

# Estimating School Radon Testing Costs



# Radon in Schools

Many schools have dangerously high radon levels—testing and proper mitigation are key to protecting students and staff.



Picture Courtesy of ALA



First, acquire a copy.

Next, review it carefully to understand the content.

Then, keep it within reach on your desk.

Refer to it whenever you need precise information.

Finally, incorporate it into your proposal when appropriate.



**Protocol for Conducting Measurements of  
Radon and Radon Decay Products in  
Multifamily, School, Commercial  
and Mixed-Use Buildings**



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Acquire a copy of all applicable: State Regulations, Licensure, Certification, Etc., be sure to follow completely

2900-FM-BRP0010e Rev. 4/2013  
Acknowledgement Testing Form



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF RADIATION PROTECTION

#### 2.4.1 ACKNOWLEDGEMENT FORM FOR CERTIFIED INDIVIDUAL IN RESPONSIBLE CHARGE OF RADON TESTING ACTIVITIES

Individual's Name \_\_\_\_\_ Date \_\_\_\_\_

Firm's Name (if certified) \_\_\_\_\_

I am the certified individual in responsible charge of testing activities. I acknowledge that, as long as I am employed as the certified individual, I am responsible for compliance with Pennsylvania's radon certification regulations, 25 Pa. Code Chapter 240. My responsibilities include the following:

1. Supervising radon testing activities.
2. Exercising due diligence to ensure that radon testing will be conducted as described in the approved application and in compliance with Pennsylvania law and regulations.
3. Exercising due diligence to ensure that all individuals in the firm who perform radon testing, and are not DEP-certified as testing individuals, (a) have adequate training and knowledge of radon testing procedures, and (b) are listed with DEP as employees of a certified radon testing firm.
4. Exercising due diligence to ensure that all radon testing is performed in accordance with the quality assurance procedures set forth in the application. 25 Pa. Code §240.304.
5. Exercising due diligence to ensure that DEP provided written evidence of successful participation in the DEP-approved radon proficiency program for each radon measurement utilized. 25 Pa. Code §240.307.
6. Exercising due diligence to ensure that no testing is performed unless the potential client has first been provided the written information required by 25 Pa. Code § 240.302(a), including a price list of services offered, a notice that only certified persons may provide such services, and evidence of certification.
7. Approving all data obtained from radon testing, including but not limited to, grab working level (GW), continuous working level (CW), grab radon (GR), continuous radon (CR), and electret testing devices (EL&ES).
8. Exercising due diligence to ensure that the results of radon testing are reported to DEP (only for the devices you read/analyze) and to the owner or occupier of the building within 45 days of completion of the services in accordance with the provisions of 25 Pa. Code §240.303(a), (b).
9. Meeting at least monthly with employees of the firm who perform radon-related activities to review quality assurance/quality control programs, reporting, and health and safety records, and where necessary, to initiate corrective action (if applicable).
10. Being readily available to firm employees to discuss all matters related to radon testing including radon certification, regulatory requirements, and radon testing protocols (if applicable).
11. Exercising due diligence to ensure that the health and safety program is adequate to maintain exposure to radon as low as reasonably achievable (ALARA). 25 Pa. Code §240.305.

## WEST VIRGINIA CODE

Primary menu

[WV LEGISLATURE HOME PAGE](#)

[ENROLLED BILLS](#)

### CHAPTER 16. PUBLIC HEALTH.

[Article 33](#)

[All Articles](#)

[Article 35](#)

#### ARTICLE 34. LICENSURE OF RADON MITIGATORS, TESTERS, CONTRACTORS AND LABORATORIES.

##### §16-34-4. Special licensure requirements.

(a) No licensed radon mitigation contractor may do any of the following:

- (1) Perform radon mitigation without the direct on-site supervision of a licensed radon mitigation specialist;
- (2) Provide radon testing other than through the employment of a licensed radon tester or mitigation specialist;
- (3) Provide advice regarding radon testing, radon exposure or the health risks associated with radon exposure other than through the employment of a licensed radon tester or mitigation specialist; or
- (4) Provide advice regarding radon mitigation or radon entry routes other than through the employment of a licensed radon mitigation specialist.

