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Risk Management Department

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October 4, 2012

Signature on File

TO: Todd LaPace, Principal
McArthur High School

FROM: Richard Rosa, Project Manager
Facilities Design and Construction

SUBJECT: Indoor Air Quality (IAQ) Assessment

<u>For Custodial Supervisor Use Only</u>	
<input type="checkbox"/>	Custodial Issues Addressed
<input type="checkbox"/>	Custodial Issues Not Addressed

On September 27, 2012, I conducted an assessment at **McArthur High 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: Directors, School Performance & Accountability
Shelley Meloni, Executive Director, Facilities Design and Construction
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division
Roy Norton, Manager, Custodial/Grounds, Physical Plant Operations Division
Aston Henry, Supervisor, Risk Management
Sonja Coley, Senior Project Manager, Facilities Design and Construction
Broward Teachers Union
Federation of Public Employees

RR/tc
Enc.

IAQ Assessment

McArthur High

Evaluation Date September 27, 2012

Time of Day 12:15

Outdoor Conditions Temperature 88.9

Relative Humidity 65.3

Ambient CO2 439

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants	
701	73.4	72 - 78	56.3	30% - 60%	1576	MAX 700 > Ambient	25	
Noticeable Odor		No	Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling	2' x 4'		No		No			
Walls	Drywall		Yes		No		160 sq ft	
Floor	12" x 12" Vinyl		No		No			
Ceiling Clean		Yes	HVAC Supply Grills Clean		No	HVAC Return Grills Clean		No
Walls Clean		No	Inside of Supply Duct Clean		No	Inside of Return Duct Clean		No
Flooring Clean		Yes	Ceiling at Supply Grills Clean		N/a			
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			Floor unit in classroom			Mechanical Room Clean		N/A
Filters Installed Properly		Yes	Filters Clean		No	Inside of HVAC Unit Clean		N/A
Condensate Pan Clean		N/A	Cooling Coil Clean		No			
Fresh Air Intake Location			Thru exterior wall ▼			Fresh Air Intake Free of Obstruction		Yes
Pollutant Sources Near Air Intake			No ▼					

Observations

The classroom has two floor mounted HVAC systems, one doesn't have a fresh air vent out the exterior wall and the other appears to be restricted. Evaluate the entire window wall for water intrusion. It appears the wall has been recently replaced. The East HVAC system does not have a fresh air vent to the outside. Change filters when work is complete in classroom.

Corrective Actions to be Completed by Site Based Staff

Thoroughly clean horizontal surfaces	▼
Remove and replace A/C filters	▼
Clean HVAC supply and return grills with Wexcide	▼
floor units	▼
	▼
	▼
	▼
	▼

Corrective Actions to be Completed by PPO

Evaluate and repair cause of water damage	▼
Remove and replace wall material as necessary	▼
Evaluate cleaning both HVAC coils	▼
Repair HVAC to reduce CO2 levels	▼
Remove stucco to allow fresh air into classroom	▼
	▼
See observations above for additional info	▼
	▼

IAQ Assessment

McArthur High

Evaluation Date September 27, 2012

Time of Day 1:30

Outdoor Conditions Temperature 88.9 Relative Humidity 65.3 Ambient CO2 439

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants	
807	74.6	72 - 78	54.8	30% - 60%	624	MAX 700 > Ambient	0	
Noticeable Odor		No	Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling	2' x 4'		Yes		No		2 tiles < 4 sq ft	
Walls	Drywall		Yes		No		< 2 sq ft	
Floor	12" x 12" Vinyl		No		No			
Ceiling Clean		No	HVAC Supply Grills Clean		Yes	HVAC Return Grills Clean		No
Walls Clean		No	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		Yes	Unapproved Chemicals / Cleaners in Room		No
Signs of Pests		Yes	Drain Traps Wet		No	Air Fresheners in Room		No
Room Cluttered		No	Food if Stored in Room is in Sealed Containers		N/A			
Mechanical Equipment Location			Roof Top			Mechanical Room Clean		N/A
Filters Installed Properly		N/A	Filters Clean		N/A	Inside of HVAC Unit Clean		N/A
Condensate Pan Clean		N/A	Cooling Coil Clean		N/A			
Fresh Air Intake Location			Roof top ▼			Fresh Air Intake Free of Obstruction		N/A
Pollutant Sources Near Air Intake			Not Accessible ▼					

Observations

Insects and insect droppings on window sills. Water damaged drywall by lower portion of door frames due to water intrusion. Water damage extends outward for approximately 2'. Water is secure in some of the sink drain traps. Advised HFSP to call in work order to repair water source and in the mean time to pour water down the drains every week until repair is complete.

Corrective Actions to be Completed by Site Based Staff

Thoroughly clean horizontal surfaces	▼
Replace stained ceiling tiles after repairs	▼
Generate a work order for pest control	▼
Clean HVAC return grills with Wexcide	▼
Ensure water is poured down drains regularly	▼
	▼
	▼
	▼

Corrective Actions to be Completed by PPO

Evaluate and repair cause of water damage	▼
Remove and replace wall material as necessary	▼
Evaluate and repair cause of stained ceiling tiles	▼
	▼
See observations above for additional info	▼
	▼
	▼
	▼

IAQ Assessment

McArthur High

Evaluation Date September 27, 2012

Time of Day 2:30

Outdoor Conditions Temperature 88.9 Relative Humidity 65.3 Ambient CO2 439

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants	
815	73.2	72 - 78	57.9	30% - 60%	700	MAX 700 > Ambient	0	
Noticeable Odor		No	Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling	2' x 4'		No		No			
Walls	Drywall		Yes		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		No	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		Yes	Unapproved Chemicals / Cleaners in Room		No
Signs of Pests		Yes	Drain Traps Wet		No	Air Fresheners in Room		No
Room Cluttered		Yes	Food if Stored in Room is in Sealed Containers		N/A			
Mechanical Equipment Location			Roof Top			Mechanical Room Clean		N/A
Filters Installed Properly		N/A	Filters Clean		N/A	Inside of HVAC Unit Clean		N/A
Condensate Pan Clean		N/A	Cooling Coil Clean		N/A			
Fresh Air Intake Location			Roof top ▼			Fresh Air Intake Free of Obstruction		N/A
Pollutant Sources Near Air Intake			Not Accessible ▼					

Observations

Insects and insect droppings on window sills. Evaluate water damaged drywall with visible microbial growth. The microbial growth is behind the cabinetry. A portion of the wall is visible. HFSP stated there was water intrusion from the East door and the water went behind the cabinetry on the South wall. Water damaged drywall by lower portion of Southeast door frame due to water intrusion. I recommend the removal of the cabinetry and evaluate the extent of microbial growth and repair or replace. Advised HFSP to pour water down the drains every week if not used frequently.

Corrective Actions to be Completed by Site Based Staff

Thoroughly clean horizontal surfaces	▼
Generate a work order for pest control	▼
Ensure water is poured down drains regularly	▼
	▼
	▼
	▼
	▼
	▼
	▼

Corrective Actions to be Completed by PPO

Evaluate and repair cause of water damage	▼
Remove and replace wall material as necessary	▼
	▼
See observations above for additional info	▼
	▼
	▼
	▼
	▼