

ATTACHMENT A
SETTLEMENT AGREEMENT AND STIPULATION FOR ENTRY OF
ADMINISTRATIVE CIVIL LIABILITY ORDER R5-2025-0525
PENALTY CALCULATION METHODOLOGY

The State Water Board's 2017 Water Quality Enforcement Policy (2017 Enforcement Policy) establishes a methodology for determining administrative civil liability by addressing the factors that are required to be considered under California Water Code (CWC) sections 13327 and 13385, subdivision (e). On 5 December 2023 and 20 August 2024, the State Water Resources Control Board (State Water Board) adopted Resolutions 2023-0043 and 2024-0027, respectively, which adopted the 2024 Water Quality Enforcement Policy (2024 Enforcement Policy). The 2024 Enforcement Policy was approved by the Office of Administrative Law and become effective on 7 November 2024. The Prosecution Team developed the proposed administrative civil liability based on the 2017 Enforcement Policy since the alleged violation occurred prior to the adoption of the 2024 Enforcement Policy. However, the 2024 Enforcement Policy was used where it provides clarifications or procedural changes to the 2017 Enforcement Policy. (See Appendix D to the 2024 Enforcement Policy.)

The facts surrounding the alleged violation and each factor of the ten-step approach to assessing liability for the violation are discussed below, as is the basis for assessing the corresponding score.

The 2017 Enforcement Policy can be found at https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2017/040417_9_final%20adopted%20policy.pdf.

The 2024 Enforcement Policy can be found at https://waterboards.ca.gov/water_issues/programs/enforcement/docs/2024/2024-enforcement-policy.pdf.

Violation 1: 8800 Sierra College Boulevard Mainline Spill (CIWQS Event ID 891462)

The City of Roseville's (City) Wastewater Collection Division staff received a call at 13:09 on 4 December 2023 reporting a sulfur odor at the Slate Creek Apartments. City staff responded at 13:16 and arrived on site at 13:45 and began to investigate the complaint. After an extensive investigation of sanitary sewer collection system facilities within and in the vicinity of the apartment complex, City staff determined a spill was occurring in the undeveloped land between the apartment complex and Strap Ravine, a water of the state and United States. At approximately 14:54, City staff discovered sewage bubbling up from manhole B08-028, a manhole in an 8-inch sewer mainline, and flowing into Strap Ravine. At approximately 15:23, City staff determined that the cause of the spill was roots growing through the barrel joints in downstream manhole B08-032 and forming a "significant root ball" in the manhole that completely blocked flow in the 8-inch mainline.

The first clean-up equipment arrived on site at 15:23 and began removing spilled sewage. Construction and excavation equipment arrived at 15:45 to begin cutting an

access road to the spill site, while City crews worked to remove the blockage and restore flow. City staff removed the root ball from manhole B08-032, as well as rags and grease accumulated upstream of the blockage, and restored flow in the 8-inch mainline by 16:31.

City staff further determined that spilled sewage had covered approximately 4,116 square feet between manhole B08-028 and Strap Ravine, and had entered Strap Ravine itself and flowed downstream approximately 1,680 feet to a beaver pond upstream of East Roseville Parkway. Over the 28 hours following their initial arrival at the site, City crews removed a total of 84,920 gallons of contaminated water from Strap Ravine and the beaver pond. After consultation with Placer County Health and Human Services staff and a thorough review of the affected area, Wastewater Collection Division Superintendent Dan Pruden deemed the clean-up complete at 19:00 on 5 December 2023.

While interviewing residents of the Slate Creek Apartments to determine the location and start of the spill, City staff discovered that the apartment complex property manager had sent an email to the City's Online Odor Reporting System on 28 November 2023. However, this email, as well as two others received on 28 November 2023 and 4 December 2023 from residents were not forwarded to the Wastewater Collection Division. Within the three emails, the earliest noted first observance of the smell was 20 November 2023. According to the City's technical report of the spill submitted in the California Integrated Water Quality System (CIWQS) database, the complaints were not passed on because odor complaints not associated with the wastewater treatment plant were considered invalid.

City staff estimated the volume of the spill using the City's multi-family residential wastewater design standard of 130 gallons per day per unit. City staff also made the assumption that the spill began one day prior to first observation of the odor—in other words, on 19 November 2023—making a total spill duration of 16 days. Since 188 units were occupied at the time of the spill, the total volume spilled before City staff removed the blockage and restored flow is estimated to be 366,600 gallons. The City voluntarily elected to use the higher estimation of spill, based on the maximum wastewater design standard of 130 gallons per day per unit, as opposed to a more conservative estimation. The units at the property in question were designed for 130 gallons per day (which errs on the high side), though actual daily averages were likely less.

