

May 1, 2025

Comprehensive Radon Survey Report – Schools/Commercial Properties

Stayton Middle School
1021 Shaff Rd
Stayton, OR 97383

Environmental Works is a licensed, bonded, and insured general contractor (CCB# 185781; WA# ENVIRWN906CS) and is certified by NEHA-NRPP (National Environmental Health Association- National Radon Proficiency Program #112037 RT) as a radon measurement and mitigation contractor. The following scope of work is to conduct a survey to determine the post-construction radon levels in the above referenced property and offer additional mitigation technique(s), if needed, to achieve radon levels below the EPA (Environmental Protection Agency) recommended Action Level of 4.0 pCi/L or WHO (World Health Organization) recommended Action Level of 2.7 pCi/L. This survey does not address radon levels generated from out-gassing from well water or building materials.

Test Methods:

1. All radon testing methods presented in this agreement are based upon and in compliance with the American Association of Radon Scientists and Technologists, Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily, School, Commercial and Mixed-Use Buildings (**ANSI/AARST MA-MFLB-2023**).
2. All testing and mitigation protocols are performed under the supervision of a Radon Professional that is certified by the American Association of Radon Scientists and Technologists (AARST) National Environmental Health Association and National Radon Proficiency Program (NRPP), License **NEHA-NRPP # 112037 RT**.
3. Analysis assumes the client/residents were provided with an **Attention Notice** prior to conducting the radon survey. This notice described the “**Closed Building Conditions**” required prior to and for the duration of the radon survey. Environmental Works posted notices at the time of test drop-offs, which were left in place or with residents for the duration of testing.
4. Radon test kits were deployed by **Nathan Strassmaier** on **4/11/2025** and retrieved on **4/13/2025**, for approximately **48 hours** of continuous radon measurement.
5. **1** Short-Term activated charcoal kits were deployed in each selected room, totaling **63 total test kits** deployed in **63 total test locations**.
6. **2 Field Blank, 2 Office Blank, & 2 Lab Blank** were deployed to detect batch contamination.
7. **1 Spike** was conducted to test for laboratory analysis accuracy.
8. **1 Continuous Radon Monitors (CRM)** were deployed to track hourly variations of radon gas.

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9. Charcoal test kits were provided and analyzed by AirChek Inc. RSSI Lab (NEHA Lab ID: 101138 AL)
10. Charcoal test kits were sent to the AirChek lab via UPS Next or Second Day Air service.
11. Statement of Test Limitations: There is some uncertainty with any measurement result due to statistical variations and other factors such as daily and seasonal variations in radon concentrations. Variations may be due to changes in the weather, operation of the dwelling, or possible interference with the necessary test conditions.

Table 1: Extended Testing Protocol Radon Test Results (Full Analysis)

Device Serial #	Test Location	Floor	Radon (pCi/L)
11967430	ANNEX	A NORTH	0.3
11967428	ANNEX	A SOUTH	0.3
11967429	ANNEX	B SOUTH	0.3
11967401	ANNEX	100	N/A
11967402	NORTH	100 N WALL	0.3
11967420	NORTH	100 BACK WALL	0.3
11967421	NORTH	130	0.3
11967422	NORTH	140	0.3
11967361	NORTH	150	0.3
11967423	NORTH	150 D	0.3
11967425	NORTH	160	0.3
11967426	NORTH	180	0.3
11967408	NORTH	200B	0.3
11967418	NORTH	210	0.3
11967419	NORTH	230	0.3
11967417	NORTH	240	0.3
11967416	NORTH	250	0.3
11967415	NORTH	255	0.3
11967414	NORTH	260	0.3
11967413	NORTH	265	0.3
11967412	NORTH	280	0.3
11967409	NORTH	302A	0.3
11967410	NORTH	302A BACK	0.3
11967383	NORTH	302B	0.3
11967411	NORTH	302B BACK	0.3
11967405	NORTH	306	0.3
11967394	NORTH	ASSISTANT PRINCIPLE	0.3
11967399	NORTH	BREAKROOM	0.3
11967384	NORTH	CAFETERIA	0.3
11967398	NORTH	COUNSELOR	0.3



