CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

CEASE AND DESIST ORDER NO. R2-2013-0020
REQUIRING THE

SANITARY DISTRICT NO. 1 OF MARIN COUNTY
(ALSO KNOWN AS "ROSS VALLEY SANITARY DISTRICT")
SANITARY SEWER COLLECTION SYSTEM
IN MARIN COUNTY

TO CEASE AND DESIST DISCHARGING WASTE
IN VIOLATION OF REQUIREMENTS IN

STATE WATER BOARD ORDER NO. 2006-0003-DWQ,
STATE WATER BOARD ORDER NO. 2008-0002-EXEC,
SECTION 301 OF THE CLEAN WATER ACT, AND
CALIFORNIA WATER CODE SECTION 13376

WHEREAS the California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Regional Water Board), finds that:

1. The Sanitary District No. 1 of Marin County (hereinafter Discharger) owns and operates a collection system subject to State Water Resources Control Board (State Water Board) Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (Sanitary Sewer Order), and State Water Board Order No. 2008-0002-EXEC, *Adopting Amended Monitoring and Reporting Requirements for the Sanitary Sewer Order* (MRP).

2. The Discharger signed a notice of intent to comply with the Sanitary Sewer Order, and any subsequent amendments, on July 11, 2006.

3. The Discharger's collection system includes about 195 miles of gravity sewers, 9 miles of force mains, and 19 pump stations. The Discharger's collection system collects and transports approximately 5 million gallons per day (MGD) of wastewater to the Central Marin Sanitation Agency (CMSA) Treatment Plant. The Discharger's collection system serves an approximate population of 50,000.

4. On June 20, 2012, the Regional Water Board issued Administrative Civil Liability Order No. R2-2012-0055 to the Discharger assessing $1,539,100 in liabilities for sanitary sewer overflows (SSOs) between January 1, 2008, and April 21, 2011. The total volume discharged, not recovered, and that reached waters of the United States due to these events was 2,555,535

gallons. The Regional Water Board approved as part of settlement for these violations the suspension of $482,380 of the total liability conditioned upon the successful completion in 2016 of a supplemental environmental project to incentivize the replacement and rehabilitation of defective private sewer laterals. A private sewer lateral is that portion of a sewer pipe from a building foundation to the property line, or in some cases extending to the sewer main line, that the property owner is responsible for maintaining. Defective private sewer laterals contribute to wet weather inflow and infiltration into the Discharger's system and can contribute to the frequency and volume of sanitary sewer overflows.

5. The Sanitary Sewer Order specifies provisions for which enrollees must comply as operators of a collection system:

    a. Enrollees must properly, manage, operate, and maintain all parts of the collection system (Provision D.8).

    b. Enrollees must allocate adequate resources for the operation, maintenance, and repair of its collection system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure adequate revenues and expenditures (Provision D.9).

    c. Enrollees shall take all feasible steps to eliminate SSOs (Provision D.3).

    d. Enrollees shall provide adequate capacity to convey base and peak flows (Provision D.10).

    e. Enrollees shall develop and implement a written Sewer System Management Plan (SSMP) that contains mandatory elements, and comply with a completion time schedule and a schedule for developing the funds needed for the capital improvement plan (Provisions D.11, D.13 and D.15).

    f. Enrollees shall prepare and implement a system evaluation and capacity assurance plan that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event (Provision D.13(viii)).

6. The Sanitary Sewer Order prohibits any SSO that results in a discharge of untreated or partially treated wastewater to waters of the U.S. or creates a nuisance as defined in Water Code section 13050(m) (Prohibitions C.1 and C.2 of the Sanitary Sewer Order, respectively).

7. As of July 20, 2011, the Discharger is in violation of Provisions D.8 and D.9 of the Sanitary Sewer Order by approving a fiscal year (FY) 2011/2012[1] budget that did not allocate adequate resources for, and thus failing to ensure for, the proper operation, maintenance, and repair of its collection system. The Discharger is in violation of Provision D.11 of the Sanitary Sewer Order by failing to implement its 2007 Sewer System Management Plan (SSMP).

    a. The Discharger prepared a Sewer System Replacement Master Plan (Sewer Master Plan) dated January 2007 and a Sewer Hydraulic Evaluation and Capacity Assurance Plan (SHECAP) dated August 2006, which identified sewer rehabilitation needs as well as capital improvement projects that will provide adequate hydraulic capacity of key system elements for dry and wet weather conditions. The Discharger also had prepared a Capital Improvement Strategic Plan (CIP) dated January 31, 2007, which presented a 10-year CIP that included projects identified in the Sewer Master Plan using a weighted decision model. The CIP recommended a rate of sewer pipe replacement of 2.0 to 3.4 miles per year, with a 10-year average of 2.3 miles per year. The CIP identified $60.6 million in capital improvement projects through FY 2015/2016. The Sewer Master Plan did not identify a source of funding.

    b. At an April 7, 2011, Discharger Board Meeting, the Discharger's staff proposed a sewer service rate increase of up to $904 per year for five years to expand the District's funding for operation and maintenance of the District's sewer system, increase funding for capital projects, and increase the District's rate of pipe replacement.

    c. On July 20, 2011, the Discharger's Board approved a sewer service rate of $638 for one year.

    d. On May 23, 2012, the Discharger's Board approved a FY 2012/2013 budget that included proposed capital expenditures in the amount of $23.3 million. In the FY 2012/2013 budget, it was anticipated that the capital expenditures would be funded by the future sale of revenue bonds. However, the Discharger's Board did not approve the sale of the revenue bonds with passage of the FY 2012/2013 budget.

    e. On October 3, 2012, the Discharger's Board adopted a revised 2012/2013 FY budget that resulted in a FY 2012/2013 budget of $19.9 million instead of the $31.4 million as originally approved.