City staff collected receiving water samples in Strap Ravine both upstream and downstream of the spill entry point, and from upstream and downstream of the beaver dam. Samples were collected on 5 and 6 December 2023. Samples were analyzed for ammonia, electrical conductivity, pH, total coliform, and E. coli. However, quantitative results for total coliform and E. coli are not available because the City did not specify quantitative analysis and the laboratory used a method that indicates only the presence or absence of these pollutants. Laboratory analysis of the samples indicated that total coliform and E. coli were present in all samples on both days, and that ammonia was higher below the spill entry point than above on 5 December 2023.

Attachment A: Penalty Calculation Methodology
City of Roseville

Following the incident, City staff reviewed Wastewater Collection Division maintenance records and found a completed work order for cleaning manhole B08-032 on 32 August 2022 (*sic.*). However, the size of the root ball removed from manhole B08-032 on 4 December 2023 led City staff to conclude that the cleaning reported in the completed work order did not occur, and that lack of proper cleaning was the “root cause” of the spill. Upon further investigation, the City learned that the mainline upstream and downstream of the manhole had been cleaned, but the specific manhole at issue had not been cleaned because it was in an unimproved easement area with access constraints.

The City implemented several follow-up actions after the incident to reduce the potential for similar future events. Actions include amending Online Odor Reporting System procedures to forward all complaints to Wastewater Collection Division staff without exceptions, and improving identification of mainlines in undeveloped areas and improving physical access to them for both inspection and spill response. The City also invested significant funds to acquire easement machinery, which will allow greater access to difficult manhole locations, such the manhole at issue.

A detailed summary of the SSO with location maps, volume calculations, and sample results is provided in the Spill Technical Report and the System Failure Analysis Form Narrative uploaded to the CIWQS database by the City on 18 January 2024 and 5 January 2024 (respectively), Event ID 891462.

Step 1 – Actual or Potential for Harm for Discharge Violations

Factor 1: The Degree of Toxicity of the Discharge:

This factor evaluates the degree of toxicity of the discharge by considering the physical, chemical, biological, and/or thermal characteristics of the discharge, waste, fill or material involved in the violation or violations and the risk of damage the discharge could cause to receptors or beneficial uses. A score between 0 and 4 is assigned based on a determination of the risk or threat of the discharged material. “Potential receptors” may include human health, aquatic life, habitat, etc.

Untreated sewage generally contains elevated concentrations of coliform organisms, total suspended solids, biochemical oxygen demand, nitrate, and ammonia. Elevated concentrations of these constituents can lead to low dissolved oxygen in the receiving water, impacts to aquatic life, and impacts to human health. Although there were no reports of fish kills or other toxic-related impacts tied to the event, the discharged material poses “an above-moderate risk or a direct threat to potential receptors,” and a score of 3 is assigned for this factor.

Factor 2: Actual Harm or Potential Harm to Beneficial Uses:

As a result of this incident, raw sewage was discharged to Strap Ravine, a tributary to Linda Creek, during 19 November to 4 December 2023. Linda Creek is a tributary to Dry Creek, which eventually converges with the Sacramento River. Beneficial uses of the Sacramento River include municipal and domestic supply, irrigation, contact and non-contact recreation, warm and cold freshwater habitat, warm and cold migration, warm and cold spawning, wildlife habitat, and navigation. Strap Ravine, Linda Creek, and the Sacramento River are all waters of the United States. In addition, Linda Creek and Dry Creek flow through residential neighborhoods and public parks. Although City staff did not find evidence of sewage below the beaver dam, beaver dams are typically porous; and the volume of sewage entering Strap Ravine compared to the volume of water recovered during clean-up operations suggests that some sewage passed through the dam. Water quality impacts from the incident are difficult to quantify because the City did not request numeric results from pathogen testing.

Discharges of raw sewage are known to contain pathogens, nitrogen, ammonia, total suspended solids and biological oxygen demand, all of which can cause adverse impacts to human and aquatic life. As discussed above, samples taken by the City on 5 and 6 December 2023 indicated that total coliform and E. coli were present on both days and ammonia was higher downstream of the spill entry point on 5 December 2023. In this case, the duration and volume of the spill, particularly compared with the much smaller natural flow rate in Strap Ravine, constituted a potentially significant impact to Strap Ravine. At the same time, water quality and environmental impacts of the primary pollutants contained in raw sewage are generally not long term. Therefore, this incident is considered to have had moderate actual or potential harm to beneficial uses, which is defined as “observed or reasonably expected potential impacts, but harm or potential harm to beneficial uses is moderate and likely to attenuate without appreciable medium or long term acute or chronic effects;” and a score of 3 is assigned for this factor.

