CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

In the matter of:	)	
	)	
SANITARY DISTRICT #1	)	**Order No. R2-2012-0055**
OF MARIN, a.k.a. ROSS	)	
VALLEY SANITARY DISTRICT	)	**Settlement Agreement and Stipulation for**
	)	**Entry of Order; Order**
Administrative Civil Liability	)	
for Sanitary Sewer Overflows	)	

Section I: Introduction

This Settlement Agreement and Stipulation for Entry of Administrative Civil Liability Order ("Stipulation" or "Stipulation and Order") is entered into by and between the Regional Water Quality Control Board Prosecution Staff ("Prosecution Staff") and Sanitary District No. #1 of Marin, also known as Ross Valley Sanitary District ("Settling Respondent") (collectively "Parties") and is presented to the San Francisco Bay Regional Water Quality Control Board ("Regional Water Board") for adoption as an Order, by settlement, pursuant to Government Code section 11415.60.

Section II: Recitals

1. The Settling Respondent owns, operates, and maintains a collection system in Marin County that serves a population of approximately 50,000. The Settling Respondent's collection system is approximately 195 miles of gravity sewer pipeline, 9 miles of force mains, and 20 pumping stations that collect and transport an average of five million gallons of wastewater per day to the Central Marin Sanitation Agency Treatment Plant.

2. The collection system is subject to the requirements set forth in the Federal Water Pollution Control Act ("Clean Water Act") (33 U.S.C. § 1311 et seq.), the Statewide General Waste Discharge Requirements, State Water Resources Control Board ("State Water Board") Order No. 2006-0003-DWQ, and State Water Board Monitoring and Reporting Requirements Order No. WQ 2008-0002-EXEC (amending Order No. 2006-0003-DWQ).

3. The Prosecution alleges the following violations (collectively referred to as the "Alleged Violations").

   a. Between January 1, 2008, and April 21, 2011, there were 36 sanitary sewer overflows ("SSOs") of untreated wastewater that discharged to waters of the State and the United States, violating Order No. 2006-0003-DWQ section C. Prohibitions 1. The Settling Respondent is subject to administrative civil

liability pursuant to California Water Code sections 13385(a)(1), (2) and (5), and 13385(c) for each unauthorized discharge, violation of the waste discharge order, and failure to comply with section 301 of the Clean Water Act. These 36 SSOs totaled 3,125,493 gallons discharged, of which 2,555,535 gallons were not recovered or cleaned up.

b. On or about and between December 17 and 19, 2010, the Settling Respondent failed to provide notice within 2 hours of becoming aware of the SSOs to the local health officer or directors of environmental health, and the Regional Water Board. The Settling Respondent failed to submit within 24 hours to the Regional Water Board a certification that the Settling Respondent had notified the State Office of Emergency Services and the local health officer or directors of environmental health of the SSOs. The failure to provide notice and certification of notice violated reporting requirements in Order No. 2006-0003-DWQ as amended by Order No. WQ 2008-0002-EXEC and subjects the Settling Respondent to administrative civil liability pursuant to Water Code sections 13267(a), and 13268(a)(1)-(2).

    i. The Settling Respondent initially reported the December 17-19, 2010, SSOs within 2 hours to the California Emergency Management Agency ("CalEMA") (formerly known as the State Office of Emergency Services) as a 1,000-gallon SSO not reaching surface waters. On December 18, 2010, the Settling Respondent discovered that the SSO and other SSOs in close proximity were greater than 1,000 gallons and had reached surface waters. The Settling Respondent notified the Regional Water Board and Marin County Environmental Health Services on December 22, 2010, and updated CalEMA on December 27, 2010.

    ii. The Settling Respondent failed to provide notice of the SSOs to the Regional Water Board and Marin County Environmental Health Services for five days from December 17 through December 22, 2010. The Settling Respondent failed to provide updated accurate information to CalEMA for nine days from December 18 through December 27, 2010.

c. On or about January 1, 2011, and January 6, 2011, the Settling Respondent failed to submit a certified report in the California Integrated Water Quality System ("CIWQS") within 15 days after completing response and remediation for the SSOs. Failing to submit the certified reports to the online SSO system violated requirements in Order No. 2006-0003-DWQ as amended by Order No. WQ 2008-0002-EXEC and subjects the Settling Respondent to administrative civil liability pursuant to Water Code sections 13267(a), and 13268(a)(1)-(2).

i. For the December 17-19, 2010, SSOs, the Settling Respondent submitted a certified report in CIWQS on April 4, 2011, 91 days after the certified report due date of January 4, 2011. The statutory maximum liability is $1,000 a day.

ii. For the December 22, 2010, SSOs, the Settling Respondent submitted a certified report in CIWQS on April 4, 2011, 88 days after the due date of January 7, 2011.

d. Between December 22, 2010, and December 12, 2011, the Settling Respondent failed to report an SSO from manhole #2647 in CIWQS pursuant to Order No. 2006-0003-DWQ as amended by Order No. WQ 2008-0002-EXEC. The Settling Respondent is subject to administrative civil liability pursuant to Water Code sections 13267(a), and 13268(a)(1)-(2).

4. To resolve by consent and without further administrative proceedings certain alleged violations of the California Water Code, the Statewide General Waste Discharge Requirements in Order No. 2006-0003-DWQ, and State Water Board Monitoring and Reporting Requirements Order No. WQ 2008-0002-EXEC, the Parties have agreed to the imposition of $1,539,100 against the Settling Respondent, which includes $75,600 for staff costs. Payment of $807,350 to the State Water Pollution Cleanup and Abatement Account is due no later than 30 days following the Regional Water Board executing this Order. The remaining $731,750 in penalties shall be suspended upon completion of two Supplemental Environmental Projects ("SEP") described in Attachments A and B of this Order. The Southeastern Creekside Marsh Habitat Enhancement SEP is for $249,370 and the Private Lateral Replacement Grant Program SEP is for $482,380.

5. The liability amount was determined using a factors analysis consistent with Water Code section 13385 and the State Water Board Water Quality Enforcement Policy (May 2010)("Enforcement Policy"). The staff report dated February 15, 2012, contained in Attachment C and incorporated herein describes the violations and liability consideration.

6. The Parties have engaged in settlement negotiations and agree to settle the matter without administrative or civil litigation and by presenting this Stipulation to the Regional Water Board for adoption as an Order pursuant to Government Code section 11415.60. The Prosecution Staff believes that the resolution of the alleged violations is fair and reasonable and fulfills its enforcement objectives, that no further action is warranted concerning the Alleged Violations except as provided in this Stipulation and that this Stipulation is in the best interest of the public.

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Section III: Stipulations

The Parties stipulate to the following:

7. **Administrative Civil Liability:** The Settling Respondent hereby agrees to pay the administrative civil liability totaling $1,539,100 as set forth in Paragraph 4 of Section II herein. Further, the Settling Respondent agrees that $731,750 of this administrative civil liability shall be suspended pending completion of the two SEPs as set forth in Paragraph 4 of Section II herein and Attachments A and B attached hereto and incorporated by reference.

8. The Parties agree that this resolution includes two supplemental environmental projects (SEPs) as provided for as follows:

a. **Definitions**

"Cleanup and Abatement Account" – the State Water Pollution Cleanup and Abatement Account.

"Implementing Party" – An independent third party with whom the Settling Respondent has contracted or otherwise engaged to implement the SEP.

"Oversight Party" – An independent third party with whom the Settling Respondent has contracted or otherwise engaged to oversee the SEP.

"Milestone Requirement" – A requirement with an established time schedule for meeting/ascertaining certain identified measurements of completed work. Upon the timely and successful completion of each milestone requirement, an amount of liability will be permanently suspended or excused as set forth in the Description of the SEP below.

"SEP Completion Date" – The date in which the SEP will be completed in its entirety.

b. **Administrative Civil Liability and Costs Of Enforcement**

1. Total Civil Liability

The Settling Respondent shall be subject to administrative civil liability in the total amount of $1,539,100. This includes the amount of $75,600 for the costs incurred by Regional Water Board staff to investigate and prosecute the administrative civil liability enforcement action. The administrative civil liability also includes the cost of two SEPs in the amount of $731,750 total. The cost of the SEPs will be referred to as the SEP Amount and will be treated as a Suspended Administrative Civil Liability.

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2. Payment and Costs

Payment of $807,350 shall be made within 30 days of receipt of the Stipulated Order executed on behalf of the Regional Water Board to the Cleanup and Abatement Account. Payment shall be submitted to the San Francisco Bay Regional Water Quality Control Board, Attn: Claudia Villacorta, 1515 Clay Street, Suite 1400, Oakland, CA, 94612.

3. Funding of Special Environmental Projects

The Settling Respondent agrees to fund the SEPs as described further in Section III, Paragraph 8.c., and Attachments A and B.

c. **Description of the SEPs**

1. **Southeastern Creekside Marsh Habitat Enhancement SEP**

The goal of this project is to improve the habitat for flora and fauna in the eastern portion of Creekside Marsh by increasing the size of the existing single culvert near Bon Air Road to increase flushing action in the marsh. $249,370 of the total SEP amount will fund seven tasks:

a. characterize existing conditions,
b. develop criteria for marsh design,
c. design channels and culvert,
d. conduct environmental review and obtain permits,
e. enlarge culvert,
f. install plants,
g. monitor and report, and
h. project management.

This SEP is to be implemented by the Friends of Corte Madera Creek, with the San Francisco Bay Estuary Partnership providing oversight. The Settling Respondent (or the Implementing Party or Oversight Party on behalf of the Settling Respondent) shall provide the final report, including vegetation monitoring, by October 15, 2016. Detailed plans including milestones, budget, and performance measures are provided in Attachment A.

2. **Private Lateral Replacement Grant Program**

The goal of this project is to reduce inflow and infiltration flows into the Settling Respondent's collection system from leaky defective private sewer laterals. A reduction in flows will benefit water quality and beneficial uses by decreasing the number and volume of sewer overflows during wet weather. SEP funds will subsidize the replacement of 283 defective private laterals at $1,700 each, with an emphasis on private laterals in basins that are determined to have the highest levels of inflow and infiltration. $482,380 of the total SEP amount will be allocated to fund this SEP.

This SEP will be overseen by the San Francisco Bay Estuary Partnership. The Settling Respondent (or the Oversight Party on behalf of the Settling Respondent) shall provide the final report and certification of completion by November 1, 2016. Detailed plans concerning how the Settling Respondent will implement this SEP, as well as an implementation schedule and performance measures, are provided in Attachment B.

d. **Representations and Agreements Regarding SEPS**

1. Implementing Party Performing the Southeastern Creekside Marsh Habitat Enhancement SEP

As a material consideration for the Regional Water Board's acceptance of this Stipulated Order, the Settling Respondent represents that the Friends of Corte Madera Creek, as the Implementing Party, shall utilize the funds provided to it by the Settling Respondent to implement the SEP in accordance with the Project Milestones and Budget set forth in the Attachment A. The Settling Respondent understands that its promise to implement the SEP, in its entirety and in accordance with the schedule for implementation (including payments outlined in paragraphs 12 and 13 of Attachment A), is a material condition of this settlement of liability between the Settling Respondent and the Regional Water Board.

2. Settling Respondent Performing Private Lateral Replacement Grant Program SEP

a. Representation of the Settling Respondent

As a material consideration for the Regional Water Board's acceptance of this Stipulated Order, the Settling Respondent represents that it will utilize the funds outlined in Paragraph 8.c.2. to implement the SEP in accordance with the Project Milestones and Budget as described in Attachment B. The Settling Respondent understands that its promise to implement the SEP, in its entirety (subject to section I-3 of Attachment B, and pursuant to Paragraphs 8.i. and 8.j., below) and in accordance with the schedule for implementation, is a material condition of this settlement of liability between the Settling Respondent and the Regional Water Board.

3. Agreement of Settling Respondent to have the Southeastern Creekside Marsh Habitat Enhancement SEP Implemented, and to Implement the Private Lateral Replacement Grant Program SEP

The Settling Respondent represents that: 1) it will spend the SEP amounts as described in this Stipulated Order; 2) it will provide certified, written reports to the Regional Water Board consistent with the terms of this Stipulated Order detailing the implementation of the SEPs, and 3) within 30 days of the completion of the SEPs, it will provide written certification, under penalty of perjury, that the Settling Respondent followed all applicable environmental laws and regulations in the implementation of the SEP

including but not limited to the California Environmental Quality Act (CEQA), the Clean Water Act and the Porter-Cologne Act. The Settling Respondent agrees that the Regional Water Board has the right to require an audit of the funds expended by it to implement the SEP.

e. **Publicity Associated with SEPs**

Whenever the Settling Respondent or its agents or subcontractors or the Implementing Party publicizes one or more elements of one of the SEPs, they shall state in a **prominent manner** that the project is being undertaken as part of the settlement of an enforcement action by the Regional Water Board against the Settling Respondent.

f. **Submittal of Progress Reports**

The Settling Respondent and/or the Implementing Party shall provide quarterly reports of progress as described in Attachments A and B. The Settling Respondent and/or the Implementing Party shall permit inspection of the SEPs by Regional Water Board staff at any time without notice.

g. **Audits and Certification of Environmental Project**

1. Certification of Expenditures

a. Southeastern Creekside Marsh Habitat Enhancement SEP: On or before October 15, 2016, the Settling Respondent (or the Implementing Party or Oversight Party on behalf of the Settling Respondent) shall submit a certified statement by a responsible district officer representing the Settling Respondent and a responsible official representing the Implementing Party documenting the expenditures by the Settling Respondent and the Implementing Party during the completion period for the SEP.

b. Private Lateral Replacement Grant Program SEP: On or before November 1, 2016, the Settling Respondent shall submit a certified statement by a responsible district officer representing the Settling Respondent documenting the expenditures by the Settling Respondent during the completion period for the SEP.

c. For both SEP certifications, the expenditures may be external payments to outside vendors or contractors implementing the SEP. In making such certification, the officials may rely upon normal company project tracking systems that capture employee time expenditures and external payments to outside vendors such as environmental and information technology contractors or consultants. The Settling Respondent shall provide any additional information requested by Regional Water Board staff that is

reasonably necessary to verify the Settling Respondent's SEP expenditures.

2. Certification of Performance of Work

   a. Southeastern Creekside Marsh Habitat Enhancement SEP: On or before October 15, 2016, the Settling Respondent shall submit a report, under penalty of perjury, stating that the SEP has been completed in accordance with the terms of this Stipulated Order including Attachment A.

   b. Private Lateral Replacement Grant Program SEP: On or before November 1, 2016, the Settling Respondent (shall submit a report, under penalty of perjury, stating that the SEP has been completed in accordance with the terms of this Stipulated Order including Attachment B.

   c. For both Performance of Work Certifications, documentation may include photographs, invoices, receipts, certifications, and other materials reasonably necessary for the Regional Water Board to evaluate the completion of the SEP and the costs incurred by the Settling Respondent.

3. Certification that Work Performed on SEP Met or Exceeded Requirements of CEQA and Other Environmental Laws

   a. Southeastern Creekside Marsh Habitat Enhancement SEP: On or before October 1, 2013, the Settling Respondent shall submit documentation, under penalty of perjury, stating that the SEP meets or exceeds the requirements of CEQA, if applicable, and/or other applicable environmental laws.

   b. Private Lateral Replacement Grant Program SEP: Within two months of this Stipulation and Order becoming effective, the Settling Respondent shall submit documentation, under penalty of perjury, stating that the SEP meets or exceeds the requirements of CEQA, if applicable, and/or other applicable environmental laws.

   c. For both SEPs, the Settling Respondent (or the Implementing Party on behalf of the Settling Respondent) shall, before the SEP implementation date, consult with other interested State agencies regarding potential impacts of the SEP. Other interested State agencies include, but are not limited to, the California Department of Fish and Game. To ensure compliance with CEQA where necessary, the Settling Respondent and/or the Implementing Party shall provide the Regional Water Board with the following documents from the lead agency:

      i. Categorical or statutory exemptions;
      ii. Negative Declaration if there are no "significant" impacts;

iii. Mitigated Negative Declaration if there are potential "significant" impacts but revisions to the project have been made or may be made to avoid or mitigate those potential significant impacts; and
iv. Environmental Impact Report if there are "significant" impacts.

4. Third Party Audit

If Regional Water Board staff obtains information that causes staff to reasonably believe that the Settling Respondent or Implementing Party has not expended money in the amounts claimed by the Settling Respondent or Implementing Party, or has not adequately completed any of the work in the SEPs, Regional Water Board staff may require, and the Settling Respondent shall submit, at its sole cost, a report prepared by an independent third party acceptable to Regional Water Board staff providing such party's professional opinion that the Settling Respondent and/or the Implementing Party has expended money in the amounts claimed by the Settling Respondent. In the event of such an audit, the Settling Respondent and the Implementing Party agree that they will provide the third-party auditor with access to all documents which the auditor requests. Such information shall be provided to Regional Water Board Staff within three months of the completion of the Settling Respondent's SEP obligations.

h. **Regional Water Board Acceptance of Completed SEP**

Upon the Settling Respondent's satisfaction of its obligations under this Stipulated Order, the completion of the SEPs and any audits, Regional Water Board staff shall request that the Regional Water Board issue a "Satisfaction of Order." The issuance of the Satisfaction of Order shall terminate any further obligations of the Settling Respondent and/or the Implementing Party under this Stipulated Order.

i. **Failure to Expend All Suspended Administrative Civil Liability Funds on the Approved SEPs**

In the event that the Settling Respondent is not able to demonstrate to the reasonable satisfaction of Regional Water Board staff that it and/or the Implementing Party has spent the entire SEP Amount for the completed SEPs, the Settling Respondent shall pay the difference between the Suspended Administrative Civil Liability and the amount the Settling Respondent can demonstrate was actually spent on the SEPs, as an administrative civil liability.

j. **Failure to Complete the SEP**

If either SEP is not fully implemented within the SEP Completion Period required by this Stipulated Order or there has been a material failure to satisfy a Milestone Requirement, Regional Water Board enforcement staff shall issue a Notice of Violation. As a consequence, the Settling Respondent shall be liable to pay the entire Suspended Liability or some portion thereof less the value of the completion of any Milestone Requirements. Unless otherwise ordered, the Settling Respondent shall not be entitled

to any credit, offset, or reimbursement from the Regional Water Board for expenditures made on the SEP(s) prior to the date of the "Notice of Violation" by the Regional Water Board. The amount of the suspended liability owed shall be determined by the Executive Officer or the Executive Officer's delegate. Upon notification of the amount assessed for failure to fully impellent the SEP(s), the amount assessed shall be paid to the Cleanup and Abatement Account within thirty days. In addition, the Settling Respondent shall be liable for the Regional Water Board's reasonable costs of enforcement, including but not limited to legal costs and expert witness fees. Payment of the assessed amount will satisfy the Settling Respondent's obligations to implement the SEP(s).

9. **Regional Water Board is Not Liable:** Neither the Regional Water Board's members nor the Regional Water Board's staff, attorneys, or representatives shall be liable for any injury or damage to persons or property resulting from acts or omissions by the Settling Respondent (or the Implementing Party where applicable), its directors, officers, employees, agents, representatives or contractors in carrying out activities pursuant to this Stipulated Order, nor shall the Regional Water Board, its members or staff be held as parties to or guarantors of any contract entered into by the Settling Respondent, its directors, officers, employees, agents, representatives or contractors in carrying out activities pursuant to this Stipulated Order. The Settling Respondent and the Implementing Party covenant not to sue or pursue any administrative or civil claim or claims against any State agency or the State of California, or their officers, employees, representatives, agents, or attorneys arising out of or relating to any matter expressly addressed by this Stipulated Order or the SEPs.

10. **Compliance with Applicable Laws:** The Settling Respondent understands that payment of administrative civil liability in accordance with the terms of this Order or compliance with the terms of this Order is not a substitute for compliance with applicable laws, and that continuing violations of the provisions of this Stipulation and Order may subject the Settling Respondent to further enforcement, including additional administrative civil liability.

11. **Attorney's Fees and Costs:** Except as otherwise provided herein, each Party shall bear all attorneys' fees and costs arising from the Party's own counsel in connection with the matters set forth herein.

12. **Matters Addressed by Stipulation:** Upon adoption by the Regional Water Board as an Order, this Stipulation represents a final and binding resolution and settlement of the Alleged Violations based on the specific facts alleged in this Stipulation and Order ("Covered Matters"). The provisions of this Paragraph are expressly conditioned on the full payment of the administrative civil liability by the deadlines specified in Paragraph 4, and the Settling Respondent's full satisfaction of the obligations described in Paragraphs 7 and 8.

13. **Public Notice:** The Settling Respondent understands that this Stipulation and Order will be noticed for a 30-day public review and comment period prior to

consideration by the Regional Water Board or its delegate. If significant new information is received that reasonably affects the propriety of presenting this Stipulation and Order to the Regional Water Board, or its delegate, for adoption, the Assistant Executive Officer may unilaterally declare this Stipulation and Order void and decide not to present it to the Regional Water Board or its delegate. The Settling Respondent agrees that it may not rescind or otherwise withdraw its approval of this proposed Stipulation and Order.

14. **Addressing Objections Raised During Public Comment Period:** The Parties agree that the procedure contemplated for adopting the Order by the Regional Water Board and review of this Stipulation by the public is lawful and adequate. In the event procedural objections are raised prior to the Order becoming effective, the Parties agree to meet and confer concerning any such objections, and may agree to revise or adjust the procedure as necessary or advisable under the circumstances.

15. **Interpretation:** This Stipulation and Order shall be construed as if the Parties prepared it jointly. Any uncertainty or ambiguity shall not be interpreted against any one Party. The Settling Respondent is represented by counsel in this matter.

16. **Modification:** This Stipulation and Order shall not be modified by any of the Parties by oral representation made before or after its execution. All modifications must be in writing, signed by all Parties and approved by the Regional Water Board.

17. **If Order Does Not Take Effect:** In the event that this Order does not take effect because it is not approved by the Regional Water Board, or its delegate, or is vacated in whole or in part by the State Water Resources Control Board or a court, the Parties acknowledge that they expect to proceed to a contested evidentiary hearing before the Regional Water Board to determine whether to assess administrative civil liabilities for the underlying alleged violations, unless the Parties agree otherwise. The Parties agree that all oral and written statements and agreements made during the course of settlement discussions will not be admissible as evidence in the hearing. The Parties agree to waive any and all objections based on settlement communications in this matter, including, but not limited to:

a. Objections related to prejudice or bias of any of the Regional Water Board's members or their advisors and any other objections that are premised in whole or in part on the fact that the Regional Water Board's members or their advisors were exposed to some of the material facts and the Parties' settlement positions as a consequence of reviewing the Stipulation and/or the Order, and therefore may have formed impressions or conclusions prior to any contested evidentiary hearing in this matter; or

b. Laches or delay or other equitable defenses based on the time period for administrative or judicial review to the extent this period has been extended by these settlement proceedings.

18. **Waiver of Hearing:** The Settling Respondent has been informed of the rights provided by Water Code section 13323, subdivision (b), and hereby waives its right to a hearing before the Regional Water Board prior to the adoption of the Stipulation and Order.

19. **Waiver of Right to Petition:** The Settling Respondent hereby waives its right to petition the Regional Water Board's adoption of the Order for review by the State Water Board, and further waives its rights, if any, to appeal the same to a California Superior Court and/or any California appellate level court.

20. **Settling Respondent's Covenant Not to Sue:** The Settling Respondent covenants not to sue or pursue any administrative or civil claim(s) against any State agency or the State of California, their officers, board members, employees, representatives, agents, or attorneys arising out of or relating to any Covered Matter.

21. **Necessity for Written Approvals:** All approvals and decisions of the Regional Water Board under the terms of this Stipulation and Order shall be communicated to the Settling Respondent in writing. No oral advice, guidance, suggestions or comments by employees or officials of the Regional Water Board regarding submissions or notices shall be construed to relieve the Settling Respondent of its obligation to obtain any final written approval required by this Stipulation and Order.

22. **Authority to Bind:** Each person executing this Stipulation in a representative capacity represents and warrants that he or she is authorized to execute this Stipulation on behalf of and to bind the entity on whose behalf he or she executes the Stipulation.

23. **Effective Date**: The obligations under Paragraphs 4 and 6 of this Stipulation are effective and binding on the Parties only upon the entry of an Order by the Regional Water Board that incorporates the terms of this Stipulation.

24. **Severability:** This Stipulation and Order are severable; should any provision be found invalid the remainder shall remain in full force and effect.

25. **Counterpart Signatures:** This Stipulation may be executed and delivered in any number of counterparts, each of which when executed and delivered shall be deemed to be an original, but such counterparts shall together constitute one document.

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IT IS SO STIPULATED.

