THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA ENVIRONMENTAL HEALTH & SAFETY DEPARTMENT

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February 22	2, 2017 Signature on File	For Custodial Supervisor Use Only
TO:	Matthew Whaley, Principal Meadowbrook Elementary	Custodial Issues Addressed
FROM:	Alison Witoshynsky, Project Manager Environmental Health & Safety Department	Custodial Issues Not Addressed
SUBJECT:	Indoor Air Quality (IAQ) Assessment	

On February 21, 2017, I conducted an assessment at **Meadowbrook 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.

AW:smn Enc.

cc: Shelley Meloni, Director, Pre-Construction

Mark Dorsett Manager, Zono 1, Physical P.

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

Mark Murray, Supervisor II Custodial

Sam Bays, Director, Maintenance Operations

Kurt Wirz, Area Manager Trades

Outdoor Conditions Tempera	ature 75.8 Relative	Humidity 63.9	Ambient CO2 4	65
		Range <u>co</u> % - 60% 828		ccupants 1
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 Carpet	No	No		
Ceiling Clean Yes Walls Clean No	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	Yes
Flooring Clean No	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Room Surfaces No Clean	Ceiling at Supply Grills 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	No
Room Cluttered No	Food if Stored in Room is in Sealed Containers	N/A	in Room	INO
Mechanical Equipment Location	FISH 101J		Mechanical Room Clean	No
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	Roof top	▼	Fresh Air Intake Free of Obstruction	N/A
Pollutant Sources Near Air Intake	Not readily accessible	▼	or obstruction	

Observations

Occupant is in the room approximately 2-3 days per week. An air purifier is present within the room. Occupant calls out spotted areas under and behind desk, also reports the plastic handles of the chairs are covered in white spots after returning from summer break.

Corrective Actions to be Completed by Site Based Staff

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ightharpoons
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Corrective Actions to be completed by 11 C	
Set Temperature to 72 - 78 degrees	▼
Maintain appropriate Humidity Levels	▼
Evaluate system balance throughout Main office	▼
	▼
	▼
	▼
	▼
	▼

IAQ Assessment

Meadowbrook Elementary	Evaluation Da	te February 21, 2017	Time of Day 9:45 AM	Л
Outdoor Conditions Temperature 75.8	Relative	e Humidity 63.9	Ambient CO2 465	
		Range CO ² % - 60%	Range # Occup MAX 700 > 0 Ambient	ants
	er damage / ning?	Visible microbial growth?	Amount of material affected	
Ceiling 2' X 4' Lay in No	0	No		
Walls Plaster / Drywall No.	0	No		
Floor Carpet No.	o	No		
Walls Clean Yes	C Supply s Clean	No	Gillis Clean	lo
	de of Supply t Clean	Yes	Inside of Return Duct Clean	es
	ing at Supply Is Clean	Yes		
	Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	lo
	ed in Room is	N/A	Air Fresheners N in Room	lo
Mechanical Equipment Location FISH 101J			Mechanical Room Clean	lo
Filters Installed Properly Yes	Filters Clean	Yes	Inside of HVAC Unit Clean Y	es
Condensate Pan Clean Yes Coolin	ng Coil Clean	Yes		
Fresh Air Intake Location Pollutant Sources Near Air Intake Intake Not readily access	essible	▼	Fresh Air Intake Free of Obstruction	/A
intake				
Observations 101L = Assistant Principal office				
101G = Principal office Offices have a single door between that is kept o	pen. 101G als	so includes a conferen	ce room. Carpets are	
approximately 7 years old. Spots on wall reported near refrigerator; 101G located on north wall. Spotsk.	d in both offic	es and reportedly clea	ned. 101L located on east wal	
Corrective Actions to be Completed by Site Base	ed Staff	Corrective Action	ns to be Completed by PPO	
Sweep floor in the mechanical room	▼	Set Temperat	ure to 72 - 78 degrees	▼
Remove return grill, vacuum, clean w/Wexcide			priate Humidity Levels	▼
Remove personal space heater	─ ┃		d for carpet replacement	▼
Thoroughly Clean Horizontal/Elevated Surface	:s ▼	Evaluate system bal	ance throughout Main office	▼

