

SMALL-TIME SEWAGE IS A BIG-TIME CHALLENGE

REASON FOR INVESTIGATION

The 2003-2004 Nevada County Civil Grand Jury investigated the status of wastewater treatment plants in unincorporated Western Nevada County because plant operators and customers were facing large upgrade expenditures to meet new state and federal requirements. This year the 2005-2006 Grand Jury investigated Sanitation District No. 1, which manages the wastewater treatment plants, because: 1) a spill that was reported in the newspaper resulted in the threat of substantial fines, 2) large upgrade expenditures are still looming, and 3) sewage rates continue to increase.

REGULATION FRAMEWORK

The U.S. Environmental Protection Agency (EPA), State Water Resource Control Board (SWRCB), and the Central Valley Regional Water Quality Control Board (CVB) regulate wastewater treatment plants (WWTPs).^a

These treatment plants, regulated by multiple levels of governmental authority, operate within a complex and unsettled regulatory framework that includes the following:

- The EPA as regulator of the Clean Water Act, 33 USC 1311, and the Federal Water Pollution Control Act, 33 USC 1251 et seq.,
- The SWRCB and the Porter-Cologne Water Quality Control Act, California Water Code Division 7, effective January 1, 2003, sometimes called the “California Toxics Rule” (CTR), and
- The CVB, whose jurisdiction includes Western Nevada County.

Environmental Protection Agency

The EPA's mission is to protect human health and to safeguard the natural environment – air, water, and land – upon which life depends. The Clean Water Act (CWA) of 1972 and amended in 1987 is the primary Federal statute regulating the protection of the nation's waters. With respect to *funding* for EPA-mandated changes, it is important to note:

United States Code, Title 33, Chapter 26, Subchapter I, Sec. 1251 (4) which states ... “it is the national policy that Federal financial assistance be provided to construct publicly owned waste treatment works.”

^a All acronyms used in this report are listed in a glossary on the final page.

State Water Resources Control Board

The California Water Code is the principal state regulation governing water quality protection and the use of water resources. This code established the State Water Resources Control Board (SWRCB) and the California Regional Water Quality Control Boards. The SWRCB develops rules to implement federal and state law to protect the State's waters, and establishes enforcement policy to be carried out by the regional boards.

Regional Water Quality Control Boards

The mission of the nine Regional Water Quality Control Boards is to enforce these rules and thereby protect the State's waters. The CVB protects the quality of the waters within the central valley region, which includes Western Nevada County.

The CVB has authority over any wastewater system within its jurisdiction. The CTR (California Toxic Rule) requires that any person or organization discharging or proposing to discharge waste, even individual septic systems for single-family residences, file a report with their regional office. In the early 1950's, the CVB waived the filing of reports for individual sewage disposal systems in counties with satisfactory ordinances or regulations. In Nevada County, septic systems are regulated by the County's Environmental Health Department (EH).

BACKGROUND

Nevada County Sanitation District No. 1 (SD#1) was formed in 1965 to provide a management umbrella for wastewater treatment plants in the County. This is a dependent special district governed by the County Board of Supervisors acting as the SD#1 Board of Directors. Costs incurred under SD#1 are paid entirely by its ratepayers, not by County taxes. However, the County may be at risk in the event that ratepayers default in payments.

SD#1 administers, operates and maintains sewage collection systems and treatment facilities in ten financially independent zones: Lake of the Pines (LOP), Lake Wildwood (LWW), North San Juan, Gold Creek, Penn Valley, Mountain Lakes Estates, Cascade Shores, Eden Ranch, Dark Horse, and Higgins Village. Of these, LOP, LWW, and Cascade Shores are primarily stream-discharge plants; the others are strictly land-discharge plants. Customer representation and advisory guidance of SD#1 is provided by the Sanitation Advisory Committee, comprised of unpaid representatives from each of these zones and appointed by the SD#1 Board of Directors.

The Wastewater group within the Department of Transportation and Sanitation (DOTS) serves as SD#1 staff to the Board of Directors. The County provides this staff under contract to SD#1. DOTS reports to the County Executive Officer (CEO). Assistance in health-related matters is provided by the Environmental Health Department in the Community Development Agency, which also reports to the CEO.

METHOD OF INVESTIGATION

The Grand Jury interviewed County wastewater operations management and staff, a member of the SD#1 Board of Directors, a CVB staff member, members of the Sanitation Advisory Committee, and a former member of SWRCB management. The Grand Jury also attended multiple SD#1 outreach meetings, reviewed documents prepared by County-employed consultants, and researched the topic of wastewater in California through multiple sources.