[1] The Discharger's fiscal year is July 1 to June 30.

f. As of December 31, 2012[2], Discharger staff had identified 914 gravity sewer pipes with at least one Grade 4 or 5 structural defect.[3] The Discharger's Board was informed of pipe locations needing immediate repair (a total of 56[4] pipe locations with Grade 5 structural defects) at its monthly Board meetings in 2011 and 2012. Before running out of FY 2011/2012 funds, the Discharger completed or was nearing completion of the emergency repair work for 11 of the 12 pipe failure locations identified at the December 2011 Board meeting. The remaining 45 pipe failure locations needing urgent repair (i.e., with Grade 5 structural defects) had not been addressed and the Discharger's Board had taken no action to provide for adequate funds to address them. The Discharger's Board had also not taken action to provide for additional capital funds to address the hundreds of other Grade 4 or 5 structurally defective pipe segments in need of rehabilitation. However, existing operation and maintenance activities have addressed some of the additional Grade 4 and 5 structurally defective pipe segments that were in the need of rehabilitation. A list of the identified 45 pipe locations that needed urgent repair is included in Attachment A. The 914 gravity sewer pipe segments[5] (625 pipe segments with a most severe structural defect of Grade 5 and 289 pipe segments with a most severe structural defect of Grade 4) in need of rehabilitation are identified in the Discharger's Closed Circuit Televising (CCTV) Crew survey report included as Attachment B. Attachments A and B are incorporated herein by reference.

8. As of October 3, 2012, the Discharger is in violation of Provisions D.10 and D.13(viii) of the Sanitary Sewer Order by amending its FY 2012/2013 budget that authorized zero dollars for implementation of its Sewer Master Plan and SHECAP. As set forth in finding 7.a, the Discharger prepared a SHECAP which identified capital improvement projects that will provide hydraulic capacity of key system elements for dry and wet weather conditions. For FY 2011/2012, the Discharger budgeted for projects currently under construction, but deferred any additional capital improvement and rehabilitation projects for one year, as set forth in finding 7, above. Then, as previously set forth, on October 3, 2012, the Discharger's Board amended its FY 2012/2013 budget that authorized

[2] Data based on pipe condition assessment conducted on 46 percent of the Discharger's gravity sewer system (or approximately 89 miles of a total 194 miles of gravity sewer pipe). Source: Discharger's January 16, 2013, Agenda Meeting Packet, Informational Item k.

[3] Pipe grading is based on National Association of Sewer Service Companies Pipeline Assessment and Certification Program (a national industry-standard sewer pipe condition assessment system). The structural defects of a sewer pipe represent current failure or a very high likelihood of failure within five years (Grade 5) to ten years (Grade 4).

[4] At the December 2011 Discharger Board meeting, the Board was informed of 12 pipe failure locations; at the January, February, March and April 2012 Discharger Board meetings, the Board was informed of an additional 44 pipe locations needing urgent repair.

[5] Subsequent to completing its CCTV survey report, the Discharger's staff determined that there is an overlap between the 45 pipes needing urgent repair and 976 Grade 4 and 5 structurally defective pipes. The actual number of Grade 4 and 5 structurally defective pipes is 914 known at this time, which include pipes requiring point repairs, as well as pipes requiring replacement from manhole to manhole.

zero dollars for continued implementation of scheduled capital improvement projects identified in its Sewer Master Plan and SHECAP.

9. The Discharger violated Prohibition C.1 of the Sanitary Sewer Order. From April 21, 2011, to February 1, 2013, the Discharger reported a total of 50 SSOs from the Discharger's collection system to the State's online SSO system, the California Integrated Water Quality System (CIWQS). Of the total, 10 SSOs reached waters of the State and United States and are violations of Prohibition C.1 of the Sanitary Sewer Order. A detailed list of the 10 SSOs is contained in Attachment C, incorporated herein by reference.

10. The Discharger threatens to violate Prohibitions C.1 and C.2, and Provision D.3 of the Sanitary Sewer Order by failing to properly manage, operate, and maintain parts of its collection system. As described in finding 7.f, currently there are 45 identified pipe failure locations in need of urgent repair. If these failure locations are not repaired, and/or any of the 914 Grade 4 or 5 structural defects worsen, it is likely that significant SSOs would occur during wet weather. If not addressed, these failure locations could also result in the formation of sinkholes that are a public health and safety hazard, and/or a condition of nuisance pursuant to Water Code section 13050(m).

11. On November 21, 2012, the Regional Water Board issued a Notice of Violation (NOV) to the Discharger alleging violations of the Sanitary Sewer Order as described in the above findings. The NOV required the Discharger to submit an action plan to correct the violations. The Discharger submitted a plan on January 25, 2013, that identified actions and timeframes for those actions. The requirements in this Order are based in part on this plan. To the extent the Discharger has future sanitary SSO violations while implementing the actions under this Order, the Regional Water Board will consider in any future enforcement action the progress the Discharger has made to reduce SSOs. For example and without limiting the Regional Water Board's future discretion, the Board could consider progress as reducing SSOs by six every year.

12. Water Code section13301 authorizes the Regional Water Board to issue a cease and desist order when it finds that a discharge of waste is taking place, or threatening to take place, in violation of requirements or discharge prohibitions prescribed by the Regional or State Water Board.

13. Water Code section13267 authorizes the Regional Water Board to require any person who discharged, discharges, or is suspected of having discharged or discharging, within its region, to furnish technical or monitoring program reports in connection with any action relating to any requirement authorized by Division 7 of the Water Code.

14. This Order requires the Discharger to submit reports and technical information pursuant to Water Code section 13267. The reports and technical information required herein are necessary to assess system management and implementation of necessary corrective measures to reduce and eliminate SSOs and associated violations and to ensure compliance with this Order. The evidence supporting this requirement is contained in the public file for this matter. The burden, including costs, of the reports required by this Order bear a reasonable relationship to the need for the reports and the benefits obtained from them.

