

# YONCALLA SCHOOL DISTRICT

## Healthy and Safe Schools Plan

### PERSON RESPONSIBLE FOR THE PLAN OVERSIGHT

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### Buildings

#### Yoncalla High School (7<sup>th</sup> -12<sup>th</sup>)

PO Box 568  
292 5<sup>th</sup> St.  
Yoncalla, OR 97499

#### Yoncalla Elementary School (PK – 6<sup>th</sup>)

Po Box 568  
401 1<sup>st</sup> St.  
Yoncalla, OR 97499

### AREAS OF CONSIDERATIONS

#### RADON

This plan will develop the protocols necessary for compliance. OHA's Testing for Elevated Radon in Oregon Schools, specifically Appendices A and D will be used to guide this effort. Below is the plan developed for the Yoncalla School District.

Per ORS 332.166-167, Yoncalla School District Radon Measurement Team (YSD RMT consisting of facilities coordinator and custodial staff) will, at a minimum, conduct initial measurements in all frequently occupied rooms in contact with the soil or located above a basement or a crawlspace. Testing will occur in all frequently occupied spaces simultaneously per school site. These sites includes offices, classrooms, conference rooms, gyms, auditoriums, cafeterias and break rooms. A minimum of one detector for every 2,000 sq. ft. of open floor space or portion thereof will be used.

For initial and follow-up testing, as needed, the YSD RMT will use passive test devices. Active devices (electrically powered, continuous radon monitors) may be used in follow-up testing of locations, if needed, where it is important to determine that radon levels vary according to the time of day. Because testing under closed conditions is important to obtain meaningful results from short-term tests, the District will schedule testing during the coldest months of the year. "Closed building conditions" are defined as keeping all windows closed, keeping doors closed except for normal entry

and exit, and not operating fans or other machines which bring in air from outside. Fans that are part of a radon-reduction system or small exhaust fans operating for only short periods of time may run during the test. Testing will occur between October and March in any given school year. Short term testing will be used with passive test kits will be used in “closed building conditions.” Test kits will be placed during weekdays with HVAC (heating, ventilation, air conditioning) systems operating as they do normally. The following is a detailed protocol instruction checklist:

1. A Test Kit Placement Log and a Test Kit Location Floor Plan will be prepared for each school in which radon measurements are made. Schools will use their emergency/fire escape plan as a template. Test kit location will be accurately recorded on both a Log and Floor Plan. Test kits or testing services will meet the current requirements of the national certifying organizations, National Radon Proficiency Program (NRPP, [www.nrpp.info](http://www.nrpp.info)) or the National Radon Safety Board (NRSB, [www.nrsb.org](http://www.nrsb.org)). Testing will be done following the directions on the test kit.
2. Per ORS 332.166-167, YSD RMT will, at a minimum, conduct initial measurements in all frequently occupied rooms in contact with the soil or located above a basement or a crawlspace. Room examples include offices, classrooms, conference rooms, gyms, auditoriums, cafeterias and break rooms.
3. The number of test kits used to measure radon (detectors) will be determined by counting the number of appropriate rooms. One detector kit is used for each room that is 2,000 square feet or less. Additional test kits are needed for larger rooms.
4. Added to this number will be the test kits needed for Quality Assurance purposes.
5. Test kits will be placed in all rooms in contact with the soil or located above a basement or crawlspace that are frequently occupied by students and school staff.
6. Testing will occur during the time that students and teachers are normally present (during weekdays).
7. In addition to placing detectors, additional test kits will be provided to serve as quality assurance measures (duplicate, blank, and spike measurements). Quality Assurance procedures will be conducted as described in OHA’s [Testing for Elevated Radon in Oregon Schools](#).
8. All test kits placed in the school site (detectors, duplicates, and blanks) will be noted on the Device Placement Log and Floor Plan by their serial number.
9. Test kits will be placed.
  - a. Where they are least likely to be disturbed or covered up.
  - b. At least three feet from doors, windows to outside or ventilation ducts.
  - c. At least one foot from exterior walls.

