

# NOVATO SANITARY DISTRICT

Meeting Date: April 25, 2016

**The Board of Directors of Novato Sanitary District will hold a meeting at 6:00 p.m., Monday, April 25, 2016, at the District Offices, 500 Davidson Street, Novato.**

*Materials related to items on this agenda are available for public inspection in the District Office, 500 Davidson Street, Novato, during normal business hours. They are also available on the District's website: [www.novatosan.com](http://www.novatosan.com).*

## AGENDA

### 1. PLEDGE OF ALLEGIANCE:

### 2. AGENDA APPROVAL:

### 3. 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 Board at this time as a result of any public comments made.

### 4. REVIEW OF MINUTES:

- a. Consider approval of minutes of the April 4, 2016 regular meeting.

### 5. CONSENT CALENDAR:

*The General Manager-Chief Engineer has reviewed the following items. To his knowledge, there is no opposition to the action. The items can be acted on in one consolidated motion as recommended, or may be removed from the Consent Calendar and separately considered at the request of any person.*

- a. Approve regular disbursements, April 4 – April 25, 2016.
- b. Ratify April 2016 payroll and payroll related disbursements.
- c. Receive Workers' Compensation Insurance Report.

### 6. FINANCE COMMITTEE:

- a. Receive report, meeting of April 18, 2016.
- b. Accept recommendation to approve the 2016 Sewer Service Charge Study report by Bartle Wells Associates (BWA).
- c. Accept recommendation to establish a maximum sewer service charge increase of \$21 per year per Equivalent Dwelling Unit (EDU) in each of the five Fiscal Years FY2016-17 through FY2020-21.

### 7. SEWER SERVICE CHARGES:

- a. Approve the 2016 Sewer Service Charge Study report by Bartle Wells Associates (BWA)
- b. Establish a maximum rate increase of \$21 per year per Equivalent Dwelling Unit (EDU) in each of fiscal years (FY) 2016-17, 2017-18, 2018-19, 2019-20, and 2020-21.

- c. Set the time and date for a Public Hearing on Proposed Increases in Sewer Service Charges for 6:00 p.m. on June 13, 2016.
- d. Review and authorize mailing of the attached proposed Proposition 218 mandated Notices of Public Hearing to Residential and Non-Residential Property Owners.

**8. WASTEWATER OPERATIONS REPORT:**

- a. Receive Wastewater Operations Report, March 2016.
- b. Receive report on repair of 15-inch trunk sewer at 65 Hamilton Drive, approve the final Work Report in the amount of \$99,460.76 to replace the 34 lineal feet (LF) of the 15-inch trunk sewer, and authorize the General Manager-Chief Engineer to execute it.

**9. CAPITAL PROJECTS:**

- a. *NTP Corrosion Control, Account No. 73006*: Approve a contract with RMC Water Environment in the not-to-exceed amount of \$55,850 for engineering services related to protective coating of Primary Clarifier No. 1, and authorize the General Manager-Chief Engineer to execute it.

**10. BOARD MEMBER REPORTS AND REQUESTS:**

- a. North Bay Watershed Association (NBWA) annual conference, April 22, 2016.
- b. North Bay Water Reuse Authority (NBWRA) meeting, April 25, 2016.

**11. GENERAL MANAGER'S REPORT AND ANNOUNCEMENTS:**

**12. ADJOURNMENT:**

**Next regular meeting date: Monday, May 9, 2016, 6:00 PM, at the Novato Sanitary District office, 500 Davidson Street, Novato, CA.**

Next resolution no. 3098.

***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.***

## NOVATO SANITARY DISTRICT

Board Meeting Minutes

Meeting Date: April 4, 2016

A regular meeting of the Board of Directors of the Novato Sanitary District was held at 6:00 p.m., Monday, April 4, 2016, at the District offices, 500 Davidson Street, Novato.

BOARD MEMBERS PRESENT: President Jean Mariani, Directors Carole Dillon-Knutson, William C. Long, Brant Miller and Jerry Peters.

STAFF PRESENT: General Manager-Secretary Sandeep Karkal and Administrative Secretary Julie Swoboda.

ALSO PRESENT:

Steve Krautheim, Field Services Manager, Novato Sanitary District  
Erik Brown, Technical Services Manager, Novato Sanitary District  
John Bailey, Project Manager, Veolia Water  
Brian Exberger, Assistant Project Manager, Veolia Water

PLEDGE OF ALLEGIANCE:

AGENDA APPROVAL: The agenda was approved as written.

PUBLIC COMMENT: None.

REVIEW OF MINUTES:

- Consider approval of minutes of the March 14, 2016 regular meeting.

*On motion of Director Peters, seconded by Director Dillon-Knutson, and carried unanimously, the March 14<sup>th</sup>, 2016 Board meeting minutes were approved.*

CONSENT CALENDAR:

Director Long requested that item (f): "Approve a contract with Rauch Communications" be removed from the Consent Calendar.

President Mariani called for a motion on the remaining items on the Consent Calendar as follows:

- a. Approval of Board member disbursements in the amount of \$1,194.84, operating check disbursements in the amount of \$51,706.08, and capital project disbursements in the amount of \$27,648.87.
- b. Ratify March 2016 payroll and payroll-related disbursements in the amount of \$224,647.26.
- c. Receive Deposit Summary, March 2016.

- d. Receive Accounts Receivable Report as of March 31, 2016.
- e. Receive report on Government Compensation in California (GCC) statement as filed with the State Controller's Office (SCO).
- g. Receive most recent Pooled Liability Program (PLP) dividend report.
- h. Adopt updated District Policy No. 4100 - Compensation and Reimbursement.
- i. Approve an application from Pacific Gas and Electric Company (PG&E) and authorize the General Manager-Chief Engineer to issue a one-time, temporary, Class I non-domestic discharge permit for discharge of groundwater and hydrotest water.

*On motion of Director Peters, seconded by Director Dillon-Knutson, and carried unanimously, the above listed Consent Calendar items were approved.*

President Mariani stated that the Board would now consider item (f): Approve a contract with Rauch Communications in the amount of \$74,200 for communication and outreach services, and authorize the General Manager-Chief Engineer to execute the contract.

Director Long stated that at the recent CASA Conference, he attended a round-table discussion regarding the importance of Crisis Communication Plans. He recommended that a Crisis Communication Plan be prepared by Rauch Communication Consultants and that this task be included in the proposed \$74,200 budget for Rauch Communications.

The General Manager stated that he will work to amend the contract with Rauch Communications to include the preparation of a Crisis Communication Plan within the approved scope of work at no extra cost.

*On motion of Director Peters, seconded by Director Dillon-Knutson, and carried unanimously, the Board approved a contract with Rauch Communications in the amount of \$74,200 for communication services, outreach services, and formulation of a Crisis Communication Plan.*

#### SEWER SERVICE CHARGE STUDY AND ORDINANCE:

- Receive proposed schedule for adoption of sewer service charges for fiscal years FY2016/17 through FY2020/21, and collection of charges on County tax rolls.

- Receive proposed schedule for approval of FY2016-18 preliminary and final budget, and appropriations limit.

The General Manager outlined the proposed schedules and discussed the approval process. He noted that these items were informational items to familiarize the Board with the proposed time lines for adoption of potential increases to sewer service charges for FY16-17 through FY20-21, the FY16-18 preliminary and final budgets, and the FY2016-17 appropriations limit.

## WASTEWATER OPERATIONS REPORTS:

- Receive and accept Wastewater Treatment Facilities 2015 Annual Operations and Maintenance Report (Report), subject to minor edits. The General Manager stated that the 2015 Annual Report was prepared by Veolia Water as per their Contract Service Agreement with the District. He introduced John Bailey, Project Manager, Veolia, who gave a short verbal presentation on the Report. He noted that the report was an encapsulation of the information presented in the monthly Wastewater Operations Reports for calendar year 2015. The Project Manager stated that the final report would include minor grammatical edits that were discovered after the draft report was printed.

Director Miller stated that he was pleased with the report and with Veolia's operation of the treatment facility. He asked if the treatment facility was capturing the bio-gas produced in the digester process for electrical demand at the facility. The General Manager stated that the District has budgeted for a co-generation project, but that currently the District burns the excess gas through the flare. The Project Manager stated that at a future date he would provide a presentation to discuss bio-gas utilization at the facility.

President Mariani stated that the narrative discussion of the plant operation was well done and suggested that this portion of the report be posted on the District website.

*On motion of Director Peters, seconded by Director Long and carried unanimously, the Board accepted the Wastewater Treatment Facilities 2015 Annual Operations and Maintenance Report, subject to minor edits.*

- Receive closeout report on emergency project at the Ignacio Transfer Pump Station site, approve the final Work Report in the amount of \$76,172.60 to replace the 57 lineal feet (LF) of the 18-inch trunk sewer, and authorize the General Manager-Chief Engineer to execute it. The General Manager stated that at the February 8<sup>th</sup> Board meeting, staff had informed the Board of a failure in a portion of the trunk sewer serving the industrial park along Bel Marin Keys Boulevard and the surrounding area within the Ignacio Transfer Pump Station site. He noted that at that meeting, the Board ratified the General Manager's declaration of an emergency with potential to threaten public health or environmental quality from failure of an essential facility, and authorized expenditures for emergency repairs. He stated that the repairs had been completed and that Field Services Manager Steve Krauthem would provide a final report.

The Field Services Manager stated that staff contracted with WR Forde Contractors to respond to the emergency project at the Ignacio Transfer Pump Station site. He stated that two work orders were issued: 1) a spot repair work order; and 2) a work order for replacement of 57 lineal feet of the trunk sewer. He stated that the spot repair was completed at a cost very close to the estimate, or \$24,523.21. He stated that the line replacement was completed at a cost of \$76,172.60, or \$34,172.60 more than the authorized amount of \$42,000. The Field Services Manager noted that the replacement costs exceeded the estimate due to significant unforeseen underground site conditions

in the existing pipe alignment inside the Transfer Pump Station site. He stated that the replacement is completed and that the trunk sewer is back in service.

*On motion of Director Peters, seconded by Director Dillon-Knutson and carried unanimously, the Board approved the final Work Report in the amount of \$76,172.60 with W.R. Forde Contractors and authorized the General Manager-Chief Engineer to execute it.*

#### CAPITAL PROJECTS:

- Recycled Water Facility (RWF) Expansion, Account No. 73005: Approve a contract with RMC Water Environment in the not-to-exceed amount of \$199,497 for design services related to expansion of the District's Recycled Water Facility, and authorize the General Manager-Chief Engineer to execute it. The General Manager stated that the District implemented the "Wastewater Facility Upgrade Project; Contract D: Recycled Water Facility (RWF)" in 2011 to provide recycled water to the North Service Area in Novato. He stated that the proposed expansion of the RWF is necessitated by the planned North Marin Water District (NMWD) expansion of its Central Area Project which will extend NMWD's recycled water distribution pipelines into the Central Novato/Ignacio geographic areas. He introduced Erik Brown, Technical Services Manager, to discuss the design phase of the project.

The Technical Services Manager discussed the components of the system, and stated that the expansion will provide 1.7 million gallons per day (MGD) firm capacity of recycled water. He stated that design costs are typically estimated at about 10% of preliminary estimated construction costs, and that RMC has submitted a proposal to provide final design documents for \$199,497, which is in this 10% ballpark range.

*On motion of Director Peters, seconded by Director Miller and carried unanimously by those Directors present, the Board approved a contract with RMC Water Environment in the not-to-exceed amount of \$199,497 for design services related to expansion of the District's Recycled Water Facility, and authorized the General Manager-Chief Engineer to execute it.*

#### BOARD OF DIRECTORS:

- Receive the 2015-16 Marin County Civil Grand Jury Report titled "2015-16 Web Transparency Report Card, Bringing Marin County's Local Governments to Light" (Report), and commend staff and the District's communications consultant Rauch Communications for their work on the District website. The General Manager stated that the Marin County Civil Grand Jury had released their report on March 17<sup>th</sup> and noted that the report was made part of the Board packet. He stated that there were no findings or recommendations in the Report that related to the District and stated that the District is only one of six agencies to be rated an A+ by the Grand Jury in terms of the Grand Jury's web transparency scorecard. He stated that he was very pleased with the

report and commended staff and Rauch Communication Consultants for their collaborative effort.

Director Peters commented that the favorable report demonstrates the District's desire to be transparent to the public. Director Long commended District staff and expressed congratulations to all. Director Dillon-Knutson stated that everyone is to be commended. President Mariani and Director Miller agreed with the sentiments expressed.

*On motion of Director Miller, seconded by Director Peters and carried unanimously, the Board accepted the Marin County Civil Grand Jury Report titled "2015-16 Web Transparency Report Card, Brining Marin County's Local Governments to Light", and commended staff and the District's communications consultant Rauch Communications for their work on the District website.*

#### BOARD MEMBER REPORTS AND REQUESTS:

- California Water Reuse Association Conference, Santa Rosa: Director Long discussed his attendance at the CA WaterReuse Association Conference which was held from March 13<sup>th</sup> through March 15<sup>th</sup> in Santa Rosa. He stated that there were numerous presentations regarding direct and indirect potable water reuse. In addition, Director Long discussed his attendance at the North Bay Water Reuse Authority (NBWRA) meeting which was held on March 28<sup>th</sup> at Novato City Hall. He stated that information was provided on NBWRA's Program Development Services.

INFORMATIONAL ITEMS: The Board reviewed and commented briefly on the following Marin Independent Journal articles:

- Monday, March 28, 2016, "Marin Watchdog Flunks 64 Public Agencies on Website Transparency".
- Monday, March 21, 2016, "Marin recyclers feel pinch of depressed oil prices, declining demand; depressed oil prices, tumbling demand raise concerns for firms, environment".

#### GENERAL MANAGER'S REPORT AND ANNOUNCEMENTS:

- The next regular Board meeting will be held on Monday, April 25<sup>th</sup> at 6:00 p.m.
- The CASA/WaterReuse California, Sacramento Policy Forum is April 6<sup>th</sup> at the Sutter Club in Sacramento. The General Manager-Chief Engineer and Directors Dillon-Knutson and Peters are signed up to attend.
- The North Bay Watershed Authority Annual Conference is being held in Napa on April 22<sup>nd</sup>.
- The Novato "Clean and Green Day" flyer was provided to all Board members. Clean and Green Committee Chairman Ed Schulze sent his appreciation to the Board for their support.
- Novato Sanitary District's Employee Assistance Program (EAP) presented an early morning meeting to all employees in March.

- The Finance Committee will meet on Monday, April 18<sup>th</sup> at 10:00 a.m. at the District office.

ADJOURNMENT: There being no further business to come before the Board, President Mariani adjourned the meeting at 7:17 p.m.

Respectfully submitted,

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Sandeep Karkal  
Secretary

Julie Swoboda, Recording

DRAFT

**Novato Sanitary District**  
**Operating Check Register**  
 April 11, 2016

Item: 5.a.  
Pages 9 to 12

Date	Num	Name	Credit
<b>Apr 11, 16</b>			
04/11/2016	59252	Johnson, Dee	6,840.00
04/11/2016	59262	Unicorn Group	4,900.00
04/11/2016	59246	EOA, Inc.	4,415.26
04/11/2016	59244	Dearborn National	2,281.42
04/11/2016	59255	Meyers, Nave, Riback, Silver & Wilson	1,975.00
04/11/2016	59268	U.S. Bank Card (3)Craig	1,760.09
04/11/2016	59245	Environmental Resource Assoc	1,428.92
04/11/2016	59240	Cintas Corporation	1,359.05
04/11/2016	59239	CDW Government, Inc.	1,176.00
04/11/2016	59253	Manco	1,159.26
04/11/2016	59251	Jan-Pro Cleaning Systems	1,005.00
04/11/2016	59238	California Diesel & Power	942.22
04/11/2016	59249	Hertz Corporation	817.50
04/11/2016	59261	RMC Water & Environment, Inc.	572.97
04/11/2016	59257	North Marin Water District	529.36
04/11/2016	59267	Cagwin & Dorward Inc.	506.55
04/11/2016	59264	Vision Service Plan	504.26
04/11/2016	59248	Grainger	493.81
04/11/2016	59234	Alpha Analytical Lab, Inc.	468.00
04/11/2016	59259	Pini Hardware	347.25
04/11/2016	59263	Verizon Wireless-	344.32
04/11/2016	59266	WECO	310.20
04/11/2016	59241	Claremont EAP, Inc.	250.00
04/11/2016	59265	Water Components & Building, Inc.	197.49
04/11/2016	59236	BoundTree Medical, LLC	194.90
04/11/2016	59243	CWEAmembers	164.00
04/11/2016	59254	Marin Independent Journal	151.85
04/11/2016	59250	Honey Bucket	88.21
04/11/2016	59235	AT&T Mobility	80.08
04/11/2016	59258	Petty Cash	67.29
04/11/2016	59247	Fuses Unlimited	42.77
04/11/2016	59242	CWEA-SFBS	35.00
04/11/2016	59256	Milanis Autocraft	23.81
04/11/2016	59237	Void	0.00
04/11/2016	59260	Void	0.00
<b>Apr 11, 16</b>			<b><u>35,431.84</u></b>

**Novato Sanitary District**  
**Operating Check Register**  
 April 25, 2016

	<u>Date</u>	<u>Num</u>	<u>Name</u>	<u>Credit</u>
<b>Apr 25, 16</b>	04/25/2016	59325	Veolia Water North America, Inc.	166,528.34
	04/25/2016	59319	Pacific, Gas & Electric	62,444.56
	04/25/2016	59324	Stericycle-(Previously PSC)	26,884.08
	04/25/2016	59326	Veolia Water North America, Lab	26,742.31
	04/25/2016	59295	Central Marin Sanitation District	21,035.71
	04/25/2016	59306	G3 Engineering, Inc.	14,540.75
	04/25/2016	59288	Bartle Wells Assoc, Inc	7,526.79
	04/25/2016	59284	American Express-21007	7,320.29
	04/25/2016	59322	Shape Incorporated	7,177.65
	04/25/2016	59313	Marin Audubon Society	3,513.90
	04/25/2016	59307	Harmony Press	3,280.00
	04/25/2016	59315	North Marin Water District	2,815.08
	04/25/2016	59300	E & M Wonderware, Inc.	2,567.16
	04/25/2016	59320	Paul Louis, Independent Consultant	1,800.00
	04/25/2016	59294	Calcon Systems, Inc.	1,284.00
	04/25/2016	59309	IEDA, INC	1,104.00
	04/25/2016	59297	Control Systems West, Inc.	988.12
	04/25/2016	59308	Hertz Corporation	815.63
	04/25/2016	59292	BoundTree Medical, LLC	746.56
	04/25/2016	59323	SMART	732.41
	04/25/2016	59311	Johnson Controls, Inc.	703.50
	04/25/2016	59327	Verizon EQ	595.73
	04/25/2016	59314	Marin County Ford	567.25
	04/25/2016	59290	Bay Area Air Quality	557.00
	04/25/2016	59321	Rauch Communication Consultants. Inc.	536.75
	04/25/2016	59293	Cagwin & Dorward Inc.	435.00
	04/25/2016	59286	B.W.S. Distributors, Inc.	429.46
	04/25/2016	59310	Jobs Available	429.00
	04/25/2016	59304	Fisher-Scientific	347.16
	04/25/2016	59328	WEF Membership	297.00
	04/25/2016	59301	Evoqua Water Technologies - Lab	272.00
	04/25/2016	59291	Bearings & Hydraulics	248.82
	04/25/2016	59302	Fastsigns	241.92
	04/25/2016	59298	CSRMA-	232.50
	04/25/2016	59285	American Messaging	223.02
	04/25/2016	59296	Claremont EAP, Inc.	162.50
	04/25/2016	59318	Orkin Pest Control, Inc.	144.56
	04/25/2016	59305	Frontier Communications of CA	114.60
	04/25/2016	59287	Barnett Medical LLC	90.00
	04/25/2016	59312	Leonardi Automotive & Electric, Inc.	55.75
	04/25/2016	59303	First Alarm	39.91
	04/25/2016	59289	Batteries Plus Inc	34.71
	04/25/2016	59317	O'Reilly Auto Parts	4.01
	04/25/2016	59299	void	0.00
	04/25/2016	59316	void	0.00

**Apr 25, 16**

**366,609.49**

# Novato Sanitary District Capital Projects Check Register

April 11, 2016

Date	Num	Name	Credit
<b>Apr 11, 16</b>			
04/11/2016	3022	W.R. Forde	24,523.21
04/11/2016	3025	Real Estate Strategies & Solut...	17,000.00
04/11/2016	3020	RMC Water & Environment, Inc.	13,695.25
04/11/2016	3024	Cagwin & Dorward Inc.	5,790.00
04/11/2016	3019	Nute Engineering Inc.	3,201.74
04/11/2016	3023	Water Components & Building...	382.38
<b>Apr 11, 16</b>			<b><u>64,592.58</u></b>

# Novato Sanitary District Capital Projects Check Register

April 25, 2016

<u>Date</u>	<u>Num</u>	<u>Name</u>	<u>Credit</u>
<b>Apr 25, 16</b>			
04/25/2016	3033	W.R. Forde	76,172.60
04/25/2016	3030	Rain For Rent, Inc.	11,500.94
04/25/2016	3032	RMC Water & Environment, Inc.	6,562.75
04/25/2016	3031	Rauch Communication Consul...	5,865.00
04/25/2016	3028	Linscott Engineering Contract...	3,926.43
04/25/2016	3029	Miller Pacific Engineering, Inc.	2,901.60
04/25/2016	3026	GHD Inc.	1,088.00
04/25/2016	3027	Jim-n-i Rentals Inc.	214.34
<b>Apr 25, 16</b>			<b><u>108,231.66</u></b>

**Novato Sanitary District**  
**Payroll and Payroll Related Check Register**  
**April - 2016**

Item: 5.b.

<u>Date</u>	<u>Description</u>	<u>Amount</u>
04/30/2016	April - Payroll	100,471.51
04/21/2016	April - Retirees Health Benefits	12,418.44
04/21/2016	CALPERS Retirement	7,990.64
03/31/2016	United States Treasury	21,898.26
04/21/2016	CalPers Supplemental Income Plan	2,500.00
03/31/2016	EDD	6,342.15
04/21/2016	Lincoln Financial Group 457	9,064.60
04/21/2016	Lincoln Financial Group 457 Roth	250.00
04/21/2016	Lincoln Financial Group-401a Plan	3,460.80
04/21/2016	Lincoln Financial Group-401a Plan	3,510.95
04/21/2016	CALPERS Retirement	13,103.92
04/21/2016	CALPERS Retirement Funding	12,232.00
04/21/2016	CalPERS Health	29,635.07
04/21/2016	Local Union 315	400.00
04/21/2016	Operating Engineers Trust	487.90
		<b><u>223,766.24</u></b>

# NOVATO SANITARY DISTRICT BOARD AGENDA ITEM SUMMARY

<b>TITLE:</b> Consent Calendar: Staff Report - Workers' Compensation Insurance Report	<b>MEETING DATE:</b> April 25, 2016  <b>AGENDA ITEM NO.:</b> 5.c.
<b>RECOMMENDED ACTION:</b> Receive Workers' Compensation Insurance Report - information only.	
<p><b>SUMMARY AND DISCUSSION:</b></p> <p>The District has been informed by its Workers' Compensation Insurance carrier, California Sanitation Risk Management Authority (CSRMA), that there will be an increase in the District's Experience Modification Factor for Policy Year (PY) 2016-17, from 0.97% to 1.03%.</p> <p>Experience modification is a factor that is applied to the workers' compensation insurance premium and is based on loss experience. Each covered entity starts out with a neutral experience modifier of 1.0 and adjustments are made depending on experience. An experience modification factor lower than 1.0 means losses lower than industry average and a modification factor higher than 1.0 means the opposite. Therefore, the District's loss experience is 3% above the industry average, an increase from last year's loss experience of 0.97, or 3% lower than industry average.</p> <p>Experience Rating is based on an "Expected Loss Rate" as a percentage of the prior 3 years' payroll. Total payroll for the 3-year reporting period decreased by approximately 2.76%, from \$5,179,014 to \$5,039,881. The District's "Expected Loss Rate" based on payroll for fiscal years 2012-13 through 2014-15 was \$38,427.00. The total Actual Incurred Losses for that time period amounted to \$39,735.00. Actual Loss divided by Expected Loss results in an experience modifier of 1.03% (<math>\\$39,735/\\$38,427 = 1.03</math>). The increase is primarily due to one loss totaling \$33,200 that occurred in January 2013.</p> <p>A copy of CSRMA's Experience Rating Form for the District is attached, together with a history of the District's Workers' Compensation rates.</p> <p>Workers' compensation rates for 2016-17 have not yet been published, so actual costs are not available at this time. However, it is projected that there will be an increase of approximately 10% in workers' compensation classification rates. That increase, coupled with the increase in modification factor, will likely increase the District's workers' compensation insurance premium for 2016-17 by approximately \$2,700.00, not including any retroactive premium adjustments.</p>	
<b>STRATEGIC PLAN INFORMATION:</b> This item addresses Goal 1 (Operational Excellence) of the latest Strategic Plan Update.	
<p><b>ATTACHMENTS:</b></p> <ol style="list-style-type: none"> <li>1. CSRMA Rating Form</li> <li>2. History of District Workers' Compensation Rates</li> </ol>	
<b>BUDGET INFORMATION:</b> The FY 2016-17 Preliminary Budget will reflect an estimated premium based on projected payroll. The actual premium will be included in the Final FY15-16 Budget to be adopted in August 2016.	
<b>DEPT. MGR.:</b> lc, ssk	<b>GENERAL MANAGER:</b> SSK



c/o ALLIANT INSURANCE SERVICES, INC.  
100 Pine Street, 11th Floor, San Francisco, CA 94111-5101

Tel: 415.403.1400

Insurance License No.: 0C36861  
Fax: 415.874.4813

**OFFICERS:**

Paul Bushee, *President*  
760.753.0155  
Greg Baatrup, *Vice President*  
707.429.8930

**PAST PRESIDENTS:**

Russ Baggerly  
2010-2014  
Robert Reid  
2006-2010

Mr. Sandeep Karkal  
Novato Sanitary District  
500 Davidson Street  
Novato, CA 94945

April 1, 2016

**CSRMA Workers' Compensation Program  
Experience Modification Factor  
July 1, 2016 – July 1, 2017**

Dear Sandeep:

We are currently working with CSRMA's actuary to develop the funding requirements for the Workers' Compensation Program renewal and are pleased to provide you with Novato Sanitary District's 2016 Experience Modification Factor (Ex-Mod). Last year, Novato Sanitary District's Ex-Mod was **97%**. This year, the ex-mod is **103%**, which is an increase of **6%**.

Please make note of the change in your Ex-Mod when budgeting for your workers' compensation premium for the upcoming fiscal year. If you have any questions or would like to discuss this increase further, please do not hesitate to contact us.

Sincerely,

Myron Leavell  
Alliant Insurance Services  
Program Administrators  
(415) 403-1404 Direct  
(415) 874-4813 Fax  
mleavell@alliant.com

Encl.

RECEIVED  
APR 04 2016  
NOVATO SANITARY DISTRICT

Experience Rating Form

Novato Sanitary District

Member Agency

	Class Code	2012-13 Payroll	2013-14 Payroll	2014-15 Payroll	Total Payroll (3-years)	Expected Loss Rate	Expected Losses (payroll x rate) (d)	D Ratio	Primary Expected Losses (expected x ratio) (e)	Expected Excess (d) - (e) (f)
<b>EXPECTED</b>	7580	788,806	783,205	664,269	2,236,280	1.50	33,544	0.17	5,703	27,842
	8810	512,070	558,058	566,509	1,636,637	0.17	2,782	0.22	612	2,170
	6307					4.26		0.17		
	8742	402,285	428,429	336,250	1,166,964	0.18	2,101	0.20	420	1,680
	0251					2.30		0.21		
	7520					1.38		0.22		
	9424					3.21		0.23		
	8601					0.14		0.20		
	<b>Total</b>		1,703,161	1,769,692	1,567,028	5,039,881		38,427		6,735

	Claim Number	2012-13 Actual Incurred Losses	2012-13 Primary Actual Losses	2012-13 Excess Actual Losses	2013-14 Actual Incurred Losses	2013-14 Primary Actual Losses	2013-14 Excess Actual Losses	2014-15 Actual Incurred Losses	2014-15 Primary Actual Losses	2014-15 Excess Actual Losses
<b>ACTUAL</b>	1	1,160	1,160	0	304	304	0	243	243	0
	2	32,040	7,000	25,040						
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
<b>Total</b>		33,200	8,160	25,040	304	304	0	243	243	0

Total Actual Incurred Losses (3-years)	Total Actual MLV Limited Losses (b) + (c)	Total Actual Primary Losses (3-years)	Total Actual Excess Losses (3-years)
	(a)	(b)	(c)
33,748	33,748	8,708	25,040

Rating Procedure

Primary Expected Losses (3-years) (e)	Excess Expected Losses (3-years) (f)	Primary Actual Losses (3-years) (b)	Excess Actual Losses (3-years) (c)	Credibility Primary Value (p)	Credibility Excess Value (q)	Cred Wtd Primary Losses $C_p \times (b) + (1 - C_p) \times (e)$	Cred Wtd Excess Losses $C_e \times (c) + (1 - C_e) \times (f)$	Cred Wtd Total Actual Losses (g)
6,735	31,692	8,708	25,040	1.00	0.10	8,708	31,027	39,735

<b>Total Expected Losses (3-years)</b>
(d)
38,427

<b>Experience Modification</b>
(h) / (g)
103%

**WORKERS' COMPENSATION INSURANCE FUND  
1995-96 to 2016-17**

Year	Payroll	Premium	Exp Mod	Prior Years' Retroactive Adjustment	Modified Premium
<b>Estimated</b>					
2016-17	2,121,763	32,653	103%		33,633
<b>2015-16 based on projected payroll - will be adjusted with actual payroll at end of FY</b>					
2015-16	2,140,352	35,352	97%	(16,905)	17,386 <sup>(1)</sup>
2014-15	1,567,028	29,905	161%	13,888	62,035
2013-14	1,769,692	37,705	129%	2,641	51,280
2012-13	1,703,161	37,853	195%	(1,144)	72,669
2011-12	1,706,161	37,413	176%		65,877
2010-11	1,840,920	41,981	149%		62,552
2009-10	2,186,745	49,906	126%	(7,495)	55,387
2008-09	2,614,515	68,208	85%	789	58,766
2007-08	2,441,064	66,639	77%	(15,841)	35,471
2006-07	2,278,153	75,870	71%	(35,719)	18,152
2005-06	2,229,966	91,423	77%	(22,620)	47,775
2004-05	2,057,343	96,667	90%	(323)	86,677
2003-04	1,840,411	74,600	104%	(472)	77,112
2002-03	1,749,389	54,291	98%	13,590	66,795
2001-02	1,673,027	38,399	79%	15,475	45,810
2000-01	1,463,445	34,353	84%	(8,354)	20,503
1999-00	1,436,374	45,589	90%	(7,729)	33,301
1998-99	1,449,179	38,109	96%	(9,033)	27,552
1997-98	1,357,457	34,472	94%	(5,480)	26,927
1996-97	1,321,804	32,538	92%	(8,022)	21,914
1995-96	1,287,163	36,004	80%		28,803

**NOTES:**

- (1) We are required to submit estimated payroll for workers' compensation policy renewal in February of each year. Therefore, the estimated premium of \$17,386 is based on existing payroll at that time, with current employees, and that is the amount we are billed. Any adjustments will be made after the end of the 2015-16 fiscal year following the final premium audit.

The District receives retrospective adjustments on future premiums based on the District's experience. Dividend calculations are performed at 18 months following expiration of the program year. For the past four years dividends have been applied to the District's Wellness Program and employee safety awards.

s:/excel/june/budget/wchistory.xls

# NOVATO SANITARY DISTRICT BOARD AGENDA ITEM SUMMARY

<b>TITLE:</b> Finance Committee, Meeting of April 18, 2016.	<b>MEETING DATE:</b> April 25, 2016 <b>AGENDA ITEM NOS.:</b> 6.a.b.&c.
<b>RECOMMENDED ACTION(S):</b> a. Receive Finance Committee report, meeting of April 18, 2016. b. Accept recommendation to approve the 2016 Sewer Service Charge Study report by Bartle Wells Associates (BWA), and c. Accept recommendation to establish a maximum sewer service charge increase of \$21 per year per Equivalent Dwelling Unit (EDU) in each of the five Fiscal Years FY2016-17 through FY2020-21.	
<b>SUMMARY AND DISCUSSION:</b> <p>The Finance Committee (Committee) comprised of Directors Long and Peters held a meeting of the Committee at 10am on April 18, 2016. The Committee received and reviewed the Draft 2016 Sewer Service Charge report prepared by Bartle Wells Associates (BWA), and received a presentation from BWA and District staff on the report.</p> <p>Based on the information presented and reviewed by the Committee at this meeting, the Committee directed staff and BWA to finalize the 2016 Sewer Service Charge report.</p> <p>The Committee also recommends that at its April 25, 2016 Board meeting, the District Board:</p> a. Receive the Finance Committee's report, and b. Approve the final 2016 Sewer Service Charge Study report by Bartle Wells Associates (BWA), and c. Establish a maximum sewer service charge increase of \$21 per year per Equivalent Dwelling Unit (EDU) in each of the five Fiscal Years FY2016-17 through FY2020-21.	
<b>Attachments:</b> 1. Agenda Package for Finance Committee meeting of April 18, 2016.	
<b>STRATEGIC PLAN INFORMATION:</b> This item addresses Goal 4 (Well Planned Finances with a Long-Range Outlook) of the latest Strategic Plan Update.	
<b>DEPT. MGR.:</b> lc, ssk	<b>GENERAL MANAGER:</b> SSK

## NOVATO SANITARY DISTRICT

Meeting Date: April 18, 2016

**The Finance Committee of the Novato Sanitary District will hold a meeting at 10:00 AM, Monday, April 18, 2016 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. APPROVAL OF MINUTES:**

- a. Consider approval of minutes of November 30, 2015 meeting.

**4. 2016 SEWER SERVICE CHARGE STUDY:**

- a. Review the Draft 2016 Sewer Service Charge Study report by Bartle Wells Associates (BWA), and direct staff to finalize the report.
- b. Recommend that the District Board accept the final report at its April 25, 2016 meeting.
- c. Recommend that the Board approve a maximum rate increase of \$21 per year per Equivalent Dwelling Unit (EDU) in each of the five Fiscal Years FY2016-17 through FY2020-21, at its April 25, 2016 meeting.

**5. INFORMATIONAL ITEMS:**

*These items are for information only - no action will be taken on these items.*

- a. Correspondence from North Marin Water titled "Notice of Proposed Rate Increase".

