

## NOVATO SANITARY DISTRICT

Meeting Date: November 14, 2013

The Wastewater Operations Committee of the Novato Sanitary District will hold a meeting at 10:00 AM, Thursday, November 14, 2013 at the District offices, 500 Davidson Street, Novato.

### AGENDA

**1. AGENDA APPROVAL:**

**2. PUBLIC COMMENT (PLEASE OBSERVE A THREE-MINUTE TIME LIMIT):**

This item is to allow anyone present to comment on any subject not on the agenda, or to request consideration to place an item on a future agenda. Individuals will be limited to a three-minute presentation. No action will be taken by the Committee at this time as a result of any public comments made.

**3. CONSIDER APPROVAL OF MINUTES OF THE OCTOBER 21, 2013 MEETING**

**4. WASTEWATER TREATMENT FACILITIES OPERATIONS AND MAINTENANCE REPORT FOR OCTOBER 2013:**

- a. Treatment Plant Performance Report
- b. Maintenance Report
- c. Safety and training
- d. Odor control, noise, and landscaping report

**5. COLLECTION SYSTEM OPERATION AND MAINTENANCE REPORT FOR OCTOBER 2013:**

- a. Collection System Maintenance
- b. Pump Station Maintenance
- c. Collection System Performance
- d. Safety and Training

**6. RECLAMATION FACILITY REPORT FOR OCTOBER 2013**

- a. Ranch Operations
- b. Irrigation Parcels
- c. Irrigation Pump Station
- d. Sludge Handling and Disposal

**7. ADJOURNMENT:**

***In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the District at (415) 892-1694 at least 24 hours prior to the meeting. Notification prior to the meeting will enable the District to make reasonable accommodation to help ensure accessibility to this meeting.***

***Materials that are public records and that relate to an open session agenda item will be made available for public inspection at the District office, 500 Davidson Street, Novato, during normal business hours.***

October 21, 2013

A regular meeting of the Wastewater Operations Committee of Novato Sanitary District was held at 2:08 p.m., Monday, October 21, 2013, at the District Office, 500 Davidson Street, Novato.

**MEMBERS PRESENT:** NSD Board Members William Long and Jerry Peters.

**STAFF PRESENT:** Beverly James, Manager-Engineer  
Steve Krautheim, Field Services Superintendent  
Tim O'Connor, Collections System Supervisor  
John Bailey, Project Manager, Veolia Water  
Julie Swoboda, Administrative Secretary  
*Sandeep Karkal, Deputy Manager-Engineer was absent.*

**ALSO PRESENT:** Lynda Rodefer, Veolia Water  
Brian Exberger, Assistant Project Manager, Veolia Water

**AGENDA APPROVAL:** The agenda was approved as presented.

**PUBLIC COMMENT:** None.

**APPROVAL OF MEETING MINUTES FOR SEPTEMBER 16, 2013:** The September 16, 2013 minutes were approved as written.

**WASTEWATER TREATMENT FACILITIES OPERATIONS AND MAINTENANCE REPORT FOR SEPTEMBER 2013:**

**- Treatment Plant Performance Report, Maintenance Report and Safety & Training:**  
John Bailey, Plant Manager, Veolia Water, gave an overview of the treatment plant operations for the month of September. He stated that there were no permit exceedances, violations or excursions and noted that the treatment facility and the recycled water facility continue to run very well. Mr. Bailey stated that the volume of recycled water produced in September was 11.26 million gallons.

Mr. Bailey reported on the key events at the Novato treatment facility, the Ignacio transfer pump station, the recycled water plant and the sludge lagoons. He stated that the odor control PODZ are being tested in one aeration basin after they were modified by the manufacturer. He stated that Veolia teamed with the Collections system crew to clean the force main at the Ignacio Transfer Pump Station. Mr. Bailey identified equipment that is/will be out of service due to planned servicing, maintenance or replacement.

Mr. Bailey provided a handout which listed Veolia's Standard Operating Procedures (SOP) manuals which have been completed and those yet to be completed. He provided two completed sample SOP's for illustration purposes.

Mr. Bailey reported that Veolia employees have been accident free for a total of 1,216 days/55,449 hours. He stated that Jerome Meter (H2S) readings continue to be taken in the Lea Drive neighborhood and within the treatment facility. He discussed the safety training for the month and reviewed the treatment plant performance graphs.

- Review Contract Service Agreement for Operation, Maintenance, and Management of Wastewater Treatment Facilities: Manager-Engineer Beverly James noted that the District is about half way through the terms of the Veolia contract service agreement. She discussed the contract with the intent for the Committee to review the contract, bring it up to date and begin discussion for renewal. The Manager stated that she will provide a first draft mark-up copy of the contract to members at the next meeting.

- Odor control: Manager-Engineer Beverly James stated that staff continues to work to address issues of concern relating to odor control, noise, and landscaping. She discussed the landscaping maintenance services as provided by Cagwin and Dorward.

### **COLLECTION SYSTEM OPERATION AND MAINTENANCE REPORT FOR SEPTEMBER 2013:**

Tim O'Connor, Collections System Supervisor discussed the Collections System Monthly Report for September 2013. He reported that the Collections System crew cleaned a total of 54,906 feet of sewer pipeline and that the department completed 281 maintenance work orders which were generated in September. He stated that the department's CCTV (closed caption televised) van was in the field for 15 working days and that 24,167 feet of main sewer line was televised. The Collections System Supervisor pointed out that the Collections Department has been accident free for a total of 232 days.

Tim O'Connor stated that the department was pleased to welcome a new employee, Justin Wall and this addition will enable the department to field two cleaning crews on a consistent basis.

Tim O'Connor reviewed the Collections System monthly and Pump Station reports. He stated that there was one sanitary sewer overflow in September. He stated that the event was caused by a partial root blockage in the main line which resulted in a discharge of approximately 312 gallons.

### **RECLAMATION FACILITY REPORT FOR SEPTEMBER 2013:**

Steve Krautheim, Field Services Superintendent presented the Reclamation Facilities report for September. He stated that the rancher grazed cattle on all three reclamation sites and sorted out calves for market. He discussed rehabilitation at parcels 78 and 38. He stated that the storage ponds are storing approximately 67 million gallons of recycled water.

Mr. Krautheim stated that approximately 79 million gallons of recycled water was used for irrigation in September.

**ADJOURNMENT:** There being no further business to come before the Committee, the meeting adjourned at 3:10 p.m.

Respectfully submitted,

Beverly James  
Manager-Engineer

Julie Swoboda, Recording

DRAFT



November 14, 2013

Ms. Beverly James  
Manager - Engineer  
Novato Sanitary District  
500 Davidson Street  
Novato, CA 94545

**Subject: Veolia Water Operations Report – October 2013**

Dear Ms. James:

We are pleased to provide this updated activity report for October 2013.

As always, please give me a call at 707-208-4491 should you have any questions.

Regards,

A handwritten signature in blue ink that reads "John Bailey".

John Bailey  
Project Manager

**MONTHLY OPERATIONS REPORT  
October 2013**

Prepared for

**NOVATO SANITARY DISTRICT (NSD)  
WASTEWATER TREATMENT PLANT  
500 Davidson Street  
Novato, CA 94545**

Prepared by

**Veolia Water West Operating Services, Inc. (VWWOS)**

**TABLE OF CONTENTS**

TREATMENT PLANT PERFORMANCE SUMMARY .....	2
OPERATIONS AND MAINTENANCE STATUS / REVIEW .....	3-4
ADMINISTRATION.....	4
SAFETY AND TRAINING .....	4
ODORS.....	4
MISCELLANEOUS.....	4

**TREATMENT PLANT PERFORMANCE SUMMARY: October 2013:**

**Reclamation/Storage – Waste Discharge Requirements (WDR)**

Parameter	Value		Limit	
	Ave	Max	#1	#2
Flow, MGD (monthly ave/max)	4.00	4.46	N/A	N/A
Max Peak Hour, MGD – Daily (Dry Weather)	N/A	N/A	N/A	N/A
Influent BOD <sub>5</sub> , lb/day (month ave/max)	10,110	12,669	N/A	N/A
Influent TSS, lb/day (monthly ave/max)	13,283	17,969	N/A	N/A
Effluent BOD <sub>5</sub> , mg/L (monthly ave/weekly max)	<7	9	15	30
Effluent TSS, mg/L (monthly ave/weekly max)	<4	4	10	20
Effluent BOD <sub>5</sub> - % Removal, Minimum	98	N/A	N/A	N/A
Effluent TSS - % Removal, Minimum	99	N/A	N/A	N/A
Ammonia, mg/L – (monthly ave/daily max)	0.19	0.51	N/A	N/A
pH, su (min / max)	6.9	7.0	6.5	8.5
Enterococcus, mpn (30 day geo mean)	1.9	N/A	35	N/A
*Fecal Coliform, mpn (30 day median)	4	N/A	140	N/A
*Fecal Coliform, mpn (90 <sup>th</sup> percentile)	13	N/A	430	N/A
<b>Total Permit Exceedances (WDR)</b>	0			

NA – Not Applicable

\* Fecal Coliform incomplete data set – compliance status not likely to change w/ data

Discussion of Violations / Excursions: NONE

**Title 22 - Recycled Water Production and Quality**

Description	Units	Value	Limit
Volume Produced	Million Gallons	9.15	N/A
Average Turbidity	NTU	1.3	2.0
Turbidity > 5 NTU (in 24 hour)	Minutes	29	72
Minimum CT (disinfection)	ml-min/L	> 450	> 450
Minimum Dissolved Oxygen (DO)	mg/L	7.0	> 1.0
Maximum Total Coliform	mpn/100 ml	<2	2

**OPERATIONS & MAINTENANCE STATUS / REVIEW:**

**Key events for the period:**

**Novato**

- Routine rounds, readings and maintenance
- Transition to Bay Discharge – October 1, 2013
- Replaced Hypo Fill Port piping
- Removed bulkheads from Headworks (Contract “C”) – 3 hour shutdown
- Tested both Wet Weather Diesel Pumps in preparation for wet season
- Assisted WesTech with Primary Clarifier #2 Drive Seal Replacement (Contract “C”)
- Installed new Ferric Chloride Pump element and filters
- Replaced pressure relief on GBT #2
- Received spare shaft for Screenings Auger (Headworks)

**Equipment Out of Service – Due to Planned Servicing, Maintenance, or Replacement**

- Headworks Channel #2 (Contract “C” Work)
- Primary Clarifier #2 OOS – Preparation for recoating as part of Contract “C”
- GBT Odor Fan #1 OOS - replace bearings/belts

**Ignacio Transfer Pump Station**

- Routine rounds, readings and maintenance
- Installed Transfer Pump #3 (retrofitted with “N” style non-clogging impeller)

**Equipment Out of Service – Due to Planned Servicing, Maintenance, or Replacement**

- None

**Recycled Water Plant**

- Performed plant rounds and maintenance
- Troubleshoot Backwash Filter Pumps
- Produced 9.15 million gallons of recycled water in October

**Equipment Out of Service – Due to Planned Servicing, Maintenance, or Replacement**

- None

**Sludge Lagoons**

- Performed routine rounds and inspection
- Telescoping valves cleaned and gates exercised
- Repaired valve on Lagoon #1

**ADMINISTRATION:**

- September Electronic Self Monitoring Report submitted on 10/18/13

**SAFETY AND TRAINING:**

- Monthly plant safety inspections for Novato WWTP and Ignacio Pump Station completed
- Five Minute Tailgate training is held daily with the O&M staff.
- No safety incidents for the month of October 2013
- Accident Free: 6/1/10 – 10/31/13: 1,247 days / 56,863 hours
- Earthquake Drill (Great Shakeout)
- Emergency Action Plan
- Performed Annual Self Audit
- SOP's Reviewed: Primary Clarifier Sludge Judge Sampling Procedure  
Switching Primary Clarifier Duty Sludge and Scum Pumps  
Dissolve Oxygen Control System  
Wet Weather Pumps

**ODORS:**

- Jerome Meter (H2S) readings performed in neighborhood and within treatment plant.