- d. At least 20 inches to six feet from floor.
- e. About every 2,000 square feet for large spaces (e.g., a 3500 square foot gymnasium would require two test kits)

Along with the five-item placement protocol above, YSD MRT can simply place the test kit on the teacher's desk or up on a bookshelf, out of the way of students. To prevent tampering, kits may be suspended from a wall or ceiling (using string and thumb-tack/tape). If they are suspended, they will be 20 inches to 6 feet above the floor, at least 1 foot below the ceiling.

10. Test kits will **NOT** be placed:

- a. Where they are least likely to be disturbed or covered up.
- b. At least three feet from doors, windows to outside or ventilation ducts.
- c. At least one foot from exterior walls.
- d. At least 20 inches to six feet from floor.
- e. About every 2,000 square feet for large spaces (e.g., a 3500 square foot gymnasium would require two test kits)

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11. Test kits will **NOT** be placed:

- a. Near drafts resulting from heating, ventilating vents, air conditioning vents, fans, doors, and windows;
- b. In direct sunlight;
- c. In areas of high humidity such as bathrooms, kitchens, laundry rooms, etc.;
- d. Where they may be disturbed at any time during the test.

12. Testing with short-term test kits will be used under closed conditions (closed windows/doors except for normal exit/entry).

- a. Closed conditions: Short-term tests will be made under closed conditions in order to obtain more representative and reproducible results. Open windows and doors permit the movement of outdoor air into a room. When closed conditions in a room are not maintained during testing, the subsequent dilution of radon gas by outdoor air may produce a measurement result that falls below the action level in a room that actually has a potential for an elevated radon level. Schools shall only

be tested for radon during periods when the HVAC system is operating as it does normally.

- b. All external doors will be closed except for normal use – structural and weatherization defects need to be repaired prior to testing.
- c. Closed conditions will be verified when placing and retrieving test kits.

13. Short-term test kits will be placed during colder months (October through March).

- a. Colder months: Because testing under closed conditions is important to obtain meaningful results from short-term tests, the District will schedule testing during the coldest months of the year. During these months, windows and exterior doors are more likely to be closed. In addition, the heating system is more likely to be operating. This usually results in the reduced intake of outside air. Moreover, studies of seasonal variations of radon measurements in schools found that short-term measurements may more likely reflect the average radon level in a room for the school year when taken during the winter heating season.
- b. The District will check and document local weather forecasts prior to placing test kits. Do not conduct short-term measurements (2-5 days) during severe storms or period of high winds. The definition of severe storm by the National Weather Service is one that generates winds of 58 mph and/or  $\frac{3}{4}$  inch diameter hail and may produce tornadoes.

14. Test Kits will be placed during weekdays with HVAC (heating, ventilation, air conditioning) systems operating as they do normally.

Proposed timeline:

Monday morning – Place kits (detectors/duplicates/blanks) per Test Kit Placement Log created for school. Record data, as needed, on Log.

Thursday morning – Pick up kits, record as needed, ship with (previously requested & received) spiked test kits to Radon Measurement Laboratory.

- a. Air conditioning systems that recycle interior air may be operated.
- b. Window air conditioning units may be operated in a re-circulating mode, but must be greater than 20 feet from the test kit.
- c. Ceiling fans, portable humidifiers, dehumidifiers and air filters will be more than 20 feet from the test kit.
- d. Portable window fans will be removed or sealed in place.
- e. Fireplaces or combustion appliances (except for water heaters/cooking appliances) may not be used unless they are the primary source of heat for the building.

f. If radon mitigation systems are in place in the school, they will be functioning.

15. The District will not conduct initial measurements under the following conditions:

- a. During abnormal weather or barometric conditions (e.g., storms and high winds). If major weather or barometric changes are expected testing will be postponed 2 to 5-days, as USEPA studies show that barometric changes affect indoor radon concentrations. For example, radon concentrations can increase with a sudden drop in barometric pressure associated with storms.
- b. During structural changes to a school building and/or the renovation of the building's envelope or replacement of the HVAC system

16. After receiving the results of the initial testing, YSD RMT will follow the "Interpreting initial results" section of the OHA's Testing for Elevated Radon in Oregon Schools.

