THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA

ENVIRONMENTAL HEALTH & SAFETY DEPARTMENT

TELEPHONE (754) 321-4200 **FACSIMILE: (754) 321-4285**

October 30, 2015 Signature on File

TO: Zaida Prendes, Principal
Orange Brook Elementary

FROM: Robert Krickovich, Coordinator, LEA
Environmental Health & Safety Department

SUBJECT: Indoor Air Quality (IAQ) Assessment

For Custodial Supervisor Use Only

☐ Custodial Issues Addressed

☐ Custodial Issues Not Addressed

On October 28, 2015, I conducted an assessment at **Orange Brook 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 754-321-4200.

cc: Shelley Meloni, Director, Pre-Construction
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division
Broward Teachers Union
Federation of Public Employees
Gerald Devio, Supervisor II Custodial
Benjamin Osborne, Supervisor II Custodial
Rich Volipi, Supervisor II Custodial
Mark Murray, Supervisor II Custodial
Sam Bays, Director, Maintenance Operations
Kurt Wirz, Area Manager Trades

RK/je
Enc.

IAQ Assessment

Orangebrook Elementary School | Evaluation Date: October 28, 2015 | Time of Day: 9:00 AM

Outdoor Conditions Temperature: 78.6 | Relative Humidity: 82.3 | Ambient CO2: 437

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
1642	72.5	72 - 78	60.8	30% - 60%	739	MAX 700 > Ambient	4

		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	Carpet	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	FISH 1662			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

PPO and Energy Management to test controls complete - Start time to end time and all controls for fans and dampers -

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by PPO

Evaluate and repair HVAC system as needed
Repair HVAC to Reduce Humidity Levels

IAQ Assessment

Orangebrook Elementary School | Evaluation Date: October 28, 2015 | Time of Day: 9:00 AM

Outdoor Conditions Temperature: 78.6 | Relative Humidity: 82.3 | Ambient CO2: 437

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
1633	68.8	72 - 78	73.6	30% - 60%	465	MAX 700 > Ambient	4

		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	FISH 1641			Mechanical Room Clean	Yes
Filters Installed Properly	Yes	Filters Clean	No	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Coil Clean	Yes		

Fresh Air Intake Location	Roof top	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None		

Observations

Air filters in mechanical room 1641 AHU 5 new filters AHU 3 dirty filters - PPO and Energy Management to test controls complete - Start time to end time and all controls for fans and dampers.

Corrective Actions to be Completed by Site Based Staff

- Remove and replace A/C Filters AHU # 3

Corrective Actions to be Completed by PPO

- Evaluate and repair HVAC system as needed
- Repair HVAC to Reduce Humidity Levels
- Set Temperature to 72 - 78 degrees

IAQ Assessment

Orangebrook Elementary School | Evaluation Date: October 28, 2015 | Time of Day: 9:00 AM

Outdoor Conditions Temperature: 78.6 | Relative Humidity: 82.3 | Ambient CO2: 437

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
1603J	69.0	72 - 78	64.4	30% - 60%	485	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	Yes	Spotty on wall
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	FISH 1641			Mechanical Room Clean	Yes
Filters Installed Properly	Yes	Filters Clean	No	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Coil Clean	Yes		

Fresh Air Intake Location	Roof top	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None		

Observations

Spotty microbial growth on wall and plywood backer

Air filters in mechanical room 1641 AHU 5 new filters AHU 3 dirty filters - PPO and Energy Management to test controls complete - Start time to end time and all controls for fans and dampers -

Corrective Actions to be Completed by Site Based Staff

- Remove and replace A/C Filters AHU # 3
- Clean microbial growth from wall behind door

Corrective Actions to be Completed by PPO

- Evaluate and repair HVAC system as needed
- Repair HVAC to Reduce Humidity Levels
- Sand / Clean / Prime / Paint wood Backer
- Set Temperature to 72 - 78 degrees

IAQ Assessment

Orangebrook Elementary School | Evaluation Date: October 28, 2015 | Time of Day: 9:00 AM

Outdoor Conditions Temperature: 78.6 | Relative Humidity: 82.3 | Ambient CO2: 437

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
1603G	71.0	72 - 78	65.0	30% - 60%	493	MAX 700 > Ambient	

		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	Yes	8 sq ft
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	FISH 1641			Mechanical Room Clean	Yes
Filters Installed Properly	Yes	Filters Clean	No	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Coil Clean	Yes		

Fresh Air Intake Location	Roof top	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None		

Observations

Spotty microbial growth on lower part of walls and vinyl base.

Air filters in mechanical room 1641 AHU 5 new filters AHU 3 dirty filters - PPO and Energy Management to test controls complete - Start time to end time and all controls for fans and dampers -

Corrective Actions to be Completed by Site Based Staff	Corrective Actions to be Completed by PPO
Remove and replace A/C Filters AHU # 3	Evaluate and repair HVAC system as needed
Clean microbial growth from walls and Base	Repair HVAC to Reduce Humidity Levels

IAQ Assessment

Orangebrook Elementary School | Evaluation Date: October 28, 2015 | Time of Day: 9:00 AM

Outdoor Conditions Temperature: 78.6 | Relative Humidity: 82.3 | Ambient CO2: 437

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
1601K	72.9	72 - 78	62.4	30% - 60%	516	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	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 1641			Mechanical Room Clean	Yes
Filters Installed Properly	Yes	Filters Clean	No	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Coil Clean	Yes		

Fresh Air Intake Location	Roof top	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None		

Observations

Storage Room - Dehumidifier in room not working - minor microbial on binders

Air filters in mechanical room 1641 AHU 5 new filters AHU 3 dirty filters - PPO and Energy Management to test controls complete - Start time to end time and all controls for fans and dampers -

Corrective Actions to be Completed by Site Based Staff	Corrective Actions to be Completed by PPO
Remove and replace A/C Filters AHU # 3	Evaluate and repair HVAC system as needed
Clean or dispose of binders with microbial growth	Repair HVAC to Reduce Humidity Levels
	Repair / Replace dehumidifier

IAQ Assessment

Orangebrook Elementary School | Evaluation Date: October 28, 2015 | Time of Day: 9:00 AM

Outdoor Conditions Temperature: 78.6 | Relative Humidity: 82.3 | Ambient CO2: 437

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
1635	69.6	72 - 78	71.1	30% - 60%	471	MAX 700 > Ambient	4

		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	FISH 1641			Mechanical Room Clean	Yes
Filters Installed Properly	Yes	Filters Clean	No	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean	Yes	Cooling Coil Clean	Yes		

Fresh Air Intake Location	Roof top	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None		

Observations

Air filters in mechanical room 1641 AHU 5 new filters AHU 3 dirty filters - PPO and Energy Management to test controls complete - Start time to end time and all controls for fans and dampers -

Corrective Actions to be Completed by Site Based Staff

- Remove and replace A/C Filters AHU # 3
- Replace missing ceiling tiles in restroom

Corrective Actions to be Completed by PPO

- Evaluate and repair HVAC system as needed
- Repair HVAC to Reduce Humidity Levels
- Set Temperature to 72 - 78 degrees