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

www.fridayharbor.org

Period ending: September 2015

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
Steven Dubail, System Administrator

Utilization of Sustainable Annual Water System Capacity

Period start: Oct-14
Period end: Sep-15

Sustainable Annual Yield (TFH Comprehensive Water System Plan Update, June, 2013, page 3-6)	205 million gallons
Annual use - 12 month period	111.0 million gallons
percent of Sustainable Annual Yield	54.1%
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	
2013	Jan-13	7,610,292		9,735,000	-2,124,708		314,032	
gallons	Feb-13	7,445,324	15,055,616	9,012,000	-1,566,676	18,747,000	321,857	
	Mar-13	6,929,325	21,984,941	7,584,000	-654,675	26,331,000	244,645	
	Apr-13	8,809,104	30,794,046	9,663,000	-853,896	35,994,000	322,100	
	May-13	8,235,664	39,029,710	9,844,000	-1,608,336	45,838,000	317,548	
	Jun-13	9,933,479	48,963,189	11,477,000	-1,543,521	57,315,000	382,567	
	Jul-13	12,491,179	61,454,368	13,933,000	-1,441,821	71,248,000	449,452	YTD
	Aug-13	14,756,005	76,210,374	15,329,000	-572,995	86,577,000	494,484	Unaccounted
	Sep-13	10,915,019	87,125,393	12,791,000	-1,875,981	99,368,000	426,367	as % of Flow
Average	Oct-13	11,134,406	98,259,799	10,188,000	946,406	109,556,000	328,645	9.98%
Monthly Use	Nov-13	8,406,359	106,666,158	9,330,000	-923,641	118,886,000	311,000	
9,582,079	Dec-13	8,318,795	114,984,953	8,853,000	-534,205	127,739,000	285,581	-12,754,047
YEAR TOTAL:	12	114,984,953	Cumulative	127,739,000	-12,754,047	Cumulative	349,856	
		Metered/Other	Use YTD		Unaccounted	3% meter loss	2,754,688	
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	0	84,890,537	0	0	88,035,000	0	3.57%
Monthly Use	Nov-15	0	84,890,537	0	0	88,035,000	0	
9,432,282	Dec-15	0	84,890,537	0	0	88,035,000	0	-3,144,463
YEAR TOTAL:	9	84,890,537	Cumulative	88,035,000	-3,144,463	Cumulative	321,901	
		Metered/Other	Use YTD		Unaccounted	3% meter loss	2,376,930	

3 YEAR AVERAGES:	Use	Flow	Daily Flow	3 Year Loss as % of Flow
	6,056,833 :gal/month	9,825,152 :gal/month	206,252	6.04%

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

3 yr cumulative flow	324,230,000
3 yr unaccounted	-19,594,701

WATER CONSUMPTION (Use) BY CUSTOMER CLASS

source: utilTry08 & 13.mdb

2014

CLASS:	COM	IND	MFR	P.A	SFR	Special	other uses	TOTAL	% of Use	Avg.Daily Use
JAN	1,498,566	83,590	1,419,110	441,560	2,479,624	3,019	577,764	6,503,233	6.2%	209,782
FEB	1,566,210	92,500	1,497,180	448,510	2,604,595	1,512	240,315	6,450,822	6.2%	222,442
MAR	1,479,120	184,470	1,238,310	388,310	2,073,745	4,686	525,159	5,893,800	5.6%	190,123
APR	1,942,230	122,160	1,458,930	702,620	2,582,404	10,965	509,579	7,328,888	7.0%	244,296
MAY	1,946,840	106,160	1,435,920	987,490	2,712,086	13,933	513,273	7,715,702	7.4%	248,894
JUN	2,601,640	144,080	1,756,350	1,351,210	3,865,492	21,063	621,583	10,361,418	9.9%	345,381
JUL	2,870,562	166,160	1,805,880	1,588,660	4,099,267	88,662	1,141,146	11,760,337	11.2%	379,366
AUG	4,502,138	220,920	2,308,380	1,968,790	5,595,204	241,979	950,122	15,787,533	15.1%	509,275
SEP	2,928,452	198,190	1,679,920	1,604,960	3,841,436	107,315	400,608	10,760,881	10.3%	358,696
OCT	2,064,458	121,550	1,470,580	855,240	2,971,375	5,564	675,063	8,163,830	7.8%	263,349
NOV	1,742,450	71,950	1,475,050	749,390	2,580,747	27,036	528,399	7,175,022	6.8%	239,167
DEC	1,512,380	59,190	1,391,100	574,420	2,369,766	65,709	885,777	6,858,342	6.5%	221,237
								104,759,809	100.0%	286,229
TOTAL	26,655,046	1,570,920	18,936,710	11,661,160	37,775,741	591,443	7,568,789	**104,759,809**	:USE for Year	
AVERAGE	2,221,254	130,910	1,578,059	971,763	3,147,978	49,287	630,732	8,729,984	-3,696,191	:LOSS for Year
% of USE	25.4%	1.5%	18.1%	11.1%	36.1%	0.6%	7.2%	100.0%	108,456,000	:FLOW (Use+Loss)
% of FLOW	24.6%	1.4%	17.5%	10.8%	34.8%	0.5%	7.0%	96.6%	-3.4%	Loss as % of Flow