**6. 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.***

November 30, 2015

A regular meeting of the Finance Committee of Novato Sanitary District was held at 3:07 p.m., Monday, November 30, 2015, at the District office, 500 Davidson Street, Novato.

COMMITTEE MEMBERS PRESENT: Members Jerry Peters and William C. Long.

STAFF PRESENT: General Manager-Chief Engineer Sandeep Karkal, Finance Officer Laura Creamer, and Administrative Secretary Julie Swoboda.

ALSO PRESENT: Erik Brown, Technical Services Manager, Novato Sanitary District  
Vikki Rodriguez, CPA, Vice President, Maze and Associates  
Matt Goss, Customer Outreach and Support Manager, CalPERS  
Mitch Barker, Executive Vice President, PARS\*  
Fred Hurst, Director, HighMark Capital Management\*

\*Joined the meeting at 4:37 p.m.

AGENDA APPROVAL: The agenda was approved as presented.

PUBLIC COMMENT: None.

APPROVAL OF MINUTES: The September 2, 2015 meeting minutes were approved as presented.

FISCAL YEAR (FY) 2014-15 DRAFT ANNUAL AUDIT:

- Receive report from independent auditor, Maze and Associates and review draft Comprehensive Annual Financial Report (CAFR) for the years ended June 30, 2015, and 2014, including draft audited financial statements. The General Manager introduced Ms. Vikki Rodriguez of Maze and Associates and stated that she would present the Comprehensive Annual Financial Report for the fiscal years ended June 30, 2015 and June 30, 2014.

Ms. Rodriguez presented an overview of the District's Annual Audit and stated that Maze and Associates had concluded, based on their audit, that there was a reasonable basis for rendering an unmodified (unqualified) opinion. She stated that the District's financial statements for the fiscal year ended June 30, 2015 are fairly presented, and conform to Generally Accepted Accounting Principles (GAAP). Ms. Rodriguez noted that the unmodified opinion is the highest rating given (cleanest possible opinion). She stated that there were no major reporting changes, no new pronouncements, and no material weaknesses when internal controls were reviewed. Ms. Rodriguez and the Committee Members discussed the implementation of Governmental Accounting Standards Board (GASB) Pronouncements. She stated that GASB 68 (Pension Liability) does not provide for an amortization period, and requires that an entity such as the District to recognize total pension liability on its annual financial statements. She stated that the District implemented GASB Statement No. 68 and No. 71 in fiscal year

ending June 30, 2015 and that GASB 68 required an adjustment to reduce the District's beginning net position by \$4,299,128.

The General Manager and Ms. Rodriguez discussed with the Committee the sensitivity of the proportionate share of the net pension liability to changes in the discount rate. It was noted that with the District's current discount rate of 7.5%, the net pension liability is \$3.3 million and that if the discount rate decreased to 6.5%, the net pension liability would increase to \$5.9 million.

Committee Members Long and Peters thanked Ms. Rodriguez for her presentation and the General Manager stated that she would return to the December 14<sup>th</sup> regular Board meeting to review the Annual Report with the full Board.

Ms. Rodriguez left the meeting at 3:20 p.m.

- Consider making a recommendation to the District Board to accept the audit and CAFR, subject to minor edits. Committee Member Long made a recommendation that the District Board accept the audit and CAFR, subject to minor edits, and Committee Member Peters concurred.

GOVERNMENTAL ACCOUNTING STANDARDS BOARD STATEMENT NO. 45 ("GASB 45"), OTHER POST EMPLOYMENT BENEFITS (OPEB) – PREFUNDING OPTIONS:

- Receive verbal presentations on prefunding options for the District's OPEB liability from CalPERS and PARS, and provide direction to staff. The General Manager stated that at its September 2, 2015 meeting, the Finance Committee received a report titled "Valuation of Retiree Health Benefits, Report of GASB 45 Valuation as of July 1, 2015, prepared by Nick Franceschine of North Bay Pensions. He stated that as a follow-up by staff, the presentation was also made to the full Board at its September 14, 2015 meeting. At that meeting, the Committee had asked that staff bring forward at a future Finance Committee meeting, a side-by-side presentation by CalPERS and the Public Agency Retirement System (PARS) representatives of their individual investment options for prefunding alternatives.

The General Manager stated that CalPERS would provide the first presentation, and he introduced Matt Goss, CERBT Customer Outreach and Support. Mr. Goss gave a presentation titled "California Employers' Retiree Benefit Trust (CERBT) Features and Benefits". Committee Members and the General Manager engaged in discussion with Mr. Goss.

At 4:30 p.m., Committee Member Peters declared a ten minute break.

CalPERS representative Matt Goss left the meeting.

At 4:37 p.m., the meeting was reconvened.

The General Manager stated that PARS would make their presentation and he introduced Mitch Barker, Executive Vice President, Public Agency Retirement Services (PARS) and Fred Hurst, Director, Business Development, High Mark Capital. The PARS representatives provided a written presentation titled, "OPEB Pre-Funding and Pension Rate Stabilization Program (PRSP) using 115 Trust". Committee Members and the General Manager engaged in discussion with Mr. Barker and Mr. Hurst.

Mr. Barker and Mr. Hurst left the meeting at the conclusion of the discussion, 5:21 p.m.

The General Manager asked if the Board wished to provide direction to staff. He stated that the options presented by CalPERS and PARS are favorable and that it is imperative for the District to move forward with prefunding the District's projected GASB 45 liabilities. Committee Member Peters requested that the same presentations be given to the full Board at the December 14<sup>th</sup> Regular Board meeting. Committee Member Long agreed and the General Manager stated that he would arrange for the same presentations to be made at that Board meeting.

**ADJOURNMENT:** There being no new business to come before the Committee, the meeting was adjourned at 5:33 p.m.

Respectfully submitted,

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Sandeep Karkal  
Secretary

Julie Swoboda, Recording

# NOVATO SANITARY DISTRICT FINANCE COMMITTEE AGENDA ITEM SUMMARY

<b>TITLE: Service Charges: Set Date for Public Hearing</b>	<b>MEETING DATE: April 18, 2016</b>  <b>AGENDA ITEM NOS.: 4. a, b, &amp; c.</b>
<b>RECOMMENDED ACTIONS:</b>  <b>a. Review the Draft 2016 Sewer Service Charge Study report by Bartle Wells Associates (BWA), and direct staff to finalize the report.</b> <b>b. Recommend that the District Board accept the final report at its April 25, 2016 meeting.</b> <b>c. Recommend that the Board approve a maximum rate increase of \$21 per year per Equivalent Dwelling Unit (EDU) in each of the five Fiscal Years FY2016-17 through FY2020-21, at its April 25, 2016 meeting.</b>	
<b>SUMMARY AND DISCUSSION:</b>  <p>The District last reviewed its sewer service charges in 2012, when it adopted rates for the four-year period from fiscal year (FY) 2012-13 through FY2015-16. That rate cycle ends with the current FY15-16 year, and it is necessary for the District to review its charges. The District retained Bartle Wells Associates (BWA) to review its sewer service charges, as BWA and its Principal Consultant, Tom Gaffney, have performed this work for the District over the last forty years, including the 2012 rate study, while consistently providing an understandable and defensible work product.</p> <p>The result of BWA's work is presented as the attached Draft 2016 Sewer Rate Study report. As background, the basis of the sewer service charge is to provide a reasonable nexus between sewer system costs and the charges to the benefited users of the system. The base unit is one service unit for a residential unit, referred to as an Equivalent Dwelling Unit or EDU. The charges for non-residential users are based on enclosed floor areas, flow, and strength factors. The attached BWA report discusses the rate structures in more detail.</p> <p>The BWA report also analyzes the District's projected operating and capital expenditures for the next five years, and recommends moderate rate increases of \$21/year/EDU, or \$1.75/month/EDU in each of the next five years from FY2016-17 through FY2020-21. This corresponds to average increases of 3.8% in FY2016-17, 3.7% in FY2017-18, 3.5% in FY2018-19, 3.4% in FY2019-20, and 3.3% in FY2020-21, or an average of about 3.5% over the five-year period.</p> <p>The following Committee actions are recommended:</p> <p>a. Review the report, and direct staff to finalize it.</p> <p>b. Recommend that the District Board accept the final report at its regular April 25, 2016 meeting, and</p> <p>c. Recommend that the Board approve a maximum rate increase of \$21 per year per Equivalent Dwelling Unit (EDU) in each of the five Fiscal Years FY2016-17 through FY2020-21, at its April 25, 2016 meeting.</p>	
<b>STRATEGIC PLAN INFORMATION:</b> This item addresses Goal 4 (Well Planned Finances with a Long Range Outlook) of the latest Strategic Plan Update.	
<b>DEPT. MGR.:</b> lc, ssk	<b>GENERAL MANAGER:</b> SSK



**TO:** Sandeep Karkal, District Manager-Engineer  
Novato Sanitary District

**FROM:** Tom Gaffney, Alison Lechowicz

**DATE:** April 13, 2016

**SUBJ:** **DRAFT** 2016 Sewer Rate Study

The Novato Sanitary District (District) has requested Bartle Wells Associates (BWA) provide a sewer rate study to analyze the District’s cost of service and recommend sewer service charges through fiscal year (FY) 2020/21. The proposed sewer service charges are shown below.

	Current	Proposed				
	FY2015/16	FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Annual Cost per Equivalent Dwelling Unit	\$552	\$573	\$594	\$615	\$636	\$657

Includes \$2.00 per account charge from the County of Marin for collecting service charges on the property tax roll.

**Table 1: Current and projected operating expenses.** This table provides the District’s actual FY2014/15 operating expenses and budgeted expenses for FY2015/16 and FY2016/17. The District’s two largest operating costs are treatment and administration/engineering, which are projected to cost about \$3 million each annually. The District’s FY2015/16 total operating expense is budgeted at about \$9.8 million and the FY2016/17 budgeted operating cost is about \$10.0 million.

**Table 2: Capital improvement program.** This table shows the District’s capital improvement and major replacement expenses for FY2015/16 and the subsequent five years. Annual capital expenses vary from about \$2.9 million to about \$4.1 million. FY2016/17 through FY2020/21, the capital costs total about \$16.7 million. Just under half of this amount is made up of collection system improvements. Table 2 does not include the annual costs related to retiring the outstanding State Revolving Fund loan or Certificates of Participation debt.

**Table 3: State Revolving Fund Loan.** In FY2007/08, the California State Water Resources Control Board issued a loan to the District of \$81 million through the State Revolving Fund (SRF) program. The loan funded an upgrade and expansion of the Novato Treatment Plant to treat the combined flow of the District’s wastewater treatment plants. The loan term is 20 years at an interest rate of 2.4%. Repayment began in FY2011/12. The annual payment is about \$5.4 million, and the loan payments extend through FY2030/31.

**Table 4: Wastewater Certificates of Participation.** In addition to the SRF loan, the District issued \$21.75 million of debt as Certificates of Participation (COPs) in FY2011/12 to finance collection system, pump station and additional treatment plant improvements. This issue sold for

an average interest rate of 4.11% and will be fully retired in FY2031/32. The annual debt service payments vary from about \$1.6 million to \$1.7 million over the next five years.

**Table 5: Operating Cash Flow.** Table 5 presents the wastewater operating expenses and projects the operating sewer service charge over the next five years. The District currently provides wastewater service to 29,288 equivalent dwelling units (EDUs) and projects annual growth of 40 new EDUs. The current operating service charge is \$302 plus \$2 annually for collection of the charge on the Marin County property tax roll. FY2015/16, the District expects to generate about \$8.9 million in operating service charges, including the county charge revenue. The District also collects about \$870,000 in miscellaneous revenues and about \$18,000 in interest earnings. In total, the District projects operating revenues of about \$9.8 million in FY2015/16.

At the current sewer service charge, revenues will not be adequate to fund operating cost increases over the next five years. Operating costs are budgeted at about \$9.8 million and are projected to increase to \$11.26 million by FY2020/21, an average annual increase of about 2.9%.

To meet operating costs, maintain reserves, and generate positive net revenues for debt coverage, BWA recommends that the District increase the operating wastewater service charge by \$10 per EDU annually through FY2020/21.

**Table 6: Capital Cash Flow.** Table 6 presents the wastewater capital expenses and projects the capital sewer service charge over the next five years. Capital revenues include capital service charges, property taxes, capacity fees, interest earnings, and miscellaneous revenues. Property taxes are projected to increase by 2% annually. Capacity fee revenues are projected to increase in FY2016/17 due to the Board-approved increase in the capacity fee from \$9,870 to \$10,860 per EDU. Into the future, the capacity fee is projected to increase 3% annually. This fiscal year, the District expects to generate about \$9.6 million in capital wastewater revenues.

Wastewater capital expenses are budgeted to be about \$10.4 million in FY2015/16 consisting of capital projects and debt service payments. The District expects to cash fund the capital improvement projects listed in Table 2. In addition, the District's annual debt service payments total about \$7.1 million annually.

The capital cash flow shown in Table 6 also includes a projection of the District's debt service coverage. Debt service coverage is calculated as the total revenues less operating expenses divided by the annual debt service payment. The minimum debt coverage ratio required by the District's debt agreements is 1.2 times the annual payment; however, the District prefers to maintain coverage of 1.4 times the annual payment.

To fund capital expenses, maintain reserves, and meet and exceed the District's debt service coverage target, BWA recommends that the capital wastewater service charge increase by \$11 per EDU annually.

**Table 7: Summary of Projected Service Charges.** The sum of projected capital and operating service charges is shown in Table 7. The total service charge is projected to increase by \$21 per EDU annually through FY2020/21, equal to about 3.5%, on average.

**Table 8: Non-Residential Fixed Costs.** For non-residential users, service charges are developed based on a combination of fixed costs and variable costs. The District last conducted a cost allocation to fixed and variable expense categories in 2007. For this rate update, the allocation of costs is held constant. Non-residential fixed costs are based on floor area flow factors for various customer classes. Flow factor charges are increased at the same rate as those developed for residential customers.

**Table 9: Non-Residential Variable Costs.** Non-residential user variable costs are assigned based on winter water consumption and estimated strength factors in accordance with guidelines developed in the State Water Resources Control Board's *Revenue Program Guidelines*. Future variable charges are increased at the same rate as those developed for residential customers.

**Table 10: Service Charge Cost Comparison.** This table shows a comparison of the District's sewer service charges with those of neighboring wastewater agencies. Where available, the future-year approved rate increases of other agencies are included. The Cities of Santa Rosa, Petaluma, and Rohnert Park bill for wastewater service based on metered water use. For these agencies, the sewer service charges are calculated based on assumed winter water use of 141.7 gallons per day (4,250 gallons monthly), which is equal to the District's winter water use.

The District's charges are currently on the lower end of surveyed agencies. Even if the proposed rate increases are implemented, the District's charges will remain on the lower end of the nearby agencies. Most likely, other agencies rates will also require upward adjustment within the same study period.

**Table 1: Current and Projected Operating Expenses  
Novato Sanitary District  
2016 Sewer Rate Study**

	<b>Actual Expenditures FY2014/15</b>	<b>Final Budget FY2015/16</b>	<b>Preliminary Budget FY2016/17</b>
Collection	\$1,240,062	\$1,386,100	\$1,388,527
Treatment - Contract Operations	2,795,808	3,018,331	3,098,586
Reclamation	398,117	487,029	510,713
Laboratory	555,215	601,633	629,767
Pump Stations	679,829	814,633	869,203
Administration/Engineering	2,075,333	2,936,237	2,993,010
Hazardous Household Waste	289,587	402,501	409,787
Recycled Water	<u>100,353</u>	<u>117,000</u>	<u>120,510</u>
<b>Totals</b>	<b>\$8,134,304</b>	<b>\$9,763,464</b>	<b>\$10,020,13</b>

Source: District Budgets

**Table 2: Capital Improvements Program FY2016/17-2020/21**  
**Novato Sanitary District**  
**2016 Sewer Rate Study**

<b>Project No.</b>	<b>Project Name</b>	<b>Budget 2015/16</b>	<b>Projected FY2016/17</b>	<b>Projected FY2017/18</b>	<b>Projected FY2018/19</b>	<b>Projected FY2019/20</b>	<b>Projected FY2020/21</b>	<b>FY2016/17 to FY2020/21</b>
72403	Pump Station Rehab.	50,000	50,000	250,000	250,000	500,000	500,000	1,550,000
72508	N. Bay Water Reuse Authority	403,000	440,000	100,000	50,000	50,000	50,000	690,000
72706	Collection System Improvements	1,050,000	900,000	1,700,000	1,700,000	1,700,000	1,700,000	7,700,000
72706-1	Lateral Replacement Program	50,000	60,000	75,000	120,000	140,000	160,000	555,000
72707	Hamilton Wetlands/Outfall monitoring	22,500	10,000	10,000	10,000	10,000	10,000	50,000
72708	Cogeneration	20,000	20,000	20,000	20,000	20,000	20,000	100,000
72802	Annual Sewer Adj. for City Projects	10,000	10,000	10,000	10,000	10,000	10,000	50,000
72803	Annual Coll. Sys. Repairs (Spot Repairs)	200,000	200,000	200,000	200,000	200,000	200,000	1,000,000
72804	Annual Recl. Facilities Improvements	100,000	100,000	100,000	100,000	100,000	100,000	500,000
72805	Annual Treatment Plant Improvements	150,000	100,000	100,000	100,000	100,000	100,000	500,000
72806	Annual Pump Station Improvements	150,000	100,000	100,000	100,000	100,000	100,000	500,000
72808	Strategic Plan Update	10,000	20,000	20,000	20,000	20,000	20,000	100,000
72809	Novato Creek Watershed	15,000	10,000	10,000	10,000	10,000	10,000	50,000
73003	Admin Bldg. Upgrades/Maintenance Bldg.	740,000	250,000	50,000	20,000	20,000	20,000	360,000
73004	Odor Control & NTP Landscaping	50,000	50,000	50,000	50,000	50,000	50,000	250,000
73005	RWF Expansion	150,000	1,300,000	20,000	10,000	-	-	1,330,000
73006	NTP Corrosion Control	150,000	75,000	150,000	150,000	75,000	75,000	525,000
73090	Vehicle Replacement	25,000	400,000	25,000	25,000	25,000	400,000	875,000
<b>Total</b>		<b>\$3,345,500</b>	<b>\$4,095,000</b>	<b>\$2,990,000</b>	<b>\$2,945,000</b>	<b>\$3,130,000</b>	<b>\$3,525,000</b>	<b>\$16,685,000</b>

**Table 3: SRF Loan Payments**  
**Novato Sanitary District**  
**2016 Sewer Rate Study**

**Original Loan Amount - \$81,328,983**  
**Term - 20 years; 2.4% Interest**

<b>Date</b>	<b>Outstanding Principal</b>	<b>Interest Payment</b>	<b>Principal Payment</b>	<b>Total Annual Payment</b>
FY2016/17	67,119,301	1,610,863	3,768,093	5,378,956
FY2017/18	63,351,209	1,520,429	3,858,527	5,378,956
FY2018/19	59,492,682	1,427,824	3,951,132	5,378,956
FY2019/20	55,541,550	1,332,997	4,045,959	5,378,956
FY2020/21	51,495,591	1,235,894	4,143,062	5,378,956
FY2021/22	47,352,529	1,136,461	4,242,495	5,378,956
FY2022/23	43,110,034	1,034,641	4,344,315	5,378,956
FY2023/24	38,765,719	930,377	4,448,579	5,378,956
FY2024/25	34,317,140	823,611	4,555,345	5,378,956
FY2025/26	29,761,795	714,283	4,664,673	5,378,956
FY2026/27	25,097,123	602,331	4,776,625	5,378,956
FY2027/28	20,320,497	487,692	4,891,264	5,378,956
FY2028/29	15,429,233	370,302	5,008,654	5,378,956
FY2029/30	10,420,579	250,094	5,128,862	5,378,956
FY2030/31	5,291,717	127,001	5,251,955	5,378,956

**Table 4: Wastewater Certificates of Participation - 2011  
Novato Sanitary District  
2016 Sewer Rate Study**

<b>Payment Date</b>	<b>Principal</b>	<b>Rate</b>	<b>Interest</b>	<b>Period Debt Svc</b>	<b>Fiscal Year Debt Svc</b>
08/01/16			387,874	387,874	
02/01/17	905,000	4.000%	387,874	1,292,874	1,680,748
08/01/17			369,774	369,774	
02/01/18	925,000	4.000%	369,774	1,294,774	1,664,548
08/01/18			351,274	351,274	
02/01/19	945,000	4.000%	351,274	1,296,274	1,647,548
08/01/19			332,374	332,374	
02/01/20	970,000	4.000%	332,374	1,302,374	1,634,748
08/01/20			312,974	312,974	
02/01/21	1,000,000	4.000%	312,974	1,312,974	1,625,948
08/01/21			292,974	292,974	
02/01/22	1,035,000	4.000%	292,974	1,327,974	1,620,948
08/01/22			272,274	272,274	
02/01/23	1,065,000	4.000%	272,274	1,337,274	1,609,548
08/01/23			250,974	250,974	
02/01/24	1,105,000	4.000%	250,974	1,355,974	1,606,948
08/01/24			228,874	228,874	
02/01/25	1,145,000	4.000%	228,874	1,373,874	1,602,748
08/01/25			205,974	205,974	
02/01/26	1,190,000	4.000%	205,974	1,395,974	1,601,948
08/01/26			182,174	182,174	
02/01/27	1,235,000	4.250%	182,174	1,417,174	1,599,348
08/01/27			155,930	155,930	
02/01/28	1,285,000	4.250%	155,930	1,440,930	1,596,860
08/01/28			128,624	128,624	
02/01/29	1,340,000	4.500%	128,624	1,468,624	1,597,248
08/01/29			98,474	98,474	
02/01/30	1,395,000	4.500%	98,474	1,493,474	1,591,948
08/01/30			67,086	67,086	
02/01/31	1,455,000	4.700%	67,086	1,522,086	1,589,173
08/01/31			32,894	32,894	
02/01/32	1,385,000	4.750%	32,894	1,417,894	1,450,788

**Table 5: Operating Cash Flow  
Novato Sanitary District  
2016 Sewer Rate Study**

	Budget FY2015/16	Preliminary FY2016/17	Projected			
			FY2017/18	FY2018/19	FY2019/20	FY2020/21
Number of equivalent connections	29,288	29,328	29,368	29,408	29,448	29,488
New equivalent connections	40	40	40	40	40	40
Annual operating service charge	\$302	\$312	\$322	\$332	\$342	\$352
County's annual charge per account (1)	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00
Total annual operating service charge	\$304	\$314	\$324	\$334	\$344	\$354
<b>Annual % Change year to year (2)</b>		3.29%	3.18%	3.09%	2.99%	2.91%
Beginning total operating funds balance (3)	\$10,635,000	\$10,660,000	\$10,741,000	\$10,785,000	\$10,847,000	\$10,889,000
<b>Operating revenues</b>						
Operating service charges	\$8,904,000	\$9,209,000	\$9,515,000	\$9,822,000	\$10,130,000	\$10,439,000
Other revenues - 1% increase	867,000	876,000	885,000	894,000	903,000	912,000
Interest	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>19,000</u>	<u>19,000</u>	<u>19,000</u>
<b>Total operating revenues</b>	\$9,789,000	\$10,103,000	\$10,418,000	\$10,735,000	\$11,052,000	\$11,370,000
<b>Operating expenses (4)</b>						
Collection	\$1,386,000	\$1,389,000	\$1,433,000	\$1,490,000	\$1,527,000	\$1,566,000
Treatment - Contract Operations	3,018,000	3,099,000	3,187,000	3,277,000	3,370,000	3,466,000
Reclamation	487,000	511,000	532,000	555,000	578,000	601,000
Laboratory	602,000	630,000	649,000	668,000	688,000	709,000
Pump Stations	815,000	869,000	894,000	925,000	946,000	967,000
Administration (5)	2,936,000	2,993,000	3,137,000	3,204,000	3,335,000	3,369,000
Hazardous Household Waste	403,000	410,000	418,000	426,000	435,000	446,000
Recycled Water	<u>117,000</u>	<u>121,000</u>	<u>124,000</u>	<u>128,000</u>	<u>131,000</u>	<u>135,000</u>
<b>Total operating expenses</b>	\$9,764,000	\$10,022,000	\$10,374,000	\$10,673,000	\$11,010,000	\$11,259,000
<b>Annual % Change year to year (6)</b>		2.64%	3.51%	2.88%	3.16%	2.26%
Net annual revenues	\$25,000	\$81,000	\$44,000	\$62,000	\$42,000	\$111,000
Ending fund balance	\$10,660,000	\$10,741,000	\$10,785,000	\$10,847,000	\$10,889,000	\$11,000,000

1 - District collects an additional \$2 per account each year for the County's fee for collecting on the tax roll. County's fee has not changed since 1978.

2 - The average annual percentage change for the sewer service charge is 3.09% from FY2016/17 to FY2020/21.

3 - July 1, 2015 balance. Please note that the District receives no revenues from July until mid-December due to the County's tax collection schedule.

4 - Operating expenses projected based on current fiscal year budget.

5 - Includes retiree health benefits.

6 - The average annual percentage change for the total operating expenditures is 2.89%.

Source: Final Budget for Fiscal Year 2015/16 Including Preliminary Budget for Fiscal Year 2016/17

**Table 6: Capital Cash Flow  
Novato Sanitary District  
2016 Sewer Rate Study**

	Budget	Preliminary	Projected			
	FY2015/16	FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Number of equivalent connections	29,288	29,328	29,368	29,408	29,448	29,488
New equivalent connections	40	40	40	40	40	40
Annual capital service charge	\$248	\$259	\$270	\$281	\$292	\$303
<b>Annual % Change year to year (1)</b>		4.44%	4.25%	4.07%	3.91%	3.77%
Connection charge - 3% increase	\$9,870	\$10,860	\$11,190	\$11,530	\$11,880	\$12,240
Beginning capital fund balance (2)	\$6,048,000	\$5,243,000	\$4,100,000	\$4,459,000	\$5,270,000	\$6,302,000
<b>Capital revenues</b>						
Capital service charges	\$7,263,000	\$7,596,000	\$7,929,000	\$8,264,000	\$8,599,000	\$8,935,000
Property taxes @ 2%	1,900,000	1,938,000	1,977,000	2,017,000	2,057,000	2,098,000
Capacity fees	395,000	434,000	448,000	461,000	475,000	490,000
Interest @ 0.467% (LAIF Feb 2016)	22,000	24,000	19,000	21,000	25,000	29,000
Other revenues	<u>26,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>
<b>Total annual funding</b>	\$9,606,000	\$10,012,000	\$10,393,000	\$10,783,000	\$11,176,000	\$11,572,000
<b>Capital expenses</b>						
Treatment plant	\$1,260,000	\$1,795,000	\$390,000	\$350,000	\$265,000	\$265,000
Collection system (3)	1,335,000	1,570,000	2,010,000	2,055,000	2,075,000	2,470,000
Pump stations	200,000	150,000	350,000	350,000	600,000	600,000
Reclamation system	541,000	560,000	220,000	170,000	170,000	170,000
Other projects	<u>10,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>
Subtotal capital projects	\$3,346,000	\$4,095,000	\$2,990,000	\$2,945,000	\$3,130,000	\$3,525,000
SRF Loan pmts (Table 3)	5,379,000	5,379,000	5,379,000	5,379,000	5,379,000	5,379,000
COP debt service (Table 4)	<u>1,686,000</u>	<u>1,681,000</u>	<u>1,665,000</u>	<u>1,648,000</u>	<u>1,635,000</u>	<u>1,626,000</u>
<b>Total annual capital expense</b>	\$10,411,000	\$11,155,000	\$10,034,000	\$9,972,000	\$10,144,000	\$10,530,000
Net annual revenues	-\$805,000	-\$1,143,000	\$359,000	\$811,000	\$1,032,000	\$1,042,000
Ending fund balance	\$5,243,000	\$4,100,000	\$4,459,000	\$5,270,000	\$6,302,000	\$7,344,000
Debt service coverage (4)	1.363	1.430	1.482	1.543	1.599	1.668

1 - The average annual percentage change for the sewer service charge is 4.09% from FY2016/17 to FY2020/21.

2 - July 1, 2015 balance. Please note that the District receives no revenues from July until mid-December due to the County's tax collection schedule.

3 - Includes lateral replacements, vehicles, spot repairs, and other collection system improvements.

4 - The District prefers to maintain debt service coverage of 1.4 (or greater) times the annual debt service payment.

Source: Final Budget for Fiscal Year 2015/16 Including Preliminary Budget for Fiscal Year 2016/17

**Table 7: Summary of Projected Sewer Service Charges  
Novato Sanitary District  
2016 Sewer Rate Study**

Annual Cost per Equivalent Dwelling Unit

	Current	Projected				
	FY2015/16	FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Operating	\$304	\$314	\$324	\$334	\$344	\$354
% increase		3.3%	3.2%	3.1%	3.0%	2.9%
Capital	\$248	\$259	\$270	\$281	\$292	\$303
% increase		4.4%	4.2%	4.1%	3.9%	3.8%
<b>Total</b>	<b>\$552</b>	<b>\$573</b>	<b>\$594</b>	<b>\$615</b>	<b>\$636</b>	<b>\$657</b>
<b>Annual increase</b>		<b>\$21</b>	<b>\$21</b>	<b>\$21</b>	<b>\$21</b>	<b>\$21</b>
% increase		3.8%	3.7%	3.5%	3.4%	3.3%

**Table 8: Non-Residential Fixed Costs  
Novato Sanitary District  
2016 Sewer Rate Study**

User Type	Floor Area Flow Factor	Charge Per Square Foot					
		Current	FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Base Charge/square foot	1.0	\$0.23	\$0.24	\$0.25	\$0.26	\$0.27	\$0.27
Office	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Retail	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Public office buildings	1.0	0.23	0.24	0.25	0.26	0.27	0.27
School classrooms/admin	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Churches	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Meeting halls w/kitchens	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Auto service stations	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Supermarkets	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Auditoriums theaters	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Gymnasium w/showers	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Hotels/motels (1)	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Mortuary	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Medical offices	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Veterinary offices	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Dental offices	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Hospitals	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Cafeteria/dining area	2.0	0.46	0.48	0.50	0.51	0.53	0.55
Restaurants/cafes	2.0	0.46	0.48	0.50	0.51	0.53	0.55
Bakeries	2.0	0.46	0.48	0.50	0.51	0.53	0.55
Ice cream/yogurt shops	2.0	0.46	0.48	0.50	0.51	0.53	0.55
Delicatessens	2.0	0.46	0.48	0.50	0.51	0.53	0.55
Laundry & laundromats	3.0	0.69	0.72	0.74	0.77	0.80	0.82

1 – Not including restaurants

**Table 9: Non-Residential Variable Charge**

*Novato Sanitary District  
DRAFT 2016 Sewer Rate Study*

**(water use and strength factors)  
 Novato Sanitary District  
 2016 Sewer Rate Study**

User Type	Strength Factor	Current Charge	Charge Per Hundred Cubic Feet (1)				
			FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Base Charge/square foot	1.0	\$3.00	\$3.11	\$3.23	\$3.34	\$3.46	\$3.57
Office	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Retail	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Public office buildings	1.0	3.00	3.11	3.23	3.34	3.46	3.57
School classrooms/admin	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Churches	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Auto service stations	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Auditoriums theaters	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Gymnasium w/showers	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Hotels/motels (2)	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Medical offices	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Veterinary offices	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Dental offices	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Hospitals	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Laundries & laundromats	1.4	4.20	4.36	4.52	4.68	4.84	5.00
Meeting halls w/kitchens	1.4	4.20	4.36	4.52	4.68	4.84	5.00
Cafeteria/dining area	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Restaurants/cafes	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Supermarkets	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Bakeries	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Ice cream/yogurt shops	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Delicatessens	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Mortuary	2.2	6.52	6.77	7.02	7.26	7.51	7.76

1 – One hundred cubic foot is 748 gallons. Charges based on historical winter water consumption.

2 – Not including restaurants

**Table 10: Cost Comparison with Neighboring Agencies  
Annual Sewer Service Charges per Equivalent Dwelling Unit  
Novato Sanitary District  
2016 Sewer Rate Study**

<b>AGENCY</b>	<b>FY 2015/16</b>	<b>FY 2016/17</b>	<b>FY 2017/18</b>	<b>FY 2018/19</b>	<b>FY 2019/20</b>	<b>FY 2020/21</b>
Sanitary District No. 5 - Belvedere	\$1,985					
Sausalito-Marín City Sanitary Dist - Sausalito	\$1,308	\$1,340	\$1,377	\$1,414		
Tamalpais Community Service District	\$1,111					
Sanitary District No. 5 - Tiburon	\$1,034					
Sanitary District No. 1 - City of Larkspur	\$1,012					
City of Santa Rosa (1)	\$940	\$948	\$957	\$965	\$973	\$980
City of Petaluma (1)	\$865					
San Rafael Sanitation District	\$788	\$830	\$863			
Las Gallinas Valley Sanitary District	\$748	\$837	\$870	\$900	\$929	
Sanitary District No. 1 - Ross Valley	\$743					
City of Mill Valley	\$685					
City of Rohnert Park (1)	\$671					
<b>NOVATO SANITARY DISTRICT</b>	<b>\$552</b>	<b>\$573</b>	<b>\$594</b>	<b>\$615</b>	<b>\$636</b>	<b>\$657</b>
Vallejo Sanitation & Flood Control District	\$520					
Town of Corte Madera (S.D. #2)	\$500					
Napa Sanitation District	\$483	\$555	\$638	\$676	\$710	\$739

1 - Based on 4,250 gallons of monthly sewer flow



April 1, 2016

NMWD Account # Multiple

\*\*\*\*\*SCH 5-DIGIT 94945 16545 P3 T69 70

Novato Sanitary District  
500 Davidson St  
Novato CA 94945-3328



999 Rush Creek Place  
P.O. Box 146  
Novato, CA 94948

**Re: Notice of Proposed Water Rate Increase**

**PHONE**  
415.897.4133  
**EMAIL**  
info@nmwd.com  
**WEB**  
www.nmwd.com

Dear Customer:

The North Marin Water District's mission is to provide an adequate supply of safe, reliable and high-quality water to our customers at reasonable cost consistent with good conservation practices and minimum environmental impact. To fulfill this mission, NMWD must generate revenue sufficient to cover its cost of operations.

Accordingly, the North Marin Water District is proposing an increase in the cost of water which averages \$2.85 per month (5%) for the typical Novato customer, effective June 1 of 2016. In addition, should the state mandated drought regulations remain in effect, implementation of a Temporary Drought Revenue Recovery Surcharge (Drought Surcharge) is proposed, adding \$1.00 per 1,000 gallons for all residential water use exceeding 300 gallons per day, and \$1.00 per 1,000 gallons for all non-residential water use. The State will consider rescission or adjustment of the mandatory drought regulations in May 2016.