Key Written Sources

1. California Water Code, Sections 13276-13389.
2. *Water Quality Enforcement Policy*, State Water Resources Control Board, 50 pages plus 15 pages of appendices, February 19, 2002.
3. Letter/FAX of May 12, 2005, *Sewage Spill Response Activities, Nevada County Sanitation District No. 1, Cascade Shores Wastewater Treatment Plant, Nevada County*, from the California Regional Water Quality Control Board, Central Valley Region (CVB), Thomas R. Pinkos, Executive Director, to Michael Hill-Weld, Director, Nevada County Department of Transportation and Sanitation (DOTS).
4. Letter of May 13, 2005, *Sewage Spill Beginning on Monday, May 9, 2005, within Cascade Shores, Zone 8, Nevada County Sanitation District No. 1*, w/encl., from Michael P. Hill-Weld, Director, DOTS, under signature of Gordon Plantenga, Wastewater Operations Manager, to Thomas Pinkos, Exec. Officer, CVB.
5. Letter of June 9, 2005, *Notice of Violation, California Water Code Section 13267 Order, Transmittal of Inspection Report, Cascade Shores Wastewater Treatment Plant, NPDES No. CA0083241, Nevada County*, from Richard McHenry, CVB, to Michael Hill-Weld, DOTS; with enclosure: Inspection Report by Melissa Hall, CVB.
6. Letter of June 24, 2005, *Notice of Violation, Cascade Shores Wastewater Treatment Plant, NPDES No. CA0083242*, w/encl., from Michael P. Hill-Weld, Dir. DOTS under signature of Gordon Plantenga, Wastewater Operations Manager, to Richard McHenry, Senior Engineer, CVB.
7. California Regional Water Quality Control Board, Central Valley Region, ACL Complaint No. R5-2005-0518, *Administrative Civil Liability Complaint in the Matter of County of Nevada, County of Nevada Sanitation District No. 1, Cascade Shores Wastewater Treatment Plant, Nevada County*, signed by Thomas R. Pinkos, Executive Officer, and mailed with accompanying letter to Mr. Michael Hill-Weld, Director, DOTS, on 10 August 2005.
8. Letter of February 6, 2006, *Lake of the Pines and Lake Wildwood Mandatory Minimum Penalties (MMPs)*, from Gordon Plantenga, Wastewater Operations Manager, to Michael Hill-Weld, Director of DOTS.
9. Agenda and Presentation to the Nevada County Sanitation District No. 1 Advisory Committee, at the regular meeting of February 22, 2006, 10:00 a.m. to noon, prepared by Gordon Plantenga and other SD#1 staff, 96 pages. Sewer rates updated April 28, 2006.

FINDINGS

1. Much of the upgrade expenditures to meet increasing state and federal water quality requirements are tracked as *Capital Improvements* in the SD#1 portion of County Budgets. In the table below, these expenditures, listed as SD#1 and paid entirely by the sewage services ratepayers, are compared with the County capital expenditures in DOTS and with the capital expenditures for all of Nevada County. As the table illustrates, SD#1 expenditures dominate within DOTS and exceed total County capital improvement expenditures. In FY 2005/06, SD#1's \$9,480,000 budget is 115% of the total County budget for Capital improvements, and in FY 2006/07 SD#1's \$29,140,000 is 444% of the total County budget for Capital improvements.

| CAPITAL IMPROVEMENT BUDGETS FOR FY 2005/06 AND FY 2006/07 | | | | | | |
|---|-------------------------|-------------|-------------------------|-------------|----------------------|-----------------------|
| Functional Areas | FY 2005/06 ^a | | FY 2006/07 ^b | | Change | |
| | Amount (thousands) | % of County | Amount (thousands) | % of County | Increase (thousands) | % Increase (decrease) |
| Roads & other DOTS | \$3,764 | 46% | \$5,856 | 89% | \$2,092 | 56% |
| All Other County Departments | \$4,445 | 54% | \$700 | 11% | (\$3,745) | (84%) |
| Total County | \$8,209 | 100% | \$6,556 | 100% | (\$1,653) | (20%) |
| SD#1 (not part of County) | \$9,480 | 115% | \$29,140 | 444% | \$19,660 | 207% |

^a Based on projected actual FY 2005/06 Budget,

^b Based on FY 2006/07 Budget requests, 5/18/06

2. As shown in the table below, sewer rates per equivalent dwelling unit (EDU) have been increasing substantially to pay for the SD#1 capital improvements in the table above, plus WWTP operations. Future rates in the table are proposed by SD#1 and are subject to ratepayer approval following public hearings.

| HISTORICAL & PROJECTED ANNUAL SEWER RATES PER CONNECTED EDU | | | | | | | | | | |
|---|------------|------------|--------------------|-------------------|--------------------|-------------------|-----------------------|-------------------|--------------------|-------------------------|
| Fiscal Year | Zone 1 LWW | Zone 2 LOP | Zone 4 N. San Juan | Zone 5 Gold Creek | Zone 6 Penn Valley | Zone 7 Mtn. Lakes | Zone 8 Cascade Shores | Zone 9 Eden Ranch | Zone 10 Dark Horse | Zone 11 Higgins Village |
| | 2,903* | 2,056 | 85 | 44 | 347 | 40 | 83 | 29 | 54 | 48 |
| 2001/02 | \$260 | \$315 | \$318 | \$145 | \$449 | \$315 | \$680 | \$355 | | |
| 2002/03 | \$315 | \$315 | \$451 | \$145 | \$539 | \$315 | \$910 | \$355 | | |
| 2003/04 | \$315 | \$315 | \$451 | \$145 | \$539 | \$315 | \$1,795 | \$355 | \$1,550 | \$1,675 |
| 2004/05 | \$650 | \$550 | \$451 | \$145 | \$720 | \$365 | \$1,795 | \$410 | \$1,550 | \$1,675 |
| 2005/06 | \$750 | \$890 | \$451 | \$145 | \$720 | \$415 | \$1,795 | \$465 | \$1,550 | \$1,675 |
| 2006/07 | \$905 | \$1,075 | \$660 | \$145 | \$950 | \$465 | \$1,995 | \$520 | \$1,550 | \$1,675 |
| 2007/08 | \$905 | \$1,075 | \$660 | \$195 | \$950 | \$465 | \$2,810 | \$520 | \$1,825 | \$1,875 |
| 2008/09 | \$1,125 | \$1,125 | \$730 | \$195 | \$950 | \$465 | \$2,810 | \$575 | \$1,900 | \$1,975 |

*Entries in this row are the numbers of sewer system customers in each zone.

