MINNEAPOLIS PUBLIC SCHOOLS
Urban Education. Global Citizens.

Date: 1/28/25
Performed by: Andrew Tinklenberg
Location: Anthony Middle School – 5757 Irving Avenue South, Minneapolis, MN 55419
RE: Radon Testing

INTRODUCTION

From January 22–24, 2025, radon testing was performed within Anthony Middle School located at 5757 Irving Avenue South, Minneapolis, MN. The testing was performed to ensure that radon gas concentrations within the building are below the established regulatory limits. Testing was conducted under normal occupied building conditions in frequently-occupied ground contact rooms and other areas in accordance with ANSI/AARST Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily, School, Commercial and Mixed-Use Buildings (MA-MFLB 2023) and Minnesota Department of Health (MDH) guidelines.

SUMMARY OF FINDINGS

All of the areas that were tested were found to have radon gas levels below 4.0 picocuries per liter of air (pCi/L), which is the EPA and MDH action level. (Note: Spike sampling is performed in conjunction with this testing, Duplicate (side-by-side) sampling was conducted in select areas at a rate of 10% of areas tested, and "Rooms A & B" were the blank samples.)

REMARKS

The radon test kits were submitted to and analyzed by AirChek, Inc., 1936 Butler Bridge Rd, Mills River, NC 28759 (MN License #RL-00003). Please refer to the attached AirChek radon testing report and sample diagrams for further information concerning the radon testing, areas that were tested, and the radon levels that were found to be present. Per MDH requirements, this information will be shared with the local regulatory agency (MDH - health.indoorair@state.mn.us, Phone # 651-201-4601) and incorporated in an MPS' board meeting. The information will also be posted on the EH&S webpage available through the main MPS website and maintained on file by EH&S.

Every effort was made to maintain closed building conditions and HVAC systems are monitored and controlled remotely by MPS Direct Digital Control (DDC) personnel. Any deviation in building conditions or sampling protocol which could have an impact on the testing and test results is described in the summary above. If any unoccupied areas that were not tested are planned for future occupancy, contact EH&S so that the areas can be tested. Unless specified, all QA/QC measurements were within the required limits. Radon testing is to be performed in MPS District buildings every 5 years or any time major renovation activities take place which have the potential to impact the building's foundation or HVAC systems. Refer to the attached test condition summary and ANSI/AARST advisories for additional information concerning the radon testing.

If you have any questions regarding this information, please feel free to contact me. Thank you,

Andrew Tinklenberg
MDH RMEA-00426
NRPP ID# 111389 RMP

Safety Specialist - Environmental Health & Safety
Minneapolis Public Schools
Environmental Health & Safety - Facilities Dept.
1225 N. 7th Street, Minneapolis, MN 55411
andrew.tinklenberg@mpls.k12.mn.us
612-668-0306 Phone
612-668-0310 EH & S General Office
612-668-0275 Fax

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Attachments

Radon Testing Results
Floor Plans
Notification & Communication Documents
Test Condition Summary
ANSI/AARST Advisory Statements