(b) (1) No licensed radon tester, licensed radon mitigation specialist or licensed radon mitigation contractor involved in the testing of a particular building, or in the provision of advice with respect to a particular building may be involved in the performance of mitigation on that building unless the contract for mitigation is in writing and clearly and conspicuously states both of the following in language approved by the director:

- (A) That the radon tester, mitigation specialist or mitigation contractor was involved in the testing or provision of advice that led to the mitigation contract; and
- (B) The advantage of long-term testing and the value of a second opinion as ways to verify testing results and to assure that the proposed mitigation is appropriate, especially when the mitigation is to be performed by the tester, mitigation specialist or mitigation contractor that was involved in the testing or provision of advice that led to the mitigation contract.

(2) For purposes of this subsection, a radon tester, mitigation specialist or mitigation contractor involved in testing or providing advice with respect to a particular building will be considered to be "involved in the performance of mitigation on that building" if he or she has any ownership interest in, or has any contractual or employment relationship with, the individual or entity providing the mitigation.

(c) No licensed radon tester, licensed radon mitigation specialist or licensed radon mitigation contractor may perform radon testing or mitigation or provide any advice related to radon, radon testing or radon mitigation unless it is performed in accordance with the requirements of this article and the rules adopted under this article.

(d) No licensed radon tester, licensed radon mitigation specialist, licensed radon mitigation contractor or licensed radon laboratory may violate any requirement of this article or any rule adopted under it.



**School operating Standards may vary from State to State, for example, States like Pennsylvania still follow the older ANSI 2017 Large Building and Schools standard.**

**In some States, radon regulations or programs do not acknowledge ANSI standards. It is advisable to consult your State Radon Program for clarification.**

# Important Things to Check!!!

- ✓ Does the school have a bid bond requirement? This can be an additional cost consideration and delays in complete payment.
- ✓ Is the RFP through a prime contractor, payments may be held up or a percentage of the project cost held back until the prime is paid. Complete payment could be months after the radon testing project is complete with report. Especially important, when your crew has to be paid. Cash flow?
- ✓ Insurance requirements
- ✓ Number of schools and their locations. Could be close together or dispersed over a large area/distance.
- ✓ Ensuring you have the appropriate spikes requirement for the project per the ANSI standard.
- ✓ Initial site visits, delays, scheduling, building/room keys/access and weather.
- ✓ Consideration if the school(s) have Group 3 or 4 HVAC economizers or variable air distribution systems. The project could also include a 2<sup>nd</sup>. Phase of long-term testing. Coordinate with School's HVAC Professionals.
- ✓ School district requirement of personnel background checks that will be on the premises
- ✓ Required coordination and notification documents per ANSI standards to school personnel

2 Nationally Approved Credentialing  
Agencies

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graph TD; A[2 Nationally Approved Credentialing Agencies] --> B[National Radon Proficiency Program]; B --> C[National Radon Safety Board]
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National Radon Proficiency Program

National Radon Safety Board

**Here are several RDCLLC  
School Mitigation  
Projects that also  
involved Testing.**

**Note the various types of Buildings**





**Aliquippa Jr. Sr. High School**



**Borland Manor Elementary School**



**Rowan Elementary School**



**Deer Lakes Middle School**

and Vapors and E-cigarettes



**Concord Elementary School**



**Mt Lebanon High School**



**Blackhawk Intermediary School**



**Forge Road Elementary School**





**Bedford Hope Center**



**Wyland Elementary School**



**Chestnut Ridge Elementary School**



**Baker Elementary School**

Indoor Environments™ - Radon and Vapor Intrusion Symposium





**Community College of Butler County**



**Slippery Rock University**



**Thiel College**  
Indoor Environments™ - Radon and Vapor Intrusion Symposium



**Penn State Harrisburg**





**Penn State State College**



**Carnegie Mellon University**



**Robert Morris University**



**Mill Creek Education Center**

Indoor Environments™ - Radon and Vapor Intrusion Symposium



# **SOUTH FAYETTE SCHOOL DISTRICT McDONALD, PA.**

**Primary through  
High School  
are all situated on  
the same campus.**





Testing in a large  
building with  
many test areas  
is usually done  
by Charcoal  
Cannister Testing





