



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

www.fridayharbor.org

Period ending: October 2019

Data provided by
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Water Utility, Mike Deegan, Water System Mgr.
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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 MTDsourceDate
10 / 2019

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

Water Class	Accounts	Gallons
Spe	4	40,958
Sfr	987	2,663,670
PA	76	1,308,870
Mfr	126	1,833,510
Ind	14	99,490
Com	222	1,700,260
TOTAL	1,429	7,646,758

Water use MTD - accounts with sewersourceDate
10 / 2019

Sewer Class	Accounts	Gallons
Location: IN		
Mfr In/low Strength	67	730,970
Com In/lo Strength	161	869,680
Dot In/lo Strength	3	46,380
Ind In/hi Strength	1	42,540
Ind In/lo Strength	10	51,370
Lmf In/lo Strength	1	2,450
Com In/hi Strength	45	709,340
Mfr In/lo Strength	49	400,260
Mhp In/lo Strength	2	331,600
PA In/hi Strength	3	69,580
PA In/lo Strength	42	678,670
Sfr IN Town	617	1,690,990
Low Rate / IN Town	4	4,830
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	1005	5,628,660
Location: Out		
UW Out/hi Strength	1	394,500
Mfr Out/lo Strength	1	4,130
Sfr Out of Town	4	11,950
	<hr/>	
	6	410,580
TOTAL	1011	6,039,240

Water - use MTD by LocationsourceDate
10 / 2019

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	39,008
Sfr	635	1,709,730
PA	68	877,120
Mfr	121	1,735,770
Ind	13	99,490
Com	218	1,623,960
	<hr/>	<hr/>
	1,058	6,085,078
Location: Out		
Spe	1	1,950
Sfr	352	953,940
PA	8	431,750
Mfr	5	97,740
Ind	1	0
Com	4	76,300
	<hr/>	<hr/>
	371	1,561,680
TOTAL	1,429	7,646,758

Refuse - pickups by ClasssourceDate
10 / 2019

Location	Class	Pickups
IN	Sfr	1,534.0
	RefuseOnly	276.0
	PA	212.0
	Mfr	418.5
	Ind	17.0
	Com	2,041.5
		<hr/> 4,499.0
Out	Mfr	2.0
		<hr/> 2.0
TOTAL		4,501.0

Refuse - active accountssourceDate
10 / 2019

Location	Refuse Type	Accounts
IN		
	Small Dumpster	47
	PA	39
	Medium Dumpste	54
	Large Dumpster	62
	Compactors	3
	Cans Low Rate	4
	Cans	831
		<hr/> 1,040
Out		
	Large Dumpster	1
		<hr/> 1
	TOTAL	1,041

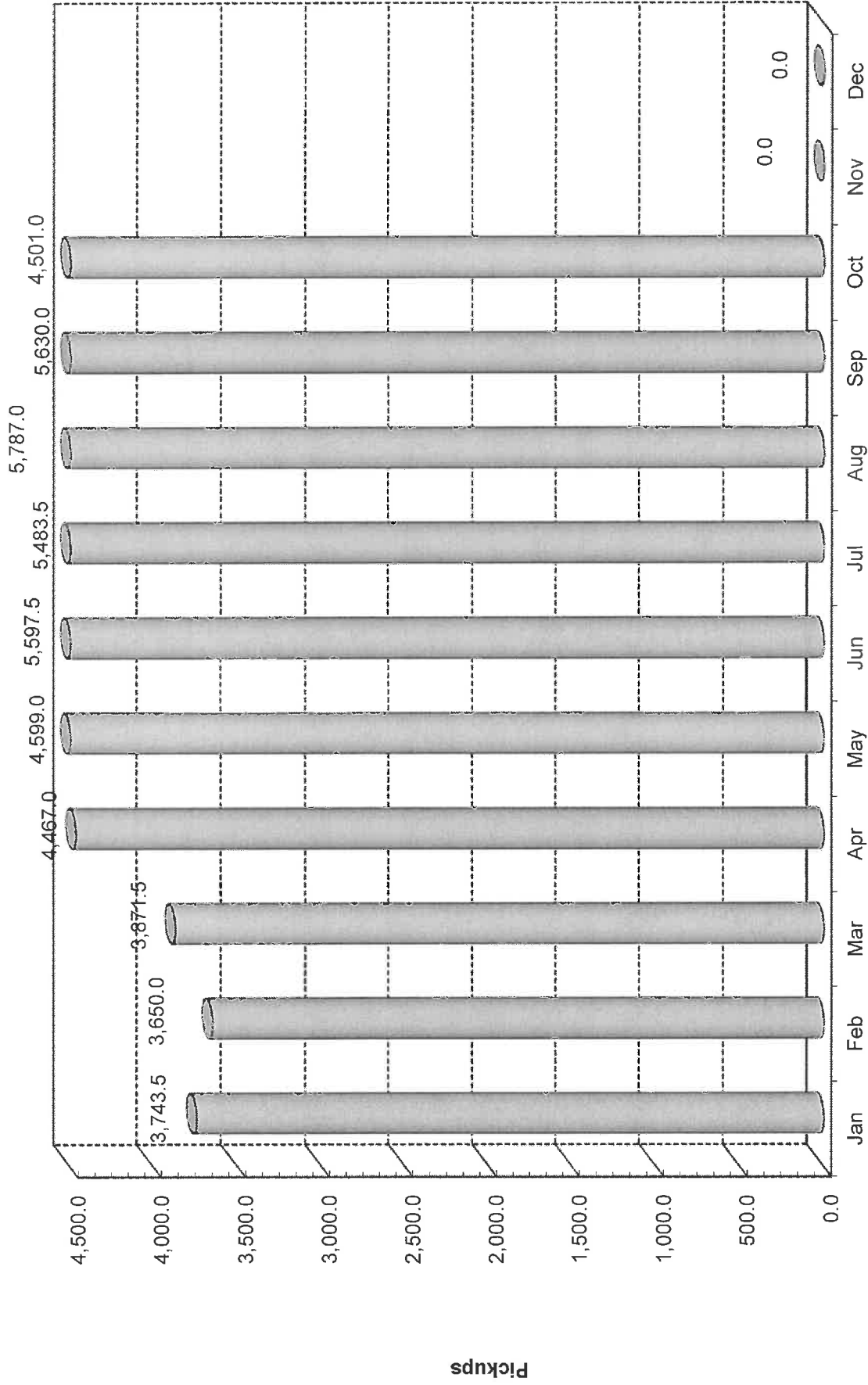
Recycle - pickups by ClasssourceDate
10 / 2019