This letter provides details on the need for the increase and information about the public hearing where public comment will be taken prior to a vote by the District Board of Directors on the proposed water rate increase and Drought Surcharge.

**You can determine the increase in your annual water cost based on your personal water use over the past year from our website. Insert your NMWD account number and the name on your account into the Rate-Increase Model on NMWD's website at [https://www.nmwd.com/account\\_balance.php](https://www.nmwd.com/account_balance.php)**

**REASON FOR THE PROPOSED INCREASE**

**Higher Water Cost:** The Sonoma County Water Agency (SCWA), which provides 80% of Novato's water supply, is increasing the rate it charges NMWD for Russian River water by 6.6% effective July 1, 2016. In addition, the State mandated Emergency Water Conservation Regulation has reduced Novato water consumption by over 30%, compared to the 2013 base year, significantly reducing the water sales revenue used to operate and maintain the Novato water system.

**Water System Infrastructure Maintenance:** The Novato water system includes 326 miles of pipeline, 38 million gallons of finished water storage distributed across 33 tanks, 26 pump stations, 13 pressure regulating stations, over 2,600 fire hydrants and a multitude of valves, all of which require ongoing maintenance. The District is now 68 years old, and much of the pipeline installed in the early years is nearing the end of its useful life requiring future replacement.

**RATE COMPARISON**

NMWD's rates remain reasonable. You can assess this for yourself by comparing NMWD's cost of water service to 16 counterpart Bay Area water agencies (see Urban Area Water Cost Comparison on page 5 of this letter). The comparison shows that the typical cost of service for a Novato single-family residence is just below the median of our counterpart agencies.

**PROPOSED RATE INCREASE**

A table showing the existing rates and charges, and the amounts proposed, is included on page 4 of this letter.

**Residential Accounts:** It is proposed that a commodity rate increase of 7% for all water used be implemented effective June 1, 2016. No increase in the bimonthly service charge is proposed. For the typical Novato single-family residence, the proposed increase in the total cost of water (commodity charge plus bimonthly service charge) is 5%. The proposed increase would add \$2.85 per month (\$5.70 per bimonthly bill) to the cost of water for a typical single-family residence beginning June 2016.

**Non-Residential Accounts (Commercial, Institutional & Irrigation):** It is proposed that an increase in the commodity rate of 7% for all water used be implemented effective June 1, 2016. No increase in the bimonthly service charge is proposed. The increase for non-residential customers will vary based upon water use. In Novato the median non-residential account uses more water than the median residential account, but would still see an increase in the total cost of water (commodity charge plus bimonthly service charge) of 5%. You can determine the increase in your annual water cost based on your consumption over the past year from our website. See the boxed area above for instructions.

**PROPOSED TEMPORARY DROUGHT REVENUE RECOVERY SURCHARGE**

On June 1, 2015, California enacted an Emergency Water Conservation Regulation mandating reduced water use statewide. Novato was ordered to reduce consumption by 24%. Since June 1 Novato water use has fallen over 30%. The reduction in water consumption has significantly reduced the revenue required to operate and maintain the water system. In response, effective June 1, 2016, a temporary Drought Surcharge for each 1,000 gallons of potable water use is proposed as follows:

Residential Accounts: Use exceeding 300 gallons per day per dwelling unit..... \$1.00  
Commercial, Institutional & Irrigation Accounts: All Use..... \$1.00

The Drought Surcharge would add \$0.90 per month (1.6%) on average to the typical residential water bill and \$9.00 per month (12%) on average to the typical non-residential water bill.

The State mandated Emergency Water Conservation Regulation is currently scheduled to remain in effect through October 31, 2016, but will be reviewed by the State in May. Collection of the proposed temporary Drought Surcharge will be

suspended at the time the State Regulation is rescinded.

You can determine the impact of the proposed Drought Surcharge on your annual water cost based on your consumption over the past year from our website. See the boxed area above for instructions.

### **WATER RATE PUBLIC HEARING**

**A public hearing will be held at the NMWD office (999 Rush Creek Place, Novato) at 7:00 p.m. on Tuesday, May 17, 2016, to consider enactment of an increase averaging 5%, and enactment of a temporary Drought Surcharge, both effective June 1, 2016.**

### **HOW TO PARTICIPATE**

You are invited to present oral or written testimony on these proposals at the public hearing. You have the right to protest these proposed rate increases. If you do, you must submit your protest in writing, even if you plan to attend the public hearing. If written protests are submitted by a majority of the affected property owners or customers, the proposed increases will not be imposed.

Your written protest must be received prior to the close of the May 17, 2016 public hearing. Written protests must be signed by the property owner or customer of record and must include a description of the parcel (parcel number) or NMWD account number. Send or deliver written protests to:

District Secretary  
North Marin Water District  
PO Box 146  
Novato, CA 94948

For more information visit NMWD's website at [www.nmwd.com](http://www.nmwd.com) or call the District Secretary at (415) 897-4133.

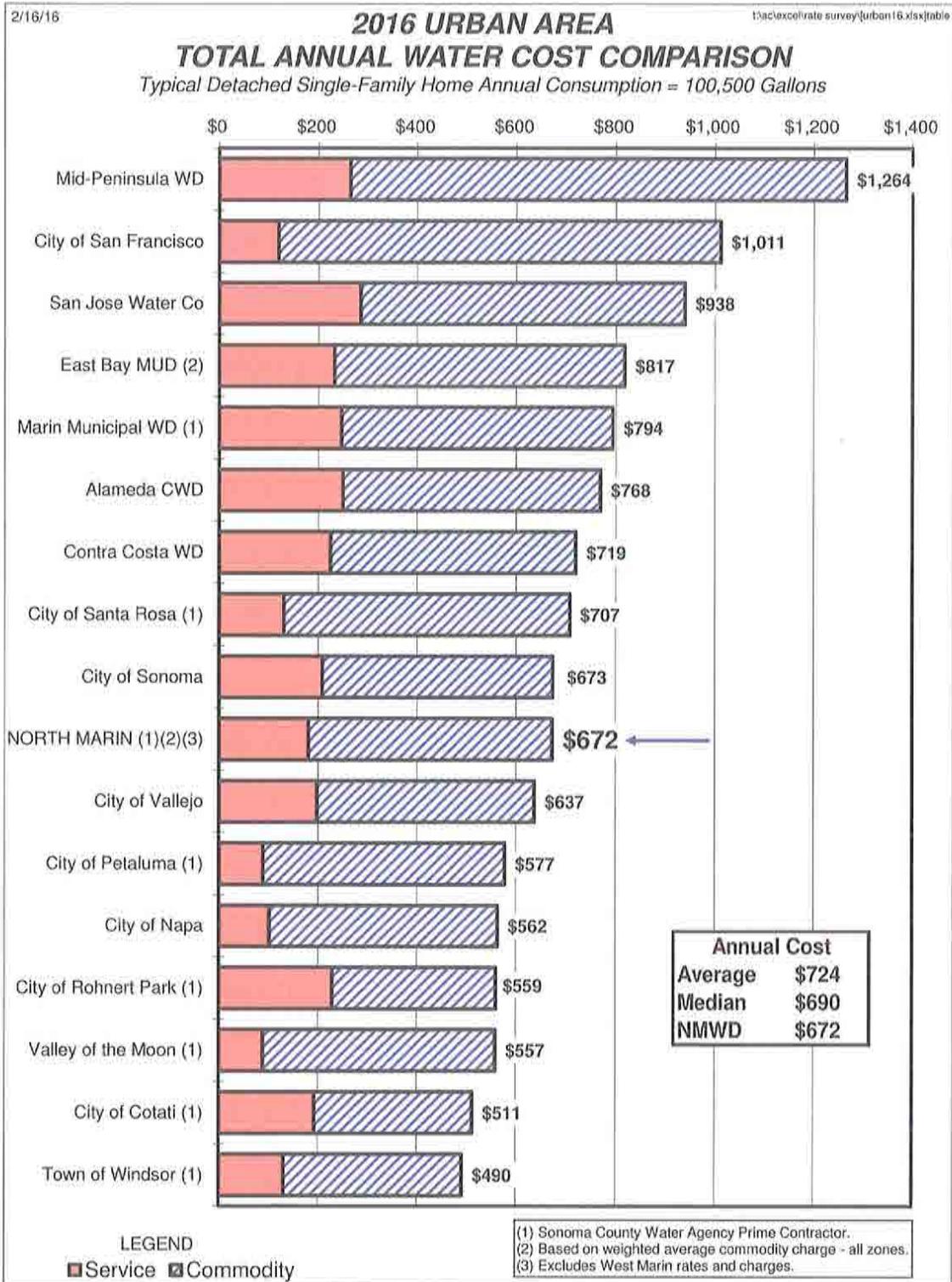
Sincerely,



Chris DeGabriele  
General Manager

**NOVATO WATER CHARGES**

	Existing 6/1/15	Proposed 6/1/16	% Increase
<b>A BI-MONTHLY SERVICE CHARGE OF:</b>			
STANDARD 5/8-INCH METER .....	\$30.00	\$30.00	0%
1 -inch residential meter for fire sprinklers .....	\$34.00	\$34.00	0%
1 -inch meter .....	\$60.00	\$60.00	0%
1.5 -inch meter .....	\$73.00	\$73.00	0%
2 -inch meter .....	\$114.00	\$114.00	0%
3 -inch meter .....	\$227.00	\$227.00	0%
4 -inch meter .....	\$364.00	\$364.00	0%
6 -inch meter .....	\$761.00	\$761.00	0%
8 -inch meter .....	\$1,134.00	\$1,134.00	0%
<b>PLUS A QUANTITY RATE OF:</b>			
<u>Residential rate for each 1,000 gallons</u>	<u>Rate</u>	<u>Rate</u>	
First 615 gallons per day .....	\$4.46	\$4.77	7%
616 - 1,845 gallons per day .....	\$7.11	\$7.61	7%
Use in excess of 1,845 gallons per day.....	\$12.38	\$13.25	7%
<u>Rate for each 1,000 gallons for all other potable water accounts</u>			
Commercial, institutional & irrigation accounts - 11/1-5/31.....	\$4.92	\$5.26	7%
Commercial, institutional & irrigation accounts - 6/1-10/31.....	\$5.28	\$5.65	7%
<u>Rate for each 1,000 gallons for non-potable water</u>			
Recycled Water .....	\$4.92	\$5.26	7%
Raw (Untreated) Water .....	\$2.03	\$2.17	7%
<b>PLUS AN ELEVATION ZONE RATE FOR EACH 1,000 GALLONS OF:</b>			
<u>Zone</u> <u>Elevation</u>	<u>Rate</u>	<u>Rate</u>	
A 0 through 60 feet.....	\$0.00	\$0.00	-
B 60 feet - 200 feet.....	\$0.53	\$0.57	7%
C 200 feet +.....	\$1.71	\$1.83	7%
<b>Hydrants or Temporary Service.....</b>	<b>\$6.99</b>	<b>\$7.48</b>	<b>7%</b>



# NOVATO SANITARY DISTRICT BOARD AGENDA ITEM SUMMARY

<b>TITLE: Sewer Service Charges: Proposed Increase, Public Hearing Date, and Public Notices.</b>	<b>MEETING DATE: April 25, 2016</b>  <b>AGENDA ITEM NOS.: 7.a.b.c&amp;d.</b>
<b>RECOMMENDED ACTION: (a) Approve the 2016 Sewer Service Charge Study report by Bartle Wells Associates (BWA), (b) Establish a maximum rate increase of \$21 per year per Equivalent Dwelling Unit (EDU) in each of fiscal years (FY) 2016-17, 2017-18, 2018-19, 2019-20, and 2020-21; (c) Set the time and date for a Public Hearing on Proposed Increases in Sewer Service Charges for <u>6:00 p.m. on June 13, 2016</u>; and (d) Review and authorize mailing of the attached Proposition 218 mandated Notices of Public Hearing to Residential and Non-Residential Property Owners.</b>	
<b>SUMMARY AND DISCUSSION:</b>  <p>At its April 18<sup>th</sup> meeting, the District Board Finance Committee reviewed the 2016 Sewer Rate Study by Bartle Wells Associates (BWA). This report analyzed the District's projected expenditures for the next five fiscal years, and recommended a moderate maximum rate increase of \$21 per year (or \$1.75/month) per EDU, for each of the next five fiscal years, beginning with fiscal year (FY)2016-17. The District's current or FY15-16 sewer service charge is \$552 per equivalent dwelling unit.</p> <p>The magnitude of the \$21/year (or \$1.75/month) per EDU rate increase is set by the need to meet the District's operating and capital expenses (including debt service) over the next five years. The proposed FY2016-17 rate increase is \$21 per year per EDU, or about 3.8%. The projected increase totals about 17.7% over the next five years, or an average of about 3.5%/year. The basis of the sewer service charge is to provide a reasonable nexus between sewer system costs and the charges to the benefited users of the system. The base unit is one service unit for a residential (or dwelling) unit. The charges for non-residential properties are based on enclosed space, flow, and strength. The attached Proposition 218 Notices discuss the residential and non-residential rates in more detail.</p> <p>To comply with Proposition 218, the District must provide at least 45 days' notice of a public hearing prior to adopting a rate increase. Staff recommends that the Board approve the 2016 Sewer Service Charge Study report by Bartle Wells Associates (BWA); establish a maximum rate increase of \$21 per year per equivalent service unit for each of the next five fiscal years (FY2016-17 through FY2020-21); set the time and date for the Public Hearing for <u>6:00 p.m. on June 13, 2016</u>; and review and authorize the mailing of Proposition 218 Notices. Following the public hearing, the Board would then consider whether or not to adopt the proposed rates, as well as the appropriate Sewer Service Charge Ordinance, also at that meeting.</p>	
<b>ATTACHMENTS:</b> <ol style="list-style-type: none"> <li>1. 2016 Sewer Service Charge Study report by Bartle Wells Associates.</li> <li>2. Proposed Proposition 218 Notices.</li> <li>3. Draft Notice of Public Hearing.</li> </ol>	
<b>STRATEGIC PLAN INFORMATION:</b> This item addresses Goal 4 (Well Planned Finances with a Long-Range Outlook) of the latest Strategic Plan Update.	
<b>BUDGET INFORMATION:</b> Printing and mailing costs for the Proposition 218 Notices will be funded from Account 66123 – O/S Contractual, which has a current balance of \$80,410.	
<b>DEPT. MGR.:</b> lc, ssk	<b>GENERAL MANAGER:</b> SSK



**BARTLE WELLS ASSOCIATES**  
INDEPENDENT PUBLIC FINANCE ADVISORS

1889 Alcatraz Avenue  
Berkeley, CA 94703  
T: 510-653-3399  
www.bartlewells.com

**TO:** Sandeep Karkal, District Manager-Engineer  
Novato Sanitary District

**FROM:** Tom Gaffney, Alison Lechowicz

**DATE:** April 20, 2016

**SUBJ:** 2016 Sewer Rate Study

The Novato Sanitary District (District) has requested Bartle Wells Associates (BWA) provide a sewer rate study to analyze the District's cost of service and recommend sewer service charges through fiscal year (FY) 2020/21. The proposed sewer service charges are shown below.

	Current	Proposed				
	FY2015/16	FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Annual Cost per Equivalent Dwelling Unit	\$552	\$573	\$594	\$615	\$636	\$657

Includes \$2.00 per account charge from the County of Marin for collecting service charges on the property tax roll.

**Table 1: Current and Projected Operating Expenses.** This table provides the District's actual FY2014/15 operating expenses and budgeted expenses for FY2015/16 and FY2016/17. The District's two largest operating costs are treatment and administration/engineering, which are projected to cost about \$3 million each annually. The District's FY2015/16 total operating expense is budgeted at about \$9.8 million and the FY2016/17 budgeted operating cost is about \$10.0 million.

**Table 2: Capital Improvement Program.** This table shows the District's capital improvement and major replacement expenses for FY2015/16 and the subsequent five years. Annual capital expenses vary from about \$2.9 million to about \$4.1 million. FY2016/17 through FY2020/21, the capital costs total about \$16.7 million. Just under half of this amount is made up of collection system improvements. Table 2 does not include the annual costs related to retiring the outstanding State Revolving Fund loan or Certificates of Participation debt.

**Table 3: State Revolving Fund Loan.** In FY2007/08, the California State Water Resources Control Board issued a loan to the District of \$81 million through the State Revolving Fund (SRF) program. The loan funded an upgrade and expansion of the Novato Treatment Plant to treat the combined flow of the District's wastewater treatment plants. The loan term is 20 years at an interest rate of 2.4%. Repayment began in FY2011/12. The annual payment is about \$5.4 million, and the loan payments extend through FY2030/31.

**Table 4: Wastewater Certificates of Participation.** In addition to the SRF loan, the District issued \$21.75 million of debt as Certificates of Participation (COPs) in FY2011/12 to finance collection system, pump station and additional treatment plant improvements. This issue sold for

an average interest rate of 4.11% and will be fully retired in FY2031/32. The annual debt service payments vary from about \$1.6 million to \$1.7 million over the next five years.

**Table 5: Operating Cash Flow.** Table 5 presents the wastewater operating expenses and projects the operating sewer service charge over the next five years. The District currently provides wastewater service to 29,288 equivalent dwelling units (EDUs) and projects annual growth of 40 new EDUs. The current operating service charge is \$302 per EDU plus \$2 per account annually for collection of the charge on the Marin County property tax roll. FY2015/16, the District expects to generate about \$8.9 million in operating service charges, including the county charge revenue. The District also collects about \$870,000 in miscellaneous revenues and about \$18,000 in interest earnings. In total, the District projects operating revenues of about \$9.8 million in FY2015/16.

At the current sewer service charge, revenues will not be adequate to fund operating cost increases over the next five years. Operating costs are budgeted at about \$9.8 million and are projected to increase to \$11.26 million by FY2020/21, an average annual increase of about 2.9%.

To meet operating costs, maintain reserves, and generate positive net revenues for debt coverage, BWA recommends that the District increase the operating wastewater service charge by \$10 per EDU annually through FY2020/21.

**Table 6: Capital Cash Flow.** Table 6 presents the wastewater capital expenses and projects the capital sewer service charge over the next five years. Capital revenues include capital service charges, property taxes, capacity fees, interest earnings, and miscellaneous revenues. Property taxes are projected to increase by 2% annually. Capacity fee revenues are projected to increase in FY2016/17 due to the Board-approved increase in the capacity fee from \$9,870 to \$10,860 per EDU. Into the future, the capacity fee is projected to increase 3% annually. This fiscal year, the District expects to generate about \$9.6 million in capital wastewater revenues.

Wastewater capital expenses are budgeted to be about \$10.4 million in FY2015/16 consisting of capital projects and debt service payments. The District expects to cash fund the capital improvement projects listed in Table 2. In addition, the District's annual debt service payments total about \$7.1 million annually.

The capital cash flow shown in Table 6 also includes a projection of the District's debt service coverage. Debt service coverage is calculated as the total revenues less operating expenses divided by the annual debt service payment. The minimum debt coverage ratio required by the District's debt agreements is 1.2 times the annual payment; however, the District prefers to budget conservatively and maintain coverage of at least 1.4 times the annual payment.

It is anticipated that Capital Fund Ending Fund Balances will fluctuate below the beginning FY2015/16 level in FY2016/17 and FY2017/18, but will balance out to the FY2015/16 level (or net neutral position) by FY2018/19. The District is embarking on its next Collection System Master Plan (CSMP) in FY2016/17, and excess net annual revenues in the Capital Fund over the beginning FY2015/16 level would potentially be available for capital work identified by the CSMP effort in future years of the 5-year period of this Rate Study.

To fund capital expenses, maintain reserves, and meet and exceed the District's debt service coverage target, BWA recommends that the capital wastewater service charge increase by \$11 per EDU annually.

**Table 7: Summary of Projected Service Charges.** The sum of projected capital and operating service charges is shown in Table 7. The total service charge is projected to increase by \$21 per EDU annually through FY2020/21, equal to about 3.5%, on average.

**Table 8: Proposed Non-Residential Fixed Charges.** For non-residential users, service charges are developed based on a combination of fixed costs and variable costs. The District last conducted a cost allocation to fixed and variable expense categories in 2007. For this rate update, the allocation of costs is held constant. Non-residential fixed charges are based on floor area flow factors for various customer classes. Flow factor charges are increased at the same rate as those developed for residential customers.

**Table 9: Proposed Non-Residential Variable Charges.** Non-residential user variable costs are assigned based on winter water consumption and estimated strength factors in accordance with guidelines developed in the State Water Resources Control Board's *Revenue Program Guidelines*. Future variable charges are increased at the same rate as those developed for residential customers.

**Table 10: Service Charge Cost Comparison.** This table shows a comparison of the District's sewer service charges with those of neighboring wastewater agencies. Where available, the future-year approved rate increases of other agencies are included. The Cities of Santa Rosa, Petaluma, and Rohnert Park bill for wastewater service based on metered water use. For these agencies, the sewer service charges are calculated based on assumed winter water use of 141.7 gallons per day (4,250 gallons monthly), which is equal to the District's winter water use.

The District's charges are currently on the lower end of surveyed agencies. Even if the proposed rate increases are implemented, the District's charges will remain on the lower end of the nearby agencies. Most likely, other agencies' rates will also require upward adjustment within the same study period.

**Table 1: Current and Projected Operating Expenses  
Novato Sanitary District  
2016 Sewer Rate Study**

	<b>Actual Expenditures FY2014/15</b>	<b>Final Budget FY2015/16</b>	<b>Preliminary Budget FY2016/17</b>
Collection	\$1,240,062	\$1,386,100	\$1,388,527
Treatment - Contract Operations	2,795,808	3,018,331	3,098,586
Reclamation	398,117	487,029	510,713
Laboratory	555,215	601,633	629,767
Pump Stations	679,829	814,633	869,203
Administration/Engineering	2,075,333	2,936,237	2,993,010
Hazardous Household Waste	289,587	402,501	409,787
Recycled Water	<u>100,353</u>	<u>117,000</u>	<u>120,510</u>
<b>Totals</b>	<b>\$8,134,304</b>	<b>\$9,763,464</b>	<b>\$10,020,13</b>

Source: District Budgets

**Table 2: Capital Improvements Program FY2016/17-2020/21  
Novato Sanitary District  
2016 Sewer Rate Study**

<b>Project No.</b>	<b>Project Name</b>	<b>Budget 2015/16</b>	<b>Projected FY2016/17</b>	<b>Projected FY2017/18</b>	<b>Projected FY2018/19</b>	<b>Projected FY2019/20</b>	<b>Projected FY2020/21</b>	<b>FY2016/17 to FY2020/21</b>
72403	Pump Station Rehab.	50,000	50,000	250,000	250,000	500,000	500,000	1,550,000
72508	N. Bay Water Reuse Authority	403,000	440,000	100,000	50,000	50,000	50,000	690,000
72706	Collection System Improvements	1,050,000	900,000	1,700,000	1,700,000	1,700,000	1,700,000	7,700,000
72706-1	Lateral Replacement Program	50,000	60,000	75,000	120,000	140,000	160,000	555,000
72707	Hamilton Wetlands/Outfall monitoring	22,500	10,000	10,000	10,000	10,000	10,000	50,000
72708	Cogeneration	20,000	20,000	20,000	20,000	20,000	20,000	100,000
72802	Annual Sewer Adj. for City Projects	10,000	10,000	10,000	10,000	10,000	10,000	50,000
72803	Annual Coll. Sys. Repairs (Spot Repairs)	200,000	200,000	200,000	200,000	200,000	200,000	1,000,000
72804	Annual Recl. Facilities Improvements	100,000	100,000	100,000	100,000	100,000	100,000	500,000
72805	Annual Treatment Plant Improvements	150,000	100,000	100,000	100,000	100,000	100,000	500,000
72806	Annual Pump Station Improvements	150,000	100,000	100,000	100,000	100,000	100,000	500,000
72808	Strategic Plan Update	10,000	20,000	20,000	20,000	20,000	20,000	100,000
72809	Novato Creek Watershed	15,000	10,000	10,000	10,000	10,000	10,000	50,000
73003	Admin Bldg. Upgrades/Maintenance Bldg.	740,000	250,000	50,000	20,000	20,000	20,000	360,000
73004	Odor Control & NTP Landscaping	50,000	50,000	50,000	50,000	50,000	50,000	250,000
73005	RWF Expansion	150,000	1,300,000	20,000	10,000	-	-	1,330,000
73006	NTP Corrosion Control	150,000	75,000	150,000	150,000	75,000	75,000	525,000
73090	Vehicle Replacement	25,000	400,000	25,000	25,000	25,000	400,000	875,000
<b>Total</b>		<b>\$3,345,500</b>	<b>\$4,095,000</b>	<b>\$2,990,000</b>	<b>\$2,945,000</b>	<b>\$3,130,000</b>	<b>\$3,525,000</b>	<b>\$16,685,000</b>

Project costs are based on 2016 dollars without escalation.

**Table 3: SRF Loan Payments  
Novato Sanitary District  
2016 Sewer Rate Study**

**Original Loan Amount - \$81,328,983  
Term - 20 years; 2.4% Interest**

<b>Date</b>	<b>Outstanding Principal</b>	<b>Interest Payment</b>	<b>Principal Payment</b>	<b>Total Annual Payment</b>
FY2016/17	67,119,301	1,610,863	3,768,093	5,378,956
FY2017/18	63,351,209	1,520,429	3,858,527	5,378,956
FY2018/19	59,492,682	1,427,824	3,951,132	5,378,956
FY2019/20	55,541,550	1,332,997	4,045,959	5,378,956
FY2020/21	51,495,591	1,235,894	4,143,062	5,378,956
FY2021/22	47,352,529	1,136,461	4,242,495	5,378,956
FY2022/23	43,110,034	1,034,641	4,344,315	5,378,956
FY2023/24	38,765,719	930,377	4,448,579	5,378,956
FY2024/25	34,317,140	823,611	4,555,345	5,378,956
FY2025/26	29,761,795	714,283	4,664,673	5,378,956
FY2026/27	25,097,123	602,331	4,776,625	5,378,956
FY2027/28	20,320,497	487,692	4,891,264	5,378,956
FY2028/29	15,429,233	370,302	5,008,654	5,378,956
FY2029/30	10,420,579	250,094	5,128,862	5,378,956
FY2030/31	5,291,717	127,001	5,251,955	5,378,956

**Table 4: Wastewater Certificates of Participation - 2011  
Novato Sanitary District  
2016 Sewer Rate Study**

<b>Payment Date</b>	<b>Principal</b>	<b>Rate</b>	<b>Interest</b>	<b>Period Debt Svc</b>	<b>Fiscal Year Debt Svc</b>
08/01/16			387,874	387,874	
02/01/17	905,000	4.000%	387,874	1,292,874	1,680,748
08/01/17			369,774	369,774	
02/01/18	925,000	4.000%	369,774	1,294,774	1,664,548
08/01/18			351,274	351,274	
02/01/19	945,000	4.000%	351,274	1,296,274	1,647,548
08/01/19			332,374	332,374	
02/01/20	970,000	4.000%	332,374	1,302,374	1,634,748
08/01/20			312,974	312,974	
02/01/21	1,000,000	4.000%	312,974	1,312,974	1,625,948
08/01/21			292,974	292,974	
02/01/22	1,035,000	4.000%	292,974	1,327,974	1,620,948
08/01/22			272,274	272,274	
02/01/23	1,065,000	4.000%	272,274	1,337,274	1,609,548
08/01/23			250,974	250,974	
02/01/24	1,105,000	4.000%	250,974	1,355,974	1,606,948
08/01/24			228,874	228,874	
02/01/25	1,145,000	4.000%	228,874	1,373,874	1,602,748
08/01/25			205,974	205,974	
02/01/26	1,190,000	4.000%	205,974	1,395,974	1,601,948
08/01/26			182,174	182,174	
02/01/27	1,235,000	4.250%	182,174	1,417,174	1,599,348
08/01/27			155,930	155,930	
02/01/28	1,285,000	4.250%	155,930	1,440,930	1,596,860
08/01/28			128,624	128,624	
02/01/29	1,340,000	4.500%	128,624	1,468,624	1,597,248
08/01/29			98,474	98,474	
02/01/30	1,395,000	4.500%	98,474	1,493,474	1,591,948
08/01/30			67,086	67,086	
02/01/31	1,455,000	4.700%	67,086	1,522,086	1,589,173
08/01/31			32,894	32,894	
02/01/32	1,385,000	4.750%	32,894	1,417,894	1,450,788

**Table 5: Operating Cash Flow  
Novato Sanitary District  
2016 Sewer Rate Study**

	Budget	Preliminary	Projected			
	FY2015/16	FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Number of equivalent connections	29,288	29,328	29,368	29,408	29,448	29,488
New equivalent connections	40	40	40	40	40	40
Annual operating service charge	\$302	\$312	\$322	\$332	\$342	\$352
County's annual charge per account (1)	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00
Total annual operating service charge	\$304	\$314	\$324	\$334	\$344	\$354
<b>Annual % Change year to year (2)</b>		3.29%	3.18%	3.09%	2.99%	2.91%
Beginning total operating funds balance (3)	\$10,635,000	\$10,643,000	\$10,708,000	\$10,736,000	\$10,782,000	\$10,807,000
<b>Operating revenues</b>						
Operating service charges	\$8,887,000	\$9,193,000	\$9,499,000	\$9,806,000	\$10,113,000	\$10,422,000
Other revenues - 1% increase	867,000	876,000	885,000	894,000	903,000	912,000
Interest	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>19,000</u>	<u>19,000</u>	<u>19,000</u>
<b>Total operating revenues</b>	\$9,772,000	\$10,087,000	\$10,402,000	\$10,719,000	\$11,035,000	\$11,353,000
<b>Operating expenses (4)</b>						
Collection	\$1,386,000	\$1,389,000	\$1,433,000	\$1,490,000	\$1,527,000	\$1,566,000
Treatment - Contract Operations	3,018,000	3,099,000	3,187,000	3,277,000	3,370,000	3,466,000
Reclamation	487,000	511,000	532,000	555,000	578,000	601,000
Laboratory	602,000	630,000	649,000	668,000	688,000	709,000
Pump Stations	815,000	869,000	894,000	925,000	946,000	967,000
Administration (5)	2,936,000	2,993,000	3,137,000	3,204,000	3,335,000	3,369,000
Hazardous Household Waste	403,000	410,000	418,000	426,000	435,000	446,000
Recycled Water	<u>117,000</u>	<u>121,000</u>	<u>124,000</u>	<u>128,000</u>	<u>131,000</u>	<u>135,000</u>
<b>Total operating expenses</b>	\$9,764,000	\$10,022,000	\$10,374,000	\$10,673,000	\$11,010,000	\$11,259,000
<b>Annual % Change year to year (6)</b>		2.64%	3.51%	2.88%	3.16%	2.26%
Net annual revenues	\$8,000	\$65,000	\$28,000	\$46,000	\$25,000	\$94,000
Ending fund balance	\$10,643,000	\$10,708,000	\$10,736,000	\$10,782,000	\$10,807,000	\$10,901,000

1 - District collects an additional \$2 per account each year for the County's fee for collecting on the tax roll. County's fee has not changed since 1978.

2 - The average annual percentage change for the operating sewer service charge is 3.09% from FY2016/17 to FY2020/21.

3 - July 1, 2015 balance. Please note that the District receives no revenues from July until mid-December due to the County's tax collection schedule.

4 - Operating expenses projected based on current fiscal year budget.

5 - Includes provisions for Government Standards Accounting Board Statement 45 (GASB-45) Other Post-Employment Benefits (OPEB) and GASB-68 Pension Benefits related costs.

6 - The average annual percentage change for the total operating expenditures is 2.89%.

Source: Final Budget for Fiscal Year 2015/16 Including Preliminary Budget for Fiscal Year 2016/17

**Table 6: Capital Cash Flow  
Novato Sanitary District  
2016 Sewer Rate Study**

	Budget	Preliminary	Projected			
	FY2015/16	FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Number of equivalent connections	29,288	29,328	29,368	29,408	29,448	29,488
New equivalent connections	40	40	40	40	40	40
Annual capital service charge	\$248	\$259	\$270	\$281	\$292	\$303
<b>Annual % Change year to year (1)</b>		4.44%	4.25%	4.07%	3.91%	3.77%
Connection charge - 3% increase	\$9,870	\$10,860	\$11,190	\$11,530	\$11,880	\$12,240
Beginning capital fund balance (2)	\$6,048,000	\$5,243,000	\$4,100,000	\$4,459,000	\$5,270,000	\$6,302,000
<b>Capital revenues</b>						
Capital service charges	\$7,263,000	\$7,596,000	\$7,929,000	\$8,264,000	\$8,599,000	\$8,935,000
Property taxes @ 2%	1,900,000	1,938,000	1,977,000	2,017,000	2,057,000	2,098,000
Capacity fees	395,000	434,000	448,000	461,000	475,000	490,000
Interest @ 0.467% (LAIF Feb 2016)	22,000	24,000	19,000	21,000	25,000	29,000
Other revenues	<u>26,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>
<b>Total annual funding</b>	\$9,606,000	\$10,012,000	\$10,393,000	\$10,783,000	\$11,176,000	\$11,572,000
<b>Capital expenses</b>						
Treatment plant	\$1,260,000	\$1,795,000	\$390,000	\$350,000	\$265,000	\$265,000
Collection system (3)	1,335,000	1,570,000	2,010,000	2,055,000	2,075,000	2,470,000
Pump stations	200,000	150,000	350,000	350,000	600,000	600,000
Reclamation system	541,000	560,000	220,000	170,000	170,000	170,000
Other projects	<u>10,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>
Subtotal capital projects	\$3,346,000	\$4,095,000	\$2,990,000	\$2,945,000	\$3,130,000	\$3,525,000
SRF Loan pmts (Table 3)	5,379,000	5,379,000	5,379,000	5,379,000	5,379,000	5,379,000
COP debt service (Table 4)	<u>1,686,000</u>	<u>1,681,000</u>	<u>1,665,000</u>	<u>1,648,000</u>	<u>1,635,000</u>	<u>1,626,000</u>
<b>Total annual capital expense</b>	\$10,411,000	\$11,155,000	\$10,034,000	\$9,972,000	\$10,144,000	\$10,530,000
Net annual revenues	-\$805,000	-\$1,143,000	\$359,000	\$811,000	\$1,032,000	\$1,042,000
Ending fund balance	\$5,243,000	\$4,100,000	\$4,459,000	\$5,270,000	\$6,302,000	\$7,344,000
Debt service coverage (4)	1.363	1.430	1.482	1.543	1.599	1.668

1 - The average annual percentage change for the sewer service charge is 4.09% from FY2016/17 to FY2020/21.

2 - July 1, 2015 balance. Please note that the District receives no revenues from July until mid-December due to the County's tax collection schedule.