### Follow-up Measurements

Follow-up testing (in rooms with initial short-term measurement of 4.0 pCi/L or higher) will start within one month after receiving the initial test results. Follow-up testing will be made in the same location in a room. When conducting follow-up testing using short-term methods will be done in the same conditions as the initial measurement. Follow-up testing using passive short-term test kits will follow the same Quality Assurance procedures and requirements (i.e. percentages of duplicates/blanks/spikes), including quality assurance calculations. Follow directions under Radon Test Placement Strategy and Protocol Checklist and Test Kit Placement again.

### Report of Results and Distribution

Per ORS 332.166-167 Yoncalla School District shall make all test results available: to the district's school board; the Oregon Health Authority (to post on its website), and readily available to parents, guardians, students, school employees, school volunteers, administrators and community representatives at the school office, district office and on a website for the school or school district.

Yoncalla School District will follow the recommendations of US EPA, OHA Oregon Radon Awareness Program, and numerous non-governmental groups and take action to reduce the radon level in those rooms where the average of the initial and follow-up short-term kit results OR the result of the long-term kit used in follow-up is 4.0 pCi/L or more.

Initial testing will be conducted in accordance with ORS 332.166-167 before January 1, 2021. Because buildings age and ground beneath them settles, radon entry may increase due to cracks in the foundation. For that reason, YSD will adhere to ORS 332.166-167 and test schools once every 10 years regardless of initial testing results or whether mitigation was done.

Yoncalla School District will follow the suggested times, for retesting, in addition to that required under ORS 332.166-167, are as follows:

1. Current national guidelines (ANSI/AARST, 2014) recommend that school buildings be re-tested every five years.

2. If radon mitigation measures have been implemented in a school, retest these systems as a periodic check to ensure that the radon mitigation measures are working. EPA does not provide a specific interval, but OHA recommends that schools with radon mitigation measures retest every 5 years.
3. Retest after major renovations to the structure of a school building or after major alterations to a school's HVAC system. These renovations and alterations may increase radon levels within a school building.
4. If major renovations to the structure of a school building or major alterations to a school's HVAC system are planned, the District will retest the school before initiating the renovation. If elevated radon is present, radon-resistant techniques may be included as part of the renovation.

## GLOSSARY

**Radon** - A gaseous radioactive decay product of radium.

**Blanks** - Measurements made by analyzing unexposed (closed) detectors that accompanied exposed detectors to the field. The School District use of blanks is to assess any change in analysis result caused by exposure other than in the environment to be measured. Background levels may be due to leakage of radon into the detector, detector response to gamma radiation, or other causes.

**Closed-Building Conditions** - Means keeping all windows closed, keeping doors closed except for normal entry and exit, and not operating fans or other machines which bring in air from outside. Fans that are part of a radon-reduction system or small exhaust fans operating for only short periods of time may run during the test.

**Duplicates** - Duplicate measurements provide a check on the precision of the measurement result and allow the user to make an estimate of the relative precision. Large precision errors may be caused by detector manufacture or improper data transcription or handling by suppliers, laboratories, or technicians performing placements. Precision error can be an important component of the overall error. The precision of duplicate measurements are monitored and recorded as quality records.

**Spikes** – Measurements used to assess the accuracy of a lab analysis and/or how accurately detectors supplied by a laboratory (i.e. test kit manufacturer) measure radon. “Spikes” are test kits that have been exposed to a known concentration of radon in a chamber approved by the National Radon Proficiency Program (NRPP) or National Radon Safety Board (NRSB). The process for completing this aspect of a radon measurement effort’s Quality Assurance/Quality Control plan is laid out in the Radon Test Placement Strategy and Protocol Checklist below.

## Appendix A: Test Kit Placement Guide

Once the number of test kits is determined, they will be placed in the frequently-occupied rooms as identified in the “What Rooms Should Be Tested?” section above.

a. These items will be checked prior to the placement of the radon test kits:

- Closed building conditions have been maintained in the building for 12 hours.
- HVAC system is operating as it normally would when students and faculty are present.
- Testing is being done during a time that students and faculty are present.

b. As detectors are placed in the rooms determined during section 1, thorough and accurate data needs to be recorded on the device log and floor plan (see sample below).