15. This Order is an enforcement action and, as such, is exempt from the provisions of the California Environmental Quality Act (CEQA) (Pub. Res. Code § 21000 *et seq*.) in accordance with Title 14, California Code of Regulations section 15321. Actions associated with implementing this Order are not exempt from CEQA and may need to be evaluated by the appropriate lead CEQA agency.

16. The Regional Water Board notified the Discharger and interested persons of its intent to consider adoption of this Order, and provided an opportunity to submit written comments and appear at a public hearing. The Regional Water Board, in a public hearing, heard and considered all comments.

17. Any person adversely affected by this action of the Regional Water Board may petition the State Water Board to review the action. The petition must be received by the State Water Board Office of Chief Counsel, P.O. Box 100, Sacramento, CA 95812-0100, within 30 days of the date which the action was taken. Copies of the law and regulations applicable to filing petitions will be provided upon request.

18. This Order contains more specific or stringent requirements than the Sanitary Sewer Order, as allowed by Sanitary Sewer Order Provision D. 2.(iv). This Order does not relieve the Discharger of any of its obligations to comply with the Sanitary Sewer Order.

IT IS HEREBY ORDERED, in accordance with Water Code section13301 and section13267, that the Discharger shall cease and desist from discharging and threatening to discharge wastes, in violation of the Sanitary Sewer Order and shall take appropriate remedial or preventative actions as follows :

I. Rehabilitation and Capital Improvement Performance Standards

a. By July 24, 2013, the Discharger shall award a construction contract (or contracts) for the replacement or rehabilitation of 24 pipe segments from the 45 pipe segment locations with known Grade 5 structural defects listed in Attachment A (see Finding 7.f).

b. By December 31, 2013, the Discharger shall complete replacement or rehabilitation of the pipe segments with known Grade 5 structural defects

of 24 pipe segments from the 45 pipe segment locations with known Grade 5 structural defects listed in Attachment A.

c. By December 31, 2013, the Discharger shall award a construction contract (or contracts) for the replacement or rehabilitation of the remaining 21 pipe segments from the 45 pipe segment locations with known Grade 5 structural defects listed in Attachment A that were not subject to the contract or contracts or completion identified in Provisions I.a and I.b above.

d. By June 30, 2014, the Discharger shall complete replacement or rehabilitation of the remaining 21 pipe segments from the 45 pipe segment locations with Grade 5 structural defects listed in Attachment A identified in Provision I.c above.

e. By October 1, 2013, the Discharger shall submit its Infrastructure Asset Management Plan (IAMP). The IAMP shall, at a minimum, include the following collection system rehabilitation and operation and maintenance improvements:

    i. Prioritize and establish a schedule for replacement or rehabilitation of the 625 pipe segments with a known Grade 5 structural defect (see Finding 7.f). For the 625 pipe segments with a known Grade 5 structural defect, the schedule established in the IAMP shall show that such Grade 5 structural defects will be replaced or rehabilitated no later than June 30, 2018. If upon re-inspection within three years of the effective date of this Order the re-inspection indicates that the Grade 5 structural defect in question has not deteriorated from its original assessment, then the Discharger may revise the schedule to allow for replacement or rehabilitation of that Grade 5 structural defect within the next five years. In no event shall such schedule extensions extend beyond June 30, 2021.

    ii. Prioritize and establish a schedule for the re-inspection of the 289 pipe segments with a known Grade 4 structural defect at least once every five years (see Finding 7.f). At the time of re-inspection, if the Grade 4 structural defect maintains a PACP rating of Grade 4, then the identified pipe segment shall be scheduled for re-inspection again within five years. At the time of re-inspection, if the previously identified Grade 4 structural defect is now considered to be a Grade 5 structural defect under the PACP rating system, then the pipe segment in question shall be replaced or rehabilitated within five years of discovery.

    iii. Prioritize and establish a schedule for capital improvement subprojects as identified in the Discharger's CIP, which are identified in Attachment D to this Order, incorporated herein by

reference. (Attachment D may be subsequently amended by the Executive Officer after consideration of subprojects from the IAMP.) The schedule shall show that such capital improvement subprojects will be completed no later than June 30, 2019.

iv. Establish a schedule to assess the condition of remaining gravity pipelines using CCTV, and the condition of all force mains using appropriate methods, and the condition of pump stations. The schedule for assessment shall not extend beyond three years of the effective date of this Order.

v. Prioritize the replacement or rehabilitation of additional pipes based on future CCTV or other condition assessment work, using a consistent methodology that considers both condition assessment and risk factors.

vi. Prioritize pump station, force main, and interceptor capital improvement needs and integrate these replacements, and their needed funding, into the Discharger's overall capital improvement project plan.

vii. Evaluate and provide recommended improvements to existing cleaning and condition assessment programs with a focus on continued reduction in maintenance-related SSOs with roots, fats, oils and grease, or debris as their primary cause.

viii. Provide an ongoing process for the assessment and prioritization of pipeline, force main, and pump station replacement and rehabilitation based on the results of condition assessments completed.

f. The Discharger shall implement the recommendations of the IAMP which includes, but is not limited to, completing the capital improvement projects (e.g., replacement or rehabilitation of gravity pipelines, pump stations, and force mains) identified in its Sewer Master Plan, SHECAP, and Attachment D. Attachment D may be amended by the Executive Offer after consideration of the IAMP.

g. The IAMP will create significant program changes since the 2007 SSMP. Therefore, the Discharger shall re-certify its SSMP pursuant to Sanitary Sewer Order Provision 14 by December 2, 2013.

h. The Discharger shall replace or rehabilitate additional pipe segments with newly identified[6] Grade 5 structural defects as they are discovered for the duration of this Order within five years of discovery, or if the pipe segment is re-inspected within three years of first discovery and the re-inspection

[6] The term "newly identified" for the purposes of this Order refers to any defect not already included in the Discharger's CCTV survey report, dated January 10, 201[3] (Attachment B).