California Regional Water Quality Control Board Prosecution Team
San Francisco Bay Region

By: Dyan C. Whyte
Dyan C. Whyte, Assistant Executive Officer

Date: April 20, 2012

Sanitary District #1 of Marin

By: Marcia Johnson
Marcia Johnson, President of the Board of Directors

Date: _____

By: MD
Dr. Peter Wm Sullivan, Secretary of the Board of Directors

Date: 19 Apr 2012

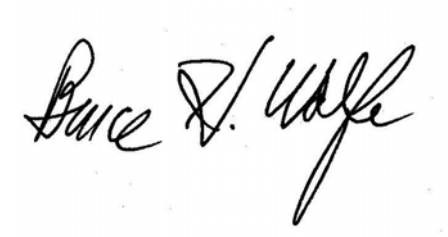
Order of the Regional Water Board

1. This Order incorporates the foregoing Stipulation, the SEP proposals in Attachments A and B, and the Staff Report in Attachment C.

2. In accepting the foregoing Stipulation, the Regional Water Board has considered, where applicable, each of the factors prescribed in Water Code section 13385(e). The Regional Water Board's consideration of these factors is based upon information obtained by Regional Water Board staff in investigating the allegations in the Stipulation or otherwise provided to the Regional Water Board. In addition to these factors, this settlement recovers the costs incurred by the staff of the Regional Water Board for this matter.

3. This is an action to enforce the laws and regulations administered by the Regional Water Board. The Regional Water Board finds that issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, sections 21000 et seq.), in accordance with section 15321(a)(2), Title 14, of the California Code of Regulations.

IT IS HEREBY ORDERED, pursuant to Water Code section 13323 and Government Code section 11415.60, on behalf of the California Regional Water Quality Control Board, San Francisco Bay Region.



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Bruce Wolfe
Date: 2012.06.20
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Bruce H. Wolfe
Executive Officer

Date

ATTACHMENT A

SUPPLEMENTAL ENVIRONMENTAL PROJECT PROPOSAL

Southeastern Creekside Marsh Habitat Enhancement Project

Proposal for
Southeastern Creekside Marsh Habitat Enhancement
Supplemental Environmental Project

Basic Information:

1. **Project Name:** Southeastern Creekside Marsh Habitat Enhancement SEP

2. **Project Developed By:** Friends of Corte Madera Creek Watershed, with input from the Ross Valley Watershed Program

3. **Project to be Performed By:** Friends of Corte Madera Creek Watershed and Marin County

4. **Contact:** Sandra Guldman, sandra.guldman@gmail.com, 415-456-5052

Project Description

5. **Components of the Southeastern Creekside Marsh Habitat Enhancement**
   Background: Creekside Marsh comprises a 21-acre restored wetland in Kentfield, California (Figure 1). The area was originally tidal wetland; the US Army Corps of Engineers filled it and many other tidal wetlands in the watershed with dredge spoils in the late 1960s when the earthen channel for the Corte Madera Creek Flood Control Project was constructed. The marsh is separated from the main channel of Corte Madera Creek by a berm, topped with a heavily used paved path; a 4-bore culvert connects the marsh to the main channel of the creek at the upstream end of the marsh; a single culvert through the berm is located near the downstream end of the park. These culverts limit circulation of tidal flow in the marsh and limit its use by fish.

   Although there are hydraulic connections within the marsh, there are two distinct sections. The southeastern portion, connected to Corte Madera Creek by a single culvert near Bon Air Bridge, is particularly deficient in tidal exchange. Storm drains from the Bon Air sub-drainage enter this part of the marsh. Figure 2 shows three views of the project area.

   The western portion of Creekside Marsh, fed by the 4-bore culvert, has much more robust tidal exchange; the main channel is also the mouth of McAllister Creek, which drains the Laurel Grove and Wolfe Grade sub-watersheds characterized by low-density residential development. The tidal exchange in the western and central portions of the marsh is mostly from the 4-bore culvert, although there is some hydraulic connection between the two sides of the marsh at very high tides.

   Biological Resources: Creekside Marsh has a breeding population of the California clapper rail (*Rallus longirostris obsoletus*) and is considered suitable habitat for the salt marsh harvest mouse (*Reithrodontomys raviventris*), both federally and state-listed as endangered. Steelhead trout (*Oncorhynchus mykiss*), federally listed as threatened, migrate through the estuary, now poorly connected to Creekside Marsh

by culverts in bad repair. Other special-status species may be found in the marsh or adjacent main channel of Corte Madera Creek.

When Creekside Marsh was restored in the early 1970s, about ten years after it was filled, two species of invasive cordgrass were introduced: *Spartina densiflora* and *S. anglica*. *S. densiflora* is particularly aggressive and infested the entire watershed. Large meadows of *S. densiflora* developed within Creekside Marsh, crowding out native vegetation and trapping sediment that raised the elevation of much of the marsh so that it no longer supports native cordgrass, *S. foliosa*, an important component of California clapper rail habitat. Under the auspices of the Invasive Spartina Project (ISP), the invasive cordgrasses at Creekside Marsh have been treated since 2005. Significant progress has been made and planting of *Grindelia stricta* began in January 2012.

Several areas within the marsh have no vegetation, even though they are inundated at most high tides. Drainage appears poor in those areas and, in some, the soil is mostly compacted sand and gravel poorly suited to marsh vegetation. Not even invasive cordgrasses were able to grow in these areas.

Project Area and Scope: The maximum extent of the Project Area for this SEP (Figure 3) is approximately 4 acres in the southeastern portion of Creekside Marsh, where the tidal flow is delivered through the single 60-inch culvert near Bon Air Road. The complete project has three components:

- enlarging the culvert from a cross-sectional area of 20 square feet to 35 square feet; the larger culvert would increase daily average tidal exchange from 11.0 acre-feet/day to 15.4 acre-feet/day;
- adding new channels to provide enhanced clapper rail habitat and to supply adequate tidal flow to areas that are currently poorly drained, some of which are completely devoid of vegetation; and
- restoring flow to an existing channel that has filled in. We propose to first salvage vegetation (mostly Jaumea and pickleweed) from this area and use it to plant areas enhanced by the additional flow through the larger culvert. If the sediment is not eroded naturally from the channel enough to meet design conveyance, we can return later and excavate it.

The Flood Control District is responsible for maintaining the culvert as designed, not for enlarging it, so the SEP would not be funding design and permitting that would otherwise be the responsibility of the Flood Control District. Enlarging the culvert is the key component because without a significantly larger culvert, there would not be adequate flow to maintain the channels and, except for the two that carry significant stormwater flows, the channels would fill in over time and the benefits of the project would be lost. Furthermore, the California Environmental Quality Act, which applies to this project, requires that the Lead Agency review the whole of a project. It would not be acceptable to request permits only for the SEP-funded portion of the project without an analysis of the entire project.

Goals: The Southeastern Creekside Marsh Habitat Enhancement SEP goals are to:

1. Increase the tidal prism to increase flushing in the marsh, improve the health of the marsh vegetation, and better manage sediment and flood flows in Corte Madera Creek;
2. Enhance clapper rail habitat by restoring flow to a channel that has filled in;
3. Enhance mid-to-high-marsh plain by improving tidal circulation; and
4. Provide access to rearing habitat and high-flow refugia for fish in the estuary by enlarging the culvert connecting the marsh to the main channel of Corte Madera Creek.

The following work plan describes the steps funded by the SEP.

Task 1: Characterize Existing Conditions

Task 1a Prepare a Detailed Digital Topographic Digital Elevation Model (DEM) of Creekside Marsh: Stetson Engineers (Stetson) will prepare a detailed digital topographic DEM at a small cell size (e.g., 1 ft by 1 ft) for the entire marsh under existing conditions using the recent Light Detection And Ranging (LiDAR) data obtained from the Federal Emergency Management Agency. The DEM will be prepared using a geographic information system and will be used to create the bathymetric file of the 2-dimensional MIKE 21[1] model.

Subtask 1b Evaluate Soils: Soil chemistry, fertility, and texture will be tested to identify where soil is deficient. If soil fertility or texture needs improvement, a strategy for addressing the deficiencies will be developed.

Subtask 1c Map Jurisdictional Wetlands and Vegetation: Plant species distribution will be classified and mapped into vegetation communities based on elevation and functional groups. Plant species elevation ranges will be determined by limited ground-truthing and elevation surveys. This elevation survey will also serve as the basis for the habitat design and planting plan for the project

Task 2: Develop Criteria for Marsh Design

Subtask 2a Identify Criteria for Biological Resources: Clapper rails need these three habitat components:

1. Narrow sinuous channels, lined by *Sarcocornia pacifica* and *Distichlis spicata* with abundant *G. stricta* for nesting;
2. Monocot structure, like *S. foliosa,* along the banks of larger channels and in the marsh plain if it's the right elevation, or patches of *Scirpus* at points of freshwater influence (near a source of sprinkler run-off, even); and
3. Higher elevation areas that provide high-tide refugia. Refugia should flood a couple of times a year on the very highest tides, but have vegetation (like *G. stricta*) that still stick out above the flood waters providing cover.

[1] MIKE 21 is a modeling system for two-dimensional free-surface flows that can be applied in lakes, estuaries, bays, coastal areas, and seas where stratification can be neglected. MIKE 21 can be applied to a wide range of hydraulic phenomena, including tidal currents, storm surges, secondary circulations (eddies and vortices), harbour seiching, dam-breaks, and tsunamis.

Salt marsh harvest mice use *S. pacific*a, particularly dense, tall stands. The project will result in a net increase in high marsh plain vegetation dominated by *S. pacific*a.

Many species of fish use the estuary, notably *Oncorhynchus mykiss* (steelhead trout) that migrate through it and adjust to changes in water salinity while in the estuary. Channels in the wetland could provide high-flow refugia in the winter. To benefit fish, passage through the new culvert should be possible at all tidal levels and risk of stranding should be limited.

Task 2b Identify the Threshold Water Level in the Marsh for Flooding of the Residential Parcels: There are residential parcels on the western edge of the Creekside Marsh. Stetson will carefully examine recent topographic data at the western edge of the Creekside Marsh and conduct a field visit/survey to determine the threshold water level in marsh when flooding of the residential parcels happens. This flooding water level threshold will need to be considered in sizing the enlarged culvert. That is, the culvert will need to be sized to increase hydraulic communication between the earthen channel and marsh, but not so much that the flooding water level threshold is reached during an extreme high tide event.

Task 3: Design Channels and Culvert
Task 3a Build a MIKE FLOOD 2-Dimensional Unsteady Hydraulic Models: Stetson will first develop a MIKE 11[2] model for a selected reach of the earthen channel and a MIKE 21 model for the marsh separately. Once test runs of the two separate models are conducted and the two models are runnable and stable, Stetson will then couple the two models using hydraulic links representing the upstream and downstream culverts. The model will simulate the flood and ebb of the tide between the bay and the earthen channel as well as the tidal-induced flow exchange between the earthen channel and the adjacent Creekside Marsh by way of the upstream and downstream culverts.

The model will be calibrated to the observed water levels within the marsh measured during the two-week period of April 23 to May 7, 2010 as part of the Flood Zone 9 project. The calibrated water levels and velocity distributions within the marsh will be examined to understand the hydrodynamics and the muting effect within the marsh, particularly in the eastern portion of the marsh. These results will inform determination of modifications of channels in the eastern portion of the marsh (Subtask 3b) and for sizing the enlarged culvert (Subtask 3c).

[2] MIKE 11 is a one-dimensional unsteady hydraulic model that provides the water surface elevation in a channel.

Subtask 3b Conduct MIKE FLOOD[3] Hydraulic Model Simulations to Determine Channel Modifications within the Eastern Portion of the Marsh: Because the hydrodynamics of the marsh will affect the sizing of the enlarged culvert, based on the results of Subtask 2c above Stetson will first conduct model simulations to determined modifications of the channels within the eastern portion of the marsh. Stetson will work with project biologists to arrive at a modified channel configuration that achieves the target biological-hydrological design objectives

Subtask 3c Conduct MIKE FLOOD Hydraulic Model Simulations to Size the Enlarged Culvert*:* Once the channel modifications within the eastern portion of the marsh are determined, Stetson will then size the enlarged culvert using the calibrated MIKE FLOOD model. Stetson will run repetitive simulations, starting with the existing culverts, to determine the extent to which enlargement of the downstream culvert might increase the volume of the tidal prism without violating the flooding water level threshold, using the existing culverts as the baseline condition. The simulated stage hydrograph of the eastern portion of the marsh under existing conditions will be compared with the tidal stage hydrograph in the adjacent earthen channel to examine the difference in timing and magnitude. A significant difference would suggest that the hydraulic capacity of the existing single 60-inch culvert limits the hydraulic communication between the channel and the eastern portion of the marsh. Incrementally larger sizes for this culvert will be simulated and evaluated through repetitive model simulations until “the point of diminishing returns” (i.e., benefits) is reached. Based on the modeling results, Stetson will recommend the dimension and invert elevation of the enlarged culvert for preparation of design plans.

Subtask 3d Evaluate Benefits of the Enlarged Culvert in Terms of Tidal Prism Enlargement and Long-Term Sediment Scour in the Earthen Channel and Report Results: Stetson will utilize the analysis approach that was developed for the marsh/earthen channel analysis for the Ross Valley Capital Improvement Plan Study to evaluate the benefits of the enlarged culvert in terms of tidal prism enlargement and long-term sediment scour in the earthen channel. Enlarging the prism will increase typical tidal flow and theoretically will increase channel depths. Stetson will evaluate potential for reducing periodic dredging needs in the tidal zone by expanding the tidal prism by the marshland floodplain restoration to increase natural daily sediment transport into San Francisco Bay under existing and future sea level conditions.

Subtask 3e Prepare 50% Drawings: Stetson and WRA Environmental Consultants (WRA) will prepare 50% drawing for use in the permit process. The designs will be presented with a technical memorandum that documents the analyses and summarizes the results. The memo will mainly include two parts; one part will document the MIKE FLOOD model configuration, data and assumptions used in the model, model calibration, and model simulation results. The other part will

[3] MIKE FLOOD is used to link the one-dimensional MIKE 11 and the two-dimensional MIKE 21 to analyze flood plains.

summarize the approach and results of the analysis of the sediment management benefits of the culvert enlargement.

Subtask 3f Develop Planting and Public Access Plan: We propose to salvage plants from the filled in channel and from the areas disturbed during installation of the larger culvert. These plants will be installed in around the new culvert and in currently bare areas. These bare areas may need some grading to be at the appropriate elevation and adequately drained. The planting plan will identify these areas, and those which can be planted in their current configuration. Planting along adjacent high marsh edges and upland areas to provide high-tide refugia is part of separate efforts, so it is not included here.

Task 4: Conduct Environmental Review and Obtain Permits
Subtask 4a Evaluate Ability of Marsh Design to Respond to Climate Change: Creekside Marsh has some upland areas where wetland vegetation can move to higher elevations as sea level rises. PRBO[4] Conservation Science is under contract with the North Bay Watershed Association (NBWA), in cooperation with Marin County Flood Control District, to evaluate the extent and impacts of modeled sea-level rise. That, and other studies underway, may inform this effort.

Subtask 4b Prepare Biological Assessment: At a minimum, California clapper rails, salt marsh harvest mice, and steelhead could be affected by the project. Other special-status species will be considered as appropriate.

Subtask 4c Prepare CEQA Document: The project must comply with the California Environmental Quality Act (CEQA), with Marin County as the lead agency. This proposal assumes that an Initial Study (IS) amended to be a Mitigated Negative Declaration (MND) will be the appropriate level of CEQA review for the proposed Eastern Creekside Marsh Enhancement Project. Environmental review for the proposed project is anticipated to include the following significant tasks and associated work products: Administrative Draft IS/MND, Draft IS/MND, Final IS/MND.

Subtask 4d Prepare Joint Aquatic Resource Permits Application (JARPA) Documents: Friends will prepare the JARPA documents with support from WRA and Stetson. Approvals for the project must be issued by several state and federal agencies:

- United States (US) Army Corps of Engineers: Consult with US Fish and Wildlife Service and National Oceanic an Atmospheric Administration (NOAA) National Marine Fisheries Service under Section 7 of the Federal Endangered Species Act;
- US Army Corps of Engineers: Evaluate the potential for impacts to cultural resources;
- Regional Water Resources Control Board: Provide Section 401 Certification;

[4] PRBO Conservation Science is the new name for what used to be the Point Reyes Bird Observatory; this represents a name change, not the use of an acronym.

- California Department of Fish and Game: Provide a Streambed Alteration Agreement and act as a responsible agency under CEQA; and
- Bay Conservation and Development Commission: Evaluate compliance with the McAteer-Petris Act

Subtask 4f Respond to Comments: The team will respond to comments from reviewers and revise the plans as necessary to respond to comments.

Task 5: Enlarge Culvert
Subtask 5a Conduct Land Surveys: Stetson will conduct land surveys around the culvert before the final design drawings and specifications are developed.

Subtask 5b Prepare Bid Package: Based on comments received during the permitting process, Stetson will prepare 80% design drawings and specifications for review and comment. Upon receipt of review comments from Marin County Flood Control District for the 80% design, Stetson will finalize the design and prepare a complete bid package for construction. Bid documents will include signed and sealed engineered drawings, contract specifications per County Standards and technical specifications sufficient to bid and construct the proposed final design. An engineer's estimate of probable cost will be prepared based on the final design.

Subtask 5c Support Construction. Stetson will support the bidding process by attending a pre-bid meeting, preparing response to questions, attending a public bid opening, reviewing bids and preparing a due diligence memo reviewing the contractors who submitted the three lowest bids. Once a contract is awarded, Stetson will attend a pre-construction meeting, review material submittals and show drawings. Stetson will administer the construction contract including reviewing pay quantities.

Subtask 5d Install Culvert. Construction of the culvert involves salvaging plants from the area to be disturbed, installing cofferdams to dewater the work area, removing the old culvert, installing the new culvert, restoring the path, and installing erosion control. At key times during construction, as spot checks and as issues arise, Stetson will inspect the contractors work for compliance with the design.

Subtask 5e Compliance Monitoring: A clapper rail biologist will be present during installation of cofferdams around the work area, but once the area is dewatered, no clapper rail monitoring will be necessary.

Task 6: Install Plants
Subtask 6a Prepare Soil in Bare Areas: The planting plan developed in Task 3f will identify areas that can be planted without changes in elevation or new channels through vegetated areas; a preliminary estimate suggests these areas cover approximately 500 square feet. These areas will be hand dug in preparation for planting material salvaged from the filled-in channel, mostly Jaumea and pickleweed.

Subtask 6b Install Salvaged Plants: Crews using only hand tools will salvage plants from the channel and immediately plant them in prepared areas. When work at the culvert is complete, the plants salvaged from that area will be planted in disturbed areas. If space is available at the right elevation, we will plant *Grindelia stricta* at the high marsh edge around the new culvert.

Task 7: Monitor and Report
Subtask 7a Conduct Photo-documentation: Viewpoints will be established and photos taken to provide on-going photo-documentation of the project from pre-construction through completion of monitoring.

Subtask 7b Prepare Quarterly Reports: Quarterly reports will be submitted throughout the SEP-funded work

Subtask 7c Monitor Implementation: Stetson will provide as-built drawings for the culvert. The areas planted will be photographed and mapped.

Subtask 7d Monitor Effectiveness: Stetson will install transducers to measure the change in tidal volume as a result of the enlarged culvert.

Subtask 7e Monitor Planting: Surveys will be done annually in September for three years to document the condition of vegetation; annual reports will be submitted describing the survey results. If coverage is less than 40% after two years, more planting will be done.

A Bay-wide collaborative (PRBO Conservation Science, National Wildlife Refuges, East Bay Regional Parks, California Department of Fish and Game, and ISP) monitors California clapper rails. One of the sites is Creekside Marsh, so it is not necessary to include clapper rail monitoring in this project.

Subtask 7f Prepare Final Report: A final report will be prepared, summarizing the project through completion of construction and the first September vegetation monitoring.

Task 8: Manage Project
Friends project manager will prepare contracts, invoices, and progress reports. She will also attend meetings and provide interim reports to stakeholders and team members of progress. All invoicing and communication will be done electronically to save on office expenses.

Compliance with SEP Criteria:

This section addresses how the project meets SEP criteria.

6. The Southeastern Creekside Marsh Habitat Enhancement Project directly addresses beneficial uses of waters of the State under **Criterion d, Habitat Restoration or Enhancement** and **Criterion f, Wetland Restoration or Creation**. New tidal channels will be created to provide clapper rail habitat and new high marsh plain

vegetation will provide suitable salt marsh harvest mouse habitat. Increasing the tidal prism will improve conditions for vegetation, wildlife, and fish in the marsh and promote sediment management.

7. The SEP contains only measures that go above and beyond applicable obligations of the discharger: Ross Valley Sanitary District (RVSD) has no obligation to maintain or enhance habitat at Creekside Marsh. The marsh is part of a Marin County park; the berm and culverts are owned by Marin County and were installed as part of the US Army Corps of Engineers Corte Madera Creek Flood Control Project.

8. The SEP does not directly benefit, in a fiscal manner, the Water Board's functions, its members, or its staff. Neither will RVSD's board, board functions, and staff benefit from the SEP. All of the funds will be used for the project as described; none of the recipients are connected to RVSD.

9. The SEP has a nexus to the location of the violation. RVSD's SSOs that are considered in the Regional Water Quality Control Board's 2012 Administrative Order occurred immediately adjacent to and/or upstream of Creekside Marsh. Considering the high levels of dilution that occur during wet weather events, it is not known whether these spills entered the marsh. However, the District has agreed to provide funding for this project. This project will enhance habitat directly adjacent to and downstream of the discharges in question.

10. Long-term Maintenance (beyond the SEP-funded project)
    a. Marin County Flood Control District, Zone 9 is responsible for maintaining the culvert and the main channel of Corte Madera Creek under an agreement with the US Army Corps of Engineers.
    b. Typically, native tidal marsh vegetation requires very little maintenance. The ISP will continue to treat and monitor invasive cordgrasses as long as funding is available. Absent the involvement of the ISP, the Marin County Parks Department will be responsible for ensuring that invasive cordgrasses are removed; this will be enforced by the Marin Agricultural Commissioner because all invasive cordgrasses are considered noxious weeds by the California Department of Agriculture.
    c. After SEP funding ends, maintenance and plant surveys will be done by Marin County Parks Department.

11. This project was identified as one component of the Ross Valley Watershed Program, a 20-year program to enhance habitat and reduce flood risk in the Corte Madera Creek Watershed. Marin County Parks Department, the owner and manager of Hal Brown Park at Creekside, supports efforts to enhance Creekside Marsh.

Project Milestones and Budget:

12. **Schedule and Deliverables:** Figure 4 is a Gantt chart with the project schedule, assuming that we can start work in July 2012. Because of clapper rail nesting season constraints, we can only enter the marsh during the period September 1

through January 31. Construction, that requires entry into the marsh, cannot begin before September 2013. If Marin County cannot review and approve the CEQA document in a timely manner or other permits are delayed beyond October 2013, then construction would be delayed until September 2014. The budget is in Figure 5. RVSD shall be responsible for costs as they are incurred, not to exceed the minimum of the project cost and $249,370.00, and as clarified in Paragraph 13. This commitment shall expire when the project is completed or the agreed funds are expended, whichever shall occur first.

Tasks described in the work plan are in the Gantt chart. Deliverables are as follows:

Deliverable	**Date**
Begin work	7/15/2012
Map of Jurisdictional Wetlands and Vegetation	10/15/2012
1st Quarterly Report	10/15/2012
Planting Plan	12/14/2012
2nd Quarterly Report	1/15/2013
Technical Memo re: Hydraulics Modeling	1/25/2013
50% Designs	1/25/2013
Biological Assessment	2/25/2013
JARPA and CEQA Doc Submitted	3/13/2013
3rd Quarterly Report	4/15/2013
Copies of Approvals	as available
4th Quarterly Report	7/15/2013
The following dates require approvals from regulators no later than 10/15/13	
5th Quarterly Report	10/15/2013
6th Quarterly Report	1/15/2014
Designs as Implemented	2/21/2014
7th Quarterly Report	4/15/2014
Final Construction Report	5/23/2014
8th Quarterly Report	7/15/2014
Final Report including Vegetation Monitoring (after first session of monitoring)	10/15/2014
Quarterly reports	1/15, 4/15, 7/15, and 10/15 of 2015 and 2016
Annual Vegetation Reports	10/15/2015 & 16

13. **Accounting:** Friends maintains a separate job number for each project and every transaction entered must have both a job number and an account (e.g., Postage and Delivery, Engineering, Biological Consulting, etc.). The treasurer does not pay bills without the authorization of the Project Manager, to ensure that unauthorized expenditures are not made. We use QuickBooks, a standard accounting program, which makes it easy to maintain accurate records and generate reports.

Any funds left over after the successful completion of the SEP must be turned over to the State Cleanup and Abatement Account.

Project Performance Measures

14. This table describes measures or indicators for the success of the SEP and procedures to evaluate compliance with the performance measures. The success will be documented by photos, as-built drawings, and vegetation surveys presented in the final report. Vegetation surveys will be conducted each September for three years following planting. If permits are received by 10/15/2013, construction will be completed by late January 2014. If regulatory agencies cannot process applications and issue approvals by then, the work would be delayed one year because the clapper rail nesting season requires that work be done between September 1 and January 31.