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11967407	NORTH	GYM NORTH WALL	0.3
11967406	NORTH	GYM SOUTH WALL	0.3
11967403	NORTH	JANITOR	0.3
11967431	NORTH	LIBRARY CLASSROOM	0.3
11967395	NORTH	LIBRARY NORTH WALL	0.3
11967392	NORTH	LIBRARY SOUTH WALL	0.3
11967359	NORTH	LIBRARY SOUTH WALL D	0.3
11967385	NORTH	MUSIC ROOM	0.3
11967397	NORTH	NAU'S OFFICE	0.3
11967382	NORTH	OFFICE	0.3
11967381	NORTH	PRINCIPAL	0.3
11967391	NORTH	READING ROOM	0.3
11967400	NORTH	SHARON'S OFFICE	0.3
11967396	NORTH	SUPPLY	0.3
11967424	NORTH	WORK-CONF	0.3
11967374	SOUTH	400	0.3
11967372	SOUTH	410	0.3
11967373	SOUTH	420	0.3
11967375	SOUTH	430	0.3
11967376	SOUTH	440	0.3
11967378	SOUTH	450	0.3
11967388	SOUTH	460	0.3
11967379	SOUTH	470	0.3
11967387	SOUTH	480	0.3
11967390	SOUTH	490	0.3
11967386	SOUTH	BACK OFFICE	0.3
11967389	SOUTH	BREAKROOM	0.3
11967380	SOUTH	COUNSLER	0.3
11967369	SOUTH	GYM NORTH SIDE	0.3
11967370	SOUTH	GYM SOUTH WALL	0.3
11967360	SOUTH	GYM SOUTH WALL D	0.3
11967368	SOUTH	MAINTENANCE	0.3
11967358	SOUTH	OFFICE D	0.3
11967367	SOUTH	PRINCIPAL	0.3
11967377	SOUTH	STAFF ROOM	0.3
	CRM	OFFICE	0.4



Table 2: QA / QC Blanks

Device Serial #	Room or Unit	Floor Level	Radon (pCi/L)
11967362	LAB BLANK	1	0.3
11967363	LAB BLANK	1	0.3
11967365	OFFICE BLANK	1	0.3
11967366	OFFICE BLANK	1	0.3
11967313	FIELD BLANK	1	0.3
11967364	FIELD BLANK	1	0.3

*Blanks should not test higher than the laboratories Lower Limit of Detection (LLD), typically < 0.3 pCi/L

Table 3: QA / QC Spikes: Bowser Morner Radon Lab

Device Serial #	Test Type (AC, AT, CRM)	Measured Value (pCi/L)	Chamber Value (pCi/L)	RPE
11967393	AC	30.6	25.9	18.1

*RPE should not exceed 30% as the upper limit



Figure 1A: Radon Inspection Report – CRM Parameters (Test Location – Stayton MS – Office)

Test Checklist

- ☒ The location of the detector was selected so the detector was not to be disturbed during testing.
- ☒ The monitor was not placed in an area of high humidity such as: Kitchen, laundry room, cellar, spa room, garage, crawl space or sump area.
- ☒ The detector was not located near drafts caused by HVAC vents, windows and doors.
- ☒ Whole house fans were turned off during the testing.
- ☒ The detector was not placed near areas of excessive heat, such as a fireplace or in direct sunlight.
- ☒ Portable window fans were removed or sealed in place prior to testing.
- ☒ The detector was placed within the breathing zone of at least 20 inches to 6 feet above the floor and at least 1 foot below the ceiling if suspended.
- ☒ Window air conditioners were operable in recirculation mode only.
- ☒ The detector was not placed within 1 foot of outside walls of the home or within 3 feet of any windows or doors to the exterior of the home.
- ☒ Ceiling fans, portable dehumidifiers, portable humidifiers, portable air filters, and all window air conditioners are not operated within 20 feet of the detector.