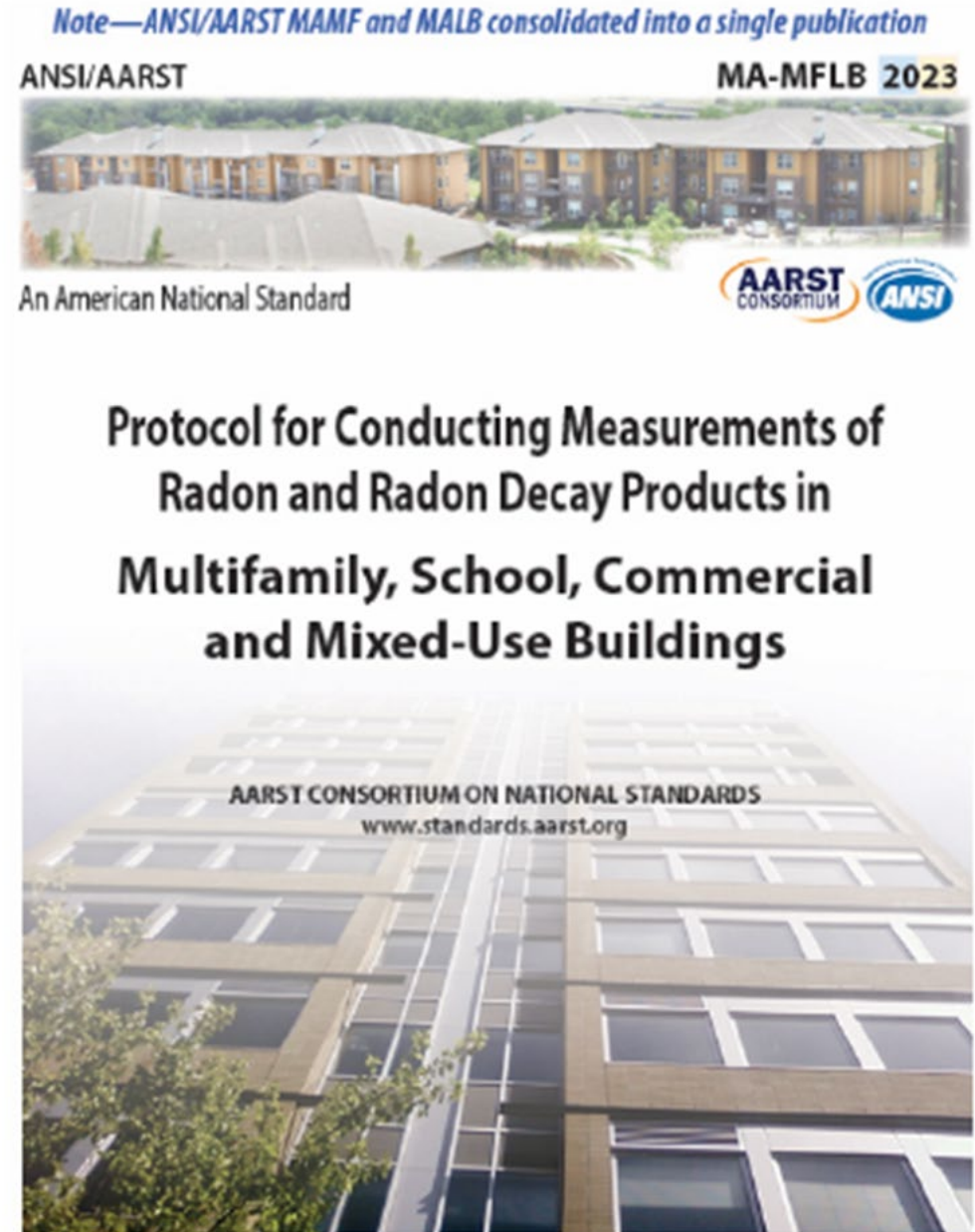


- **Inform School Officials that the HVAC and Mechanical Systems need to operate during the Radon testing as they do during the hours that Teachers and Students occupy the building. Verify that this is done.**

