RISK
MANAGEMENT…

managing risk with responsibility

Aston A. Henry, Director
Risk Management Department

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May 21, 2014 Signature on File

For Custodial Supervisor Use Only

☐ Custodial Issues Addressed

☐ Custodial Issues Not Addressed

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_____

TO: Merideth Weiss, Principal
Riverside Elementary School

FROM: Robert Krickovich, Coordinator I, LEA
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment

On May 16, 2014, I conducted an assessment at **Riverside Elementary School**. Attached are findings and recommendations for further assessment, remediation, or corrective actions needed.

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.

Please ensure that your Head Facilities Serviceperson receives a copy of this correspondence so that the recommendations requiring their attention can be addressed. In an attempt to separate IAQ issues from general maintenance items, the attached assessment may contain direction for site based staff to generate a work order through COMPASS. Within two weeks a representative from the Custodial/Grounds Department will conduct a follow-up visit to ensure that all site based custodial issues have been appropriately addressed.

Should any questions arise, or if the current concerns continue after the attached recommendations have been addressed, please feel free to contact us at 754-321-1907.

cc: Shelley Meloni, Task Assigned Chief Facilities & Construction Officer, Facilities & Construction
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division
Roy Norton, Manager, Custodial/Grounds, Physical Plant Operations Division
Aston Henry, Director, Risk Management
Sonja Coley, Senior Project Manager, Facilities & Construction
Broward Teachers Union
Federation of Public Employees

RK/tc
Enc.

IAQ Assessment

Riverside Elementary | Evaluation Date: May 16, 2014 | Time of Day: 1:30

Outdoor Conditions Temperature: 80.7 | Relative Humidity: 65.7 | Ambient CO2: 438

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
201	75.3	72 - 78	39.4	30% - 60%	584	MAX 700 > Ambient	19

Noticeable Odor: No

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Ceiling	2' X 4' Lay in	No	No	
Walls	Drywall	No	No	
Floor	12" x 12" Vinyl	No	No	

Ceiling Clean	Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	Yes
Walls Clean	Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Flooring Clean	Yes	Ceiling at Supply Grills Clean	Yes		
Room Surfaces Clean	No				

Trash Removed	Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests	No	Drain Traps Wet	N/A	Air Fresheners in Room	No
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	N/A		

Mechanical Equipment Location	FISH 211			Mechanical Room Clean	Yes
Filters Installed Properly	Yes	Filters Clean	Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Coil Clean	Yes		

Fresh Air Intake Location	Outside of Room	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	Oak Trees		

Observations

Media center - dust on all shelves and books - old water damage around windows and doors (dry at time of assessment) - Oak trees heavy pollen around HVAC fresh air intake - Minor (<1 sq ft) spotty microbial growth in Mech room 211 on walls at floor level.

Corrective Actions to be Completed by Site Based Staff

- Thoroughly clean ALL surfaces

Corrective Actions to be Completed by PPO

- Clean and paint bottom of walls in mech room 211 with anti microbial paint

IAQ Assessment

Riverside Elementary | Evaluation Date: May 16, 2014 | Time of Day: 1:30

Outdoor Conditions Temperature: 80.7 | Relative Humidity: 65.7 | Ambient CO2: 438

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
301	73.0	72 - 78	48.1	30% - 60%	673	MAX 700 > Ambient	3

Noticeable Odor: No

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Ceiling	2' X 4' Lay in	No	No	
Walls	Drywall	No	No	
Floor	12" x 12" Vinyl	No	No	

Ceiling Clean	Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	Yes
Walls Clean	Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Flooring Clean	Yes	Ceiling at Supply Grills Clean	Yes		
Room Surfaces Clean	Yes				

Trash Removed	Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests	No	Drain Traps Wet	Yes	Air Fresheners in Room	No
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	N/A		

Mechanical Equipment Location	FISH 309			Mechanical Room Clean	Yes
Filters Installed Properly	Yes	Filters Clean	Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Coil Clean	Yes		

Fresh Air Intake Location	Outside of Room	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None		

Observations

Heavy dust and debris on back side of HVAC return grills.

Corrective Actions to be Completed by Site Based Staff	Corrective Actions to be Completed by PPO
	Remove return grills and clean back side

IAQ Assessment

Riverside Elementary | Evaluation Date: May 16, 2014 | Time of Day: 1:30

Outdoor Conditions Temperature: 80.7 | Relative Humidity: 65.7 | Ambient CO2: 438

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
308	75.3	72 - 78	48.0	30% - 60%	648	MAX 700 > Ambient	1

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Noticeable Odor	No			
Ceiling	2' X 4' Lay in	No	No	
Walls	Drywall	No	No	
Floor	12" x 12" Vinyl	No	No	

Ceiling Clean	Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	No
Walls Clean	Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Flooring Clean	Yes	Ceiling at Supply Grills Clean	Yes		
Room Surfaces Clean	Yes				

Trash Removed	Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests	No	Drain Traps Wet	Yes	Air Fresheners in Room	No
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	N/A		

Mechanical Equipment Location	FISH 309			Mechanical Room Clean	Yes
Filters Installed Properly	Yes	Filters Clean	Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Coil Clean	Yes		

Fresh Air Intake Location	Outside of Room	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None		