▼

▼

▼

Move furniture into center of room to clean

affected walls with Wexcide

Call work order for pest control

Floor needs vacuuming in tight spots/under desk

▼

▼

IAQ Assessment

Meadowbrook Elen	nentary Evaluation Da	February 21, 2017	Time of Day 9:4	15 AM
Outdoor Conditions Temperature	75.8 Relativ	e Humidity 63.9	Ambient CO2 4	65
Fish Temperature Range 101Q 73.1 72 - 78	Relative Humidity 50.7 30	Range CO ² 0% - 60%	Range # Oo MAX 700 > Ambient	ccupants 1
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' X 4' Lay in	No	No		
Walls Plaster / Drywall	No	Yes	~ 8 SF	
Floor Carpet	No	No		
Ceiling Clean Yes Walls Clean No	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	Yes
Flooring Clean No	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Room Surfaces No Clean	Ceiling at Supply Grills 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	No
Room Cluttered Yes	Food if Stored in Room is in Sealed Containers	N/A	in Room	140
Mechanical Equipment Location FIS	H 101J		Mechanical Room Clean	No
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 Ro	of top	▼	Fresh Air Intake Free of Obstruction	N/A
Pollutant Sources Near Air No	t readily accessible	▼	or Obstruction	
Observations				
Supply grill redirected/partially block and lower wall (indirect flow).	red with tape. Black spots	s on wall upper wall whe	ere supply air is being dir	rected
Corrective Actions to be Completed	by Site Based Staff	Corrective Action	ns to be Completed by PF	°0
Sweep floor in the mechani			temperature for comfort	_ ▼
Room too cluttered to clean Encourage occupant to redu			opropriate Humidity Leve ance throughout Main off	
Thoroughly Clean Horizontal/Elev		Evaluate System Dala	mee unoughout Main off	ice ▼
Clean & monitor affected walls				▼
	▼			₩

occupant with products provided by facilities staff. None currently present. Signs of tape previously present on observed.

Sweep floor in the mechanical room	▼
Room too cluttered to clean properly	▼
Encourage occupant to reduce clutter	▼
Thoroughly Clean Horizontal/Elevated Surfaces	▼
Clean & monitor affected walls with Wexcide	▼
Carts should be completely dry prior to storing	▼
	▼
	▼

Orrective Actions to be completed by 11 O	
Evaluate raising temperature for comfort	▼
while maintaining appropriate Humidity Levels	▼
Evaluate system balance throughout Main office	▼
	▼
	▼
	▼
	▼
	▼

occupant with products provided by facilities staff. None currently present. Signs of tape previously present on supply grill.

Corrective Actions to be Completed by Site Based Staff

- -	
Sweep floor in the mechanical room	▼
Remove and replace stained ceiling tile	▼
Room too cluttered to clean properly	▼
Encourage occupant to reduce clutter	▼
Thoroughly Clean Horizontal/Elevated Surfaces	▼
Monitor affected walls & clean with Wexcide	▼
Do not block supply vent	▼
	▼

Corrective Actions to be completed by 110	
Evaluate raising temperature for comfort	▼
while maintaining appropriate Humidity Levels	▼
Install new ceiling tile upon repair, cuts needed	▼
Evaluate system balance throughout Main office	▼
	▼
	▼
	lacksquare
	▼

No **Room Cluttered** Yes Food if Stored in Room is in Room N/A in Sealed Containers **Mechanical Equipment Location** FISH 101J Mechanical Room Clean No Filters Installed Properly Yes **Filters Clean** Yes Inside of HVAC Unit Clean Yes