3 - Includes lateral replacements, vehicles, spot repairs, and other collection system improvements.

4 - The District prefers to maintain debt service coverage of a least 1.4 times the annual debt service payment.

Source: Final Budget for Fiscal Year 2015/16 Including Preliminary Budget for Fiscal Year 2016/17

**Table 7: Summary of Projected Sewer Service Charges  
Novato Sanitary District  
2016 Sewer Rate Study**

Annual Cost per Equivalent Dwelling Unit

	Current	Projected				
	FY2015/16	FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Operating	\$304	\$314	\$324	\$334	\$344	\$354
% increase		3.3%	3.2%	3.1%	3.0%	2.9%
Capital	\$248	\$259	\$270	\$281	\$292	\$303
% increase		4.4%	4.2%	4.1%	3.9%	3.8%
<b>Total</b>	<b>\$552</b>	<b>\$573</b>	<b>\$594</b>	<b>\$615</b>	<b>\$636</b>	<b>\$657</b>
<b>Annual increase</b>		<b>\$21</b>	<b>\$21</b>	<b>\$21</b>	<b>\$21</b>	<b>\$21</b>
% increase		3.8%	3.7%	3.5%	3.4%	3.3%

**Table 8: Proposed Non-Residential Fixed Charges  
Novato Sanitary District  
2016 Sewer Rate Study**

User Type	Floor Area Flow Factor	Charge Per Square Foot					
		Current	FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Base Charge/square foot	1.0	\$0.23	\$0.24	\$0.25	\$0.26	\$0.27	\$0.27
Office	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Warehouse/mini storage	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Retail	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Public office buildings	1.0	0.23	0.24	0.25	0.26	0.27	0.27
School classrooms/admin	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Churches	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Meeting halls w/kitchens	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Auto service stations	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Supermarkets	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Auditoriums theaters	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Gymnasium w/showers	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Hotels/motels (1)	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Mortuary	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Medical offices	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Veterinary offices	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Dental offices	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Hospitals	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Cafeteria/dining area	2.0	0.45	0.47	0.48	0.50	0.52	0.54
Restaurants/cafes	2.0	0.45	0.47	0.48	0.50	0.52	0.54
Bakeries	2.0	0.45	0.47	0.48	0.50	0.52	0.54
Ice cream/yogurt shops	2.0	0.45	0.47	0.48	0.50	0.52	0.54
Delicatessens	2.0	0.45	0.47	0.48	0.50	0.52	0.54
Laundry & laundromats	3.0	0.68	0.71	0.73	0.76	0.78	0.81

1 – Not including restaurants

**Table 9: Proposed Non-Residential Variable Charges**

*Novato Sanitary District  
2016 Sewer Rate Study*

**(water use and strength factors)  
 Novato Sanitary District  
 2016 Sewer Rate Study**

User Type	Strength Factor	Current Charge	Charge Per Hundred Cubic Feet (1)				
			FY2016/17	FY2017/18	FY2018/19	FY2019/20	FY2020/21
Base Charge/square foot	1.0	\$3.00	\$3.11	\$3.23	\$3.34	\$3.46	\$3.57
Office	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Warehouse/mini-storage	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Retail	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Public office buildings	1.0	3.00	3.11	3.23	3.34	3.46	3.57
School classrooms/admin	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Churches	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Auto service stations	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Auditoriums theaters	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Gymnasium w/showers	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Hotels/motels (2)	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Medical offices	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Veterinary offices	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Dental offices	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Hospitals	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Laundries & laundromats	1.4	4.20	4.36	4.52	4.68	4.84	5.00
Meeting halls w/kitchens	1.4	4.20	4.36	4.52	4.68	4.84	5.00
Cafeteria/dining area	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Restaurants/cafes	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Supermarkets	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Bakeries	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Ice cream/yogurt shops	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Delicatessens	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Mortuary	2.2	6.52	6.77	7.02	7.26	7.51	7.76

1 – One hundred cubic foot is 748 gallons. Charges based on historical winter water consumption.

2 – Not including restaurants

**Table 10: Cost Comparison with Neighboring Agencies  
Annual Sewer Service Charges per Equivalent Dwelling Unit  
Novato Sanitary District  
2016 Sewer Rate Study**

<b>AGENCY</b>	<b>FY 2015/16</b>	<b>FY 2016/17</b>	<b>FY 2017/18</b>	<b>FY 2018/19</b>	<b>FY 2019/20</b>	<b>FY 2020/21</b>
Sanitary District No. 5 - Belvedere	\$1,985					
Sausalito-Marín City Sanitary Dist - Sausalito	\$1,308	\$1,340	\$1,377	\$1,414		
Tamalpais Community Service District	\$1,111					
Sanitary District No. 5 - Tiburon	\$1,034					
Sanitary District No. 1 - City of Larkspur	\$1,012	\$1,067	\$1,125	\$1,178		
City of Santa Rosa (1)	\$940	\$948	\$957	\$965	\$973	\$980
City of Petaluma (1)	\$865					
San Rafael Sanitation District	\$788	\$830	\$863			
Las Gallinas Valley Sanitary District	\$748	\$837	\$870	\$900	\$929	
Sanitary District No. 1 - Ross Valley	\$743	\$797	\$856	\$909		
City of Mill Valley	\$685					
City of Rohnert Park (1)	\$671					
<b>NOVATO SANITARY DISTRICT</b>	<b>\$552</b>	<b>\$573</b>	<b>\$594</b>	<b>\$615</b>	<b>\$636</b>	<b>\$657</b>
Vallejo Sanitation & Flood Control District	\$520					
Town of Corte Madera (S.D. #2)	\$500					
Napa Sanitation District	\$483	\$555	\$638	\$676	\$710	\$739

1 - Based on 4,250 gallons of monthly sewer flow



## RESIDENTIAL NOTICE

This notice was mailed using a legally mandated list.  
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Phone: 415-892-1694  
Fax: 415-898-2279  
Hours: 8:00 a.m. to 4:30 p.m.  
www.novatosan.com

**BOARD OF DIRECTORS**  
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Jerry Peters, President Pro-Tem  
William C. Long  
Brant M. Miller  
Carole Dillon-Knutson

**GENERAL MANAGER**  
Sandeep Karkal P.E.

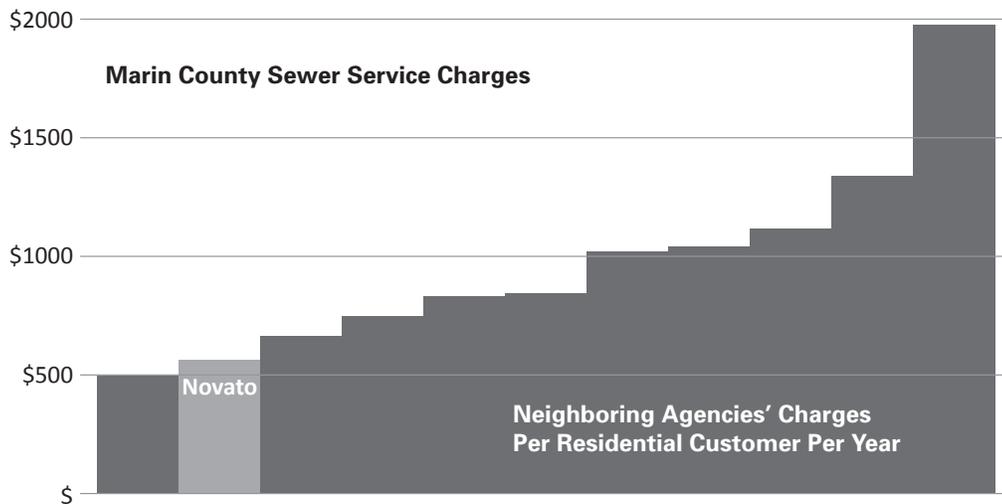
### ***This Notice Provides Information about a Proposed Increase in the Sewer Service Charge, and a Public Hearing at Which Public Comments Will Be Considered.***

#### ***Fairness Principle & Quality Service***

Residential customers pay sewer service charges based on their winter water use. The charges were developed by an independent public finance firm which recommended that the modest increases described in this notice are needed to safely maintain sanitary sewer services to our community.

#### ***Novato Sanitary District's Costs Are Among the Lowest in the County***

The District has been proactive in keeping costs down. We have among the lowest overall sanitary sewer service charges in the County and will remain among the lowest even if the proposed increases are approved.



**Rate Summary:** The District is proposing a sewer service charge increase of \$1.75 per month (or an average of about 3.5%) for most residential customers over each of the next five years.

**A separate notice on non-residential rates** has been sent to non-residential property owners. Copies are available on the District website or by contacting the District.



***This Notice Provides Information about a Proposed Increase in the Sewer Service Charge, and a Public Hearing at Which Public Comments Will Be Considered. Please share copies with your tenants.***

***Why a Sewer Service Charge Increase Is Needed***

Sewer service charges fund over 90% of District services, including operations, maintenance, and replacement of aging facilities, some of which date back to the 1950s. The District has made many improvements in recent years, such as upgrading treatment facilities, pump stations, and sewers. However, continued upgrades and increased levels of maintenance are needed to safely provide quality sanitary sewer services that protect public health and the environment. The proposed increases will allow the District to continue doing this while also keeping up with inflation.

***Sewer Service Charge Based on Winter Water Use***

Each residential customer is charged for sewer use in tiers based on water usage during the winter months. This generally reflects the amount of water that is used indoors and drained to the sanitary sewer system.

**Sewer service is measured in Equivalent Dwelling Units (EDUs). Customers whose winter water use is: 200% or more than the average winter water use are charged 1.8 EDUs**

26% to 199% of the average winter water use are charged 1 EDU

25% or less than the average winter water use are charged 0.6 EDUs

*Note that the vast majority of customers are typically charged one EDU, including individually non-metered (multi-unit) residential customers.*

***Proposed Residential Rate Increase***

At the hearing (date, time and location below), the Board of Directors will take public input, deliberate, and vote whether to raise sewer service charges to amounts no greater than those listed below:

**The LOW water use charge** is currently \$332 per EDU. It is proposed to increase to:  
\$345 in 2016-17,      \$357 in 2017-18,      \$370 in 2018-19,      \$382 in 2019-20, and      \$395 in 2020-21.

**The AVERAGE water use charge** is currently \$552 per EDU. It is proposed to increase to:  
\$573 in 2016-17,      \$594 in 2017-18,      \$615 in 2018-19,      \$636 in 2019-20, and      \$657 in 2020-21.

**The HIGH water use charge** is currently \$992 per EDU. It is proposed to increase to:  
\$1,030 in 2016-17,      \$1,068 in 2017-18,      \$1,105 in 2018-19,      \$1,143 in 2019-20, and      \$1,181 in 2020-21.

If adopted, the new charges will be effective July 1, 2016, and first appear on the fall 2016 property tax bill.

***If You Have Questions, Comments or Wish to Protest***

**How to Protest:** By State law, any affected property owner or tenant may submit a written protest to the proposed sewer service charge increase. Protests may be mailed, faxed, emailed, or hand delivered in advance of or during the public hearing. Each protest must state that the identified property owner or tenant opposes the proposed increases; identify the parcel for which the protest is made (by assessor’s parcel number or street address); identify whether the protester is a property owner or tenant; and include the name and signature of the protester(s). Only one protest will be counted per parcel. Protests may be submitted to the address, fax number, or e-mail address below. To be counted, protests must be received before the hearing ends. If there are valid protests representing a majority of properties, the Board cannot adopt the proposed rates.

**Address the Directors: Attend the Public Hearing** on June 13, 2016 at 6:00 p.m.,  
500 Davidson Street, Novato, CA 94945

**Write or Hand Deliver:** Novato Sanitary District, Attn: Board of Directors,  
500 Davidson Street, Novato, CA 94945

**E-mail:** info@novatosan.com      **Fax:** (415)898-2279



## NON-RESIDENTIAL NOTICE

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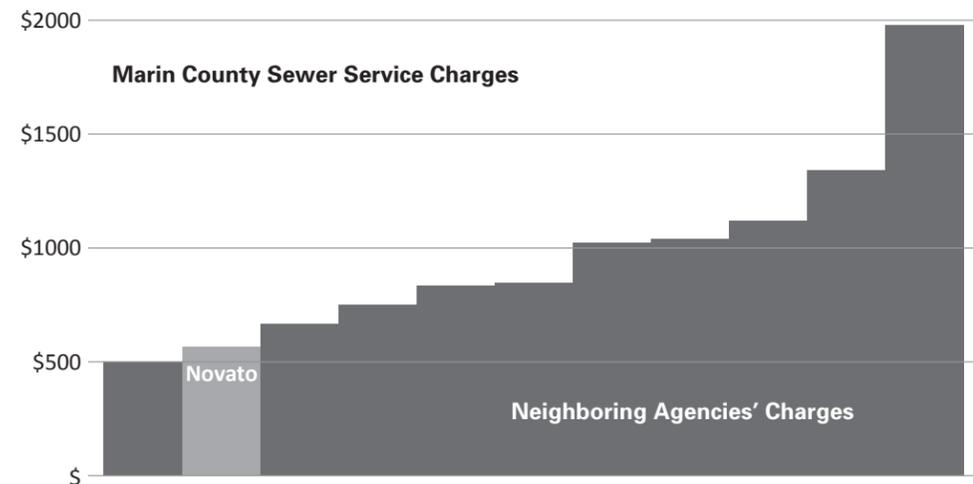
**BOARD OF DIRECTORS**  
Jean Mariani, President  
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Carole Dillon-Knutson

**GENERAL MANAGER**  
Sandeep Karkal P.E.

### ***This Notice Provides Information about a Proposed Increase in the Sewer Service Charge, and a Public Hearing at Which Public Comments Will Be Considered.***

#### **Novato Sanitary District's Charges Are Among the Lowest in the County**

The District has been proactive in keeping costs down. We have among the lowest overall sanitary sewer service charges in the County, and will remain among the lowest even if the proposed increases are approved.



This annual bill comparison uses the District's 2016/17 proposed charges and the latest information available for other Districts (a mix of 2015/16 and 2016/17 charges).

**A separate notice on residential rates** has been sent to residential property owners. Copies are available on the District website or by contacting the District.



### ***This Notice Provides Information about a Proposed Increase in the Sewer Service Charge, and a Public Hearing at Which Public Comments Will Be Considered***

#### **Why a Sewer Service Charge Increase Is Needed**

Sewer service charges fund over 90% of District services, including operations, maintenance, and replacement of aging facilities, some of which date back to the 1950s. The District has made many improvements in recent years, such as upgrading treatment facilities, pump stations, and sewers. However, continued upgrades and increased levels of maintenance are needed to safely provide quality sanitary sewer services that protect public health and the environment. The proposed increases will allow the District to continue doing this while also keeping up with inflation.

#### **Fairness Principle & Quality Service**

Non-residential customers pay sewer service charges based on their winter water use, inside floor area, and wastewater strength factors. The charges were developed by an independent public finance firm which recommended that the increases described in this notice are needed to safely maintain sanitary sewer services to our community. District sanitary sewer service charges are among the lowest in the County and will remain among the lowest even if the proposed increases are passed. More information on our low rates is on the back page of this notice.

#### **If You Have Questions, Comments or Wish to Protest**

**How to Protest:** By State law, any affected property owner or tenant may submit a written protest to the proposed sewer service charge increase. Protests may be mailed, faxed, emailed, or hand delivered in advance of or during the public hearing. Each protest must state that the identified property owner or tenant opposes the proposed increases; identify the parcel for which the protest is made (by assessor's parcel number or street address); identify whether the protester is a property owner or tenant; and include the name and signature of the protester(s).

Only one protest will be counted per parcel. Protests may be submitted to the address, fax number, or e-mail address below. To be counted, protests must be received before the hearing ends.

At the hearing (date, time and location below), the Board of Directors will take public input, deliberate, and vote whether to raise sewer service charges to amounts no greater than those listed in this document. If there are valid protests representing a majority of properties, the Board cannot adopt the proposed rates.

**Address the Directors: Attend the Public Hearing** on June 13, 2016 at 6:00 p.m.,  
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**E-mail:** info@novatosan.com      **Fax:** (415)898-2279

#### **Rate Summary**

*The District is proposing an annual sewer service charge increase averaging about 3.5% per year over each of the next five years.*

*This is below the generally accepted rate of inflation for the sanitary sewer industry.*

# Use These Charts to Calculate Non-Residential Sewer Charges



To accurately reflect the cost of service, non-residential rates are comprised of three factors:

**Square footage** of the non-residential space, reflects its capacity to generate wastewater, called the Flow Factor.

**Water use in winter** as measured by the water bill, which in turn reflects the amount of wastewater generated.

**Strength of the wastewater** based on the type of business, which reflects the cost to treat the wastewater.

Non-residential rates vary based on the factors above. However, the potential percentage increase for all residential and non-residential customers is the same (averaging about 3.5% per year). See the tables and formula below for specifics.

## 1. Square Footage—Fixed Charge Per Square Foot

The fixed charge per square foot of floor area for the different types of non-residential uses is given for the 2016-2017 through 2020-21 fiscal years.

Multiply the square footage for a particular non-residential use by the rate for a given year. Note that the flow factor has already been integrated into the charge.

User Type	Floor Area		Charge Per Square Foot Note: FY = Fiscal Year				
	Flow Factor	Current	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Base Charge/square foot	1.0	\$0.23	\$0.24	\$0.25	\$0.26	\$0.27	\$0.27
Office	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Warehouse/mini-storage	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Retail	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Public office buildings	1.0	0.23	0.24	0.25	0.26	0.27	0.27
School classrooms/administration	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Churches	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Meeting halls with kitchens	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Auto service stations	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Supermarkets	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Auditoriums theaters	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Gymnasium w/showers	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Hotels/motels, not incl. restaurant	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Mortuary	1.0	0.23	0.24	0.25	0.26	0.27	0.27
Medical offices	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Veterinary offices	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Dental offices	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Hospitals	1.3	0.30	0.31	0.32	0.33	0.35	0.36
Cafeteria/dining area	2.0	0.45	0.47	0.48	0.50	0.52	0.54
Restaurants/cafes	2.0	0.45	0.47	0.48	0.50	0.52	0.54
Bakeries	2.0	0.45	0.47	0.48	0.50	0.52	0.54
Ice cream/yogurt shops	2.0	0.45	0.47	0.48	0.50	0.52	0.54
Delicatessens	2.0	0.45	0.47	0.48	0.50	0.52	0.54
Laundry and laundromats	3.0	0.68	0.71	0.73	0.76	0.78	0.81

### Additional Information about the Proposed Changes

The minimum non-residential charge is one service unit (1 EDU).

If adopted, the new charge will be effective July 1, 2016 and first appear in the fall 2016 property tax bill.

## 2. WATER USE AND STRENGTH—Variable Water Use Charge

The variable charge per hundred cubic feet (HCF) of water use for different non-residential users is given for fiscal years 2016-17 through 2020-21. It is calculated on the average water use for the year based on water meter readings from December to April of the previous year. Multiply the annual water use in hundred cubic feet times the charge for a particular non-residential use. Note that the strength factor has already been incorporated into the charges.

User Type	Strength	Charge Per Hundred Cubic Feet (HCF). 1 HCF = 748 Gallons Note: FY = Fiscal Year					
	Factor	Current	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Base Charge/square foot	1.0	\$3.00	\$3.11	\$3.23	\$3.34	\$3.46	\$3.57
Office	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Warehouse/mini-storage	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Retail	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Public office buildings	1.0	3.00	3.11	3.23	3.34	3.46	3.57
School classrooms/administration	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Churches	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Auto service stations	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Auditoriums theaters	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Gymnasium w/showers	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Hotels/motels, not incl. restaurant	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Medical offices	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Veterinary offices	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Dental offices	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Hospitals	1.0	3.00	3.11	3.23	3.34	3.46	3.57
Laundries and laundromats	1.4	4.20	4.36	4.52	4.68	4.84	5.00
Meeting halls with kitchens	1.4	4.20	4.36	4.52	4.68	4.84	5.00
Cafeteria/dining area	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Restaurants/cafes	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Supermarkets	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Bakeries	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Ice cream/yogurt shops	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Delicatessens	2.2	6.52	6.77	7.02	7.26	7.51	7.76
Mortuary	2.2	6.52	6.77	7.02	7.26	7.51	7.76

## 3. The TOTAL ANNUAL CHARGE FORMULA

The charge for single-use buildings is determined as follows:

$$(\text{Sq. Footage of Building} \times \text{Sq. Footage Charge}) + (\text{Water Usage} \times \text{Water Use Charge}) = \text{Total Charge}$$

In addition, there is a \$2 service charge from the County per account to pay for billing of the sewer service charge on the property tax roll.

To determine the charges for mixed non-residential uses, you will need to know the floor area for each tenant, type of non-residential use and water use. The total charge for the whole building is a combination of the floor area and strength factor for each type of non-residential use and the total water consumption for the whole building. District staff can help with the math.

# DRAFT

## NOTICE OF PUBLIC HEARING

### SEWER SERVICE CHARGES FISCAL YEARS 2016-2017 THROUGH 2020-2021 AND INTENT TO COLLECT ON TAX ROLLS

#### NOVATO SANITARY DISTRICT

**NOTICE IS HEREBY GIVEN** that pursuant to Proposition 218, Article XIII(D), Section 6, of the California Constitution, and Section 53755 of the Government Code, the Board of Directors of the **NOVATO SANITARY DISTRICT** intends to consider an increase in rates and fix its charges for sewerage services for fiscal years 2016-2017 through 2020-2021. Pursuant to Section 5471 et seq. and 6520.5 of the Health and Safety Code of the State of California, the Board of Directors of Novato Sanitary District further intends to elect to collect such charges on the tax roll of the County of Marin in the same manner as general taxes. A written report containing a description of each parcel of real property receiving sanitary sewerage service from said District and the anticipated amount of charges for each such parcel will be filed with the District Secretary and available for inspection at the District's offices at 500 Davidson Street, Novato, California, at the time of the public hearing described below.

**NOTICE IS FURTHER GIVEN** that on Monday, the 13<sup>th</sup> day of June, 2016, at the hour of 6:00 p.m. at the regular meeting place of the District Board of Directors, Novato Sanitary District, 500 Davidson Street, Novato, California, said Board will hear and consider all protests and objections to the increase in proposed sewer service charges and the charges set forth in said report.

By order of the Board of Directors of the Novato Sanitary District.

Dated: April 25, 2016

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Sandeep Karkal  
Secretary, Novato Sanitary District

Publish: May 25, 2016, and June 1, 2016.

# NOVATO SANITARY DISTRICT BOARD AGENDA ITEM SUMMARY

<b>TITLE:</b> Receive Wastewater Operations Report, March 2016 – Information.	<b>MEETING DATE:</b> April 25, 2016  <b>AGENDA ITEM NO.:</b> 8.a.
<b>RECOMMENDED ACTION:</b> Receive Wastewater Operations Report for the month of March 2016.	
<b>SUMMARY AND DISCUSSION:</b> <p>The March 2016 Wastewater Operations Report incorporating reports for wastewater treatment operations, collection system operations, and reclamation facilities is attached.</p> <p><b>Wastewater Treatment Facility</b></p> <p>Novato Treatment Plant (NTP) water quality parameters were well within effluent standards in March with no NPDES violations. There was no recycled water production in March as the Recycled Water Plant is shut down for the season. March was another accident-free month for a total of 2,137 days. Veolia staff performed annual maintenance on the Bio-Gas Flare and took Secondary Clarifier #2 out of service for maintenance. Environmental Services staff performed inspections at five food service establishments and one dental office, issued one Non-Domestic Class I temporary discharge permit, and reissued a Non-Domestic Class III permit for an industrial user. The Discharge Monitoring Report (DMR), Electronic Self-Monitoring Report (e-SMR) and the Recycled Water Report for February 2016, were submitted on March 29th.</p> <p><b>Odor Control and Landscaping</b></p> <p>Veolia operations staff monitored the performance of the recently installed Micro-Cool fogging system along the north fence-line in the northeast corner of the plant site. The system is performing well. Veolia staff replaced the Micro-Cool pump under warranty. District and Veolia staff met with neighborhood residents in January to discuss additional oleander plantings along the northeast fence-line. Planting of the oleanders was completed in March.</p> <p><b>Collection System and Pump Stations</b></p> <p>Staff cleaned a total of 66,399 ft. of sewer lines in March. Staff also conducted 213 lift station inspections and inspected seven (7) air relief valves. Approximately 34 feet of 15” trunk sewer was replaced in an easement behind 65 Hamilton Drive. The work was necessitated by a 20-foot section of corrugated metal pipe that apparently failed, causing a surcharged condition upstream. The details of the pipe failure and repair are outlined in a separate Board report and item on the agenda.</p> <p><u>Safety:</u> No lost time accidents in March 2016 for a total of 1,845 accident-free days.</p> <p><u>Training:</u> Collections staff attended 4 safety tailgate meetings, and an Employee Assistance Program presentation on stress management.</p> <p><u>Sanitary Sewer Overflows (SSOs):</u> In March 2016 there were four Category III SSOs with a total spill volume of 1,098 gallons and one Category II SSO with a spill volume of 1,200 gallons.</p> <p><b>Reclamation Facility</b></p> <p>No sludge handling or irrigation activities were performed in March. The rancher continued weed abatement around sprinkler heads at the Reclamation Site. Drainage Pump Station No. 3 pumped 116 MG and Station No. 7 pumped 51 MG of storm water this month.</p>	
<b>ATTACHMENTS:</b> 1. Wastewater Operations Report for the month of March 2016.	
<b>STRATEGIC PLAN INFORMATION:</b> This item addresses Goal 1 (Operational Excellence) and Goal 2 (Reliable and Efficient Facilities) of the latest Strategic Plan Update.	
<b>DEPT. MGR.:</b> JB (Veolia), SRK, DD, EB	<b>GENERAL MANAGER:</b> SSK



April 20, 2016

Mr. Sandeep Karkal  
Manager - Engineer  
Novato Sanitary District  
500 Davidson Street  
Novato, CA 94545

**Subject: Veolia Water Operations Report – March 2016**

Dear Mr. Karkal:

I am pleased to provide the Monthly Operation report for March 2016.

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

Best regards,

A handwritten signature in blue ink that reads "John Bailey". The signature is stylized and cursive.

John Bailey  
Project Manager, Veolia



**MONTHLY OPERATIONS REPORT**  
**March 2016**

Prepared for

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

Prepared by

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

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TREATMENT PLANT PERFORMANCE SUMMARY

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ATTACHMENTS

- Photos
  - Annual Inspection, Cleaning, & Maintenance of Headworks Channel & Screen
  - Troubleshoot Septage Receiving Station
  - Clean Digested Sludge Pump #1
  - Replace Digester #1 Mix Pump Motor & Troubleshoot Bio-Gas Flare Controls
  - Annual Grit Basin Inspection and Cleaning – Confined Space Entry
- Laboratory Data
- Weather Data
- Recycled Water Report
- Annual Compliance Summary
- Process Control Data / Graphs
- Neighborhood Contacts
- Jerome Meter Readings and Locations

TREATMENT PLANT PERFORMANCE SUMMARY: March 2016:

Parameter	Value		Limit	
	Ave	Max	#1	#2
Flow, MGD (monthly ave/max)	7.75	14.67	N/A	N/A
Max Peak Hour, MGD – 3/5/16 – 2150 hours	N/A	21.85	N/A	N/A
<b>Influent</b>				
BOD <sub>5</sub> , lb/day (month ave/max)	10,425	16,755	N/A	N/A
TSS, lb/day (monthly ave/max)	13,523	22,260	N/A	N/A
<b>Effluent</b>				
BOD <sub>5</sub> , mg/L (monthly ave/weekly max)	<7	8	30	45
TSS, mg/L (monthly ave/weekly max)	8	14	30	45
BOD <sub>5</sub> - % Removal, Minimum	96	N/A	85	N/A
TSS - % Removal, Minimum	96	N/A	85	N/A
Ammonia, mg/L – (monthly ave/daily max)	0.20	0.20	5.9	21
pH, su (min / max)	6.8	7.0	6.5	8.5
Enterococcus, MPN/100 ml (30 day geo mean)	3.5	13.2	35	N/A
Fecal Coliform, MPN/100 ml (30 day median)	1.8	1.8	140	N/A
Fecal Coliform, MPN/100 ml (90 <sup>th</sup> percentile)	1.8	1.8	430	N/A
<b>Total Permit Exceedances (NPDES)</b>	0			

Title 22 - Recycled Water Production and Quality

Description	Units	Value	Limit
Volume Produced	Million Gallons	0.0	N/A
Average Turbidity	NTU	N/A	2.0
Turbidity > 5 NTU (in 24 hour)	Minutes	N/A	72
Minimum CT (disinfection)	mg-min/L	N/A	450 minimum
Minimum Dissolved Oxygen (DO)	mg/L	N/A	2 mg/L minimum
Maximum Total Coliform	MPN/100 ml	N/A	240
Maximum Total Coliform 2 Samples 30 d	MPN/100 ml	N/A	23
Total Coliform 7 Sample Median	MPN/100 ml	N/A	2.2

Discussion of Violations / Excursions:

National Pollutant Discharge Elimination System (NPDES) – None

Recycled Water – None, No Recycled Water Produced in March

Rainfall. – Max Daily March 4<sup>th</sup> = 1.89 inches. **March Total Rainfall = 7.30 inches**



**SAFETY AND TRAINING:**

- Monthly plant safety inspections for Novato WWTP and Ignacio Transfer Pump Station completed
- Five Minute Tailgate training is held daily with all staff.
- No safety incidents for the month of March 2016.
- Accident Free: 6/1/10 – 3/31/16: 2,137 days
- Monthly Safety Topics and Training:
  - Fire Safety – Extinguishing Risk

**OPERATION & MAINTENANCE STATUS / REVIEW:****Key events for the period:****Novato**

- Routine rounds, readings and maintenance
- Performed annual manufacturer recommended maintenance on Filter Screen #1
- Performed annual manufacturer recommended maintenance on Filter Screen #2
- Replaced Microcool Pump (odor control fogging system) - Warranty
- Annual Maintenance on Bio-Gas Flare – replaced several relays in control panel
- Took Secondary Clarifier #2 Out of Service (OOS)
- Replaced level transmitter on Headworks Channel #2
- Replaced soft start – Digester Mixing Pump #1

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

- Aeration Basin #1 & #2 (not needed at current flows)
- Primary Clarifier #2 (not needed at current flows)

**Ignacio Transfer Pump Station**

- Routine rounds, readings and maintenance
- Cleaned tar from Channel Grinder
- Installed temporary weir plate in place of Channel Grinder to catch tar
- Annual maintenance on Channel Grinder
- Replaced Radio Communication Equipment – SCADA

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

- Channel Screen / Grinder, Maintenance

**Decant Pump Station**

- Performed routine inspection



**Recycled Water Plant (RWP)**

- Plant is shut down for the season

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

- Chlorine Contact Tank, drained and out of service for cleaning.

**Sludge Lagoons**

- Performed routine rounds and inspection

**LABORATORY ACTIVITIES SUMMARY:**

Bay Discharge all of March 2016.

**Wildlife Pond and Reclamation Activities**

Samples and weekly/monthly observations at the Wildlife pond were taken according to the WDR (Order No. 92-065). Pond pH continues to be high in the storage ponds only. There is no discharge to receiving waters from the ponds and all plant effluent previously fed to ponds was compliant with standards. The rise in pH occurs naturally within the ponds.

**Fecal Coliforms**

The quarterly Fecal Coliform sample result was 1.8 MPN/100 mL, well below the regulatory limit.

**Enterococcus**

Three samples were analyzed each week for Enterococcus and all results were well below the regulatory limit.

**BOD**

All results from March were from Alpha Analytical for BODs, none of which were qualified, and all effluent results were well below the regulatory limits.

**Public Education/Outreach**

- Worked on show-and-tell information for future tours.
- Provided photos to Martin Rauch for NSD publications.

**Training**

- Liz Falejczyk attended The NELAC Institute (TNI) 2009 training (3/3/2016) for laboratory accreditation.
- Kurt Hawkyard attended the Webinar Tips and Tricks for Successful pH and Solids Analysis (3/15/2016)

**BACWA**

- Liz attended the BACWA Permits Committee meeting 3/8/2016.



**Pretreatment**

**Permits**

- Issued one Non-Domestic Class I Permit
- Began preparation of one additional Non-Domestic Class I Permit
- Reissued one Non-Domestic Class III Permit #005

**Inspections**

- Performed five inspections.
- Follow-up and other communications with six Non-Domestic Dischargers

**ADMINISTRATION:**

- February Electronic Self-Monitoring Report (SMR) submitted on March 29, 2016
- February Electronic Discharge Monitoring Report (DMR) submitted on March 29, 2016
- February Recycled Water Report submitted on March 29, 2016

**ODORS:**

- Jerome meter (H<sub>2</sub>S) readings performed in neighborhood and within treatment plant.
- All readings in neighborhood were either zero or at the minimum detection threshold of the Jerome meter.

**MISCELLANEOUS**

- Process Control Management Plan (PCMP) meetings held weekly.

