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July 15, 2013

Signature on File

TO: Alona DiPaolo, Principal  
**Plantation High School**

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

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 July 10, 2013, I conducted an assessment at **Plantation 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: 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

Plantation High

 Evaluation Date July 10, 2013

 Time of Day 11:15

 Outdoor Conditions    Temperature 85.2

 Relative Humidity 73.5

 Ambient CO2 488

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">231</span>	<span style="border: 1px solid black; padding: 2px;">75.5</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">59.3</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">520</span>	<span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">4</span>
Noticeable Odor		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling	<span style="border: 1px solid black; padding: 2px;">2' X 4' Lay in / Plaster</span>		<span style="border: 1px solid black; padding: 2px;">Yes</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">6 Stained Tiles</span>
Walls	<span style="border: 1px solid black; padding: 2px;">Plaster</span>		<span style="border: 1px solid black; padding: 2px;">Yes</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">80 Sq ft</span>
Floor	<span style="border: 1px solid black; padding: 2px;">12" x 12" Vinyl</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>

Ceiling Clean	<span style="border: 1px solid black; padding: 2px;">No</span>	HVAC Supply Grills Clean	<span style="border: 1px solid black; padding: 2px;">No</span>	HVAC Return Grills Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Walls Clean	<span style="border: 1px solid black; padding: 2px;">No</span>	Inside of Supply Duct Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Return Duct Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Flooring Clean	<span style="border: 1px solid black; padding: 2px;">No</span>	Ceiling at Supply Grills Clean	<span style="border: 1px solid black; padding: 2px;">No</span>		
Room Surfaces Clean	<span style="border: 1px solid black; padding: 2px;">No</span>				

Trash Removed	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Exhaust Fans Working	<span style="border: 1px solid black; padding: 2px;">N/A</span>	Unapproved Chemicals / Cleaners in Room	<span style="border: 1px solid black; padding: 2px;">No</span>
Signs of Pests	<span style="border: 1px solid black; padding: 2px;">No</span>	Drain Traps Wet	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Air Fresheners in Room	<span style="border: 1px solid black; padding: 2px;">No</span>
Room Cluttered	<span style="border: 1px solid black; padding: 2px;">No</span>	Food if Stored in Room is in Sealed Containers	<span style="border: 1px solid black; padding: 2px;">N/A</span>		

Mechanical Equipment Location	<span style="border: 1px solid black; padding: 2px;">FISH 231E</span>			Mechanical Room Clean	<span style="border: 1px solid black; padding: 2px;">No</span>
Filters Installed Properly	<span style="border: 1px solid black; padding: 2px;">N/A</span>	Filters Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>	Inside of HVAC Unit Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>
Condensate Pan Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>	Cooling Coil Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>		

Fresh Air Intake Location	<span style="border: 1px solid black; padding: 2px;">Roof top</span> ▼	Fresh Air Intake Free of Obstruction	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Pollutant Sources Near Air Intake	<span style="border: 1px solid black; padding: 2px;">None</span> ▼		

### Observations

Door to room blocked open - Musty odor in room - Dust / cob webs on all elevated wall surfaces - flooring dirty - all surfaces dirty - heavy dust on ceilings at HVAC supply grills - 6 stained ceiling tiles - severely water damaged walls at all windows.

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231E - Unable to access area between the unit and chilled water pipe to check unit or filters.

### Corrective Actions to be Completed by Site Based Staff

Thoroughly clean all surfaces	▼
Thoroughly clean and sanitize flooring	▼
Clean HVAC supply grills with Wexcide	▼
Clean ceilings around HVAC supply grills	▼
	▼
	▼
	▼
	▼

### Corrective Actions to be Completed by PPO

Remove cabinets from walls at windows	▼
Remove and replace water damaged wall material	▼
Repair cause of water damaged walls (first)	▼
Evaluate and repair cause of stained ceiling tiles	▼
Remove and replace stained ceiling tiles	▼
Clean inside of HVAC unit	▼
	▼
	▼

# IAQ Assessment

Plantation High

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 Outdoor Conditions    Temperature 85.2

 Relative Humidity 73.5

 Ambient CO2 488

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
232	75.9	72 - 78	55.5	30% - 60%	483	MAX 700 > Ambient	1
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<input type="checkbox"/> Yes		<input type="checkbox"/> Yes		<input type="checkbox"/> No		<input style="width: 100%;" type="text" value="14 Stained tiles"/>	
Ceiling	<input style="width: 100%;" type="text" value="2' X 4' Lay in / Plaster"/>		<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input style="width: 100%;" type="text" value="20 Sq ft"/>	
Walls	<input style="width: 100%;" type="text" value="Plaster"/>		<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input style="width: 100%;" type="text" value="800 Sq ft"/>	
Floor	<input 12"="" style="width: 100%;" type="text" value="12" vinyl"="" x=""/>		<input type="checkbox"/> Yes	<input type="checkbox"/> No			