The proposed rates include estimates of possible future assessments by CVB of Mandatory Minimum Penalties (such as discussed in findings below). The numbers of connected EDUs (i.e., sewer system customers) as of February 2006 are included in the column headings (all data from Source 9). The district also collects sewer charges for unconnected EDUs on unimproved land, but these are omitted here for simplicity.

3. State law establishing effluent regulations for stream-discharge WWTPs was passed in 2000. A report establishing detailed water quality enforcement policy was issued by the SWRCB in 2002 (Source 2). The CVB has been enforcing WWTP regulations in subsequent years.
4. Wastewater treatment regulations are a very complex combination of federal and state law, as are the state enforcement policies of the SWRCB and CVB, and require intense effort for understanding, compliance, and record keeping. (Sources 1 and 2)
5. The SWRCB and its Regional Boards impose regulations and penalties based on “one size fits all.” For example, the Mandatory Minimum Penalty (MMP) for an individual violation would be \$3000 in Cascade Shores, with 83 ratepayers, just as it is for the City of Los Angeles with about two million ratepayers. Thus, the cost of every \$3000 MMP would be \$36.14 for each ratepayer in Cascade Shores, whereas the cost would be a small fraction of a penny for each ratepayer in Los Angeles. (Source 2)
6. Twenty-two full-time equivalent employees constitute the Wastewater group in DOTS, and act as SD#1 staff responsible for managing the operations and upgrades of WWTPs in all ten SD#1 zones.
7. In addition to these operations and plant upgrade activities, the Wastewater group is also responsible for: (i) communicating with the CVB, (ii) keeping abreast of applicable rules and regulations, (iii) monitoring the quality of water entering and exiting WWTPs, (iv) maintaining compliance records and their financial implications, and (v) training new hires in these topics.
8. SD#1 staff members are on duty at the Cascade Shores WWTP only a few days per week, and generally not at all during nighttime hours, as a cost-saving measure.
9. The main sewer line of the Cascade Shores WWTP was ruptured by a rain-triggered landslide on May 9, 2005. As a result, raw sewage spilled into Gas Canyon Creek at an average rate of approximately 20,000 gallons per day (gpd) for nine days. (Source 4)
10. The CVB representatives stated in written reports that, out of concern for the public safety and protection of the beneficial uses of the downstream waters, SD#1 should capture this sewage spill with one of two County-owned vector trucks and transport it to another WWTP. (Sources 3, 7)
11. SD#1 and Environmental Health Department staff stated in a written response to the first (Source 3) of these reports that the environmental impact of the spill was small because of: (i) its relatively small average flow of 20,000 gpd (equivalent to the flow from a 1-inch hose), (ii) limited use by humans of Gas Canyon Creek during the time of the spill (only one dwelling was inhabited near Gas Canyon Creek downstream of the accident),

(iii) substantial dilution of the raw sewage by heavy water flow in the creek from the severe winter storms that precipitated and followed the accident, and (iv) tests by the Nevada Irrigation District (NID) indicated that the spill was not causing a measurable negative impact on the source of its water supply. (Source 4)

12. SD#1 staff decided at the time of the accident to focus their efforts immediately on installing a replacement pipe to transport the sewage to the Cascade Shores WWTP, rather than on creating a temporary containment for the spill, piping the contained sewage into vector trucks, and transporting it to another WWTP.
13. Lines of communication between SD#1 and outside resources and agencies, including the CVB, are specified in myriad emergency plan documents for each WWTP zone. These documents include Emergency Action Plans, Sanitary Sewer Overflow Response Plans, and Business Plans.
14. Specification of lines of communication from the CVB to SD#1 are included in an annual report submitted by SD#1 to the CVB for each of the three stream-discharge WWTPs.
15. According to The Union (December 13, 2003), during the week of December 9, 2003, the town of Colfax, less than a square mile in area with a population of about 1,600, located just east of the Nevada County line, was penalized about \$350,000 by CVB for a myriad of wastewater permit violations spanning several years.
16. A 2003/2004 Grand Jury Report identified the possibility of substantial fines being levied against SD#1.
17. In a letter dated August 10, 2005, the CVB proposed a total penalty (Administrative Civil Liability) against the SD#1 Cascade Shores WWTP, in the amount of \$574,000. This amount was an accumulation of (i) 177 mandatory minimum \$3000 penalties totaling \$531,000 for violations dating back to April 30, 2000, (ii) a \$33,000 CVB-estimated economic benefit of allowing the landslide sewage spill to continue for nine days, plus (iii) \$10,000 to cover estimated CVB administrative costs (Source 7). In subsequent discussions between SD#1 staff and the CVB, the 177 MMPs were reduced to 166 MMPs totaling \$498,000.
18. At the time the \$574,000 penalty was proposed, SD#1 was keeping a file of CVB-required self-reported violations, but it was not keeping a running log of violations and MMPs, nor their cumulative financial magnitude, for any of the three stream-discharge WWTPs (Cascade Shores, LOP, and LWW).
19. SD#1 later prepared lists of MMPs and their cumulative dollar amounts for LOP and LWW and documented them in a memo of February 6, 2006 (Source 8).
20. The SWRCB has indicated that the Cascade Shores WWTP may be qualified, by virtue of its ratepayers' low median income level, to apply the \$498,000 of MMPs toward the required upgrade of the WWTP by September 2007. Funding to cover upgrade costs is being sought from grants, insurance claims, and low interest loans.