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

John O'Hare	Technical Support
Paul Proctor	Technical Support



# ***PHOTOS***

ANNUAL INSPECTION, CLEANING AND MAINTENANCE OF  
CHANNEL & SCREEN  
MARCH 2016



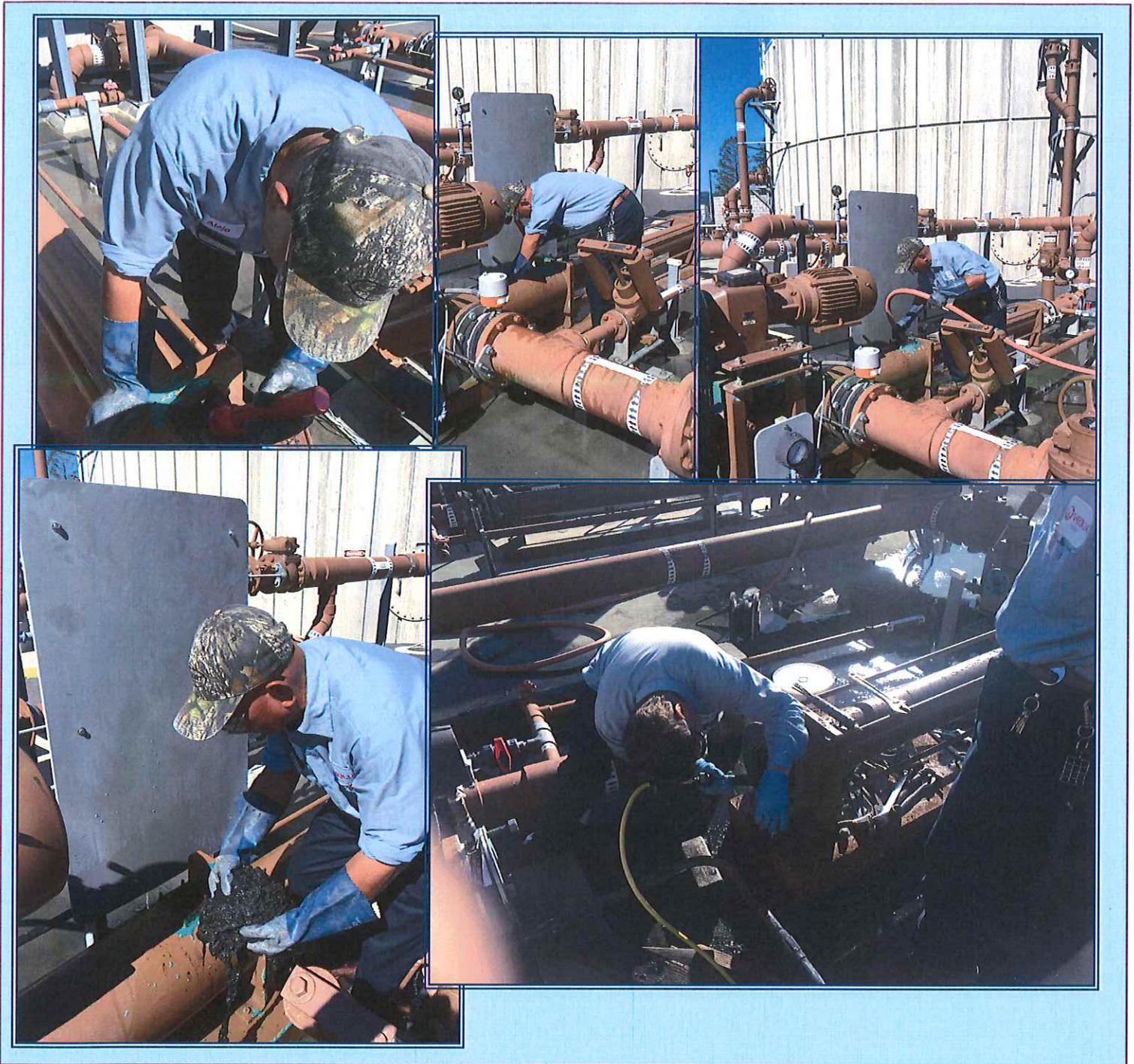
Top Left – Preparing Screen for Removal / Right – Screen Pivoted out of Channel for access to wetted parts and channel.  
Center Left – Close-up of Screen Teeth / Right & Bottom – Screen Maintenance

TROUBLESHOOTING SEPTAGE RECEIVING STATION  
MARCH 2016



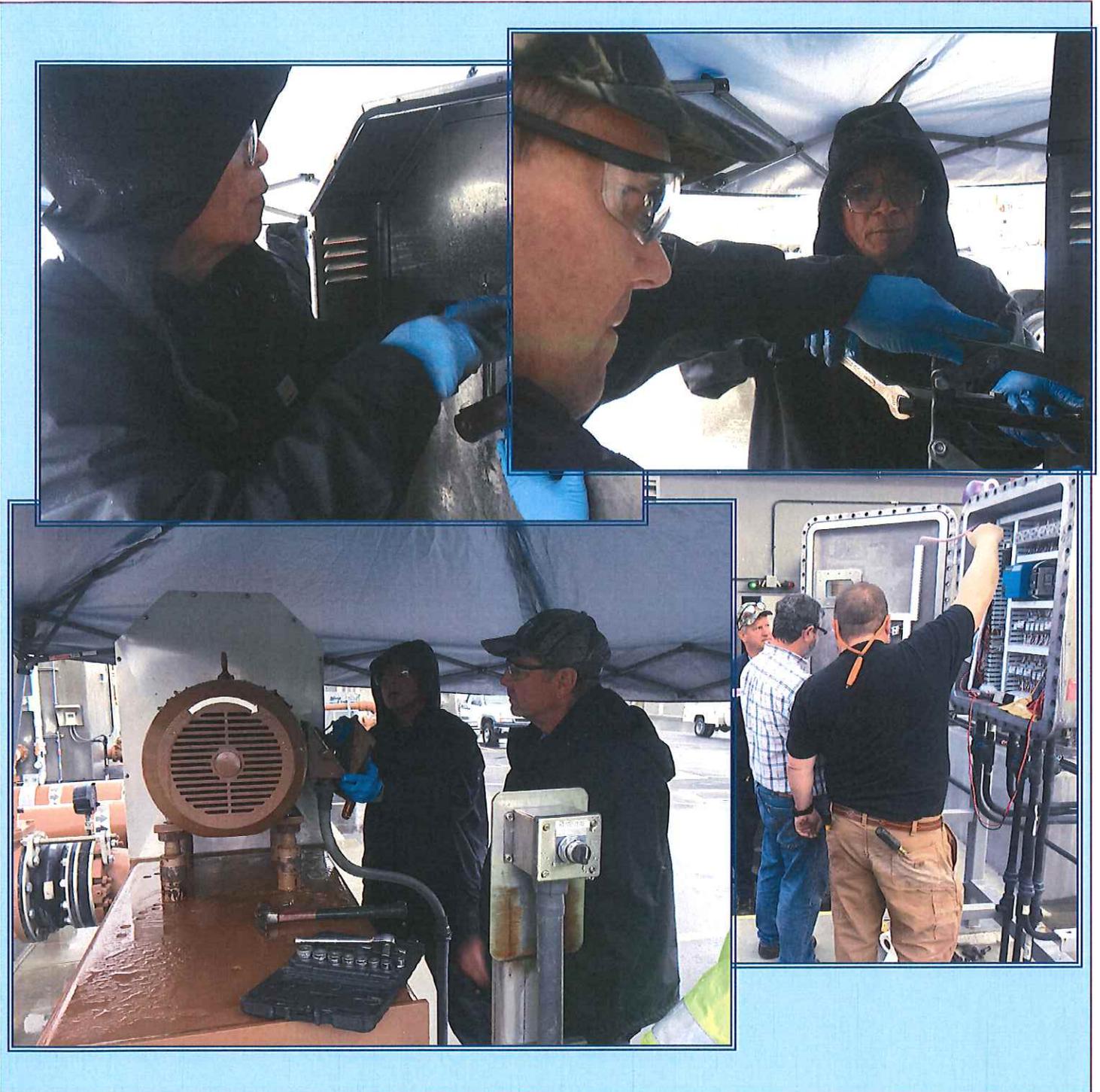
Brian Exberger working on Septage Receiving Station

CLEAN DIGESTED SLUDGE PUMP #1  
MARCH 2016



Top Left, Center, & Right – Alejo Cuntapay Inspecting Digested Sludge Pump  
Bottom Left – Alejo removing rag ball  
Bottom Right – Jeff Hendricks cleaning discharge end of Digested Sludge Pump

REPLACE DIGESTER #1 MIX PUMP MOTOR  
TROUBLESHOOT BIO-GAS FLARE CONTROLS  
MARCH 2016



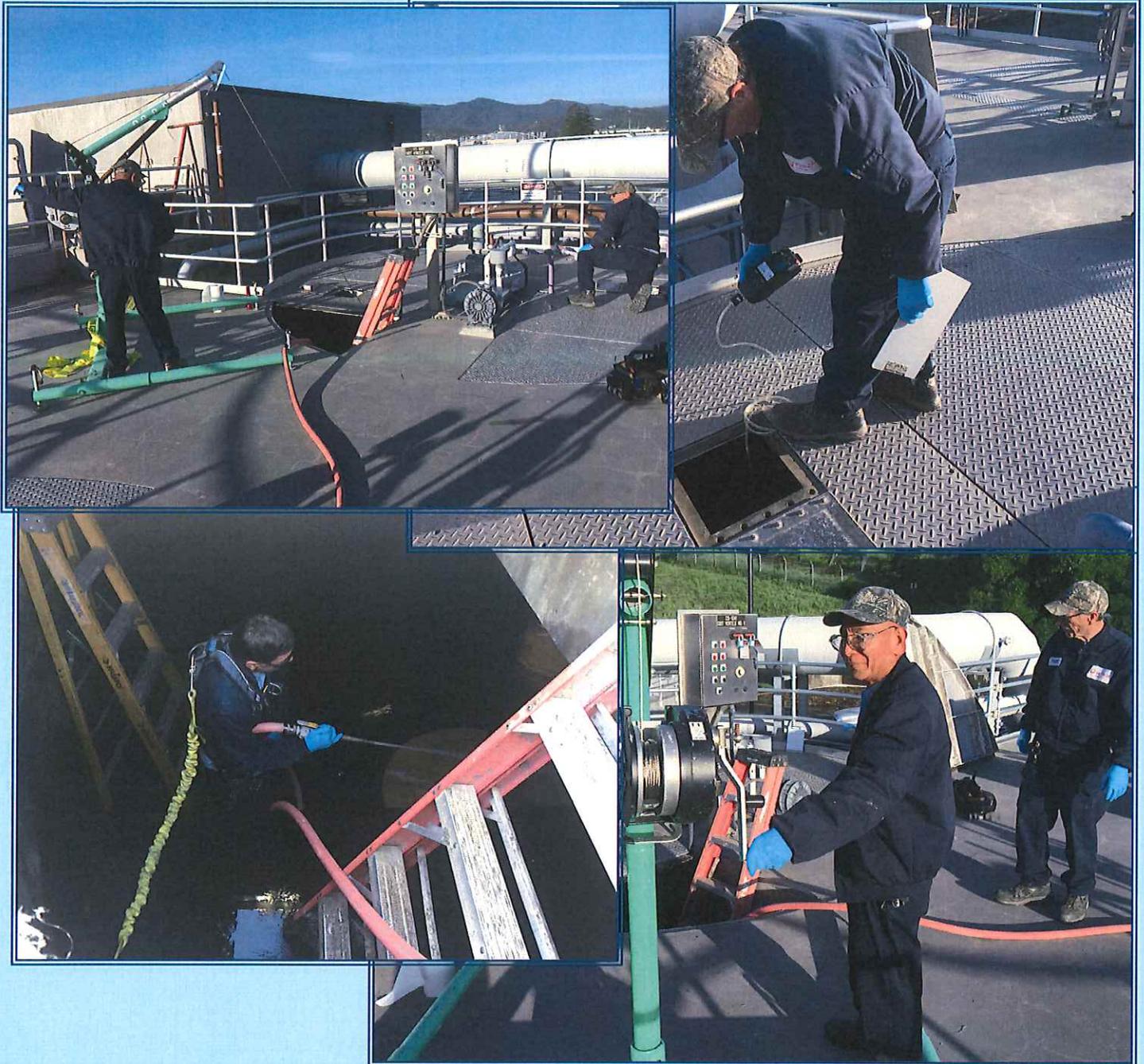
Top Left – Alejo Cuntapay removing guard

Top Right – Alejo & Brian Exberger removing drive pulley

Bottom Left – Alejo & Jeff Hendricks completing installation of replacement motor

Bottom Right – Ralph Loveless, Craig Deasy, & Dennis Flosi (Veolia Richmond) troubleshoot Flare

ANNUAL GRIT BASIN INSPECTION AND CLEANING  
CONFINED SPACE ENTRY  
MARCH 2016



Entrant, Jeff Hendricks – Attendants, Alejo Cuntapay & Preston Ingram  
Annual cleaning and inspection of Grit Basin

# ***LABORATORY DATA***

Novato Sanitary District  
BOD/TSS Report



March, 2016

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		
03/01/16	4.10	250	8,549	328	11,216	9	297	4	137	96.5	98.8
03/02/16	4.17					6	205	4	139		
03/03/16	3.97										
03/04/16	4.56										
03/05/16	12.71										
03/06/16	13.44										
03/07/16	11.11										
03/08/16	8.26										
03/09/16	7.65										
03/10/16	14.35	140	16,755	186	22,260	<5	<598	6	718	96.4	96.8
03/11/16	14.67										
03/12/16	12.66										
03/13/16	14.35										
03/14/16	10.91	100	9,099	126	11,465	6	510	9	819	94.4	92.9
03/15/16	14.36										
03/16/16	7.26										
03/17/16	6.57										
03/18/16	5.79										
03/19/16	5.70										
03/20/16	6.10										
03/21/16	6.99										
03/22/16	5.89										
03/23/16	5.47	160	7,299	239	10,903	8	365	14	639	95.0	94.1
03/24/16	5.29										
03/25/16	4.78										
03/26/16	5.14										
03/27/16	4.77										
03/28/16	5.06										
03/29/16	4.72	250		299	11,770	8		12	472		96.0
03/30/16	4.72										
03/31/16	4.60										
<b>Weekly Averages</b>											
03/05/16	Week 1	250	8,549	328	11,216	7	251	4	138		
03/12/16	Week 2	140	16,755	186	22,260	5	598	6	718		
03/19/16	Week 3	100	9,099	126	11,465	6	510	9	819		
03/26/16	Week 4	160	7,299	239	10,903	8	365	14	639		
	Week 5										
<b>Monthly</b>											
Minimum	3.97	100	7,299	126	10,903	<5	205	4	137	94	93
Maximum	14.67	250	16,755	328	22,260	9	<598	14	819	97	99
Total	240.12										
Average	7.75	180	10,425	236	13,523	<7	<395	8	487	96	96

Novato Sanitary District  
Conventional Pollutants Report



March, 2016

Date	INFLUENT - A001			Effluent - E002							
	Flow	pH	Ammonia	Coliform / Bacteria			pH	Ammonia	Unionized Ammonia	Oil & Grease	Temp
	Total			Fecal	Entero	Total					
	MGD	su	mg/L	MPN/100 mL			su	mg/L	mg/L		Deg C
03/01/16	4.10	7.5		1.8	1.0		7.0			<1.4	19.4
03/02/16	4.17				2.0		6.9	0.20			19.5
03/03/16	3.97				2.0		6.9				19.9
03/04/16	4.56						6.8				20.1
03/05/16	12.71										
03/06/16	13.44										
03/07/16	11.11				3.0		6.8				17.4
03/08/16	8.26	7.2			5.2		6.9				17.9
03/09/16	7.65						6.9				18.2
03/10/16	14.35				4.1		6.9				18.2
03/11/16	14.67						6.8				17.1
03/12/16	12.66										
03/13/16	14.35										
03/14/16	10.91				4.1		6.8				17.7
03/15/16	14.36						6.9				17.9
03/16/16	7.26				1.0		6.9				18.1
03/17/16	6.57						6.8				18.4
03/18/16	5.79	7.4			7.4		6.9				18.6
03/19/16	5.70										
03/20/16	6.10										
03/21/16	6.99						6.9				19.0
03/22/16	5.89						6.9				18.9
03/23/16	5.47				6.3		6.9				18.6
03/24/16	5.29	7.4			3.1		6.9				19.0
03/25/16	4.78				13.2		6.9				19.2
03/26/16	5.14										
03/27/16	4.77										
03/28/16	5.06				3.1		7.0				18.6
03/29/16	4.72				4.1		6.9				19.1
03/30/16	4.72				6.3		6.9				19.3
03/31/16	4.60						7.0				18.9
<b>Monthly</b>											
Minimum	3.97	7.2		1.8	1.0		6.8	0.20			17.1
Maximum	14.67	7.5		1.8	13.2		7.0	0.20		<1.4	20.1
Total	240.12										
Average	7.75	7.4					6.9	0.20		<1.4	18.7

# ***WEATHER DATA***

Weather Data Novato WWTP -March 2016

Date	Temperatur		Humidity			Pressure		Rainfall	Windspeed
	High	Low	High	Low		High	Low	Inches	Max
1-Mar	74	44	100	46		30.19	29.98	0.00	0
2-Mar	75	45	100	38		30.11	29.97	0.00	0
3-Mar	70	54	100	75		30.09	29.90	0.00	1
4-Mar	65	56	100	85		30.06	29.96	0.38	1
5-Mar	62	57	100	100		29.99	29.82	1.89	0
6-Mar	62	54	100	100		29.84	29.48	1.29	23
7-Mar	61	46	100	67		29.98	29.67	0.15	18
8-Mar	60	42	100	51		30.10	29.98	0.00	9
9-Mar	61	49	100	77		30.07	29.96	0.15	6
10-Mar	60	56	100	100		30.03	29.89	1.30	9
11-Mar	59	50	100	70		30.06	29.70	0.70	30
12-Mar	57	45	100	86		30.14	30.06	0.47	17
13-Mar	60	53	100	84		30.09	29.97	0.60	13
14-Mar	63	47	100	44		30.34	30.07	0.01	18
15-Mar	72	42	95	24		30.36	30.14	0.00	13
16-Mar	73	44	99	48		30.22	29.93	0.00	7
17-Mar	77	44	100	46		30.06	29.81	0.00	9
18-Mar	69	46	100	65		30.07	29.91	0.00	10
19-Mar	71	49	100	67		30.09	29.94	0.00	6
20-Mar	62	50	100	90		30.14	30.03	0.10	8
21-Mar	63	47	100	73		30.18	30.01	0.22	18
22-Mar	64	42	100	52		30.32	30.18	0.04	20
23-Mar	71	46	93	29		30.36	30.24	0.00	17
24-Mar	71	46	100	56		30.36	30.12	0.00	19
25-Mar	73	46	100	40		30.19	29.92	0.00	16
26-Mar	72	49	93	45		30.04	29.91	0.00	22
27-Mar	66	49	100	55		30.09	29.99	0.00	23
28-Mar	63	45	77	44		77.00	29.84	0.00	22
29-Mar	69	41	86	29		86.00	29.79	0.00	16
30-Mar	68	40	100	59		100.00	29.94	0.00	17
31-Mar	71	47	100	45		100.00	30.04	0.00	27
Total								7.30	
Min	57	40				29.84	29.48	0.00	0
Max	77	57				100	30.24	1.89	30
Ave	67	47				38	30	0.24	13

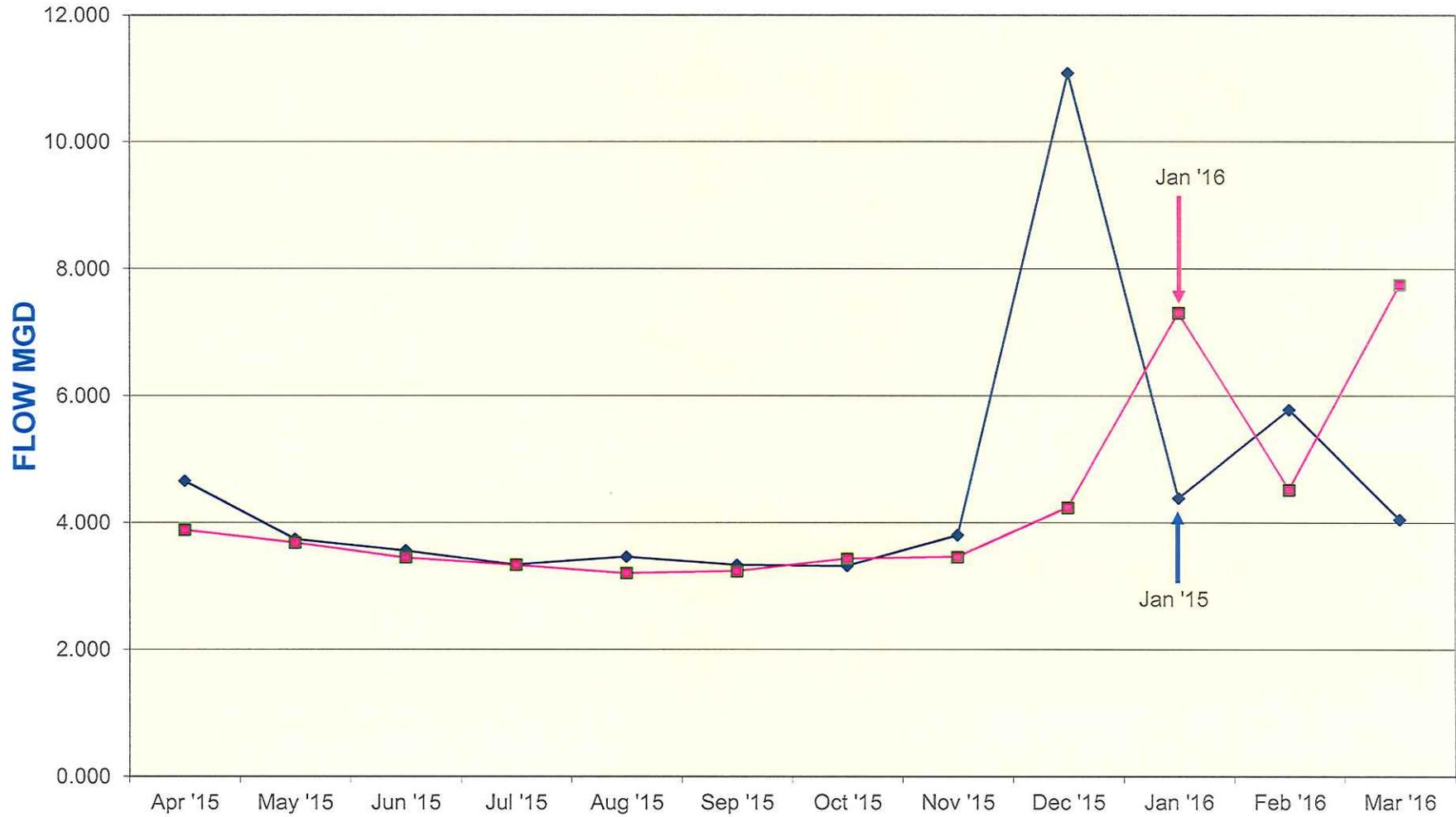
Mar 10 from Novato Weather Underground Website

## ***RECYCLED WATER REPORT***

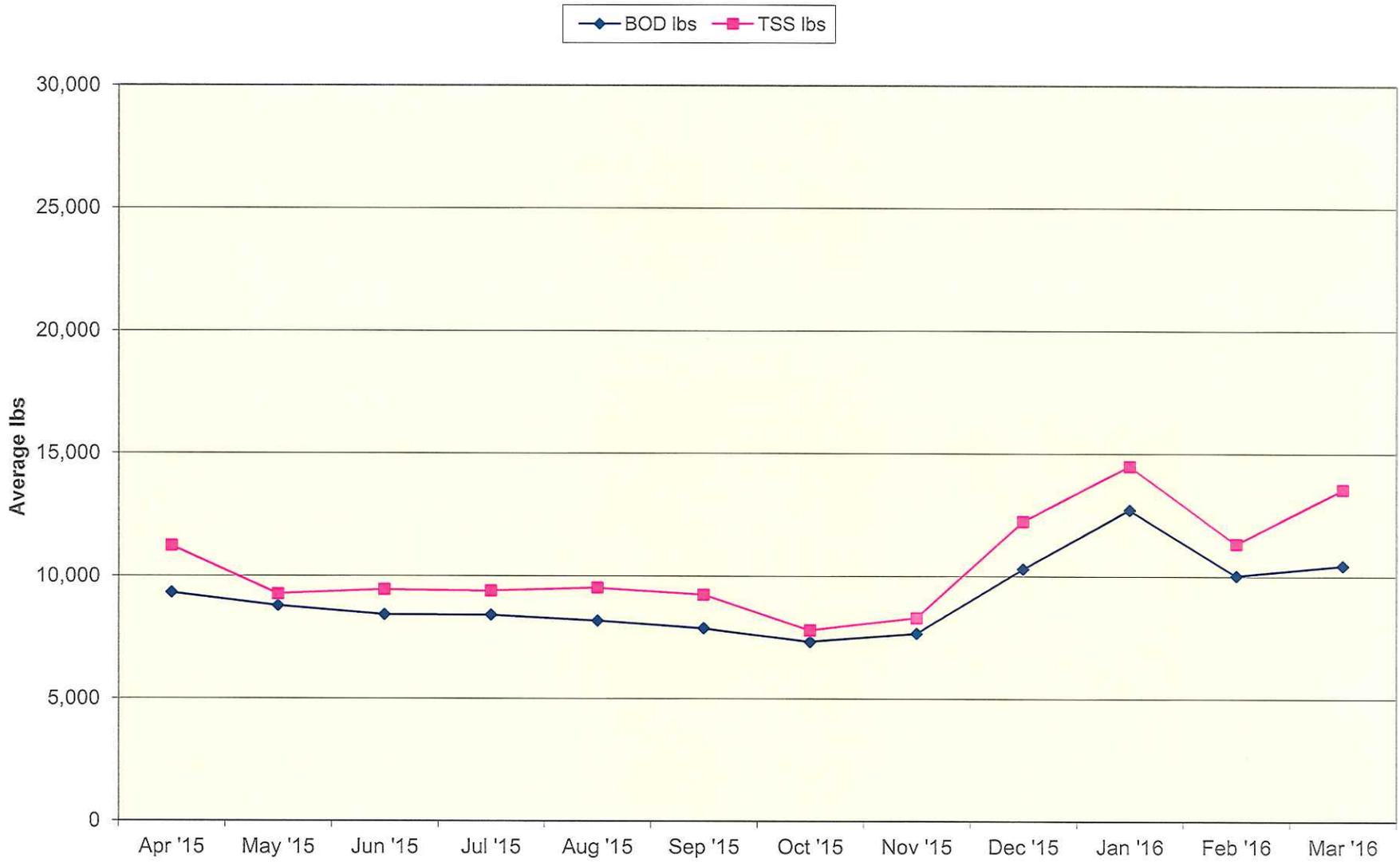
***Note: No Recycled Water production in March 2016, therefore no report/data.***