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Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
11811322	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	CUSTODIAN B17	ANTHONY	0	1.0
11811323	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	CUSTODIAN B17	ANTHONY	0	0.9
11811324	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	GYM EAST	ANTHONY	0	1.0
11811325	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	GYM WEST	ANTHONY	0	1.0
11811326	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	OFFICE B3	ANTHONY	0	1.0
11811327	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	AUXILIARY GYM B7	ANTHONY	0	0.8
11811328	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	AUXILIARY GYM B8	ANTHONY	0	1.4
11811329	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	OFFICE B5	ANTHONY	0	0.8
11811330	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	OFFICE 023	ANTHONY	1	0.5
11811331	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	CAFETERIA	ANTHONY	1	< 0.3
11811332	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	BAND 025	ANTHONY	1	< 0.3
11811333	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	CHOIR 027	ANTHONY	1	< 0.3
11811334	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	AUDITORIUM STAGE	ANTHONY	1	0.5
11811335	2025-01-22	6:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	AUDITORIUM	ANTHONY	1	0.6
11811336	2025-01-22	7:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	OFFICE 036	ANTHONY	1	< 0.3
11811337	2025-01-22	7:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 030	ANTHONY	1	< 0.3
11811338	2025-01-22	7:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 030	ANTHONY	1	< 0.3
11811339	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 029	ANTHONY	1	< 0.3
11811340	2025-01-22	7:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	OFFICE 013	ANTHONY	1	0.8
11811341	2025-01-22	7:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 001	ANTHONY	1	< 0.3
11811342	2025-01-22	7:00 am	2025-01-24	1:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 001A	ANTHONY	1	< 0.3
11811343	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	SHOP 001	ANTHONY	1	< 0.3
11811344	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 002A	ANTHONY	1	0.5
11811345	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 002B	ANTHONY	1	< 0.3
11811346	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 003A	ANTHONY	1	0.8
11811347	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	OFFICE 003B1	ANTHONY	1	< 0.3
11811348	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	OFFICE 003B2	ANTHONY	1	0.7
11811349	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	OFFICE 003B3	ANTHONY	1	0.8
11811350	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 003C	ANTHONY	1	0.8
11811351	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 004	ANTHONY	1	< 0.3
11811352	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 004	ANTHONY	1	< 0.3
11811353	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 007	ANTHONY	1	< 0.3
11811354	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 005	ANTHONY	1	0.5
11811355	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 006	ANTHONY	1	< 0.3
11811356	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 105	ANTHONY	2	< 0.3

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Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
11811357	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	MAIN OFFICE 103B	ANTHONY	2	< 0.3
11811358	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	MEDIA 204	ANTHONY	3	0.7
11811359	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	MEDIA 204	ANTHONY	3	< 0.3
11811360	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 209	ANTHONY	3	0.7
11811361	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 308	ANTHONY	4	< 0.3
11811362	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	ROOM A	ANTHONY	4	< 0.3
11811363	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	ROOM B	ANTHONY	4	< 0.3
11811365	2025-01-22	7:00 am	2025-01-24	2:00 pm	70	MPS ANTHONY	MPS ANTHONY	CLASSROOM 302	ANTHONY	4	< 0.3

MINNEAPOLIS PUBLIC SCHOOLS
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Environmental Health & Safety
Office: (612) 668-0310
Direct: (612) 668-0306

Andrew Tinklenberg
Safety Specialist
Environmental Health & Safety

RADON TESTING NOTIFICATION (2025)

Anthony Middle School

The District will be conducting short-term radon testing at Anthony Middle School. Radon is a naturally occurring radioactive gas that is created from the breakdown of Radium that is naturally present in soil. Radon can enter buildings from the soil through gaps, cracks and holes in the foundation. Radon testing is performed periodically and is being performed based on Minnesota Department of Health recommendations and protocols. As per the recommendations, frequently occupied, ground level or ground contact areas will be the focus of the testing. Sampling locations will be selected that provide the best representation of these areas.

If your room is selected for testing, please do your part by ensuring that the devices are not removed or tampered with in any way. The devices are small, rectangular envelopes, approximately 4 by 6 inches and will typically be hung from the ceiling or an interior wall. The short-term radon detectors are planned to be placed and collected January 21 – 23, 2025. When available, sample results will be shared with your principal and placed on the EH&S webpage available through the main MPS website.

An example of the detector is pictured below:

Thank you very much for your cooperation. If you have questions, please contact me at 612-668-0306 or andrew.tinklenberg@mpls.k12.mn.us

DEPARTMENT OF HEALTH

Notice of Inspection for Facilitating Staff

A radon test is scheduled for:

Building: Anthony Middle School

Test Start Date: 01/22/2025 Test End Date: 01/24/2025

Please help to maintain the required test conditions throughout the building:

1. All windows and exterior doors must be kept closed (aside for momentary entry or exit) for 12 hours before and during the test.
2. Heating and cooling systems must be set to normal occupied operating temperatures.
3. Test devices are not to be disturbed.