Figure 2A: Radon Inspection Report – CRM Data (Test Location – Stayton MS – Office)

Radon Inspection Report

Test Location:	Test For:	Inspected By:
Stayton Middle 1021 Shaff Rd Stayton, OREGON 97383	Stayton Middle 1021 Shaff Rd Stayton, OREGON 97383	Nathan Strassmaier 22820 NE Sandy Blvd Fairview, OR 97024 503-719-6715
Bldg. Type: Educational	Type: Pre-Mitigation	

Test Result: Pass

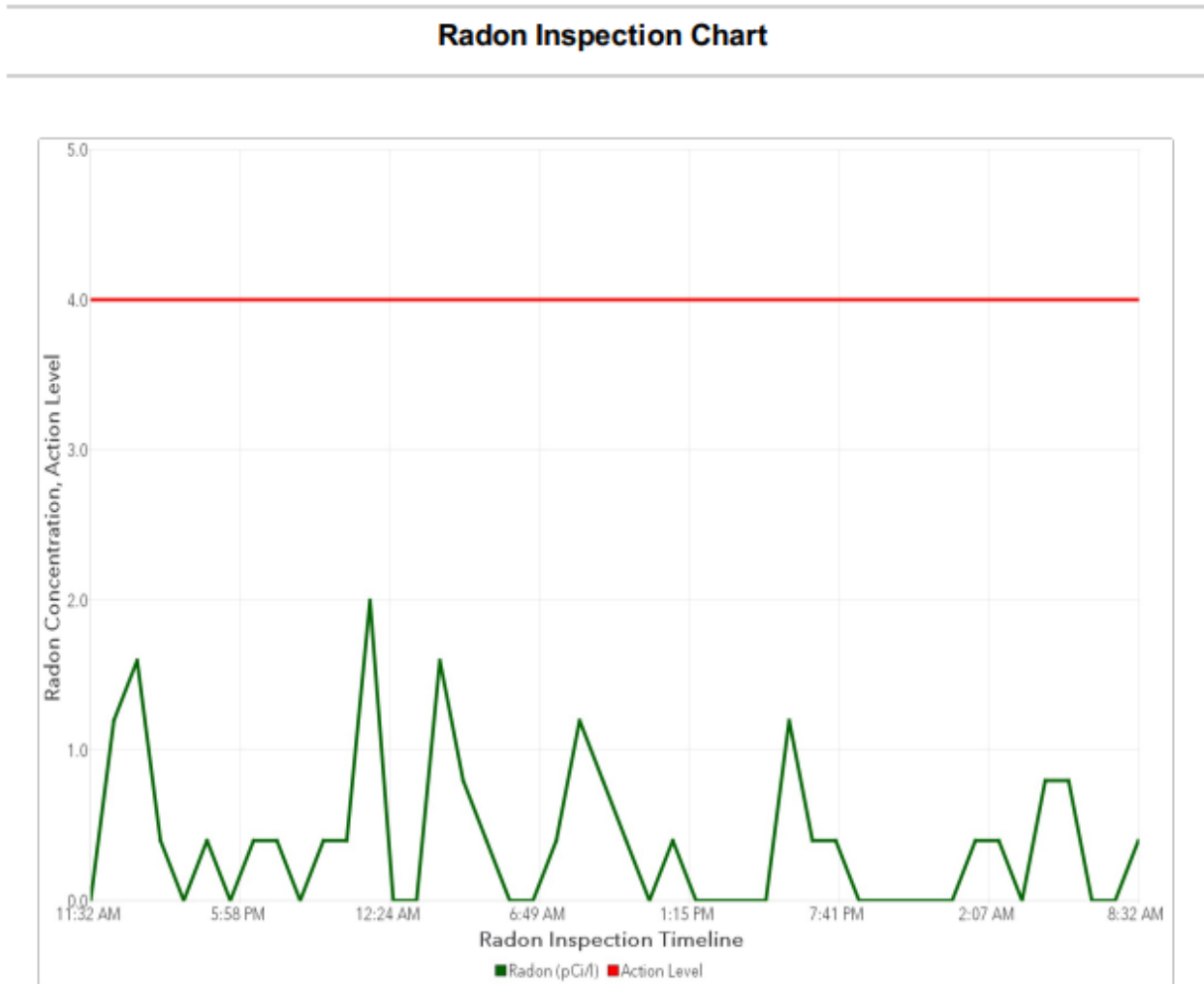
<u>Overall Average:</u>	<u>EPA Average:</u>
0.4 pCi/l	0.4 pCi/l