indicates that the Grade 5 structural defect in question has not deteriorated from its original assessment, then the Discharger may revise the schedule to allow for replacement or rehabilitation of that Grade 5 structural defect within the next five years, or re-inspection within the next three years. If upon re-inspection the Grade 5 structural defect in question has deteriorated from its most recent previous assessment, then the Discharger shall replace or rehabilitate the pipe segment of concern within the original five-year period.

i. Any newly identified pipe segment with a Grade 4 structural defect shall be re-inspected every five years for the duration of this Order. If upon re-inspection the previously identified Grade 4 structural defect has now become a Grade 5 structural defect, then the pipe segment in question is subject to Provision I.h for the duration of this Order.

j. Beginning FY 2013-2014, the Discharger shall rehabilitate its collection system at an average rate of 4 miles per fiscal year, based on a three-year rolling average.

k. By January 1, 2014, and quarterly for two years and annually thereafter for the duration of this Order, the Discharger shall submit a report providing the status of its Rehabilitation and Capital Improvement Projects as identified in Provisions I.a through I.i. The report shall include a summary of completed pipe repairs, replacements, and rehabilitations (locations and lengths), and a running tally of the progress of all pipe repair, replacement, and rehabilitation projects to be completed.

l. Failure to achieve compliance with Provisions I.a through I.i above may subject the Discharger to civil liability and/or other enforcement for violating this Order, and for any other underlying violations of the Sanitary Sewer Order or the Water Code. If the Discharger fails to achieve compliance with Provisions I.a through I.i above, the Discharger shall submit a Rehabilitation and Capital Improvement Compliance Report no later than 30 days after the respective deadline that (1) addresses why compliance was not achieved, (2) provides sufficient information concerning the specific circumstances leading to noncompliance, (3) provides evidence for any pertinent affirmative defenses, and (4) provides a plan and time schedule to remedy the violation as soon as possible.

II. Financial Performance Targets

a. By July 1, 2013, the Discharger shall put into place an interim funding mechanism or interim financing measure to ensure adequate funding of tasks required in Provisions I.a through I.d, and development of the IAMP as identified in Provision I.e. The Discharger shall submit a report by August 1, 2013, justifying the appropriateness and adequacy of the methods chosen to ensure adequate funding for implementation of the

tasks identified in Provisions I.a through I.d, and for the development of the IAMP as specified in Provision I.e.

b. By July 1, 2014, the Discharger shall put in place adjusted sewer rates or other financing to ensure adequate funding to implement the tasks identified in the IAMP and as otherwise required in this Order and the Sanitary Sewer Order. The Discharger shall submit a report by August 1, 2014, justifying the appropriateness and adequacy of the methods chosen to ensure adequate funding for implementation of the IAMP, and other tasks as required by this Order and the Sanitary Sewer Order.

c. By February 28, 2015, and annually thereafter, the Discharger shall evaluate its revenues and make necessary adjustments to its ensuing fiscal year sewer rates or other financing to ensure funding to complete tasks required in this Order and the Sanitary Sewer Order.

d. Failure to achieve compliance with Provision II.a may subject the Discharger to civil liability and/or other enforcement for violating this Order, and for any other underlying violations of the Sanitary Sewer Order or the Water Code. If the Discharger fails to achieve compliance with Provision II.a, then the Discharger shall submit a Financing Compliance Report no later than August 1, 2013, that (1) addresses why compliance was not achieved, (2) provides sufficient information concerning the specific circumstances leading to noncompliance, (3) provides evidence for any pertinent affirmative defenses, and (4) provides a plan and time schedule for remedying the violation as soon as possible.

e. Failure to achieve compliance with Provision II.b may subject the Discharger to civil liability and/or other enforcement for violating this Order, and for any other underlying violations of the Sanitary Sewer Order or the Water Code. If the Discharger fails to achieve compliance with Provision II.b, then the Discharger shall submit a Financing Compliance Report no later than August 1, 2014, that (1) addresses why compliance was not achieved, (2) provides sufficient information concerning the specific circumstances leading to noncompliance, (3) asserts and provides supporting evidence for any pertinent affirmative defenses, and (4) provides a plan and time schedule for achieving compliance as soon as possible.

III. Private Sewer Service Lateral Program

By June 30, 2014, the Discharger shall prepare and consider adopting an ordinance requiring (1) testing of private sewer laterals upon sale of property, a remodel greater than $75,000 and any remodel that adds a bathroom, and/or other appropriate triggers; (2) replacement of defective private sewer laterals; and (3) evidence from property owner that the defective private sewer lateral has been repaired, rehabilitated, or replaced as condition to close of escrow, or the Discharger's sign-off on a building/plumbing permit.

IV. Consequences of Non-Compliance

If the Discharger fails to comply with the provisions of this Order the Regional Water Board can take additional enforcement action, which may include the imposition of administrative or judicial civil liability pursuant to Water Code sections 13331, 13350, 13268, and/or 13385, or referral to the Attorney General. The Executive Officer is authorized herein to refer violations of this Order to the Attorney General to take such legal action as he or she may deem appropriate.

V. Reservation of Enforcement Authority and Discretion

Nothing in this Order is intended to or shall be construed to limit or preclude the Regional Water Board from exercising its authority under any statute, regulation, ordinance, or other law, including but not limited to, the authority to bring enforcement against the Discharger in response to any SSO event regardless of Discharger's compliance with the SSO Performance Standards in Section II herein.

VI. Regulatory Changes

Nothing in this Order shall excuse the Discharger from meeting any more stringent requirements that may be imposed hereafter by changes in applicable and legally binding legislation, regulations, or generally applicable state-wide or regional requirements.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is full, true, and correct copy of an order adopted by the Regional Water Board, on May 8, 2013.