Further guidance on required building conditions are found on the next page.

Test kits are not dangerous in any way. The type of devices used for this testing may include:

- **Short-term test kits**: It's important these devices are fully open and not covered. They will be analyzed by a laboratory.
- **Continuous radon monitors**: These are electronic monitors that record hourly radon readings.
- **Long-term test kits**: It is important that these devices are not covered. They will be analyzed by a laboratory.

Declaration of Observed Compliance:

Failure to reasonably maintain test conditions can lead to unnecessary expense, disruptions, and unreliable data. Disturbing test devices can also cause unreliable or invalid test results.

- Please report in a timely manner if required test conditions are not maintained.
- Please sign and return this form once the rest is complete.

To the best of my knowledge, the required conditions were maintained during the test.

Yes ○ No ○

Name: Andrew Tinklenberg

Signature: _____ Date: 01/24/2025

Required Closed Building Conditions for Radon Testing

Building Component	Action Required
Windows	Keep Closed, Seal broken windows closed
External doors (except for normal entry or exit)	Keep Closed
Heating & Cooling Systems	Set to normal operating conditions
Bathroom fans	Operate normally
Fireplaces (including gas)	Do not operate
Auxiliary or temporary systems that bring air into the building	Do not operate, unless an integral part of HVAC or supplies make-up air for combustion appliances
Exhaust systems (ex. from shops, laundries, kitchens)	Avoid excessive operation
Interior doors, Stairwells, Fire Doors	Operate Normally
Garage doors	Operate normally
Ceiling Fans, Portable Fans	Do not blow directly on the test device
Window AC Units	Operate in recirculation mode only
Window Fans	Do not operate. Seal shut or remove.
Humidifiers, Dehumidifiers, Portable Air Cleaners	Operate Normally
Central Vacuum Cleaner Systems	Operate Normally
Passive crawl space vents	Operate normally
Crawlspace exhaust systems for humidity control	Operate normally
Passive Vents for Combustion Make-Up Air	Leave Open

Building Component	Action Required
Combustion Appliance Vents	Operate Normally
Passive Solar Systems	Operate Normally
Attic Vent Fans	Operate Normally
Evaporative Cooling Systems	Do not operate

Radon Test Device Placement Requirements

Place detectors within the general breathing zone. Locate detectors no less than:

- 3 feet from exterior doors, windows, other openings to outdoors,
- 20 inches above the floor,
- 4 inches from other test devices and objects, and
- 1 foot from ceilings.

Place detectors where they are not easily disturbed.

Place detectors where they are not influenced by other factors:

- Do not place in closets, crawlspaces, cupboards, sumps, or nooks within building foundation,
- Do not place devices in areas with high air movement (ex. mechanical areas, furnace closets),
- Do not place devices in areas with high humidity (ex. kitchens, bathrooms, laundry rooms),
- Do not place devices near drafts from HVAC systems or fans,
- Do not place test devices near heat sources (ex. appliances, radiators, fireplaces, direct sun), and
- Do not place detectors on devices that produce radiation (ex. natural stone counters, pool tables, rock collections)

For more information regarding on-site activities, contact:

Licensed measurement professional: Andrew Tinklenberg, 612-668-0306

Minnesota Department of Health, Indoor Air Unit, PO Box 64975, St. Paul, MN 55164
651-201-4601, health.indoorair@state.mn.us, mn.gov/radon

8/17/2023, To obtain this information in a different format, call: 651-201-4601.

Notice of Inspection for Building Occupants

A radon test is scheduled for:

Building: Anthony Middle School

Test Start Date: 01/22/2025 Test End Date: 01/24/2025

An important step is being taken to ensure a safe and healthy building. Testing for radon is recommended for all homes and schools.