Location	Class	Pickups
IN	Sfr	546
	RefuseOnly	17
	PA	0
	Mfr	39
	Ind	4
	Com	6
		<hr/> 612
Out	Mfr	0
		<hr/> 0
	TOTAL	612

Refuse Pickups - 2019 YTD

Account Type	SFR	Refuse Only	P.A	MFR	IND	COM	Other	Total
Jan	1,327.5	196.5	148.5	353.5	18.0	1,699.5		3,743.5
Feb	1,387.0	182.5	152.0	367.0	21.5	1,535.5	4.5	3,650.0
Mar	1,324.0	221.0	170.0	367.0	18.0	1,767.5	4.0	3,871.5
Apr	1,617.0	271.0	180.5	426.5	21.0	1,947.0	4.0	4,467.0
May	1,486.0	292.5	205.5	412.0	19.0	2,178.0	6.0	4,599.0
Jun	2,033.0	397.5	227.5	502.5	16.5	2,413.5	7.0	5,597.5
Jul	1,827.0	420.0	192.0	454.0	16.0	2,565.5	9.0	5,483.5
Aug	1,830.0	423.5	220.5	474.5	16.5	2,812.0	10.0	5,787.0
Sep	1,889.0	368.5	236.0	516.0	19.0	2,593.0	8.5	5,630.0
Oct	1,534.0	276.0	212.0	418.5	17.0	2,041.5	2.0	4,501.0
Nov								0.0
Dec								0.0
YTD	16,254.5	3,049.0	1,944.5	4,291.5	182.5	21,553.0	55.0	47,330.0

Refuse Pickups by Month - 2019



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.

29 :count of days in reporting period.

	September 16, 2019		October 14, 2019
day	flow (total flow)	day	flow (total flow)
15		1	319
16	276	2	297
17	314	3	318
18	308	4	305
19	328	5	394
20	316	6	345
21	328	7	261
22	262	8	312
23	326	9	222
24	334	10	349
25	308	11	207
26	240	12	334
27	308	13	339
28	339	14	247
29	319	15	
30	313	16	
31			
days	4619	days	4249
	TOTAL DAYS	29	
	TOTAL FLOW	8868	
		1,000's gallons	

TOWN OF FRIDAY HARBOR

Flow to Town (Gross Water Production) 2019

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

Reporting (meter reading) period			days in period	Gross flow to Town	Flow to Town (millions)
<i>from WTP Chem. Wts. & Finish Flow to Town Report</i>	<i>to</i>				
17-Dec	<i>to</i>	14-Jan	29	6,982,000	6,982
15-Jan	<i>to</i>	14-Feb	31	7,865,000	7,865
15-Feb	<i>to</i>	14-Mar	28	7,468,000	7,468
15-Mar	<i>to</i>	14-Apr	31	8,604,000	8,604
15-Apr	<i>to</i>	14-May	30	9,522,000	9,522
15-May	<i>to</i>	16-Jun	33	12,495,000	12,495
17-Jun	<i>to</i>	14-Jul	28	12,159,000	12,159
15-Jul	<i>to</i>	14-Aug	31	13,977,000	13,977
15-Aug	<i>to</i>	15-Sep	32	12,723,000	12,723
16-Sep	<i>to</i>	14-Oct	29	8,868,000	8,868
	<i>to</i>		0	0	
	<i>to</i>		0	0	
			302	100,663,000	100663.0

