

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

www.fridayharbor.org

Period ending: Sept 2020

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
9 / 2020

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

Water Class	Accounts	Gallons
Spe	3	112,212
Sfr	996	4,211,890
PA	78	1,543,250
Mfr	130	2,194,420
Ind	14	222,810
Com	222	2,207,410
TOTAL	1,443	10,491,992

Water use MTD - accounts with sewersourceDate
9 / 2020

Sewer Class	Accounts	Gallons
Location: IN		
Mfr In/low Strength	65	946,660
Com In/lo Strength	163	1,218,590
Dot In/lo Strength	3	60,140
Ind In/hi Strength	1	46,170
Ind In/lo Strength	10	165,190
Lmf In/lo Strength	1	2,200
Com In/hi Strength	45	770,160
Mfr In/lo Strength	55	521,150
Mhp In/lo Strength	2	372,400
PA In/hi Strength	3	119,080
PA In/lo Strength	43	882,980
Sfr IN Town	622	2,477,870
Low Rate / IN Town	6	9,280
	<hr/> 1019	<hr/> 7,591,870
Location: Out		
UW Out/hi Strength	1	120,900
Mfr Out/lo Strength	1	5,870
Sfr Out of Town	4	13,070
	<hr/> 6	<hr/> 139,840
TOTAL	1025	7,731,710

Water - use MTD by LocationsourceDate
9 / 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	111,952
Sfr	643	2,524,640
PA	69	1,366,740
Mfr	125	1,897,270
Ind	13	220,690
Com	219	2,196,320
	<hr/>	
	1,071	8,317,612
Location: Out		
Spe	1	260
Sfr	353	1,687,250
PA	9	176,510
Mfr	5	297,150
Ind	1	2,120
Com	3	11,090
	<hr/>	
	372	2,174,380
TOTAL	1,443	10,491,992

Refuse - pickups by ClasssourceDate
9 / 2020

Location	Class	Pickups
IN	Sfr	2,019.0
	RefuseOnly	260.5
	PA	95.5
	Mfr	537.0
	Ind	26.5
	Com	1,995.5
		<hr/> 4,934.0
Out	Mfr	11.0
		<hr/> 11.0
	TOTAL	4,945.0

Refuse - active accountssourceDate
9 / 2020

Location	Refuse Type	Accounts
IN		
	Small Dumpster	45
	PA	39
	Medium Dumpste	52
	Large Dumpster	65
	Compactors	4
	Cans Low Rate	6
	Cans	848
		<hr/> 1,059
Out		
	Large Dumpster	1
		<hr/> 1
	TOTAL	1,060

