

**REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

**EXECUTIVE OFFICER SUMMARY REPORT
September 9, 2026**

ITEM 6

SUBJECT

Vapor Intrusion Overview (Catherine Brennan)

STAFF RECOMMENDATION

Informational item only; no recommendation.

KEY ISSUE

This item will provide the San Diego Water Board and the public with information on vapor intrusion. Vapor intrusion is a pathway of exposure to subsurface contaminants present at many of the sites overseen by the cleanup programs in the Site Restoration and Groundwater Protection Branch. Staff will explain what vapor intrusion is, how it can impact human health, and how it can be remediated. Staff will also present two case studies as examples of how staff manage investigation and cleanup at sites impacted by vapor intrusion.

PRACTICAL VISION

Chapter 2 of the 2021 [*Practical Vision: Monitor and Assess*](#), is focused on producing information that supports efforts to protect and restore the health of waters in the San Diego Region. The collection, use, and sharing of that information with our communities and partners is consistent with the Practical Vision values of stewardship, leadership, communication, and transparency. This item advances this goal by sharing with the Board and the public information about what vapor intrusion is, how vapor intrusion impacts human health, and how the *Supplemental Guidance: Screening and Evaluating Vapor Intrusion Final Draft* in 2023 (Vapor Intrusion Guidance) is used.

DISCUSSION

The purpose of this item is to convey to the Board and the public the basics of vapor intrusion and how staff manage cleanup cases with vapor intrusion concerns. Staff's presentation will define frequently used vapor intrusion terminology, highlight the main vapor-forming chemicals of concern, explain how vapor intrusion occurs, identify the short- and long-term effects of vapor intrusion, and share challenges related to vapor intrusion remediation. Staff's presentation will also include regulatory case studies that highlight the complexity of cleanup sites, and the guidance tools staff use for regulatory oversight.

The San Francisco Bay Regional Water Quality Control Board and the Department of Toxic Substances Control developed and released the Vapor Intrusion Guidance in 2023. The Vapor Intrusion Guidance standardizes the assessment procedures for evaluating vapor intrusion risk to current and future occupants of buildings overlying a contaminated property. The Guidance presents the assessment procedures as a four-step framework, as follows:

Step 1: Prioritize Building and Select Sampling Approach for Vapor Intrusion Evaluation

Step 2: Evaluate Vapor Intrusion Risk Using Soil Gas Data

Step 3: Indoor Air Investigation – Identify Buildings Where Vapor Intrusion is Occurring Using Concurrent Indoor Air, Sub-slab Soil Gas, Soil Gas, and Outdoor Air Sampling Data

Step 4: Current and Future Risk Evaluation and Management Decisions

Staff apply this framework to manage vapor intrusion cleanup cases of different complexity. Even with the same framework, each cleanup case must be evaluated independently.

Joy Cleaners, a simple cleanup case in Orange County, is a former dry cleaner within a strip mall impacted by a release of the dry cleaning chlorinated solvent tetrachloroethene (PCE). Environmental investigations indicated that contamination was limited to soil gas impacts at relatively low concentrations and soil impacts in a localized area near the former dry cleaning machine. Soil vapor extraction (SVE) was selected as the remediation treatment to remove impacted soil gas and reduce the risk to building occupants. An SVE system operated for 3 years, and post-remediation treatment data indicated that soil gas and sub-slab soil gas concentrations had been reduced and were stable. Post-remediation risk assessment indicated that vapor intrusion risk levels were acceptable, and the case was closed in 2025.

Orange Tree Plaza (OTP), a more complex cleanup case, is another former dry cleaner within a strip mall also impacted by release of PCE. The added complexity of this case involves the following aspects:

- PCE and other chlorinated solvent contamination that has affected multiple media: soil, soil gas, indoor air, and groundwater
- High-concentration groundwater and soil gas plumes that have migrated downgradient and beyond property boundaries
- Impacts to commercial and residential properties with different owners
- Involvement of multiple, diverse stakeholders
- Vulnerable populations neighboring the source property, consisting of children and the elderly, who visit a nearby library, as well as mobile home residents

Current remediation efforts at OTP include SVE and in-situ chemical oxidation. In addition to vapor intrusion assessments conducted at the OTP property, additional vapor intrusion assessments have been conducted at several neighboring buildings, including an Orange County library and a mobile home park. Other risk assessments are currently being evaluated by staff for other properties within the vicinity of the OTP property with the goal of protecting human health and the environment.

PUBLIC NOTICE

The agenda notice for today's meeting was posted on the San Diego Water Board's website and sent to subscribers to the email list for Board meetings. This satisfies the Bagley-Keene Open Meeting Act requirements to publish the meeting notice and agenda.

SUPPORTING DOCUMENTS

None.