Protocol for all test kits include the following; be sure that each detector placed is:

- in a location where it will be undisturbed
- out of direct sunlight
- three feet from all doors and windows
- four inches from all other objects
- at least 1 foot from all exterior walls
- at least 20 inches to 6 feet from the floor
- out of direct air flow from vents
- four feet from heat source

To protocol above, School Measurement Teams in other states simply place the test kit on the teacher’s desk or up (out of the way of students) on a bookshelf.

c. Specific protocol for duplicate measurements.

- Placed duplicate (side-by-side) test kit 4-5 inches away from test kit for that room.

d. Specific protocol for blank measurements.

- Unwrap blanks, open, but then immediately close and reseal them.
- Place the test kit next to the detector kit(s) for the room 4-5 inches away.



e. Specific protocol for spiked test kits.

- Arrange for the spiked test kits to arrive back from the Certified Performance Test Chamber to the School Measurement Team as close to the day that kits are retrieved from the school as possible. [See *Quality Assurance Procedures for a School Radon Measurement Program* in OHA's Testing for Elevated Radon in Oregon Schools.]

f. Testing Period.

The minimum length of time test kits should be left out is 48 hours, but not exceed seven days. Adhere to kit manufacturer's instructions for more specific recommendations. It's best if devices should be left in place for four days to ensure optimum results. Placement of kits is best done on a Monday.

Retrieving Kits: Once the testing period has ended, all test kits placed at a school site (detectors, duplicates, and blanks) need to be retrieved. This will be done on the same date. Complete the data sheet when retrieving detectors. Retrieval of kits is best done on a Thursday.

- Record ending date and time (kits were pick up) information, per the "Test Kit Placement Log" [Appendix D of OHA's Testing for Elevated Radon in Oregon Schools.]
- Record ending information on the test kit package (if required).

g. Prepare and mail all kits.

- Seal and prepare test kits to be mailed to the lab by the manufacturer's instructions.
- Include those spiked kits (not identified as such) in the same box(es) as other kit types.
- Mail all test kits (detectors, duplicates, blanks, spikes) to the Radon Measurement Laboratory using a mail service that guarantees delivery to the laboratory within two days at maximum, but **preferably overnight** shipping.

## **LEAD IN DRINKING WATER**

To ensure the safety of our water, testing of all taps used for drinking or food preparation in buildings will occur every 10 years, unless the District has reason to test at an earlier date. Testing for lead in school water and subsequent corrective actions will be taken if lead levels are elevated. The following are the guidelines used:

1. **Identify sources of lead:** testing of all taps used for drinking or food preparation in the buildings to identify any lead problems.
  - a. Follow the Environmental Protection Agency's 3 T's Revised Technical Guidance to ensure that samples for lead are collected properly and from the right places.
  - b. Use of an OHA-accredited drinking water laboratory to analyze samples for lead.
2. **Stop access:** No access to water taps that have more than 20 parts per billion (ppb) of lead.
  - a. Includes shutting off taps and covering water fountains.
  - b. Provide bottled water to students and staff members.
3. **Communicate:** Results from tests for lead in water will be made available to students, families and posted on the district website.
4. **Mitigate and correct:** Replace the sources of lead in building plumbing. Again, EPA 3T's Guidance will be followed.
5. **EPA's 3Ts Technical guidance if needed:**  
[https://www.epa.gov/sites/production/files/2015-09/documents/toolkit\\_leadschools\\_guide\\_3ts\\_leadschools.pdf](https://www.epa.gov/sites/production/files/2015-09/documents/toolkit_leadschools_guide_3ts_leadschools.pdf)

## **LEAD PAINT**

In order to comply with the United States Environmental Protection Agency's Renovation, Repair and Painting Program Rule, the district will contract with certified contractors.

## **INTEGRATED PEST MANAGEMENT**

The district has adopted an integrated pest management plan as required by ORS 634.700 through 634.750. Community members can access a copy of the IPM plan here:  
[http://www.yoncalla.k12.or.us/pages/Yoncalla\\_SD\\_032](http://www.yoncalla.k12.or.us/pages/Yoncalla_SD_032)

## **COMMUNICATION**

The district will make all test results and detailed information explaining the test results available to the public within five business days of receiving the results. Results will be made available by posting the results on the district website and making the results available in hardcopy at the main administration office.