# ***ANNUAL COMPLIANCE SUMMARY – GRAPHS***

## WASTEWATER INFLUENT FLOW COMPARISON



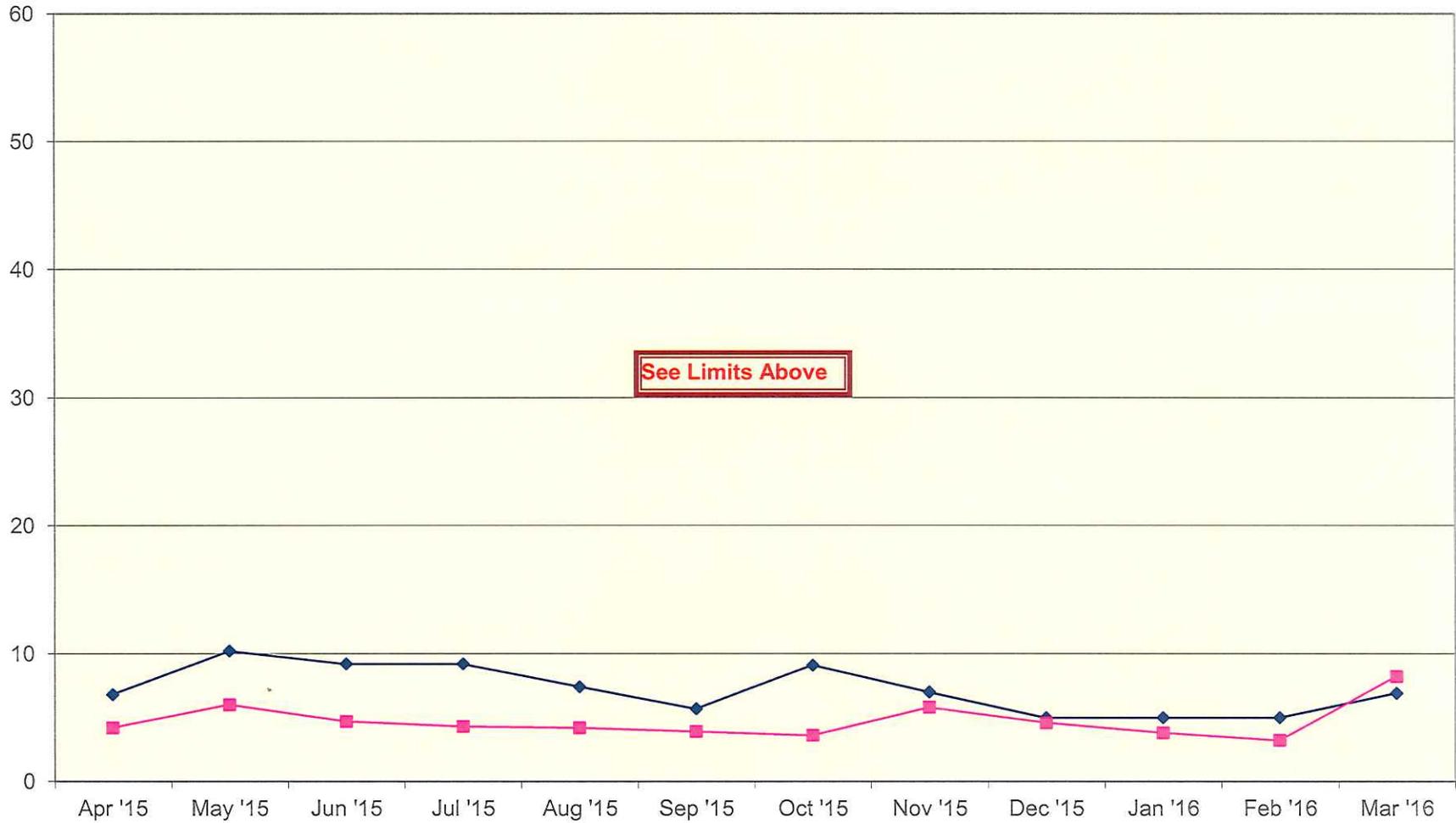
### Influent Load BOD / TSS lbs



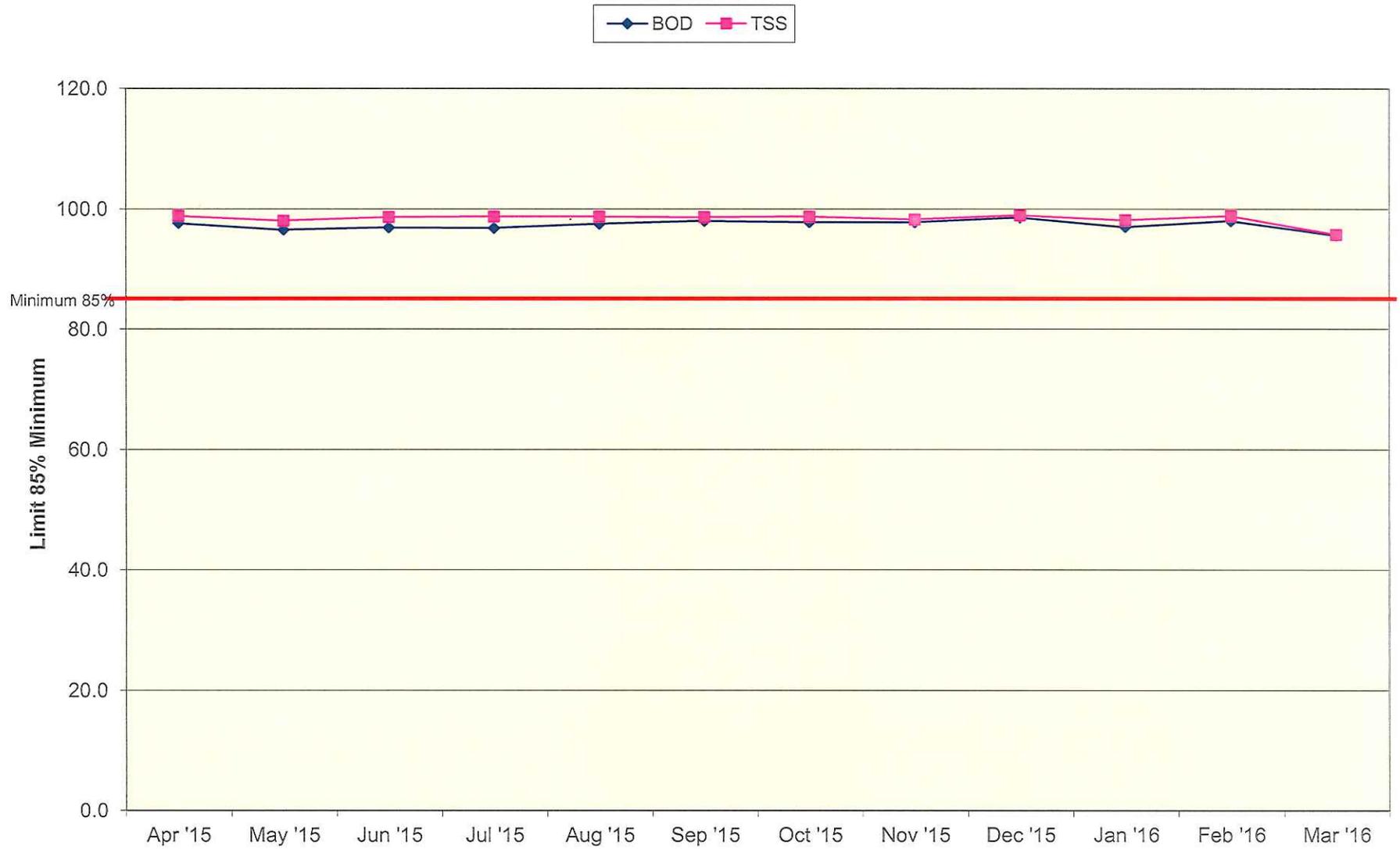
# Effluent BOD / TSS Concentration

**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

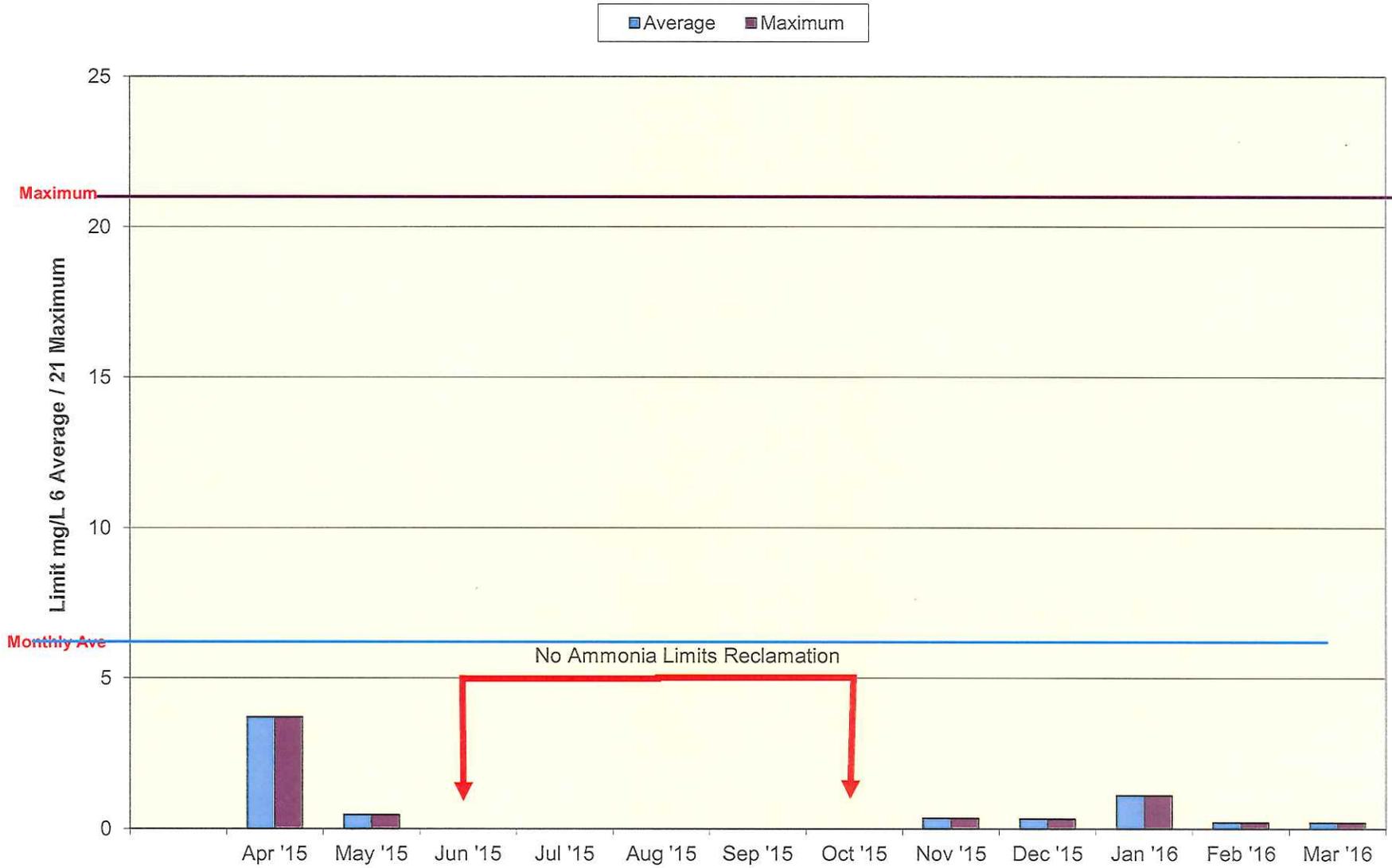
◆ BOD ■ TSS



### BOD / TSS Percent Removal

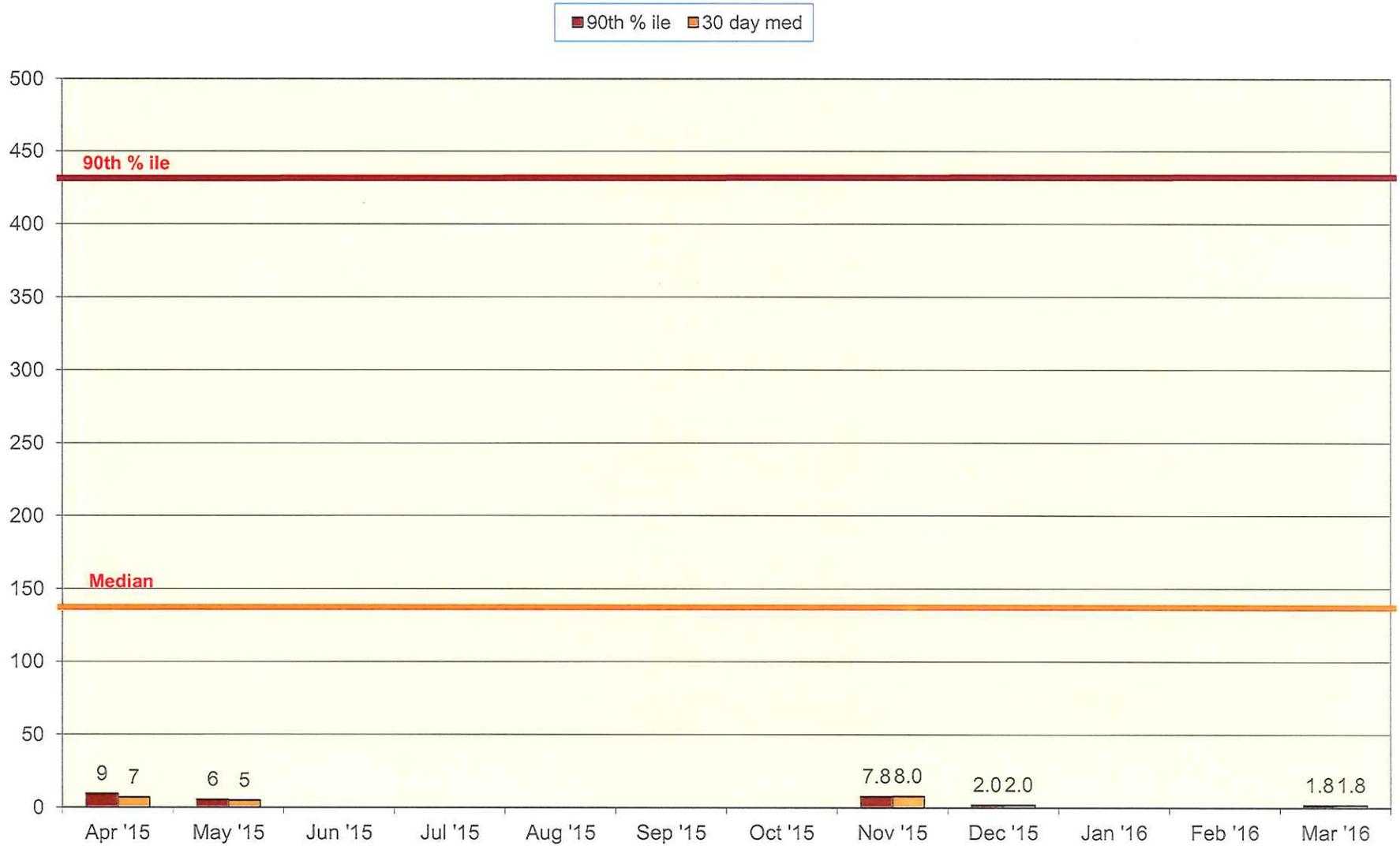


# Effluent Ammonia



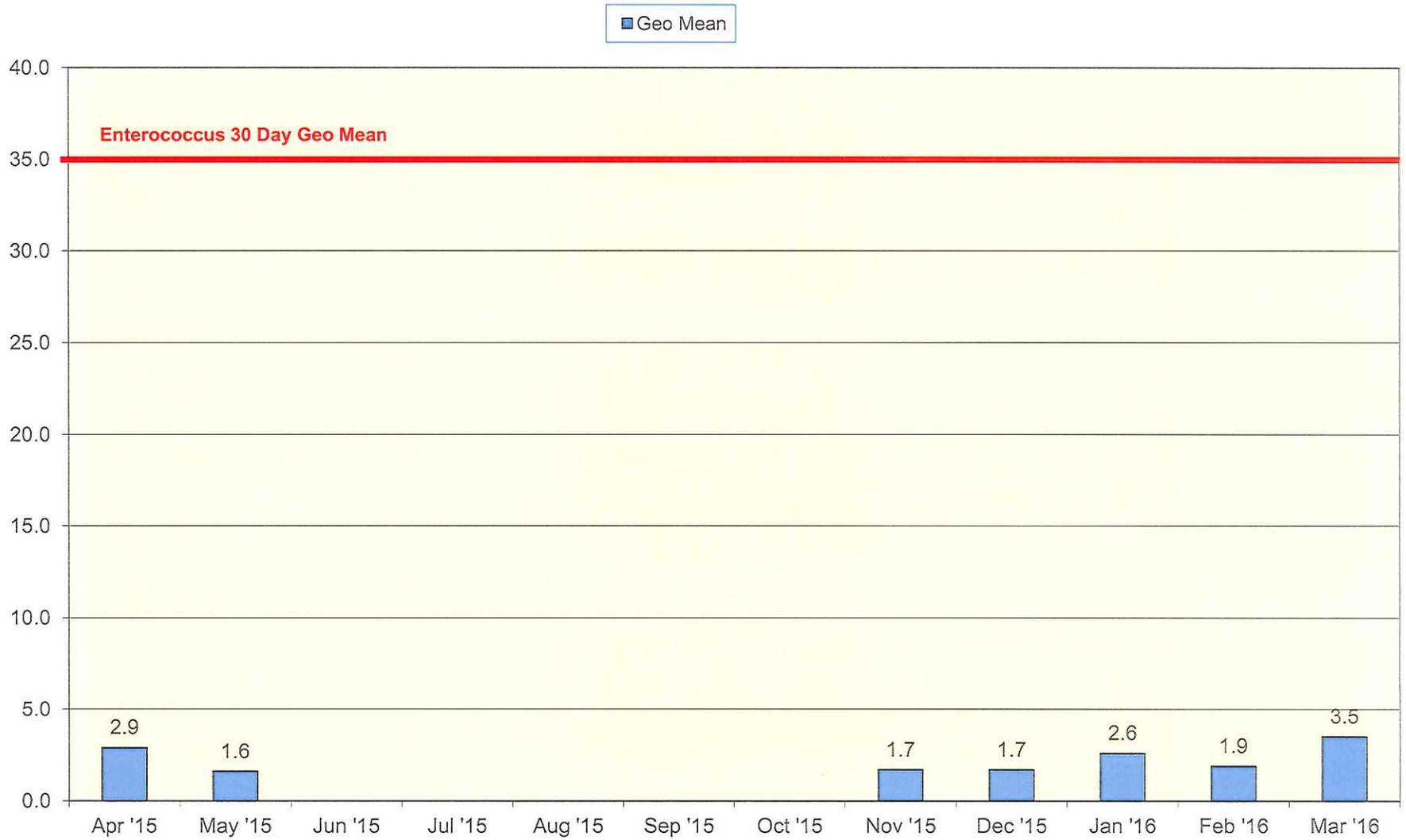
# Disinfection - Fecal Coliform

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



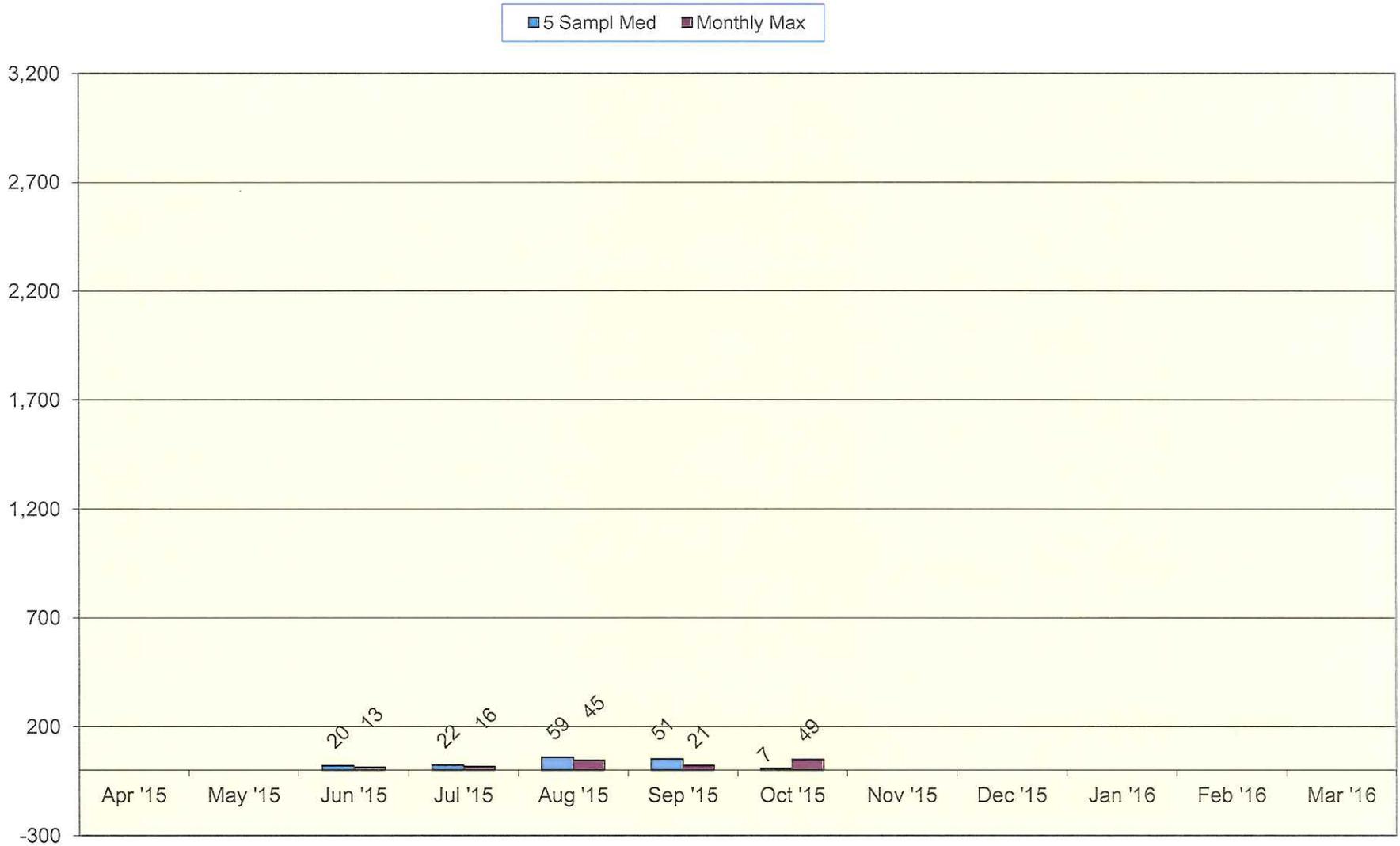
# Disinfection - Enterococcus

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

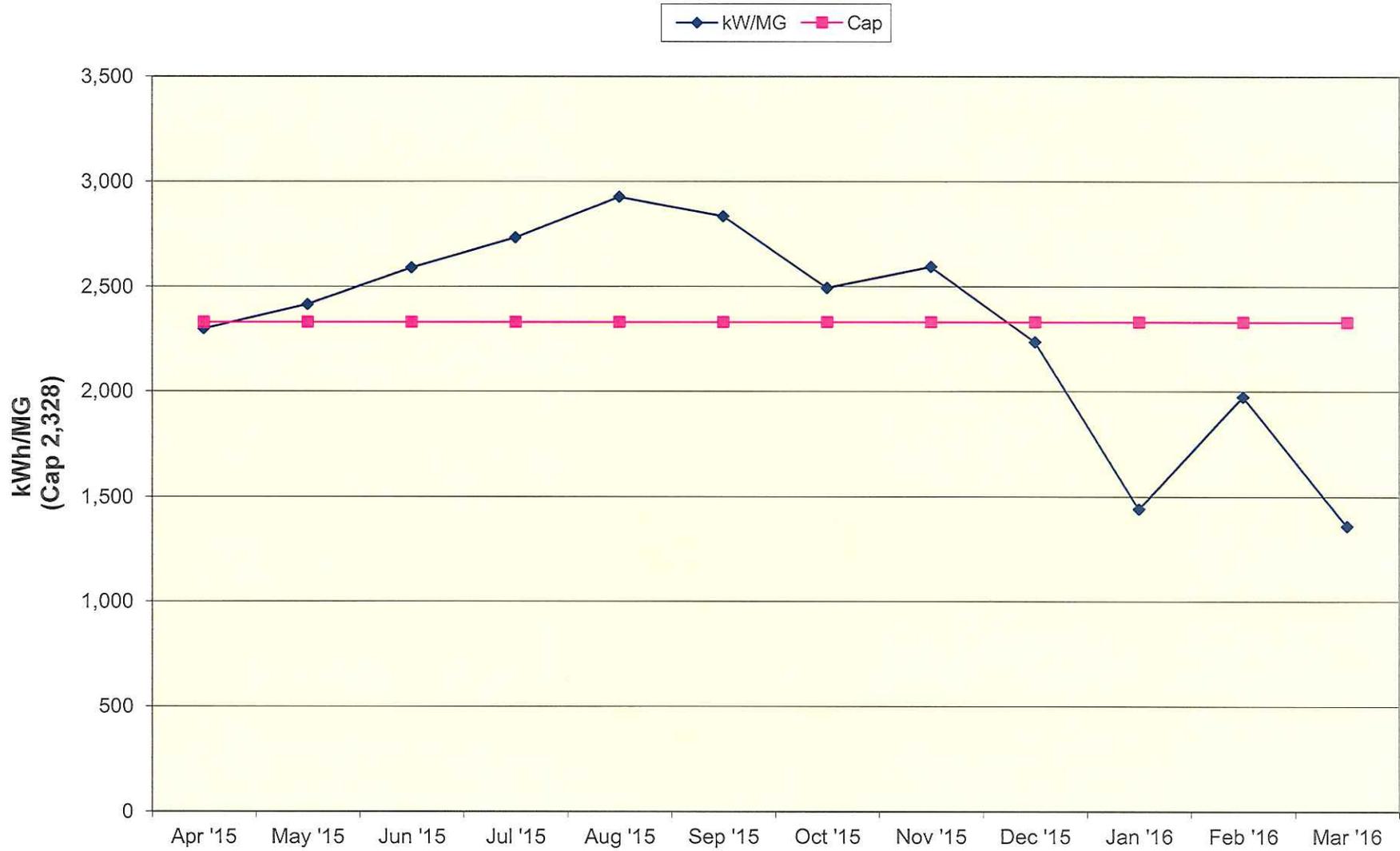


# Disinfection - Total Coliform

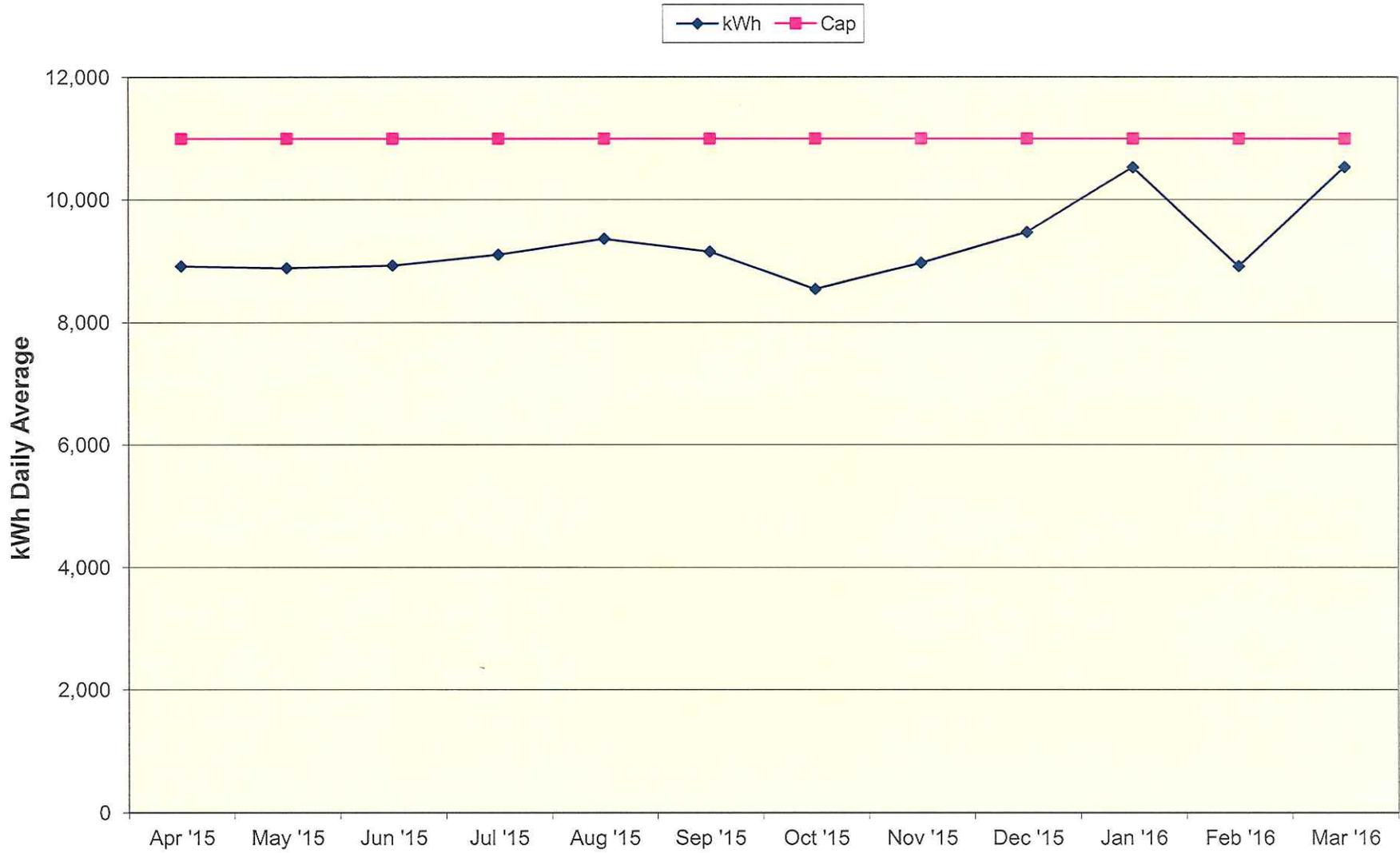
**TOTAL COLIFORM LIMITS - WDR**  
 5 Sample Median - 240 mpn /100 ml  
 Maximum - 10,000 mpn/100 ml