Action	Performance Measure	Procedures to Evaluate Compliance
Replace old culvert (original x-sec area ~20 sq ft) with new culvert(s) (x-sec area ~35 sq ft)	Increased tidal exchange from 11.0 ac-ft/day to 15.4 ac-ft/day; increased wetted area from 8 acres to 12.8 acres (daily average)	Install pressure transducers that measure water depth to record increased tidal prism.
Plant at least 500 square feet of mid-to-high-marsh plain native plants in suitable bare areas. The community is expected to be dominated by Jaumea and pickleweed, with some Frankenia and Limonium.	Provide 50% coverage of native mid-to-high marsh vegetation after 3 years.	Measure plant coverage annually in September for 3 years; install additional plants if coverage is less than 40% after two years.

Reports to the Water Board

15. Friends of Corte Madera Creek Watershed will submit quarterly reports on the progress of completion of the SEP to the Regional Water Board, the San Francisco Estuary Partnership, and the State Water Board's Division of Financial Assistance. We will also provide a final report documenting completion of the SEP, and addressing how performance measures were met, along with a copy of accounting records of expenditures.

Third Party Oversight Organization

16. San Francisco Estuary Partnership will provide third-party oversight for this project.

Figure 1: Creekside Marsh

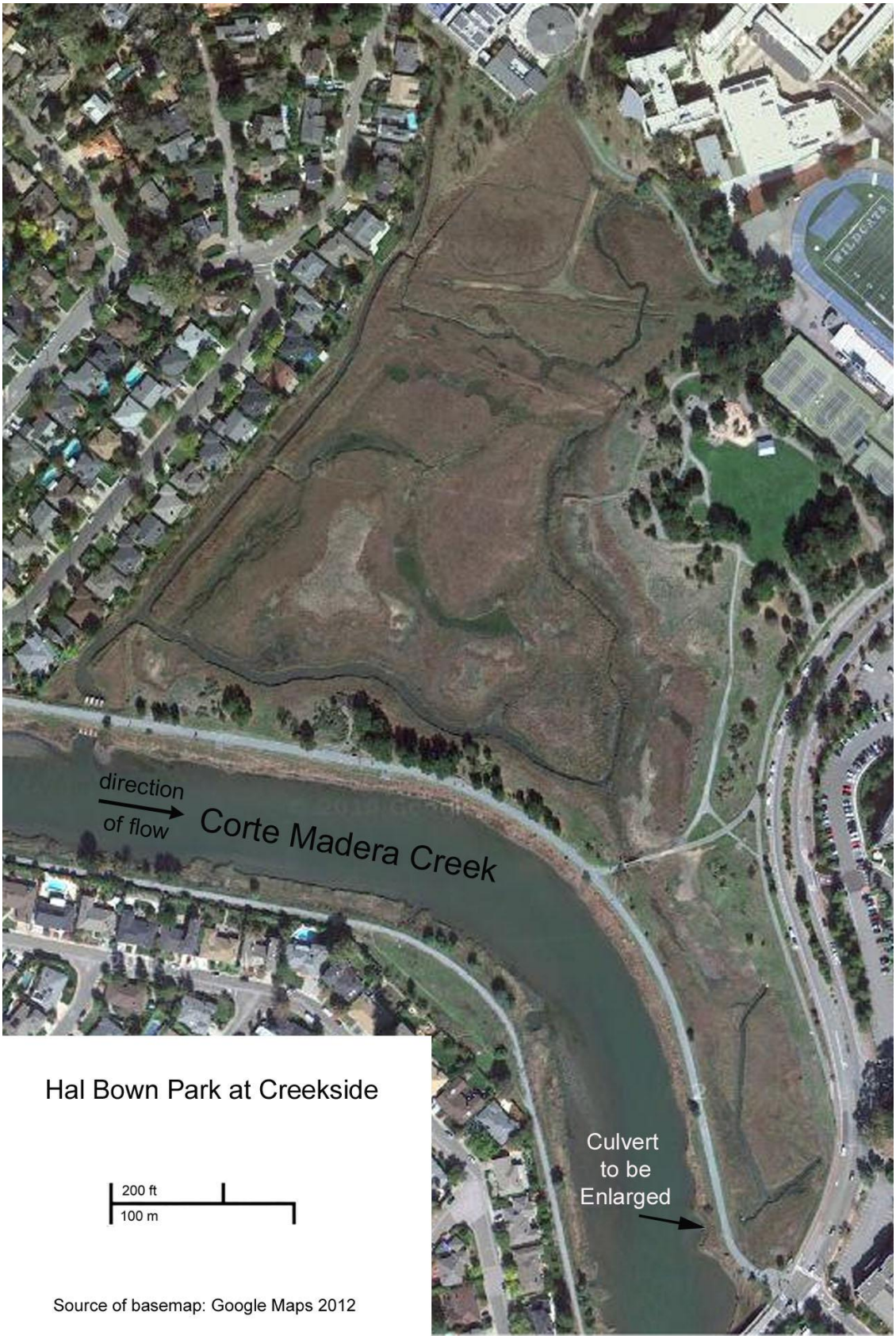


Figure 2: Views of Project Area

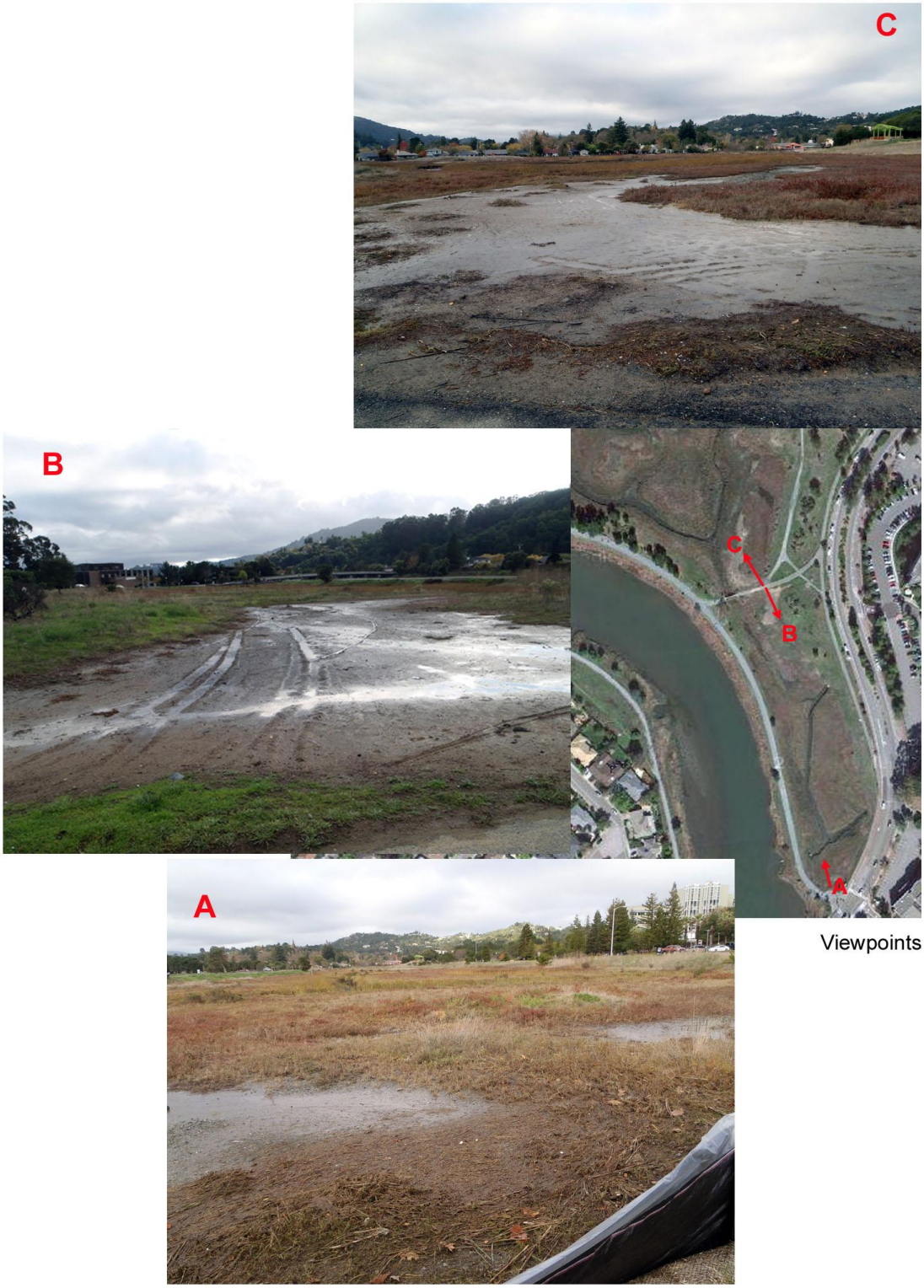


Figure 3: Southeastern Creekside Marsh Project Area

Figure 4: Schedule

	Activity Name	Duration (Months)	Start Date	Finish Date
1	**Task 1: Characterize Site**	**1.00**	**8/1/12**	**8/30/12**
2	1a Prepare DEM	0.86	8/1/12	8/27/12
3	1b Evaluate Soils	1.00	8/1/12	8/30/12
4	1c Map Jurisdictional Wetlands and Vegetation	1.00	8/1/12	8/30/12
5	**Task 2: Develop Criteria for Marsh Design**	**1.23**	**9/4/12**	**10/10/12**
6	2a Identify Criteria for Biological Resources	1.00	9/11/12	10/10/12
7	2b Identify Flooding Threshold	1.00	9/4/12	10/3/12
8	**Task 3: Design Culvert and Channels**	**3.86**	**10/1/12**	**1/25/13**
9	3a Build MIKE FLOOD Models	0.80	10/1/12	10/24/12
10	3b Design Channels using MIKE FLOOD	1.00	10/22/12	11/20/12
11	3c Design Culvert using MIKE FLOOD	0.75	11/26/12	12/18/12
12	3d Evaluate Benefits; Report Results of Modeling	1.00	12/17/12	1/15/13
13	3e Prepare 50% Designs	1.36	12/17/12	1/25/13
14	Publish Tech Memo re: Hydraulics Modeling	0.00	1/25/13	1/25/13
15	3f Develop Planting and Public Access Plan	0.91	11/19/12	12/14/12
16	**Task 4: Conduct Environmental Review and Obtain Permits**	**8.32**	**1/2/13**	**9/16/13**
17	4a Evaluate Response to Climate Change	0.50	1/25/13	2/8/13
18	4b Prepare BA	1.75	1/2/13	2/25/13
19	4c Prepare CEQA Document	2.00	1/2/13	3/4/13
20	4d Prepare JARPA	2.00	1/14/13	3/14/13
21	4e Respond to Comments	0.75	5/20/13	6/11/13
22	Approvals Issued	0.00	9/16/13	9/16/13
23	**Task 5: Install Larger Culvert**	**3.42**	**9/23/13**	**1/6/14**
24	5a Conduct Land Surveys	0.10	9/23/13	9/25/13
25	5b Prepare Bid Package	0.50	9/23/13	10/7/13
26	5c Support Construction	1.50	11/4/13	12/18/13
27	5d Replace Culvert	1.60	11/18/13	1/6/14
28	5e Conduct Complaince Monitoring	0.40	11/18/13	11/29/13
29	**Task 6: Relocate Plants**	**1.84**	**11/18/13**	**1/13/14**
30	6a Prepare Bare Areas	0.50	11/18/13	12/2/13
31	6b Plant Salvaged Material	1.60	11/25/13	1/13/14
32	**Task 7: Monitor and Report**	**26.27**	**8/1/12**	**10/17/14**
33	7a Conduct Photo-documentation	26.27	8/1/12	10/17/14
34	7b Prepare Quarterly Reports (QR)	23.18	8/1/12	7/15/14
35	7c Monitor Implementation	0.00	2/21/14	2/21/14
36	7d Monitor Effectiveness	1.00	1/6/14	2/4/14
37	7e Monitor Planting	1.00	9/8/14	10/7/14
38	7f Prepare Final Report	0.00	10/15/14	10/15/14
39	**Task 8: Manage Project**	26.27	8/1/12	10/17/14

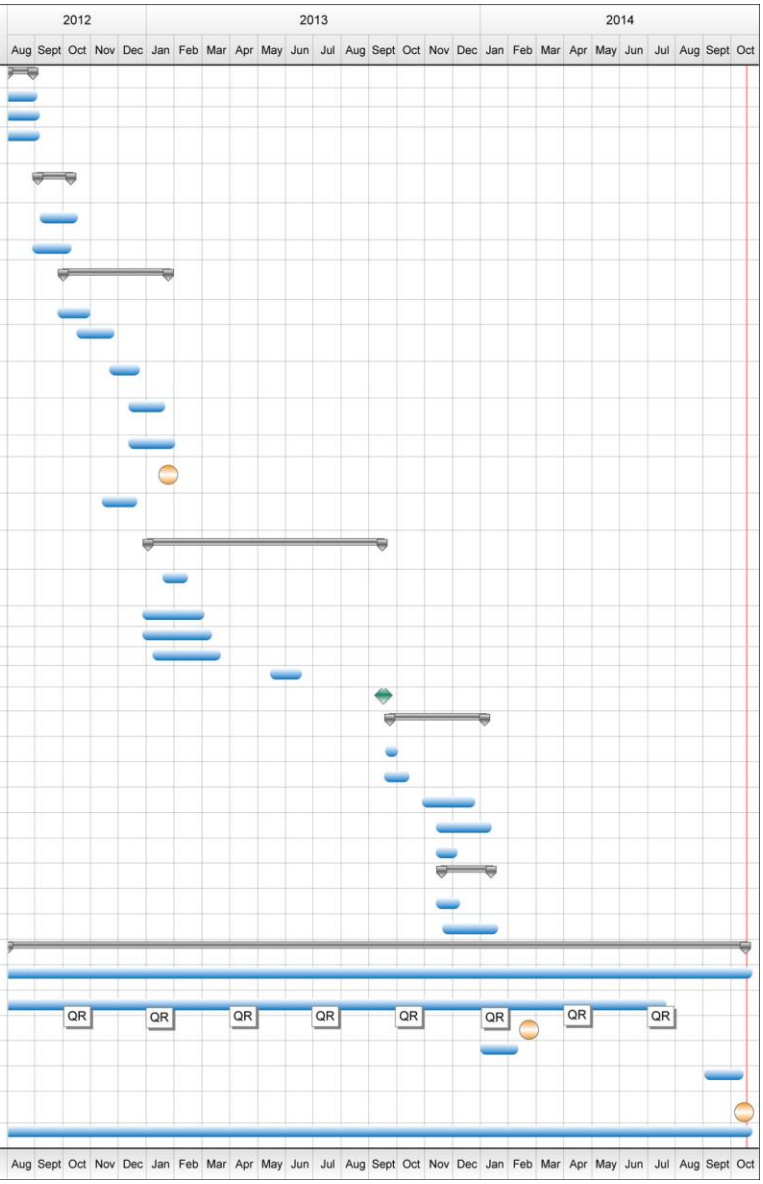


Figure 5: Estimated Budget

Eastern Creekside Marsh Culvert Enlargement - Estimated Budget						
	WRA	Stetson	Avocet	Fees	Other Contractor	**TOTAL**
Task 1: Characterize Site						
1a Prepare DEM		4,000				**4,000**
1b Evaluate Soils	2,400					**2,400**
1c Map Jurisdictional Wetlands and Vegetation	4,300					**4,300**
Task 2: Develop Criteria for Marsh Design						
2a Identify Criteria for Biological Resources	2,100		1,200			**3,300**
2b Identify Flooding Threshold		1,500				**1,500**
Task 3: Design Channels and Culvert						
3a Build MIKE FLOOD Hydraulic Models		6,000				**6,000**
3b Design Channels Using MIKE FLOOD		3,000				**3,000**
3c Design Culvert Using MIKE FLOOD		2,000				**2,000**
3d Evaluate Benefits and Report Models Results		4,500				**4,500**
3e Prepare 50% Designs for Culvert and Marsh		19,000				**19,000**
3f Develop Planting and Public Access Plan	6,000					**6,000**
Task 4: Conduct Environmental Review and Obtain Permits						
4a Evaluate Response to Climate Change		3,000				**3,000**
4b Prepare BA	5,000	2,000	440			**7,440**
4c Prepare CEQA Document (Friends & MC Parks)	5,000	2,000		2,500		**9,500**
4d Prepare JARPA Documents (Friends)	1,000	5,000		5,000		**11,000**
4e Respond to Comments	4,400	2,000	220			**6,620**
Design and Permitting Subtotal	30,200	54,000	1,860	7,500		**93,560**
Task 5: Install Larger Culvert						
5a Conduct Land Surveys		2,310				**2,310**
5b Prepare 80% and Final Culvert Designs		12,000				**12,000**
5c Support Construction		14,000				**14,000**
5d Install Larger Culvert					116,000	**116,000**
5e Conduct Compliance Monitoring	1,000					**1,000**
Task 6: Relocate Plants						
6a Prepare Bare Areas					2,500	**2,500**
6b Plant Salvaged Material						**-**
Task 7: Monitor and Report						**-**
7a Conduct Photo-documentation						**-**
7b Prepare Quarterly Reports						
7c Monitor Implementation		5,000				**5,000**
7d Monitor Effectiveness		3,000				**3,000**
7e Monitor Planting						**-**
7f Prepare Final Report						**-**
Task 8: Manage Project (Friends)						**-**
Construction and Monitoring Subtotal	1,000	36,310	-	-	118,500	**155,810**
TOTAL	**31,200**	**90,310**	**1,860**	**7,500**	**118,500**	**249,370**

ATTACHMENT B

SUPPLEMENTAL ENVIRONMENTAL PROJECT

Private Lateral Replacement Grant Program

Sanitary District No. 1 of Marin County, also known as Ross Valley Sanitary District

Supplemental Environmental Project (SEP) (1 of 2)

A. Project Name:
Private Lateral Replacement Grant Program (PLRGP)
B. Project Developed by:
Sanitary District No. 1 of Marin County (District)
C. Project to be Performed by:
Sanitary District No. 1 of Marin County
D. Contact:
Mr. Brett Richards, General Manager Sanitary District No. 1 of Marin County 2960 Kerner Boulevard San Rafael, CA 94901 Telephone: 415-259-2949 Fax: 415-460-2149 Email: BRichards@rvsd.org
E. Compliance with SEP Criteria:
1. **Benefit to Water Quality and Beneficial Uses**. The PLRGP will reduce inflow and infiltration (I&I) into the District's collection system from defective private sewer laterals. A reduction in I&I entering the District's collection system will benefit surface water quality and beneficial uses by decreasing the potential for spills of untreated sewage from the District's system to surface waters during wet weather. In addition, the program should reduce the number and volume of private spills to surface waters from defective laterals. 2. **SEP is not an Obligation of Discharger.** The District has not been required to develop, implement or fund the PLRGP by any permit or order or any local, state or federal law. 3. **No Fiscal Benefit to Water Board.** The PLRGP does not provide any fiscal benefit to the Regional Water Quality Control Board's (Regional Water Board) functions, its members or its staff. 4. **Nexus Between Violation and SEP.** A nexus exists between the District's

spill violations and the PLRGP because repair or replacement of defective private laterals will reduce the amount of I&I entering the District's collection system from these laterals, thereby reducing the likelihood of future wet weather spills from the District's system. In addition, repair or replacement of defective private laterals should reduce the number of private lateral spills and their related consequences.

5. **Plans to continue or maintain the SEP beyond the SEP**-funded period: There are no plans to continue the PLRGP after the SEP-funded period.

F. Description of Project:

1. **Goals of the SEP and detailed plans for achieving the goals**. The goals of the PLRGP are (1) to provide incentives to property owners to replace private laterals and thereby reduce the I&I entering the District's collection system; and (2) to focus private lateral repairs in basins with the greatest I&I. The District will achieve these goals by making grant funds available for private lateral replacements with the objective of accomplishing the performance measure standards described in the following section.

2. **Project Overview.** District funds will be allocated to include, but not be limited to, subsidizing the replacement of defective private laterals. Emphasis will be placed on private laterals in basins that are determined from the District's flow monitoring program to have the highest levels of I&I (presuming laterals and sewers in the same location will contribute similar levels of I&I).

   A description or map showing these high I&I basins will be provided in the first quarterly report due to the Regional Board and updated and/or revised as necessary in each subsequent quarterly report.

3. **Project Description**.

   a. The District will encourage or conduct CCTV inspection of the private lateral by a District-qualified contractor.

   b. If the CCTV inspection results qualify the private lateral for replacement, the private property owner will be reimbursed in part or in whole for the cost of the CCTV inspection.

   c. In addition, when the District replaces a mainline sewer in a sewer basin that has been identified in the prior quarterly report as having high I&I, the District will further motivate the homeowner to conduct a CCTV inspection of the private lateral by paying for the cost of inspection even if the inspection determines that the lateral does not require replacement.

   d. The property owner seeking grant funds will complete a PLRGP application and submit the application to the District in conjunction with a DVD of the lateral inspection.

   e. If the CCTV inspection identifies one or more defects in the private

lateral that qualify the lateral for District funding, the District will direct the homeowner to replace the private lateral within a certain period of time using an independent contractor. The District will provide a list of contractors for the homeowner's reference.

f. For laterals requiring replacement that are associated with mainline sewers described in (c) above, the District will replace the portion of the lateral within the public right of way as part of the District's mainline sewer replacement project. The District's cost to replace the lower lateral will be recorded as a District LRGP expenditure but will not be deducted from the homeowner's PLRGP or counted towards this PLRGP SEP allotment. The homeowner will remain responsible for replacing the portion of the private lateral within private property as described in (e), above.

g. The homeowner and their contractor will properly permit the work and obtain inspection by the District in compliance with terms of the permit.

h. The homeowner will submit a copy of the contractor's invoices, paid in full, to the District.

i. Upon the contractor's satisfactory completion of the work, the District will reimburse the homeowner in an amount deemed appropriate by the District to achieve the performance measures described below.

G. Key Personnel Involved in SEP:

The District's management, engineering and maintenance staff will develop and implement the PLRGP.

H. Project Milestones and Budget:

The District will fund the PLRGP in the amount of $482,380. This amount, when added to the proposed cost of the additional proposed SEP, results in a total amount of $731,750, which is half of the total adjusted monetary assessment of the District's liability under the Regional Water Board's enforcement action.

The PLRGP will include the following milestones, measured from the effective date of the enforcement action:

2 months	Develop an outreach program informing homeowners about the PLRGP. The District, in its outreach materials, will state in a prominent manner that the PLRGP is part of the settlement of an enforcement action by the Regional Water Board against the District.
4 months	Implement outreach program
6 months	Submit report to the Regional Water Board on implementation of the outreach program

Ongoing	Submit quarterly status reports as further described below in the section entitled "Reports to the Regional Water Quality Control Board" on or before the following dates:

2012	**2013, 2014, and 2015**	**2016**
October 20	January 20 April 20 July 20 October 20	January 20 April 20 July 20

November 1, 2016	Submit final report and certification of completion documenting completion of the SEP, and addressing how performance measures were met, along with a copy of accounting measures of expenditures.
Ongoing	Maintain a monthly accounting of grant funds.

I. Project Performance Measures:

1. The District will measure the success of the PLRGP by tracking the number, length, location, and cost of replacements of defective private laterals.
2. Suspension of $482,380 in administrative civil penalty will be suspended pending successful completion of the program that equates to the satisfactory repair or replacement of a total of 283 defective private sewer laterals and compliance with the SEP provisions in the Settlement Agreement for this matter, which include the requirement that the District demonstrate that it has expended a minimum of $482,380 to implement the SEP project.
3. If the program results in fewer than 283 private laterals repaired or replaced, the final suspended amount shall be the number of lateral repaired or replaced multiplied by $1,700.
4. The District shall pay any difference between $482,380 and the final suspended amount to the State Cleanup and Abatement Account.

J. Reports to the Regional Water Quality Control Board:

The District will provide a quarterly progress report to the Regional Water Board's designated representative, the oversight organization, and the Division of Financial Assistance of the State Water Board in accordance with the schedule set forth in the Project Milestones and Budget section above.

1. Each report shall include a table showing:
   a. The number and length of laterals replaced for the period, and from the beginning of the program
   b. The street address locations for each inspected lateral
   c. The street address for each replaced lateral
   d. The month and date the inspection and/or the repair was completed

e. The amount of grant funds expended on each lateral replacement f. The amount of grant funds remaining after each lateral replacement is funded g. A summary of outreach conducted and copies of any supporting materials for the program 2. The District will provide by the due date set forth in the Project Milestones and Budget section above, a final report and certification of completion in accordance with the Settlement Agreement for this matter.
K. Third Party Oversight Organization:
To ensure completion of commitments and appropriate expenditure of funds, oversight and audit of the project will be conducted by the San Francisco Estuary Partnership (SFEP).