21. The median income of the ratepayers in the other two stream-discharge WWTPs in SD#1 (LOP and LWW) may be too high to permit application of their cumulative MMP fines against the cost of their required upgrades.
22. SD#1 consultant reports state that the LWW WWTP cannot meet the required higher effluent water quality standards prior to scheduled plant upgrades (Source 8).
23. The Board of Supervisors has approved a request to add a Principal Engineer in DOTS to help with the numerous demands on SD#1 staff.
24. Minutes from SD#1 Board of Directors meetings are included as part of the Nevada County Board of Directors meetings, and now are also published separately. All these documents are available via <http://new.mynevadacounty.com/clerkofboard/>.
25. Hearings are in progress for California Senate Bill 1733 on water quality civil penalties. Among several paragraphs explaining the purpose of the bill, its author states, "Senate Bill 1733 attempts to provide assistance to [small rural] communities that are trapped in a cycle that vacillates between non-compliance and the inability to upgrade to meet compliance standards."

CONCLUSIONS

1. Projected annual capital improvement expenditures to upgrade Sanitation District No. 1 (SD#1) wastewater treatment plants (paid by ratepayers, not with County funds) are larger than the total Nevada County budgeted capital improvements for FY 2005/06 and FY 2006/07.
2. Annual sewage rates in SD#1 have been increasing markedly in recent years, and are projected to continue increasing. From fiscal years 2001/02 to 2005/06 (a four-year interval) rates increased by an average of 168% (were 2.68 times larger) for the 5,587 customers in then existing Zones 1 through 9. From fiscal years 2005/06 to 2008/09 (a three-year interval) rates are forecast to increase by an average of 39% for the 5,689 customers in Zones 1 through 11. The average annual sewer bill across zones will have increased from \$299 to \$1,133 in the total seven-year interval. The largest increases have been in the three stream-discharge zones, which are upgrading their wastewater treatment plants to meet ever stricter water quality requirements.
3. SD#1 policy of staffing the Cascade Shores Wastewater Treatment Plant only part time puts a premium on equipment reliability, an emergency holding tank, and automatic accident control systems.
4. Effective communications between SD#1 staff and the California Central Valley Regional Water Quality Control Board appear to have broken down during the immediate aftermath of the Cascade Shores landslide.
5. Although the DOTS Wastewater Operations organization chart, complete with names, titles and phone numbers of each SD#1 staff member, is included in annual reports to the

CVB for each of the three stream-discharge WWTPs, there appears to have been considerable doubt on the part of the CVB as to who was the on-site person in charge at various stages of the Cascade Shores landslide and spill.

6. Large fines (Administrative Civil Liabilities), such as the \$574,000 proposed against the Cascade Shores Wastewater Treatment Plant, are a real possibility at Lake Wildwood and Lake of the Pines.
7. It is unlikely that LWW or LOP would qualify as a low median income area, as is Cascade Shores, in order to apply any fines toward required upgrades of their WWTPs; thus, fines may result in increased LWW and LOP sewage rates.
8. Because there was no running log of violations until recently, the SD#1 Board of Directors and the County Executive Officer did not have sufficient information to make appropriate management decisions and to address the mounting potential financial impact of the Mandatory Minimum Penalties.
9. The \$350,000 Central Valley Regional Water Quality Control Board penalty in December 2003 against the Colfax Wastewater Treatment Plant should have provided a warning to the SD#1 Board of Directors that similarly large cumulative penalties could be imposed against the three stream-discharge plants in SD#1.
10. Little consideration is given for the special circumstances of small, rural communities served by small Wastewater Treatment Plants. For example, fixed Mandatory Minimum Penalties impact rural sewage service ratepayers significantly more than they impact ratepayers in larger districts, resulting in an unfair burden on rural customers. A \$3000 fine levied against Cascade Shores would translate to \$36.14 for each of its 83 ratepayers, whereas the same fine for the same violation levied against Los Angeles would translate to a small fraction of a penny for each of its more than two million ratepayers.
11. The complexities of water quality control regulations put a severe burden on small Wastewater Treatment Plant staffs.