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	7.4%	202,777
FEB	1,892,940	67,230	1,576,753	482,620	2,493,437	11,959	473,748	6,998,687	8.2%	241,334
MAR	1,460,250	69,170	1,444,510	440,680	2,253,832	10,914	411,381	6,090,737	7.2%	196,475
APR	1,746,771	82,970	1,459,222	677,720	2,500,673	14,043	744,442	7,225,841	8.5%	240,861
MAY	2,060,691	86,750	1,568,468	790,080	3,011,579	134,625	558,566	8,210,759	9.7%	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	13.3%	376,231
JUL	3,258,698	213,530	2,182,630	1,682,810	5,315,959	400,551	772,025	13,826,203	16.3%	446,007
AUG	3,776,909	178,630	2,501,604	2,161,460	5,155,475	203,659	458,932	14,436,669	17.0%	465,699
SEP	2,786,980	174,980	1,902,161	1,173,348	3,697,147	167,906	626,076	10,528,598	12.4%	350,953
OCT							0	0	0.0%	0
NOV							0	0	0.0%	0
DEC							0	0	0.0%	0
								84,890,537	100.0%	309,819
TOTAL	20,842,140	1,094,000	15,960,785	9,042,788	31,048,098	1,243,196	5,659,530	**84,890,537**	:USE for Year	
AVERAGE	2,315,793	121,556	1,773,421	1,004,754	3,449,789	138,133	471,628	7,074,211	-3,144,463	:LOSS for Year
% of USE	24.6%	1.3%	18.8%	10.7%	36.6%	1.5%	6.7%	100.0%	88,035,000	:FLOW (Use+Loss)
% of FLOW	23.7%	1.2%	18.1%	10.3%	35.3%	1.4%	6.4%	96.4%	-3.6%	Loss as % of Flow

Water - use MTD

sourceDate
9 / 2015

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

Water Class	Accounts	Gallons
Spe	4	167,906
Sfr	950	3,697,147
P.A	71	1,173,348
Mfr	113	1,902,161
Ind	16	174,980
Com	219	2,786,980
TOTAL	**1,373**	**9,902,522**

Water - use MTD by Location

sourceDate
9 / 2015

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	167,026
Sfr	598	2,102,380
P.A	65	957,388
Mfr	108	1,670,731
Ind	13	156,900
Com	215	2,764,320
	1,002	7,818,745
Location: Out		
Spe	1	880
Sfr	352	1,594,767
P.A	6	215,960
Mfr	5	231,430
Ind	3	18,080
Com	4	22,660
	371	2,083,777
TOTAL	**1,373**	**9,902,522**

Net Water Production - 2015

amounts in gallons

	Jan	Feb	Mar	Apr	May	Jun
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	6,914,000	6,878,000	6,236,000	7,872,000	8,742,000	12,507,000
3% meter loss	170,712	195,748	170,381	194,442	229,566	308,049
Flushing	345,000	273,000	186,000	544,000	324,000	576,000
SJC#3 FD use	5,000	5,000	5,000	5,000	5,000	5,000
Leaks	25,000	0	25,000	0	0	43,200
notes	*Cedar St leak*		*Marguerite Project*			*Dougherty Lane Leak*
other non-metered use	50,000		25,000	1,000		86,400
notes	*150 Carter Beach leak*		*Linder St leak*	*Hillview tank overflow*		*Tuesday Way Leak*
Additional water in storage						
notes						
Total other uses	*-595,712*	*-473,748*	*-411,381*	*-744,442*	*-558,566*	*-1,018,649*
Net production	6,318,288	6,404,252	5,824,619	7,127,558	8,183,434	11,488,351

	Jul	Aug	Sep	Oct	Nov	Dec
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	14,230,000	13,882,000	10,774,000	0	0	0
3% meter loss	391,625	419,332	297,076	0	0	0
Flushing	50,000	25,000	324,000			
SJC#3 FD use	5,000	5,000	5,000			
Leaks	275,000	9,600	0			
notes	*Tuesday Way leak*	*John St leak*				
other non-metered use	50,400					
notes	*Caines St. leak*					
notes						
Total other uses	*-772,025*	*-458,932*	*-626,076*	*0*	*0*	*0*
Net production	13,457,975	13,423,068	10,147,924	0	0	0

