refuse Only	P.A	MFR	IND	COM	Other	Total
Jan	1,308.0	140.5	106.0	373.0	25.5	437.0		2,390.0
Feb	1,191.0	127.5	105.5	351.0	25.0	470.5		2,270.5
Mar	1,146.0	132.5	100.5	318.5	18.0	430.5		2,146.0
Apr	1,449.0	166.0	130.0	386.0	24.5	614.0		2,769.5
May	1,382.0	169.5	139.5	358.5	23.5	579.0		2,652.0
Jun	1,359.0	180.5	162.5	367.5	20.0	627.0		2,716.5
Jul	1,629.0	230.5	202.0	375.0	27.0	765.5		3,229.0
Aug	1,549.0	247.0	255.0	405.0	24.0	822.5		3,302.5
Sep	1,444.0	235.0	209.5	408.5	22.0	820.5		3,139.5
Oct	1,505.0	182.0	142.5	387.0	19.0	643.0		2,878.5
Nov								0.0
Dec								0.0
YTD	13,962	1,811	1,553	3,730	229	6,210	0	27,494

Refuse - pickups by Class

sourceDate
10 / 2016

Location	Class	Pickups
IN		
	Sfr	1,505.0
	RefuseOnly	182.0
	P.A	142.5
	Mfr	381.5
	Ind	19.0
	Com	643.0
		2,873.0
Out		
	Mfr	5.5
		5.5
	TOTAL	2,878.5

Refuse - active accounts

sourceDate
10 / 2016

Location	Refuse Type	Accounts
IN		
	Small Dumpster	49
	P.A.	36
	Med. Dumpster	53
	Low Rate	8
	Large Dumpster	68
	Compactors	4
	Cans	763
		981
Out		
	Large Dumpster	1
		1
	TOTAL	**982**

Recycle - pickups by Class

sourceDate
10 / 2016

Location	Class	Pickups
IN		
	Sfr	596
	RefuseOnly	17
	P.A	0
	Mfr	36
	Ind	4
	Com	7
		660
Out		
	Mfr	0
		0
	TOTAL	660