Digitally signed by Bruce H. Wolfe
Date: 2013.05.13 16:01:06 -07'00'

_____
Bruce H. Wolfe, Executive Officer

Attachments A, B, C, and D

ATTACHMENT A
LIST OF 45 PIPE FAILURE LOCATIONS NEEDING URGENT REPAIR*

	Pipe Failure Location	City	Pipe Description
1	821-839 San Anselmo Avenue	San Anselmo	multiple severe defects
2	10-26 Claus Circle	Fairfax	broken, void visible
3	2-34 Bothin & Manor Road	Fairfax	multiple severe defects
4	3-33 Maple Avenue	Kentfield	multiple severe defects
5	32-44 Geary Avenue	Fairfax	hole, void visible
6	37-45 Locust Avenue	Larkspur	multiple severe defects
7	29 Rowland Court easement	San Anselmo	multiple severe defects
8	Monterey Terrace	San Anselmo	multiple severe defects
9	48-80 Taylor Drive	Fairfax	broken, void visible
10	1-25 Elm Avenue	Kentfield	multiple severe defects
11	223-233 Woodland Avenue	Kentfield	collapsed
12	300-333 Greenfield Avenue	San Anselmo	broken, soil visible
13	143-169 Willow Avenue	Fairfax	broken, soil visible
14	9-65 Mallard Road	Larkspur	multiple severe defects
15	2-10 North Ridgewood Road	Kentfield	multiple severe defects
16	20-27 Rock Road	Kentfield	multiple severe defects
17	1-11 Inman Avenue	Kentfield	multiple severe defects
18	130-171 Crescent Road	San Anselmo	multiple severe defects
19	34-64 Cordone Drive	San Anselmo	multiple severe defects
20	51-76 Tamalpais Avenue	San Anselmo	multiple severe defects
21	1601-1625 Sir Francis Drake Blvd.	Fairfax	broken, void visible
22	212-224 Frustuck Avenue	Fairfax	severe defects
23	79-105 Rocca Drive	Fairfax	severe defects
24	332-235 Cascade Drive	Fairfax	severe defects
25	54-94 Hillside Drive	Fairfax	multiple severe defects
26	1-33 Woodhaven Road	San Anselmo	multiple severe defects
27	821-867 San Anselmo Avenue	San Anselmo	multiple severe defects
28	125-177 Pine Street	San Anselmo	multiple severe defects
29	69-151 Scenic Avenue	San Anselmo	multiple severe defects
30	20-25 El Camino Bueno	Ross	multiple severe defects
31	3-30 Loma Vista	Larkspur	multiple severe defects
32	114-130 Acacia Avenue	Larkspur	multiple severe defects
33	7-10 La Rosa Way	Larkspur	multiple severe defects
34	3-12 Acacia Avenue	Larkspur	broken, void visible
35	142-234 Hawthorne Avenue	Larkspur	multiple severe defects
36	11-31 Orange Avenue	Larkspur	multiple defects
37	2-23 Walnut Avenue	Larkspur	multiple defects
38	25-34 Foss Avenue	San Anselmo	multiple defects
39	250-380 Scenic Avenue	San Anselmo	multiple defects
40	4-10 East Court	San Anselmo	multiple defects
41	1-24 Roger Avenue	San Anselmo	multiple defects
42	1-21 Valley Road	San Anselmo	multiple defects
43	110-143 Willow Avenue	San Anselmo	multiple defects
44	11-22 Idalia Court	San Anselmo	multiple defects
45	93-130 Redwood Road	Fairfax	multiple defects

* The source for these 45 pipe failure locations is the Discharger's full agenda packets for its December 2011, and January through April 2012 Regular Board Meetings.

ATTACHMENT B

ROSS VALLEY SANITARY DISTRICT STAFF REPORT

CLOSED CIRCUIT TELEVISING CREW – FY 12/13 QUARTERLY REPORT
OCTOBER 1, 2012, THROUGH DECEMBER 31, 2012

ROSS VALLEY SANITARY DISTRICT
2960 Kerner Blvd
San Rafael, CA 94901
(415) 259-2949 ~ rvsd.org

STAFF REPORT

For the Meeting of January 16th, 2013

January 10, 2012

To: Board of Directors

Approved By:

From: Katherine S. Hayden, P.E.
Assistant Engineer

Subject: Closed Circuit Televising (CCTV) Crew – FY 12/13 Quarterly Report: October 1, 2012 through December 31, 2012

Summary:

This staff report is being presented to your Board to provide an update on the Closed Circuit Televising (CCTV) Crew for the second quarter of FY 12/13.

Discussion:

The following summarizes the activities of the District's CCTV Crew for the second quarter of FY 12/13, beginning October 1, 2012 and ending December 31, 2012.

The CCTV Crew continued to work televising sewer mains in basins 3, 4, and 7, as identified in the SSRMP. The CCTV Crew televised the sewer mains throughout the District as required by Consent Decree and the District's SSMP Program, and during routine cleaning and maintenance or after an SSO. The crew cleans and televises a sewer main line run (manhole to manhole) and documents defects. This quarter, the crew also completed inspections on a bypass force main and an air release line for Kentfield Force Main.

Table 1 shows the number of CCTV runs and total CCTV footage for the quarter.

Table 1. CCTV Inspections

Month	Oct*	Nov*	Dec	Second Quarter FY 12/13	FY 12/13 to Date
No. of Inspections	133	101	89	323	840
Pipes Inspected	112	90	72	274	643
Total Footage	19,920	15,934	16,134	51,988	140,804

* Numbers refined based on QA/QC

This quarter, CCTV inspection data was collected on additional 274 gravity sewer main pipes, or approximately **an additional five percent (5%)** of the gravity sewer system. These are pipes without previous data with one or more current CCTV runs.

From FY 07/08 through second quarter FY 12/13, CCTV inspection data has been collected on approximately **forty-six percent (46%)** of the gravity sewer system. This includes contractor CCTV inspection from FY 07/08 to FY 10/11. All of these CCTV inspections (contractor and in-house crew) are rated using the national industry-standard pipe assessment system, NASSCO's Pipeline Assessment Certification Program (PACP).