Observations

Heavy dust build up on HVAC return grills inside and out

Corrective Actions to be Completed by Site Based Staff

- Clean HVAC return grills with Wexcide

Corrective Actions to be Completed by PPO

- Remove return grills and clean back side

IAQ Assessment

Riverside Elementary | Evaluation Date: May 16, 2014 | Time of Day: 1:30

Outdoor Conditions Temperature: 80.7 | Relative Humidity: 65.7 | Ambient CO2: 438

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
610	76.2	72 - 78	54.6	30% - 60%	901	MAX 700 > Ambient	20

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Noticeable Odor	No			
Ceiling	2' X 4' Lay in	No	No	
Walls	Drywall	No	No	
Floor	12" x 12" Vinyl	No	No	

Ceiling Clean	Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	Yes
Walls Clean	Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	No
Flooring Clean	Yes	Ceiling at Supply Grills Clean	Yes		
Room Surfaces Clean	Yes				

Trash Removed	Yes	Exhaust Fans Working	Yes	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests	No	Drain Traps Wet	Yes	Air Fresheners in Room	No
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	N/A		

Mechanical Equipment Location	FISH 609			Mechanical Room Clean	Yes
Filters Installed Properly	Yes	Filters Clean	Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Coil Clean	Yes		

Fresh Air Intake Location	Outside of Room	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	Trees		

Observations

Oak trees heavy pollen around HVAC fresh air intake - Dust build up Inside of return duct in classroom - Mech room 609 condensate leaking from unit onto floor (front center of unit)

Corrective Actions to be Completed by Site Based Staff	Corrective Actions to be Completed by PPO
	Clean inside of return duct in 610
	Repair cause of leaking condensate in 609

IAQ Assessment

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Outdoor Conditions Temperature: 80.7 | Relative Humidity: 65.7 | Ambient CO2: 438

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
853	73.9	72 - 78	60.1	30% - 60%	1557	MAX 700 > Ambient	1

Noticeable Odor: Yes

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Ceiling	2' X 4' Lay in	No	No	
Walls	Drywall	No	No	
Floor	12" x 12" Vinyl	No	No	

Ceiling Clean	Yes	HVAC Supply Grills Clean	No	HVAC Return Grills Clean	Yes
Walls Clean	Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	No
Flooring Clean	Yes	Ceiling at Supply Grills Clean	Yes		
Room Surfaces Clean	Yes				

Trash Removed	Yes	Exhaust Fans Working	Yes	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests	No	Drain Traps Wet	Yes	Air Fresheners in Room	No
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	N/A		

Mechanical Equipment Location	Bard unit back of room			Mechanical Room Clean	N/A
Filters Installed Properly	N/A	Filters Clean	N/A	Inside of HVAC Unit Clean	No
Condensate Pan Clean	N/A	Cooling Coil Clean	N/A		

Fresh Air Intake Location	Outside of Unit	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	Trees		

Observations

Modular Classroom - (Music) - Very strong musty odor - Humidity elevated - CO2 slightly elevated - Dust and debris inside of HVAC unit - all walls dry at time of assessment - Minor microbial growth inside top of piano - Odor is so strong I recommend that the classroom not be used until repairs can be made to the HVAC system to eliminate the odors in the room. Heavy dust and debris on throw rug in room.

Corrective Actions to be Completed by Site Based Staff

- Thoroughly clean ALL surfaces
- Clean piano inside and out
- Remove throw rug from room
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-
-
-
-

Corrective Actions to be Completed by PPO

- Repair HVAC to reduce humidity level
- Repair HVAC to reduce CO2 levels
- Clean HVAC supply grills and drops
- Clean HVAC return grills and drops
- Clean entire HVAC system - unit and drops
-
- Work order EQ08012 generated 5-19-14 to
- address HVAC concerns

IAQ Assessment

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Outdoor Conditions Temperature: 80.7 | Relative Humidity: 65.7 | Ambient CO2: 438

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
641C	75.5	72 - 78	71.5	30% - 60%	445	MAX 700 > Ambient	1

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Noticeable Odor	No			
Ceiling	2' X 4' Lay in	No	No	
Walls	Drywall	No	No	
Floor	12" x 12" Vinyl	No	No	

Ceiling Clean	Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	Yes
Walls Clean	Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Flooring Clean	Yes	Ceiling at Supply Grills Clean	Yes		
Room Surfaces Clean	Yes				

Trash Removed	Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests	No	Drain Traps Wet	N/A	Air Fresheners in Room	No
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	N/A		

Mechanical Equipment Location	Floor Mounted in Room			Mechanical Room Clean	N/A
Filters Installed Properly	Yes	Filters Clean	Yes	Inside of HVAC Unit Clean	N/A
Condensate Pan Clean	N/A	Cooling Coil Clean	N/A		

Fresh Air Intake Location	Outside of Unit	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	Trees		

Observations

Portable classroom - Oak trees heavy pollen around HVAC fresh air intakes - Torn soffit vent screen NW corner (may be bird nest inside) - Window West wall does not close completely - West exterior water damaged and soft - Only South A/C unit running at time of assessment - Wall water damaged under both A/C units (dry at time of assessment) - Humidity elevated

Corrective Actions to be Completed by Site Based Staff	Corrective Actions to be Completed by PPO
	Repair soffit vent and remove bird nest
	Repair HVAC to reduce humidity level
	Repair walls under both A/C units
	Repair window to close properly
	Evaluate portable exterior & repair as needed