ATTACHMENT C

STAFF REPORT TITLED PROPOSED ADMINISTRATIVE CIVIL LIABILTY FOR THE SANITARY DISCHARGER #1 OF MARIN (ALSO KNOWN AS "ROSS VALLEY SANITARY DISTRICT") REGARDING SANITARY SEWER OVERFLOWS: STAFF REPORT AND CONSIDERATION OF FACTORS UNDER WATER CODE SECTION 13385

California Regional Water Quality Control Board
San Francisco Bay Region

Matthew Rodriquez
Secretary for
Environmental Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Edmund G. Brown, Jr.
Governor

TO: Laura Drabandt
Staff Counsel
Office of Enforcement
State Water Resources Control Board

FROM: Claudia Villacorta, P.E.
Sr. Water Resources Control Engineer
NPDES Enforcement Section
San Francisco Bay Regional Water Quality Control Board

Reviewed and Approved By:

DATE: December 13, 2011

SUBJECT: Administrative Civil Liability for the Sanitary Discharger #1 of Marin (also known as "Ross Valley Sanitary District") regarding Sanitary Sewer Overflows: Staff Report and Consideration of Factors under Water Code Section 13385

INTRODUCTION

The Ross Valley Sanitary District (herein referred as the "Discharger") provides wastewater collection service for the towns of Fairfax, San Anselmo, and Ross, the City of Larskpur, and the unincorporated areas of Sleepy Hollow, Kentfield, Kent Woodlands, Oak Manor, and Greenbrae. Under contract, the Discharger also serves the collection system of Murray Park and the conveyance system (pump station and force main) for San Quentin Prison. The Discharger owns, operates, and maintains approximately 195 miles of gravity sewer pipelines, 9 miles of force mains, and 20 pumping stations that collect and transport an average of 5 million gallons per day (MGD) of wastewater to the Central Marin Sanitation Agency (CMSA) Treatment Plant. The Discharger's collection system serves a population of approximately 50,000.

From January 1, 2008, through April 21, 2011, the Discharger reported 149 SSOs that total 3,162,243 gallons with 2,588,758 gallons not recovered. Of the total volume not recovered, the Discharger reported approximately 2,553,944 gallons or 36 SSOs that reached waters of the United States.

Of the 36 SSOs reported that reached waters of the United States, 2 were particularly significant and resulted in the discharge of about 2,384,789 gallons of raw sewage diluted with storm runoff and groundwater to waters of the United States. The nature and circumstances of these overflows, which occurred from December 17-19, 2010, and on December 22, 2010, are discussed in detail below together with notification and reporting deficiencies for various SSOs related to both SSO reports. In general, the cause of the SSOs during December 17-19, 2010, was insufficient wet weather capacity of the Discharger's collection system, particularly when

one of its major pump stations, the Kentfield Pump Station (or Pump Station 15), was shutdown, in combination with debris blockage. The cause of the SSOs during December 22, 2010, was pipeline failure and insufficient wet weather capacity of the collection system when Pump Station 15 was shut down, and possibly debris blockage. The causes of the remaining SSOs (totaling about 169,155 gallons of raw sewage to waters of the United States) were root and debris blockages, flow exceeding capacity, and pipeline/structural failure. The reported causes and final spill destinations of these SSOs are summarized in Tables 1 (see Appendix A).

The 36 SSOs that occurred during the period January 1, 2008, through April 21, 2011, resulted in the discharge of untreated wastewater and pollutants to waters of the United States in violation of State Water Board Orders (Order No. 2006-0003 DWQ and Order No. 2008-0002-EXEC) and Section 301 of the Clean Water Act. Pursuant to Water Code sections 13385(a)(1) and (5), the Regional Water Board may impose civil liability for an unauthorized discharge of pollutants to waters of the United States, and for violating section 301 of the Clean Water Act. For violations of the Orders reporting and notification requirements, the Regional Water Board may impose civil liability pursuant to Water Code section 13268(b)(1). Based upon consideration of the factors in Water Code Section 13385, which are discussed in detail below, the Assistant Executive Officer proposes that civil liability be imposed upon the Discharger in the amount of $1,539,100.

AUTHORITY

The requirements applicable to the Discharger are:

1. California Water Code section 13376 prohibits the discharge of pollutants to surface waters of the United States except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit.

2. Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C. § 1311) section 301 provides that it is unlawful for any person to discharge any pollutant into waters of the United States unless that person has complied with all permitting requirements under the Clean Water Act.

3. The Discharger's collection system is regulated by Statewide General Waste Discharge Requirements, Order No. 2006-0003 DWQ, adopted by the State Water Resources Control Board (or State Water Board) on May 2, 2006. As owner of a collection system, the Discharger is required to comply with Order No. 2006-0003 DWQ (or General WDR). The Discharger filed a Notice of Intent for coverage under the General WDR on July 11, 2006. The effective date of the General WDR is July 27, 2006.

4. Order No. 2006-0003 DWQ includes the following finding, prohibition and provisions:

    2. Sanitary sewer overflows (SSOs) are overflows from sanitary sewer systems of domestic wastewater . . .

    C. PROHIBITIONS

1. *Any SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.*

D. *PROVISIONS*

8. *The Enrollee shall properly manage, operate and maintain all parts of the sanitary sewer system owned and operated by the Enrollee, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess knowledge, skills, and abilities.*

I. *INCOMPLETE REPORTS*

1. *If an Enrollee becomes aware that it failed to submit any relevant facts in any report required under this Order, the Enrollee shall promptly submit such facts or information by formally amending the report in the Online SSO Database* (Herein referred as the California Integrated Water Quality System or CIWQS).

5. The Discharger's collection system is also regulated by Monitoring and Reporting Requirements as revised by Order No. 2008-0002-EXEC, Amended Monitoring and Reporting Requirements for Order No. 2006-0003-DWQ.

6. Order No. 2008-0002-EXEC includes the following requirements:

Notification

1. *For any discharges of sewage that results in a discharge to a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services, the local health officer or directors of environmental health with jurisdiction over affected water bodies, and the appropriate Regional Water Quality Control Board.*

2. *As soon as possible, but not later than twenty-four (24) hours after becoming aware of a discharge to a drainage channel or a surface water, the Discharger shall submit to the appropriate Regional Water Quality Control Board a certification that the State Office of Emergency Services and the local health officer or directors of environmental health with jurisdiction over the affected water bodies have been notified of the discharge.*

4. *Category 1 SSOs-… all SSOs that meet the … criteria for Category 1 SSOs must be reported…to the Online SSO System as soon as possible but not later than 3 business days after the Enrollee is made aware of the SSO…A final certified report must be completed through the Online SSO System, within 15 calendar days of the conclusion of SSO response and remediation.*

5. *Category 2 SSOs-All SSOs that meet the… criteria for Category 2 SSOs must be reported to the Online SSO Database within 30 days after the end of the calendar month in which the SSO occurs…*

The California Water Code Provisions relevant to the Discharger are:

1. Pursuant to California Water Code section 13376, a discharger is prohibited to discharge pollutants to surface waters of the United States except in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. State Water Board Order No. 2006-0003-DWQ and Order No. 2006-0003 DWQ are not NPDES permits. A discharger is liable for violating section 13376 pursuant to California Water Code section 13385(a)(1) in an amount not to exceed the sum of both of the following:
   a. Ten thousand dollars ($10,000) for each day for each violation.
   b. Ten dollars ($10) for each gallon exceeding 1,000 gallons of discharge and not cleaned up.

   If this matter is referred to the Attorney General for judicial enforcement, a higher liability of $25,000 for each day for each violation and $25 for each gallon exceeding 1,000 gallons of discharge and not cleaned up, may be imposed by a superior court

2. Pursuant to the Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C. § 1311) section 301, a discharger is prohibited to discharge pollutants to surface waters of the United States except in compliance with an NPDES permit. A discharger is liable for violating section 301 of the Clean Water Act pursuant to California Water Code section 13385(a)(5) in an amount not to exceed the sum of both of the following:
   a. Ten thousand dollars ($10,000) for each day for each violation.
   b. Ten dollars ($10) for each gallon exceeding 1,000 gallons of discharge and not cleaned up.

   If this matter is referred to the Attorney General for judicial enforcement, a higher liability of $25,000 for each day for each violation and $25 for each gallon exceeding 1,000 gallons of discharge and not cleaned up, may be imposed by a superior court

3. Pursuant to California Water Code section 13267(b)(1), a discharger is required to submit technical and monitoring reports for any discharge or proposed discharge to waters of the state. State Water Board Order No. 2006-0003-DWQ and Order No. 2006-0003 DWQ require technical and monitoring reports. A discharger is liable for violating section 13267 pursuant to section 13268(b)(1) for up to $1,000 a day for each violation.

   If this matter is referred to the Attorney General for judicial enforcement, a higher liability of $5,000 for each day for each violation may be imposed by a superior court.

VIOLATIONS

1. SSOs that occurred during the period January 1, 2008, through April 21, 2011, resulted in the discharge of untreated wastewater and pollutants to waters of the United States in violation of Order No. 2006-0003-DWQ, and Section 301 of the Clean Water Act, and California Water Code section 13376.
2. SSOs that occurred during the period January 1, 2008, through April 21, 2011, were caused by the Discharger's failure to properly operate and maintain its collection system in violation of Order No. 2006-0003-DWQ.
3. For the SSOs on December 17-19, 2010, , the Discharger failed to provide notice of the SSOs to the appropriate agencies within 2 hours, and to provide within 24 hours a certification that the local health officer had been notified of the discharge, thus violating Order No. 2008-0002-EXEC (amending Order No. 2006-0003-DWQ).
4. For the December 17-19, and 22, 2010, SSOs, the Discharger failed to timely report the SSOs via CIWQS in violation of Order No. 2008-0002-EXEC (amending Order No. 2006-0003-DWQ).
5. The Discharger failed to report via CIWQS an SSO that occurred from manhole # 2647 at the intersection of Behrens Drive and Sherwood Drive on December 22, 2010, in violation of Order No. 2008-0002-EXEC.

MAXIMUM LIABILITY

The maximum administrative civil liability the Regional Water Board may impose for each of the violations described above is $25,860,790. See Tables in Appendix A for calculations.

CONSIDERATION OF FACTORS

Nature and Circumstances

From January 1, 2008, through April 21, 2011, the Discharger reported 149 SSOs that total 3,162,243 gallons with 2,539,105 gallons not recovered. Of the total volume not recovered, the Discharger reported that approximately 2,553,944 gallons or 36 SSOs reached waters of the United States.

Of the 36 SSOs that occurred during the period January 1, 2008, through April 21, 2011, there were two significant SSOs reported that resulted in the discharge of about 2,384,789 gallons of raw sewage diluted with storm runoff and groundwater to surface waters of the United States. The nature and circumstances of these two SSO reports are discussed in more detail below. The causes of the remaining SSOs (totaling about 169,155 gallons of raw sewage to waters of the United States) are primarily root and debris blockages, flow exceeding capacity and pipeline/structural failure. The cause and final spill destinations of these SSOs are summarized in Tables A-1 (see Appendix A).

Background of System Operation Prior to December 2010 SSOs

As depicted in Figure 1 (see Appendix B), during normal operation, sewage from the unincorporated areas of Kent Woodlands and portions of Kentfield flows through two parallel gravity pipelines (27-inch and 30-inch pipelines) along the Kent Middle School property, crosses Corte Madera Creek via a double barrel siphon, and then combines with sewage from the 39-inch Ross Valley gravity pipeline (which carries flows from the towns of Fairfax, San Anselmo, portions of Ross and the unincorporated area of Sleepy Hollow). This combined flow is then directed to either the 30-inch McAllister gravity pipeline or pumped via Pump Station 15 to the 36-inch Kentfield force main (Force Main 15[1]). Flows from Force Main 15 and the 30-inch McAllister pipeline are ultimately transported via a series pump stations and force mains to the CMSA Treatment Plant. According to the Discharger's Sewer Hydraulic Evaluation and Capacity Assurance Plan (SHECAP), Force Main 15 conveys about 60 percent of the Discharger's sewage flow during wet weather[2].

Prior to the December 17-19, 2010, SSOs, the Discharger turned off Pump Station 15 in order to replace Force Main 15[3]. Force Main 15 is composed of Techite, a fiberglass material known to have a greater probability of failure than other pipeline materials, including catastrophic failures. Due to the high risk of failure and the critical nature of Force Main 15, its replacement was a priority for the Discharger. While Pump Station 15 was off, sewage in the 39-inch Ross Valley pipeline and the two parallel Kent Middle School pipelines flows to the 30-inch McAllister pipeline.

<u>December 17 to 19, 2010, SSOs</u>

The Discharger reported all SSOs that occurred during this time period as one SSO that discharged 909,991 gallons of raw sewage diluted with storm runoff and groundwater to waters of the United States. The Discharger reported that this SSO occurred over a period of three days from six different locations and was caused solely by construction-debris blockage. In response to the Prosecution Staff's requests, the Discharger provided additional details on March 2, 2011[4], about the six SSO locations. Prosecution Staff summarized these details in Table 2, below. Figure 1 [5] illustrates the various collection system pipelines, locations where these six overflow occurred, and relevant pump stations.

Upon further analysis of each of the locations and times when each SSO started and stopped, Prosecution Staff has determined that what was reported as one SSO, was four separate incidents. The rationale for this conclusion is described in subsections below for each of the overflow locations reported. In summary, the Prosecution Staff grouped the six SSO locations as follows: (1) SSO locations #1, #3, and #4, (2) SSO location #2, (3) SSO location #5, and (4) SSO location #6.

Table 5. December 17-19, 2010, SSO Locations, Start/End Dates and Volumes

Number	SSO Location	Associated Pipeline(s) of SSO Location	Start Date/ Time	End Date/ Time	SSO Volume, gallons
1	Cleanout at 5 Stadium Way	Sewer lateral that connects to 30-inch	12/17/10 20:43	12/18/10 01:30	24,482

Number	SSO Location	Associated Pipeline(s) of SSO Location	Start Date/ Time	End Date/ Time	SSO Volume, gallons
		McAllister pipeline			
2	Manhole #3863 at intersection of College Avenue and Magnolia Avenue	14-inch pipeline that connects to both parallel 27-inch and 30-inch Kent Middle School pipelines	12/17/10 23:00	12/18/10 13:00	62,364
3	Cleanout at 221 McAllister Avenue	Sewer lateral that connects to 30-inch McAllister pipeline	12/18/10 02:00	12/18/10 05:00	144
4	Manhole at Pump Station 15 Kentfield	Connects to Pump Station 15 which discharges to Kentfield Force Main (Force Main 15)	12/18/10 02:30	12/18/10 04:30	7,440
5	Manhole #7317 at Kent Middle School	30-inch Kent Middle School pipeline	12/18/10 07:30	12/18/10 15:00	998,100
6	Manhole #3800 at intersection of Laurel Street and Locust Street	pipeline that connects to 39-inch Ross Valley pipeline	12/18/10 19:40	12/19/10 03:10	18,000
Total SSO Volume from all locations					**1,110,530**
Total SSO Volume Recovered					**200,539**[6]
Total SSO Volume Reached Surface Water					**909,991**

General Causes of December 17-19 SSOs

The shutdown of Pump Station 15, excessive I/I flows into the Discharger's collection system, and debris or other material in the system, led to the SSOs summarized in Table 2.

As discussed in more detail in the Degree of Culpability Section below, during wet weather conditions, when Pump Station 15 is offline, some parts of the collection system are operating at a reduced capacity while other parts operate near maximum capacity. Additionally, the Discharger's collection system is subject to high rates of I/I due to its aging infrastructure (71 % of the system was constructed between 1940-1959[7]), high rainfall in the area, and low

permeability soils. The Discharger's collection system, in particular the Kent Woodlands collection system area, is located in a microclimate that receives some of the highest amounts of rainfall in Marin County. Due to the low permeability of the substrata leaking and broken sewer pipes end us acting a as subdrains during storm events and taking a large amount of I/I[8].

Based on precipitation data obtained from the Marin County Flood Control and Water Conservation District[9] (see Appendix A.1 for storm hyetograph), approximately 2.36 inches of rain fell over a 24-hour period at the Kentfield rain gauge site on December 17-18, 2010, and previous to this event, approximately 13.44 inches had fallen at the site since October 1, and 2.45 inches since December 1. Because the December 17-18, 2010, storm event was not the first storm event of the wet weather season, the soils were likely somewhat saturated. When soils are saturated, they have a reduced capacity of absorbing water and attenuating flows thus leading to greater surface water flows in nearby streams and greater I/I into the collection system. Stream elevation data, indicates a 3.4-foot increase in the elevation of surface water levels in Corte Madera Creek during the December 17-18, 2010 storm event. This notable rise in surface water levels over a short period suggests that soils in the surrounding area were indeed saturated prior to the storm and high I/I into the collection system likely.

For comparison, during the first storm event of the wet weather season on October 23-24, 2010, the Discharger had Pump Station 15 turned off with no SSO occurrences. Based on precipitation data obtained from the Marin County Flood Control and Water Conservation District, approximately 4.6 inches of rain fell over a 24-hour period at the Kentfield rain gauge site on October 23-24, 2010, and previous to this storm event only 0.5 inches of rain had fallen at the site since October 1 and no rain since June 1. Because the October 23-24, 2010, storm event was the first significant storm event of the wet weather season, the surrounding soils were minimally saturated. The stream water level rise in Corte Madera Creek during this storm event was less than half of the rise that occurred during the December 17-18, 2010, storm event (about a 1-foot rise was recorded during the October 23-24 storm event). When soils are unsaturated or minimally saturated, they have an increased capacity to absorb and attenuate water leading to minimal I/I flows into the collection system. With minimal I/I rates entering the system, the Discharger's collection system appears to have had sufficient capacity to handle wet weather flows during the October 23-24, 2010, storm event, even with Pump Station 15 turned off.

Our conclusion that debris could have been a factor in causing the overflows is based on the Discharger finding debris, including construction debris, in parts of the system, and the Discharger's reported overflow start and end times. On December 18 and 21, 2010, the Discharger removed debris from three manholes (manhole #3831, #2513 and #3813) along the 27-inch Kent Middle School pipeline between SSO locations #2 and #3. The debris removed consisted of asphalt pieces of various sizes[10] (see Photo 1 in Appendix D) and various other construction materials[11]. On December 19, 2010, the Discharger also removed pieces of running track from the screen at Pump Station 15 (see Photo 2 in Appendix D). Subsequently, on December 30, 2010, the Discharger cleaned the Corte Madera siphon and found debris in the 18-inch barrel of the siphon consisting of nail gun cartridges and Class II engineered backfill. Prior to the SSO events (on August 5, 2010, mid-October, 2010, and November 5, 2010), the Discharger documented discovering various other construction materials from the screens at Pump Stations 13 and 15, and from manholes on College Avenue and Magnolia Avenue[12].

While there is no direct evidence to determine if debris found after these SSOs was present prior to or during the SSOs, the most plausible explanation for the disconnected timing of the overflows is that the lodging and dis-lodging of debris contributed to the timing and magnitude of the overflows, as described below.

Possible Chain of Events and Specific Causes of December 17-19, 2010, SSOs

The following sections provide a possible chain of events and causes for the December 17-19 SSOs based on the evidence provided to Regional Water Board Prosecution Staff. It also provides the rationale for the conclusion that the one single SSO reported by the Discharger were really four separately caused SSOs. The chain of events is based on the assumption that the overflow location start and stop times provided by the Discharger are accurate. Accurate manhole and cleanout rim elevation could verify or refute the chain of events. However, the Discharger does not have sufficiently accurate elevation information.

December 17-19 SSO Locations # 1, #3, and #4

The timing of the three SSOs at these locations was within minutes to a couple of hours of each other, so it is likely that these overflows are part of the same chain of events. Specifically, the following is a possible and likely chain of events:

- wet weather which began at approximately 02:00 on December 17 fully saturates soils and causes I/I, which in combination with the Pump Station 15 shutdown causes the 30-inch McAllister line to run at or near surcharged capacity;
- debris partially restricts flow in the line somewhere downstream of location #1;
- overflow at #1 cleanout starts December 17 at 20:43;
- some or all of the debris dislodges a few hours later on December 18 at about 01:30 and moves downstream to block the line somewhere downstream of location #3;
- overflow at #1 stops at 01:30;
- overflow at # 3 starts 30 minutes later at 02:00;
- same blockage causes higher surcharging upstream resulting in overflow at location #4 about 1 hour later at 02:30 (this assumes rim elevation at #1 is higher than #3 and #4, otherwise #1 would also overflow; if assumption is false, overflow at #4 would be unrelated to # 1 or #3 and was separately caused);
- rainfall stops at about 04:00 decreasing the rate of I/I, which in turn leads to lower flows and surcharge levels in the system;
- the blockage downstream of #3 could also fully or partially dislodge sometime prior to 05:00;
- overflow at #4 stops at 04:30; overflow at #3 stops at 05:00.

December 17-19 SSO Location #2

The SSO at location #2 appears to be separate from the other five overflows. While it started within 3 hours after the overflow at location #1 and 3 hours before the overflows at location #3 and #4, overflow location #2 is upstream from #1, #3 and #4. It also continued well over 8 hours

after overflows at #1, #3, and #4 stopped. The following is a possible and likely chain of events for the overflow at #2:

- wet weather starting on December 17, in combination with Pump Station 15 shutdown, causes 14-inch College Avenue line to run at or very near capacity with I/I;
- debris partially restricts flow in the line somewhere downstream of the manhole;
- surcharge level reaches manhole rim and overflow at #2 starts at 23:00;
- rain fall subsides and ends next morning on December 18 at about 04:00 (I/I starts to recede but blockage remains and overflow continues);
- debris blockage partially or fully dislodges sometime before 13:00;
- overflow at # 2 stops at 13:00 on December 18.

December 17-19 SSO Location #5

Location #5 is where the most significant overflow occurred. The cause appears to be separate from the other five overflows. This is because SSO #5 started over 2 hours after the overflows that were further down the system had stopped. While SSO #5 is in the same flow path downstream of SSO #2, the causes are likely separate because SSO #5 started 8.5 hours after SSO#2. The following is the possible and likely chain of events for SSO #5:

- wet weather starting on December 17, in combination with Pump Station 15 shutdown, causes the parallel Kent Middle School lines to run at higher flows than normal and the Corte Madera Creek siphon to operate at a reduced capacity;
- rain fall subsides and ends next morning on December 18 at about 04:00 (I/I starts to recede, but system still flowing high from residual I/I and Pump Station 15 shutdown);
- debris partially restricts flow somewhere downstream of the manhole possibly at the siphon early on December 18;
- overflow starts at 07:30;
- debris dislodges sometime before 15:00;
- overflow stops at 15:00 on December 18.

December 17-19 SSO Location #6

The cause of the SSO at location #6 appears to be separate from the other SSOs because it started about 5 hours after SSO #5 ended and was not along the same flow path as #2 and #5. It was also upstream of the flow path from SSOs #1, #3, and #4, and started over 14 hours after the last of these SSOs ended. The following is the possible and likely chain of events for SSO #6:

- rain fall starts again at about 16:00 on December 18 and subsides around 18:00;
- wet weather causes Laurel Avenue pipeline to run at or near capacity with I/I;
- debris or other material partially blocks the line and restricts flow;
- overflow starts at 19:40;
- rain fall restarts at 01:00 on December 19;
- blockage dislodges sometime before 03:00;
- overflow stops at 03:00.

<u>27-inch Kent Middle School Pipeline Collapse Not a Factor</u>

On December 29, 2010, the Discharger inspected the 27-inch Kent Middle School pipeline and discovered it had collapsed in two locations. The cause of the collapse is unknown. It is also unknown whether the pipeline collapsed prior to or after the SSO events. Nonetheless, its collapse would not have restricted flows through the collection system. The new 30-inch Kent Middle School pipeline, which was installed about 1 foot deeper and in parallel to the 27-inch pipeline, was designed with sufficient capacity to handle all flows[13].

December 22, 2010, SSOs

The Discharger reported all SSOs that occurred on December 22, 2010, as one SSO that discharged 1,474,798 gallons of raw sewage diluted with storm runoff and groundwater. The Discharger reported in CIWQS that this SSO occurred on one day from seven different locations and was caused by pipeline failure. The SSOs discharged to Central San Francisco Bay via Corte Madera Creek, both waters of the U.S.

In response to the Prosecution Staff's request, the Discharger provided additional details about the seven overflows. Prosecution staff summarized these details in Table 3, below. Figure 2[14] (in Appendix C) illustrates the various collection system pipelines where these seven overflows occurred.

Upon further analysis of the locations and times when each overflow started and stopped, Prosecution Staff has determined that this one reported SSO was four separate SSO incidents. The rationale for this conclusion is described in subsections below for each of the overflow locations reported. In summary, the Prosecution Staff grouped the seven SSO locations as follows: (1) SSO location #1, (2) SSO locations #2, #5, and #6 (3) SSO locations #3 and #4, and (4) SSO location #7.