A map of pipes inspected to date (green) with observed PACP Grade 5 (red) and Grade 4 (orange) Structural and selected Operations & Maintenance defects is included in **Attachment A.** Based on the national industry-standard system these defects represent current failure or a very high likelihood of failure within five years (Grade 5) to ten years (Grade 4). Therefore, these defects are prioritized for repair or replacement in the next zero (0) to five (5) years upon discovery. A tabular summary of all CCTV defect data for these pipes is included in **Attachment B.**

Based on initial review of the CCTV data to date, engineering has identified **976 pipes** (**687** with most severe defect of Grade 5 and **289** with most severe defect of Grade 4) requiring one or more repairs and **21 manholes** requiring repair, and initiated work orders in the CMMS system.

Recommendation:

This item is informational only.

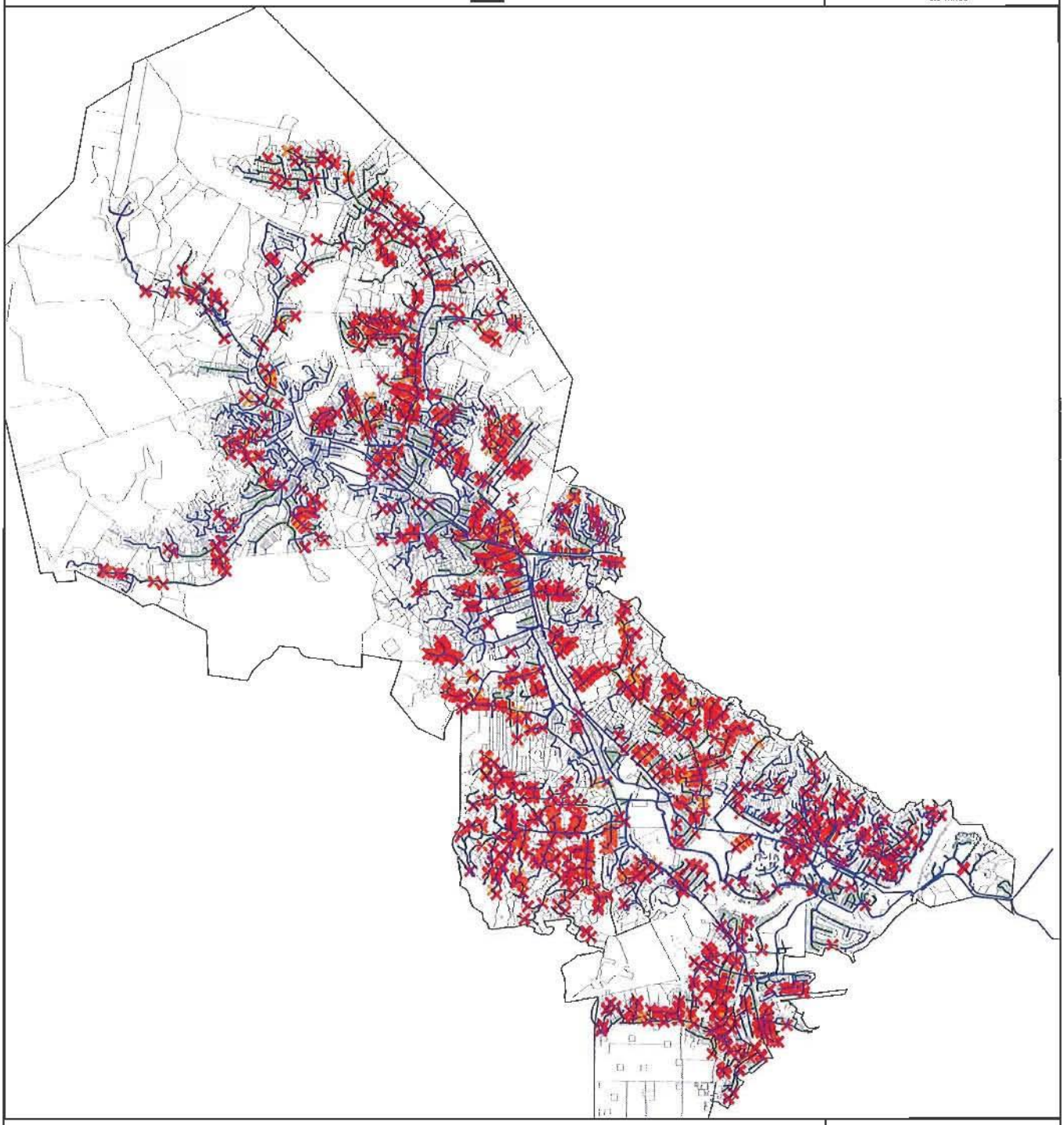
Attachment(s):

a. Map of CCTV surveys and severe defects
b. CCTV defect summary table

Attachment A

Network - RVSD_Collection

Map Centre Coords
x: 1818867, y: 665764
Date Printed: 1/9/2013
Scale 1:60000
0.5 miles



Pipe [5657]
CCTV survey [3606]
Current CCTV Surveys : current
|x| Symbol Visibility/Symbol Colour/Line Visibility/Line Colour/Line Style/Line Width/Symbol/Symbol Size
False
True

Powered by
InfoNet

Attachment B

CCTV Defect Summary Report

RVSD_Collection

Selection (Current CCTV Surveys)