Radon is a naturally occurring radioactive gas that can be present in some buildings at concentrations greater than recommended. In the United States, radon exposure is the second leading cause of lung cancer, and it is the leading cause of lung cancer in nonsmokers.

Please help to maintain the required test conditions throughout the building.

1. All windows and exterior doors must be kept closed (aside from momentary entry or exit) for 12 hours before and during the test.
2. Heating and cooling systems must be set to normal occupied operating temperatures.
3. Test devices are not to be disturbed.

The test devices are not dangerous in any way and a sample device is available to view upon request.

More information about radon in Minnesota can be found online at mn.gov/radon.

If you have any questions or concerns, please contact:

Andrew Tinklenberg, EH&S Safety Specialist, 612-668-0306, andrew.tinklenberg@mpls.k12.mn.us

Minnesota Department of Health, Indoor Air Unit, PO Box 64975, St. Paul, MN 55164
651-201-4601, health.indoorair@state.mn.us, mn.gov/radon

8/18/2023, To obtain this information in a different format, call: 651-201-4601.

DEPARTMENT OF HEALTH

Client Authorizations & Communications

Client and Facilitating Staff Member Contact Information

Client/Authorized Agent Lee Setter phone (612) 668-0308

Onsite Supervisor Andrew Tinklenberg phone (612) 668-0306

Building/Dwelling Access Andrew Tinklenberg phone (612) 668-0306

HVAC Operations Jason Kohnen phone (612) 668-0338

Other Contact/Title _____ phone _____

Radon Testing Professional Contact Information

Scheduling/Logistics Andrew Tinklenberg phone (612) 668-0306

Onsite Supervisor Andrew Tinklenberg phone (612) 668-0306

Field Technician Andrew Tinklenberg phone (612) 668-0306

Field Technician _____ phone _____

Staff authorized for responding to occupant and public inquiries:

Name/Title Lee Setter phone (612) 668-0308

Name/Title _____ phone (612) 668-0306

Person(s) authorized to receive report data and incremental reports:

Name/Title Andrew Tinklenberg phone (612) 668-0306

Name/Title _____ phone _____

Frequency of Reports

☐ prior to testing ☐ after each phase of testing ☑ when testing is complete

Minnesota Department of Health | Indoor Air Unit | PO Box 64975 | St. Paul, MN 55164 | 651-201-4601
health.indoorair@state.mn.us | www.health.state.mn.us | mngov/radon

08/17/2023 | To obtain this information in a different format, call: 651-201-4601.

Client Commitment to Compliance

Management Commitment:

To the extent reasonably possible, I, on behalf of Minneapolis Public Schools, commit to helping ensure that building conditions required to achieve reliable radon tests are met, as portrayed herein.

Client/Authorized Agent: Andrew Tinklenberg

Signature: _____ Date: 01/24/2025

Building On-Site Supervisor Commitment:

To the extent reasonably possible, I commit to helping ensure that building conditions required to achieve reliable radon tests are met, as portrayed herein, by accepting the following responsibilities:

1. **Prior Notifications**: Notices will be distributed to all tested and non-tested dwellings and posted in publicly accessible areas in a timely manner.

2. **Access**: Access will be provided to each location being tested within a building with intent to access all locations on the same day for both the event of placing testing devices and a second event for retrieving test devices.

On-Site Supervisor: Andrew Tinklenberg (On behalf of Senior Custodian, see email correspondence)

Signature: _____ Date: 01/24/2025

Building Operations Staff Commitment:

To the extent reasonably possible, I commit to helping ensure that building conditions required to achieve reliable radon tests are met, as portrayed herein, by accepting the following responsibilities:

1. **Building Preparation:** I accept responsibility that, no later than 12 hours prior to testing, each building scheduled for testing will be reviewed for compliance with closed-building requirements.

2. **Compliance Verification**: I accept responsibility for taking actions that could include adjustments to HVAC units and repairs where completion is required no later than 12 hours prior to testing.

