



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

www.fridayharbor.org

Period ending: June 2019

Data provided by
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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
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Refuse - pickups by ClasssourceDate
6 / 2019

Location	Class	Pickups
IN	Sfr	2,033.0
	RefuseOnly	397.5
	PA	227.5
	Mfr	502.5
	Ind	16.5
	Com	2,413.5
		<hr/> 5,590.5
Out	Sfr	0.0
	Mfr	7.0
		<hr/> 7.0
	TOTAL	5,597.5

Recycle - pickups by ClasssourceDate
6 / 2019

Location	Class	Pickups
IN	Sfr	691
	RefuseOnly	28
	PA	0
	Mfr	61
	Ind	5
	Com	19
		<hr/> 804
Out	Sfr	0
	Mfr	0
		<hr/> 0
TOTAL		804

Refuse - active accountssourceDate
6 / 2019

Location	Refuse Type	Accounts
IN		
	Small Dumpster	47
	PA	39
	Medium Dumpste	53
	Large Dumpster	63
	Compactors	3
	Cans Low Rate	6
	Cans	823
		<hr/>
		1,034
Out		
	Large Dumpster	1
	Cans	1
		<hr/>
		2
		<hr/>
	TOTAL	1,036

Water - use MTD by LocationsourceDate
6 / 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	107,335
Sfr	633	2,673,260
PA	68	1,387,170
Mfr	118	1,946,860
Ind	13	203,770
Com	217	2,425,660
	<hr/>	
	1,052	8,744,055
Location: Out		
Spe	1	1,900
Sfr	353	1,616,630
PA	7	506,340
Mfr	5	200,610
Ind	2	0
Com	4	91,360
	<hr/>	
	372	2,416,840
TOTAL	1,424	11,160,895

Water use MTD - accounts with sewersourceDate
6 / 2019

Sewer Class	Accounts	Gallons
Location: IN		
Mfr In/low Strength	53	740,790
Com In/lo Strength	161	1,355,570
Dot In/lo Strength	3	61,550
Ind In/hi Strength	1	37,270
Ind In/lo Strength	10	155,440
Lmf In/lo Strength	1	3,180
Com In/hi Strength	45	1,006,780
Mfr In/lo Strength	60	705,500
Mhp In/lo Strength	2	433,600
PA In/hi Strength	3	111,690
PA In/lo Strength	42	922,640
Sfr IN Town	612	2,623,210
Low Rate / IN Town	6	11,290
	<hr/> 999	<hr/> 8,168,510
Location: Out		
UW Out/hi Strength	1	440,600
Mfr Out/lo Strength	1	1,370
Sfr Out of Town	4	20,120
	<hr/> 6	<hr/> 462,090
TOTAL	1005	8,630,600

Water - use MTDsourceDate
6 / 2019

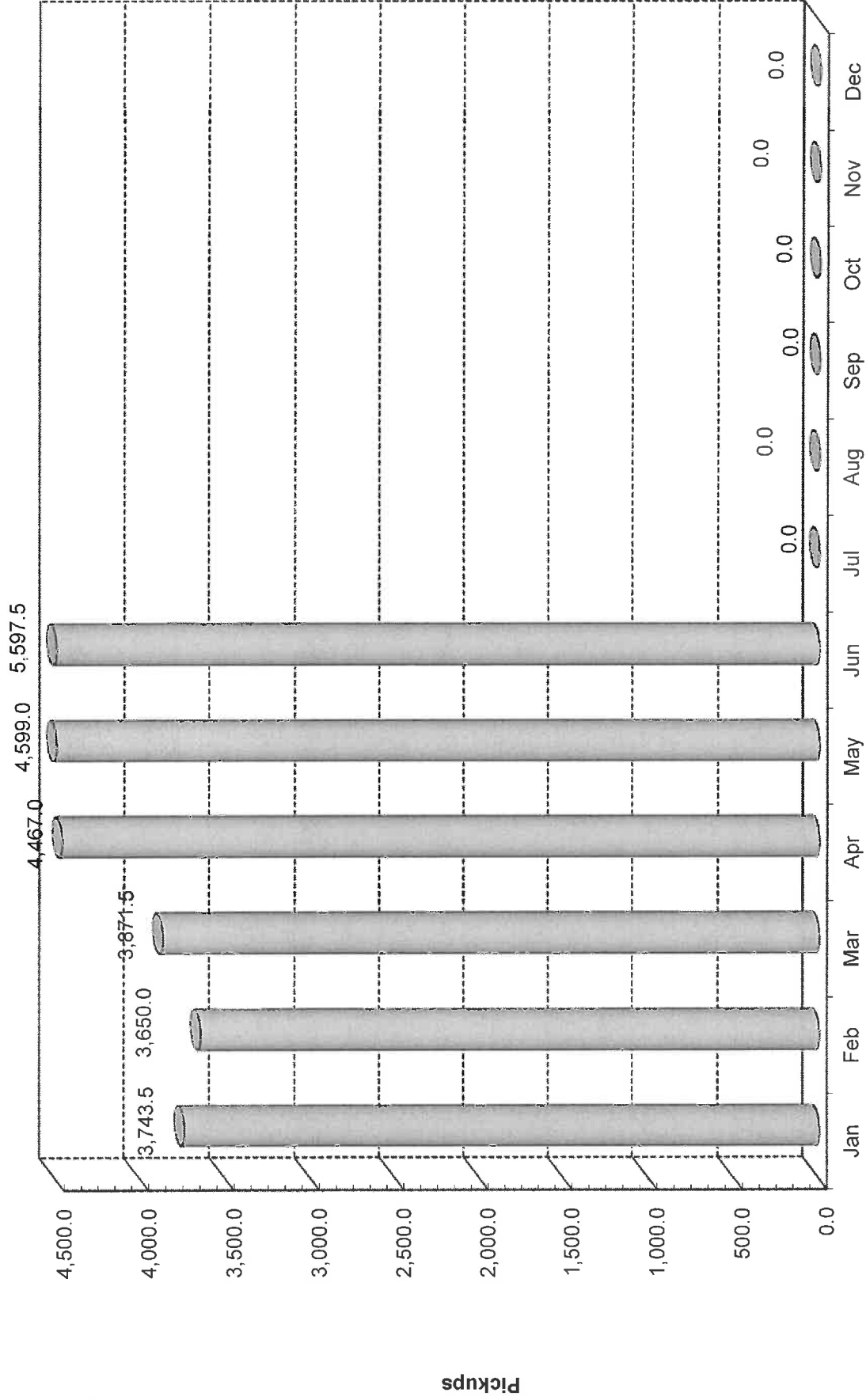
Spe=Special, Sfr=Single Family Residential, P.A= Public Authority, Mfr=Multi-family, Ind=Industrial, Com=Commerc