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Determine how many tests you need:

- The number of tests per floor, duplicates, blanks, etc. is covered in your Certification Classes and all required information is covered and easily referenced in the ANSI-AARST, MA-MFLB (Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily, School, Commercial and Mixed-Use Buildings) Standard.
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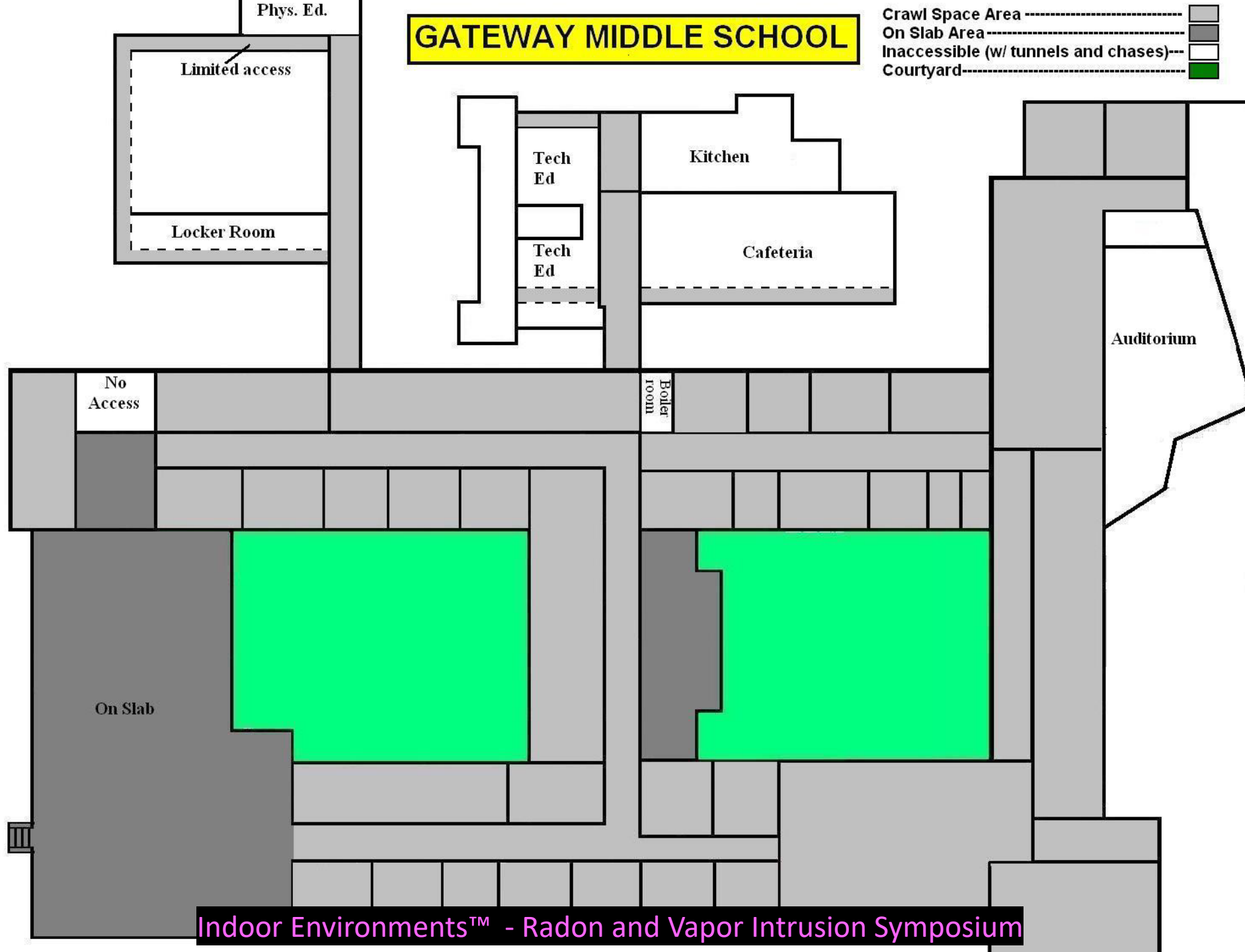