**MISCELLANEOUS**

- Process Control Management Plan (PCMP) meetings held regularly
- Booth at North Bay Science Fair
- Booth at Senior Health Fair
- Union Contract Negotiations

**Veolia Support Staff On/Off Site (Various Times)**

John O'Hare	Technical Support
Chris McAuliffe	District Manager
John Herron	Northern California Area Manager
Bryce Behnke	Technical Support via conference call & web exchange
Jeremiah Danielson	Environmental, Health, and Safety
Mel Demsky	Regional Director of Asset Management
Dan Brown	Asset Manager

Novato Sanitary District  
BOD/TSS Report



October, 2013

Date	Flow MGD	Influent				Effluent				BOD % Removal PERCENT	TSS % Removal PERCENT
		BOD		TSS		BOD		TSS			
		mg/l	lb/d	mg/l	lb/d	mg/l	lb/d	mg/l	lb/d		
10/01/13	4.04	376	12,669	430	14,488	6	202	4	135	98.4	99.1
10/02/13	4.03	332	11,159	427	14,352	<5	<168	<3	<101	98.5	99.3
10/03/13	4.18	246	8,576	394	13,735	<5	<174	<3	<105	98.0	99.2
10/04/13	3.49										
10/05/13	3.89										
10/06/13	4.14										
10/07/13	3.92	356	11,639	432	14,123	<5	<163	<3	<98	98.6	99.3
10/08/13	4.21										
10/09/13	4.46	313	11,642	396	14,730	7	260	<3	<112	97.8	99.2
10/10/13	3.84			347	11,113						
10/11/13	3.95	318	10,476	347	11,431	<16	<527	4	132	95.0	98.8
10/12/13	4.00										
10/13/13	4.01	266	8,896	334	11,170	7	234	<3	<100	97.4	99.1
10/14/13	3.94										
10/15/13	3.97	296	9,801	412	13,641	6	199	<3	<99	98.0	99.3
10/16/13	4.17										
10/17/13	3.79	295	9,325	383	12,106	<5	<158	<3	<95	98.3	99.2
10/18/13	3.85										
10/19/13	3.86										
10/20/13	4.27										
10/21/13	3.92	287	9,383	410	13,404	7	229	3	98	97.6	99.3
10/22/13	4.05										
10/23/13	3.98	313	10,389	411	13,642	6	199	4	133	98.1	99.0
10/24/13	4.06										
10/25/13	3.92	309	10,102	414	13,535	<5	<163	4	131	98.4	99.0
10/26/13	3.94										
10/27/13	4.11										
10/28/13	4.03	286	9,613	401	13,478	9	302	4	134	96.9	99.0
10/29/13	4.05	332	11,214	532	17,969	6	203	4	135	98.2	99.2
10/30/13	4.03			286	9,613			4	134		98.6
10/31/13	3.79	214	6,764			<5	<158			97.7	
<b>Weekly Averages</b>											
10/05/13	Week 1	318	4,899	417	6,437	5	82	3	51		
10/12/13	Week 2	329	5,104	381	5,828	9	144	3	52		
10/19/13	Week 3	286	4,237	376	5,582	6	89	3	45		
10/26/13	Week 4	303	4,517	412	6,136	6	89	4	55		
	Week 5										
<b>Monthly</b>											
Minimum	3.49	214	6,764	286	9,613	<5	<72	<3	<43	95	99
Maximum	4.46	376	12,669	532	17,969	<16	<239	4	61	99	99
Total	123.89										
Average	4.00	303	10,110	397	13,283	<7	<101	<3	<53	98	99

Novato Sanitary District  
Conventional Pollutants Report



October, 2013

Date	INFLUENT - A001			Effluent - E002							
	Flow Total	pH	Ammonia	Coliform / Bacteria			pH	Ammonia	Unionized Ammonia	Oil & Grease	Temp
				Fecal	Entero	Total					
MGD	su	mg/L	MPN/100 mL			su	mg/L	mg/L		Deg C	
10/01/13	4.04	7.1	28	<2.0	<1.0		6.9	0.11	0.00044		23.5
10/02/13	4.03	6.8		13.0	<1.0		7.0				23.6
10/03/13	4.18	7.1		2.0	2.0		6.9				22.9
10/04/13	3.49	7.1					7.0				23.2
10/05/13	3.89										
10/06/13	4.14										
10/07/13	3.92	7.0			1.0		6.9				23.4
10/08/13	4.21		30				6.9	0.11		2.2	22.9
10/09/13	4.46	7.0	33	4.0	2.0		6.9	0.10			22.8
10/10/13	3.84	7.4	32				6.9	0.22			22.7
10/11/13	3.95	7.4	31	4.0	3.0		6.9	0.12			22.5
10/12/13	4.00										
10/13/13	4.01			2.0	1.0						
10/14/13	3.94	7.0					6.9				23.0
10/15/13	3.97	7.4		2.0	2.0		6.9				22.7
10/16/13	4.17	7.0					7.0				22.4
10/17/13	3.79	6.6	28	13.0	2.0		6.9	0.14			22.8
10/18/13	3.85	6.7					7.0				22.8
10/19/13	3.86										
10/20/13	4.27										
10/21/13	3.92	6.7		13.0	5.2		7.0				22.1
10/22/13	4.05	6.6					7.0				22.3
10/23/13	3.98			4.0	2.0		6.9				22.0
10/24/13	4.06	7.4					6.9				21.9
10/25/13	3.92	6.9	26		2.0		6.9	0.51			22.2
10/26/13	3.94										
10/27/13	4.11										
10/28/13	4.03	7.5			2.0		7.0				21.7
10/29/13	4.05	7.5			<1.0		6.9				21.5
10/30/13	4.03	7.1			3.1		6.9				21.7
10/31/13	3.79	7.4					7.0				21.7
<b>Monthly</b>											
Minimum	3.49	6.6	26	<2.0	<1.0		6.9	0.10			21.5
Maximum	4.46	7.5	33	13.0	5.2		7.0	0.51	0.00044	2.2	23.6
Total	123.89										
Average	4.00	7.1	30				6.9	0.19	0.00044	2.2	22.5

# Novato Plant : Bacterial Results

## EFFLUENT: E-002 Station

### Oct-13

<b>Fecal Coliform</b>		<b>Enterococcus</b>	
(1) 30-Day Median not to exceed 140 MPN/100 mL	(2) 90th Percentile not to exceed 430 MPN/100 mL	30-Day Geometric mean not to exceed 35 MPN/100 mL	

October 1, 2013	<	<b>2</b>	
October 2, 2013		<b>13</b>	
October 3, 2013		<b>2</b>	
October 4, 2013			
October 5, 2013			
October 6, 2013			
October 7, 2013			
October 8, 2013			
October 9, 2013		<b>4</b>	
October 10, 2013			
October 11, 2013		<b>4</b>	
October 12, 2013			
October 13, 2013		<b>2</b>	
October 14, 2013			
October 15, 2013		<b>2</b>	
October 16, 2013			
October 17, 2013		<b>13</b>	
October 18, 2013			
October 19, 2013			
October 20, 2013			
October 21, 2013		<b>13</b>	
October 22, 2013			
October 23, 2013		<b>4</b>	
October 24, 2013			
October 25, 2013			
October 26, 2013			
October 27, 2013			
October 28, 2013			
October 29, 2013			
October 30, 2013			
October 31, 2013			

	<b>90th Percentile</b>	<b>Ranking</b>			
Sample #1			<b>2</b>		
Sample #2			<b>2</b>		
Sample #3			<b>2</b>		
Sample #4			<b>2</b>		
Sample #5			<b>4</b>		
Sample #6			<b>4</b>		
Sample #7			<b>4</b>		
Sample #8			<b>13</b>		
Sample #9			<b>13</b>		
Sample #10			<b>13</b>		
Sample #11					
Sample #12					
Sample #13					
Sample #14					
Sample #15					
Sample #16					

October 1, 2013	<	<b>1.0</b>	
October 2, 2013	<	<b>1.0</b>	
October 3, 2013		<b>2.0</b>	
October 4, 2013			
October 5, 2013			
October 6, 2013			
October 7, 2013		<b>1.0</b>	
October 8, 2013			
October 9, 2013		<b>2.0</b>	
October 10, 2013			
October 11, 2013		<b>3.0</b>	
October 12, 2013			
October 13, 2013		<b>1.0</b>	
October 14, 2013			
October 15, 2013		<b>2.0</b>	
October 16, 2013			
October 17, 2013		<b>2.0</b>	
October 18, 2013			
October 19, 2013			
October 20, 2013			
October 21, 2013		<b>5.2</b>	
October 22, 2013			
October 23, 2013		<b>2.0</b>	
October 24, 2013			
October 25, 2013		<b>2.0</b>	
October 26, 2013			
October 27, 2013			
October 28, 2013		<b>2.0</b>	
October 29, 2013		<b>&lt;1</b>	
October 30, 2013		<b>3.1</b>	
October 31, 2013			

<b>Max</b>	<b>13</b>
<b>Min</b>	<b>2.0</b>
<b>Avg</b>	<b>5.90</b>
<b>30-Day Median</b>	<b>4</b>

90th Percentile Value **13**

<b>Max</b>	<b>5.2</b>
<b>Min</b>	<b>1.0</b>
<b>Avg</b>	<b>2.1</b>
<b>30 Day Geo. Mean</b>	<b>1.9</b>

<sup>1</sup> = indicates that more than ONE UV channel was in operation at sample time; All UV channels in operation were sampled.