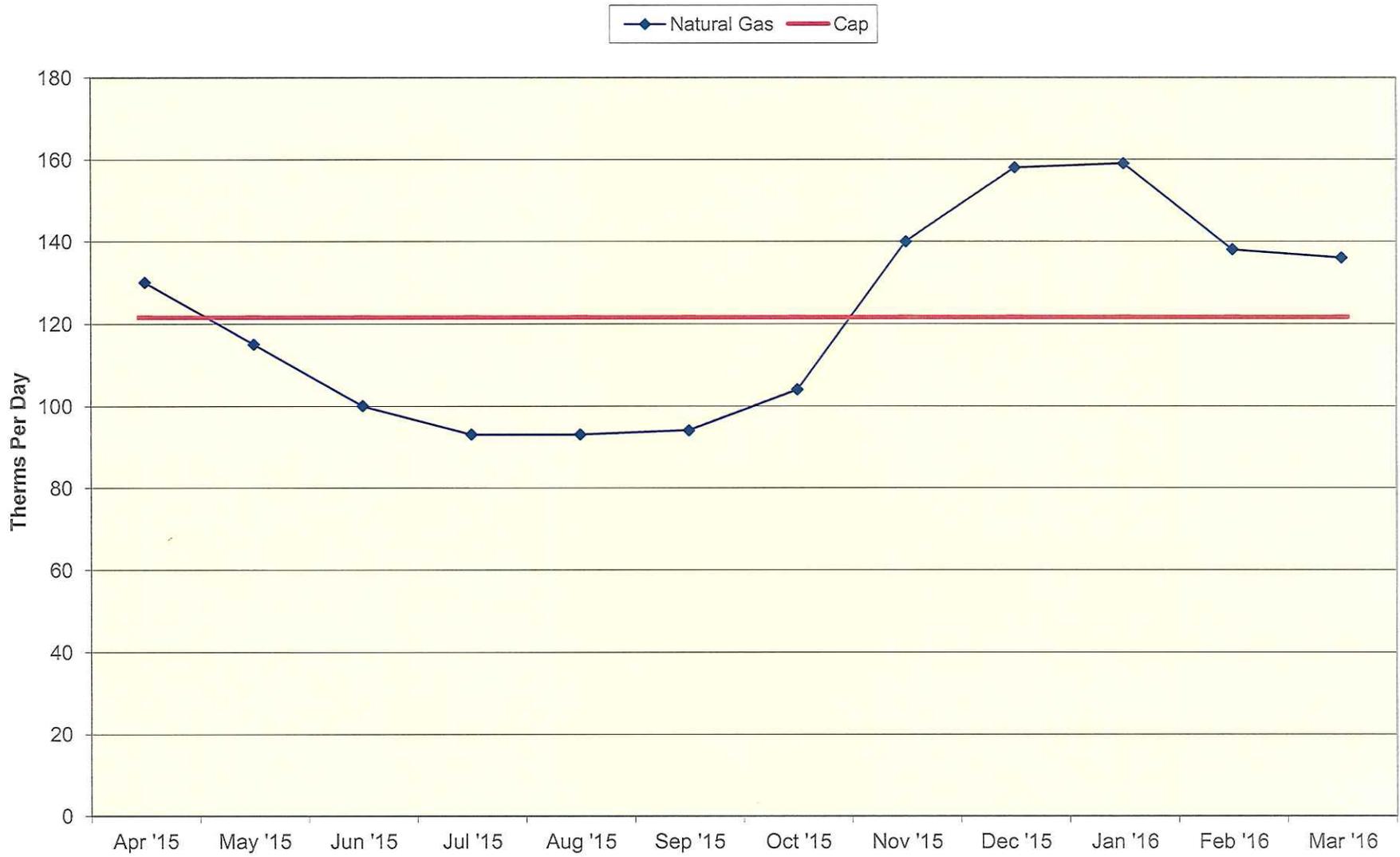
# Energy kWh/MG



# Energy kWh

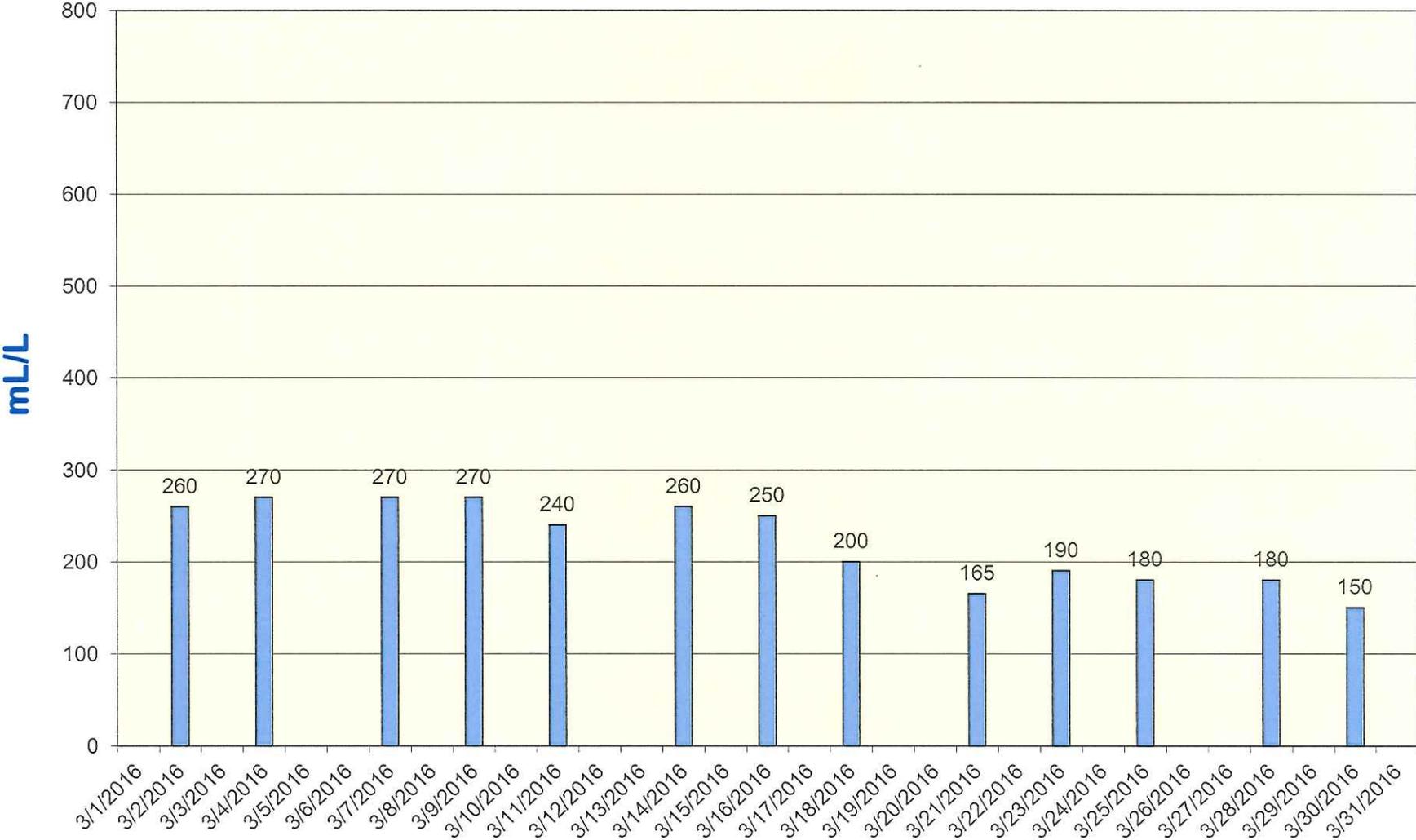


### Natural Gas Use

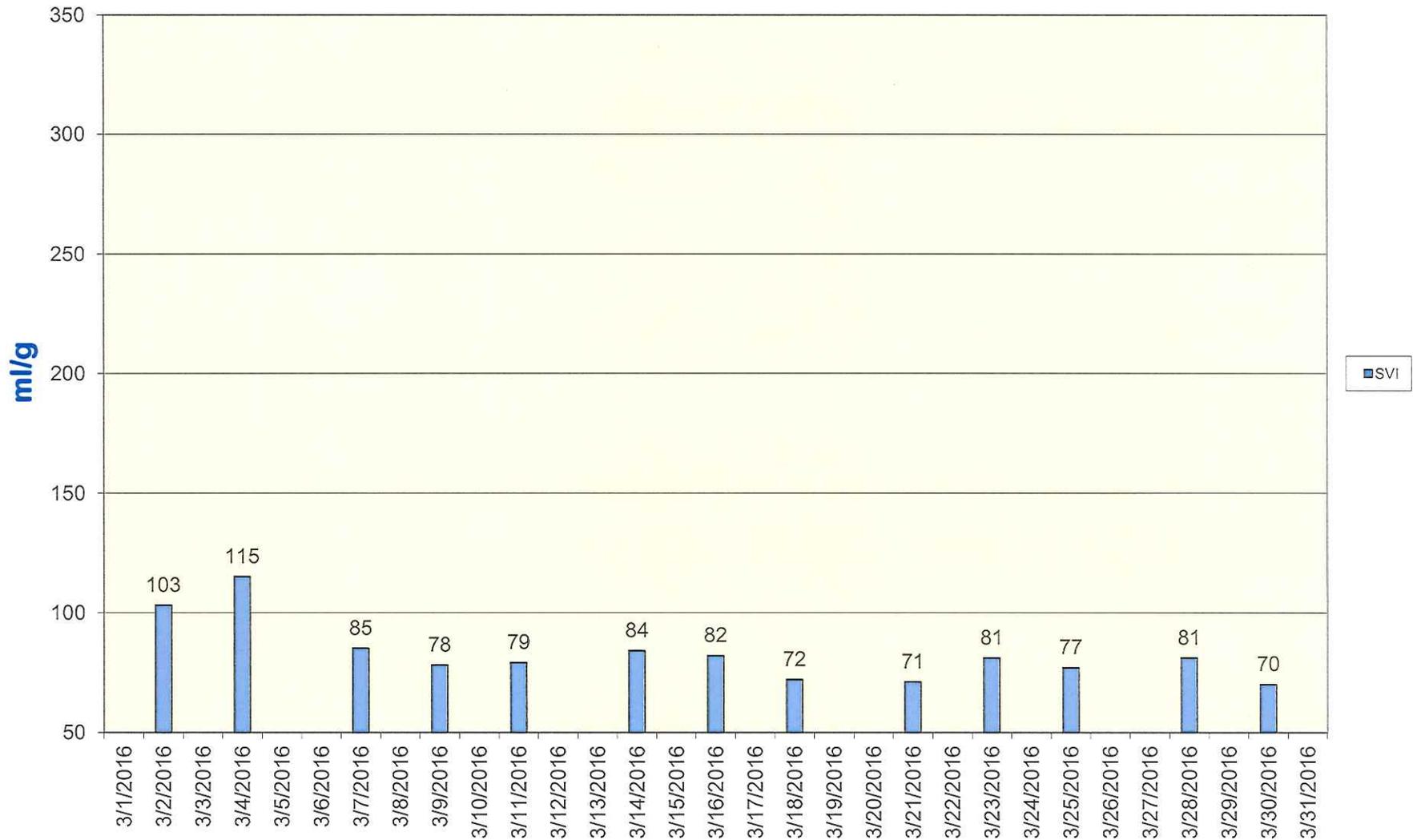


# ***PROCESS CONTROL DATA / GRAPHS***

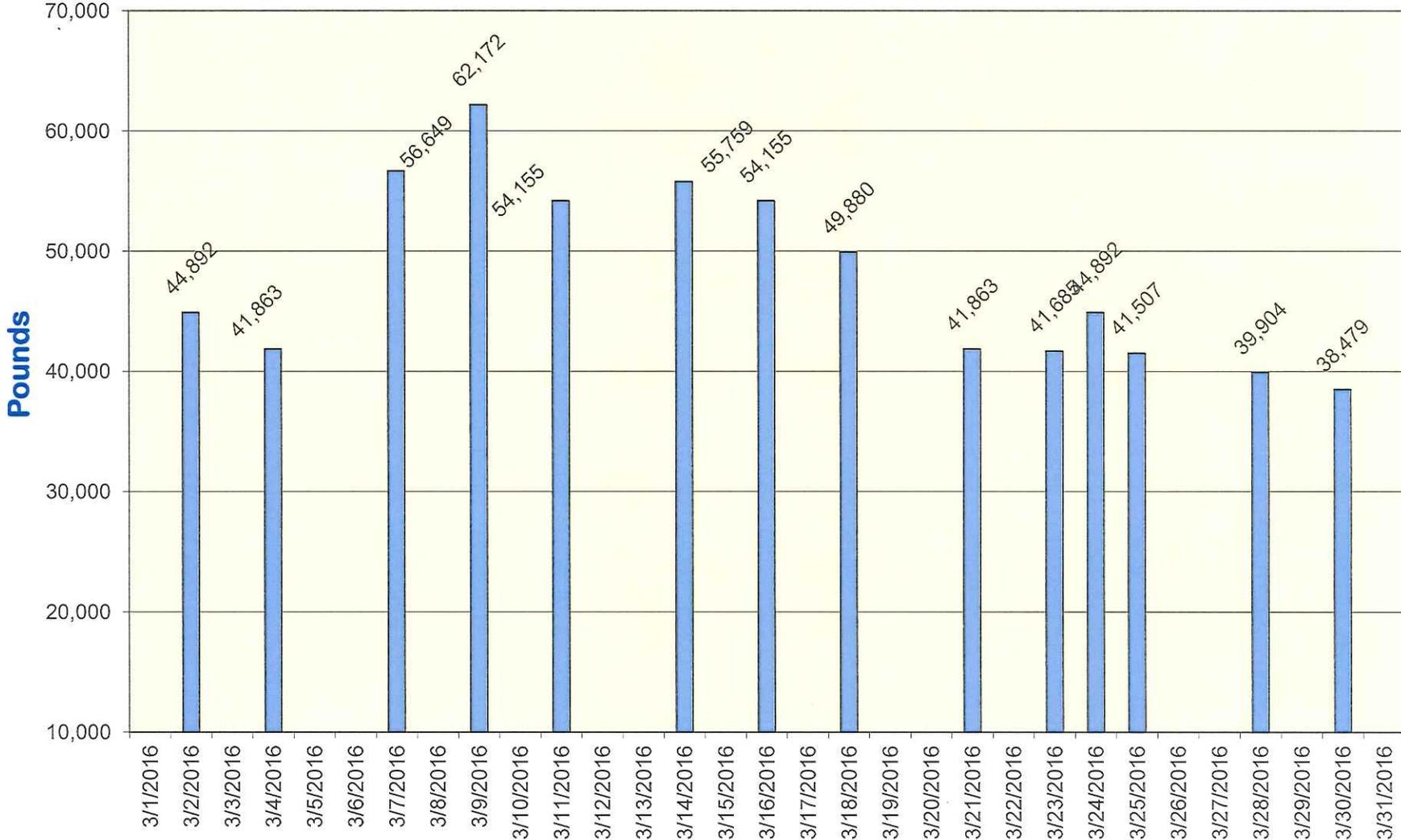
# Settleability



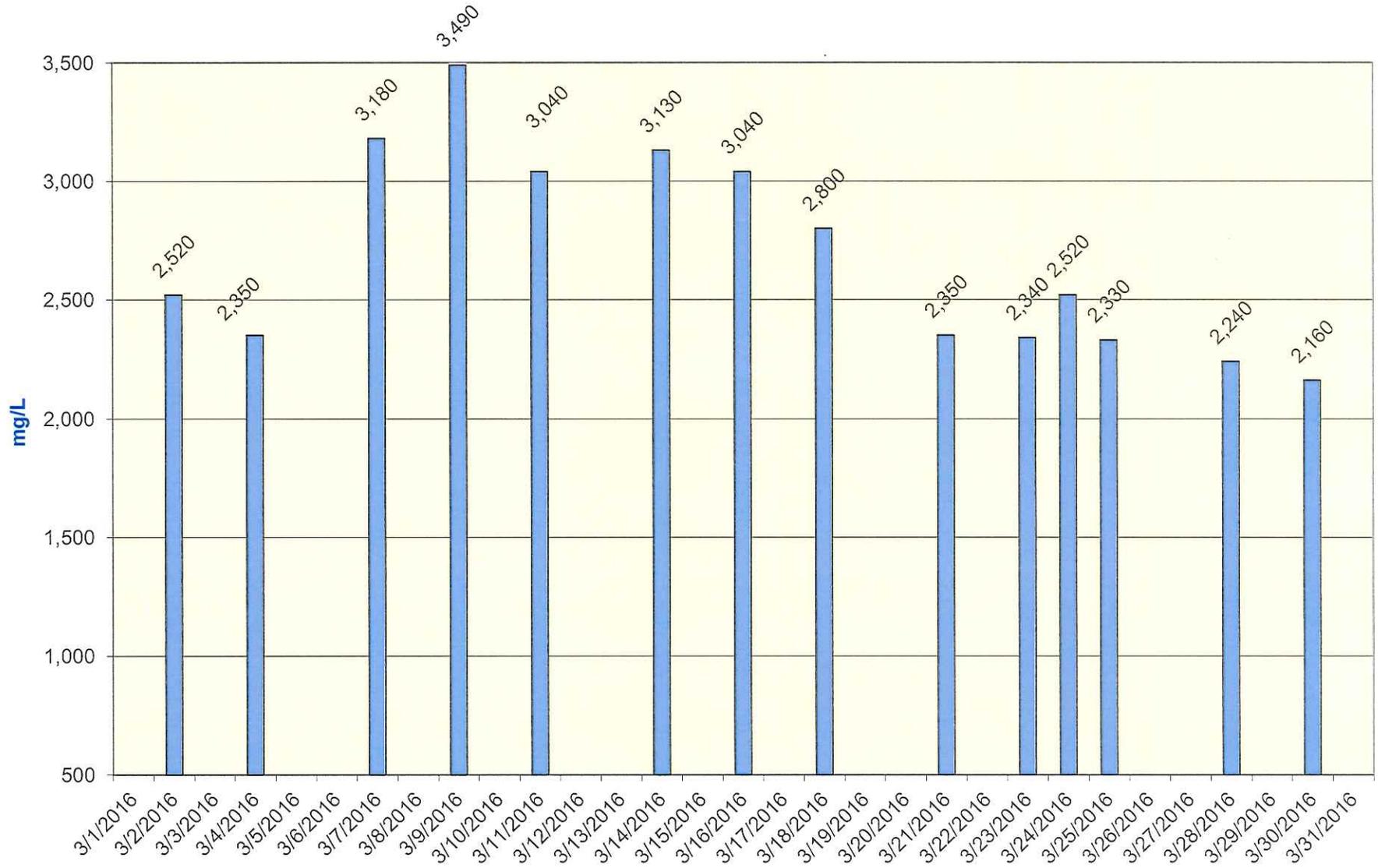
## Sludge Volume Index



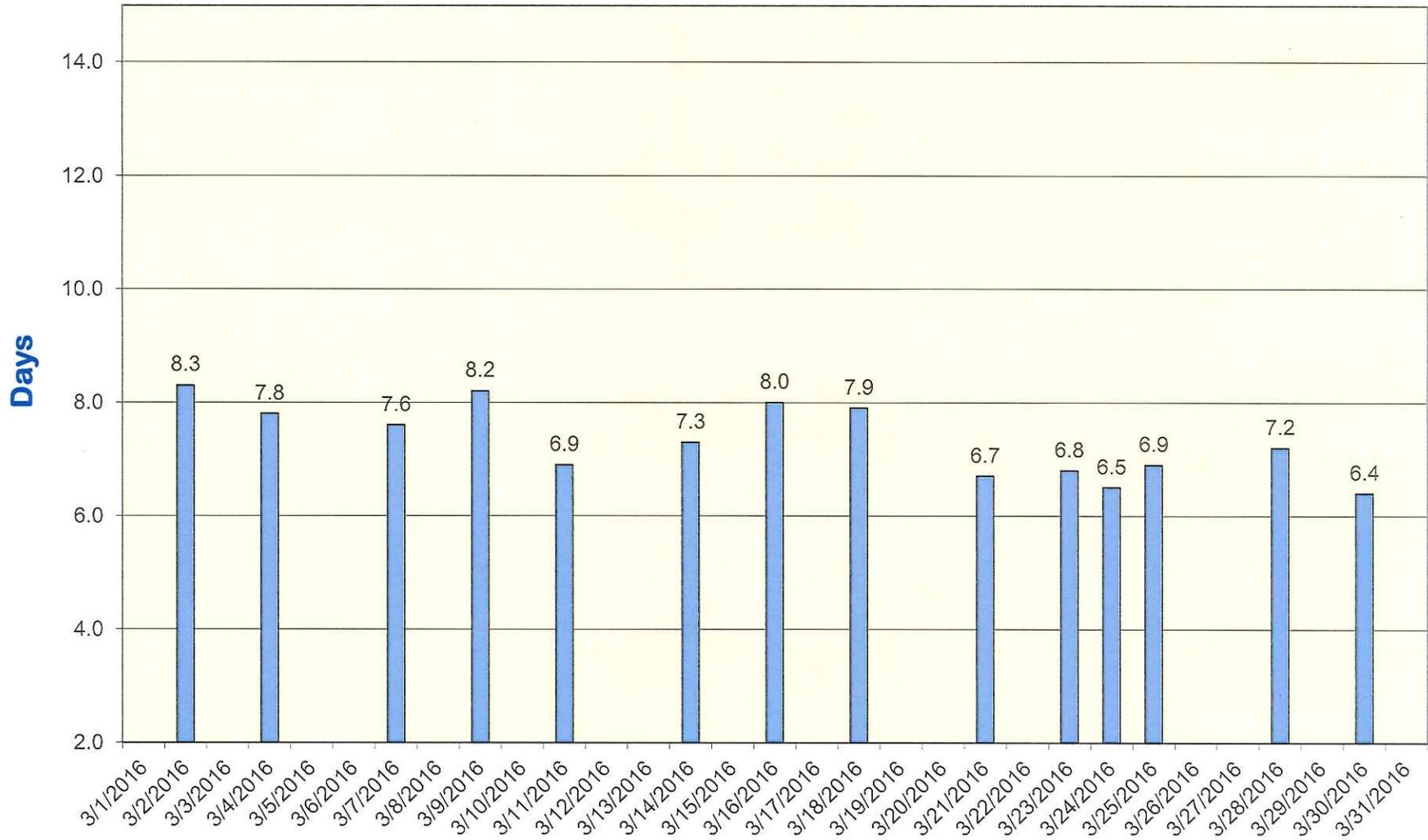
# MLSS Inventory



### MLSS Concentration

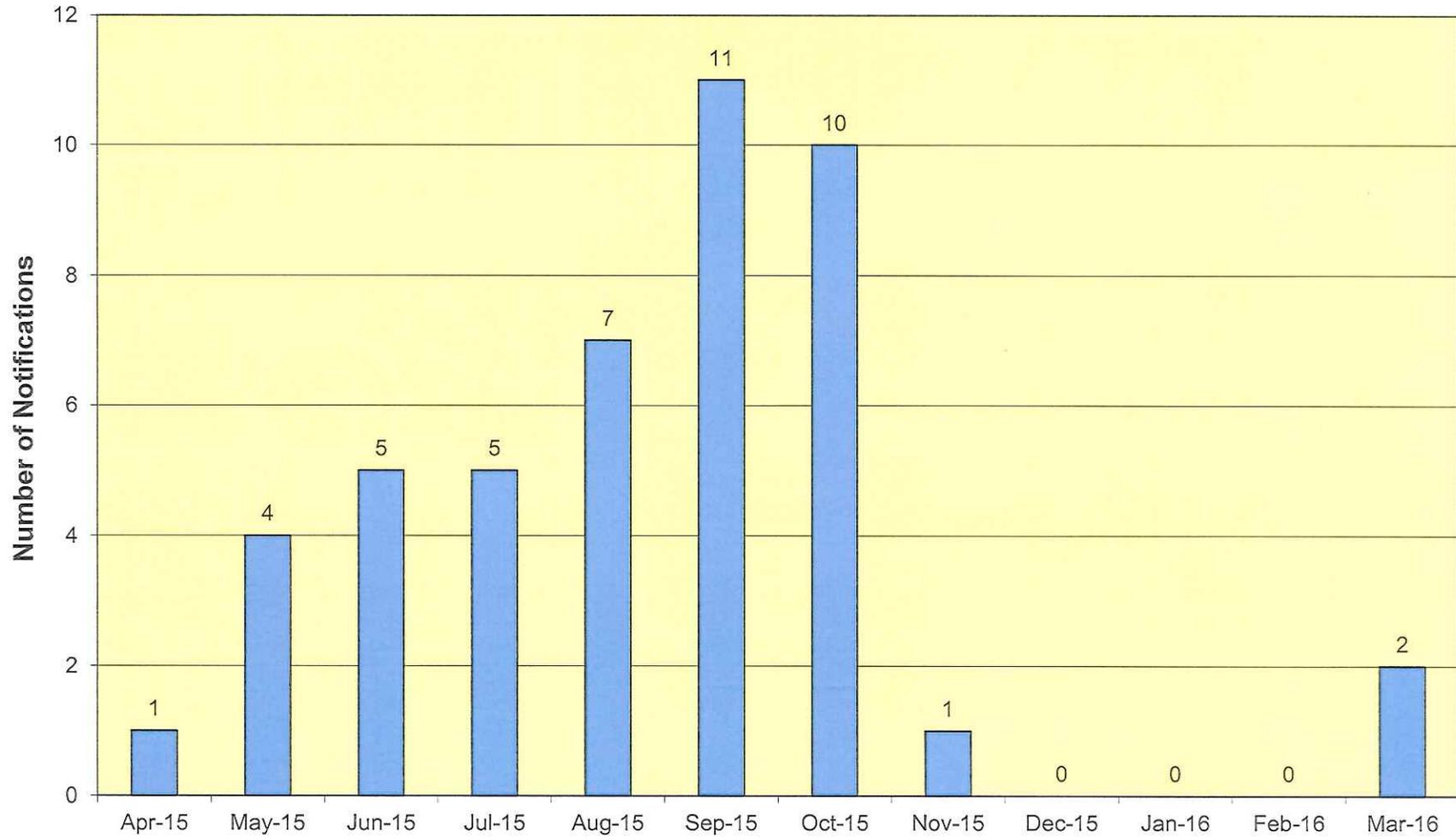


## Mean Cell Residence Time



***NEIGHBORHOOD CONTACTS***

## Neighborhood Contacts Received

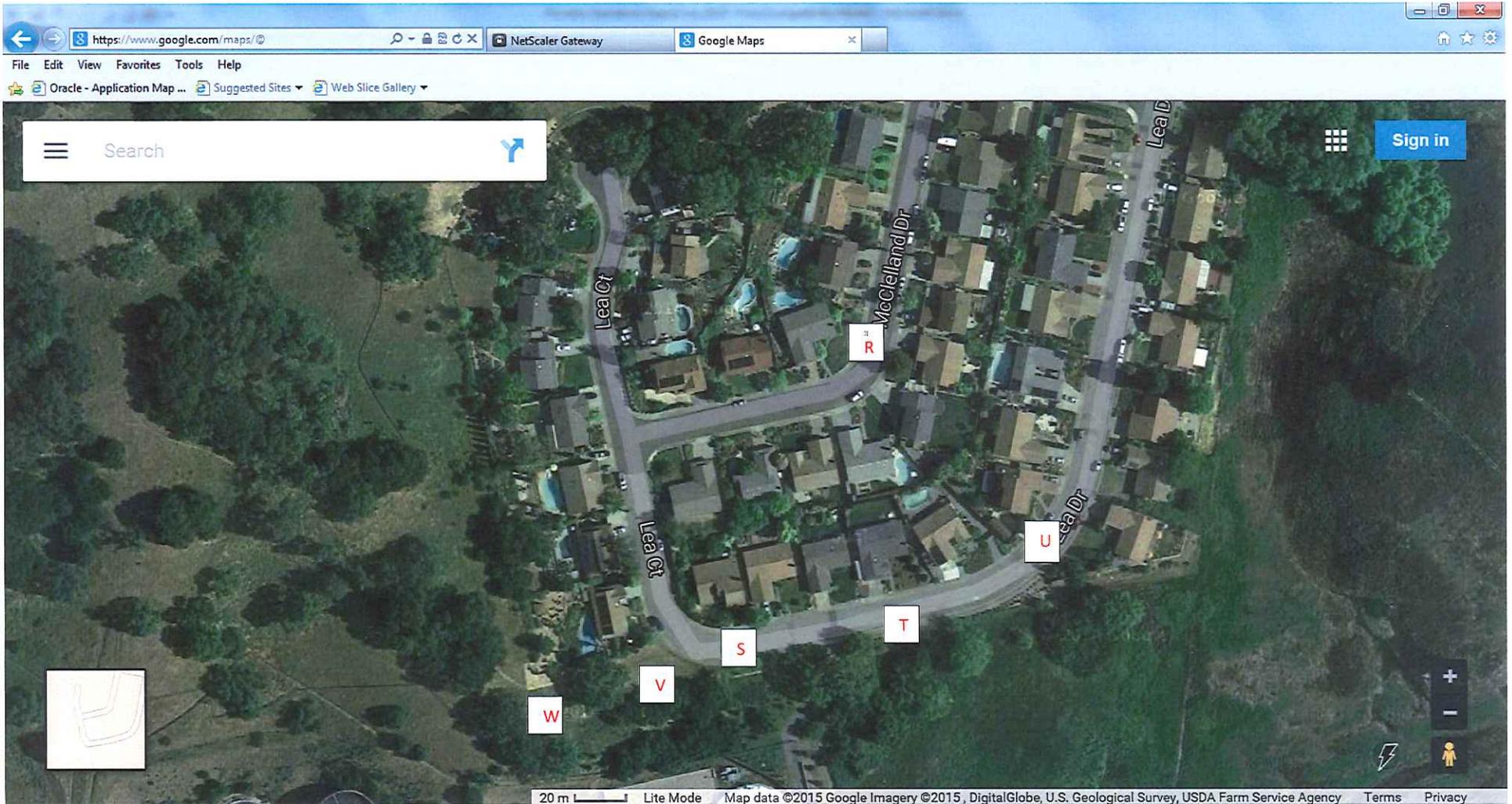


# ***JEROME METER READINGS & LOCATIONS***

JEROME METER READINGS - MARCH 2016

Sample Location	Min	Max	Ave	NOTES / COMMENTS
A: Influent Pump Station	0.000	0.019	0.003	
B: Septage Dumpster	0.000	0.019	0.004	
C: Primary Clarifier #1 Odor Bed	0.000	0.030	0.005	
D: Primary Clarifier #1	0.000	0.073	0.019	
E: Headworks	0.000	0.001	0.000	
F: Primary Clarifier #2 Odor Bed West	0.000	0.027	0.004	
G: Primary Clarifier #2 Odor Bed East	0.000	0.001	0.000	
H: Primary Clarifier #2	0.000	0.000	0.000	
I: Influent Odor Bed	0.000	0.003	0.001	
J: Behind Aeration Basins	0.000	0.003	0.001	
K: Between Aeration Basins 3 & 4	0.000	0.003	0.001	
L: Between Aeration Basins 1 & 2	0.000	0.002	0.000	
M: Digester Odor Bed	0.000	0.002	0.000	
N: Digester #2	0.000	0.005	0.001	
O: Flare Stack	0.000	0.003	0.001	
P: Digested Sludge Transfer Pit	0.000	0.003	0.000	
Q: Digester #1	0.000	0.071	0.014	
R: McLelland	0.000	0.002	0.000	Neighborhood
S: Lea 1	0.000	0.001	0.000	Neighborhood
T: Lea 2	0.000	0.002	0.000	Neighborhood
U: Lea 3	0.000	0.001	0.000	Neighborhood
V: Lea 4	0.000	0.001	0.000	Neighborhood
W: Lea 5	0.000	0.000	0.000	Neighborhood

# NEIGHBORHOOD JEROME METER LOCATIONS – LEA AND McCLELLAND



WEEKLY NEIGHBOR CONTACT LOG															
February 29, 2016	February 29, 2016 - March 6, 2016														
NEIGHBOR	Mon	29-Feb	Tue	1-Mar	Wed	2-Mar	Thu	3-Mar	Fri	4-Mar	Sat	5-Mar	Sun	6-Mar	Notes
	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time		
Neighbor #1															
Neighbor #2			8	8	18:30										Notified by email - below
Neighbor #3															
Neighbor #4															
Total															

Legend

Description	
Aeration Basins	1
Raw Sewage	2
H2S	3
Aeration + Sewage	4
Aeration, Sewage, H2S	5
Sewage + H2S	6
Other (see notes)	7
Not Specified / Unknown	8
<b>Intensity</b>	
Mild Intermittent	1
Mild Persistent	2
Moderate Intermittent	3
Moderate Persistent	4
Strong Intermittent	5
Strong Persistent	6
Other (see notes)	7
Not Specified / Unknown	8

Email rec'd 1857 hours, 3/2 - "Working on some fishing equipment in my garage all day (and listening to the first Giants game). Don't know if it is a wind shift due to the storm approaching but, it absolutely stinks outside right now, noticed it started at at 6:30 pm" - Follow up call with neighbor the following day, checked for unusual conditions, none noted.

WEEKLY NEIGHBOR CONTACT LOG													
March 28, 2016	March 28, 2016 - April 3, 2016												
NEIGHBOR	Mon 28-Mar	Tue 29-Mar	Wed 30-Mar	Thu 31-Mar	Fri 1-Apr	Sat 2-Apr	Sun 3-Apr						
	Time	Time	Time	Time	Time	Time	Time	Notes					
Neighbor #1													
Neighbor #2		1 5	15:15										Received call from neighbor
Neighbor #3													
Neighbor #4													
Total													

Legend	
Description	Neighbor complained about strong odor. I responded to his residence. Lynda Famery walked plant site. Nothing unusual noted. However there is a thick brown foam on aeration basins.
Aeration Basins	1
Raw Sewage	2
H2S	3
Aeration + Sewage	4
Aeration, Sewage, H2S	5
Sewage + H2S	6
Other (see notes)	7
Not Specified / Unknown	8
Intensity	
Mild Intermittent	1
Mild Persistent	2
Moderate Intermittent	3
Moderate Persistent	4
Strong Intermittent	5
Strong Persistent	6
Other (see notes)	7
Not Specified / Unknown	8

# NOVATO SANITARY DISTRICT

## Odor Control and Landscaping Report

### March 2016

#### 1.0 Background

As mentioned in prior reports, the District has invested significant amounts beyond the substantial initial investment for odor control and landscaping from the original WWTP Upgrade Project. These additional costs have included operational changes, actions related to further odor control measures, noise abatement, visual screening, wind shielding, and daily monitoring.

In addition, Veolia staff continues to maintain the on-going operation of the odor control facilities. Similarly, District staff continues to work on the landscaping, especially at the fence-line area next to the Lea Drive neighborhood, and at the northeast portion of the Novato Treatment Plant (NTP) site.

#### 2.0 Odor control

Activities related to maintenance of the odor control facilities in March included:

- Reports of odor contacts received from the neighborhood are presented in the Treatment Facilities Monthly Operations Report (MOR) from Veolia Water, presented earlier in this operations report package. Note: there were no odor-related contacts for February.
- Veolia operations staff monitored the performance of the recently installed Micro-Cool fogging system along the north fence-line in the northeast corner of the plant site. The system is performing well. Veolia staff replaced the system's pump under warranty in March.
- Operations staff continued to take additional Jerome meter readings in the neighborhood from a previous request by the Wastewater Operations Committee.
- Operations staff continued to monitor media in the large odor control bed between primary clarifiers #1 & #2. The media for this bed, as well as for all the other odor beds, was topped off last summer, and all seem to be functioning well. Additional media may be added to top off the beds this summer.
- Pre-chlorination: Sodium hypochlorite continues to be added as an oxidizer on an as-needed basis to the influent flow, with operations staff monitoring performance. Additionally, Veolia staff is requesting quotes for a new sodium hypochlorite tank at the Ignacio Transfer Pump Station.

#### 3.0 Landscaping

District staff continues to work with its landscaping contractor on as-needed basis on the landscaping and vegetation at the District's fence-line on Lea Drive, and at the northeast corner area of the NTP. A project to plant additional oleanders along a portion of the Lea Drive fence-line was completed in March.



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Figure 1: Completed Oleander Plantings

**Novato Sanitary District  
Wastewater Operations Committee meeting  
Collection System Operations Report  
March 2016**

**1.0 General:**

An equivalent of about six (6) full time employees (FTE) worked in the Collection System Department during the month of March. The breakdown of staff time for the month in terms of equivalent full-time employee hours utilized, works out approximately as follows:

- 1.7 FTE field workers for Sewer Maintenance (main line cleaning)
- 1.2 FTE field workers for Pump Station Maintenance
- 0.0 FTE field workers for Closed Circuit Television (CCTV) work
- 3.3 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, or special activities (for e.g. smoke testing of mainlines), and
- An equivalent of 1.6 FTE field workers for vacation, holiday or sick leave.

**2.0 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 brief discussion is also provided below.

Line Cleaning Performance:

A total of 348 work orders were generated for March by the ICOM3 Computerized Maintenance Management System (CMMS). Staff completed 348 work orders leaving zero (0) work orders outstanding. The 348 maintenance work orders completed in March resulted in 66,399 feet of sewer pipelines cleaned by staff.

CCTV Performance:

The District's CCTV van was not in the field in March and there no van related CCTV work. Hand-cam CCTV work totaled 456ft.

CCTV Findings:

- Infrastructure related: The March hand-cam CCTV work did not identify any areas that require spot repairs.
- O&M related: The March hand-cam CCTV work did not identify any areas that require a change in sewer line maintenance operations.

**3.0 Pump Station Maintenance:**

The Collection System Department conducted 213 lift station inspections this month. 89 of the inspection visits were generated through the District's JobsCal Plus CMMS system. There are 9 outstanding work orders for the month, 6 correctives and 3 preventives. A Collection Systems (Pump Stations) Work Order Statistics summary is attached.

**Novato Sanitary District  
Collection System Operations Report  
March 2016**

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**4.0 Air Relief/Vacuum Valves (ARVs):**

Staff completed maintenance inspections on 7 air relief/vacuum valves.

**5.0 Safety and Training:**

General:

Collection System staff attended 4 safety tailgate meetings.

Specialized training:

District staff attended a Claremont Employee Assistance Program presentation on stress management.

Safety performance:

There were no lost time accidents this month for a total of 1,845 accident free days since the last lost time accident.

**6.0 Minor Projects:**

Replaced 34 feet of 15" trunk sewer in an easement behind 65 Hamilton Drive. This work was completed because a 20-foot section, constructed of corrugated metal pipe, apparently failed and created a surcharged condition upstream. This failure may have also contributed to an overflow downstream inside a commercial building at 83 Hamilton Drive.

**7.0 Sanitary Sewer Overflows (SSOs):**

There were five SSO's in March, four Category 3 overflows and one Category 2 overflow as discussed below.

No.	Date	Location	Amount, gal	Cause/Probable Cause
1.	3/21/2016	83 Hamilton Drive	650	Pipe failure and/or surcharged condition due to bypass pump operation.

On Monday, March 21, 2016 at 8:14am, Dasse de longh, Collection System Superintendent received a call from Mark Wilson of Nute Engineering reporting that the worker (Miguel) operating the bypass pump on the Hamilton Trunk Sewer Project for the Michael Paul Company was observing sewage that had a muddy appearance coming down the line to the bypass pumping location. Mark confirmed that the level in the manhole was still well below the rim. Dasse called Aaron Hendricks, CSW II, who was working with Bob Stiles, CSW I, and directed them to respond to that location and check the upstream manholes for any irregular activity.

**Novato Sanitary District  
Collection System Operations Report  
March 2016**

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At 9:21am, Robin Merrill received a call from John Gleason of John's Plumbing requesting that Dasse call him as soon as possible. Dasse called John back at 9:23am. John asked if we had any work going on in the vicinity of 83 Hamilton Drive, and when he was informed of the trunk sewer project downstream of that address, he told Dasse that he had sewage on the floor at that address and requested that Dasse meet him there. Dasse asked John if sewage was actively coming into the building at that time and John said no. Dasse told John that he would meet him on site as soon as possible.

Dasse immediately contacted Aaron and Bob to inquire about their findings. They reported that the manholes inspected were surcharged above the shelf but that all manholes were well below the rims. Dasse informed them of the situation and directed them to meet him at 83 Hamilton Drive. At 9:35am Dasse informed Sandeep



**Location Map**

Karkal, General Manager-Chief Engineer, and Erik Brown, Technical Services Manager of a possible sewer backup into a business at 83 Hamilton Drive and proceeded to the site.

Dasse arrived on site at approximately 9:50am. Aaron and Bob were already there and Dasse confirmed with them that there were no full manholes upstream. Dasse then met with John Gleason as well as Kia Rashidi and Meherdad (Mo) Namiranian of MCC Building Maintenance, who had been called when the problem was discovered. Kia and Mo had already started to clean the flooring and carpets prior to the arrival of any District personnel. Dasse instructed them to keep track of how much water they collect with the extractor. Dasse once again confirmed that no sewage was actively entering the building before collecting further information about the event.

Dasse proceeded to take photos of the affected areas, as shown by Kia, before interviewing the first responders. While interviewing John, Kia and Mo, it was established that nobody had actually seen the overflow happening. The condition was reported to the maintenance company by employees arriving for work at 8:00am. It was reported that the last time anyone was in the building was at 6:00pm Saturday and that everything was normal. It was also reported that there are no automated processes in the building that would discharge any water while the tenants are not in the building.

Dasse directed Aaron and Bob to check the main out in the street while he called the District office. Dasse called Erik Brown to report his findings thus far. Erik informed Dasse that permit information indicated that, unlike any of the neighboring buildings, 83 Hamilton Drive has a lateral connection to the 15-inch trunk sewer in back of the building and that there should be a cleanout in front of the second bay. Dasse, Aaron

**Novato Sanitary District  
Collection System Operations Report  
March 2016**

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and Bob went around back to locate and inspect the cleanout. Upon locating the cleanout, Dasse carefully removed the 6-inch threaded plastic plug and found that there was no debris or any other sign of a previous stoppage.

Erik went to the site and met with Dasse. Dasse and Erik spoke with Kia and Mo who were, at that time, directing all cleanup activities. They stated that they had contacted the building owner, Ken Burger Jr., and that he would be by later that day. Erik asked Kia if he would be the primary contact for now and Kia said yes.

Dasse contacted Armando Allegría of the Marin County Environmental Health Services at 11:23am and reported the overflow. Armando asked if the overflow was over one thousand gallons and if any of the businesses in the building were used for food processing and Dasse told him no. Armando thanked him for the call.



**Sewage on floor at 83 Hamilton Drive**

Later that day, while taking follow up photos, Dasse met Ken Burger Jr. and gave him the Customer Service Packet and stated that the District would be willing to take care of hiring a cleaning contractor and all of the cleanup responsibilities. He was appreciative of the response and stated that he would let his insurance company advise him. Later that day, Dasse observed that ServiceMaster had been called to the jobsite to take over the cleanup work from MCC Building Maintenance.

The spill volume was estimated at 650 gallons which was based on the 450 gallons recovered by MCC Building Maintenance and an estimated 200 gallons that soaked into the carpet or was otherwise not able to be recovered. The cause of the overflow is undetermined at this time.

This event was reported into the CIWQS database on March 30, 2016 as a Category III event, SSO Event ID # 823512 and was certified in CIWQS on April 13, 2016, Certification ID # 935944.

<b>No.</b>	<b>Date</b>	<b>Location</b>	<b>Amount, gal</b>	<b>Cause/Probable Cause</b>
2.	3/23/2016	83 Hamilton Drive	40	Surcharged conditions

On Wednesday, March 23, 2016 at 9:13am, Dasse de longh, Collection System Superintendent received a call from the owner of the commercial office building at 83 Hamilton Drive stating that one of his tenants, Mark Schmidt, called him to report water coming out of the cleanout in the parking lot behind the building. At 9:15am Dasse

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called PJ Siragusa, CSW I, who was at the pass pump located just south of 83 Hamilton Drive to confirm that the discharge manhole for the bypass operation was well below the rim and to respond immediately to 83 Hamilton Drive to investigate. At 9:18am Dasse called Miguel of the Michael Paul Company (MPC) who was operating another bypass pump operation downstream of the building to confirm that the manhole at that location was well below the rim and that the pump was functioning properly. Miguel acknowledged the system was working normally so Dasse continued on his way to the overflow site.



**Location Map**

PJ arrived at the overflow site at approximately 9:17am. He called Dasse to report that no water was actively escaping the cleanout but that there was water on the pavement surrounding the cleanout. When Dasse arrived on site, PJ reported that he had seen water surge up, approximately two feet out of the cleanout and immediately return back into it. The residual left a wetted area of the asphalt that dissipated within six feet of the cleanout. Dasse had previously removed the six-inch threaded plug covering the cleanout, as a precaution to protect the building interior, after an overflow into the building occurred the previous Monday. Installing the plug would put the building at risk again so Dasse called Joe Moreno, CSW I, who was at the upstream bypass pumping operation and directed him to lower the rpm of the pump. The cleanout was monitored for several cycles of the bypass pump and no further discharges were observed. The affected area was coned off for safety.



**Temporary standpipe**

Dasse left the overflow site and inspected both bypass pump operations. All manhole levels were well below grade and all appeared normal. Upon returning to the cleanout, Dasse could see evidence of another surge. Dasse suspected that occasionally, when the bypass pump upstream starts up in automatic mode it causes the discharge. He suspected that air was being trapped in the sewer pipe between the two bypass pumping operations and occasionally forced sewage back up the lateral and out of the cleanout. He called Joe and directed him to run the bypass pump in manual mode at low rpm to avoid potential problems when the

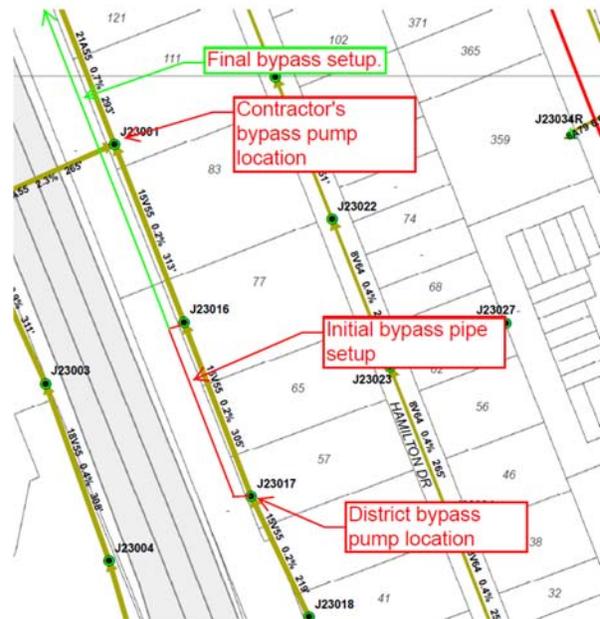
**Novato Sanitary District  
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pump stops and restarts, and that he was to stay and monitor the pump operation to avoid further discharges.

Dasse spoke with Mark Schmidt, who first reported the surging, and asked if the District could put up barricades that would block one of his company's bay doors. Mark was very cooperative and had the company van moved so that Dasse could do so.

Dasse left the site to get the barricades and an eight-foot length of 6 inch PVC pipe. When he returned, the asphalt was dry, indicating no more discharges. As a precaution, Dasse used a rubber coupling to attach the length of PVC pipe to the cleanout to act as an air relief. There were no more discharges that day. The PVC riser was left in place overnight. Staff estimates that no more than fifteen gallons escaped the cleanout on Wednesday. This was determined by the size of the footprint of the stain and staff as well as reporting party observations.



**Pump & bypass pipe locations**

Dasse checked the site first thing Thursday morning and all was dry. Later that morning, after several previous checks, Dasse again saw a small amount of water on the ground around the PVC riser. Dasse put a cone on top of the riser to prevent any spray from escaping. Subsequent checks showed no discharges until later in the afternoon, Dasse found the cone off of the riser and water around the cleanout.