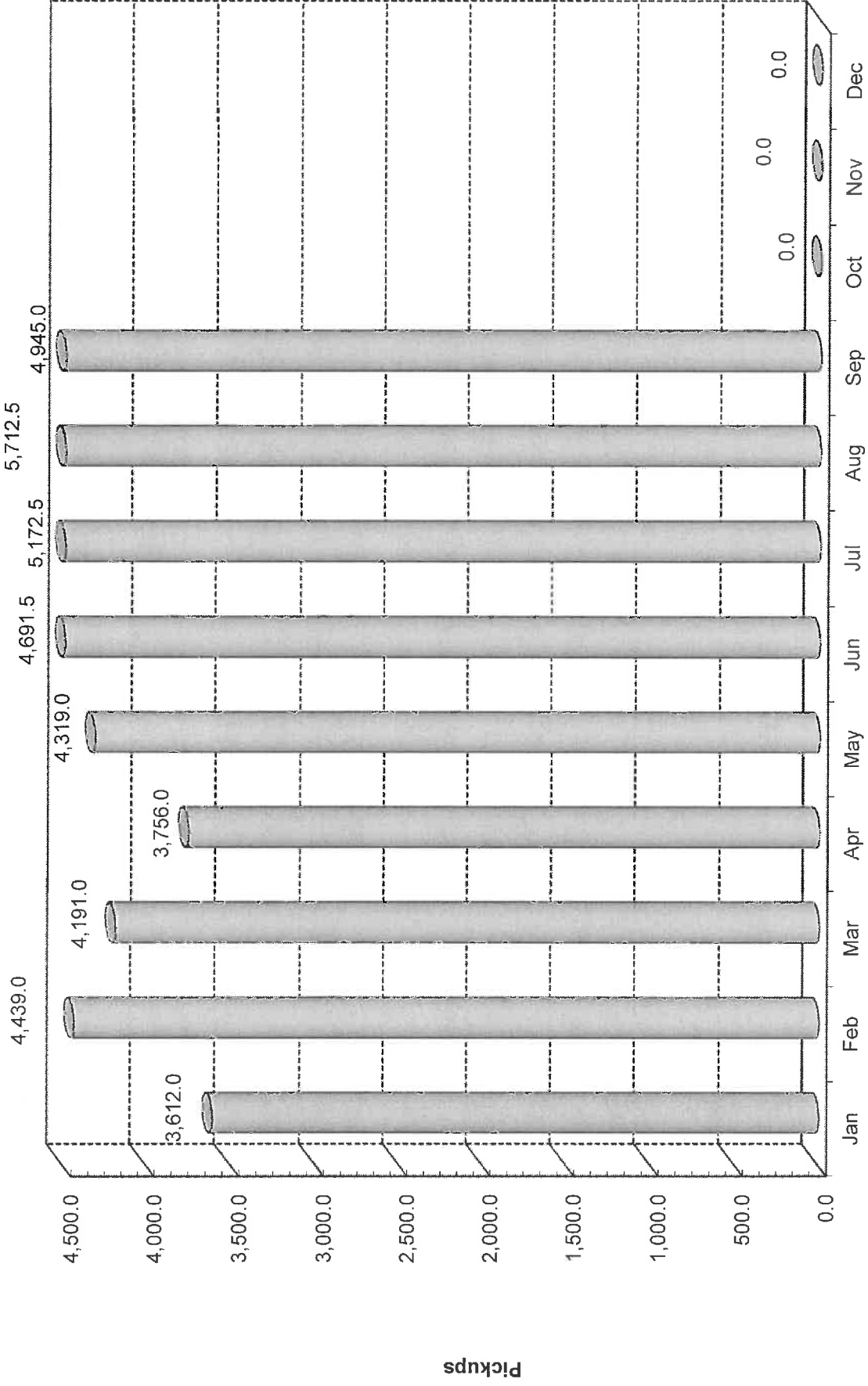
Recycle - pickups by ClasssourceDate
9 / 2020

Location	Class	Pickups
IN	Sfr	755
	RefuseOnly	24
	PA	0
	Mfr	69
	Ind	3
	Com	12
		<hr/> 863
Out	Mfr	0
		<hr/> 0
TOTAL		<hr/> 863

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	2,175.0	181.5	64.5	550.0	18.0	1,321.5	8.5	4,319.0
Jun	2,084.0	197.0	73.5	529.0	20.0	1,776.5	11.5	4,691.5
Jul	2,099.0	240.5	69.5	566.0	14.5	2,171.5	11.5	5,172.5
Aug	2,374.0	276.5	74.0	610.5	19.5	2,344.0	14.0	5,712.5
Sep	2,019.0	260.5	95.5	537.0	26.5	1,995.5	11.0	4,945.0
Oct								0.0
Nov								0.0
Dec								0.0
YTD	16,884.0	1,971.5	898.5	4,603.5	171.0	16,235.5	74.5	40,838.5

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.

29 :count of days in reporting period.

	August 17, 2020		September 14, 2020
day	flow (total flow)	day	flow (total flow)
13		1	404
14		2	346
15		3	394
16		4	421
17	442	5	401
18	475	6	386
19	417	7	396
20	408	8	420
21	384	9	389
22	439	10	373
23	362	11	400
24	351	12	393
25	451	13	331
26	385	14	322
27	369	15	
28	422	16	
29	387		
30	461		
31	334		
days	6087	days	5376
	TOTAL DAYS	29	
	TOTAL FLOW	11463	
		1,000's gallons	