09 January 2013

Assumed length of non-continuous defects: 3.281ft

Defect Code	Defect Description	Distance Affected (ft)	Number Continuous	Number Non-continuous	Number of Surveys	Percentage Surveyed
ACOM	Cleanout Mainline	499	-	152	144	5
ACOP	Cleanout Propertyline	7	-	2	2	0
AEP	End of Pipe	72	-	22	22	1
AJB	Junction Box	3	-	1	1	0
AMH	Manhole	13,999	-	4,267	2,697	96
AOC	Special Chamber	30	-	9	9	0
ATC	Tee Connection	138	-	42	42	1
AWA	Wastewater Access Device	561	-	171	170	6
AWW	Wet Well	3	-	1	1	0
B	Broken	2,726	-	831	509	18
BSV	Broken Soil Visible	469	-	143	125	4
BVV	Broken Void Visible	194	-	59	55	2
CC	Crack Circumferential	4,019	-	1,225	481	17
CH2	Crack Longitudinal Hinge, 2	129	2	37	35	1
CH3	Crack Longitudinal Hinge, 3	47	1	13	10	0
CH4	Crack Longitudinal Hinge, 4	30	1	8	8	0
CL	Crack Longitudinal	3,471	6	896	371	13
CM	Crack Multiple	2,579	3	767	337	12
CS	Crack Spiral	30	-	9	8	0
D	Deformed	541	6	97	73	3
DAE	Deposits Attached Encrustation	33	-	10	9	0
DAGS	Deposits Attached Grease	1,583	19	87	83	3
DAR	Deposits Attached Ragging	10	-	3	3	0
DAZ	Deposits Attached Other	241	1	13	11	0
DNF	Deposits Ingressed Fine	26	1	1	2	0
DNGV	Deposits Ingressed Gravel	10	-	3	2	0
DSC	Deposits Settled Compacted	10	-	3	3	0
DSF	Deposits Settled Fine	243	7	21	27	1
DSGV	Deposits Settled Gravel	312	6	39	27	1
DSZ	Deposits Settled Other	73	1	19	19	1
DV	Deformed Vertical	3	-	1	1	0
FC	Fracture Circumferential	1,841	-	561	331	12
FH2	Fracture Longitudinal Hinge, 2	128	-	39	35	1
FH3	Fracture Longitudinal Hinge, 3	247	7	50	35	1
FH4	Fracture Longitudinal Hinge, 4	122	2	29	18	1
FL	Fracture Longitudinal	1,470	11	340	222	8

Defect Code	Defect Description	Distance Affected (ft)	Number Continuous	Number Non-continuous	Number of Surveys	Percentage Surveyed
FM	Fracture Multiple	3,116	6	899	405	14
FS	Fracture Spiral	26	-	8	8	0
H	Hole	778	-	237	179	6
HSV	Hole Soil Visible	338	-	103	91	3
HVV	Hole Void Visible	656	-	200	173	6
ID	Infil Dripper	340	1	55	34	1
IG	Infil Gusher	62	-	19	18	1
IR	Infil Runner	194	-	59	42	1
IS	Infil Stain	15,877	138	1,139	438	16
ISGT	Intruding Sealing Grout	3	-	1	1	0
ISSR	Intruding Sealing Ring	39	-	12	10	0
ISSRH	Intruding Sealing Ring Hanging	16	-	5	5	0
ISSRL	Intruding Sealing Ring Loose/Poorly Fitting	3	-	1	1	0
ISZ	Intruding Sealing Other	7	-	2	2	0
IW	Infil Weeper	238	2	35	22	1
JAL	Joint Angular Large	-	-	-	-	0
JAM	Joint Angular Medium	13	-	4	4	0
JOL	Joint Offset Large	443	-	135	123	4
JOM	Joint Offset Medium	2,838	-	865	528	19
JSL	Joint Separated Large	115	-	35	30	1
JSM	Joint Separated Medium	430	-	131	113	4
LD	Alignment Down	98	-	30	25	1
LFB	Lining Failure Blistered	46	-	14	7	0
LFBK	Lining Failure Buckled	28	1	-	1	0
LFW	Lining Failure Wrinkled	7	-	2	1	0
LFZ	Lining Failure Other	18	1	2	2	0
LL	Alignment Left	148	-	45	43	2
LLD	Alignment Left Down	10	-	3	3	0
LLU	Alignment Left Up	3	-	1	1	0
LR	Alignment Right	125	-	38	37	1
LRU	Alignment Right Up	3	-	1	1	0
LU	Alignment Up	39	-	12	12	0
MCU	Camera Underwater	2,725	70	89	123	4
MGO	General Observation	1,867	-	569	525	19
MGP	General Photo	1,503	-	458	171	6
MJL	Joint Length Change	7	-	2	2	0

Defect Code	Defect Description	Distance Affected (ft)	Number Continuous	Number Non-continuous	Number of Surveys	Percentage Surveyed
MMC	Material Change	3,727	-	1,136	542	19
MSA	Abandoned Survey	2,674	-	815	815	29
MSC	Shape or Size Change	46	-	14	13	0
MWLS	Water Level Sag	7,780	313	436	392	14
MWM	Water Mark	16	-	5	5	0
MYN	Dye Test Not Visible	10	-	3	3	0
MYV	Dye Test Visible	30	-	9	7	0
OBB	Obstacle Brick	7	-	2	2	0
OBC	Obstacle Thru Connection	7	-	2	2	0
OBI	Obstacle Intruding Thru Wall	13	-	4	4	0
OBJ	Obstacle In Joint	82	-	25	25	1
OBM	Obstacle Pipe Material	56	-	17	15	1
OBN	Obstacle Construction Debris	10	-	3	3	0
OBP	Obstacle External Pipe or Cable	99	1	7	8	0
OBR	Obstacle Rocks	40	1	10	11	0
OBZ	Obstacle Other	13	-	4	4	0
RBB	Roots Ball Barrel	43	-	13	11	0
RBC	Roots Ball Connection	259	1	64	53	2
RBJ	Roots Ball Joint	846	4	243	128	5
RBL	Roots Ball Lateral	180	-	55	41	1
RFB	Roots Fine Barrel	70	2	20	19	1
RFC	Roots Fine Connection	43	-	13	12	0
RFJ	Roots Fine Joint	86,263	755	5,579	1,222	43
RFL	Roots Fine Lateral	131	-	40	34	1
RMB	Roots Medium Barrel	16	-	5	5	0
RMC	Roots Medium Connection	180	-	55	49	2
RMJ	Roots Medium Joint	4,034	36	784	338	12
RML	Roots Medium Lateral	98	-	30	27	1
RPL	Repair Localized Liner	76	12	9	14	0
RPP	Repair Patch	306	1	89	53	2
RPPD	Repair Patch Defective	279	-	85	50	2
RPR	Repair Point Pipe Replaced	59	-	18	16	1
RPRD	Repair Point Defective	26	-	8	7	0
RPZ	Repair Other	16	-	5	5	0
RPZD	Repair Other Defective	3	-	1	1	0
RTB	Roots Tap Barrel	66	-	20	16	1