HVAC Operations Supervisor: Andrew Tinklenberg (On behalf of Jason Kohnen, see email correspondence)

Signature: _____ Date: 01/24/2025

Minnesota Department of Health, Indoor Air Unit, PO Box 64975, St. Paul, MN 55164
651-201-4601, health.indoorair@state.mn.us, mn.gov/radon

8/17/2023, To obtain this information in a different format, call: 651-201-4601.

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Anthony Test Condition Summary

January 22-24, 2025 – Minneapolis, MN (Climate Zone 6)

	Annually	During the Test
Outdoor Temperatures	Average = 46° F	Max. = 28° F Min. = 0° F Average = 12° F
Prevailing Operating Condition (Heating/Cooling)	Heating – 50% Cooling – 25% Mixed – 25%	Heating – 100% Cooling – 0% Mixed – 0%
Air Distribution Systems	Intermittent during summer	Active

* - Note: Light snowfall was recorded during the early part of the testing period and winds were light to moderate.

Informative Advisories

1. Fluctuations in radon concentrations are usually caused by either:
   - changes in the strength of indoor air pressures that draw soil gas into a building; or
   - changes in the volume of outside air entering a building.
2. Clear characterization of a radon hazard is more likely to occur when:
   - Outdoor temperatures extend below 65˚F (18˚C), at least intermittently, which causes natural indoor air pressures that draw radon laden soil gas into a building; and
   - Heating or cooling distribution fans are at least intermittently active during a test.
3. Measurements more likely to reflect an occupant's exposure to radon are measurements conducted under conditions that most closely align to the building operating conditions that prevail during the greatest amount of time each year.

* - Above advisory information is taken from page 33 of the ANSI/AARST MA-MFLB-2023 Standard, "Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily, School, Commercial and Mixed-Use Buildings." Additional advisory notes/information will be added when necessary. Weather information was collected from timeanddate.com/weather/usa/minneapolis.

ANSI/AARST ADVISORY STATEMENTS

Table 8-A Reporting Low Radon Concentrations

Consider fixing the building if test results indicate radon concentrations greater than half the action level, (e.g., between 2 and 4 pCi/L). Responsible care requires repeating initial testing procedures for all building(s) at least every 5 years and in conjunction with any sale of a building. Radon testing should also be conducted when any of the following circumstances occur:

- a new addition is constructed or alterations for building reconfiguration or rehabilitation occur;
- a ground contact area not previously tested is occupied, or a building is newly occupied;
- heating or cooling systems are significantly altered, resulting in changes to air pressures or pressure relationships;
- ventilation is significantly altered by extensive weatherization, changes to mechanical systems or comparable procedures;
- significant openings to soil occur due to:
    - groundwater or slab surface water control systems that are altered or added (e.g., sumps, perimeter drain tile, shower/tub retrofits, etc.) or,
    - natural settlement causing major cracks to develop;
- earthquakes or construction blasting, fracking or formation of sink holes nearby; or
- a mitigation system is altered, modified or repaired.

Should testing indicate concentrations that meet or exceed the action level, conduct evaluations, corrections and further testing until radon concentrations have been mitigated to below the action level.

Table 8-B Reporting Elevated Radon Concentrations

Fix the building. Test results indicate occupants may be exposed to radon concentrations that meet or exceed the action level. Efforts to reduce radon concentrations are not complete until retests provide evidence of effectiveness. The initial retest should be conducted within 30 days after mitigation efforts and system installations.

Post-mitigation clearance testing to confirm each building is fixed requires testing all buildings that demonstrated elevated radon concentrations:

1) in all ground-contact rooms and dwellings,
2) in not less than 10% of non-residential rooms and dwellings on each upper floor.

Should testing indicate concentrations that meet or exceed the action level, conduct evaluations, corrections and further testing until radon concentrations have been mitigated to below the action level.

* - Above advisory information is taken from pages 29-30 of the ANSI/AARST MA-MFLB-2023 Standard, “Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily, School, Commercial and Mixed-Use Buildings.” Additional advisory notes/information will be added when necessary.