Test Device Details:	Test Site Condition:
Serial Number: 83591017 Model Number: 1028 Last Calibration: 08/09/2024 Next Calibration: 08/09/2025 Cal-Factors: 2.50 Motion Error: No	

Test Summary:				
<u>CRM Location:</u>	<u>Start:</u>	<u>Stop:</u>	<u>Interval:</u>	<u>Duration:</u>
Office	04/11/2025 10:32 AM	04/13/2025 08:32 AM	1 hr	46 hr
 *First 4 hrs of data excluded	<u>Min:</u>	<u>Max:</u>	<u>Average:</u>	<u>Measurement Units:</u>
Radon Concentration:	0.0	2.0	0.4	pCi/l



Figure 3A: Radon Inspection Report – CRM Chart (Test Location – Stayton MS – Office)



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Figure 1A: Radon Inspection Report – CRM Data (Test Location – Stayton MS – Office)

Test Table					
* Data from first 4 hours excluded from EPA calculations					
<u>Date/Time</u>	<u>Radon(pCi/l)</u>	<u>Flags</u>	<u>Date/Time</u>	<u>Radon(pCi/l)</u>	<u>Flags</u>
04/11/25 11:32 AM	0.0	-	04/13/25 07:32 AM	0.0	-
04/11/25 12:32 PM	1.2	-	04/13/25 08:32 AM	0.4	-
04/11/25 01:32 PM	1.6	-			
04/11/25 02:32 PM	0.4	-			
04/11/25 03:32 PM	0.0	-			
04/11/25 04:32 PM	0.4	-			
04/11/25 05:32 PM	0.0	-			
04/11/25 06:32 PM	0.4	-			
04/11/25 07:32 PM	0.4	-			
04/11/25 08:32 PM	0.0	-			
04/11/25 09:32 PM	0.4	-			
04/11/25 10:32 PM	0.4	-			
04/11/25 11:32 PM	2.0	-			
04/12/25 12:32 AM	0.0	-			
04/12/25 01:32 AM	0.0	-			
04/12/25 02:32 AM	1.6	-			
04/12/25 03:32 AM	0.8	-			
04/12/25 04:32 AM	0.4	-			
04/12/25 05:32 AM	0.0	-			
04/12/25 06:32 AM	0.0	-			
04/12/25 07:32 AM	0.4	-			
04/12/25 08:32 AM	1.2	-			
04/12/25 09:32 AM	0.8	-			
04/12/25 10:32 AM	0.4	-			
04/12/25 11:32 AM	0.0	-			
04/12/25 12:32 PM	0.4	-			
04/12/25 01:32 PM	0.0	-			
04/12/25 02:32 PM	0.0	-			
04/12/25 03:32 PM	0.0	-			
04/12/25 04:32 PM	0.0	-			
04/12/25 05:32 PM	1.2	-			
04/12/25 06:32 PM	0.4	-			
04/12/25 07:32 PM	0.4	-			
04/12/25 08:32 PM	0.0	-			
04/12/25 09:32 PM	0.0	-			
04/12/25 10:32 PM	0.0	-			
04/12/25 11:32 PM	0.0	-			
04/13/25 12:32 AM	0.0	-			
04/13/25 01:32 AM	0.4	-			
04/13/25 02:32 AM	0.4	-			
04/13/25 03:32 AM	0.0	-			
04/13/25 04:32 AM	0.8	-			
04/13/25 05:32 AM	0.8	-			
04/13/25 06:32 AM	0.0	-			



Radon Survey Report Summary:

1. Quality control measures indicate no error in laboratory analysis or batch contamination.
2. “Closed House Conditions” were sufficiently adhered to during the test based on observations during test drop-off and retrieval.
3. **MITIGATION NOT RECOMMENDED:** Mitigation is not recommended at this time based on the test results not exceeding the WHO recommended radon threshold of 2.7 pCi/L.
4. **RETESTING:** Retesting is recommended by the EPA every two years or following any major structural or mechanical changes. Test devices noted as “N/A” due to test kit read error and/or missing device – locations should be re-tested if nearby readings indicate elevated radon presence worth of re-testing immediately.