TOWN OF FRIDAY HARBOR

Flow to Town (Gross Water Production) 2020

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>				
16-Dec	<i>to</i>	12-Jan	28	6,771,000	6,771
13-Jan		13-Feb	32	7,991,000	7,991
14-Feb		15-Mar	31	7,169,000	7,169
16-Mar		14-Apr	30	6,984,000	6,984
15-Apr		14-May	30	7,971,000	7,971
15-May		14-Jun	31	9,137,000	9,137
15-Jun		14-Jul	30	10,903,000	10,903
15-Jul		16-Aug	33	14,737,000	14,737
17-Aug		14-Sep	29	11,463,000	11,463
			0	0	
			0	0	
			0	0	
			274	83,126,000	83126.0

TOWN OF FRIDAY HARBOR

Net Water Production - 2020
amounts in gallons

	Jan	Feb	Mar	Apr	May	Jun
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	6,771,000	7,991,000	7,169,000	6,984,000	7,971,000	9,137,000
3% meter loss	179,127	203,162	174,375	181,651	217,053	236,508
Flushing	129,200	155,800	282,600	126,975	212,000	210,350
SJC#3 FD use	5,000	5,000	5,000	5,000	5,000	5,000
Leaks	206,582	222,800	206,100	308,146	196,400	247,180
notes						
other non-metered use						
notes						
Additional water in storage						
notes						
Total other uses	-519,909	-586,762	-668,075	-621,772	-630,453	-699,038
Net production	6,251,091	7,404,238	6,500,925	6,362,228	7,340,547	8,437,962

	Jul	Aug	Sep	Oct	Nov	Dec
Gross Production for billing period from WTP Chemical Weights & Finish Flow to Town Report	10,903,000	14,737,000	11,463,000	0	0	0
3% meter loss	299,099	409,155	314,760	0	0	0
Flushing	230,550	159,200	66,000			
SJC#3 FD use	5,000	5,000	5,000			
Leaks	195,430	226,828	193,928			
notes						
other non-metered use						
notes						
Total other uses	-730,079	-800,183	-579,688	0	0	0
Net production	10,172,921	13,936,817	10,883,317	0	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	
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	7,865,550	34,872,592	-105,450	36,886,000	257,129	
	Jun-20	8,582,651	43,455,243	-554,349	46,023,000	304,567	
	Jul-20	10,700,054	54,155,297	-202,946	56,926,000	351,710	YTD
	Aug-20	14,438,668	68,593,965	-298,332	71,663,000	475,387	Unaccounted
	Sep-20	11,071,680	79,665,645	-391,320	83,126,000	382,100	as % of Flow
Average	Oct-20	0	79,665,645	0	83,126,000	0	4.16%
Monthly Use	Nov-20	0	79,665,645	0	83,126,000	0	
8,851,738	Dec-20	0	79,665,645	0	83,126,000	0	-3,460,355
YEAR TOTAL:	9	79,665,645	Cumulative Metered/Other Use YTD	83,126,000	-3,460,355	Cumulative Unaccounted 3% meter loss	304,307 2,214,891

3 YEAR AVERAGES:	Use	Flow	Daily Flow	3 Year Loss as % of Flow
	5,714,109 :gal/month	9,607,394 :gal/month	207,183	6.03%

source: Monthly Water Treatment Plant Report & utility.mdb's 3 yr cumulative flow 317,044,000
 3 yr unaccounted -19,125,117

Utilization of Sustainable Annual Water System Capacity

Period start: Oct-19

Period end: Sep-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

107.1 million gallons
52.3%

Exceeds Sustainable Yield?

No

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	1.49				
JUN	0.14	1.22	0.75	0.72	0.61	1.25				
JUL	0.36	0.32	0.15	0.18	0.75	0.86				
AUG	0.94	0.11	0.11	0.01	0.84	0.68				
SEP	1.28	1.40	0.71	1.27	2.74	2.34				
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	21.91	0.00	0.00	0.00	0.00

Cumulative thru

DEC	29.05	26.45	25.82	26.54	23.40	21.91	0.00	0.00	0.00	0.00
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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	-38.50	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	0.00
Jun-14	7.00	Jun-17	-4.00	Jun-20	-0.75
Jul-14	-20.50	Jul-17	-19.00	Jul-20	-8.50
Aug-14	-30.25	Aug-17	-32.00	Aug-20	-22.50
Sep-14	-42.75	Sep-17	-43.00	Sep-20	-34.00
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	

Prevention of Wastewater Facility Overloading

Period start: Sep-19
 Period end: Aug-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