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ENVIRONMENT
& HEALTH

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Boulder Valley School District

**Post Fire Restoration and Assessment**

Date January 21, 2022

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Dear Ms. Jensen:

The following is in response to your request to provide an opinion related to Boulder Valley School District's (BVSD) response to the recent wildfires and related to evaluation and restoration of school buildings.

The steps taken to 1) minimize the risk of damage when fires were first reported 2) clean the schools and 3) perform screening tests to verify acceptable indoor environmental quality (IEQ) would be expected to mitigate the risk to students and staff when in the school buildings.

- When the seriousness of the fires was recognized, BVSD was able to shut down building ventilation systems, limiting the ability for combustion by-products to enter the schools. Some contaminants did find their way in through gaps under doors and other building penetrations, but the primary way outdoor air pollutants enter a building, through open doors/windows and the ventilation system's outdoor air intakes, was mostly avoided.

- Review of reports demonstrated a thorough approach to cleaning that included cleaning of surfaces, ventilation systems, replacing air filters and deploying air cleaning equipment.

- Indoor air quality screening tests were performed by an environmental consultant and included measurements for airborne particulate (PM 2.5) and volatile organic compounds (VOCs). Results found airborne particulate levels to be less than outdoor concentrations and VOC levels at concentrations that were normal and typical for an indoor environment.

    - This type of assessment is a screening approach that looks for indications of contamination associated with airborne particles and gaseous VOCs. If elevated concentrations or abnormal conditions are indicated, then follow-up sampling that can help identify the particulate matter and specific chemicals may be performed. These types of tests require more equipment and time for sample collection and laboratory analysis, and it is often not practical to perform this type of testing in multiple areas throughout 8 school buildings. Results of the screening measurements appear to indicate that this type of testing is not needed.

- There were questions/concerns regarding potential contamination of the soil around the schools, specifically with lead. There would need to be a

substantial source of lead for sufficient fume to be generated by a wildfire to contaminate soil. In some structures lead based paint, particularly on the exterior of the building, can degrade and flake off resulting in soil contamination nearby the building. Lead based paint was banned in the late 1970s. If the schools did not have lead paint then soil contamination with lead would not be expected to result from this wildfire event.

There were questions as to why many residential structures may not yet be safe to re-occupy but school buildings are, there could be a few reasons for this.

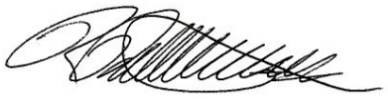
- Schools, and other commercial buildings, are often able to deploy resources much faster than private residences. This is due to existing contracts and relationships with restoration professionals and the fact that it takes these companies less time to get engaged and deploy to single buildings than dozens (or hundreds) of residential structures, many of which have different insurance companies and policies.

- Schools are constructed differently than homes and are typically lower risk and easier to restore after a fire. For example, exterior walls of schools are often masonry construction, while homes are frequently framed with wood and have wall cavities that contain porous insulation. Smoke can penetrate into the exterior walls of homes and is very difficult to evaluate and mitigate, this is often not an issue with school buildings.

These comments are based on the files you provided and information from recent conversations I have had with BVSD facility staff. My opinions may change as conditions evolve or more information becomes available.

Sincerely,

Ramboll Environ US Corporation



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