Ceiling Clean	<input type="checkbox"/> No	HVAC Supply Grills Clean	<input type="checkbox"/> No	HVAC Return Grills Clean	<input type="checkbox"/> Yes
Walls Clean	<input type="checkbox"/> No	Inside of Supply Duct Clean	<input type="checkbox"/> Yes	Inside of Return Duct Clean	<input type="checkbox"/> Yes
Flooring Clean	<input type="checkbox"/> No	Ceiling at Supply Grills Clean	<input type="checkbox"/> No		
Room Surfaces Clean	<input type="checkbox"/> No				

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

Mechanical Equipment Location	<input style="width: 100%;" type="text" value="FISH 231E and 233E (see FISH 231 &amp; 233)"/>	Mechanical Room Clean	<input type="checkbox"/>
Filters Installed Properly	<input type="checkbox"/>	Filters Clean	<input type="checkbox"/>
Condensate Pan Clean	<input type="checkbox"/>	Cooling Coil Clean	<input type="checkbox"/>
		Inside of HVAC Unit Clean	<input type="checkbox"/>

Fresh Air Intake Location	<input style="width: 100%;" type="text" value="Roof top"/>	Fresh Air Intake Free of Obstruction	<input type="checkbox"/> Yes
Pollutant Sources Near Air Intake	<input style="width: 100%;" type="text" value="None"/>		

### Observations

Musty odor in room - Dust / cob webs on all elevated wall surfaces - flooring dirty and more than 1/2 of the floor is water damaged - all surfaces dirty - heavy dust on ceilings at HVAC supply grills - 14 stained ceiling tiles - plaster ceiling water stained - severely water damaged wall at SE Door.

### Corrective Actions to be Completed by Site Based Staff

Thoroughly clean all surfaces	▼
Clean ceilings around HVAC supply grills	▼
Clean HVAC supply grills with Wexcide	▼
	▼
	▼
	▼
	▼
	▼

### Corrective Actions to be Completed by PPO

Evaluate and repair cause of stained ceiling tiles	▼
Remove and replace stained ceiling tiles	▼
Evaluate and repair cause of water damage	▼
to wall material	▼
Remove and replace wall material as necessary	▼
	▼
Replace floor tile (after asbestos abatement)	▼
	▼

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Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
233	74.4	72 - 78	58.7	30% - 60%	478	MAX 700 > Ambient	1
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling		Walls		Floor			
2' X 4' Lay in / Plaster		Plaster		12" x 12" Vinyl		29 stained / 2 w/ Microbial	
Yes		Yes		No		100 Sq ft	
No		No		No			

Ceiling Clean	No	HVAC Supply Grills Clean	No	HVAC Return Grills Clean	Yes
Walls Clean	No	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes
Flooring Clean	No	Ceiling at Supply Grills Clean	No		
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	Yes	Air Fresheners in Room	No
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	No		

Mechanical Equipment Location	FISH 233E	Mechanical Room Clean	No
Filters Installed Properly	Yes	Filters Clean	No
Condensate Pan Clean	N/A	Cooling Coil Clean	N/A
		Inside of HVAC Unit Clean	N/A

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

**Observations**

Musty odor in room - Dust / cob webs on all elevated wall surfaces - flooring dirty - all surfaces dirty - heavy dust on ceilings at HVAC supply grills - 29 stained ceiling tiles 2 with visible microbial growth - plaster high ceiling is water stained - severely water damaged walls at all windows and doors.

**Corrective Actions to be Completed by Site Based Staff**

Thoroughly clean all surfaces	▼
Thoroughly clean and sanitize flooring	▼
Clean ceilings around HVAC supply grills	▼
Clean HVAC supply grills with Wexcide	▼
	▼
	▼
	▼
	▼

**Corrective Actions to be Completed by PPO**

Repair cause of water damaged walls (first)	▼
Remove cabinets from walls at windows	▼
Remove and replace water damaged wall material	▼
Evaluate and repair cause of stained ceiling tiles	▼
Remove and replace stained ceiling tiles	▼
Clean inside of HVAC unit	▼
	▼
	▼

