THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA

ENVIRONMENTAL HEALTH & SAFETY DEPARTMENT

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

November 5, 2015 Signature on File

TO: Robert Becker, Principal
Embassy Creek 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 November 3, 2015, 2015, I conducted an assessment at **Embassy Creek 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

Embassy Creek Elementary School | **Evaluation Date** November 3, 2015 | **Time of Day** 1:45 PM

Outdoor Conditions **Temperature** 84.5 **Relative Humidity** 78.4 **Ambient CO2** 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
337	74.7	72 - 78	56.1	30% - 60%	1171	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	Tack Board	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	No	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 331			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

Class was just dismissed. Keurig coffee maker in room.

Corrective Actions to be Completed by Site Based Staff

Remove coffee maker from classroom

Corrective Actions to be Completed by PPO

Repair HVAC in 331 to allow for replacement of air filters without folding filters

IAQ Assessment

Embassy Creek Elementary School | **Evaluation Date** November 3, 2015 | **Time of Day** 1:45 PM

Outdoor Conditions **Temperature** 84.5 **Relative Humidity** 78.4 **Ambient CO2** 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
336	74.5	72 - 78	54.9	30% - 60%	1064	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	Tack Board	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	No	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 331			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

Class was just dismissed.

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by PPO

Repair HVAC in 331 to allow for replacement of air filters without folding filters

IAQ Assessment

Embassy Creek Elementary School | Evaluation Date: November 3, 2015 | Time of Day: 1:45 PM

Outdoor Conditions Temperature: 84.5 | Relative Humidity: 78.4 | Ambient CO2: 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
335	74.5	72 - 78	56.8	30% - 60%	1183	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	Tack Board	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	No	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 331			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

Class was just dismissed.

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by PPO

Repair HVAC in 331 to allow for replacement of air filters without folding filters

IAQ Assessment

Embassy Creek Elementary School | **Evaluation Date** November 3, 2015 | **Time of Day** 1:45 PM

Outdoor Conditions **Temperature** 84.5 **Relative Humidity** 78.4 **Ambient CO2** 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
334	74.9	72 - 78	57.4	30% - 60%	1188	MAX 700 > Ambient	17

Noticeable Odor No

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Ceiling	2' X 4' Lay in	No	No	
Walls	Tack Board	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	No	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 331			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

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by PPO

Repair HVAC in 331 to allow for replacement of air filters without folding filters

IAQ Assessment

Embassy Creek Elementary School | **Evaluation Date** November 3, 2015 | **Time of Day** 1:45 PM

Outdoor Conditions **Temperature** 84.5 **Relative Humidity** 78.4 **Ambient CO2** 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
333	73.5	72 - 78	57.8	30% - 60%	1118	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	Tack Board	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	No	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 331			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

Class was just dismissed.

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by PPO

Repair HVAC in 331 to allow for replacement of air filters without folding filters

IAQ Assessment

Embassy Creek Elementary School | **Evaluation Date** November 3, 2015 | **Time of Day** 1:45 PM

Outdoor Conditions **Temperature** 84.5 **Relative Humidity** 78.4 **Ambient CO2** 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
332	73.5	72 - 78	61.6	30% - 60%	1024	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	Tack Board	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	No	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 331			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

Class was just dismissed - Humidity slightly elevated.

Corrective Actions to be Completed by Site Based Staff	Corrective Actions to be Completed by PPO
	Repair HVAC in 331 to allow for replacement of
	air filters without folding filters
	Repair HVAC to Reduce Humidity Levels

IAQ Assessment

Embassy Creek Elementary School | **Evaluation Date** November 3, 2015 | **Time of Day** 1:45 PM

Outdoor Conditions **Temperature** 84.5 **Relative Humidity** 78.4 **Ambient CO2** 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
327	73.8	72 - 78	62.0	30% - 60%	985	MAX 700 > Ambient	2

Noticeable Odor No

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Ceiling	2' X 4' Lay in	No	No	
Walls	Tack Board	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	No	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 331			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

Humidity slightly elevated.

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by PPO

	Repair HVAC in 331 to allow for replacement of
	air filters without folding filters
	Repair HVAC to Reduce Humidity Levels

IAQ Assessment

Embassy Creek Elementary School | **Evaluation Date** November 3, 2015 | **Time of Day** 1:45 PM

Outdoor Conditions **Temperature** 84.5 **Relative Humidity** 78.4 **Ambient CO2** 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
326	72.3	72 - 78	60.0	30% - 60%	1079	MAX 700 > Ambient	33

Noticeable Odor No

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Ceiling	2' X 4' Lay in	No	No	
Walls	Tack Board	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	No	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 331			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

Humidity slightly elevated

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by PPO

	Repair HVAC in 331 to allow for replacement of
	air filters without folding filters
	Repair HVAC to Reduce Humidity Levels

IAQ Assessment

Embassy Creek Elementary School | **Evaluation Date** November 3, 2015 | **Time of Day** 1:45 PM

Outdoor Conditions **Temperature** 84.5 **Relative Humidity** 78.4 **Ambient CO2** 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
325	74.1	72 - 78	54.4	30% - 60%	1140	MAX 700 > Ambient	21

Noticeable Odor No

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Ceiling	2' X 4' Lay in	No	No	
Walls	Tack Board	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	No	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 331			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

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by PPO

	Repair HVAC in 331 to allow for replacement of air filters without folding filters

IAQ Assessment

Embassy Creek Elementary School | **Evaluation Date** November 3, 2015 | **Time of Day** 1:45 PM

Outdoor Conditions **Temperature** 84.5 **Relative Humidity** 78.4 **Ambient CO2** 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
324	72.8	72 - 78	57.8	30% - 60%	954	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	Tack Board	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	No	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 331			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

Class was just dismissed.

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by PPO

Repair HVAC in 331 to allow for replacement of air filters without folding filters

IAQ Assessment

Embassy Creek Elementary School | **Evaluation Date** November 3, 2015 | **Time of Day** 1:45 PM

Outdoor Conditions **Temperature** 84.5 **Relative Humidity** 78.4 **Ambient CO2** 514

Fish	Temperature	Range	Relative Humidity	Range	CO^2	Range	# Occupants
323	73.0	72 - 78	57.4	30% - 60%	973	MAX 700 > Ambient	3

		Visible water damage / staining?	Visible microbial growth?	Amount of material affected
Noticeable Odor	No			
Ceiling	2' X 4' Lay in	No	No	
Walls	Tack Board	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	No	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 331			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

Class was just dismissed.

Corrective Actions to be Completed by Site Based Staff

Corrective Actions to be Completed by PPO

Repair HVAC in 331 to allow for replacement of air filters without folding filters