

Jeffrey S. Moquin, Director
Risk Management Department

Telephone: 754-321-3200
Facsimile: 754-321-3290

November 20, 2006

Signature on File

TO: Dr. Kris Black, Principal
Seminole Middle School

FROM: Robert J. Krickovich, Coordinator, LEA
Facilities and Construction Management, Environmental Division

SUBJECT: Indoor Air Quality (IAQ) Assessment
Portable R-25

On November 14, 2006 I conducted an assessment of Portable R-25 at **Seminole Middle School**. This evaluation included observations of the flooring system, ceiling tiles, false ceiling plenum, environmental surfaces, interior and exterior walls, and the accessible ventilation equipment. Additionally, environmental parameter measurements were taken to include temperature, relative humidity, and carbon dioxide. The detailed findings, along with the recommended corrective action can be found on the attached IAQ Assessment Worksheets.

The IAQ assessment did identify one or more existing conditions impacting IAQ and has generated appropriate work orders to correct deficiencies in systems and maintenance that could contribute to decreased indoor air quality. At the time of the assessment, these concerns were not an immediate health or safety concern to building occupants. However, due to individual sensitivities and predisposing health factors, it is possible that some building occupants may elicit a health response to agents and / or conditions identified during the evaluation. Therefore, to further improve IAQ, prevent development of future IAQ-related problems, and to reduce the potential for IAQ-related complaints by building occupants, the IAQ Assessment Team recommends appropriate follow up of each item identified and listed in the attached evaluation.

Should any questions arise, or if the current concerns continue after the attached recommendations have been addressed, please feel free to contact me at 754-321-1638.

cc: Dr. Verda Farrow , Area Superintendent
Michaëlle Pope, Area Director
Jeffrey S. Moquin, Director, Risk Management
Gerry Usallan, Project Manager, Facilities and Construction Management
Jerrod Neal, Broward Teachers Union
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division

RK/tc
Enc.

IAQ Assessment

Location Number 1891

Seminole Middle School

Evaluation Requested

Time of Day 2:00 pm

Evaluation Date November 14, 2006

Outdoor Conditions Temperature 79.7 Relative Humidity 66.1 Ambient CO2 488

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
R-25	75.6	72 - 78	50.8	30% - 60%	1594	Max 700 > Ambient	27
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		1 ceiling tile - NW Corner	
Ceiling Type	2 x 4 Lay In		Yes	No		1 ceiling tile - NW Corner	
Wall Type	Metal		No	No		None	
Flooring	12 x 12 Vinyl		No	No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace ceiling tiles
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant solution
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings: Northeast Corner Unit

- 3 stained ceiling tiles in Northwest corner
- Dust and debris on HVAC return grills
- A/C was turned off at the time of the assessment
- CO2 level was slightly elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Clean HVAC return grills with Wexcide disinfectant solution
- Ensure that A/C is turned on
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Physical Plant Operations:

- Evaluate cause of stained ceiling tiles in Northwest corner and repair. Remove and replace ceiling tiles as appropriate.
- Evaluate HVAC for proper operation and adjust fresh air to lower CO2 level

IAQ Assessment

Location Number 1891

Seminole Middle School

Evaluation Requested

Time of Day 2:00 pm

Evaluation Date November 14, 2006

Outdoor Conditions Temperature 79.7 Relative Humidity 66.1 Ambient CO2 488

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
R-25	72	72 - 78	51.5	30% - 60%	1758	Max 700 > Ambient	25
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		2 ceiling tiles - West wall	
Ceiling Type		Yes		No		2 ceiling tiles - West wall	
2 x 4 Lay In		Yes		No		2 ceiling tiles - West wall	
Wall Type		No		No		None	
Metal		No		No		None	
Flooring		No		No		None	
12 x 12 Vinyl		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace ceiling tiles
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant solution
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings: Southeast Corner Unit

- 2 stained ceiling tiles along West wall
- Dust and debris on HVAC return grills
- CO2 level was slightly elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Clean HVAC return grills with Wexcide disinfectant solution
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Physical Plant Operations:

- Evaluate cause of stained ceiling tiles along West wall and repair. Remove and replace ceiling tiles as appropriate.
- Evaluate HVAC for proper operation and adjust fresh air to lower CO2 level

IAQ Assessment

Seminole Middle School

Location Number 1891

Evaluation Requested

Time of Day 2:00 pm

Evaluation Date November 14, 2006

Outdoor Conditions Temperature 79.7 Relative Humidity 66.1 Ambient CO2 488

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
R-25	73	72 - 78	52.8	30% - 60%	1591	Max 700 > Ambient	14
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		Yes	No	2 ceiling tiles - West wall		
Wall Type	Metal		No	No	None		
Flooring	12 x 12 Vinyl		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace ceiling tiles
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant solution - storage
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant solution
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings: Northwest Corner Unit

- Dust and debris on HVAC return grills
- Dust and debris on HVAC supply grills in storage room
- CO2 level was slightly elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Clean HVAC return grills with Wexcide disinfectant solution
- Clean HVAC supply grills in storage room with Wexcide disinfectant solution
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Physical Plant Operations:

- Evaluate HVAC for proper operation and adjust fresh air to lower CO2 level

IAQ Assessment

Location Number 1891

Seminole Middle School

Evaluation Requested

Time of Day 2:00 pm

Evaluation Date November 14, 2006

Outdoor Conditions Temperature 79.7 Relative Humidity 66.1 Ambient CO2 488

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
R-25	75.6	72 - 78	50.8	30% - 60%	1594	Max 700 > Ambient	27
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		3 ceiling tiles - West wall	
Ceiling Type	2 x 4 Lay In		Yes	No		3 ceiling tiles - West wall	
Wall Type	Metal		No	No		None	
Flooring	12 x 12 Vinyl		No	No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace ceiling tiles
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant solution
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings: Southwest Corner Unit

- 3 stained ceiling tiles along West wall
- Dust and debris on HVAC return grills
- CO2 level was slightly elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Clean HVAC return grills with Wexcide disinfectant solution
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Physical Plant Operations:

- Evaluate cause of stained ceiling tiles along West wall and repair. Remove and replace ceiling tiles as appropriate.
- Evaluate HVAC for proper operation and adjust fresh air to lower CO2 level