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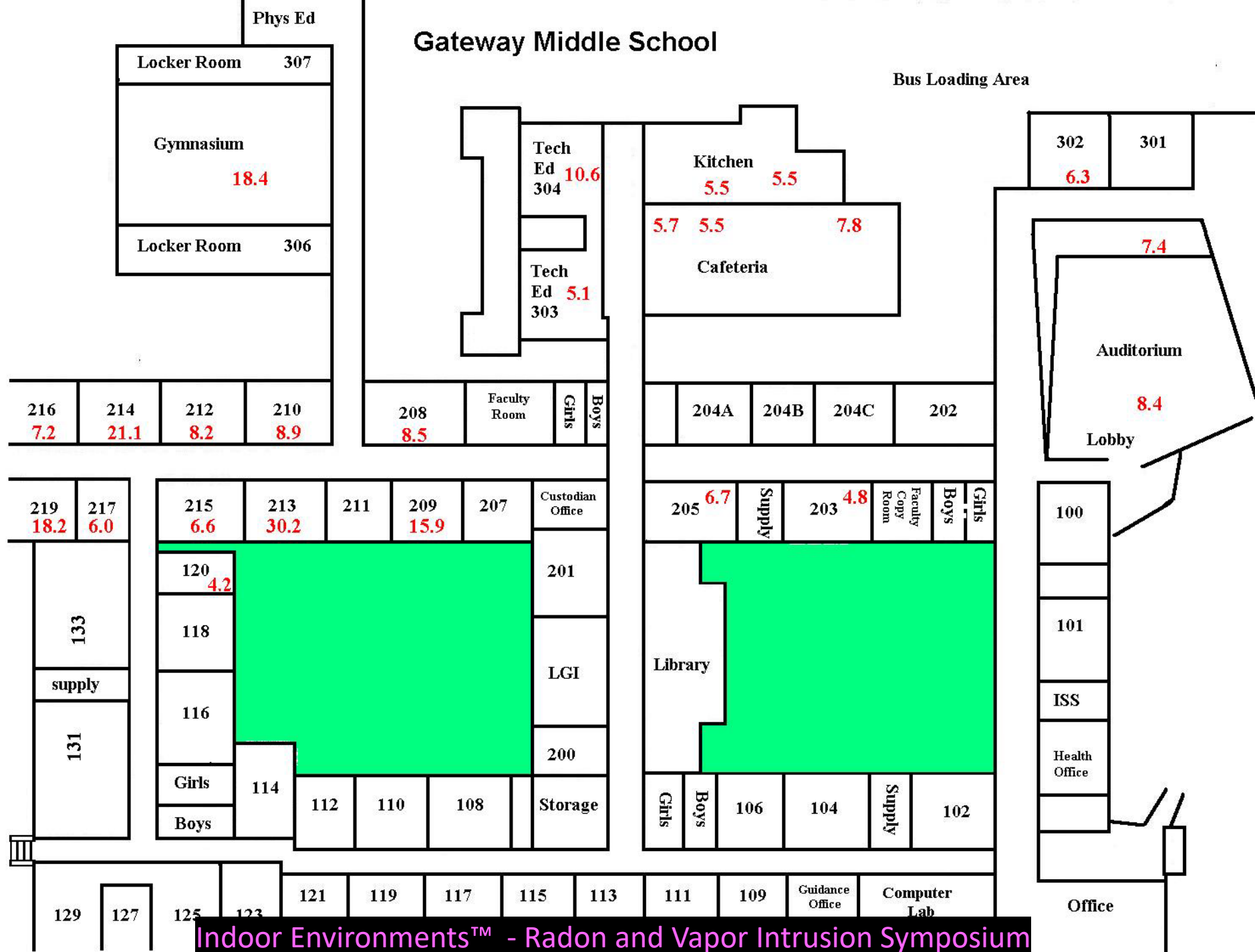