<b>90th Percentile</b>	<b>10.00</b>	<b>0.9</b>	<b>9</b>
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Missing Data for Fecal

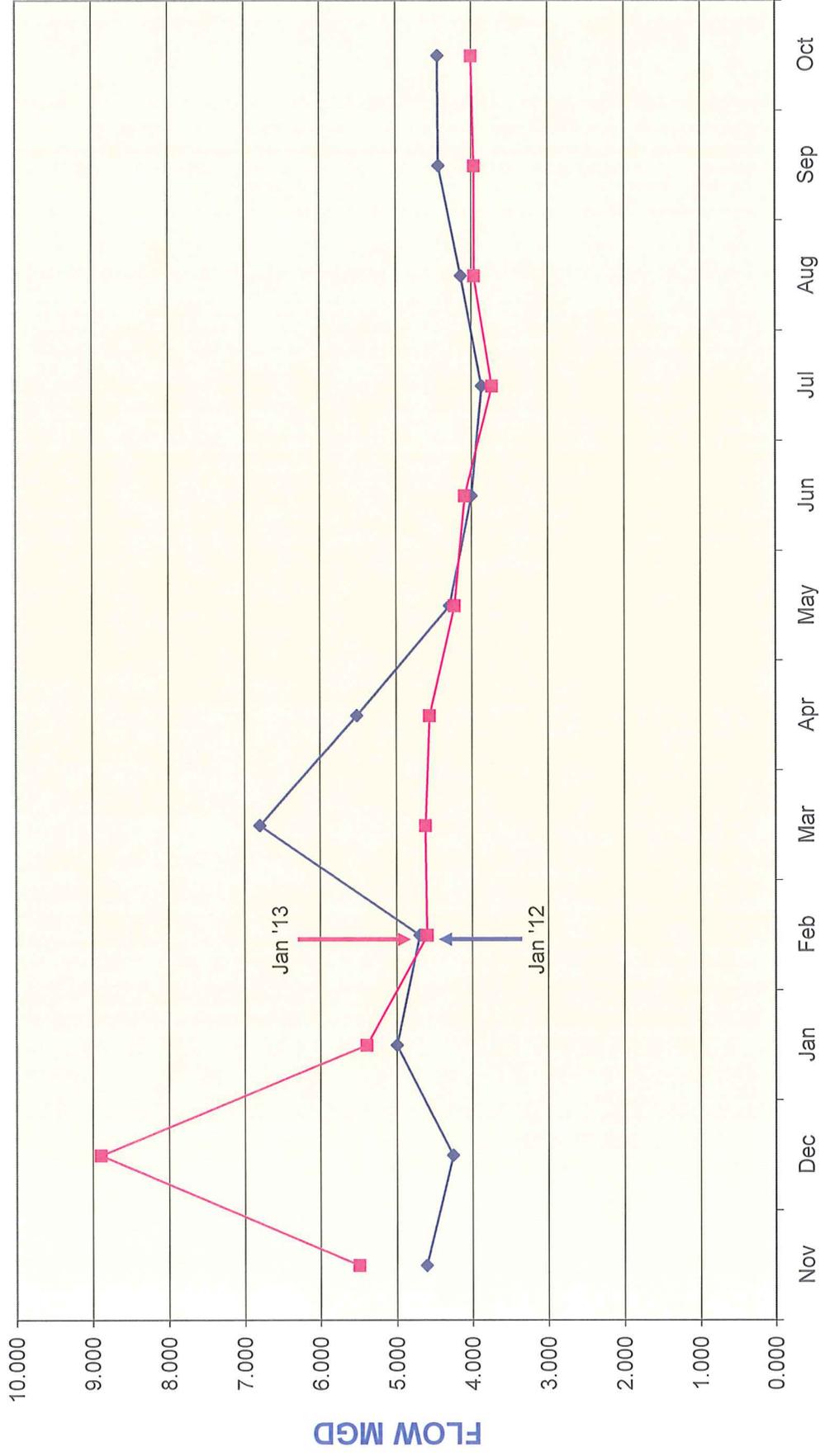
NOVATO SANITARY DISTRICT  
WATER RECLAMATION 2013  
COMPLIANCE SUMMARY REPORT

October	Fil Inf Q	Million Gallons Delivered			Influent Turbidity		Effluent Turbidity		Cl <sup>2</sup> Dose mg/L		DO mg/L	Coliform mpn	CT Min
		Rec	Bank	Pot	Max	Ave	Min +5	Ave	Min	Ave			
October 1	0.70	0.26	X		< 20	NA						2	> 450
October 2	0.94	0.65			< 20	NA	0	1.0			8.35	< 2	> 450
October 3	0.62	0.45			< 20	NA	29	1.4			8.36	< 2	> 450
October 4	0.47	0.37			< 20	NA	5	1.8			8.47	< 2	> 450
October 5	0.50	0.33			< 20	NA	5	1.6				< 2	> 450
October 6	0.52	0.54	X		< 20	NA	0	1.8				< 2	> 450
October 7	0.90	0.42			< 20	NA	0	0.5			8.42		> 450
October 8	0.68	0.47			< 20	NA	0	0.9			8.23		> 450
October 9	0.65	0.40			< 20	NA	0	1.1			8.40	< 2	> 450
October 10	0.60	0.51			< 20	NA	0	0.8				< 2	> 450
October 11	0.54	0.38			< 20	NA	0	1.0				< 2	> 450
October 12	0.54	0.40			< 20	NA	0	1.1				< 2	> 450
October 13	0.50	0.50			< 20	NA	0	1.1			8.45	< 2	> 450
October 14	0.56	0.43	X		< 20	NA	0	1.6			8.40		> 450
October 15	0.83	0.49			< 20	NA	0	1.3			8.41	< 2	> 450
October 16	0.57	0.40	X		< 20	NA	0	1.4				< 2	> 450
October 17	0.54	0.46	X		< 20	NA	0	1.7				< 2	> 450
October 18	0.51	0.43	X		< 20	NA	0	1.5				< 2	> 450
October 19	0.45	0.13	X		< 20	NA	0	1.6				< 2	> 450
October 20	0.49	0.19	X		< 20	NA	0	1.4					> 450
October 21	0.55	0.13	X		< 20	NA	0	1.7				< 2	> 450
October 22	0.58	0.18	X		< 20	NA	0	1.1					> 450
October 23	0.64	0.04	X		< 20	NA	0	1.8			8.25	< 2	> 450
October 24	0.65	0.12	X		< 20	NA	0	0.6			8.38	< 2	> 450
October 25	0.65	0.06	X		< 20	NA	0	1.1			8.37	< 2	> 450
October 26	0.65	0.04	X		< 20	NA	0	1.3					> 450
October 27	0.64	0.00			< 20	NA	0	1.3					> 450
October 28	0.65	0.10			< 20	NA	0	1.1			7.48		> 450
October 29	0.66	0.16			< 20	NA					6.97		> 450
October 30	0.65	0.00			< 20	NA							> 450
October 31	0.53	0.11			< 20	NA	0	1.6			8.47		> 450
Total	18.96	9.15	0.00	0.00		NA							
Min	0.45	0.00	0.00	0.00	20	NA	< 0.0	< 0.5	0.0	0.0	7.0	< 2	> 450
Max	0.94	0.65	0.00	0.00	20	NA	< 29.0	< 1.8	0.0	0.0	8.5	< 2	> 450
Ave	0.61	0.30	#DIV/0!	#DIV/0!	20	NA	< 1.4	< 1.3	#DIV/0!	#DIV/0!	8.2	< 2	> 450
Count	31	31	0	0	30	NA	27	28	0	0		20	30