Net Water Production - 2019

amounts in gallons

	Jan	Feb	Mar	Apr	May	Jun
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	6,982,000	7,865,000	7,468,000	8,604,000	9,522,000	12,495,000
3% meter loss	164,951	197,550	159,994	208,847	234,165	334,827
Flushing	308,800	309,700	341,200	245,100	183,500	144,000
SJC#3 FD use	5,000	5,000	5,000	5,000	5,000	35,900
Leaks	216,000	316,000	226,000	432,000	432,000	352,400
notes						
other non-metered use						
notes						
Additional water in storage						
notes						
Total other uses	-694,751	-828,250	-732,194	-890,947	-854,665	-867,127
Net production	6,287,249	7,036,750	6,735,806	7,713,053	8,667,335	11,627,873

	Jul	Aug	Sep	Oct	Nov	Dec
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	12,159,000	13,977,000	12,723,000	8,868,000	0	0
3% meter loss	340,444	395,959	348,663	229,403	0	0
Flushing	201,600	180,000	108,000	275,900		
SJC#3 FD use	5,000	5,000	5,000	5,000		
Leaks	226,800	86,400	86,400	258,400		
notes						
other non-metered use						
notes						
Total other uses	-773,844	-667,359	-548,063	-768,703	0	0
Net production	11,385,156	13,309,641	12,174,937	8,099,297	0	0

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	
2017							
<i>gallons</i>	Jan-17	8,403,985	8,484,000	-80,015		273,677	
	Feb-17	6,321,628	14,725,613	-770,372	15,576,000	253,286	
	Mar-17	6,110,787	20,836,401	-688,213	22,375,000	219,323	
	Apr-17	8,344,725	29,181,126	-1,394,275	32,114,000	324,633	
	May-17	7,085,245	36,266,371	672,245	38,527,000	206,871	
	Jun-17	10,048,456	46,314,827	-256,544	48,832,000	343,500	
	Jul-17	14,681,313	60,996,140	-353,687	63,867,000	485,000	YTD
	Aug-17	13,661,250	74,657,390	-1,147,750	78,676,000	477,710	Unaccounted
	Sep-17	14,093,015	88,750,405	-874,985	93,644,000	498,933	as % of Flow
Average	Oct-17	7,823,149	96,573,554	-216,851	101,684,000	259,355	5.10%
Monthly Use	Nov-17	6,680,806	103,254,360	-592,194	108,957,000	242,433	
9,176,124	Dec-17	6,859,133	110,113,492	-211,867	116,028,000	228,097	-5,914,508
YEAR TOTAL:	12	110,628,322	Cumulative Metered/Other Use YTD	116,028,000	-5,914,508	Cumulative Unaccounted 3% meter loss	317,735 2,915,731
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	8.25%
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	-9,750,254
YEAR TOTAL:	12	108,380,746	Cumulative Metered/Other Use YTD	118,131,000	-9,750,254	Cumulative Unaccounted 3% meter loss	323,377 2,989,222
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	5.84%
Monthly Use	Nov-19	0	94,785,961	0	100,663,000	0	
9,478,596	Dec-19	0	94,785,961	0	100,663,000	0	-5,877,039
YEAR TOTAL:	10	94,785,961	Cumulative Metered/Other Use YTD	100,663,000	-5,877,039	Cumulative Unaccounted 3% meter loss	331,074 2,614,802

3 YEAR AVERAGES:	Use 6,041,597 :gal/month	Flow 9,847,706 :gal/month	Daily Flow 218,151	3 Year Loss as % of Flow 6.43%
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source: Monthly Water Treatment Plant Report & utility.mdb's 3 yr cumulative flow 334,822,000
 3 yr unaccounted -21,541,801

Utilization of Sustainable Annual Water System Capacity

Period start: Nov-18

Period end: Oct-19

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

117.2 million gallons
57.2%

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.

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	-16.00
Jul-13	-21.00	Jul-16	-21.00	Jul-19	-26.25
Aug-13	-34.25	Aug-16	-36.50	Aug-19	-40.00
Sep-13	-39.25	Sep-16	-49.50	Sep-19	-46.25
Oct-13	-43.50	Oct-16	-51.00	Oct-19	-49.75
Nov-13	-44.75	Nov-16	-45.50	Nov-19	
Dec-13	-26.00	Dec-16	-10.35	Dec-19	
Jan-14	0.00	Jan-17	0.00	Jan-20	
Feb-14	0.00	Feb-17	0.00	Feb-20	
Mar-14	0.00	Mar-17	2.75	Mar-20	
Apr-14	8.25	Apr-17	9.00	Apr-20	
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					
FEB	2.95	4.83	2.99	3.80	1.76					
MAR	3.62	2.88	3.27	1.48	0.87					
APR	0.51	0.75	2.20	3.10	1.61					
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						
DEC	5.26	4.02	3.83	4.26						
Total	29.05	26.45	25.82	26.54	17.67	0.00	0.00	0.00	0.00	0.00

Cumulative thru

DEC	29.05	26.45	25.82	26.54	17.67	0.00	0.00	0.00	0.00	0.00
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Prevention of Wastewater Facility Overloading

Period start: Oct-18
 Period end: Sep-19

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