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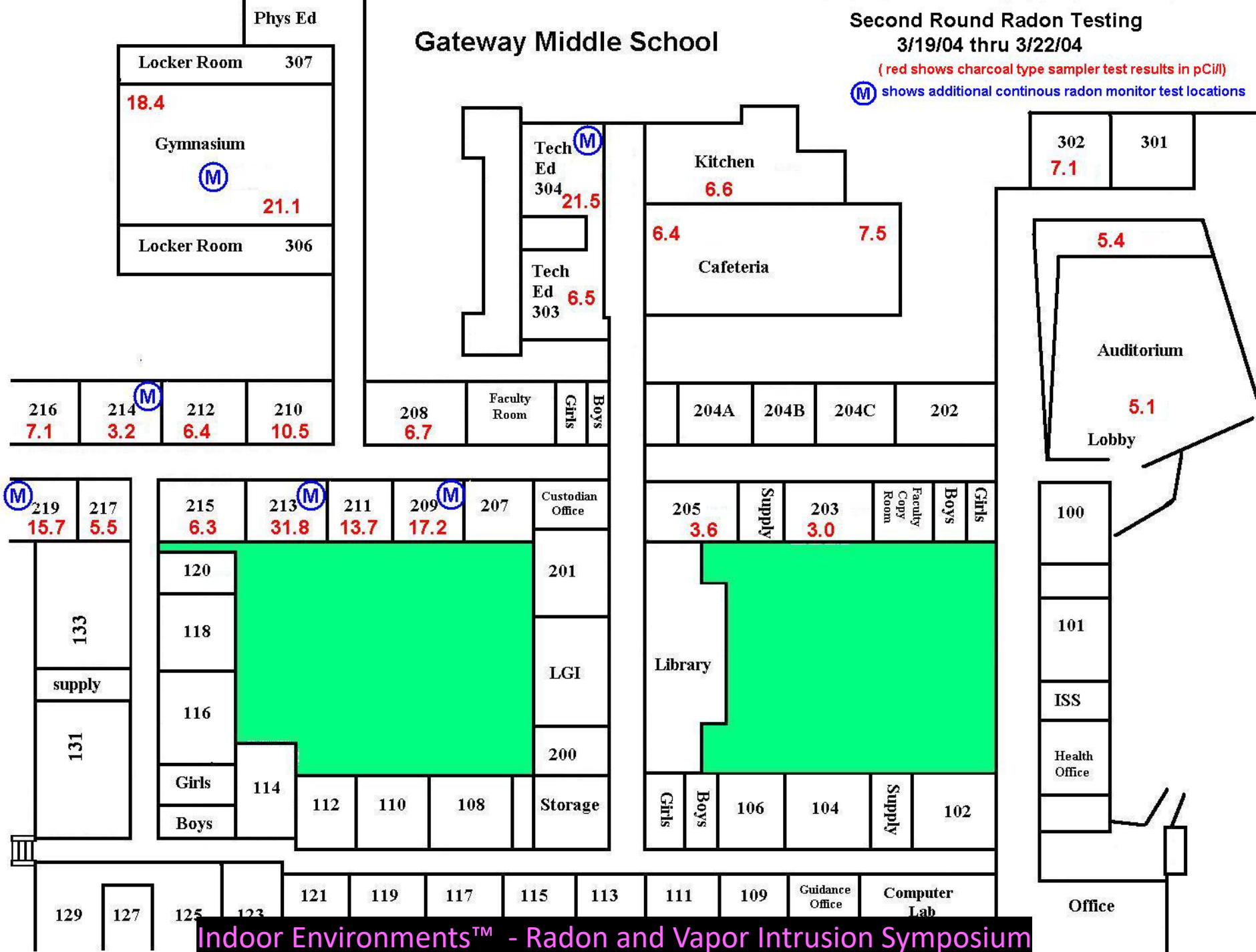
# Gateway Middle School

Second Round Radon Testing

3/19/04 thru 3/22/04

(red shows charcoal type sampler test results in pCi/l)