Table 6. December 22, 2010, SSO Locations, Start/End Times, and Volumes

Number	SSO Location	Start Date/Time	End Date/Time	Total SSO Volume, gallons
1	Berm at Pit 5	12/22/10 9:18	12/22/10 10:20	58,178
2	Cleanout at 5 Stadium Way	12/22/10 11:00	12/22/2010 17:00	50
3	Manhole #7316 at Kent Middle School	12/22/10 11:00	12/22/10 23:00	8,460
4	Manhole #7317 at Kent Middle School	12/22/10 11:00	12/22/10 23:00	1,762,380
5	Manhole #2262 at Laurel Street	12/22/10 11:00	12/22/10 17:00	5,400
6	Cleanout at 18 Laurel Street	12/22/10 11:00	12/22/10 17:00	1,800
7	Cleanout at 131 Kent	12/22/10	12/22/10	300[15]

Number	SSO Location	Start Date/Time	End Date/Time	Total SSO Volume, gallons
	Street	15:00	time not provided	
Total SSO Volume from all Locations				**1,836,568**
Total SSO Volume Recovered				**361,770[16]**
Total SSO Volume Reached Surface Water				**1,474,798**

The cause of SSO location #1 was failure of the Techite portion of Force Main 15 along the berm at Pit 5 near Creekside Park. Upon discovery of the ruptured force main, the Discharger shut down Pump Station 15 to prevent further discharge from Force Main 15 at Pit 5 into Corte Madera Creek. The shutdown of Pump Station 15, excessive I/I flows into the Discharger's collection system, and debris or other material in the system, led to five additional overflows (SSOs #2-6). The cause of SSO #7 is likely blockage.

As discussed in more detail in the Degree of Culpability Section below, during wet weather conditions, when Pump Station 15 is offline, some parts of the collection system are operating at reduced capacity while others operate near maximum capacity. Additionally, as mentioned above for the December 17-19 SSOs, the Discharger's collection system is subject to high I/I rates. Approximately 1.24 inches of rain fell over a 24-hour period at the Kentfield rain gauge site on December 21-22, 2010. The storm intensity was not significant (see Appendix A.2 for storm hyetograph). It was not the first storm event in December and was preceded just three days prior by the 2.36-inch December 17-18, 2010, storm event. Thus, the soils were very likely saturated during the December 22, 2010, SSOs. Saturated soil cannot absorb stormwater which maximizes I/I effects in the collection system. This likely led to notable I/I flow into the system. This is evident in stream water level data, which show close to a 2-foot rise in surface water levels in Corte Madera Creek during the December 21-22, 2010, storm event[17].

As discussed above for the December 17-19 SSOs, the conclusion that debris could have been a factor in causing the overflows is based on the Discharger finding debris including construction debris in parts of the system and the Discharger's reported overflow times. As previously mentioned, on December 30, 2010, the Discharger cleaned the Corte Madera siphon and found debris in the 18-inch barrel of the siphon consisting of nail gun cartridges and Class II engineered backfill. Additionally, on December 27, 2010, the Discharger found a hard hat at the screen of Pump Station 15[18]. While there is no evidence to determine if debris found after these SSOs was present prior to or during the SSOs, the fact that the SSOs at Kent Middle School (SSOs #3 and #4) ended six hours after the other SSOs strongly suggests that debris also played an important part in causing these overflows.

<u>Possible Chain of Events and Specific Causes of December 22, 2010, SSOs</u>

The following sections provide a possible chain of events and causes for the December 22, 2010, SSOs, and the rationale for the conclusion that the one single SSO was four separate SSOs. The chain of events is based on the assumption that the overflow start and stop times provided by the Discharger are accurate. Also, with the exception of SSO at location #1, accurate manhole and cleanout rim elevation could verify or refute the chain of events. However, the Discharger does not have accurate elevation information.

December 22 SSO Location #1

Overflow from location #1 occurred when Force Main 15 ruptured. Specifically, at approximately 09:18 on 12/22, the Techite portion of the force main failed catastrophically resulting in the overflow.

December 22 SSO Locations #2, #5, and #6

The timing of SSOs at locations #2, #5, and #6 was the same, so it is likely that these overflows are part of the same chain of events. Specifically, the following is a possible and likely chain of events:

- wet weather on December 21 and 22[19] causes I/I;
- due to rupture in Force Main 15, Pump Station 15 is shutdown at 09:30 to prevent sewage from entering Corte Madera Creek;
- I/I in conjunction with Pump Station 15 shutdown causes 30-inch McAllister line to run at or near surcharged capacity and the Corte Madera Creek siphon to operate at a reduced capacity;
- overflows at locations #2, #5, and #6 start at 11:00;
- rainfall subsides around 11:00 on December 22;
- shortly thereafter, debris partially restricts flow somewhere downstream of locations #2, #5, and #6;
- overflows continue for an additional 6 hours;
- debris dislodges sometime before 17:00;
- overflows at locations #2, #5, and #6 stop at 17:00.

December 22 SSO Locations # 3 and #4

The timing of SSOs at locations #3 and # 4 was the same, so it is likely that these overflows are part of the same chain of events. Specifically, the following is a possible and likely chain of events:

- wet weather on December 21 and 22 causes I/I;
- due to rupture in Force Main 15, Pump Station 15 is shutdown at 09:30 to prevent sewage from entering Corte Madera Creek;
- I/I in conjunction with Pump Station 15 shutdown causes the parallel Kent Middle School pipelines to run at higher flows than normal and the Corte Madera Creek siphon to operate at a reduced capacity;
- overflows at locations #3 and #4 start at 11:00;
- debris partially restricts flow in the Kent Middle School pipelines sometime before 17:00 somewhere downstream of the manholes possibly at the siphon or in one or both of the lines;
- overflows at locations #3 and #4 continue due to debris blockage even though overflows at locations #2, #5, and #6 stopped;

- debris dislodges sometime before 23:00;
- overflows at #3 and #4 stop at 23:00.

December 22 SSO Location #7

This SSO started about 4 hours after all other SSOs, so the cause of this SSO appears to be separate from the others. The following is the possible and likely chain of events for SSO #7:

- wet weather on 12/21 and 12/22 causes I/I;
- the Kent Avenue pipeline is running at or very near capacity due to previous wet weather I/I;
- debris partially restricts flow in the line somewhere downstream of the cleanout;
- overflow starts at 15:00;
- overflow end time is unknown, but Discharger reports that the total volume discharged of 300 gallons was all recovered.

SSO Notification Deficiencies

The Discharger initially reported the December 17-19, 2010, SSOs to the California Emergency Management Agency (CalEMA) as a contained, 1,000-gallon SSO on December 17, 2010, at 23:35 hours, within 2 hours of becoming aware of the SSO. Approximately, 1 hour later, on December 18, 2010, at about 00:30 hours, the Discharger learned that this SSO was greater than 1,000 gallons and that it had reached surface waters. Though it became aware of this, the Discharger did not notify or update CalEMA, the Regional Water Board, nor the Marin County Environmental Health Services within 2 hours. Additionally, the Discharger did not submit to the Regional Water Board within 24 hours, a certification that CalEMA and the local health department had been notified of a discharge to surface waters. Instead, the Discharger notified the Regional Water Board and the Marin County Environmental Health Services via telephone three days later on December 22, 2010, and updated CalEMA seven days later on December 27, 2010. Late notification deprived Regional Water Board staff of the opportunity to be onsite soon after the SSO events occurred to gather its own evidence regarding the nature, circumstances and potential water quality impacts of these events.

For the December 22, 2010, SSOs, the Discharger notified all appropriate agencies in a timely manner.

SSO Reporting Deficiencies

For the December 17-19, and 22, 2010, SSOs, the Discharger did not submit a certified report via CIWQS within 15 calendar days after completion of SSO response and remediation[20]. For the December 17-19, 2010, SSOs, the Discharger submitted a certified report on April 4, 2011, 91 days after the certified report due date of January 4, 2011. For the December 22, 2010, SSOs, the Discharger submitted a certified report via CIWQS, 88 days after the due date of January 7, 2011.

Furthermore, during the December 22, 2010, SSOs, the Discharger failed to report an unknown volume SSO that occurred on the same date, from manhole #2647 at the intersection of Behrens Drive and Sherwood Ct (see Appendix D, Photo 3). Photo 3 was taken by Nute Engineering, Inc. staff who stated that shortly after this photo was taken, a Discharger vactor truck arrived[21]. The total SSO volume discharged was likely small based on the photographic evidence and the fact that Discharger staff arrived to recover sewage shortly after the picture was taken. Nonetheless, this SSO should have been reported via CIWQS.

Whether the discharge is susceptible to cleanup or abatement

Typically, the majority of insufficient capacity wet weather related SSOs are not susceptible to cleanup or containment because the sanitary collection system in the vicinity is more than full so the overflows cannot be easily routed back to it, and the storm drains and surface waters are also flowing high so the overflows cannot be contained and recovered from them. In some cases, a small portion of the SSO can be recovered and returned to a different part of the collection system that if there is sufficient capacity at that location, or transported directly to a treatment facility.

December 2010 SSOs and Other Capacity Related Wet Weather SSOs

For the December 17-19, and 22, 2010, SSOs and other capacity related wet weather SSOs, less than 50% of these SSOs were susceptible to cleanup and abatement since the collection system, storm drains, and creeks are flowing full at the time.

All other SSOs

For all other SSOs, either all or a portion of the SSO, can be contained and returned to the collection system for treatment. While the Discharger's average response time of about one hour is usually considered adequate, we note that the Discharger recovered a low percentage (12%) of all other SSOs.

Degree of toxicity of the discharge

Untreated wastewater would be expected to have a deleterious effect on the environment, including causing potential nuisance in the near shore areas. Raw or diluted wastewater typically has elevated concentrations of biochemical oxygen demand, total suspended solids, oil and grease, ammonia, high levels of viruses and bacteria, trash (only in the case of raw sewage) and toxic pollutants (such as heavy metals, pesticides, personal care products, and pharmaceuticals). These pollutants exert varying levels of impact on water quality, and, as such, will adversely affect beneficial uses of receiving waters to different extents. These conclusions

are based on general knowledge of untreated wastewater and not on laboratory analysis of any specific SSO discharge conducted by the Discharger.

December 17-19 and 22, 2010, SSOs, and Other Capacity Related Wet Weather SSOs

The toxicity of the discharge for SSOs that occurred during wet weather conditions was medium. Since storm related SSOs are diluted with storm runoff and groundwater, they would not pose the same level of toxicity as an equal volume of raw sewage during non-storm conditions. While the Discharger provided calculations showing the levels of solids and biochemical oxygen demand for December 2010 SSOs were theoretically within federally permittable discharge standards because of dilution, Water Board prosecution staff maintains that solids and biochemical oxygen demand are just indicator parameters of an acceptable level of treatment, and that low levels of these indicator parameters alone (without treatment) is not proof that the sewage in the December 2010 SSOs were equivalent to sewage that has in fact gone through treatment processes. Biologically treated sewage reduces other pollutants that are not reflected in those two indicator parameters. Viruses and bacteria that are present in undisinfected wastewater at such levels where dilution alone cannot mitigate potential negative effects pose a serious water quality concern. Bacteria and viruses levels in raw sewage are typically tens of thousands times greater than safe levels. The sewage in the December 2010 SSOs was only diluted by ten to a hundred times. Furthermore, samples of the Corte Madera Creek indicated levels above bacteria water quality standards[19]. Other toxic pollutants such as ammonia, metals, pharmaceuticals, and personal care products, while diluted, may also been present at toxic concentrations in the discharge.

All other Non-Capacity Related Dry Weather SSOs

The toxicity of the discharge that occurred during dry weather conditions was high. These SSOs consisted of raw undiluted sewage. SSOs that occur during dry weather are generally much smaller in volume than wet weather related SSOs. The Discharger reported that its largest dry weather SSO from January 1, 2008, to April 21, 2011, had a volume of 7,200 gallons and was due to pipeline/structural failure on May 4, 2008. All except 1 gallon of this SSO was recovered.

Extent

December 17-19, and 22, 2010, SSOs

Bacteria concentrations in receiving waters are used to indicate the presence of waste. The SSO events in December 2010 resulted in the exceedance of bacterial water quality standards[22].

Bacterial monitoring results conducted by the Discharger in Corte Madera Creek on December 18, 2010, demonstrated total coliform bacteria as high as 16,000 colonies per 100 ml near the source (Kent Middle School site), and 100 feet upstream and downstream of the source. Fecal coliform bacteria as high as 16,000 colonies per 100 ml were detected near the source and 100 feet downstream of the source. E. Coli levels were detected as high as about 2,419 colonies per 100 ml near the source and 100 ft upstream and downstream[23]. Enterococci levels as high as 200 colonies per 100 ml were detected near the source and 100 feet upstream and downstream[24].

Bacterial monitoring results conducted by the Discharger in Corte Madera Creek on December 23, 2010, demonstrated total coliform bacteria as high as 12,997 colonies per 100 ml near the source (West Side Creek Running Track site). E. Coli levels were detected as high as about 1,153 colonies per 100 ml at the source and 100 feet upstream and downstream. Enterococci levels as high as 538 colonies per 100 ml were detected near the source and 100 feet upstream and downstream.

The temporal extent of bacterial exceedances at various sampling locations was from December 18, 2010, to January 6, 2011.

All Other SSOs

The temporal extent of the remaining SSOs which reached waters of the United States consisted of at least 39 days over 3 years. This is because the Discharger for the period of January 1, 2008, to April 21, 2011, with the exception of the December 17-19 and 22, 2010 SSOs, reported SSOs reaching surface waters during at least 39 days. The spatial extent of the SSOs generally includes Corte Madera Creek, San Anselmo Creek, Sleepy Hollow Creek, Fairfax Creek, Tamalpais Creek and Woodland Road Creek, all waters of the United States, throughout the Discharger's service area.

Gravity

December 17-19, and 22, 2010, SSOs

As mentioned previously, the SSOs resulted in the discharge of a significant cumulative volume of raw sewage diluted with stormwater and groundwater to waters of the United States. Since it was diluted raw sewage, it did not pose the same level of toxicity or impact as an equal volume of raw sewage during dry weather. Nonetheless, because undisinfected sewage contain high levels of bacteria and virus, the December 2010 SSOs resulted in the posting of signs warning the public of sewage contamination, thus impacting water contact and non-water contact recreational uses. The Discharger was required to post signs warning of sewage contamination for a period of 24 days, from December 18, 2010, to January 10, 2011. It is likely, however, that some of the residual bacteria present in the Corte Madera Creek during this period were due to bacteria common in urban runoff (i.e., from animal waste). While some of the warning signs posted were precautionary in nature, they still restricted potential water contact recreational use, and aesthetic enjoyment and other non-contact water uses of Corte Madera Creek. Lower Corte Madera Creek is a popular spot for kayaking. Additionally, the SSOs impacted water quality and potentially other beneficial uses[25] with higher concentrations of toxic pollutants that would not otherwise be discharged to Corte Madera Creek. Other beneficial uses in this receiving water body are particularly important to protect, as Corte Madera Creek is among the few streams flowing to San Francisco Bay that retain a steelhead trout population[26]. Other species known or highly likely to be present in Corte Madera Creek and marsh include the federally threatened green sturgeon, the state threatened California black rail, and state and federally endangered California clapper rail[27].

For the December 17-19, 2010, SSOs, the Marin County Environmental Health Services was not informed of the magnitude of the SSOs until December 22, 2010, and as such did not require the Discharger to post signs or sample Corte Madera Creek. Nonetheless, the Discharger stated that it posted warning signs along Stadium Way alignment and sampled Corte Madera Creek at locations near the Kent Middle School SSO site and 100 feet upstream and downstream of this site.

On December 23, 2010, in light of new information regarding the magnitude of the December 17-19, 2010, SSOs, and upon receiving notification of the SSOs on December 22, 2010, the County Health Department required the Discharger to post warning signs intermittently at a minimum of 1/2 mile upstream and downstream of the SSO sites. The County Health Department also required the Discharger to sample Corte Madera Creek near the SSO sites and 100 feet upstream and downstream, and then intermittently 1/2 mile upstream and downstream of the SSO sites. The Discharger posted signs as required and sampled Corte Madera Creek.

Other Capacity Related Wet Weather SSOs

The gravity of the other wet weather SSOs is below moderate. This is because although the SSOs are diluted with stormwater and groundwater, the combined volume of about 164,000 gallons that reached surface waters is moderately significant, and it is likely that there were impacts to beneficial uses of the receiving waters.

Non-Capacity Related Dry Weather SSOs

The gravity of dry weather SSOs is below moderate. The Discharger reported a combined total of about 5,100 gallons reaching surface waters during dry weather conditions. A majority of these SSOs (97 %) are small in volume (<1,000 gallons reaching surface waters) and received no dilution.

Any Voluntary Cleanup Efforts Undertaken and Cooperation

Emergency Bypasses during December 17-19, and 22, 2010, SSOs

Upon arriving onsite during the December 2010 SSOs, the Discharger implemented several cleanup efforts to mitigate the effects of the SSOs. This included installing several emergency bypass systems to relieve and redirect flows within its collection system. The purpose of these emergency bypass systems was to reduce the volume of overflow occurring within the collection system. The specific bypass systems put in place are briefly described below:

1. COLLEGE AVE EMERGENCY BYPASS: On December 18 and 22, 2010 (time unknown), the Discharger placed a 5 MGD pump and a 6-inch hose above ground along College Avenue and Magnolia Avenue. Sewage was pumped from manhole #7322 on College Avenue and reintroduced into the system via manhole #3934 on Magnolia Avenue. This temporary bypass system reduced the amount of sewage flows entering the

Kent Middle School parallel pipelines by diverting flows from the Kentfield collection system area to the Larkspur collection system area.

2. PS25 to PS24 EMERGENCY BYPASS: On December 18, 2010, (time unknown) the Discharger placed a 5 MGD pump and 6-inch pipe along South Eliseo Drive from a manhole near Pump Station 25 to a manhole near Pump Station 24. According to the Discharger, this emergency bypass system did not significantly reduce flows during the SSO event and as such was not utilized during the December 22 SSOs[28].
3. PS15 EMERGENCY BYPASS: On December 22, 2010, (time unknown) the Discharger placed a 12-inch pipe on the berm alongside Corte Madera Creek from a manhole near PS15 to manhole #4552 at the intersection of Magnolia Avenue and Bon Air Road. This emergency bypass system was not in place during the SSOs due to "contractor liability concerns"[29].
4. EL PORTAL EMERGENCY BYPASS: On December 22, 2010, (time unknown) the Discharger placed a 20 horse power pump in a manhole on El Portal Drive (Manhole #5051) with an above ground hose extending to a manhole near Pump Station 13 (Manhole #3497). This bypass relieved flows in the 30-inch McAllister Line.

In terms of voluntary cooperation, though the Discharger ultimately provided the necessary evidence to corroborate what volume was recovered it did not do so until 10 months after the SSOs and only after repeated requests from Prosecution Staff for the evidence. Additionally, as of November 1, 2011, the Discharger has not updated CIWQS to indicate its findings on the volumes recovered during the December 17-19, and 22, 2010, SSOs.

The Discharger initially reported that it recovered approximately 105,352 gallons of sewage during the December 17-19, 2010, SSOs, and approximately 241,770 gallons of sewage during the December 22, 2010, SSOs. In response to the Prosecution Staff's requests, the Discharger provided additional evidence to corroborate the total volume recovered during the December 2010 SSOs [30], and revised the estimated total volume discharged and recovered. The revised volumes are shown in Table 2 and 3 above[31].

Other Response Actions Related to December 17-19, 2010, SSOs

On December 18, 2010, in order to re-establish sewage flows through Force Main 15, the Discharger reconnected whatever portion of the new HDPE pipeline that had been installed to the remaining Techite portion of Force Main 15. The Discharger used a temporary repair coupler to reconnect the Techite to the new HDPE pipeline. By installing this temporary repair coupler, the Discharger was able to turn Pump Station 15 back on. It took the Discharger about eight to ten hours to install the coupler. Force Main 15 was then reenergized and Pump Station 15 was put back online on December 19, 2010.

Other Response Actions Related to December 22, 2010, SSOs

Upon shutting down Pump Station 15 on December 22, 2010, the Discharger immediately began repairing the ruptured Force Main 15. The Discharger opted to complete replacement of the entire remaining Techite portion of Force Main 15 by placing approximately 2,000 feet of HDPE pipeline aboveground from Pit 5 to Pump Station 15. It took the Discharger about 48 hours to

replace the remaining Techite portion of the force main. The Discharger will move this pipeline underground during the next construction season.

Any Prior History of Violations

The Water Board has taken previous enforcement against the Discharger. On July 14, 2006, Water Board staff issued an administrative civil liability complaint proposing a civil liability of $78,000 against the Discharger for SSOs totaling 472,600 gallons. The SSOs, which occurred on December 31, 2005, were caused by a shutdown of Pump Station 15 during a storm event. Pump Station 15 including its back-up power system shut down due to a power failure and a false over-temperature alarm that caused the pumps to automatically turn off. The phone line notification system also failed during this time. The Discharger corrected the problems with back-up power and phone line notification systems.

On April 24, 2006, the Discharger entered into a consent decree and order with Ms. Garril Page, a private citizen, to address violations of the Clean Water Act, 33 U.S.C. §1251et seq. (*Garril Page v. Sanitary District No. 1 of Marin County*, United States District Court, Northern District of California, case number C 05 4358). The consent decree and order requires the Discharger to implement a total of sixteen actions related to its sanitary sewer collection system. These actions include but are not limited to the following: implement an asset inspection program, develop a computerized maintenance management system, develop a capital improvement program and hire a professional engineer. The Discharger stated that it has complied with all consent decree and order requirements. Ms. Garril Page wrote a letter (dated September 2009) confirming that the Discharger has met and in some cases exceeded consent decree and order requirements.

Ability to Pay[32]

The Discharger has the ability to pay the proposed penalty and continue to provide its services. The Discharger's operating budget for fiscal year 2010-2011 was $16,455,340, with net assets totaling $51,463,304 at the beginning of the fiscal year (July 1, 2010). The Discharger's primary sources of revenue are sewer service charges and property tax collection. The Discharger also receives some revenue from inspection fees, connection fees, and investment income.

The Discharger has authority to adjust its sewer rate scale to provide for financial needs in accordance with California Proposition 218 and District Ordinance 48. In fiscal year 2008-2009, the Discharger implemented sewer rate increases to ensure adequate financial resources are available to implement capital improvement and operation and maintenance needs through fiscal year 2010-2011.

The Discharger has two sewer rate zones. Prior to the sewer rate increases, the Discharger's annual sewer rates were $270 per Equivalent Dwelling Unit (EDU) for the Ross Valley Rate Zone and $342 per EDU for the Larkspur Rate Zone. For fiscal year 2010-2011, the Discharger's annual sewer fee is $520 per EDU for the Ross Valley Rate Zone and $592 per EDU for the Larkspur Rate Zone. This equates to a 93% increase in sewer rates from fiscal year

2008-2009 to fiscal year 2010-2011 for the Ross Valley Rate Zone and a 72% increase in rates for the Larkspur Rate Zone.

Degree of Culpability

The Discharger is culpable for the violations because it is responsible for the proper operation and maintenance of its collection system facilities, and for achieving full compliance with prohibitions and provisions of Orders No. 2006-0003-DWQ and No. 2008-0002-EXEC, and Section 301 of the Clean Water Act. As noted earlier, the shutdown of Pump Station 15, excessive I/I flows into the Discharger's collection system, and debris or other material, including construction debris, in the system, led to the multiple SSOs that occurred December 17-19, 2010. As described below, a majority of these SSOs could have been mitigated with the implementation of an adequate contingency plan that included prior installation of emergency bypass systems and having a temporary repair coupler onsite prior to shutting down Pump Station 15. Additionally, the December 17-19, 2010, SSO #5 could have been mitigated with proper maintenance of the Corte Madera Creek siphon. As described below, the culpability for the December 22, 2010, SSOs is lower since it was originally caused by pipeline failure, which forced the Discharger to shutdown Pump Station 15. The pipeline failed without warning. The cause of the remaining SSOs was primarily blockages due to root and debris. These SSOs can be prevented with a more strategic cleaning and inspection program and system upgrades.

December 17-19, 2010 SSOs

The Discharger is culpable for the December 17-19, 2010, SSOs . The Discharger failed to timely put in place adequate contingencies and to properly maintain the Corte Madera Creek siphon.

1. *The Discharger had no adequate back-up plan in place in the event flows exceeded system capacity when Pump station 15 is shut down.*

Prior to shutting down Pump Station 15, the Discharger had no adequate contingency plan in place to redirect flows within its collection system in the event that flows exceeded the collection system capacities. During wet weather conditions, when Pump Station 15 is offline, the 30-inch McAllister pipeline is operating at or near maximum capacity. Additionally, when Pump Station 15 is offline, the capacity of the Corte Madera Creek siphon is likely reduced.

The hydraulic capacity of the 30-inch McAllister pipeline ranges from 11.4 to 14 million gallons per day[33]. The actual flows through the pipeline during the December 17-18, 2010, storm event were not measured, but can be estimated based on actual measured flows through the collection system during a similar but less intense storm event in February 2005 of 1.6 inches over a 24-hour period in Fairfax[34]. During that storm event, the flow through the 30-inch McAllister pipeline has a calculated average about 9 million gallons per day with a peak at about 16.5 million gallons per day[35].