ATTACHMENT C

SANITARY SEWER OVERFLOWS (SSOs) DISCHARGED TO SURFACE WATERS REPORTED IN THE CALIFORNIA INTEGRATED WATER QUALITY SYSTEM (CIWQS) APRIL 21, 2011, TO FEBRUARY 1, 2013

CIWQS Event ID	Spill Type	Start Date	Spill Address	Spill City	Gallons Discharged	Gallons Recovered	Final Spill Destination
776814	Category 1	2/1/2012	133 Poplar	Kentfield	400	0	Separate storm drain
781340	Category 1	5/14/2012	17 Frances	Larkspur	1700	250	Surface water
781767	Category 1	5/26/2012	432 Woodland	Kentfield	4320	0	Surface water
782965	Category 1	7/3/2012	50 Bon Air Center	Greenbrae	1000	800	Surface water
786281	Category 1	9/15/2012	35 San Francisco	San Anselmo	1036	2	Separate storm drain
787717	Category 1	10/26/2012	64 woodside	San Anselmo	87776	1250	Separate storm drain
788191	Category 1	11/17/2012	20 Steven	Fairfax	730	0	Separate storm drain
788192	Category 1	11/17/2012	9 Willow	San Anselmo	21735	0	Surface water
788193	Category 1	11/17/2012	14 Willow	San Anselmo	5	0	Separate storm drain
788656	Category 1	12/2/2012	16 Broadmoor	San Anselmo	26894	14000	Other paved surface; Separate storm drain

ATTACHMENT D

DISCHARGER'S CAPITAL IMPROVEMENT STRATEGIC PLAN PORTION OF ITS JANUARY 31, 2007, DRAFT FINAL TECHNICAL MEMORANDUM CIP-4

Table A. Capital Improvement Strategic Plan Subproject Descriptions		
CIP ID#	**Project Name**	**Project Description**
4	Sir Francis Drake / Winship Projects	Combination of gravity sewer rehabilitation and replacement improvements (referred to as SEWER) and SHECAP projects that replace or upsize 19,400 feet of pipeline.
6	Sequoia Park / Tozzi Creek Projects	SEWER project rehabilitates 22,000 feet of pipeline (excluding 363 feet already completed).
8a	Highway 101 and Riviera Force Main Replacement Projects; and, Pump Stations 20, 21, 31, 32, 33, 34, 35, and 36	Force main projects replace 1,050 feet of pipe. Highway 101 force main has leaked in the past and is adjacent to residential properties. Riviera force main crosses underneath Corte Madera Creek and is subjected to regular tidal variations that will likely lead to increased corrosion. Pump station projects 20 and 21 replace aging equipment and improve facility operation and safety/reliability. Pump station projects 34, 35, and 36 provide safe access for maintenance. Pump stations 31 and 32 will receive new submersible pumps. All pump station projects include general equipment upgrades.
9	Cathodic Improvements and Inspections	Force main projects inspect, replace or add facilities to better monitor and/or protect force mains from corrosion.
11a	Miracle Mile	SHECAP project upsizes 2,000 feet of existing sewers and installs 1,250 feet of new diversion sewer.
11b	Red Hill Avenue	SEWER project replaces sewers and lower laterals with known maintenance issues.
12	Hillside Avenue	SEWER project replaces sewers and lower laterals with known maintenance issues.
13	Pump Stations 12, 13, and 14 Improvements	Pump stations 12 and 14 projects add pumps to provide adequate wet weather capacity with the largest pump out of service. Pump

		station 12 improvements comprise operations and reliability upgrades.
14	Upper Butterfield	SHECAP project upsizes/replaces 3,836 feet of sewers and installs 487 feet of new diversion sewers.
15b	Westbrae / Hawthorne	SHECAP project upsizes 1,278 feet of pipe.
16a	Laurel Gove / McAllister	SHECAP project upsizes 2,256 feet of pipe.
16b	Magnolia	SHECAP project upsizes 2,300 feet of pipe. In 2012, District replaced 1,160 of the 2,300 feet of pipe at issue.
17	Greenbrae Force Main Replacement	Force main project replaces 3,800 feet of pipe that is nearing the end of its design life and showing increasing corrosion.
18	Spruce / Park / Merwin / Broadway	SHECAP projects upsize 405 feet of existing sewers and install 2,000 feet of new diversion sewer.
19	Sonoma, Nokomis	SHECAP project replaces 965 feet of sewers and installs 1,800 feet of diversion sewer.
20	Lower Butterfield / Meadowcroft / Broadmoor / SFD	SHECAP projects upsize 3,000 feet of sewers and installs 493 feet of diversion sewer.
21	Sir Francis Drake / Berry	SHECAP project upsizes 1,100 feet of sewer pipe.
22	The Alameda / Brookmead	SHECAP project upsizes 670 feet of sewer pipe and constructs 1,000 feet of diversion sewer.
23	Manor Easement	SHECAP project upsizes 864 feet of sewer.
24	Eliseo	SHECAP project upsizes 218 feet of sewer pipe.
25, 27, 26	Pump Station 30	Pump station project replaces aging equipment and improve facility operation and safety/reliability.
28, 29	Pump Stations 15, 22, 23, 24, 25 and 37 Improvements	Pump station projects replace aging equipment and improve facility operation and safety/reliability.