Flow to Town (Gross Water Production) 2015

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	6,914,000	6.91
21-Jan	*to*	20-Feb	31	6,878,000	6.88
21-Feb	*to*	20-Mar	28	6,236,000	6.24
21-Mar	*to*	20-Apr	31	7,872,000	7.87
21-Apr	*to*	20-May	30	8,742,000	8.74
21-May	*to*	20-Jun	31	12,507,000	12.51
21-Jun	*to*	20-Jul	30	14,230,000	14.23
21-Jul	*to*	20-Aug	31	13,882,000	13.88
21-Aug	*to*	20-Sep	31	10,774,000	10.77
21-Sep	*to*	20-Oct	30		
21-Oct	*to*	20-Nov	31		
21-Nov	*to*	20-Dec	30		
			365	88,035,000	88.035

Finish Water Flow to Town

source: Water Treatment Facility Monthly Report

day	Previous Month flow (total flow)
21	410
22	442
23	453
24	391
25	388
26	416
27	440
28	406
29	404
30	347
31	331
	4,428

day	Current Month flow (total flow)
1	377
2	287
3	329
4	297
5	341
6	293
7	299
8	341
9	342
10	309
11	295
12	321
13	384
14	295
15	310
16	345
17	252
18	305
19	313
20	311
	6,346

TOTAL FLOW

10,774

1,000's gallons

10,774,000 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			Oct-18	
Nov-12	-24.25		Nov-15			Nov-18	
Dec-12	0.00		Dec-15			Dec-18	
Jan-13	0.00		Jan-16			Jan-19	
Feb-13	0.00		Feb-16			Feb-19	
Mar-13	0.00		Mar-16			Mar-19	
Apr-13	8.50		Apr-16			Apr-19	
May-13	3.75		May-16			May-19	
Jun-13	-3.75		Jun-16			Jun-19	
Jul-13	-21.00		Jul-16			Jul-19	
Aug-13	-34.25		Aug-16			Aug-19	
Sep-13	-39.25		Sep-16			Sep-19	
Oct-13	-43.50		Oct-16			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 SEP	16.15	14.86	19.08	12.78	14.32	19.11	20.57	16.69	20.85	16.66		

all figures in inches

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
JAN	3.97										JAN
FEB	2.95										FEB
MAR	3.62										MAR
APR	0.51										APR
MAY	0.30										MAY
JUN	0.14										JUN
JUL	0.36										JUL
AUG	0.94										AUG
SEP	1.28										SEP
OCT											OCT
NOV											NOV
DEC											DEC
Total	14.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total
Cumulative thru SEP	14.07	0.00	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
9 / 2015

Sewer Class	Accounts	Gallons
Location: IN		
Sfr IN Town	577	2,011,900
P.A In/lo Strength	41	562,870
P.A In/hi Strength	2	26,280
Mhp In-LO Strength	2	347,300
Mfr In/low Strength	104	1,260,931
Low Rate / IN Town	5	17,150
Lmf In/lo Strength	1	5,600
Ind In/lo Strength	11	143,380
Dot In-LO Strength	3	77,080
Com In/lo Strength	161	1,505,220
Com In/hi Strength	42	1,207,340
	949	7,165,051
Location: Out		
U.W Out-HI Streng	1	200,100
Sfr Out of Town	4	13,980
Mfr Out/lo Strength	1	5,370
	6	219,450
TOTAL	**955**	**7,384,501**

Refuse Pickups - 2015 YTD

Account Type	SFR	Refuse Only	P.A	MFR	IND	COM	Other	Total
Jan	1,133.0	114.5	104.0	347.5	19.0	458.0		2,176.0
Feb	1,149.0	119.0	105.5	356.5	19.0	510.5		2,259.5
Mar	1,027.0	112.0	97.0	307.5	17.0	458.5		2,019.0
Apr	1,054.0	129.5	117.5	328.0	16.5	526.5		2,172.0
May	1,281.0	158.0	154.5	338.0	19.0	602.0		2,552.5
Jun	1,167.0	155.5	164.5	348.5	18.0	658.5		2,512.0
Jul	1,250.0	172.5	185.5	376.5	19.0	681.0		2,684.5
Aug	1,512.0	239.5	219.5	412.0	19.5	745.0		3,147.5
Sep	1,268.0	218.0	203.0	371.0	25.5	686.0		2,771.5
Oct								0.0
Nov								0.0
Dec								0.0
YTD	10,841	1,419	1,351	3,186	173	5,326	0	22,295