The hydraulic capacity of the Corte Madera Creek siphon[36] is about 16.3 million gallons per day[37]. Wastewater is "pulled" through the siphon when the upstream sewer elevation (at the junction manhole) is higher than the downstream sewer. When Pump Station 15 was shutdown, it caused the wastewater elevation in the downstream sewer to be higher than typical and most likely higher than design. When the wastewater level differential across the siphon was minimized, the draw or pull power of the siphon was reduced and less wastewater from upstream sewers would be pulled through the siphon. Additionally, when siphon is partially blocked, as likely occurred during overflow location #5, the siphon capacity was further reduced.

Considering that (1) the Corte Madera Creek siphon would be operating at a reduced capacity due to Pump Station 15 shutdown, (2) and that the 30-inch McAllister pipeline would be operating at, and at times very likely above, its maximum capacity during wet weather conditions, the Discharger should have had additional contingencies in place prior to the December 17-18, 2010, storm event. Specifically, the Discharger should have had the College Avenue and El Portal emergency bypass systems in place prior to the storm event. These bypass systems would have reduced the total volume of sewage discharged by redirecting flows to other parts of the collection system that were not under capacity constraints because of the Pump Station 15 project .

In addition, the Discharger should have had a temporary repair coupler on site prior to continuing to slip line Force Main 15 with an HDPE pipeline during the December 17-18 storm event. A temporary repair coupler enables the Discharger to reestablish sewage flows by reconnecting the new HDPE pipeline with the remaining Techite portion of Force Main 15. Installation of the temporary repair coupler would have allowed the Discharger to turn Pump Station 15 back on to alleviate capacity limitations of the system in anticipation of significant wet weather. Although the Discharger pre-ordered a temporary repair coupler, it did not do so until December 14, six business days after the Discharger made its decision to proceed with Force Main 15 replacement into the wet weather season[38]. This resulted in the repair coupler not being on site and available until December 18 after the SSO started. Having the coupler available could have significantly reduced the SSO volume.

Because Pump Station 15 shutdown likely contributed to the overflows at locations #1, #2, #3, #4, and #5, the Discharger's failure to have in place an adequate back-up plan weighed into determining overall culpability for these SSOs.

2. *The Discharger did not properly maintain the double barrel siphon 5804/5805 under Corte Madera Creek (Corte Madera Creek siphon).*

Based on data provided by the Discharger, there is no evidence of when the Corte Madera Creek siphon was last cleaned prior to the December SSO events. It is likely that the siphon may not have been cleaned in the past couple of years. The Discharger's policy is to clean siphons every 6 months. However, due to an oversight, the Discharger did not put the Corte Madera Creek siphon on a 6-month cleaning schedule. The Discharger should have regularly cleaned the Corte Madera siphon per its own maintenance plan particularly since there was construction in the line upstream during the summer. Cleaning of this siphon could have, at a minimum, reduced the amount of debris, including construction debris that accumulated within the siphon.

Since debris blockage at the siphon is a likely cause of SSO #5, the Discharger's poor maintenance practices of the Corte Madera Creek siphon weighed into determining overall culpability for SSO#5. Nonetheless, as discussed below, the Discharger's pipeline cleaning and inspection program to reduce debris-induced SSOs is on schedule and has the main elements necessary for an effective program to reduce such SSOs. Because the Discharger's pipeline cleaning and inspection program is generally adequate, the Discharger's pipeline maintenance practices did not significantly weigh into determining the overall culpability for SSOs #2 and #6.

December 22, 2010, SSOs

The Discharger is culpable for the December 22, 2010, SSOs, but there were circumstances beyond the Discharger's control because Force Main 15 failed without warning. In this case, the Discharger had no alternative other than to shut down Pump Station 15 to prevent the direct discharge of raw sewage diluted with rainwater and groundwater from Force Main 15 into Corte Madera Creek. The Discharger was well aware of the critical nature of Force Main 15, and as discussed previously, had embarked on implementing a capital improvement project to replace this force main with a more reliable pipeline material. Since Force Main 15 failed without warning, the Discharger could not have planned the shutdown of Pump Station 15 by putting in place adequate contingencies prior to shutting down the pump station.

However, as discussed earlier, the Discharger did not properly maintain the Corte Madera Creek siphon. Cleaning of this infrastructure could have, at a minimum, reduced the amount of debris accumulated within the siphon, and also possibly reduced the likelihood that such debris further compromised the collection system's ability to handle flows when Pump Station 15 was offline. Since debris blockage is a possible contributing cause that extended the duration of some December 22 SSOs, the Discharger's poor maintenance practices of the Corte Madera Creek siphon weighed into determining overall culpability for these SSOs.

Other SSOs

The Discharger is culpable for SSOs caused by roots and debris. The Discharger has the necessary program elements, but could implement a more strategic root control and cleaning/inspection program to prevent such SSOs. The Discharger's rate of SSOs including the rate of root and debris-induced SSOs appears comparatively higher than other agencies within Marin County and the San Francisco Bay region (see Tables 4, 5 and 6 below). The number of SSOs, in particular the number of root and debris related SSOs, has not decreased over the past three years. Additionally, of the total volume discharged due to debris blockages (29, 832 gallons), about 76% (22, 553 gallons) reached surface waters. However, of the total volume discharged due to root blockages (about 13,762 gallons), only about 830 gallons (6% of total volume) reached surface waters.

Table 7: All SSOs (Rate = # SSO/100 miles of system)

Year	# of SSOs Reported by Discharger	Discharger SSO rate	SF Bay Region Median SSO	Marin County Median SSO rate

			rate	
2008	47.0	22.5	7.2	16.3
2009	39.0	18.7	6.3	14.6
2010	43.0	20.6	5.6	9.8

Table 8: Root blockage caused SSOs
(Rate = # SSO/100 miles of system)

Year	# of SSOs Reported by Discharger	Discharger SSO rate	SF Bay Region Median SSO rate	Marin County Median SSO rate
2008	10.0	4.8	0.6	2.9
2009	18.0	8.6	1.1	8.2
2010	15.0	7.2	0.0	0.0

Table 9: Debris caused SSOs
(Rate = # SSO/100 miles of system)

Year	# of SSOs Reported by Discharger	Discharger SSO rate	SF Bay Region Median SSO rate	Marin County Median SSO rate
2008	10.0	4.8	0.0	0.0
2009	10.0	4.8	0.1	0.9
2010	15.0	7.2	0.0	0.0

The Discharger's collection system cleaning and inspection program to reduce/eliminate debris and root-induced SSOs is on schedule and has the main elements necessary for an effective program to reduce debris and root-induced SSOs[39]. However, the Discharger's rate of SSOs remains high and the Discharger needs to apply a more strategic approach in its efforts to reduce the number of SSOs due to roots and debris.

The Discharger is culpable for other SSOs due to insufficient capacity, excessive I/I, pipeline failure, and fats, oils, and grease (FOG) blockages. Over the past several years, the Discharger has completed various sewer rehabilitation and replacement projects and maintains a list of identified sewer rehabilitation needs. The Discharger is generally on track with its schedule to rehabilitate and replace collection system pipelines to address insufficient capacity, excessive I/I and aging infrastructure.

Additionally, the Discharger reports that it has a grease hotspot GIS database (established in July 2006) and a six-month priority maintenance schedule for flushing and/or rodding problem sewer lines. Additional sewer lines can be added to the six-month priority maintenance schedule after an SSO event or if closed circuit television (CCTV) inspection indicates grease buildup[40]. As of April 2007, the Discharger and the CMSA entered into an agreement for administering a FOG Control Program for use throughout its tributary service area, which includes the Discharger's service area. CMSA will be regulating targeted Food Service Establishments (FSE) through source control activities, including developing a database of FSEs, issuing permits, and inspecting facilities for proper installation and maintenance of grease removal devices.

Notification and Reporting Deficiencies

The Discharger is culpable for the notification violation because it failed to notify the appropriate regulatory agencies within 2 hours, and it did not submit within 24 hours, a certification that the local health officer had been notified of a discharge to surface waters.

The Discharger is culpable for the reporting violations. The reporting requirements have been in place since 2008, over 2 years prior to the December 17-19, and 22, 2010, SSOs. The Discharger was well aware of the reporting requirements and did not timely submit a certified report via CIWQS for these SSOs. The Discharger also did not report via CIWQS the SSO from manhole #2647 that occurred on December 22, 2010.

Economic Benefit

The Discharger gained no economic benefit or savings from the SSOs. The Discharger is on track with its schedule to clean/inspect and rehabilitate/replace its collection system pipelines pursuant to its Capital Improvement Strategic Plan developed in January 2007, and thus has not incurred any significant savings by delaying necessary upgrades. The Discharger also has staff who are responsible for responding to, evaluating, and reporting SSOs; thus there is no economic benefit of savings for the notification and alleged reporting deficiencies.

Other Factors as Justice May Require

Matters considered that increased the administrative civil liability

Staff Time

Regional Water Board Prosecution Team time to investigate the violations, and prepare this report, supporting evidence, and other documents related to those violations is estimated to be about 504 hours. Based on an average cost to the State of $150 per hour, the total staff cost is $75,600.

Matters considered that did not impact the administrative civil liability

Over the past several years, the District has completed various sewer rehabilitation and replacement projects and maintains a list of identified sewer rehabilitation needs. The District's Sewer System Replacement Master Plan (January 2007) included a review of the District's list of identified sewer rehabilitation needs as well as the capacity projects identified in the Sewer Hydraulic Evaluation and Capacity Assurance Plan (SHECAP). The recommended system improvements presented in the Sewer System Replacement Master Plan were incorporated into the District's Capital Improvement Strategic Plan (CIP). The Discharger's current annual capital expenditure budget for sanitary sewer system facilities is $13,172,200[41]. The Discharger's annual capital expenditures rate or annual capital expenditure budget ($) per 100 miles of system is approximately $6.5 million/100 miles[42]. This rate is above the median rate of $1.1 million/100 miles for San Francisco Bay Region collection system agencies with a collection system greater than 100 miles.

The District has demonstrated its commitment to improving its collection system by raising its sewer rates by a total of 93 percent for the Ross Valley Rate Zone and by a total of 72% for the Larkspur Rate Zone since fiscal year 2008-2009. These rates are on par with the other collection system's sewer rates in Marin County.

Prior to rehabilitating Force Main 15 and recognizing the capacity issues associated with the 30-inch McAllister Line, the Discharger rehabilitated the 30-inch McAllister Line in 2010. Additionally, in anticipation of the December 17-18 storm event, the Discharger stationed collection system staff to monitor sewage levels at the manholes likely to overflow. This allowed the Discharger to more rapidly initiate cleanup and abatement efforts in the event of sewage overflows.

Additionally, in early 2011 in response to the December 17-19 notification deficiencies, the Discharger conducted a review of its in-field notification and response practices during an SSO event. As a result of this review, the Discharger revised its SSO response plan and notification procedures in order to ensure adequate response and notification of SSOs. The revised plan and procedures include a flow chart for response activities and notification requirements for all SSO categories.

Matters considered that decreased the administrative civil liability

The Discharger reported that all 19 of its collection system staff maintain a California Water Environment Association (CWEA) certification. The CWEA certification provides evidence and a level of assurance that a Discharger is staffed with employees who have demonstrated an appropriate level of collection system O&M knowledge, skills, and abilities, and who are competent in safe work practices. The basic standard of CWEA certification is that all certificate holders have, and continue to perform at a level of basic competence that enables them to perform the essential duties of their job safely, effectively, without close supervision and without further training. Because of the Discharger's commitment to a knowledgeable and skilled work force, the proposed amount of the liability is reduced by $14,400.

Penalty Calculation Methodology

The proposed liability is calculated in accordance with the methodology set forth in the State Water Board's Water Quality Enforcement Policy (dated May 20, 2010). A summary of the factors assigned for the alleged violations is summarized in the tables below.

Table 10. Potential for Harm for Discharge Violations

Category	Harm Factor	Reason
Harm or Potential Harm to Beneficial Uses	2	For the December 17-19, and 22, 2010, SSOs, the potential harm is below moderate. Though there were impacts to uses of Corta Madera Creek, a below moderate harm is warranted because the discharges were diluted with high wet weather flows in the receiving water; and the actual recreational uses are typically less during wet weather events. And while the Enforcement Policy indicates an "above moderate" or a "major" harm due to the more than 5 days of restrictions on beneficial uses, the high number of days posted were likely extended due to residual bacteria from urban runoff sources rather than the events themselves.
	1	For other capacity-related wet weather SSOs, the potential harm factor is minor for the same reasons as described above, and because they occurred in recreation areas with fewer, if any, days posted.
	2	For non-capacity related dry weather SSOs, the potential harm factor is below moderate, because though smaller in volume and thus smaller areal extent than wet weather related SSOs, there is little or no dilution from flows in the receiving water to reduce potential impacts.
Physical, Chemical, Biological, or Thermal Characteristics (Degree of Toxicity)	3	Discharge from the December 17-19, and 22, 2010, SSOs and other capacity-related and wet weather SSOs pose an above moderate risk or threat to potential receptors because, though diluted by I&I, the SSOs are not at all treated and would contain bacteria at levels exceeding human health standards and potentially toxic to aquatic organisms.
	3	All other non-capacity related dry weather SSOs pose an above moderate risk or threat to potential receptors because these SSOs consist of undiluted sewage.
Susceptibility to Cleanup or Abatement	1	For capacity-related wet weather SSOs, less than 50% of these SSOs is amenable to cleanup or containment because the collection system, storm drains, and creeks are also flowing full at the time;
	0	For all other SSOs, greater than 50% of each is susceptible to cleanup as the Discharger response time is adequate (average of about 1 hour). However, we note that the actual average SSO recovery is about 12 percent.
Final Potential to Harm Scores	6 5 5	For December 17-19, and 22, 2010, SSOs For other capacity-related SSOs; For non-capacity related dry weather SSOs

Table 11. Per Gallon and Per Day Assessments for Discharge Violations

Category	Factor	Reason
Per Gallon and Per Day Assessment	0.22	For December 17-19, and 22, 2010, SSOs, the discharge of a total of about 2.4 million gallons of untreated sewage to waters of the United States is a major deviation from required standards (Prohibition C.1 in Order No. 2006-0003 DWQ). The SSOs rendered the Prohibition on discharging untreated sewage to waters of the United States ineffective in its essential functions because the prohibition would be effective only if no SSO had occurred. Additionally, because these SSOs resulted in high volume of discharges resulting from wet weather, consistent with the direction in the Enforcement Policy, a maximum per gallon liability of less than $10 is appropriate. Thus, for these SSOs, a maximum liability of $2 per gallon was selected.
	0.15	For other capacity-related wet weather SSOs (including those SSOs due to pipeline failure and FOG), the discharge of about 151,000 gallons of untreated sewage to waters of the United States is a major deviation from required standards for the same reason as the December 17-19, and 22, 2010, SSOs. Along those lines, a maximum liability of less than $10 per gallon is also appropriate. Thus, consistent with the direction in the Enforcement Policy, a maximum liability of $2 per gallon was selected.
	0.15	For non-capacity related dry weather SSOs (including SSOs due to debris and root), the discharge of about 19,000 gallons of untreated sewage to waters of the United States is a major deviation from required standards for the same reason as stated above. However, unlike the above, the statutory maximum liability of $10 per gallon is appropriate for these SSOs since these SSOs were not diluted by wet weather and did not result in high volume of discharges.

Table 12. Assessments for Non-Discharge Violations

Category	Factor	Reason
Per Day Assessment	0.7	Failure to provide 2-hour and 24-hour notification of the December 17-19, 2010, SSOs, warrants a major deviation from required standards and an above moderate potential for harm. The reporting requirement in Order No. 2008-0002-EXEC has been rendered ineffective in its essential functions. The necessary agencies were not notified in a timely manner so that they can perform their critical functions to control harm to the public by providing information to minimize the public's exposure to the event, or to be on site to observe and investigate.
	0.4	Failure to accurately report SSO causes and to separately report in CIWQS each SSO from December 17-19, and 22, 2010, warrants an above moderate deviation from requirement and a moderate potential for harm. Moderate deviation is warranted because the Discharger did report that the SSOs occurred and the multiple locations. However, for both sets of SSOs, it failed to report each SSO separately despite its own evidence that point to separate causes due to very different SSO times and locations. The Discharger also failed to report capacity as a contributing cause despite the fact that (1) the SSOs occurred during and/or shortly after a significant storm, (2) the system has high I/I, and (3) a critical pump station was shutdown. Above moderate harm is warranted because theses failures both impeded Prosecution Staff's prosecution of these matters, as well as compromise the integrity and reliability of the CIWQS public database that relies solely on accurate and complete self-reporting by dischargers.
	0.4	Failure to timely certify the December 17-19, and 22, 2010, SSOs via CIWQS warrants a moderate deviation from requirement and a moderate potential for harm. A moderate deviation is warranted because the Discharger ultimately certified the SSOs in CIWQS on April 4, 2011. Above moderate potential for harm is warranted because these failures compromise the integrity and reliability of the CIWQS public database that relies solely on accurate and complete self-reporting by dischargers. The public does not have access to reports until they are certified.
	0.4	Failure to report via CIWQS an SSO on December 22, 2010, from manhole #2647 warrants a major deviation from requirement and a moderate potential for harm. A major deviation is warranted because the Discharger did not report that the SSO occurred. A moderate potential for harm is warranted because this failure compromises the integrity and reliability of the CIWQS public database.

Table 13. Violator's Conduct

Category	Adjust-ment Factor	Reason
Culpability	1.2	For December 17-19, 2010 SSOs #1, #2, #3, and #4, the Discharger is culpable because it failed to timely put in place an adequate back-up plan in case flows exceeded system capacity during Pump Station 15 shutdown.
	1.2	For the December 17-19, 2010, SSO #5, the Discharger is culpable because it failed to properly maintain the Corte Madera Creek siphon. Additionally, considering that the siphon capacity is likely reduced when Pump Station 15 is shutdown, the Discharger should have put in place an adequate back-up plan in case flows exceeded system capacity.
	1.0	For the December 17-19, 2010, SSO #6, the Discharger is culpable because it is responsible for maintaining its collection system pipelines. Although the Discharger's cleaning and inspection program could be more strategic, the Discharger's pipeline maintenance practices are reasonable.
	0.5	For the December 22, 2010, SSOs #1, #2, #5, and #6, the Discharger is culpable, but there were circumstances beyond the Discharger's control because Force Main 15 failed without warning. The Discharger was well aware of the critical nature of Force Main 15 and had embarked on rehabilitating it. It had no alternative but to shut down Pump Station 15 once Force Main 15 ruptured in order to prevent or reduce direct discharge of sewage flows into Corte Madera Creek.
	1.2	For the December 22, 2010, SSOs #3 and #4, the Discharger is culpable because it failed to properly maintain the Corte Madera Creek siphon.
	1.0	For the December 22, 2010, SSO #7, Discharger is culpable because it is responsible for maintaining its collection system pipelines. Although the Discharger's cleaning and inspection program could be more strategic, the Discharger's pipeline maintenance practices are reasonable.
	1.0	For SSOs due to debris and root blockages, the Discharger is culpable, but not negligent. The Discharger could have implemented a more strategic root control and cleaning/inspection program to reduce and prevent such SSOs.
	1.0	For all other SSOs primarily due to insufficient capacity, excessive I/I,

Category	Adjust-ment Factor	Reason
		pipeline failure and FOG, the Discharger is culpable, but not negligent. The Discharger has completed various rehabilitation/replacement projects over the years and reports an adequate FOG control program to prevent such SSOs.
	1.0	For failure to provide 2-hour and 24-hour notifications for the December 17-19 SSOs, the Discharger is culpable and no adjustment is warranted.
	1.2	For failure to accurately report the December 17-19, and 22, 2010, SSOs via CIWQS, the Discharger is culpable. An increase is warranted because the Discharger shared little or no analysis of its own evidence with the Prosecution Staff of the SSOs to substantiate its original conclusion as to cause or relationship, and failed to amend CIWQS to report capacity as a contributing cause. The Discharger has had access to, and ample time to analyze, its own evidence since at least March 2, 2011, when the Discharger provided the evidence in response to a Water Board's Prosecution Staff 13267 order. Thus, as of November, 1, 2011, the Discharger has accrued a total of 490 violation days for failing to amend CIWQS with relevant facts pertaining to SSO causes. However, because these violations lasted more than 30 days, consistent with the Enforcement Policy, it is appropriate to compress this total down to 28 days' worth of violations.
	1.0	For failure to timely report the December 17-19, and 22, 2010, SSOs via CIWQS, the Discharger is culpable. The Discharger submitted the certified reports via CIWQS a total of 179 days past the required due dates. However, because these violations lasted more than 30 days, consistent with the Enforcement Policy, it is appropriate to compress the total down to 17 days' worth of violations.
	1.0	For failure to report an SSO on December 22, 2010, from manhole #2647, the Discharger is culpable and no adjustment is warranted. For this SSO, the Discharger has not yet submitted a certified report via CIWQS. Thus, as of November 1, 2011, the Discharger has accrued a total of 300 violation days. However, because this violation has lasted more than 30 days, consistent with the Enforcement Policy, it is appropriate to compress the total down to 16 days' worth of violation.

Category	Adjust-ment Factor	Reason
Cleanup and Cooperation	1.06	For the December 17-19, 2010, SSOs, no credit is assigned for the Dischargers emergency bypass measures, because they could have been in place earlier. However, the Discharger failed to timely provide documentation of SSO recovery volumes which impeded Prosecution Staff's investigation.
	0.95	For the December 22 SSOs, the Discharger installed several emergency bypass systems to relieve and redirect flows within its collection system; thus reducing the volume of the SSOs. However, less credit is assigned because the Discharger failed to timely provide documentation of SSO recovery volumes which impeded Prosecution Staff's investigation.
	1.1	For SSOs due to debris and root blockages, the volume of SSO recovered averages only 12% of the volume overflowed, despite a good response time of within 1 hour.
History of Violations	1	There is no history of SSOs similar to the December 17-19, and 22, 2010, SSOs as the circumstances for these events are unique. There is also no known evidence of history of non-reporting or inaccurate reporting and no known history of failure to timely notify the appropriate agencies.
	1.1	For all other SSOs, there is a history of similar SSOs reported.
Other factors that justice may require: • Overall issues	Neutral	Over the past several years, the Discharger has demonstrated its commitment to improving its collection system through the implementation of various capital improvement projects. The Discharger recently revised its SSO response plan and reporting procedures in order to ensure adequate response and reporting of SSOs.
• Increased sewer rates	Neutral	The Discharger has demonstrated its commitment to improving its collection system by raising its sewer rates by a total of 93 percent for the Ross Valley Rate Zone and by a total of 72% for the Larkspur Rate Zone since fiscal year 2008-2009. These rates are on par with the other collection system's sewer rates in Marin County.
• CWEA certifica-tion	Decreas e	The Discharger is credited with $14,400 for maintaining all 19 of its collection system staff with CWEA certification. The basic standard of CWEA certification is that all certificate holders have, and continue to perform at a level of basic competence that enables them to perform the essential duties of their job safely, effectively, without close supervision and without further training.

Category	Adjust-ment Factor	Reason
• Staff costs	Increase	498 hours of staff time at $150 per hour for a total cost of $74,700.

APPENDIX A

Table A-1: Discharger SSOs (January 1, 2008 through April 21, 2011) and Associated Total Maximum Penalties for Discharge Violations

Sources of data: State Water Board CIWQS eReporting Program Database Records (from January 1, 2008 through April 21, 2011)
SSOs which reached surface water are highlighted in gray

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
1/3/2008	1/4/2008	100 Deer Hollow	50	0	50	No	Yes	Unpaved surface	Other: Restricted main and heavy rain caused minor overflow	
1/4/2008	1/8/2008	Via La Cumbre	2808	0	0	No		Unpaved surface	Pipe structural problem/failure	
1/4/2008	1/4/2008	111 Goodhill	450	0		No		Building or structure; Unpaved surface	Rainfall exceeded design	
1/5/2008	1/5/2008	Banchero	216	0	260	Yes		Surface water	Pipe structural problem/failure	$10,000
1/7/2008	1/7/2008	4 Oak Springs	150	0	150	No		Street/curb and gutter	Root intrusion	
1/8/2008	1/8/2008	33 Agatha	117	0	117	Yes		Storm drain; Surface water	Other: Heavy rain and rock accumulation from possible main break	$10,000
1/13/2008	1/13/2008	64 Via Navaro	64	0		No		Unpaved surface	Debris	

[1] The maximum penalty was determined by taking the sum of $10,000 for each day the violation occurred and $10 multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
1/25/2008	1/26/2008	19 Morningside	262	262		No		Building or structure	Flow exceeded capacity	
1/25/2008	1/25/2008	111 Goodhill	33000	0	33000	Yes	Yes	Storm drain	Flow exceeded capacity	
1/25/2008	1/25/2008	17 Morningside	1144	0	0	No	No	Building or structure; Unpaved surface	Flow exceeded capacity (Separate CS Only)	
1/25/2008	1/26/2008	118 Sycamore	4800	0	4800	Yes		Storm drain; Street/curb and gutter; Surface water	Flow exceeded capacity	
1/25/2008	1/26/2008	San Rafael	24000	0	24000	Yes		Storm drain; Street/curb and gutter; Surface water	Flow exceeded capacity	
1/25/2008	1/26/2008	800 San Anselmo Ave #2	24000	0	24000	Yes		Other paved surface; Storm drain; Surface water	Flow exceeded capacity	
1/25/2008	1/26/2008	800 San Anselmo Ave.	24000	0	24000	Yes		Other paved surface; Storm drain	Flow exceeded capacity	
1/25/2008	1/26/2008	Diane Ln	4800	0	4800	Yes	Yes	Other paved surface	Flow exceeded capacity	
1/25/2008	1/26/2008	67 College	4800	0	4800	Yes	Yes	Street/curb and gutter	Flow exceeded capacity	$1,204,000[2]
1/26/2008	1/26/2008	Quisisana	500	0		No		Unpaved surface	Flow exceeded capacity	

[2] The SSOs that occurred during the January 25-26, 2008 storm event are treated as one SSO event that lasted two days.