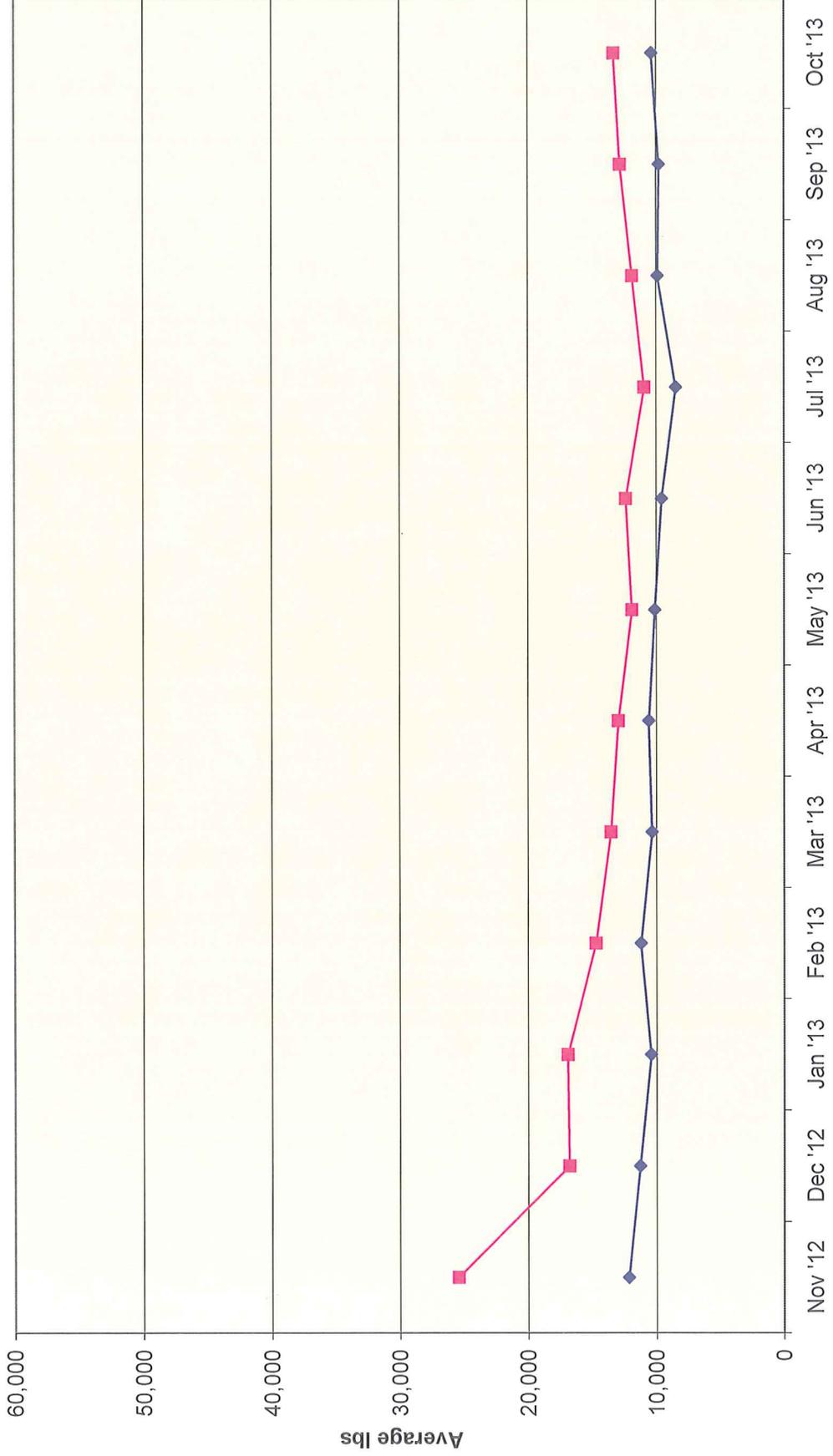
# FLOW COMPARISON

—◆— 2011/12 —■— 2012/13



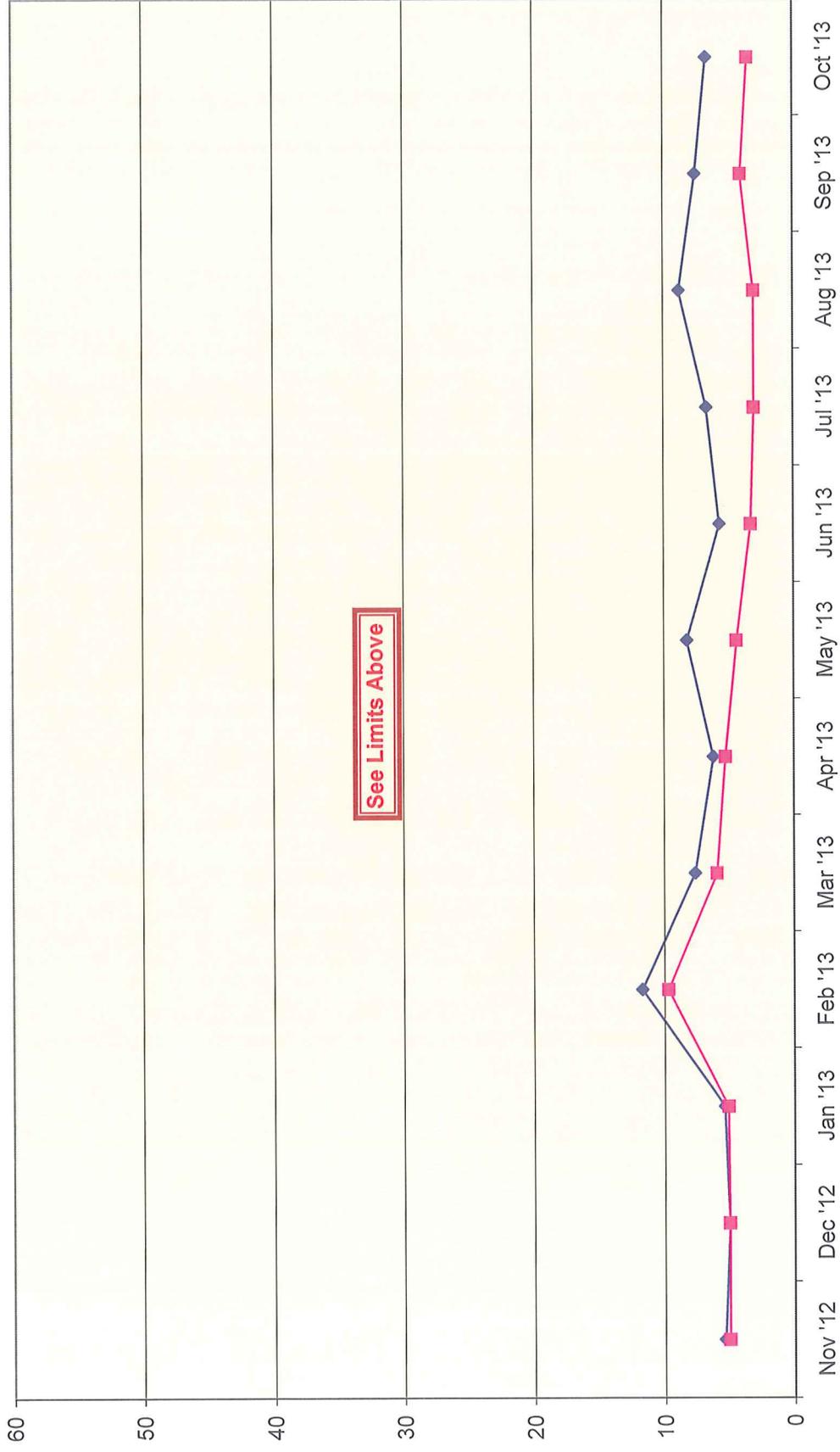
# Influent Load BOD / TSS lbs

◆ BOD lbs    ■ TSS lbs



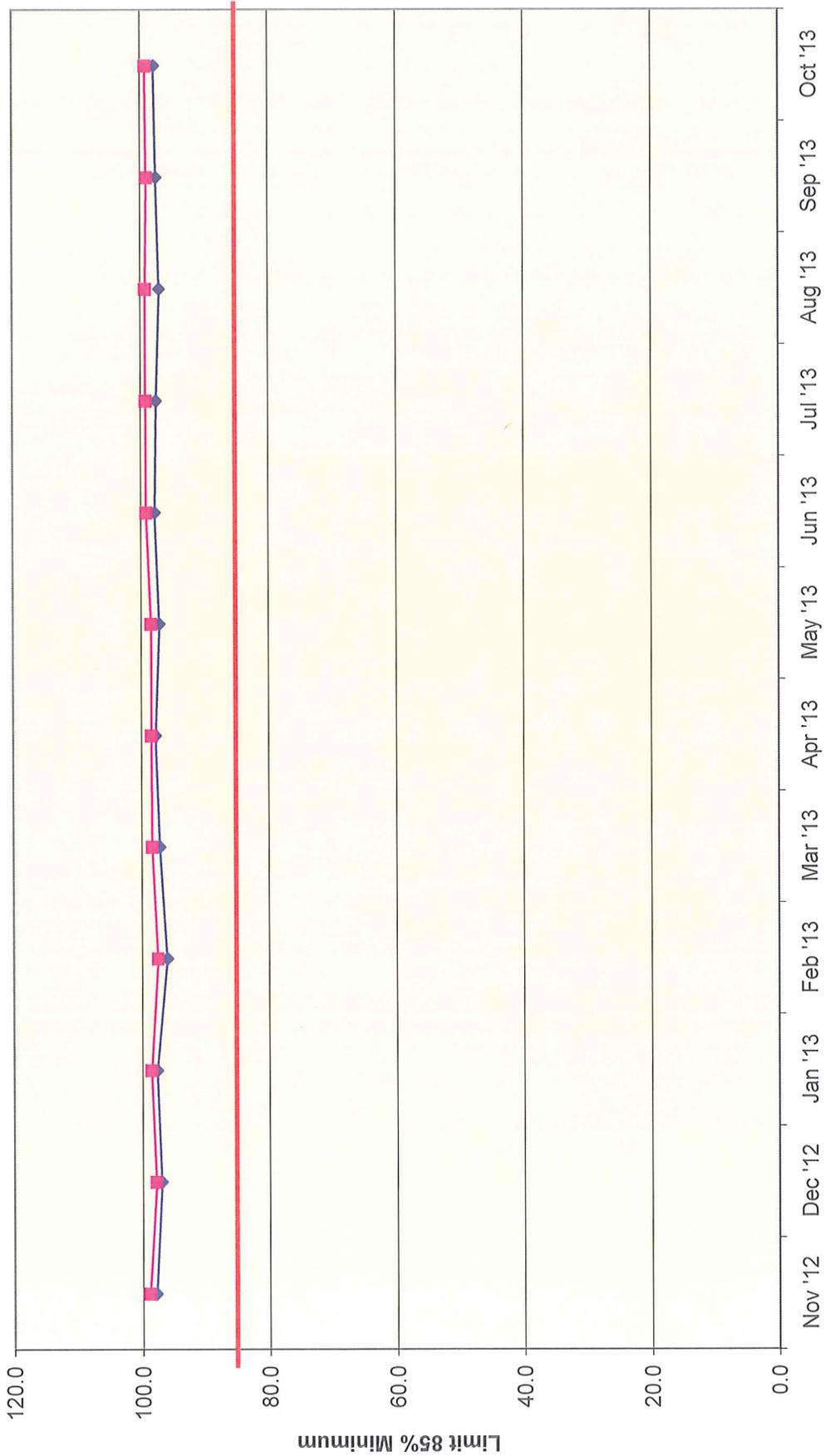
# Effluent BOD / TSS Concentration

NPDES LIMITS WET SEASON  
BOD & TSS - 30 mg/L Monthly Ave, 45 mg/L Weekly Ave  
NPDES LIMITS DRY SEASON  
BOD - 15 mg/L Monthly Ave, 30 mg/L Weekly Ave  
TSS - 10 mg/L Monthly Ave, 20 mg/L Weekly Ave  
WDR (Waste Discharge Requirements) RECLAMATION  
BOD - 40 mg/L