Refuse - active accounts

sourceDate
9 / 2015

Location	Refuse Type	Accounts
IN		
	Small Dumpster	47
	P.A.	36
	Med. Dumpster	50
	Low Rate	5
	Large Dumpster	70
	Compactors	4
	Cans	759
		2
		973
Out		
	Large Dumpster	1
		1
	TOTAL	974

Refuse - pickups by Class

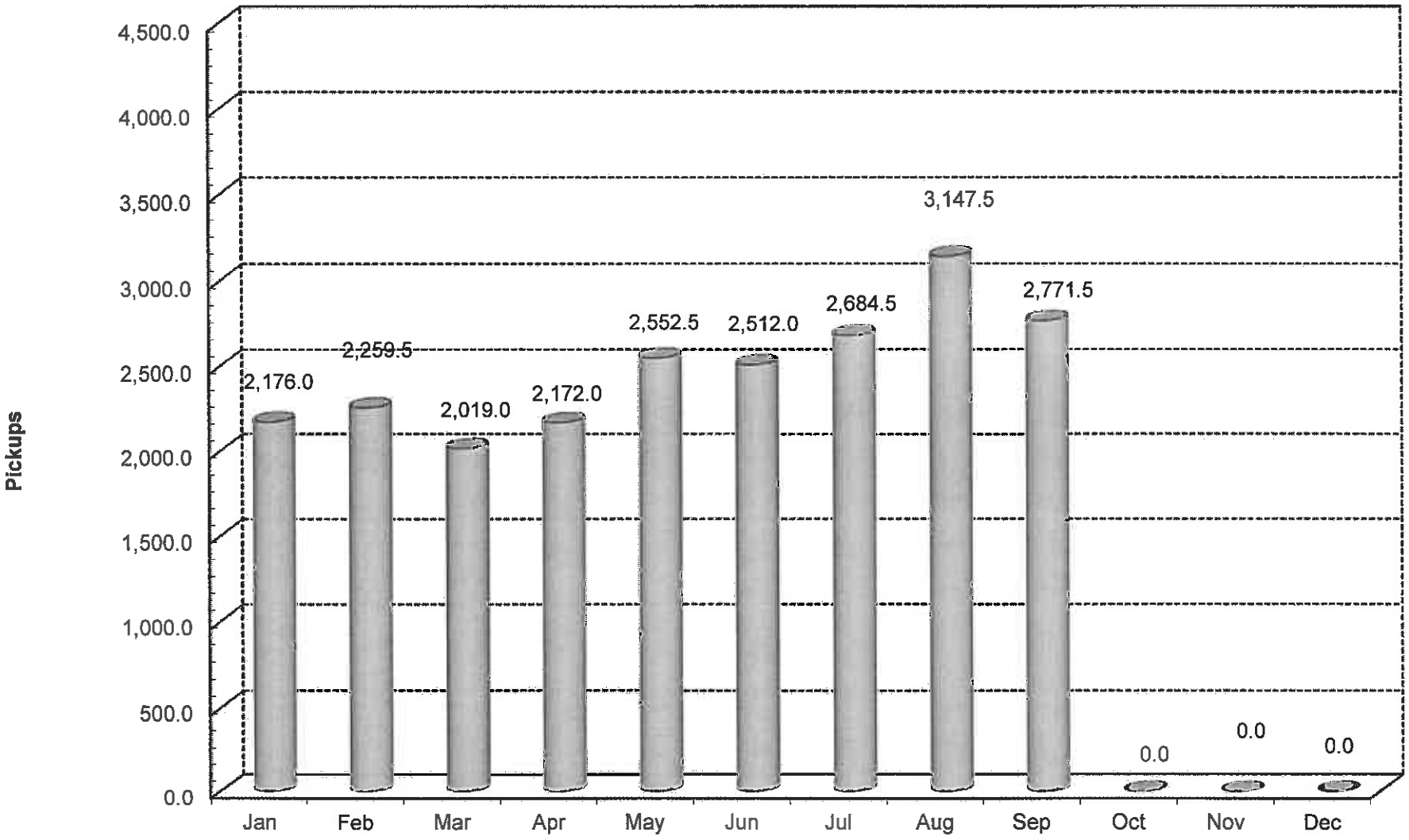
sourceDate
9 / 2015

Location	Class	Pickups
IN		
	Sfr	1,268.0
	RefuseOnly	218.0
	P.A	203.0
	Mfr	362.0
	Ind	25.5
	Com	686.0
		2,762.5
Out		
	Mfr	9.0
		9.0
	TOTAL	2,771.5

Recycle - pickups by Class

sourceDate
9 / 2015

Location	Class	Pickups
IN		
	Sfr	655
	RefuseOnly	17
	P.A	0
	Mfr	22
	Ind	2
	Com	0
		696
Out		
	Mfr	0
		0
	TOTAL	696

Town of Friday Harbor

Refuse Pickups by Month - 2015