RECOMMENDATIONS

1. The Sanitation District No. 1 (SD#1) Board of Directors, acting as the Nevada County Board of Supervisors, should give wastewater treatment matters higher priority and its staff expanded capability by directing DOTS to add a Principal Engineer with formal training in sanitation engineering.
2. The SD#1 Board of Directors, acting independently and also together with leaders from other rural counties and cities, should aggressively and relentlessly lobby state government for equitable treatment of rural communities concerning water quality control matters and their financial impact per ratepayer. One goal should be to modify the structure of the MMP fine system from the present fixed \$3,000 for any WWTP, regardless of size, to a variable fine that bears a reasonable relationship to the number of EDUs served by the WWTP.

3. The SD#1 Board of Directors should direct SD#1 staff to develop a system to monitor and analyze violations associated with Self-Monitoring Reports in order to determine their potential penalties and cumulative financial impact for each zone.
4. The SD#1 Board of Directors should direct SD#1 staff to provide recommendations to the CEO and to the Board of Directors for dealing with the cumulative financial impact of potential violations and related fines.
5. The SD#1 Board of Directors should direct SD#1 staff to: (i) develop a formal system to analyze violations that result in mandatory minimum penalties, (ii) examine what failures have occurred, and (iii) take appropriate action to ensure they are less likely to occur in the future.
6. The SD#1 Board of Directors should establish appropriate protocols to ensure effective communication with the State Water Quality Resource Control Board and the Central Valley Regional Water Quality Control Board, in order to establish optimal ongoing relationships, more effective coordination, and mutual understanding during emergencies and incidents such as the Cascade Shores landslide and resulting spill that occurred in May 2005.

REQUIRED RESPONSES

Sanitation District No. 1 Board of Directors: September 26, 2006
Nevada County Board of Supervisors: September 26, 2006

GLOSSARY OF ACRONYMS

| | |
|-------|--|
| CEO | County Executive Officer |
| CRWA | California Rural Water Association |
| CTR | California Toxic Rule |
| CVB | California Regional Water Quality Control Board, Central Valley Region |
| CWA | Clean Water Act |
| CWEA | California Water Environmental Association |
| DOTS | Department of Transportation and Sanitation |
| EDU | equivalent dwelling unit |
| EH | Environmental Health Department |
| EPA | Environmental Protection Agency |
| gpd | gallons per day |
| LOP | Lake of the Pines |
| LWW | Lake Wildwood |
| MMP | Mandatory Minimum Penalty |
| NID | Nevada Irrigation District |
| SD#1 | Sanitation District No. 1 |
| SMR | Self Monitoring Report |
| SWRCB | State Water Resources Control Board |
| WWTP | wastewater treatment plant |

COUNTY OF NEVADA

STATE OF CALIFORNIA

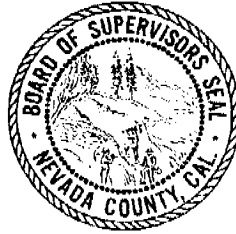
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September 12, 2006

The Honorable Judge Al Dover
Presiding Judge of the Nevada County Civil Grand Jury
Nevada County Court House
Nevada City CA 95959

Subject: Nevada County Board of Supervisors Responses to the 2005-2006 Nevada County Civil Grand Jury Report, *Small-Time Sewage Is A Big-Time Challenge*

Dear Judge Dover:

The Board of Supervisors has reviewed the attached responses by the Directors of Nevada County Sanitation District No. 1 to the 2005-2006 Nevada County Civil Grand Jury Report, dated June 28, 2006 entitled *Small-Time Sewage Is A Big-Time Challenge*, and is in agreement with the responses.

In particular, we would like to highlight the response to Recommendation No. 2, which recommends that SD#1 Board of Directors lobby the government for equitable treatment of rural counties concerning water quality control matters. Over the last several years, the Board of Supervisors and individual Board members have been aggressive and relentless in lobbying our legislators for legislation, regulatory considerations and funding. One significant outcome has been the introduction of Senate Bill 1733 by Senator Sam Aanestad. Another result was approval by the Central Valley Regional Valley Water Quality Control Board for the Sanitation District to apply the Mandatory Minimum Penalties for the Cascade Shores plant to the cost of building the new wastewater treatment plant.

The Nevada County Board of Supervisors would like to thank the members of the 2005-2006 Grand Jury for their participation and effort in preparing their Reports, and their participation in the Grand Jury process.

Sincerely,

Nathan H. Beason
Chair, Board of Supervisors

Attachment

cc: Foreman, Grand Jury
Nevada County Sanitation District No. 1 Board of Directors
Rick Haffey, County Executive Officer
Michael Hill-Weld, Director of Transportation and Sanitation

**NEVADA COUNTY SANITATION DISTRICT NO. 1 BOARD OF DIRECTORS
RESPONSES TO 2005-2006 CIVIL GRAND JURY REPORT
DATED JUNE 28, 2006**

SMALL-TIME SEWAGE IS A BIG-TIME CHALLENGE

Responses to findings and recommendations are based on either personal knowledge, examination of official county records, review of the responses by the Nevada County Board of Supervisors, the Nevada County Sanitation District No. 1 (NCSD #1) Board of Directors, County Executive Officer, or testimony from the Board Chair and county staff members.