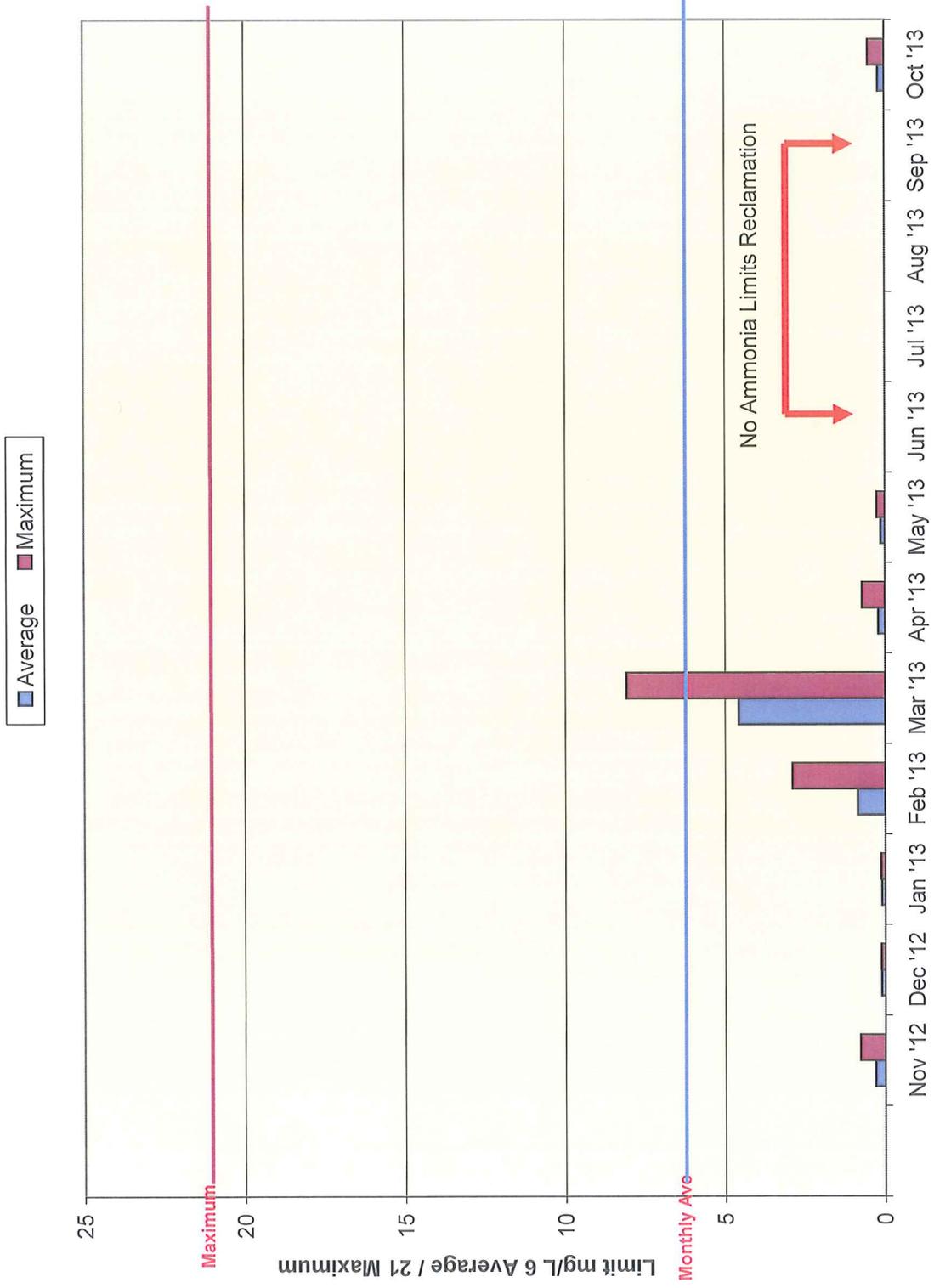


# BOD / TSS Percent Removal

◆ BOD ■ TSS

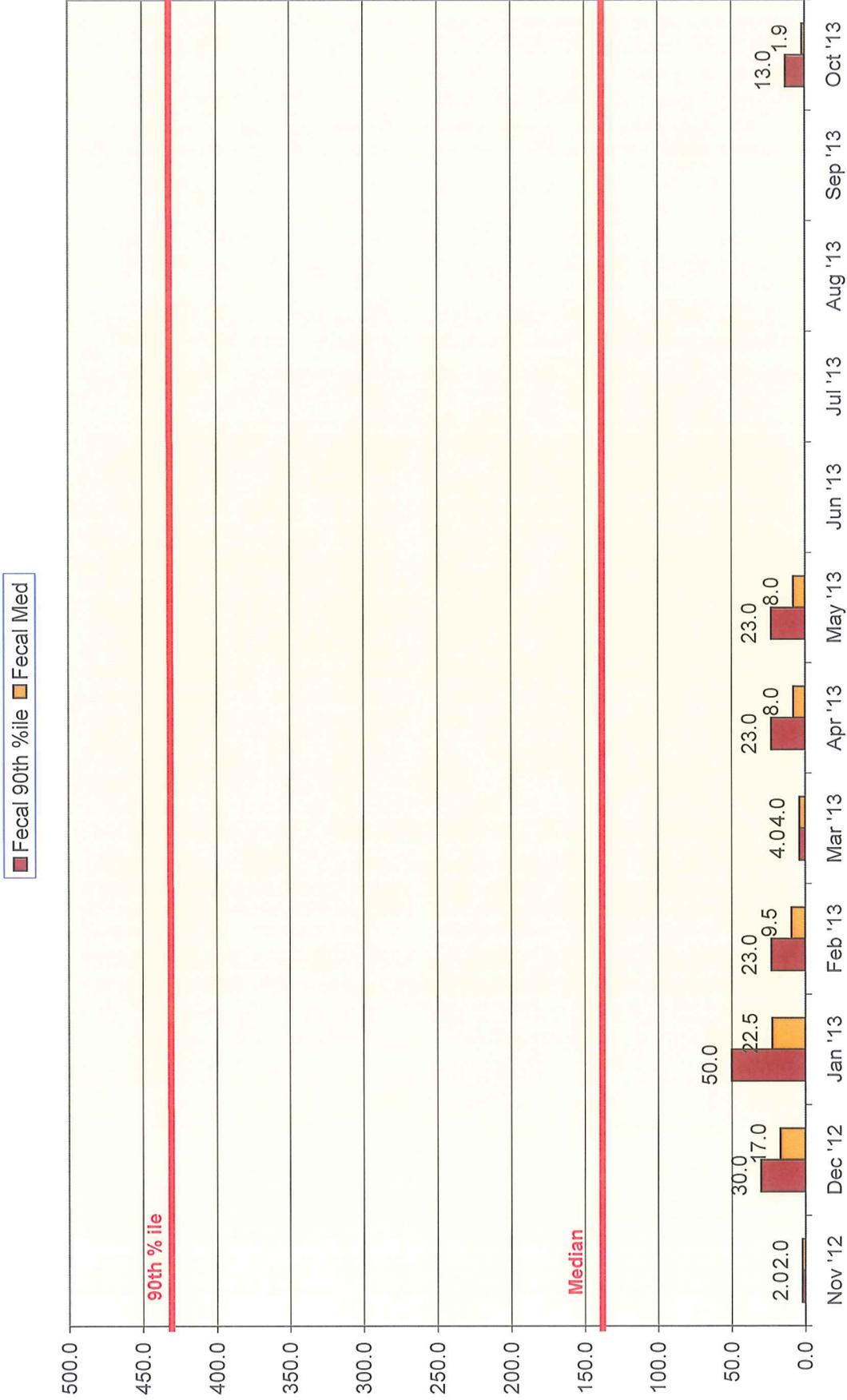


# Effluent Ammonia



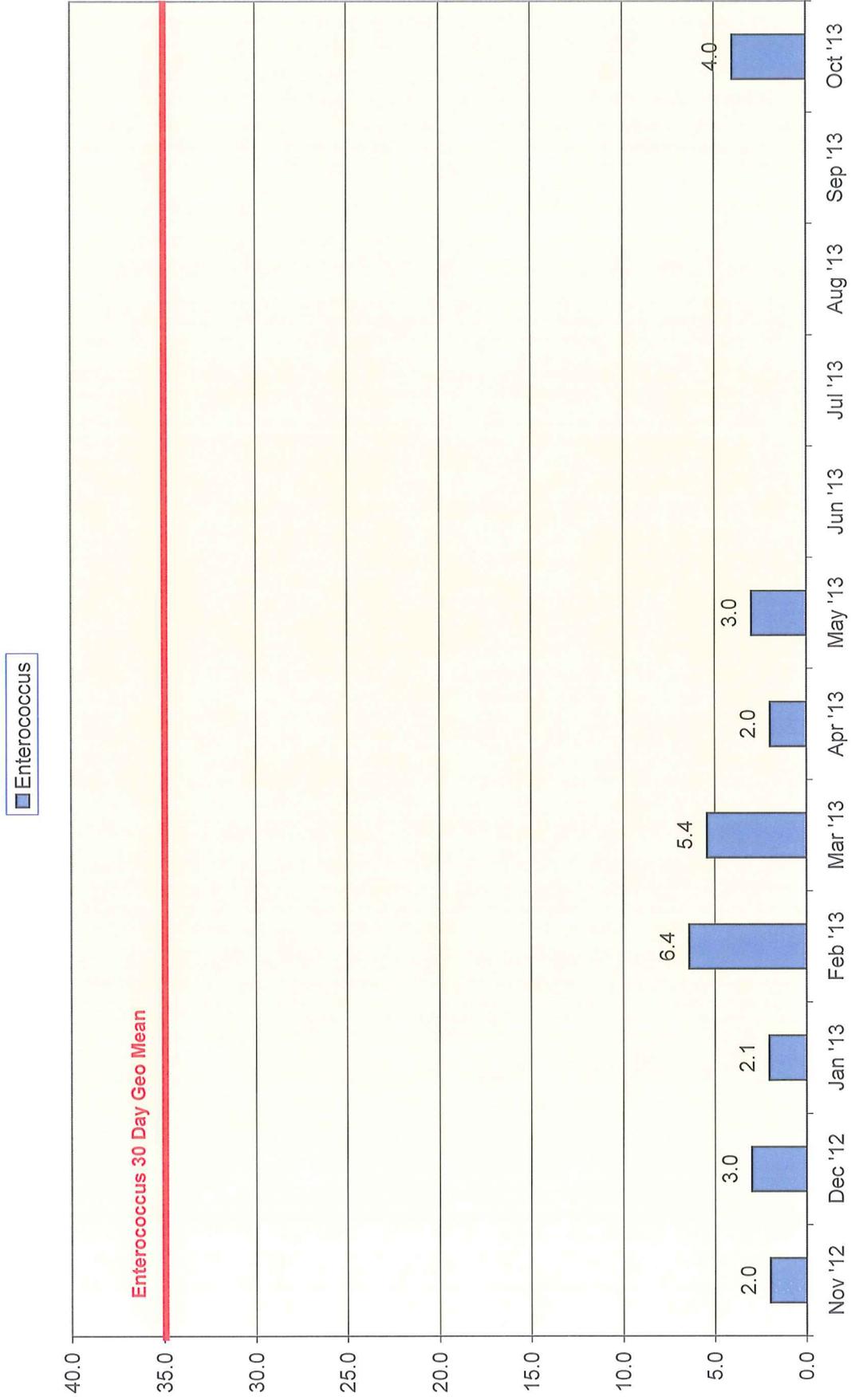
# Disinfection

LIMITS - NPDES  
 Fecal 140 mpn monthly median  
 Fecal 430 mpn 90th percentile 30 day



LIMITS - NPDES  
Enterococcus 30 day geo mean 35 mpn /100ml

## Disinfection



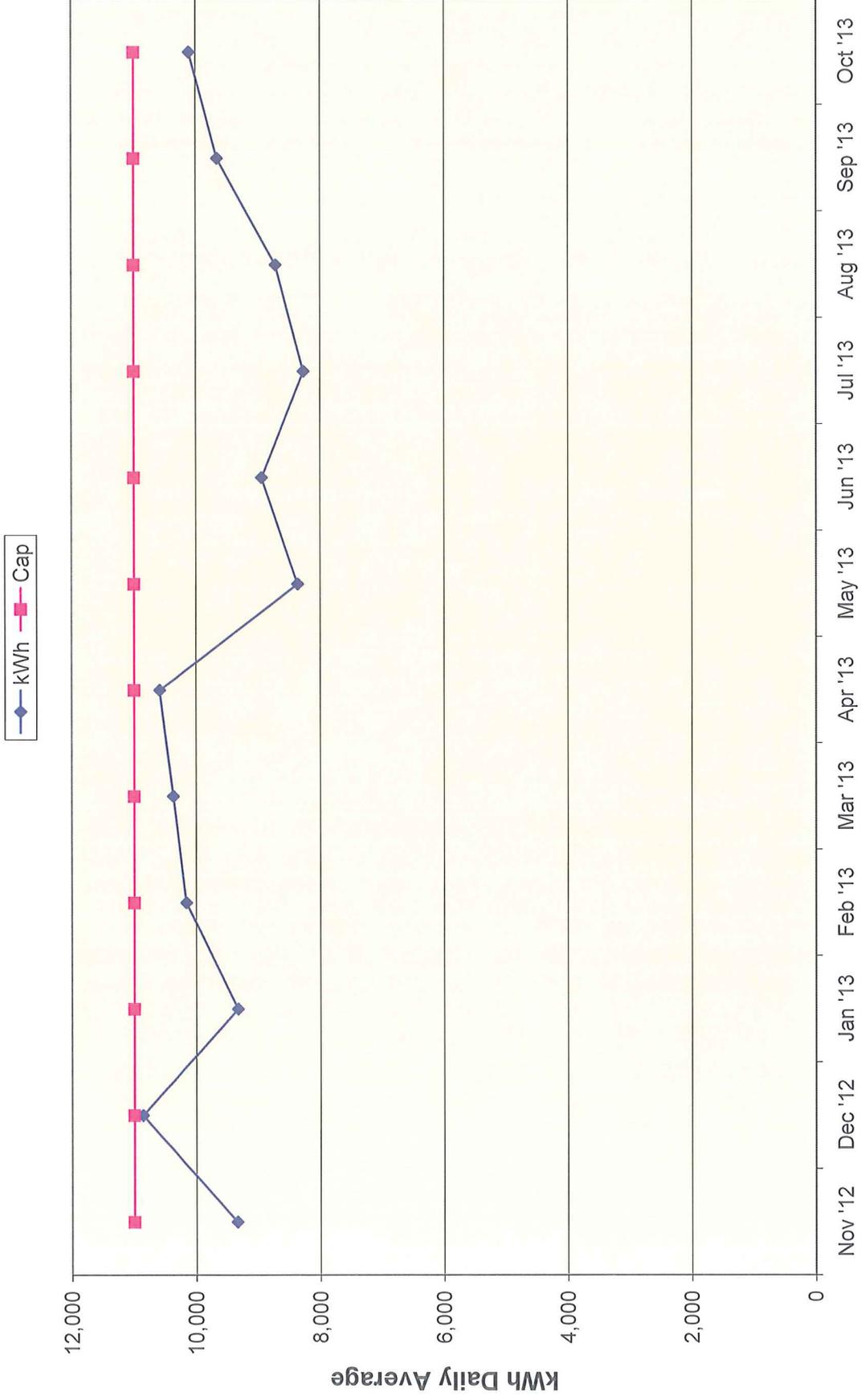
# Disinfection

TOTAL COLIFORM LIMITS - WDR  
5 Sample Median - 240 mpn /100 ml  
Maximum - 10,000 mpn/100 ml