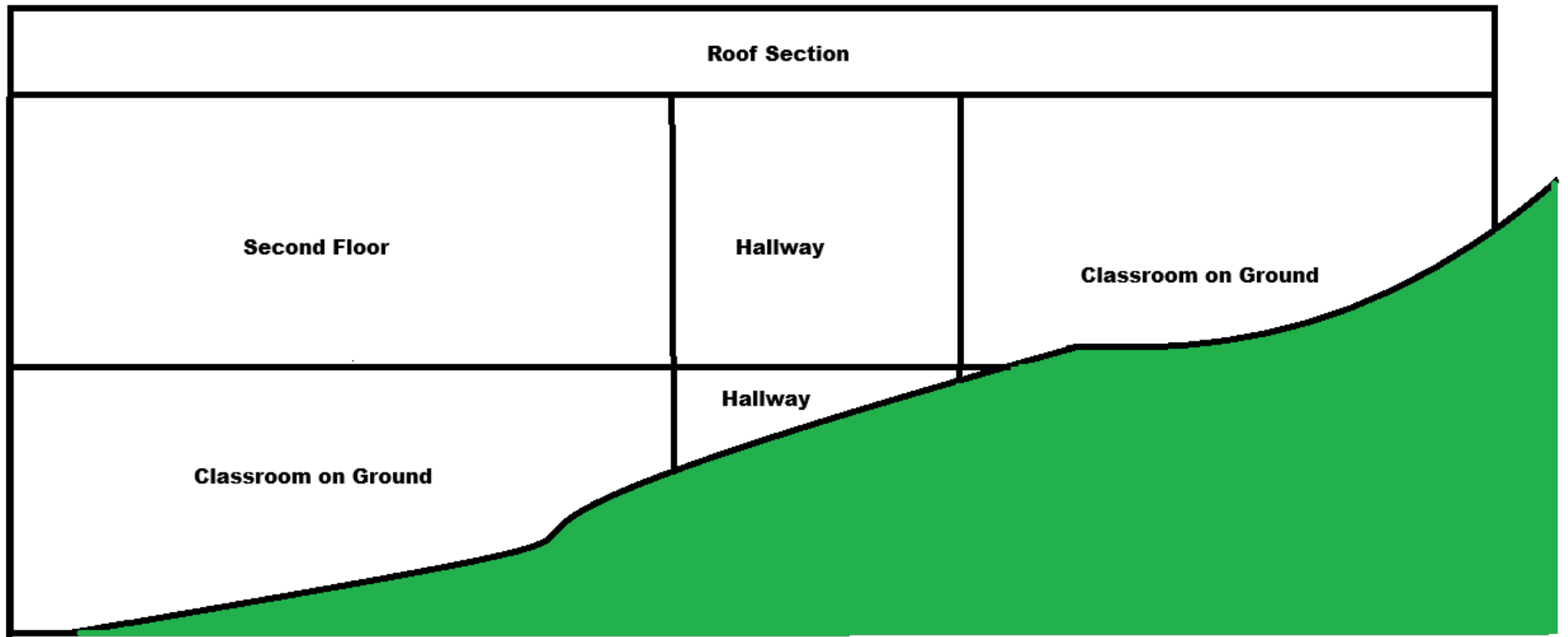
(M) shows additional continuous radon monitor test locations



## Establish School Classroom Layout\*

- Use architectural drawings (plan and elevation)
- Use Fire and evacuation drawings
- Obtain drawings from School Representatives
- Conduct a site walkdown

\* And Other Occupied Areas such as Offices, Maintenance Workers areas, Cafeterias, Libraries.



# Key Testing Guidelines

- **Time of year:**
  - Test during the colder months, between November 1 and March 31, when the heating system is running
  - and windows are typically closed.
- **Day of the week:**
  - Conduct tests on school days when the building is occupied, not on weekends or holidays.
- **HVAC system:**
  - Ensure testing is done with current HVAC maintenance and filter settings.
- **Follow-up testing:**
  - Retest every five years if all initial levels are below 4pCi/L
  - Conduct an immediate test after any renovations or changes to the HVAC system.
  - Perform testing within 24 hours to 30 days after a radon mitigation system is installed, and
  - then every two years after that.

**Make certain that the Field Tester's remuneration accounts for premium time costs, including overtime, travel time, mileage, and, when relevant, per diem allowances.**







⤴ Pull up for precise seeking



QUESTIONS ???  
COMMENTS ???