I. GRAND JURY INVESTIGATION:

Small-Time Sewage is a Big-Time Challenge

*Revised
A.P.D.
7/11/06*

A. RESPONSE TO FINDINGS & RECOMMENDATIONS:

Findings:

- Much of the upgrade expenditures to meet increasing state and federal water quality requirements are tracked as Capital Improvements in the SD#1 and paid entirely by the sewage service ratepayers, are compared with the County capital expenditures in DOTS and with the capital expenditures for all of Nevada County. As the table illustrates, SD#1 expenditures dominate within DOTS and exceed total County capital improvement expenditures. In FY 2005/2006, SD#1's \$9,480,000 budget is 115% of the total County budget for Capital improvements and in FY 2006/07 SD#1's \$29,140,000 is 444% of the total County budget for Capital improvements.**

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^a Based on projected actual FY 2005/06 Budget, ^b Based on FY 2006/07 Budget requests, 5/18/06

Agree

- As shown in the table below, sewer rates per equivalent dwelling unit (EDU) have been increasing substantially to pay for the SD#1 capital improvements in the table above, plus WWTP operations. Future rates in the table are proposed by SD#1 and are subject to ratepayer approval following public hearings.**

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|---|---------------|---------------|-------------------------|-------------------------|--------------------------|-------------------------|-----------------------------|-------------------------|--------------------------|-------------------------------|
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| | 2,903* | 2,056 | 85 | 44 | 347 | 40 | 83 | 29 | 54 | 48 |
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* Entries in this row are the numbers of sewer system customers in each zone.

The proposed rates include estimates of possible future assessments by CVB of Mandatory Minimum Penalties (such as discussed in findings below). The numbers of connected EDUs (i.e., sewer system customers) as of February 2006 are included in the column headings (all data from Source 9). The district also collects sewer charges for unconnected EDUs on unimproved land, but these are omitted here for simplicity.

Agree

3. State law establishing effluent regulations for stream-discharge WWTPs was passed in 2000. A report establishing detailed water quality enforcement policy was issued by the SWRCB in 2002 (Source 2). The CVB has been enforcing WWTP regulations in subsequent years.

Partially agree.

The California Toxics Rule (CTR), enacted in 2000, supplemented prior laws that established effluent regulations for stream discharge for Wastewater Treatment Plants (WWTPs).

4. Wastewater treatment regulations are a very complex combination of federal and state law, as are the state enforcement policies of the SWRCB and CVB, and require intense effort for understanding compliance, and record keeping (Sources 1 and 2).

Agree

5. The SWRCB and its Regional Boards impose regulations and penalties based on "one size fits all." For example, the Mandatory Minimum Penalty (MMP) for an individual violation would be \$3000 in Cascade Shores, with 83 ratepayers, just as it is for the City of Los Angeles with about two million ratepayers. Thus, the cost of every \$3000 MMP would be \$36.14 for each ratepayer in Cascade Shores, whereas the cost would be a small fraction of a penny for each ratepayer in Los Angeles. (Source 2)

Agree

6. **Twenty-two full-time equivalent employees constitute the Wastewater group in DOTS, and act as SD#1 staff responsible for managing the operations and upgrades of WWTPs in all ten SD#1 zones.**

Agree

7. **In addition to these operations and plant upgrade activities, the Wastewater group is also responsible for: (i) communicating with the CVB, (ii) keeping abreast of applicable rules and regulations, (iii) monitoring the quality of water entering and exiting WWTPs, (iv) maintaining compliance records and their financial implications, and (v) training new hires in these topics.**

Agree

8. **SD#1 staff members are on duty at the Cascade Shores WWTP only a few days per week, and generally not at all during nighttime hours, as a cost-saving measure.**

Partially agree.

The Cascade Shores WWTP was designed for extended unmanned operation with an automated alarm and auto dialer system to call and report problems. Sanitation District No. 1 (SD No.1) staff regularly visits the site on three weekdays and once on the weekends. These visits include visual inspection, sampling, testing, and adjusting the equipment as required to maintain compliance with the permit. There is also a paid standby treatment operator to respond to any after hour alarms.

9. **The main sewer line of the Cascade Shores WWTP was ruptured by a rain-triggered landslide on May 9, 2005. As a result, raw sewage spilled into Gas Canyon Creek at an average rate of approximately 20,000 gallons per day (gpd) for nine days. (Source 4)**

Agree

10. **The CVB representatives stated in written reports that, out of concern for the public safety and protection of the beneficial uses of the downstream waters, SD#1 should capture this sewage spill with one of two County-owned vector trucks and transport it to another WWTP. (Sources 3, 7)**

Agree

11. **SD#1 and Environmental Health Department staff stated in a written response to the first (Source 3) of these reports that the environmental impact of the spill was small because of: (i) its relatively small Average flow of 20,000 gpd (equivalent to the flow from a 1-inch hose), (ii) limited use by humans of Gas Canyon Creek during the time of the spill (only one**

dwelling was inhabited near Gas Canton Creek downstream of the accident), (iii) substantial dilution of the raw sewage by heavy water flow in the creek from the severe winter storms that precipitated and followed the accident, and (iv) tests by the Nevada Irrigation District (NID) indicated that the spill was not causing a measurable negative impact on the source of its water supply. (Source 4)

Agree

12. SD#1 staff decided at the time of the accident to focus their efforts immediately on installing a replacement pipe to transport the sewage to the Cascade Shores WWTP, rather than on creating a temporary containment for the spill, piping the contained sewage into vector trucks, and transporting it to another WWTP.