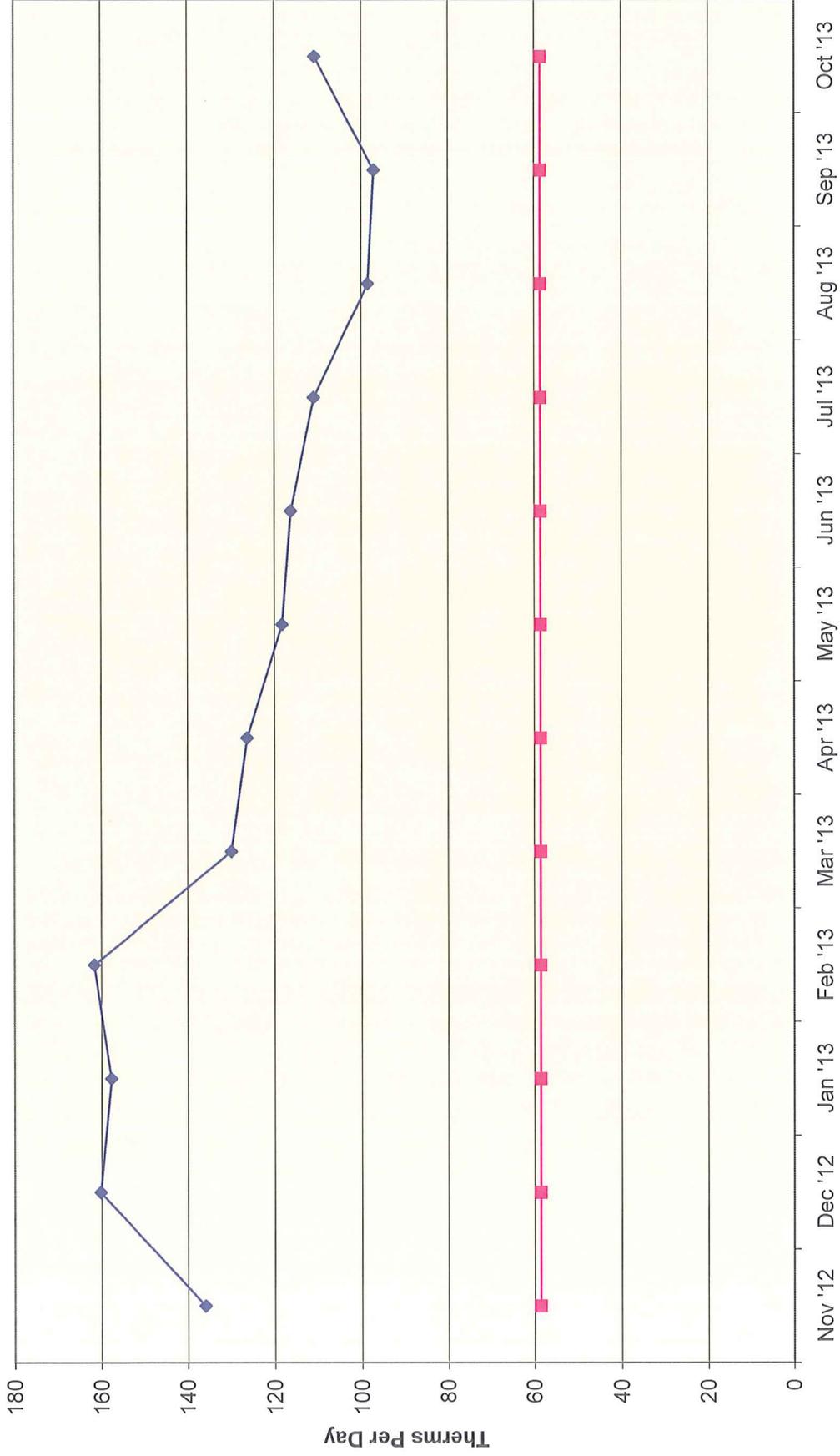
■ Median 5 ■ Maximum



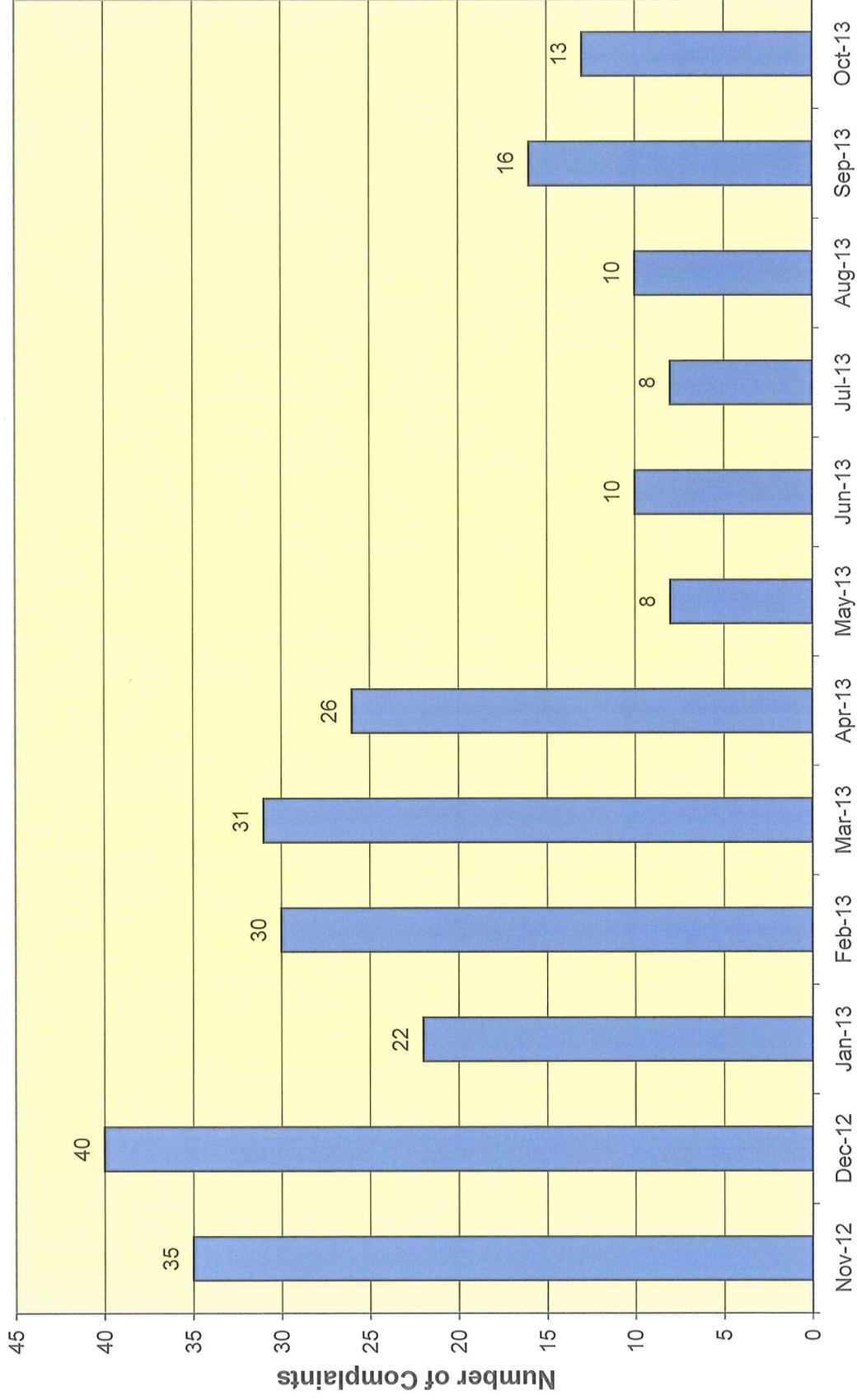
# Energy kWh



### Natural Gas Use



# Complaints Received



**WORK ORDER STATISTICS**

**October 1, 2013 - October 31, 2013**

	<b>Open Work Orders Due Prior to 10/1/13</b>	<b>Open Work Orders 10/1/13 - 10/31/13</b>	<b>Total Open Work Orders</b>
Preventative	0	309	309
Corrective	5	22	27
<b>Total</b>	<b>5</b>	<b>331</b>	<b>336</b>

	<b>Closed Work Orders 10/1/13 - 10/31/13</b>
Preventative	263
Corrective	11
<b>Total</b>	<b>274</b>

<b>Total Outstanding Work Orders as of November 1, 2013</b>	<b>62</b>
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**NOVATO SANITARY DISTRICT**  
**Wastewater Operations Committee Meeting**  
**Odor Control, Noise, and Landscaping Report**  
**October 2013**

**Summary:**

Staff continues to work to address issues of concern relating to odor control, noise, and landscaping, specifically from the Lea Drive neighborhood, and in the northeast corner of the Novato Treatment Plant (NTP) site.

To demonstrate its commitment, the District has already expended significant amounts beyond the substantial investment for odor control, noise, and landscaping included in the original WWTP Upgrade, Contract B - Novato Treatment Plant (NTP), Project No. 72609. These additional costs have included operational changes and measures related to further noise abatement, visual screening, wind shielding, and daily monitoring.

A summary of activities since the last Wastewater Operations Committee meeting is provided below.

**Odor control:**

The District's odor control consultant, Mr. Dave McEwen of Brown and Caldwell (B&C) continued to work further on studying the issue of potential odor emissions from the aeration basins.

He reported that initial analysis of air samples off the aeration basins carried out earlier appears to indicate the characteristic "signature" of two reduced sulfur compounds, dimethyl sulfide and methyl mercaptan. He also indicated that the primary source appears to be the anoxic zones of the aeration basins.

Mr. McEwen carried out further reduced sulfide compound sampling in October (liquid phase sampling) to analyze potential formation areas for these compounds within the liquid stream, as this might lead to a potential solution for odor suppression at the source of formation.

**Noise:**

In October, staff continued to address the low level noise issues raised by some Lea Drive neighbors, related to the fans for the main odor control biofilter in the northeast corner of the Novato plant. These fans currently continue to reside inside a temporary insulated enclosure, and staff continues to evaluate options to provide cost-effective permanent sound attenuating.

As part of this effort, Veolia and the District retained a local contractor who presented two alternative designs in October to place the fans and the immediately adjacent air ducting within an enclosure to minimize the sound. It is anticipated that contractor will complete the work by December 2013.