N/A

N/A

Yes

▼

▼

Exhaust Fans Working

Drain Traps Wet

Cooling Coil Clean

Roof top Fresh Air Intake Location **Pollutant Sources Near Air** Not readily accessible

Yes

Fresh Air Intake Free of Obstruction

Unapproved Chemicals /

Cleaners in Room

Air Fresheners

N/A

No

Observations

Intake

Condensate Pan Clean

Trash Removed

Signs of Pests

Yes

No

Occupant reports black spots on upper portion of walls. Has previously been cleaned by facilities personnel or by the occupant with products provided by facilities staff. None currently present. Supply grill blocked with tape; removed by facilities staff during inspection.

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by Site Based Stan	
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Corrective Actions to be completed by 11 c	
Evaluate raising temperature for comfort	▼
while maintaining appropriate Humidity Levels	▼
Evaluate system balance throughout Main office	▼
	▼
	▼
	▼
	▼
	▼

· · · · · · · · · · · · · · · · · · ·	_
Sweep floor in the mechanical room	▼
Remove return grill and vacuum	▼
Clean HVAC Return Grill with Wexcide	▼
Encourage occupant to reduce clutter	▼
Thoroughly Clean Horizontal Surfaces	▼
Clean & monitor affected walls with Wexcide	▼
Clean walls, scrape peeling paint, & repaint (105A)	▼
	▼

Corrective Actions to be completed by 110	
Provide Dehumidifier for 105A per Work Order	▼
Install appropriate filter spacer in HVAC	▼
	▼
	▼
	▼
	▼
	▼
	▼

Outdoor Conditions Tem	nperature 75.8 Relativ	ve Humidity 63.9	Ambient CO2 4	65
Fish Temperature 701 70.2	Range Relative Humidity 72 - 78 60.2 3	Range CC 0% - 60% 69		ccupants 1
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' X 4' Lay in	No	No		
Walls Plaster	No	No		
Floor Carpet	No	No		
Ceiling Clean Yes Walls Clean Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	No
Flooring Clean Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Room Surfaces No Clean	Ceiling at Supply Grills Clean	Yes		
Trash Removed Yes	Exhaust Fans Working		Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No	Drain Traps Wet	N/A	Air Fresheners	No
Room Cluttered Yes	Food if Stored in Room is in Sealed Containers	N/A	in Room	INU
Mechanical Equipment Loca	tion FISH 702		Mechanical Room Clean	No
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	Roof top	▼	Fresh Air Intake Free	N/A
Pollutant Sources Near Air	Not readily accessible	▼	of Obstruction	

Observations

Library clerk reports dark spots on inside of books. Dust observed on tops of books. HVAC dusty on interior of return side of HVAC unit.

Corrective Actions to be Completed by Site Based Staff

Sweep floor in the mechanical room	▼
Clean dust from ceiling grid & around lights	▼
Remove return grill and vacuum	▼
Clean HVAC Return Grill with Wexcide	▼
Room too cluttered to clean properly	▼
Encourage occupant to reduce clutter	▼
Thoroughly Clean Horizontal/Elevated Surfaces	▼
Clean & monitor affected walls with Wexcide	▼

Set Temperature to 72 - 78 degrees	▼
Repair HVAC to Reduce Humidity Levels	▼
	▼
	▼
	▼
	▼
	▼
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Outdoor Co	onditions Tem	perature	75.8 Relative	Humidity 63.9	Ambient CO2 4	165
Fish 701B	Temperature 71.3	Range 72 - 78	i	Range CO % - 60%	_	ccupants 1
Noticeabl	e Odor No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling	2' X 4' Lay in		No	No		
Walls	Plaster		Yes	Yes	see below	
-						
Floor	Carpet		No	No		
Ceiling Cle Walls Clea Flooring C Room Surf Clean	n Yes		HVAC Supply Grills Clean Inside of Supply Duct Clean Ceiling at Supply Grills Clean	Yes Yes Yes	HVAC Return Grills Clean Inside of Return Duct Clean	No Yes
Trash Ren Signs of P Room Clu	ests No		Exhaust Fans Working Drain Traps Wet Food if Stored in Room is in Sealed Containers	N/A N/A	Unapproved Chemicals / Cleaners in Room Air Fresheners in Room	N/A No
Mechanic	al Equipment Locat	ion FISH	1702		Mechanical Room Clean	No
Filters Inst	alled Properly	Yes	Filters Clean	Yes	Inside of HVAC Unit Clean	Yes
Conden	sate Pan Clean	Yes	Cooling Coil Clean	Yes		