Agree

13. Lines of communication between SD#1 and outside resources and agencies, including the CVB, are specified in myriad emergency plan documents for each WWTP zone. These documents include Emergency Action Plans, Sanitary Sewer Overflow Response Plans, and Business Plans.

Agree

14. Specification of lines of communication from the CVB to SD#1 are included in an annual report submitted by SD#1 to the CVB for each of the three stream-discharge WWTPS.

Agree

15. According to The Union (December 13, 2003), during the week of December 9, 2003, the town of Colfax, less than a square mile in area with a population of about 1,600, located just east of the Nevada County line, was penalized about \$350,000 by CVB for a myriad of wastewater permit violations spanning several years.

Agree

16. A 2003/2004 Grand Jury Report identified the possibility of substantial fines being levied against SD#1.

Agree

17. In a letter dated August 10, 2005, the CVB proposed a total penalty (Administrative Civil Liability) against the SD#1 Cascade Shores WWTP, in the amount of \$574,000. This amount was an accumulation of (i) 177 mandatory minimum \$3000 penalties totaling \$531,000 for violations dating back to April 30, 2000, (ii) a \$33,000 CVB-estimated economic benefit of allowing the landslide sewage spill to continue for nine days, plus (iii) 10,000 to cover estimated CVB administration costs (Source 7). In subsequent discussions

between SD#1 staff and the CVB, the 177 MMPs were reduced to 166 MMPs totaling \$498,000.

Agree

18. At the time the \$574,000 penalty was proposed, SD#1 was keeping a file of CVB required self-reported violations, but it was not keeping a running log of violations and MMPs, nor their cumulative financial magnitude, for any of the three stream-discharge WWTPs (Cascade Shores, LOP, and LWW).

Agree

19. SD#1 later prepared lists of MMPs and their cumulative dollar amounts for LOP and LWW and documented them in a memo of February 6, 2006. (Source 8)

Agree

20. The SWRCB has indicated that the Cascade Shores WWTP may be qualified, by virtue of its ratepayers' low median income level, to apply the \$498,000 of MMPs toward the required upgrade of the WWTP by September 2007. Funding to cover upgrade costs is being sought from grants, insurance claims, and low interest loans.

Agree

21. The median income of the ratepayers in the other two stream-discharge WWTPs in SD#1 (LOP and LWW) may be too high to permit application of their cumulative MMP fines against the cost of their required upgrades.

Agree

22. SD#1 consultant reports state that the LWW WWTP cannot meet the required higher effluent water quality standards prior to scheduled plant upgrades. (Source 8)

Agree

23. The Board of Supervisors has approved a request to add a Principal Engineer in DOTS to help with the numerous demands on SD#1 staff.

Agree

24. Minutes from SD#1 Board of Directors meetings are included as part of the Nevada County Board of Directors meetings, and now are also published separately. All these documents are available via <http://new.mynevadacounty.com/clerkofboard/>.

Agree

- 25. Hearings are in progress for California Senate Bill 1733 on water quality civil penalties. Among several paragraphs explaining the purpose of the bill, its author states, "Senate Bill 1733 attempts to provide assistance to [small rural] communities that are trapped in a cycle that vacillates between non-compliance and the inability to upgrade to meet compliance standards."**

Agree

Recommendations:

1. **The Sanitation District No; 1 (SD#1) Board of Directors, acting as the Nevada County Board of Supervisors, Should give wastewater treatment matters higher priority and its staff expanded capability by directing DOTS to add a Principal Engineer with formal training in sanitation engineering.**

This recommendation has been implemented.

On April 3, 2006, the County Executive Officer (CEO) approved the creation of a Principal Civil Engineer position to oversee the Wastewater and Solid Waste Divisions. The Board of Supervisors subsequently ratified this action by amending the County Staffing Resolution. When the first recruitment did not result in qualified candidates, the Department of Transportation and Sanitation's (DOTS) staff worked with the Human Resources Director to modify the minimum qualifications in the job description to expand the pool of eligible applicants. The application period closed August 16, 2006, and interviews are being scheduled as of this writing.

2. **The SD#1 Board of Directors, acting independently and also together with leaders from other rural counties and cities, should aggressively and relentlessly lobby state government for equitable treatment of rural communities concerning water quality control matters and financial impact per ratepayer. One goal should be to modify the structure of the MMP fine system from the present fixed \$3,000 for any WWTP, regardless of size, to a variable fine that bears a reasonably relationship to the number of EDUs served by the WWTP.**

This recommendation has been implemented.

Supervisors Sue Home and Nate Beason have been very active in lobbying for reform in the wastewater area. They have succeeded in getting the issues on the agenda of both the California State Association of Counties (CSAC) and the Regional Council of Rural Counties (RCRC). In addition, they worked with Senator Sam Aanestad, resulting in his submitting SB 1733 for consideration by the Legislature. SB 1733 would enable Regional Water Quality Boards to apply Mandatory Minimum Penalties (MMPs) to the cost of upgrading wastewater treatment plants to meet the provisions of the operating permit.

At the time of this writing, SB 1733 is still pending in the Legislature.