At the end of the work day MPC restored gravity flow at their jobsite which relieved any surcharge. The riser was once again left in place as a precaution. Staff estimated that a total of no more than fifteen gallons escaped on Thursday.

Friday morning, Dasse checked the site several times before removing the riser from the cleanout. The threaded plug was left off, but the metal cover over the cleanout was put back in place. The barricades were left in place as a precaution. Later that morning Mark Schmidt called Dasse again to report that there was water around the cleanout. Dasse found out that the Michael Paul Company had resumed bypass pumping, and that bypass pumping may be necessary Monday also. Dasse called Joe and resumed manual operation of the bypass pump.

Dasse determined that if the District's bypass system was extended downstream beyond MPC's the surges out of the cleanout would cease. Dasse contacted Erik Brown, Technical Services Manager and informed him that he was going to call for another 900 feet of pipe to bypass 83 Hamilton Drive and the entire MPC jobsite. Erik agreed and at 11:30am Dasse called Rain for Rent and requested 900 feet of pipe to

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extend the current bypass pumping operation. Dasse was advised that they were short staffed due to another emergency job, but they would send who was available.

At approximately 2:30pm the pipe was delivered. Larry Foged, CSW II, Bob Stiles, CSW I, Joe and Dasse assisted the Rain for Rent crew and had the extended pipeline operational by 5:00pm. Staff estimates that a total of no more than ten gallons escaped from the cleanout on Friday.

The total spill volume for the three days was estimated to be forty gallons. This overflow was determined to be a Category III event because it was low in volume and did not reach a storm drain or waterway.

This event was reported into the CIWQS database on March 30, 2016 as a Category III event, SSO Event ID # 823529 and was certified in CIWQS on April 13, 2016, Certification ID # 871962.

No.	Date	Location	Amount, gal	Cause/Probable Cause
3.	3/29/2016	83 Hamilton Drive	378	Contractor plugged sewer downstream

On Tuesday, March 29, 2016 at 1:46pm, Dasse de longh, Collection System Superintendent received a call from, Mark Schmidt, a business owner and tenant of the commercial office building at 83 Hamilton Drive stating that sewage was coming out of a cleanout in front of the building. Dasse told Mark that if it was coming out of that cleanout, then it was probably coming out in the bathrooms that were under repair also. Mark checked, and it was. Dasse advised Mark that, on Friday, a bypass pumping operation was extended to divert all upstream flow entirely around the building and the jobsite below. Dasse inquired if the restrooms were in use when the discharge was occurring. Mark said nobody was using the restrooms and water was still escaping. Dasse notified Steve Krauthem, Field Services Manager of the situation and proceeded immediately with Javier Vega, CSW III, to the site.



Location Map

Dasse and Javier arrived on site at 1:55pm and the cleanout was not overflowing but there was evidence that it had made it to a private storm drain in the parking lot. Dasse carefully removed the metal cover of the cleanout and saw that the cleanout was empty. Javier began tracking how far the flow had gotten in the storm drain.

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Collection System Operations Report  
March 2016**

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Dasse saw Kevin Craig, Construction Inspector, waving him over to a nearby fence and also noticed a Roto-Rooter hydro-flusher that was working on an upstream repair job vacuuming water out of the manhole immediately upstream from his location. Earlier, Steve had been talking to Kevin on the phone when Dasse received the call from Mark Schmidt reporting the overflowing cleanout and Steve directed Kevin to direct Roto-Rooter to move to the nearest manhole and vacuum water out of the manhole to reduce the overflow.

Steve then made a call to Mark Wilson of Nute Engineering, the project manager/ inspector on the District's Hamilton Trunk Sewer Rehabilitation Project just downstream of 83 Hamilton Drive and asked if the contractor had a plug in the sewer main. After checking with the contractor, it was discovered that the contractor installed a plug on the upstream side of the manhole they were working in without monitoring the upstream manhole. Steve told Mark to direct the contractor to remove the plug as soon as possible.



**Spill limits in parking lot**

All sewage was being bypassed around an upstream repair work as well as a portion of the Hamilton Trunk Sewer Rehabilitation Project. However, groundwater accumulating in the trench from the repair project upstream was being pumped into the bypassed line segment. When the plug was installed, the groundwater had nowhere to go and when the line segment filled up, it escaped at the lowest point, 83 Hamilton Drive.

As previously mentioned the sewage coming out of the cleanout at the rear of the building entered a private storm drain system. Javier Vega checked the storm drain system downstream and found that the sewage never made it to the City of Novato's storm drain in Hamilton Drive. Staff flushed the affected segment of storm drain with chlorinated water and recovered all of the water with a hydro-flusher truck. Staff cleaned all affected areas in front of and behind the building. The building owner called ServiceMaster to clean and disinfect the restrooms.

The initial determination was that this was a Category III event because the volume was under one thousand gallons, the flow that reached a storm drain was recovered and did not reach a natural waterway or waters of the state.

The groundwater pumping at the upstream was redirected upstream to the District's bypass pumping operation. The contractor on the Hamilton Trunk Sewer Project was directed to monitor upstream manholes whenever a plug is installed.

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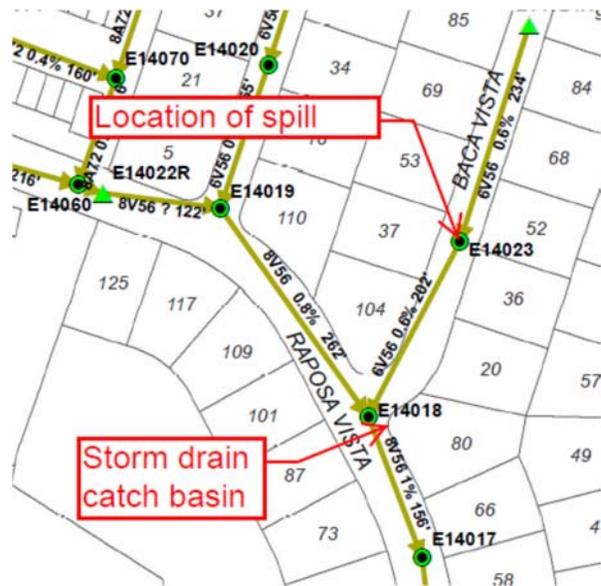
Staff estimated an overflow volume of 378 gallons based on volumetric calculations of the affected areas, staff as well as reporting party observations. Staff estimated that 28 gallons entered the two restrooms under repair and 350 gallons escaped from two cleanouts on the property. Of the 350 gallons, an estimated 200 gallons reached a storm drain in the parking lot which was contained on the property and recovered. Another 50 gallons returned into the cleanouts and floor drains when the level in the system dropped. An estimated 100 gallons went to pavement in front of and behind the building.

This event was reported into the CIWQS database on April 1, 2016 as a Category III event, SSO Event ID # 823554 and was certified in CIWQS on April 13, 2016, Certification ID # 802843.

No.	Date	Location	Amount, gal	Cause/Probable Cause
4.	3/31/2016	52 Baca Vista	30	Roots

On Thursday, March 31, 2016 at 8:50am, Julie Swoboda received a call from Katherine O’Connell who reported seeing sewage coming out of a manhole on Baca Vista. She stated that she had seen it coming out slowly about an hour before she called. Julie notified Dasse de longh, Collection System Superintendent and informed him of the overflow. At 8:52am, Dasse called Larry Foged, CSW II, Joe Moreno, CSW I and Aaron Hendricks, CSW II directing them to respond immediately to that location. Joe and Aaron were involved in a confined space entry of a pump station at the time and were immediately unavailable but would respond as soon as possible with a hydro-flusher truck. Dasse notified Steve Krauthem, Field Services Manager of the possible overflow before leaving the office to meet Larry at the overflow location with a hydro-flusher truck.

Larry arrived on site at the overflow manhole (E14023) at 9:07am. and observed a stained footprint of an overflow but no sewage actively escaping the manhole at the time. Aaron and Joe arrived at 9:08am with a hydro-flusher truck and Dasse arrived right behind them. Aaron and Joe set up to flush the line from the downstream manhole (E14018) and broke the stoppage at 9:10am. They reported roots and rags as the cause. There were only two line segments upstream of the stoppage, with approximately ten homes connected.



Location Map

**Novato Sanitary District  
Collection System Operations Report  
March 2016**

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Dasse observed a small amount of sewage had reached a storm drain catch basin and he proceeded to track the storm drain hoping to stop any sewage before it reached any flowing water in the storm drain downstream. The location of other storm drain structures was not immediately obvious so Dasse called Steve to request storm drain map information. After consulting with Steve, Dasse located the next accessible catch basin and observed that it did not have any water in it confirming that the flow had not gotten that far.

Dasse returned to the catch basin where the sewage entered the storm drain and inspected the storm drain pipe downstream of the catch basin. Dasse observed that the wet stain left by the sewage in the invert of the storm drain did not make it to the larger 30-inch storm drain across the street. Dasse instructed the crew to set up the hydro-flusher over the catch basin and flush the storm drain to draw any remaining sewage in the storm drain back to the catch basin and retrieve it with the vacuum on the truck. The crew also hosed and swept down the street and gutter and retrieved the water and debris at the catch basin with the vacuum. Staff estimated the spill volume to be no more than thirty gallons based on the spill footprint as well as staff and reporting party observations.



**Manhole was not overflowing when crews arrived on site.**

The initial determination was that this was a Category III event because it was low in volume and the flow that reached a storm drain was recovered and did not reach a natural waterway or waters of the state.

Follow up CCTV inspection revealed root intrusion at the location of the stoppage. This line segment was last cleaned using a hydro-flusher truck on April 2, 2015 and is on a 24-month frequency. The cleaning frequency will be increased to 12 months.

This event was reported into the CIWQS database on March 31, 2016 as a Category III event, SSO Event ID # 823550 and was certified in CIWQS on April 14, 2016, Certification ID # 557744.

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No.	Date	Location	Amount, gal	Cause/Probable Cause
5.	4/1/2016	7 Bear Creek Road	1,200	Roots

On Friday, April 1, 2016 at 8:40 am, Laura Creamer received a call from Ms. Jennifer Duncan of 7 Bear Creek Road reporting a manhole was overflowing on the other side of her fence; in the rear yard of 10 Bear Creek Road. Laura contacted Steve Krauthem, Field Services Manager and advised him of the reported overflow. Steve immediately contacted Javier Vega, Collection System Worker (CSW) III and informed him of the overflow. Javier told Steve he would contact Aaron Hendricks, CSW II & PJ Siragusa CSW I and have them respond to the scene. Steve left the office to respond to the site after receiving another Service Request in the same neighborhood on Wild Horse Valley Drive.



**Location Map**

Aaron & PJ arrived on site at 8:55 AM. At 8:57AM, they located the overflowing manhole (Manhole C16096) in the backyard of 10 Bear Creek Road. They observed the manhole weeping at the rim. Aaron & PJ went to the downstream manhole (Manhole C16095) in the backyard of 14 Bear Creek Road and found a pool of water on top of the manhole. Aaron & PJ left the backyard and drove the hydro-flusher truck to the next downstream manhole, Manhole C16094 located in an easement at 1 West Brooke Drive.

When Aaron & PJ arrived at 1 West Brooke Drive, Javier was already on site. Javier had just checked the downstream manhole and it was dry. Javier observed a small amount of flow in the sewer main downstream of Manhole C16095 indicating a partial stoppage. The crew set up the hydro-flusher and flushed the line between Manhole C16094 & C16095 breaking a root blockage at 9:12AM at the upstream manhole. After the crew finished up at the downstream manhole they returned to Bear Creek Road to initiate cleanup in the backyards of 10 & 14 Bear Creek Road and retrieve the roots out Manhole C16095.

Steve arrived at the site at 9:45AM after finishing up a service call at 146 Wild Horse Valley Drive. Steve met the crew on site and inspected the two overflow locations. Manhole C16096 had black stains on the concrete collar around the rim indicating that it has been overflowing for some time. Manhole C16095 was in a small depression and

**Novato Sanitary District  
Collection System Operations Report  
March 2016**

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there was no evidence of runoff. After the crew finished cleaning up wet leaves and other matter the crew applied bleach to the area around Manhole C16096 as requested by the homeowner.

Steve went into the backyard of 7 Bear Creek Road and inspected the area of the overflow. The overflow had wetted an area approximately 7 feet wide by 45 feet long. The owner of the property had previously knocked down the weeds making the extent of the overflow more visible.

There were several wheel ruts through the spill area that were full of sewage. Steve directed the crew to use a hand pump to pump the standing water in the wheel ruts into buckets and return it to the sewer system. Approximately 17 gallons of sewage was removed from the wheel ruts. The crew departed the site at 11:30AM.

At 9:35AM Julie Swoboda received a call from Lori Dowell, the resident of 2405 Vineyard Road who reported sewer odors in her home and also mentioned that she has been smelling sewage odors in her backyard for about a month. As mentioned above, it appeared that the overflow had been occurring for some time so staff used 30 days to determine a start time of March 2, 2016.

Steve contacted Ms. Duncan, the property owner, the reporting party, and inquired about the weed clearing and the wheel ruts. Ms. Duncan reported to Steve that on Wednesday night (March 30<sup>th</sup>) she was knocking down weeds with a small skid steer loader and got stuck up near the fence in a saturated area. She did not think it was sewage at the time. On Friday morning she was out letting her chickens run and saw water running down across the area so she looked over the fence and saw the manhole overflowing and contacted the District.



**Clean up operations**

Based on the facts of the stoppage being a partial stoppage, a weeping (versus an overflowing) manhole, and sewage that did not flow away from the manhole a great distance, staff initially determined that it is reasonable to assume that the overflow rate was about 40 gallons per day and for a duration of 30 days resulting in a calculated overflow amount was 1,200 gallons.

Staff then used water use information for the four homes upstream of the stoppage to determine an average dry weather flow of 2,065 gallons. It was assumed that Infiltration was minimal because the sewer mains and laterals upstream of the stoppage are gasketed joint PVC pipe which is relatively watertight. Staff also completed a hydraulic analysis of the sewer main, and estimated that the manholes would not overflow until the pipe was 99.25% blocked and at that percentage, only 130 gallons would overflow

**Novato Sanitary District  
Collection System Operations Report  
March 2016**

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in a 30-day period. Nevertheless, in an abundance of caution, staff used the more conservative estimate of 1,200 gallons for reporting purposes.

The line segments serving the Bear Creek development were not in the ICOMM maintenance schedule and they been added to be cleaned on a two-year frequency.

This event was reported into the CIWQS database on April 5, 2016 as a Category II event, SSO Event ID # 823616 and was certified in CIWQS on April 14, 2016, Certification ID # 977712.

Novato Sanitary District  
Collection System Monthly Report For March 2016 (as of March 31, 2016)

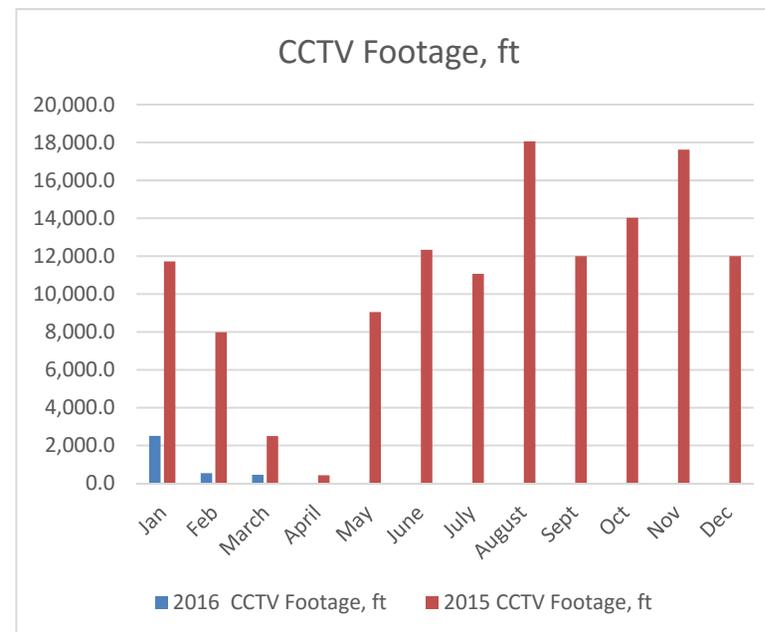
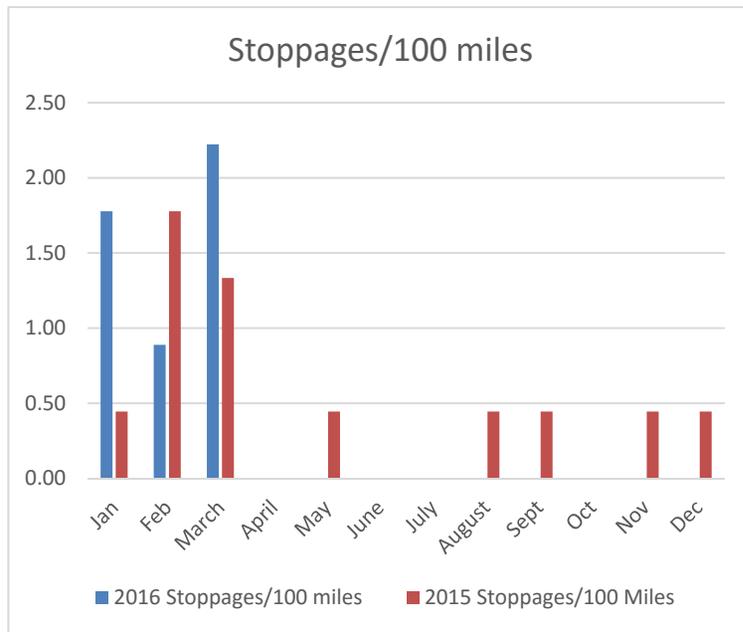
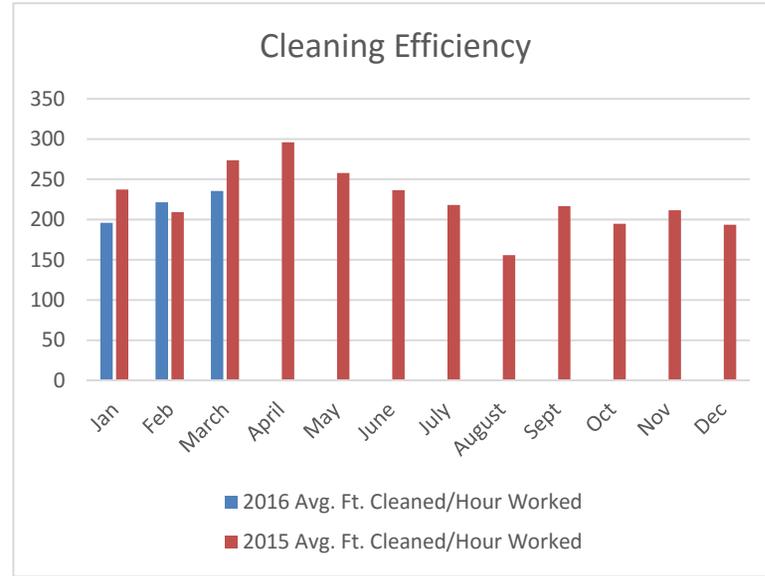
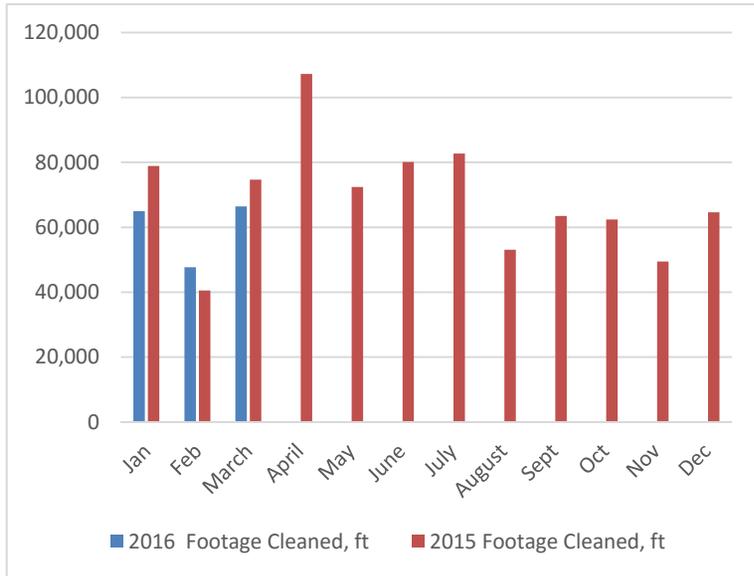
	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
<b>A. Employee Hours Worked</b>														
Number of FTEs (main line cleaning), hrs.	1.9	1.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.4
Number of FTEs (other)	2.5	3.5	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.8
Number of FTEs (CCTV)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.0
Total, FTEs	4.5	4.9	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	1.2
Regular Time Worked, (main line cleaning), hrs	332	216	282											
Regular Time Worked on Other, hrs (1)	426	556	552											
Regular Time Worked on CCTV (2)	19	17	0											
Total Regular time, worked, hrs	776	788	834	0	0	0	0	0	0	0	0	0	2,398	200
Total Vacation/Sick Leave/Holiday, hrs	225	238	262										725	242
Vacation/Sick Leave/Holiday, FTEs	1.3	1.5	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.4
Overtime Worked on Coll. Sys., hrs	2	0	0										2	1
Overtime Worked on Other, hrs (1)	65	6	19										89	30
Overtime Worked on CCTV (2)	0	0	0										0	0
Total Overtime, hrs	67	6	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	91	30
<b>B. Productivity</b>														
<b>1. Line Cleaning</b>														
Rodder Work Orders generated	59	10	41										110	37
Rodder 3208 ft. cleaned	11,888	2,289	8,682										22,859	7,620
Rodder - outside services, ft cleaned	0	0	0										0	0
Flusher Work Orders generated	227	237	307										771	257
Truck 3205V ft. cleaned	14,729	6,341	5,004										26,074	8,691
Truck 3206V ft. cleaned	38,305	39,088	52,713										130,106	43,369
Flusher - outside services, ft. cleaned	0	0	0										0	0
Total Footage cleaned(3)	64,922	47,718	66,399	NA	NA	NA	NA	NA	NA	NA	NA	NA	179,039	59,680
Work Orders completed	278	247	348										873	291
Work Orders backlog	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	8
<b>2. Closed Circuit Television (CCTV)</b>														
Camera Work Orders generated	0	0	0										0	
CCTV Truck 3126T, ft. videoed	843	540	0										1,383	461
CCTV (hand cam), ft. videoed	1,669	0	456										2,125	
CCTV Inspection - outside services, ft. videoed	0	0	0										0	
Total CCTV footage(3)	2,512	540	456	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,508	
<b>C. Sanitary Sewer Overflows (SSOs)</b>														
Minor (Category III)	4	2	5										11	NA
Major (Category II)	3	1	4										8	NA
Major (Category I)	0	1	1										2	NA
Major (Category I)	1	0	0										1	NA
Overflow Gallons	482	290,330	2,308										293,120	NA
Volume Recovered	130	147,250	760										148,140	NA
Percent Recovered	27%	51%	33%	NA	NA	NA	NA	NA	NA	NA	NA	NA	51%	NA
<b>D. Service Calls (non-SSO related)</b>														
Service calls, normal hours, #	8	7	8										23	8
Normal hours S.C. response time, mins (avg.)	20	17	18										55	18
Service Callouts, after hours, #	5	3	1										9	3
After Hours S.C. response time, mins (avg.)	17	27	16										60	20
<b>E. Benchmarks</b>														
Average Ft. Cleaned/Hour Worked	196	221	235	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	218
Total Stoppages/100 Miles	1.8	0.9	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	NA
Average spill response time (mins)	15	31	11										NA	19
Callouts/100 Miles	2.2	1.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.3
Overtime hours/100 Miles	1	0	0	0	0	0	0	0	0	0	0	0	0.89	0
Overflow Gallons/100 Miles	210	126,230	1003	0	0	0	0	0	0	0	0	0	127,443	10620

(1)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.

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

(3) Does not include outside services (tracked separately)

# Collection System 2015-16 Graphs



Novato Sanitary District  
Pump Station Report For March (As of March 31)

	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>	238	185	252	0	0	0	0	0	0	0	0	0	675	
Number of Employees (FTEs)	1.4	1.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.3
Regular Time Worked on Pump Sta	183	157	210										549	
Overtime Worked on Pump Sta	55	28	43										126	
After Hours Callouts	4	1	8										13	
Average Callout response time (mins)	30	10	34										74	25
<b>Work Orders</b>														
Number generated in month	136	106	89										331	110
Number closed in month	111	106	89										306	102
Backlog	25	0	0	0	0	0	0	0	0	0	0	0	25	2

**COLLECTION SYSTEM (Pump Stations)  
WORK ORDER STATISTICS  
March 1,2016-March 31,2016**

	<b>Open Work Orders Due Prior to 3/1/2016</b>	<b>Open Work Orders 3/1/2016-3/31/2016</b>	<b>Total Open Work Orders</b>
Preventive	3	151	154
Corrective	6	0	6
Total	9	151	160

	<b>Closed Work Orders 3/1/2016 - 3/31/2016</b>
Preventive	141
Corrective	0
Total	141

<b>Total Outstanding Work Orders as of 3/31/2016</b>	<b>13</b>
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**NOVATO SANITARY DISTRICT**  
**Wastewater Operations Committee Meeting**  
**Reclamation Facilities Report**  
**March 2016**

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**1.0 Summary:**

The rancher continued weed abatement work around the sprinkler heads at the Reclamation Site this month. Eucalyptus trees have fallen on Site 2 and will need to be removed later this Spring.

**2.0 Ranch Operations:**

The rancher continued to perform weed abatement work around the sprinkler heads at the Reclamation site. The rancher completed the work on Site 3 and also completed the work in all Parcels on Site 2. This work is necessary to allow the hay cutter to see the sprinkler heads during hay harvest in the spring. It also prevents weeds from disrupting the water spray out of the sprinkler heads during irrigation.

Several eucalyptus trees have fallen out of the grove between the pastures in Site 2 and the Irrigation Pump Station/Wildlife Pond area. This is not uncommon when rainfall is heavy enough to cause the ditches along the grove to rise soaking the area around the base of the trees and weakening the soils around the root balls. Staff will request proposals to remove these trees later this Spring when the danger of falling trees has passed. The fallen trees have not caused any damage to date.

Drainage Pump Station No. 3 pumped approximately 116 MG of storm water and Drainage Pump Station No. 7 pumped 51.0 MG of storm water this month.

**3.0 Irrigation Parcels:**

There were no irrigation activities this month.

The Irrigation Storage Ponds accumulated 9.0 MG of rain water in March.

**4.0 Irrigation Pump Station:**

There was no irrigation performed this month.

**5.0 Sludge Handling & Disposal:**

There were no sludge handling activities this month.

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**NOVATO SANITARY DISTRICT**  
**Reclamation Facility - Monthly Statistics for Calendar Year 2016, as of March 2016**

	January	February	March	April	May	June	July	August	September	October	November	December	Total Year to Date	Annualized Monthly Average
<b>Irrigation Pump Station</b>														
Plant flow to ponds (MG)		0	0	0									-	0.00
Irrigation (MG)		0	0	0.0									-	0.00
Irrigation Pump 1 Hours													-	0.00
Irrigation Pump 2 Hours													-	0.00
Irrigation Pump 3 Hours													-	0.00
Washdown Water Pump Hours													-	0.00
Wildlife Feed Pump Hours		744	696	744									2,184.0	182.00
Water Circulated through Wildlife Pond (MG)	46.872	43.848	46.872	0	0	0	0	0	0	0	0	0	137.6	11.47
Strainer No. 1 Hours													-	0.00
Strainer No. 2 Hours													-	0.00
Pond 1 Gauge @ Beginning of Month	3.1	3.9	3.9											
Pond 1 Gauge @ End of Month	3.9	3.9	4.4											
Pond 1 Gallons Stored @ End of Month(MG)	27.2	27.2	31.2											
Pond 2 Gauge @ Beginning of Month	3.1	3.9	3.9											
Pond 2 Gauge @ End of Month	3.9	3.9	4.4											
Pond 2 Gallons Stored @ End of Month(MG)	35	35	40											
Total Irrigation Water Stored	62.2	62.2	71.2	0	0	0	0	0	0	0	0	0		
<b>Drainage Pump Station No. 3</b>														
Drainage Pump No. 1 Hours	341.4	0.2	386											
Drainage Pump No. 2 Hours	0	34.7	0											
Drainage Pump No. 3 Hours	0	1.9	0.1											
Total Gallons Stormwater Pumped (MG)	102.42	11.04	115.83	0	0	0	0	0	0	0	0	0	229.29	19.11
<b>Drainage Pump Station No. 7</b>														
Drainage Pump No. 1 Hours	131.7	0.2	72.4											
Drainage Pump No. 2 Hours	14.2	13	0											
Drainage Pump No. 3 Hours	2.9	0	41.3											
Total Gallons Stormwater Pumped (MG)	66.96	6	51	0	0	0	0	0	0	0	0	0	124.065	10.34

# NOVATO SANITARY DISTRICT BOARD AGENDA ITEM SUMMARY

<b>TITLE: Staff Report: Hamilton Trunk Sewer Repair</b>	<b>MEETING DATE: April 25, 2016</b>  <b>AGENDA ITEM NO.: 8.b.</b>
<b>RECOMMENDED ACTION:</b> Receive report on repair of 15-inch trunk sewer at 65 Hamilton Drive, approve the final Work Report in the amount of \$99,460.76 to replace the 34 lineal feet (LF) of the 15-inch trunk sewer, and authorize the General Manager-Chief Engineer to execute it.	
<b>SUMMARY AND DISCUSSION:</b> <p>On Monday, March 21, 2016 at 8:14am, staff received a call from the project manager on the Hamilton Trunk Sewer Project forwarding a report from the contractor that the sewage coming into the upstream manhole on the project was muddy in color. Staff checked several manholes upstream of the project and saw minor surcharged conditions related to the bypass pumping on the project downstream. At 9:21am, the District office received a call from a local plumber reporting sewage inside the building at 83 Hamilton Drive.</p> <p>Later that day staff checked the upstream manholes and the surcharged conditions had increased even though the contractor downstream had returned to gravity flow through the project. Staff felt there may be a restriction in the trunk sewer and they attempted to clear it without success. Staff contacted Rain For Rent of Woodland CA and arranged to have a bypass system installed that evening. Staff also contacted several contractors from the District’s informal bidder’s list (Uniform Public Construction Cost Accounting Act, or “UPCCAA” list), and WR Forde Contractors (Richmond) indicated that they were available to respond as needed.</p> <p>On Tuesday March 22<sup>nd</sup>, WR Forde began work to complete the repair of a 34-foot section of trunk sewer located in an easement running behind 65 Hamilton Drive. A portion of the repair section had been scheduled for replacement this summer as CCTV inspection last fall identified a section of corrugated metal pipe at this location. During the excavation the contractor encountered an unidentified concrete box as well as an 8-inch thick concrete slab 10 feet below grade over the trunk sewer, as well as several large chunks of concrete. When the concrete was subsequently removed, a tar-like substance was found, which had also entered the trunk sewer and required removal (subsequent testing of the tar substance determined it consisted of asphalt, motor oil, &amp; diesel fuel). Because of the delay caused by the unforeseen materials and the need for specialty couplings, the shoring method had to be changed to better protect the workers from caving conditions. The final piece of new pipe was installed on March 31<sup>st</sup>. The trench was backfilled and final paving was completed on April 4<sup>th</sup>.</p> <p>At this time, the repair and replacement work has been completed and the District has received invoices for the work. The cost to complete the line replacement was \$99,460.76, or \$74,460.76 more than the original authorized amount of \$25,000.00. This higher-than-preliminarily estimated cost was due to the unknown concrete structures, poor soil conditions encountered during the work which resulted in higher shoring costs, and the need to remove the tar-like substance from the pipe during the work.</p> <p>Staff has reviewed the invoices for the work and believe they are reasonable and accurate. Staff therefore recommends that the Board approve the final Work in the amount of \$99,460.76, and authorize the General Manager - Chief Engineer to execute it.</p>	
<b>STRATEGIC PLAN INFORMATION:</b> This item addresses Goal 2 (Reliable, Environmental and Efficient Facilities) of the latest Strategic Plan Update.	
<b>BUDGET INFORMATION:</b> The repair costs will be met from Account No. 72706 – Collection System Improvements which has a current remaining balance of \$431,479.	
<b>DEPT. MGR.:</b> srk	<b>GENERAL MANAGER:</b> SSK

# NOVATO SANITARY DISTRICT BOARD AGENDA ITEM SUMMARY

<b>TITLE: Primary Clarifier No. 1 Protective Coating Project, Account No. 73006</b>	<b>MEETING DATE: April 25, 2016</b>  <b>AGENDA ITEM NO.: 9.a.</b>
<b>RECOMMENDED ACTION: Approve a contract with RMC Water and Environment in the not-to-exceed amount of \$55,850 for engineering services related to protective coating of Primary Clarifier No. 1, and authorize the General Manager-Chief Engineer to execute it.</b>	
<b>SUMMARY AND DISCUSSION:</b>  <p>As the recently constructed facilities at the Novato Wastewater Treatment Plant age, the effects of the aggressive nature of wastewater corrosion start to appear and need to be addressed. The area included in this project is the Primary Clarifier (PC) No. 1 mechanism. PC No. 1 is a 100-foot diameter clarifier with an aluminum flat cover.</p> <p>The scope of services includes Project Management; Inspection and Final Design of PC No. 1; Bidding Services including technical support during the bidding process; and Engineering Services During Construction including RFI responses, submittal review, evaluating construction changes and attending construction meetings.</p> <p>Due to their history and familiarity with the Project, the staff requested that RMC provide a proposal for final design of the Primary Clarifier No. 1 Protective Coating Project. RMC in conjunction with their sub-consultant, V&amp;A, has submitted a proposal to provide final design documents and additional engineering services for the Project for \$55,850. Staff has reviewed the proposal and finds the proposed fee amount to be commensurate with the level of effort required.</p> <p>It is recommended that the Board approve the contract with RMC, and authorize the General Manager-Chief Engineer to execute an agreement with RMC on a time and expense reimbursement basis in the not-to-exceed amount of \$55,850.</p>	
<b>STRATEGIC PLAN INFORMATION:</b> This item addresses Goal 2 (Reliable, Environmental and Efficient Facilities) of the latest Strategic Plan Update.	
<b>BUDGET INFORMATION:</b> The FY2015-16 budget for Account No. 73006 includes a budget amount of \$150,000 with no expenditures from the account to date.	
<b>DEPT. MGR.:</b> eb	<b>GENERAL MANAGER:</b> SSK