Observations

Intake

Fresh Air Intake Location

Pollutant Sources Near Air

HVAC dusty on interior of return side of HVAC unit.

Exterior window with large overhang is rusty on inside and was previously caulked from outside.

Not readily accessible

Roof top

Walls throughout room have brown spots. Occupant keeps papers, cardboard boxes, stuffed animals, other items in room. Very cluttered; preventing thorough cleaning.

Corrective Actions to be Completed by Site Based Staff

Sweep floor in the mechanical room	▼
Remove return grill and vacuum	▼
Clean HVAC Return Grill with Wexcide	▼
Room too cluttered to clean properly	▼
Encourage occupant to reduce clutter	▼
Remove cardboard boxes, place items in plastic.	▼
Thoroughly Clean Horizontal/Elevated Surfaces	▼
Clean & monitor affected walls with Wexcide	▼

Corrective Actions to be Completed by PPO

Fresh Air Intake Free

of Obstruction

N/A

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IAQ Assessment

Meadowbrook Elementary Evalu	uation Da	February 21	, 2017	Time of Day 9:4	I5 AM	
Outdoor Conditions Temperature 75.8	Relative	Humidity 6	63.9	Ambient CO2 4	65	
Fish Temperature Range Relative Hum 701C 70.3 72 - 78 61.0	 i	Range % - 60%	CO ² 701	Range # Oo MAX 700 > Ambient	ccupants	
Noticeable Odor No Visible water day staining?	•	Visible micro growth?	bial	Amount of material affected		
Ceiling 2' X 4' Lay in Yes		No	[1 ceiling panel		
Walls Plaster No		No	Ī			
Floor						
Floor Carpet No		No	l			
Ceiling Clean Yes HVAC Su Grills Cle Walls Clean Yes		Yes		HVAC Return Grills Clean	Yes	
Flooring Clean No Inside of Duct Clea		Yes		Inside of Return Duct Clean	Yes	
Room Surfaces No Ceiling at Clean Grills Cle		Yes				
Trash Removed Yes Exhaust Fans \		N/A		Unapproved Chemicals / Cleaners in Room	N/A	
Signs of Pests No Drain Tr	aps Wet	N/A		Air Fresheners	No	
Room Cluttered Yes Food if Stored in in Sealed Contain		N/A		in Room	NO	
Mechanical Equipment Location FISH 702				Mechanical Room Clean	No	
Filters Installed Properly Yes Filters	s Clean	Yes	Ir	nside of HVAC Unit Clean	Yes	
Condensate Pan Clean Yes Cooling Co	il Clean	Yes				
Fresh Air Intake Location Roof top			▼	Fresh Air Intake Free	N/A	
Pollutant Sources Near Air Intake Not readily accessible	le		▼	of Obstruction	INA	
Observations						
HVAC dusty on interior of return side of HVAC unit.						
Corrective Actions to be Completed by Site Based Staff Corrective Actions to be Completed by PPO						
Sweep floor in the mechanical room	▼ [re to 72 - 78 degrees	▼	
Room too cluttered to clean properly ▼ Repair HVAC to Reduce Humidity Levels ▼						
				▼		
Remove cardboard boxes, place items in plastic.	▼	Install new co	eiling tile	upon repair, cuts need		
Thoroughly Clean Horizontal/Elevated Surfaces	▼					
	▼				▼	