Supervisor Beason, in his role as Vice-Chair of the Sierra Economic Development District (SEDD), was instrumental in getting SEDD to sponsor a Wastewater Forum in Nevada City. The Forum included Federal, State and local regulators and operators as well as representatives from Congressman John Doolittle and Assemblyman Rick Keene. In addition to panel discussions by regulators and operators, the Forum included a tour of the Cascade Shores wastewater treatment plant so that the Regional Board staff could actually see the plant and the locale.

In addition to Senator Aanestad's bill SB 1733, various governmental agencies and organizations are proposing a variety of bills, many of which address the mandatory minimum penalties. Staff is monitoring and participating in this process and will be providing information to the Sanitation District Board for their consideration.

- 3. The SD#1 Board of Directors should direct SD#1 staff to develop a system to monitor and analyze violations associated with Self-Monitoring Reports in order to determine their potential penalties and cumulative financial impact for each zone.**

This recommendation has been implemented.

The Wastewater Division staff has developed a system to monitor and analyze violations associated with Self-Monitoring Reports. Following the preparation and submittal of the Self-Monitoring Reports, staff created a spreadsheet that lists date, time, nature of the violation, corrections, repairs, and potential costs. The spreadsheet also contains notes on corrections made and/or references to the monthly Self-Monitoring report for further detailed explanations. This allows any questions to be answered and serves as a quick reference in the event of repeat problems and costing questions.

This information is used to identify potential penalties and their financial impacts (as recommended by the Grand Jury), and provides important information on the operations of the plants. When indicated by the analysis of the data, modifications in the plant or the plant operations are made to avoid future incidents.

- 4. The SD#1 Board of Directors should direct SD#1 staff to provide recommendations to the CEO and to the Board of Directors for dealing with the cumulative financial impact of potential violations and related fines.**

This recommendation has been implemented.

Based on the information from the Self-Monitoring Reports, staff made projections of the potential MMPs that could be imposed while upgrades are being made to the Lake of the Pines, Lake Wildwood and Cascade Shores WWTPs. These projections were reviewed with the Sanitation District Advisory Committee in March 2006 and the Budget Subcommittee, which includes CEO staff and two District Board members, in April 2006. Based on their recommendation, the projections were incorporated in the Fiscal Year 2006/07 budgets.

The MMPs imposed on Cascade Shores will not be paid to the State. Instead, they are being applied to the cost of building the new WWTP. If penalties are proposed for Lake of the Pines or Lake Wildwood, the actual decision of whether to protest or pay the penalties will be made by the Sanitation District Board on a case-by-case basis. As recommended by the Grand Jury, staff will make recommendations at that time.

District staff is recommending that future budgets include an amount for MMPs based on anticipated violations. Running logs of actual Mandatory Minimum Penalties will be monitored by SD#1 staff. If MMPs exceed those expected and budgeted (approximately 4 per year for each of the three zones subject to them) then this will be reported to the CEO and the Board of Directors of SD#1 in a timely manner to ensure that they are sufficiently informed of the potential financial impacts of cumulative MMP's.

5. **The SD#1 Board of Directors should direct SD#1 staff to: (i) develop a formal system to analyze violations that result in mandatory minimum penalties, (ii) examine what failures have occurred, and (iii) take appropriate action to ensure they are less likely to occur in the future.**

This recommendation has been implemented.

As stated under Recommendation 3, Wastewater Division staff has developed a system to monitor and analyze violations associated with Self-Monitoring Reports. This information is used not only to identify potential penalties and their financial impacts, but to provide important information on the operations of the plants. When indicated by analysis of the data, modifications to the plant or the plant operation are made to avoid future incidents.

6. **The SD#1 Board of Directors should establish appropriate protocols to ensure effective communication with the State Water Quality Resource Control Board and the Central Valley Water Quality Control Board, in order to establish optimal ongoing relationships, more effective coordination, and mutual understanding during emergencies and incidents such as the Cascade Shores landslide and resulting spill that occurred in May 2005.**

This recommendation has been implemented.

The Sanitation District Board and staff work very hard to communicate with and to provide information to the State Water Resources Control Board and the Central Valley Regional Water Quality Control Board and their staff members. We have several different reporting protocols including our sewer spill reporting, as identified in the most recent update (October 7, 2005) of the District's Sanitary Sewer Overflow Response Plan. There are also specific reporting protocols for violations identified in the most recently adopted 2001 and 2002 discharge permits. These efforts include information submitted with the annual operations reports and the monthly Self-Monitoring reports as well as telephone calls, letters and emails providing updates on staffing changes, operational matters, and other District business.

In addition, DOTS staff is working directly with Central Valley Regional Water Quality Control Board staff members Ken Landau, Principal Water Resources Control Engineer; and Dave Carlson, Environmental Program Manager. The goal is better understanding of Sanitation District operations and compliance efforts. Judging by recent actions by the Regional Board

staff, these efforts are resulting in decisions that better reflect the needs of the Sanitation District residents.

The Central Valley Regional Water Quality Control Board is currently undergoing a major reorganization, staff reassignments and recruitment of new staff. As new Regional Board staff are assigned to Sanitation District permits, DOTS staff is making a concerted effort to bring them up to speed and to develop strong working relationships. These will be valuable not only in day-to-day operations and permit matters, but also in the event of any emergency.

REQUIRED RESPONSES

Sanitation District No. 1 Board of Directors – September 26, 2006

Nevada County Board of Supervisors – September 26, 2006