Factor 3: Susceptibility to Cleanup or Abatement:

As described above, 366,600 gallons reached surface waters in Strap Ravine. During clean-up operations, City crews removed 84,920 gallons of mixed sewage and surface water from Strap Ravine. This is less than 50% of the spill, so a multiplier of 1 is assigned for this factor.

Final Score – “Potential for Harm”

The three factor scores are summed to provide a final Potential for Harm score for the violation. For this violation, the Potential for Harm score is 7.

Step 2 – Assessments for Discharge Violations

1. Per Gallon Assessments for Discharge Violations

When there is a discharge, the Central Valley Water Board must determine the initial liability amount on a per-gallon basis using the Potential for Harm score and the Extent of Deviation from Requirement of the violation. The Potential for Harm Score for this violation is 7, as determined in Step 1. Prohibition 4.2 of Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems, State Water Board Order No. 2022-0103-DWQ (SSS General Order) prohibits any discharge from a sanitary sewer system to waters of the State.¹ Similarly, Clean Water Act section 301 and CWC section 13376 prohibit the discharge of a pollutant from a point source to waters of the United States without a NPDES permit. Therefore, the discharge of sewage is a major deviation from the requirements of the SSS General Order, Clean Water Act section 301, and CWC section 13376.

According to Table 1 of the 2017 Enforcement Policy, a major deviation from requirement combined with Potential for Harm of 7 results in a per-gallon factor of 0.41 for this violation.

A discharger who violates Clean Water Act section 301 and CWC section 13376 is subject to administrative civil liability pursuant to CWC section 13385, subdivision (a). Additionally, the unauthorized discharge of sewage in violation of the SSS General Order is subject to administrative civil liability pursuant to CWC section 13350. The Central Valley Water Board Prosecution Team elected to pursue enforcement of the alleged violation pursuant to CWC section 13385. CWC section 13385, subdivision (c)(2) states that the administrative civil liability amount is \$10 per gallon multiplied by the number of gallons discharged but not cleaned up, over 1,000 gallons for each spill event. The 2017 Enforcement Policy allows for a reduction in the maximum penalty amount of \$10 per gallon for high volume discharges between 100,000 gallons and 2,000,000 gallons for each discharge event. The City estimated that a total of 366,600 gallons reached Strap Ravine. Therefore, this incident is considered to be “high volume” based on the total gallons discharged. The Prosecution Team elected to use a \$2/gallon maximum, which does not result in an inappropriately small liability.

As described above, 366,600 gallons reached surface waters, and 84,920 gallons of mixed sewage and surface water were removed. For purposes of settlement, the Prosecution Team agreed to subtract 84,920 gallons in calculating the volume of the discharge to surface waters that was not cleaned up. The volume used in the Per-Gallon Assessment is the 366,600 gallons discharged to surface waters minus the

¹ Under California Code of Regulations, title 23, section 3831(w), “[a]ll waters of the United States in California are also ‘waters of the state.’”

Per-Gallon Assessment

$$0.41 \times 280,680 \text{ gallons} \times \$2 \text{ per gallon} = \$230,158$$

2. Per Day Assessments for Discharge Violations

According to Table 2 of the 2017 Enforcement Policy, the per-day factor for the Potential for Harm and the Extent of Deviation from Requirement applicable to this violation is 0.41. The spill event occurred over a period of sixteen days (19 November – 4 December 2023). CWC section 13385, subdivision (c)(1) allows for an administrative civil liability of up to \$10,000 per day of violation. Therefore, the Per-Day Assessment is:

Per-Day Assessment

$$0.41 \times 16 \text{ days} \times \$10,000 \text{ per day} = \$65,600$$

3. Initial Liability Amount: The sum of the Per-Gallon Assessment and the Per-Day Assessment for this violation is:

Initial Liability Amount

$$\$230,158 \text{ Per-Gallon Assessment} + \$65,600 \text{ Per-Day Assessment} = \$295,758$$

Step 3 – Per Day Assessments for Non-Discharge Violations

This step is not applicable.