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
2/4/2008	2/4/2008	Westwood	18	0	18	No		Storm drain; Unpaved surface	Pipe structural problem/failure	
2/10/2008	2/10/2008	14 Tamalpais Ave. Larkspur	50	0	50	No		Other paved surface; Storm drain; Street/curb and gutter	Other: A small amount of roots caught towels flushed into the system	
2/11/2008	2/11/2008	808 S.F. Drake Blvd.	81	0	81	No		Storm drain; Other: Dirt area of planter	Grease deposition (FOG)	
2/13/2008	2/13/2008	Banchero	50	0	50	Yes	Yes	Surface water	Pipe structural problem/failure	$10,000
2/13/2008	2/13/2008	Banchero	50	0	50	Yes	Yes	Surface water	Pipe structural problem/failure	$10,000
2/23/2008	2/23/2008	310 West Baltimore	486	0	486	Yes		Surface water	Debris	$10,000
2/24/2008	2/24/2008	Cordone	405	0		No		Unpaved surface	Root intrusion	
2/24/2008	2/25/2008	40 Green Valley	8000	0	8000	Yes		Surface water; Unpaved surface	Debris	$90,000
3/10/2008	3/10/2008	101 Legend	153	0	0	No		Unpaved surface	Pipe structural problem/failure	
3/26/2008	3/27/2008	65 Corte Amado	300	0	0	No		Unpaved surface	Other: Plastic Gatorade bottle	
4/8/2008	4/8/2008	700 Lincoln Village Cir	600	0	0	No		Unpaved surface	Root intrusion	
4/17/2008	4/17/2008	94 Gregory	638	0	0	No	Yes	Storm drain; Street/curb and gutter	Root intrusion	
4/23/2008	4/23/2008	70 Corte Dorado	150	2	0	No		Other paved surface; Unpaved surface	Debris	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
5/4/2008	5/5/2008	2 Los Cerros	7200	7199	1	Yes	Yes	Separate storm drain	Pipe structural problem/failure	$20,000
5/22/2008	5/23/2008	Via LA Paz Easement	162	0	0	No	No	Unpaved surface	Debris	
5/26/2008	5/26/2008	68 Alder	50	0	0	No	No	Unpaved surface	Other: Towels in main	
6/28/2008	6/28/2008	72 Almanar	319	250	0	No	Yes	Storm drain; Unpaved surface	Grease deposition (FOG)	
8/27/2008	8/27/2008	112 Goodhill	20	0	0	No	No	Other: Land/yard	Debris	
10/6/2008	10/6/2008	8 Toyon	50	0	0	No	No	Unpaved surface	Other: Roots from a lateral	
10/12/2008	10/12/2008	120 Oak Kentfield	567	0	0	No	No	Unpaved surface	Other: Paper towels	
10/14/2008	10/14/2008	16 Laurel Grove	673	0	0	No	No	Unpaved surface; Other: Under building	Pipe structural problem/failure	
10/27/2008	10/27/2008	40 Corte Cordva	100	0	0	No	No	Unpaved surface	Other: Roots	
11/10/2008	11/10/2008	Laurel Grove	50	0	0	No	No	Other: Building	Pipe structural problem/failure	
11/15/2008	11/15/2008	16 Wolfe Canyon	25	0	0	No	No	Other: flagstone in yard of 16 Wolfe Canyon.	Root intrusion	
11/17/2008	11/17/2008	61 Ridgecrest	40	0	0	No	No	Street/curb and gutter	Debris	
11/18/2008	11/18/2008	110 Wood Lane	27	0	0	No	No	Unpaved surface	Pipe structural problem/failure	
11/20/2008	11/20/2008	21 Toussin	150	0	0	No	No	Unpaved surface	Other: Roots from lateral	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
11/25/2008	11/25/2008	405 Sequoia	100	0	0	No	No	Unpaved surface	Pipe structural problem/failure	
12/21/2008	12/21/2008	20 Liberty	555	50	505	Yes	Yes	Other paved surface; Storm drain	Grease deposition (FOG)	$10,000
12/30/2008	12/30/2008	Broadmore	50	50	0	No	No	Unpaved surface	Root intrusion	
1/8/2009	1/8/2009	67 Ridgecrest	200	0	0	No	No	Unpaved surface	Other: Unknown. Did not find any grease, roots of debris.	
1/8/2009	1/8/2009	22 Canyon	50	50	0	No	No	Street/curb and gutter; Unpaved surface	Debris-General	
1/13/2009	1/13/2009	100 Deer Hollow	600	0	0	No	No	Unpaved surface	Root intrusion	
1/16/2009	1/16/2009	6 Greenwood	250	0	0	No	No	Other paved surface; Unpaved surface	Root intrusion	
1/25/2009	1/26/2009	260 Crescent	1822	100	0	No	No	Unpaved surface	Root intrusion	
1/27/2009	1/27/2009	832 Fawn	80	0	0	No	No	Other paved surface	Root intrusion	
2/6/2009	2/6/2009	644 Bolinas	450	0	0	No	No	Unpaved surface	Root intrusion	
2/14/2009	2/14/2009	10 Canyon Ross	20	0	0	No	No	Street/curb and gutter; Unpaved surface	Root intrusion	
2/16/2009	2/16/2009	635 Goodhill	120	0	0	No	No	Unpaved surface	Root intrusion	
2/19/2009	2/19/2009	5 Palm Ct.	27	0	0	No	No	Unpaved surface	Root intrusion	
2/21/2009	2/21/2009	8 Ivy Ln	100	0	0	No	No	Other paved surface; Unpaved surface	Debris-Rags	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
3/5/2009	3/5/2009	135 Crown	24	0	0	No	No	Unpaved surface	Debris-Rags	
3/22/2009	3/22/2009	931 Bolinas Rd	50	25	0	No	No	Other paved surface; Unpaved surface	Root intrusion	
3/24/2009	3/24/2009	100 Red Hill	400	100	300	Yes	Yes	Storm drain; Street/curb and gutter	Grease deposition (FOG)	$10,000
4/1/2009	4/1/2009	52 Woodside Dr.	15	0	0	No	No	Unpaved surface	Other: Operator found roots he felt were from a lateral	
4/3/2009	4/3/2009	673 Magnolia	150	100	0	No	No	Street/curb and gutter; Unpaved surface	Debris-Rags	
4/4/2009	4/4/2009	20 Skyland	4937	225	4712	No	Yes	Unpaved surface	Debris-Rags	
4/19/2009	4/19/2009	83 Hatzic Ct	40	0	0	No	No	Unpaved surface	Root intrusion	
4/27/2009	4/27/2009	7 Woodhaven	300	0	0	No	No	Unpaved surface	Debris-Rags	
5/9/2009	5/10/2009	5 Palm	600	0	0	No	No	Unpaved surface	Root intrusion	
5/21/2009	5/21/2009	51 Woodland	50	0	0	No	No	Unpaved surface	Pipe structural problem/failure	
6/7/2009	6/7/2009	SF Drake & SA Ave	250	250	0	No	Yes	Other: All was recovered	Root intrusion	
7/6/2009	7/6/2009	2100 SF Drake	50	50	0	No	Yes	Storm drain; Street/curb and gutter	Other :While cleaning the main grease blocked the line causing it to overflow for a short time	
7/19/2009	7/19/2009	56 Jordan	50	0	0	No	No	Unpaved surface	Other: Unable to determine	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
7/25/2009	7/27/2009	119 Crown Rd	936	0	0	No	No	Unpaved surface	Debris-Rags	
8/6/2009	8/7/2009	167 Scenic	470	0	5	Yes	Yes	Unpaved surface	Debris-Rags	$20,000
8/13/2009	8/13/2009	29 Ridgecrest	177	0	0	No	No	Unpaved surface	Root intrusion	
8/28/2009	8/28/2009	91 Forrest	23	0	0	No	No	Unpaved surface	Debris-Rags	
9/21/2009	9/21/2009	88 Wellington	600	0	0	No	No	Unpaved surface	Pipe structural problem/failure	
9/28/2009	9/28/2009	351 Olema Rd	50	50	0	No	Yes	Storm drain; Street/curb and gutter	Grease deposition (FOG)	
11/4/2009	11/5/2009	78 Chester	300	0	0	No	No	Unpaved surface	Root intrusion	
11/8/2009	11/8/2009	564 Scenic	90	0	0	No	No	Unpaved surface	Debris-Rags	
11/8/2009	11/9/2009	49 summit	25	0	0	No	No	Unpaved surface	Debris-Rags	
11/16/2009	11/16/2009	31 corte Placida	50	0	0	No	No	Unpaved surface	Root intrusion	
11/29/2009	11/29/2009	14 Geary Ave	30	30	0	No	No	Street/curb and gutter	Root intrusion	
12/5/2009	12/5/2009	66 Maple	600	600	0	No	Yes	Building or structure; Storm drain; Street/curb and gutter	Root intrusion	
12/19/2009	12/19/2009	39 Wreden Ave.	180	50	0	No	No	Street/curb and gutter; Other: Hillside	Root intrusion	
12/22/2009	12/22/2009	21 Raven Rd.	200	50	0	No	No	Street/curb and gutter	Vandalism	
12/31/2009	12/31/2009	506 Sequoia Dr.	20	0	0	No	No	Street/curb and gutter	Other: Roots from lateral	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
1/2/2010	1/2/2010	19 Bretano Way	200	0	0	No	No	Building or structure; Other: Rear yard	Root intrusion	
1/4/2010	1/4/2010	309 Via La Paz	300	0	0	No	No	Other: Hillside	Other: Some root intrusion but LOTS of wipes	
1/18/2010	1/18/2010	2 Los Cerros	900	50	850	Yes	Yes	Other paved surface; Storm drain; Surface water	Debris-Rags	$10,000
1/19/2010	1/19/2010	410 William	900	50	500	Yes	Yes	Storm drain; Street/curb and gutter; Surface water; Unpaved surface	Flow exceeded capacity	$10,000
1/20/2010	1/20/2010	991 Butterfield	1	0	1	Yes	Yes	Storm drain; Street/curb and gutter; Surface water	Other: Cleaned mains in area, no blockage.	$10,000
2/8/2010	2/8/2010	80 Baywood Ave.	25	0	0	No	No	Street/curb and gutter; Other: Small amount made it to land next to garage.	Debris-Rags	
2/9/2010	2/10/2010	5 Circle Dr. Ross	150	0	0	No	No	Other: Hillside	Other: Found hole on hillside where sewage came out. Also found a 4 in-line CO that had the cap off and full of dirt and rock.	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
2/26/2010	2/26/2010	33 Woodhaven Rd.	50	0	0	No	No	Street/curb and gutter; Unpaved surface	Root intrusion	
3/16/2010	3/16/2010	110 Winding Way	25	3	0	No	No	Other: Small amount of soil around MH	Other: 4 test plug and small amount of roots.	
3/16/2010	3/16/2010	440 Woodland Rd.	200	50	150	Yes	Yes	Storm drain; Other: Tamalpais creek	Root intrusion	$10,000
4/21/2010	4/22/2010	370 Via La Cumbre	1150	0	0	No	No	Unpaved surface	Other: Mouth of Manhole blocked by debris from private lateral blockage and Wipes	
5/8/2010	5/8/2010	8 Ivy Ln.	25	0	0	No	No	Unpaved surface	Debris-General	
5/10/2010	5/10/2010	3 Rocca Dr.	25	0	0	No	No	Unpaved surface	Root intrusion	
5/11/2010	5/11/2010	14 garden Way	75	0	0	No	No	Unpaved surface	Root intrusion	
5/20/2010	5/20/2010	62 Valley Rd.	200	0	200	Yes	Yes	Surface water	Other: Root Intrusion and collapsed pipe	$10,000
5/29/2010	5/29/2010	14 Elm Ct.	100	10	0	No	No	Unpaved surface	Other: Rocks, wipes and rags	
6/16/2010	6/16/2010	94 Forrest	50	50	0	No	Yes	Storm drain; Street/curb and gutter	Debris-General	
7/14/2010	7/14/2010	639 Magnolia Ave. Larkspur	20	20	0	No	No	Street/curb and gutter	Root intrusion	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
7/29/2010	7/29/2010	475 South Eliseo Drive	50	50	0	No	No	Other: Sewage was contained in the parking lot due to the curb.	Other: Ran 2 pumps at once and it came out of the 4 inch cleanout. Turned off both pumps and it stopped immediately.	
8/4/2010	8/4/2010	1100 South Eliseo Drive.	75	75	0	No	Yes	Storm drain	Grease deposition (FOG)	
8/6/2010	8/6/2010	Bon Air Road and Bayview Road	150	150	0	No	No	Other: The sewage never left the ditch.	Other: The force main was not located. Argonaut hit force main with the back hoe.	
8/17/2010	8/17/2010	11 Tree Top Way	50	0	0	No	No	Street/curb and gutter	Debris-General	
8/31/2010	8/31/2010	850 South Eliseo Drive	200	0	200	Yes	Yes	Surface water	Operator error	$10,000
9/23/2010	9/23/2010	832 Fawn Dr.	120	0	0	No	No	Street/curb and gutter; Unpaved surface	Root intrusion	
10/2/2010	10/2/2010	10 Madreo	25	5	0	No	No	Street/curb and gutter	Root intrusion	
10/5/2010	10/5/2010	599 South Eliseo	200	0	0	No	No	Unpaved surface	Debris-Rags	
10/6/2010	10/6/2010	57 Berkeley	200	100	100	No	No	Unpaved surface; Other: Concrete driveway	Root intrusion	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
10/7/2010	10/12/2010	133 Butterfield	3600	400	0	No	No	Unpaved surface	Debris-General	
10/7/2010	10/7/2010	317 Via La Paz	10	0	0	No	No	Unpaved surface	Debris-Rags	
10/22/2010	10/22/2010	South Eliseo	8650	0	8650	Yes	Yes	Storm drain; Surface water	Pipe structural problem/failure	$86,500
10/25/2010	10/25/2010	3 Heather Way	20	0	0	No	No	Street/curb and gutter	Other: Wipes, small amount of roots. low flow line	
11/10/2010	11/10/2010	Taylor Street	300	100	30	Yes	Yes	Surface water	Root intrusion	$10,000
11/27/2010	11/27/2010	123 Terrace	10	0	0	No	No	Other paved surface; Unpaved surface	Debri-General	
11/29/2010	11/29/2010	Bon Air Rd. & South Eliseo Dr.	5	5	0	No	No	Other: The spill flowed onto land and was vacuumed up. Samples were taken.	Pipe structural problem/failure	
12/3/2010	12/3/2010	506 Sequoia	50	0	0	No	No	Unpaved surface	Root intrusion	
12/6/2010	12/6/2010	905 Bolinas Rd	60	0	0	No	No	Street/curb and gutter; Unpaved surface	Root intrusion	
12/6/2010	12/6/2010	644 Bolinas Rd	200	55	0	No	No	Street/curb and gutter; Unpaved surface	Flow exceeded capacity (Separate CS Only)	
12/11/2010	12/11/2010	444 Scenic	100	0	0	No	No	Unpaved surface	Root intrusion	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
12/17/2010[3]	12/18/2010	Multiple locations	1110530	200539	909991	Yes	Yes	Other paved surface; Separate storm drain; Street/curb and gutter; Surface water; Unpaved surface	Debris-Rags	$9,099,910[4]
12/22/2010[5]	12/22/2010	Bon Air Rd and South Eliseo	1836568	361770	1474798	Yes	Yes	Other paved surface; Separate storm drain; Street/curb and gutter; Surface water; Unpaved surface	Pipe structural problem/failure	$14,747,980[6]
12/27/2010	12/27/2010	38 Redwood Road	3150	100	0	No	No	Other: The sewer overflowed out of a 4 inch cleanout and went into the ground.	Root intrusion	

[3] Total volume discharged and recovered, and SSO start and end times have been updated based on data provided by the Discharger. The information is not reflected in CIWQS.

[4] The maximum penalty was determined assuming 4 separately caused SSOs reaching surface water each occurring over a period of one day.

[5] Total volume discharged and recovered, and SSO start and end times have been updated based on data provided by the Discharger. The information is not reflected in CIWQS.

[6] The maximum penalty was determined assuming 4 separately caused SSOs reaching surface water each occurring over a period of one day.

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
12/28/2010	12/28/2010	Diane Lane	600	0	600	Yes	Yes	Other: Corte Madera Creek	Pump station failure	$10,000
12/29/2010	12/29/2010	557 Scenic Ave.	5	0	0	No	No	Street/curb and gutter	Debris-General	
1/10/2011	1/10/2011	20 El Camino Bueno	50	5	0	No	No	Other: Yard/Land	Root intrusion	
1/17/2011	1/17/2011	Morningside Drive	800	50	100	Yes	Yes	Street/curb and gutter; Surface water	Root intrusion	$10,000
1/21/2011	1/21/2011	1701 San Anselmo Ave.	200	100	0	No	Yes	Combined storm drain (combined CS only)	Debris-Rags	
1/21/2011	1/25/2011	79 Berens Drive	30	5	0	No	No	Street/curb and gutter	Debris-Rags	
2/4/2011	2/5/2011	286 Via La Paz	480	50	0	No	No	Other: The spill destination was in the dirt of backyard of 286 Via La Paz.	Root intrusion	
2/8/2011	2/9/2011	99 Broadmore Avenue	20	20	0	No	No	Other: In the front yard of 99 Broadmore Avenue.	Root intrusion	
2/25/2011	2/25/2011	61 Willow Avenue	2000	0	2000	Yes	No	Surface water	Surcharged pipe (Combined CS Only)	$20,000
2/25/2011	2/25/2011	Frustuck and Coree Lane	360	0	360	Yes	No	Surface water	Surcharged pipe (Combined CS Only)	$10,000
2/28/2011	2/28/2011	48 Calumet	30	30	0	No	No	Street/curb and gutter	Debris-General	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
3/2/2011	3/2/2011	2 Oakwood Court	250	0	0	No	No	Unpaved surface	Grease deposition (FOG)	
3/6/2011	3/6/2011	152 San Francisco Boulevard	3	0	0	No	No	Unpaved surface	Root intrusion	
3/16/2011	3/16/2011	2 Fairview Court	300	0	300	Yes	Yes	Other: The overflow came out of the manhole went into the storm drain then into the creek.	Root intrusion	$10,000
3/17/2011	3/17/2011	78 Mountain View Road	20	0	0	No	No	Unpaved surface	Root intrusion	
3/23/2011	3/23/2011	Broadmore Ave	6000	0	6000	Yes	Yes	Other: San Anselmo Creek	Debris-Rags	$60,000
3/24/2011	3/24/2011	San Anselmo Avenue and San Rafael Avenue	9000	0	9000	Yes	Yes	Surface water	Surcharged pipe (Combined CS Only)	$90,000
3/24/2011	3/24/2011	68 Alder Ave	20	0	0	No	No	Other: Soil around cleanout	Debris-General	
3/27/2011	3/27/2011	115 Woodside Drive	2500	0	2500	Yes	Yes	Surface water	Debris-Rags	$25,000
4/12/2011	4/12/2011	Manhole located at 100 Hawthrone	150	150	0	No	Yes	Separate storm drain	Debri-General	

Start Date	End Date	Location	Gallons Discharged	Gallons Recovered	Gallons Reached Surface Water	Reached Surface Water	Reached Storm Drainpipe	Final Spill Destination	Cause	Maximum Penalty[1]
4/13/2011	4/20/2011	62 Valley Road	8540	0	8540	Yes	Yes	Surface water	Pipe structural problem/failure	$155,400
4/19/2011	4/21/2011	30 Vista Drive.	1500	0	0	No	No	Other: 6 inch sewer line was broken on the hillside. A tree root popped the top of the pipe at the hub. Rocks and mud plugged the line.	Other: A tree root popped the top of the pipe at the hub. Rocks and mud plugged the line.	
									Total Maximum Penalty-Discharge Violations	**$25,798,790**

APPENDIX A

Table A-2: Total Maximum Penalty for Non-Discharge Violation-Failure to Timely Certify SSOs

SSO Event	Date SSO Response & Remediation Complete	Date Certified Report Due	Date Certified Report Submitted	Violation Days	Appropriate Violation Accrual Days	Total Maximum Penalty[7]
12/17/10-12/19/10	12/20/10	1/4/11	4/4/11	91	9	$9,000
12/22/10	12/23/10	1/7/11	4/4/11	88	8	$8,000
12/22/10 (manhole#2647)	12/22/10	1/6/11	Not yet submitted	300 (as of 11/1/11)	16	$16,000
			Total	**479**	**33**	**$33,000**

Table A-3: Total Maximum Penalty for Non-Discharge Violation-Failure to Accurately Report SSOs

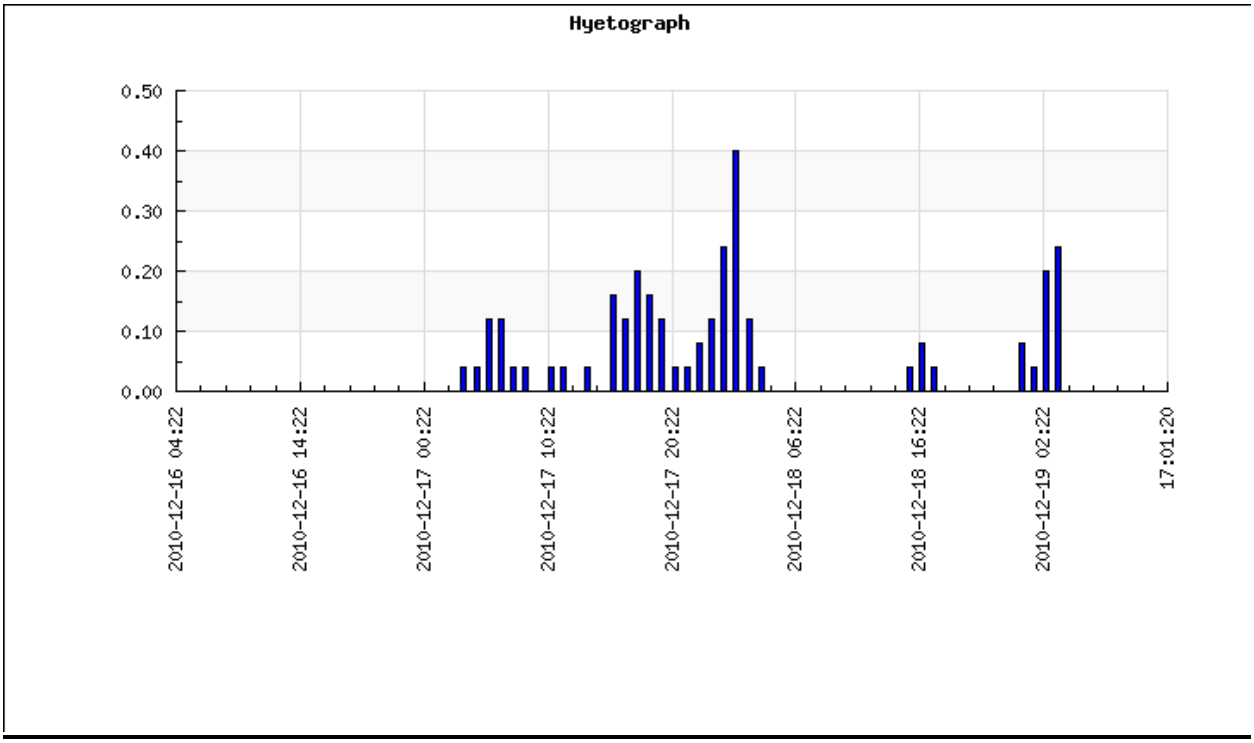
SSO Date	Date Discharger Became Aware of Causes	Date Certified Report Amended via CIWQS	Violation Days as of 11/1/11	Appropriate Violation Accrual Days as of 11/1/11	Total Maximum Penalty
12/17/10-12/19/10	3/2/10	Not yet amended	245	14	$14,000
12/22/10	3/2/10	Not yet amended	245	14	$14,000
		Total	**490**	**28**	**$28,000**

Table A-4: Total Maximum Penalty for Non-Discharger Violation-Failure to Notify Agencies with 2hr/24hr

[7] The maximum penalty was determined by taking the sum of $1,000 for each day the violation.