In addition, staff continued to monitor sound levels at the property line on Lea Drive, which continued to indicate that the sound levels are those of an "Average Quiet Street"

**NOVATO SANITARY DISTRICT**  
**Wastewater Operations Committee Meeting**  
**Odor Control, Noise, and Landscaping Report**  
**October 2013**

and well below the 60 decibels the Novato General Plan specifies for residential neighborhoods.

**Landscaping:**

Staff worked with its landscaping contractor Cagwin and Dorward (C&A), Novato, CA, to care for the attributes to the landscaping installed at the District's fence-line on Lea Drive at the northeast corner area of the NTP. As mentioned in earlier reports, the District has negotiated and executed a maintenance contract with C&A for C&A to provide periodic maintenance services to this landscaping, including weed control and irrigation systems. It is anticipated that C&A will be providing weekly services on an as-needed basis to care for the landscaping in this area.

\*\*\*

**Novato Sanitary District  
Wastewater Operations Committee meeting  
Collection System Operations Report  
October 2013**

**General:**

For October 2013, after accounting for all leaves, the breakdown of Collection System department staff time, in terms of equivalent full-time employee (FTE) hours utilized, works out approximately as follows:

- 3.1 FTE field workers for Sewer Maintenance (main line cleaning)
- 1.4 FTE field workers for Pump Station Maintenance
- 1.2 FTE field workers for CCTV work
- 2.1 FTE field workers for time spent on data input, training, service calls, overflow response, or any other activity that does not directly relate to main line cleaning, CCTV work or pump station maintenance, and
- 0.7 FTE field workers Vacation/Sick Leave/Holiday.

**Collection System Maintenance:**

Performance metrics for the department are presented in the attached graphs showing the length of line cleaned/month, footage cleaned/hour worked, overflows/month, and the CCTV footage achieved.

A total of 96,704 feet of sewer pipelines were cleaned for the month by District staff. Staff completed 548 maintenance work orders generated by the ICOM3 CMMS system, with 13 outstanding work orders. An additional 11,593 ft of sewer pipelines was cleaned using outside services. Roy's Sewer Service provided mechanical rodding services to assist the Collection System department clean 8,333 ft of sewer lines to clear past due work orders. This was necessary due to mechanical issues with the District mechanical rodder (which have been since resolved). Further, since District capability is limited to cleaning and CCTV 12-inch or smaller mains, staff utilized Rotorooter, Inc. to clean 3,260 ft of larger diameter (21-24 inches) interceptor pipe upstream of the Olive Street Pump Station (OSPS).

The District's CCTV van was in the field for a total of 16 working days in October, and the department's CCTV production was 44,083 ft for the month. District staff televised 37,429 feet of sewer lines using the CCTV van, and televised 6,654 feet of sewer lines using the push (hand) camera while performing easement area maintenance. In addition, Rotorooter, Inc. also performed CCTV work on the previously mentioned 3,260 ft of 21-24 inch interceptor pipe upstream of OSPS.

**Pump Station Maintenance:**

The Collection System Department conducted 274 lift station inspections for the month with 122 of the inspection visits generated through the JobCal Plus CMMS system\*.

**Novato Sanitary District  
Wastewater Operations Committee meeting  
Collection System Operations Report  
October 2013**

The breakdown of these inspections is as follows: 27 Flygt submersible pump stations, 1 time per month, 6 Gorman/Rupp dry well/wet well stations, 1 entry per month, and 4 main stations and the Irrigation pump station, that are visited daily.

A Collection Systems (Pump Stations) Work Order Statistics summary is attached.

At Bel Marin Keys #5 pump station, pump #1, was taken out of service in October and sent in for repair due to wear to the impeller and volute. Pump #1 was returned to service in October and pump #2 is scheduled for the same rehabilitation process in November.

**\*Note:** The JobCal Plus program is not only used for scheduling and tracking pump station related maintenance work orders, it is also used for ladder inspections, reclamation maintenance work orders, SCADA backup scheduling, and vehicle maintenance scheduling.

**Pump Station Rehabilitation:**

Currently, there is no pump station under construction as part of the District's continuing multi-year Pump Station Rehabilitation Project (Capital Improvement Project No. 72403). The next phase, (Unit 5), is currently out to bid after receiving Board approval to bid in October.

**Safety and Training:**

General: The Collection System crew attended four safety tailgate meetings.

Specialized training: Collection System staff attended gas detector training during the month of October. Two crew members from the Collection System staff also attended the CWEA Safety Training Day in Woodland, and other members received training via webinars on Pump Station Contingency Planning and Overflow Volume Estimation.

Safety performance: There were no lost time accidents this month for a total of 273 accident-free days.

**Standard Operating Procedures (SOPs):**

Department staff continues to work on generating new SOPs, and working towards finalizing earlier draft SOPs. No (0) SOPs were issued in October.

**Sanitary Sewer Overflows (SSOs):**

For the month of October, there was one (1) SSO, as discussed below.

**Novato Sanitary District  
Wastewater Operations Committee meeting  
Collection System Operations Report  
October 2013**

<b>No.</b>	<b>Date</b>	<b>Location</b>	<b>Amount, gal</b>	<b>Cause</b>
1	10/2/2013	29 Balra Dr.	1,474	Roots

1. SSO at 29 Balra Dr.: This SSO was a Category I event with an estimated discharge volume of approximately 1,474 gallons going to a storm drain and an unnamed drainage channel. There was substantial recovery (46%) or 673 gallons for this discharge due to the fact that part the discharge was retrieved from the storm drain.

This discharge was determined to be the result of a partial root blockage in the main line. Volume estimation from the observed water height above the pick-hole times duration, residential water use times duration, and reporting party/local resident interviews were all used to estimate the duration and volume of this event.

The District initially received this report at 21:19. County Dispatch/Rebecca Ng of Marin County Environmental Health Services (MCEHS) was notified of this event at 22:51 and CAL-EMA was notified at 22:54 meeting the 2 hour reporting requirements for a Category I event.

Staff consulted with Rebecca Ng (MCEHS), and she provided direction that no Public Notification or water sampling was necessary due to the location, volume of the discharge, lack of viable sampling points, and lack of public access.

The line segment was last cleaned on schedule using the hydro-flusher on 5/3/2012. CCTV inspection immediately after the discharge showed root intrusion only coming into the line segment from lateral connections. The cleaning frequency for this line segment has been changed from 36 month to 12 months on the mechanical rodding schedule and it has been added to the hydro-flusher schedule on a 12 month frequency. These schedules will be coordinated 6 months apart so that the line segment will be cleaned twice a year.

This event was reported into the CIWQS database on 10/3/2013 as a Category I event, SSO Event ID #799386 and was certified in CIWQS on 10/12/2013, Certification ID # 692928.

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Novato Sanitary District  
Collection System Monthly Report For October 2013 (as of October 31, 2013)