Water Class	Accounts	Gallons
Spe	4	109,235
Sfr	986	4,289,890
PA	75	1,893,510
Mfr	123	2,147,470
Ind	15	203,770
Com	221	2,517,020
TOTAL	1,424	11,160,895

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								0.0
Aug								0.0
Sep								0.0
Oct								0.0
Nov								0.0
Dec								0.0
YTD	9,174.5	1,561.0	1,084.0	2,428.5	114.0	11,541.0	25.5	25,928.5

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.

33 :count of days in reporting period.

May 15, 2019		June 16, 2019	
day	flow (total flow)	day	flow (total flow)
15	337	1	350
16	354	2	458
17	305	3	354
18	367	4	428
19	386	5	428
20	340	6	367
21	364	7	340
22	293	8	375
23	401	9	369
24	311	10	406
25	413	11	394
26	358	12	403
27	407	13	449
28	379	14	476
29	373	15	358
30	316	16	400
31	436		

<u>days</u> 17	<u>days</u> 16
6140	6355
TOTAL DAYS	33
TOTAL FLOW	12495
	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
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
	<i>to</i>		0	0	
			182	52,936,000	52936.0

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	-732,794	-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	0	0	0	0	0	0
3% meter loss						
Flushing						
SJC#3 FD use						
Leaks						
notes						
other non-metered use						
notes						
Total other uses	0	0	0	0	0	0
Net production	0	0	0	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	
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 Unaccounted	Cumulative 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 Unaccounted	Cumulative 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	0	48,212,379	0	52,936,000	0	YTD
	Aug-19	0	48,212,379	0	52,936,000	0	Unaccounted
	Sep-19	0	48,212,379	0	52,936,000	0	as % of Flow
Average	Oct-19	0	48,212,379	0	52,936,000	0	8.92%
Monthly Use	Nov-19	0	48,212,379	0	52,936,000	0	
8,035,397	Dec-19	0	48,212,379	0	52,936,000	0	-4,723,621
YEAR TOTAL:	6	48,212,379	Cumulative Metered/Other Use YTD	52,936,000	-4,723,621 Unaccounted	Cumulative 3% meter loss	292,914 1,300,333

3 YEAR	Use	Flow	Daily Flow	3 Year Loss
AVERAGES:	5,294,690 :gal/month	9,569,833 :gal/month	205,430	as % of Flow 7.10%

source: Monthly Water Treatment Plant Report & utility.mdb's 3 yr cumulative flow 287,095,000
3 yr unaccounted -20,388,382

Utilization of Sustainable Annual Water System Capacity

Period start: Jul-18

Period end: Jun-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

122.0 million gallons
59.5%

exceeds Sustainable Yield?

No

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	
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	-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						
AUG	0.94	0.11	0.11	0.01						
SEP	1.28	1.40	0.71	1.27						
OCT	3.53	4.80	4.28	2.23						
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	10.01	0.00	0.00	0.00	0.00	0.00

Cumulative thru

DEC	29.05	26.45	25.82	26.54	10.01	0.00	0.00	0.00	0.00	0.00
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Prevention of Wastewater Facility Overloading

Period start: Jun-18
 Period end: May-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