Step 4 – Adjustment Factors

Degree of Culpability

According to information reported in the CIWQS database by the City, the spill was caused by a root ball in manhole B08-032 that was not removed during routine maintenance three months earlier because the manhole was not inspected due to access constraints, and therefore the root ball expanded until it completely blocked the sewer mainline. In addition, the City's Online Odor Reporting System received odor complaints as early as 28 November 2023 which could have led to the City discovering the spill six days earlier, but the Wastewater Collection Division was not notified of the complaint (and subsequent complaints) because it was City staff's practice to disregard odor complaints that were not related to the wastewater treatment plant (when complaints were submitted through the Online Order Reporting System associated with

History of Violations

The 2017 Enforcement Policy states that where the discharger has no prior history of violations, this factor should be 1.0. The 2017 Enforcement Policy further states that this factor should be 1.1 where the discharger has prior violations within the last five years, and greater than 1.1 where the discharger has a history of similar or numerous dissimilar violations. The Central Valley Water Board has not issued any Administrative Civil Liability Orders against the City within the last five years for SSO violations; therefore, a multiplier of 1.0 is assigned for this factor.

Cleanup and Cooperation

The Wastewater Collection Division was not notified of odor complaints received by the City through the Online Odor Reporting System, and therefore was not notified of the spill until receiving a phone call from a resident of the Slate Creek Apartments at 13:09 on 4 December 2023. Upon receiving this call, Wastewater Collection Division staff responded quickly, investigated thoroughly, found the spill location by 14:54, and discovered and remediated the cause of the spill by 16:31. The City's response was made more difficult by the size of the apartment complex and the number of collection system assets in the area, and by the challenges of accessing, investigating, and performing remediation activities in the undeveloped area between the apartment complex and Strap Ravine, and in Strap Ravine itself. The City also recovered 84,920 gallons of mixed sewage and surface water. Finally, the City has been open about the breakdowns in its own policies and procedures which led to and exacerbated the spill. The City implemented several follow-up actions after the incident to reduce the potential for similar future events. Actions include amending Online Odor Reporting System procedures to forward all complaints to Wastewater Collection Division staff without exceptions, and improving identification of mainlines in undeveloped areas and improving physical access to them for both inspection and spill response. Therefore, a multiplier of 1.1 is assigned for this factor.

Step 5 – Determination of Total Base Liability Amount

Total Base Liability Amount
Initial Liability Amount x Culpability Multiplier x History of Violations Multiplier x Cleanup and Cooperation Multiplier = Total Base Liability Amount
$\$295,758 \times 1.2 \times 1.0 \times 1.1 = \$390,400$

Step 6 – Economic Benefit

The 2017 Enforcement Policy provides that the economic benefit of noncompliance should be calculated using the United States Environmental Protection Agency's (US EPA) Economic Benefit Model (BEN) penalty and financial modeling program unless it is demonstrated that an alternative method of calculating the economic benefit is more appropriate. For this case, economic benefit was calculated using BEN Model Version 2024.0.0. Using standard economic principles such as the time-value of money and tax deductibility of compliance costs, the BEN Model calculates a discharger's economic benefit derived from delaying or avoiding compliance with environmental statutes. The City gained an economic benefit by avoiding the costs of conducting CCTV inspections and cleaning Mainline SMH B08-51 to SMH B08-32 at a cost of \$3,684.90. Using the BEN Model, the City experienced an economic benefit of approximately \$4,047.62 from avoiding these costs.

Step 7 – Other Factors As Justice May Require

No additional factors were considered in preparing this Penalty Calculation Methodology.

Step 8 – Ability to Pay and Ability to Continue in Business

The City has the ability to pay a penalty of \$390,400. The City's annual budget (including general fund and non-utility budgeted amounts) for fiscal year 2024-2025 is \$768 million, but the Wastewater Division only comprises just over \$59 million of the total budget.

Step 9 – Maximum and Minimum Liability Amounts

The maximum and minimum penalty amounts must be determined for comparison to the proposed liability amount.

Maximum Liability Amount:

Based on CWC section 13385, subdivision (c) the maximum liability is \$10,000 per day of violation and \$10 per gallon of waste discharged over 1,000 gallons. The violation involved 366,600 gallons, of which 84,920 gallons were cleaned up, and lasted 16 days, resulting in a maximum penalty of \$2,966,800.

Minimum Liability Amount:

CWC section 13385, subdivision (c) requires recovery of the economic benefit. The 2017 Enforcement Policy states the minimum liability for a discretionary penalty shall be

Step 10 – Final Liability Amount

The Final Liability Amount is the total base liability amount, with any allowed adjustments, provided the amount is within the statutory minimum and maximum amounts. The proposed administrative civil liability is \$390,400.²

² As explained in Section II, paragraphs 11 and 12 of the Stipulated Order, the administrative civil liability was reduced to \$357,867 under Enforcement Policy, section VI.B. (Settlement Considerations) in consideration of hearing and/or litigation risk.