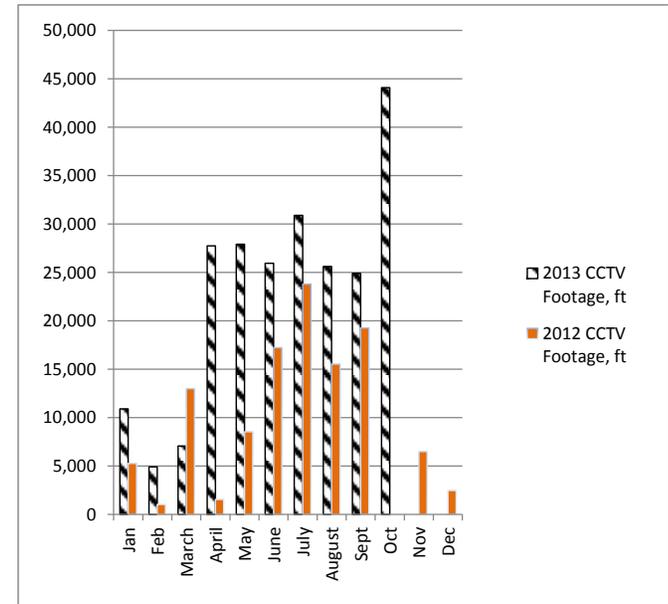
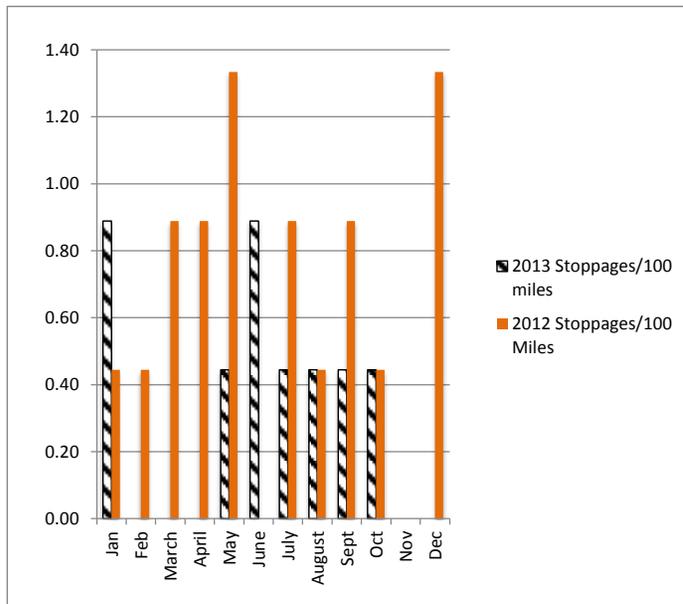
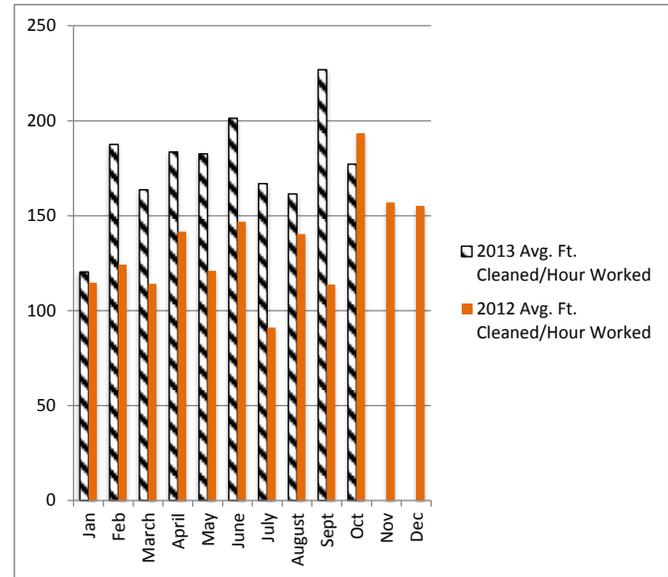
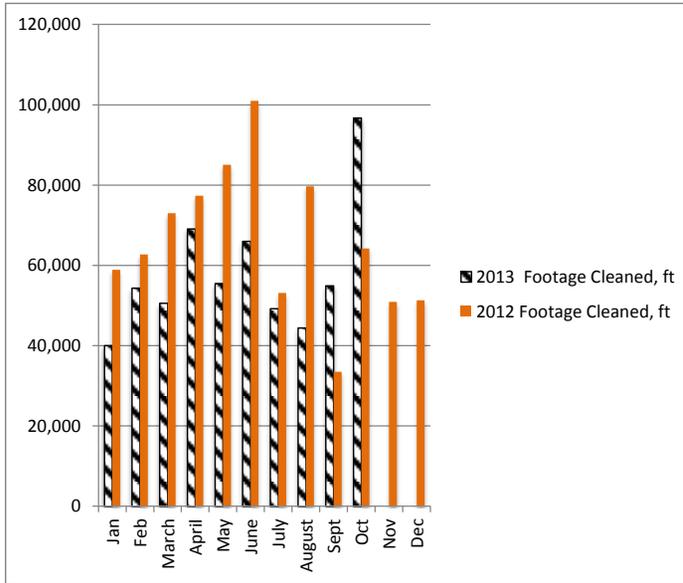
	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
<b>A. Employee Hours Worked</b>														
Number of FTEs (main line cleaning), hrs.	1.9	1.7	1.8	2.2	1.8	1.9	1.7	1.6	1.4	3.1			NA	1.9
Number of FTEs (other)	1.9	1.4	2.4	1.5	1.8	1.2	1.8	1.4	2.1	2.1			NA	1.8
Number of FTEs (CCTV)	0.1	0.3	0.5	1.7	1.1	1.2	1.5	1.3	1.2	1.2			NA	1.0
Total, FTEs	3.9	3.4	4.7	5.4	4.6	4.3	4.9	4.2	4.7	6.4			NA	4.7
Regular Time Worked, (main line cleaning), hrs	333	290	309	377	304	328	295	275	242	546			3,298	330
Regular Time Worked on Other, hrs <sup>(1)</sup>	326	249	415	259	308	216	304	235	363	369			3,043	304
Regular Time Worked on CCTV <sup>(2)</sup>	20	46	85	300	192	200	258	221	206	203			1,730	173
Total Regular time, worked, hrs	678	585	809	935	804	744	857	731	811	1,118			8,070	807
Total Vacation/Sick Leave/Holiday, hrs	204	77	101	114	239	62	191	238	174	128			1,527	153
Vacation/Sick Leave/Holiday, FTEs	1.2	0.4	0.6	0.7	1.4	0.4	1.1	1.4	1.0	0.7			8.8	0.9
Overtime Worked on Coll. Sys., hrs	6	45	5	47	5	1	24	24	33	31			221	22
Overtime Worked on Other, hrs <sup>(1)</sup>	3	19	5	28	12	6	16	17	27	50			183	18
Overtime Worked on CCTV <sup>(2)</sup>	1	3	0	0	0	0	2	1	2	3			12	1
Total Overtime, hrs	10	67	10	75	17	7	42	42	62	83			415	42
<b>B. Productivity</b>														
<b>1. Line Cleaning</b>														
Rodder Work Orders generated	14	0	24	31	83	66	51	51	51	121			492	49
Rodder 3203 ft. cleaned	3,138	0	3,856	5,490	678	4,371	760	1,842	1,214	10,325			31,674	3,167
Rodder - outside services, ft cleaned	0	0	0	0	0	0	0	0	0	8,333			8,333	833
Flusher Work Orders generated	187	252	290	385	438	361	277	256	340	440			3,226	323
Truck 3205V ft. cleaned	2,782	5,146	2,755	13,698	15,477	10,186	0	12,537	0	14,307			76,888	7,689
Truck 3206V ft. cleaned	34,114	49,225	43,954	49,898	39,332	51,468	48,444	30,024	53,692	72,072			472,223	47,222
Flusher - outside services, ft. cleaned	0	0	0	0	0	0	0	0	0	3,260			3,260	
Total Footage cleaned <sup>(3)</sup>	40,034	54,371	50,565	69,086	55,487	66,025	49,204	44,403	54,906	96,704	NA	NA	580,785	58,079
Work Orders completed	201	252	286	374	314	267	239	222	281	548			2,984	298
Work Orders backlog	6	0	28	42	207	160	89	85	110	13			740	74
<b>2. Closed Circuit Television (CCTV)</b>														
Camera Work Orders generated	0	0	0	0	0	0	0	0	0	0			0	
CCTV Truck 3126T, ft. videoed	10,905	4,912	7,075	27,756	27,913	25,938	30,910	25,628	24,900	37,429			223,366	22,337
CCTV (hand cam), ft. videoed	NA	6,654												
CCTV Inspection - outside services, ft. videoed	0	0	0	0	0	0	0	0	0	3,260			3,260	
Total CCTV footage <sup>(3)</sup>	10,905	4,912	7,075	27,756	27,913	25,938	30,910	25,628	24,900	44,083	NA	NA	230,020	
<b>C. Sanitary Sewer Overflows (SSOs)</b>														
Minor (Category II)	2	0	0	0	1	2	1	1	1	1			9	NA
Major (Category I)	0	0	0	0	1	1	1	1	0	0			4	NA
Overflow Gallons	2,200	0	0	0	158	1,111	10	50	312	1,474			5,315	NA
Volume Recovered	880	0	0	0	158	100	0	0	117	673			1,928	NA
Percent Recovered	40%	NA	NA	NA	100%	9%	0%	0%	38%	46%	NA	NA	36%	NA
<b>D. Service Calls (non-SSO related)</b>														
Service calls, normal hours, #	7	5	7	12	6	6	8	5	8	9			73	7
Normal hours S.C. response time, mins (avg.)	12	15	14	18	17	22	19	13	23	15			168	17
Service Callouts, after hours, #	1	0	0	1	1	0	1	2	1	3			10	1
After Hours S.C. response time, mins (avg.)	23	NA	NA	20	30	0	27	34	30	28			192	24
<b>E. Benchmarks</b>														
Average Ft. Cleaned/Hour Worked	120	187	164	183	183	201	167	161	227	177	NA	NA	NA	177
Total Stoppages/100 Miles	0.9	0.0	0.0	0.0	0.4	0.9	0.4	0.4	0.4	0.4	NA	NA	4.0	NA
Average spill response time (mins)	18	0	0	0	15	19	15	27	7	41			NA	14
Callouts/100 Miles	0.4	0.0	0.0	0.4	0.4	0.0	0.4	0.9	0.4	1.3			4.4	0.4
Overtime hours/100 Miles	3	20	2	21	2	0	11	11	15	14			98	10
Overflow Gallons/100 Miles	978	0	0	0	70	494	4	22	139	655	NA	NA	2362	236

<sup>(1)</sup>This category includes time spent on: Data input, Training, Service Calls, Overflow Response, as well as any other activity that does not directly relate to main line cleaning or CCTV work.

<sup>(2)</sup>This category separates time spent on CCTV from other Collection System maintenance activities.

<sup>(3)</sup> Does not include outside services (tracked separately)

## Collection System 2012-13 Graphs



Novato Sanitary District

Pump Station Monthly Report For October 2013 (as of October 31, 2013)

	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
<b>Employee Hours Worked</b>	253	224	313	226	256	249	320	301	236	266			2,644	
Number of Employees	1.4	1.3	1.8	1.3	1.4	1.4	1.8	1.4	1.2	1.4				1.4
Regular Time Worked on Pump Sta	185	189	223	182	227	201	273	239	201	246			2,165	
Overtime Worked on Pump Sta	69	35	90	44	29	48	47	62	35	20			479	
After Hours Callouts	4	3	1	8	1	0	5	5	2	0			29	
Average Callout response time (mins)	24	35	20	30	0	0	26	35	30	0			200	20
<b>Work Orders</b>														
Number generated in month	107	112	116	124	110	125	134	107	126	122			1183	
Number closed in month	104	110	116	124	110	123	134	106	126	122				
Backlog	3	2	0	0	0	2	0	1	0	0				

**COLLECTION SYSTEM (Pump Stations)  
WORK ORDER STATISTICS  
October 1, 2013 - October 31, 2013**

	<b>Open Work Orders Due Prior to 10/1/2013</b>	<b>Open Work Orders 10/1/2013 - 10/31/2013</b>	<b>Total Open Work Orders</b>
Preventive	0	122	0
Corrective	0	0	0
<b>Total</b>	<b>0</b>	<b>122</b>	<b>122</b>

	<b>Closed Work Orders 10/1/2013 - 10/31/2013</b>
Preventive	119
Corrective	3
<b>Total</b>	<b>122</b>

<b>Total Outstanding Work Orders as of 10/31/2013</b>	<b>0</b>
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**NOVATO SANITARY DISTRICT**  
**Wastewater Operations Committee Meeting**  
**Reclamation Facilities Report**  
**October 2013**

**Summary:**

The rancher grazed cattle on all three Sites and began to remove cows from the Sites. Parcel rehabilitation continues on Parcels 21, 24, 25, 38 & 78. Pump No. 1 at Drainage Pump Station 7 was installed after being refurbished. One control box was replaced in Parcel 21. Approximately 44 MG of recycled water was used for irrigation this month. 1.59 MG of sludge was pumped to the DLD and 4,680 cubic yards of solids was excavated from the sludge lagoons and spread in the DLD.

**Ranch Operations:**

The rancher grazed cattle on all Sites and began to move cattle off the Sites this month.

Parcel rehabilitation continued on Parcel 78, staff tested the irrigation system to evaluate if repairs are needed or if sprinkler heads need to be replaced. The testing identified 475 sprinkler heads which were replaced and five locations where the irrigation system was dug up for repairs. The parcel is ready for one more pass with the rotovator in preparation for seeding. Leveling work was completed in Parcel 38 and the parcel was chiseled and rotavated in preparation for testing of the sprinklers. The leveling equipment was moved to Site 2 to complete the rehabilitation work on Parcels 24 & 28. Parcels 21 & 25 were rotovated and the irrigation system was tested. Approximately 125 sprinklers in Parcel 21 and 250 sprinklers in Parcel 25 need to be replaced. One underground leak was found in Parcel 25. The enclosure for the control board in Zone 212 was replaced.

Mosquito Abatement found a sinkhole in Parcel 27. Staff located the sinkhole and will investigate after the irrigation season is over. The sinkhole appears to be over one of the large irrigation mains. Staff attempted to shut off the main valve to Site 2 but the valve actuator extension broke due to corrosion. This may have to be dug up for repair also.

The refurbished pump and motor for Pump No. 1 at Drainage Pump Station No. 7 was returned and installed.

**Irrigation Parcels:**

As previously reported, on occasion, the valve actuators for some irrigation zones within the Parcels will not fully open or close and some motors have failed. Staff met with the District's electrical engineering consultant Todd Beecher earlier and asked him to start looking at methods to remedy the situation. A report will be forthcoming from Todd.

Time clocks were dialed back to adjust for cooler weather and shorter daylight hours.

**Irrigation Pump Station:**

Approximately 43.59 million gallons of recycled water was used for irrigation in October. The average storage pond staff gauge depth at the beginning of October was 6.3 feet and 3.5 feet at the end of October. On October 1, 2013, Veolia Water transitioned the

**NOVATO SANITARY DISTRICT  
Wastewater Operations Committee Meeting  
Reclamation Facilities Report  
October 2013**

Novato Treatment Plant to Bay Discharge (sending treated effluent to the San Pablo Bay) resulting in no effluent added into the storage ponds.

**Sludge Handling & Disposal:**

The District's contractor pumped approximately 1.59 MG out of Lagoon 1 and into the Dedicated Land Disposal (DLD) Area. Approximately 4,680 cubic yards of solids was excavated out of the sludge lagoons and spread into the DLD.

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