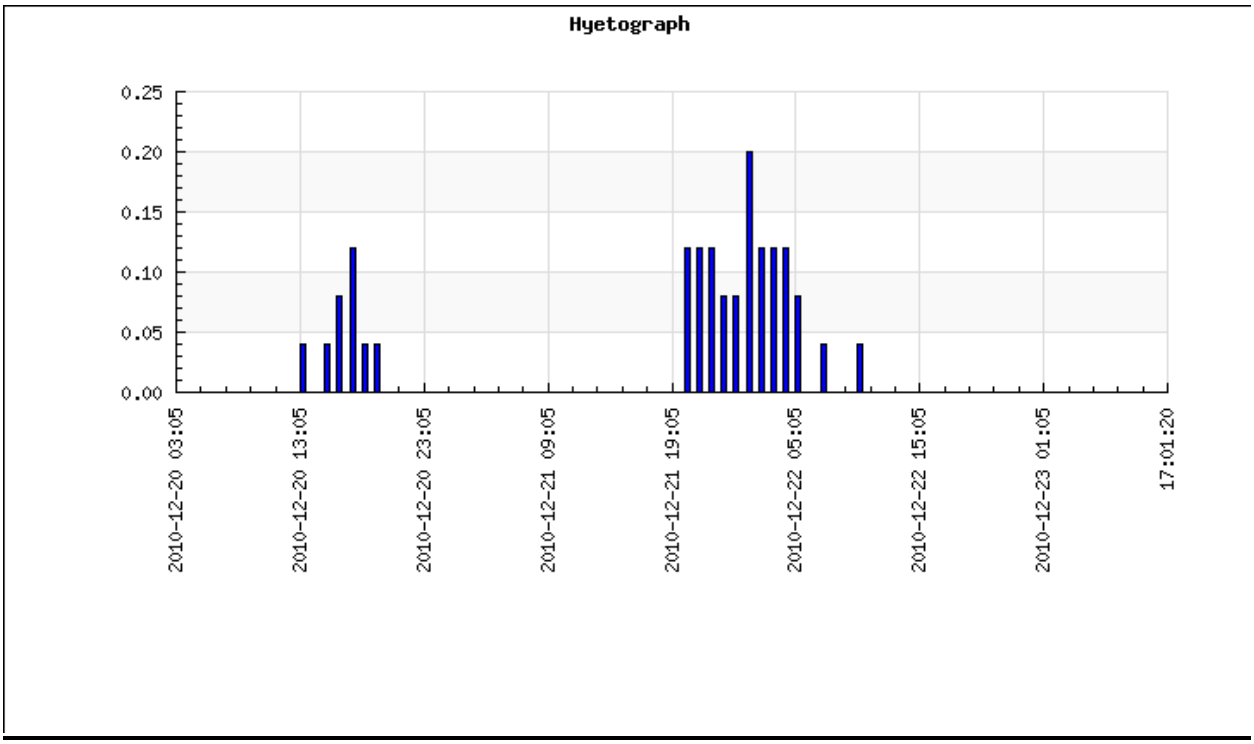
SSO Date	**Date/Time Discharger Became Aware of Category 1 SSO**	**2hr/24hr-Notification Due**	**Violation Days**	**Total Maximum Penalty**
12/17/2010-12/19/10	12/18/2010 at 00:30	2hr: 12/18/10 at 02:30 24-hr: 12/19/2010 at 00:30	1	$1,000

Appendix A.1: December 17-18, 2010, Storm Hourly Hyetograph



Source: http://marin.onerrain.com; Single Graph, Kentfield-Precipitation increment (2010-12-16 12:22:00-2010-12-19 12:22:00 US/Pacific)

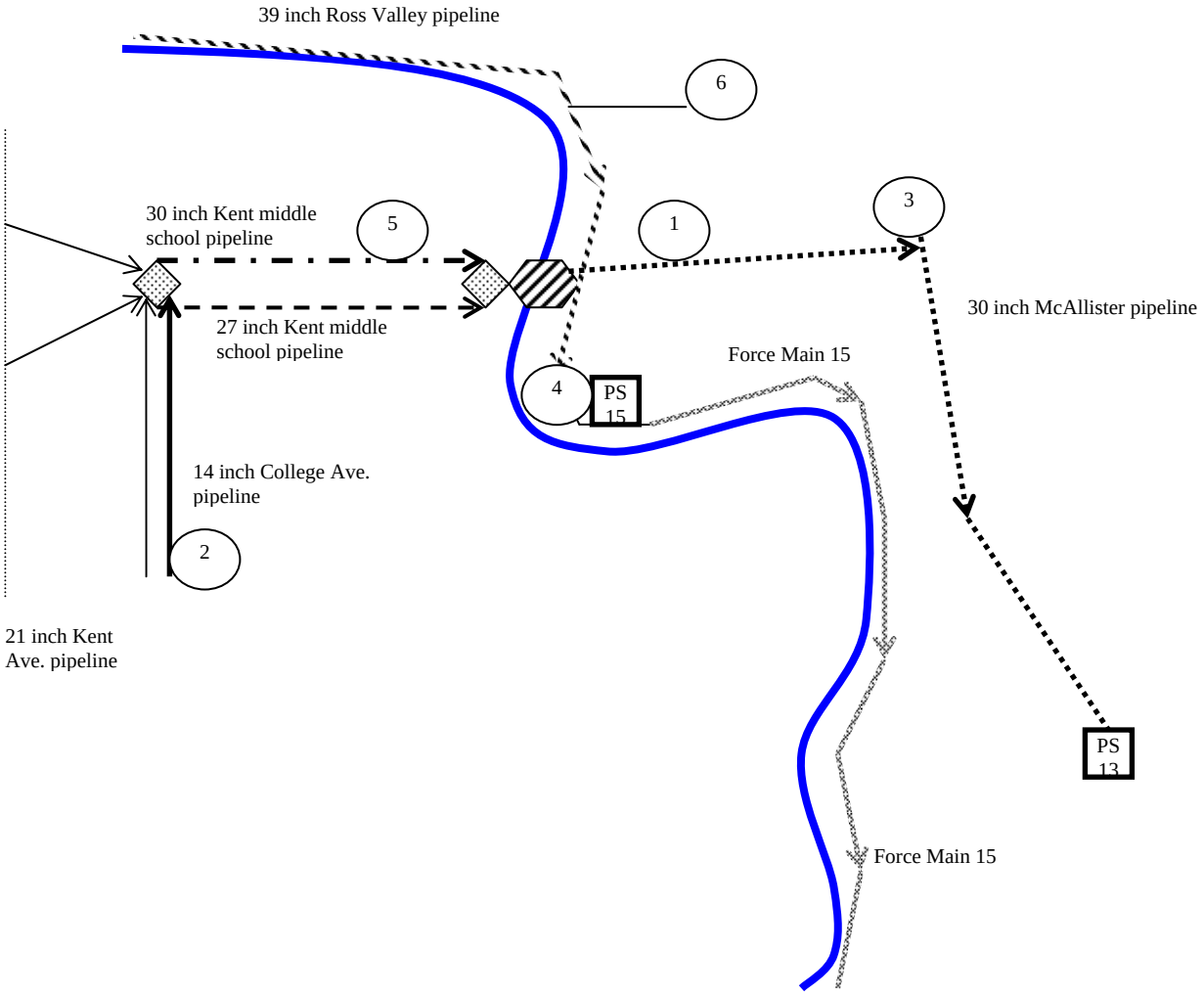
Appendix A.2: December 21-22, 2010, Storm Hourly Hyetograph



Source: http://marin.onerain.com; Single Graph, Kentfield - Precipitation increment (2010-12-20 11:05:00 - 2010-12-23 11:05:00 US/Pacific)

APPENDIX B

Figure 1: December 17-19, 2010, SSO Locations and Associated Pipelines/Infrastructure



Legend:

SSO locations, see Table 1 for exact location

Junction

Pump station

Siphon

Corte Madera Creek

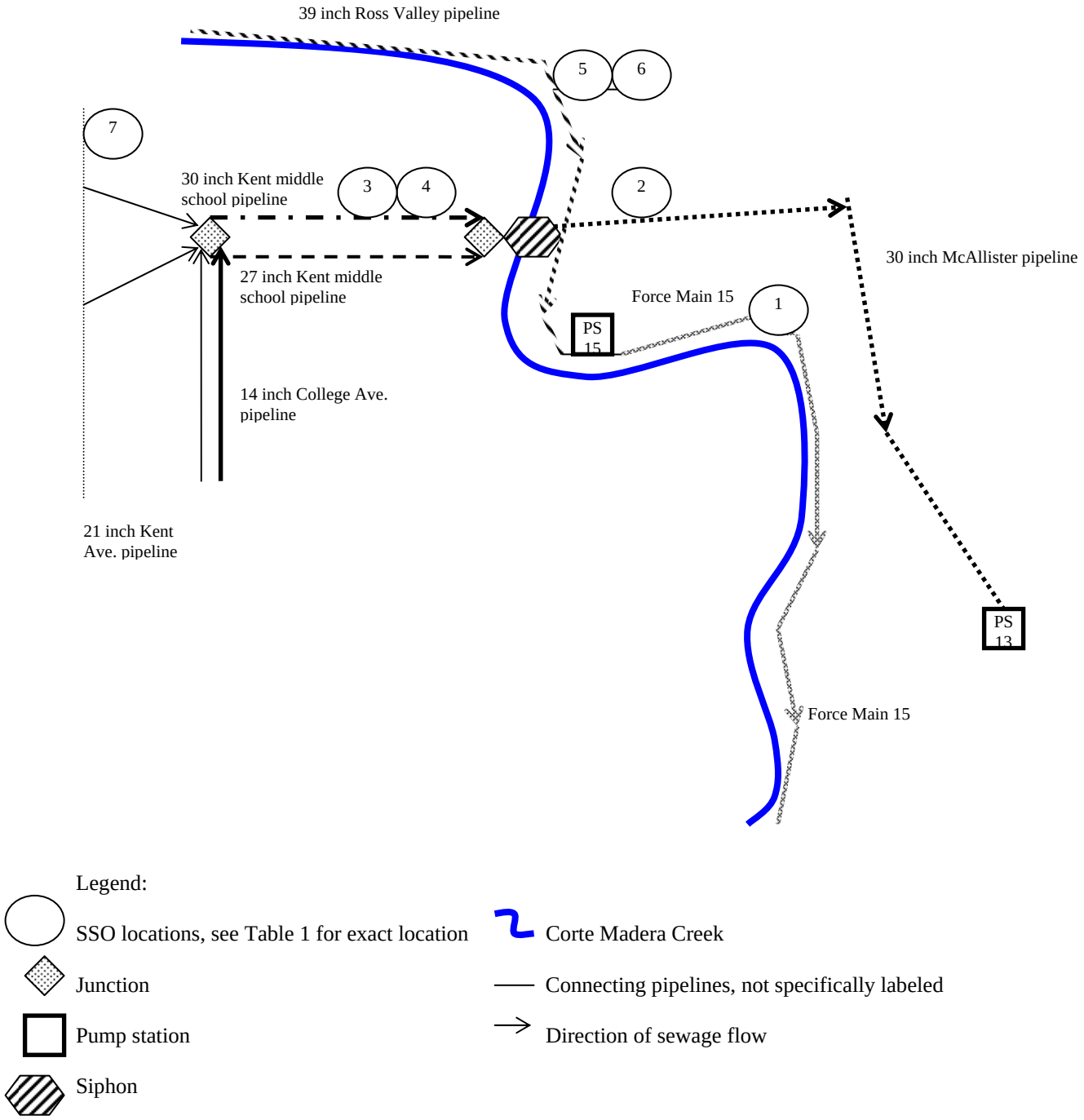
Connecting pipelines, not specifically labeled

Direction of sewage flow

Not to scale, for illustrative purposes only

APPENDIX C

Figure 2: December 22, 2010, SSO Location and Associated Pipelines/Infrastructure



Not to scale, for illustrative purposes only

APPENDIX D: PHOTOS

Photo 1: District photo of construction debris removed from the 27-inch Kent Middle School pipeline at manhole #2513 on December 21, 2010 at 11:20 am.

Photo Station
scree

Photo 3: Nute Engineering, Inc. photo of December 22, 2010, SSO, from manhole #2647 at the intersection of Behrens Drive and Sherwood Ct.

APPENDIX E: ENDNOTES

[1] Discharger March 2, 2010, Submittal in response to Regional Water Board request on February 3, 2010, page 7 of section 1.1.
Portions of Force Main 15 had been replaced with a 42-inch diameter High Density Polyethylene (HDPE) pipeline prior to the December 17-18, 2010 SSO event
[2] Executive Summary, page xiv of Sewer System Replacement Master Plan by RMC, January 2007
[3] The notice to proceed to work for the Force Main 15 Replacement Project was issued on June 3, 2010. Pump Station 15 remained offline for several months except during a couple of start-up attempts and it was brought back online on December 19, 2010. During this time period, sewage flows which typically would have been transported by Force Main 15 were redirected through the 30-inch McAllister pipeline.
[4] The Discharger provided data regarding SSO times, locations and volumes during the December 17-19, and 22, 2010 SSOs in its March 2, 2010, submittal in response to Regional Water Board request on February 3, 2011 (section 6.6). The Discharger later updated this information in its April 15, 2010, submittal in response to Regional Water Board request on March 25, 2011 (section 2.A and 2.B).
[5] Figure 1 is a freehand depiction of the collection system using MS Word and for illustrative purposes only.
[6] A large portion of the total volume recovered (approximately 197,539 gallons) was returned to the collection system. One vactor truck was recorded entering the CMSA Wastewater Treatment Plant at about 02:00 hours on December 18, 2010. Assuming the capacity of the truck is about 3,000 gallons and it was full, the estimated total volume recovered and returned directly to the plant is 3,000 gallons.
[7] Data obtained from the Discharger CIWQS Questionnaire.
[8] Woodland-College-Goodhill Sewer Capacity Improvement: Alternative Analysis and Project Definition" Report, December 2008, page 6. Rehabilitation and upgrade of the aging infrastructure in the Kent Woodlands area is a Discharger priority. Work to rehabilitate and upgrade some of this aging infrastructure began June 21, 2010, as part of the Woodland/College/Goodhill Capital Improvement Project. Some of the construction activities of this project have been completed while others are ongoing.
[9] Precipitation increment, precipitation accumulation and stream stage (or stream water level) data was obtained from the County of Marin website, http://marin.onerain.com; Precipitation accumulation and increment data was obtained from the Kentfield rain gauge, site ID #5261, and stream stage data was obtained from the Corte Madera Creek stage sensor, site ID #5255.
[10] Discharger submitted a statement from its General Manager confirming that debris was collected on December 18, 2010, from two manholes outside the Kent Middle School Library (Discharger April 11, 2010, Submittal in Response to Regional Water Board Request of March 25, 2011, Action Item #6).
[11] The Discharger stated it removed a 2-inch cam lock fitting, an 18-inch metal concrete stake and crushed rock from manhole #2513 (April 15, 2011, Discharger Submittal in Response to Regional Water Board Request of March 25, 2011, Action Item #5). The Discharger submitted sworn affidavits from Discharger staff, who documented discovering a 6-foot long piece of 4-

feet by 4-feet wood in a manhole on College Avenue and Magnolia Avenue on December 18, 2010. Additionally, on December 21, 2010, Discharger staff documented removing a piece of fiberglass from screen at Pump Station 13. The Discharger did not provide photographic evidence of debris collected.

[12] The Discharger submitted sworn affidavits from Discharger staff, who documented the type of debris found prior to the SSO event which included, but was not limited to, a hard hat, pipeline liner and trace wire wrapped around a piece of wood.

[13] The required capacity to carry all flows is about 10.8 million gallons per day. The hydraulic capacity of the 30-inch Kent Middle School pipeline is 11 million gallons per day. The hydraulic analysis was conducted by Nute Engineering as part of the "Woodland-College-Goodhill Sewer Capacity Improvement: Alternative Analysis and Project Definition" Report dated December 2008. The capacity was computed using Kutter's formula assuming sewers operate full and a coefficient of friction, n, of 0.013.

[14] Figures 2 is a freehand depiction of the collection system (using Microsoft Word) and for illustrative purposes only.

[15] Total volume discharged of 300 gallons was all recovered.

[16] A large portion of the total volume recovered (approximately 349,770 gallons) was returned to the collection system. Four vactor trucks were recorded entering the CMSA Wastewater Treatment Plant on December 22 and 23, 2010. Assuming the capacity of each truck is about 3,000 gallons and they were full, the estimated total volume recovered and taken directly to the plant is 12,000 gallons.

[17] Precipitation increment, precipitation accumulation and stream stage (or stream water level) data was obtained from the County of Marin website, http://marin.onerain.com; Precipitation accumulation and increment data was obtained from the Kentfield rain gauge, site ID #5261, and stream stage data was obtained from the Corte Madera Creek stage sensor, site ID #5255

[18] The Discharger submitted a sworn affidavit from Discharger staff, who documented finding a hard hat. The Discharger did not provide photographic evidence of the hard hat collected.

[19] Rain starts at 20:00 on 12/21, stops at 05:00 on 12/22, restarts on the same day at 07:00 and ends at 11:00 (data obtained from County of Marin website, http://marin.onerain.com).

[20] For the December 17-19, 2010, SSOs, the Discharger reported in CIWQS that it completed SSO response activities on December 20, 2010. For the December 22, 2010, SSOs, the Discharger reported it completed SSO response activities on December 23, 2010. Prosecution Staff assumed that remediation activities also ended on the same day SSO response was completed.

[21] Nute Engineering,Inc email correspondence dated September 6, 2011.

[22] California Code of Regulations, Title 17, Article 4, Section 7958 establishes minimum protective bacteriological standards for waters adjacent to public beaches and public water-contact sports areas designated by a regional water quality control board or other authorized and responsible public agency. Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed: (a) 1,000 total coliform bacteria per 100 milliters (ml), if the ratio of fecal/total coliform bacteria exceeds 0.1; or (b) 10,000 total coliform bacteria per 100 ml; or (c) 400 fecal coliform bacteria per 100 ml; or (d) 104 enterococcus bacteria per 100 ml.

[23] Basin Plan establishes a maximum water quality standard for E. Coli of 406 colonies per 100 ml for water contact recreation at a lightly used area.
[24] San Francisco Bay Basin Water Quality Control Plan (Basin Plan) establishes a maximum water quality standard for Enterococci of 108 colonies per 100 ml for water contact recreation at a lightly used area.
[25] The San Francisco Bay Basin Water Quality Control Plan (Basin Plan) establishes the following beneficial uses for Corte Madera Creek and Central San Francisco Bay. Corte Madera Creek supports or could support cold freshwater habitat (COLD), fish migration (MIGR), preservation of rare and endangered species (RARE), fish spawning (SPWN), warm freshwater habitat (WARM), wildlife habitat (WILD), water contact recreation (REC-1), and noncontact water recreation (REC-2). Central San Francisco Bay supports industrial service (IND), industrial process supply (PROC), commercial and sport fishing (COMM), shellfish harvesting (SHELL), estuarine habitat (EST), ish migration (MIGR), preservation of rare and endangered species (RARE), fish spawning (SPWN), wildlife habitat (WILD), water contact recreation (REC-1), noncontact water recreation (REC-2), and navigation (NAV).
[26] Fishery Resources Conditions of the Corte Madera Creek Watershed, Marin County California, November 2000, Alice Rich
[27] Discharger Joint Aquatic Resource Permit Application for the Kentfield Sewage Force Main Replacement and the Berens/McAllister Sloughs Culvert Replacement, Corte Madera Creek, CA, dated March 17, 2011.
[28] Discharger verbal statement during a meeting with Regional Water Board staff on April 6, 2011. [It's best if you can identify the person who made the statement, or at least identify who from the District was present at the meeting.]
[29] Discharger verbal statement during a meeting with Regional Water Board staff on April 6, 2011.
[30] The Discharger provided data regarding total volume discharged and recovered during the December 2010 SSOs in its submittal in response to Regional Water Board request on February 3, 2011 (section 6.6). The Discharger later updated the volume estimates in its April 15, 2010, submittal in response to Regional Water Board request on March 25, 2011 (section 2.A and 2.B). Subsequently, the Discharger provided additional evidence and revised the total volume recovered via CIWQS on December 20, 2011.
[31] The Discharger initially reported the a total SSO volume of 842,630 gallons for the December 17-19, SSOs and a total of 1,831,100 gallons for the December 22, 2010, SSOs.
[32] Discharger budget and sewer rate data was obtained from Discharger Draft Submittal #5 in response to Regional Water Board request of May 12, 2011 and from Discharger Submittal in response to Regional Water Board request of June 3, 2010.
[33] The Discharger submitted model results that estimate the hydraulic capacity of the 30-inch McAllister pipeline. The hydraulic capacity of this pipeline was calculated using H2O Net hydraulic model under surcharged conditions. The model assumed a surcharged water level within 3 feet of the manhole rim. The model was not calibrated against measured flows. The predicted capacity of the 30-inch McAllister pipeline ranged from 11.4 to 14 million gallons per day depending on the pipeline roughness factor assumed.
[34] The model results from the Discharger's SHECAP were used to estimate flows through the 30-inch McAllister pipeline during wet weather conditions. The Discharger's SHECAP used

InfoWorks by Wallingford Software hydraulic model to predict flows through the Discharger's collection system. The model was calibrated against measured flows during dry and wet weather conditions. Two storm events were used to calibrate the model during wet weather: (1) a December 2004 storm which precipitated 6.7 inches over a 24-hr period and (2) a February 2005 storm which precipitated 1.6 inches over a 24-hr period.

[35] The predicted average flow through the 30-inch McAllister pipeline was calculated by totaling the modeled average flow through the 27-inch Kent Middle School pipeline (estimated at 1.62 MGD at Manhole K100.24.1) and the 39-inch Ross Valley pipeline (estimated at 7.24 MGD at Manhole K000.05.01), for a total of 8.86 MGD. The peak flow through the 30-inch McAllister pipeline was calculated by totaling the modeled peak flow through the 27-inch Kent Middle School pipeline (estimated at 2.95 MGD) and the 39-inch Ross Valley pipeline (estimated at 13.52 MGD), for a total of 16.46 MGD. Measured flows through the 30-inch McAllister pipeline during the February 2005 storm event were calculated using the same methodology.

[36] A siphon is a sewer line installed lower than the normal gradient of the sewer line to pass under obstructions such as watercourses or depressed roadways (Operation and Maintenance of Wastewater Collection Systems, Volume I, page 54). The Corte Madera Creek siphon is a double barrel siphon consisting of two sewer lines (18-inch and 21-inch sewer lines).

[37] Woodland-College-Goodhill Sewer Capacity Improvement, Alternative Analysis and Project Definition, Sanitary District No. 1 of Marin County, December 2008 (Table 3, Sewer Line Capacities-Alternative A-2-Modified RFP Project Stadium Way Relief Sewer and New College Avenue Sewer). The capacities of the 18-inch 21-inch siphon sewers are 6.90 million gallons per day and 9.4 million gallons per day, respectively, for a combined total siphon capacity of 16.30 million gallons per day. Based on the Discharger's 2008 Sewer System Hydraulic Evaluation and Capacity Assurance Plan (SHECAP) calculations, the capacities of the 18-inch and 21-inch sewers are about 7.6 million gallons per day and 11.6 million gallons per day, respectively, for a combined total siphon capacity of about 19.2 million gallons per day.

[38] The Discharger ordered the temporary repair coupler on December 14, 2010. However, not all parts of the temporary coupler were on site prior to the December 17-18, 2010 storm event. Two components of the repair coupler arrived on December 15th and the third component arrived the morning of December 18th. The third component did not arrive until later because it was damaged at the manufacturing plant, and a new component had to be fabricated (Discharger Draft Submittal II in response to Regional Water Board request of March 25, 2011, section 6). Needs a citation for hearing.

[39] Per the Ross Valley Sanitary District Sewer System Management Plan (SSMP), updated June 2010, page 6-3, the Discharger cleans its entire collection system every 12 to 18 months, and cleans specific portions of the system with known problems on a 6-month basis. Beginning fiscal year 2008-2009, the Discharger launched a closed circuit television (CCTV) inspection program to assess the condition of its entire gravity sewer system over a five to ten year period, inspecting approximately 20 to 39 miles of gravity lines per year. As of June 2010, the Discharger had inspected a total of 39 miles using CCTV. Additionally, in August 2007, the Discharger implemented a Computerized Maintenance Management System (CMMS). CMMS keeps records of service calls and generates as-needed work orders for service calls, and automatic work orders for regular nad 6-month maintenance. CMMS also tracks historical information about each pipe segment that will be used to identify additional pipe segments to be added or

removed from the six-month priority maintenance schedule in order to optimize the District's preventive maintenance activities.

[40] Ross Valley Sanitary District Sewer System Management Plan (SSMP), updated June 2010, page 4-1

[41] CIWQS Questionnaire data submitted by the Discharger

[42] Annual Capital Expenditure rate was calculated as follows: $13,172,200/204 miles*100=6,456,960. The annual capital expenditure rates were calculated similarly for collection systems greater than 100 miles based on CIWQS Questionnaire data provided by Dischargers. The median annual capital expenditures rate for SF Bay Region systems greater than 100 miles is about 1,119,000.