

Aston A. Henry, Director  
Risk Management Department

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August 8, 2013

Signature on File

TO: Oslay Gil, Principal  
**Riverland Elementary 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 August 8, 2013, I conducted an assessment at **Riverland 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 754-321-1907.

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

Riverland Elementary

 Evaluation Date August 8, 2013

 Time of Day 1:30

 Outdoor Conditions    Temperature 92.3

 Relative Humidity 66.3

 Ambient CO2 492

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
750	71.0	72 - 78	51.2	30% - 60%	588	MAX 700 > Ambient	4
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling		Walls		Floor			
No		Yes		No		11 stained	
2' X 4' Lay in		Yes		Yes		2 sq ft	
Drywall		No		No			
12" x 12" Vinyl		No		No			

Ceiling Clean	<input type="checkbox"/> Yes	HVAC Supply Grills Clean	<input type="checkbox"/> Yes	HVAC Return Grills Clean	<input type="checkbox"/> Yes
Walls Clean	<input type="checkbox"/> Yes	Inside of Supply Duct Clean	<input type="checkbox"/> Yes	Inside of Return Duct Clean	<input type="checkbox"/> N/A
Flooring Clean	<input type="checkbox"/> Yes	Ceiling at Supply Grills Clean	<input type="checkbox"/> Yes		
Room Surfaces Clean	<input type="checkbox"/> Yes				

Trash Removed	<input type="checkbox"/> Yes	Exhaust Fans Working	<input type="checkbox"/> Yes	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	Bard unit on exterior	Mechanical Room Clean	<input type="checkbox"/> N/A
Filters Installed Properly	<input type="checkbox"/> No	Filters Clean	<input type="checkbox"/> No
Condensate Pan Clean	<input type="checkbox"/> N/A	Cooling Coil Clean	<input type="checkbox"/> N/A
		Inside of HVAC Unit Clean	<input type="checkbox"/> No

Fresh Air Intake Location	Outside of Unit ▼	Fresh Air Intake Free of Obstruction	<input type="checkbox"/> Yes
Pollutant Sources Near Air Intake	Parking lot ▼		

### Observations

Sign on entry door says 780 - Row of ceiling tiles in center of room stained (roof has been repaired) - Water damaged wall in 750A, restroom behind toilet - Glass mat filters installed in HVAC unit - Filters dirty - filters falling out of filter rack - 2 sq ft water damaged drywall above ceiling on west wall 6 feet out from restroom door (minor microbial growth less than 1 sq ft total)

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

Remove and replace stained ceiling tiles	▼
Remove and replace A/C filters	▼
Clean drywall above ceiling at west wall	▼
	▼
	▼
	▼
	▼
	▼
	▼

### Corrective Actions to be Completed by PPO

Provide 50 - 2' x 4' ceiling tiles (pinhole)	▼
Replace ceiling tiles at heat detectors (2)	▼
Replace water damaged wall in restroom	▼
Provide the school with the proper A/C filters	▼
Repair cause of water damage above ceiling	▼
Replace damaged drywall above ceiling	▼
	▼
	▼

# IAQ Assessment

Riverland Elementary

 Evaluation Date August 8, 2013

 Time of Day 1:30

 Outdoor Conditions    Temperature 92.3

 Relative Humidity 66.3

 Ambient CO2 492

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">751</span>	<span style="border: 1px solid black; padding: 2px;">70.3</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">47.0</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">489</span>	<b>MAX 700 &gt; Ambient</b>	<span style="border: 1px solid black; padding: 2px;">2</span>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling		Walls		Floor			
<span style="border: 1px solid black; padding: 2px;">No</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;">11 stained ceiling tiles</span>	
<span style="border: 1px solid black; padding: 2px;">2' X 4' Lay in</span>		<span style="border: 1px solid black; padding: 2px;">Drywall</span>		<span style="border: 1px solid black; padding: 2px;">12" x 12" Vinyl</span>		<span style="border: 1px solid black; padding: 2px;"></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;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>	

Ceiling Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Supply Grills Clean	<span style="border: 1px solid black; padding: 2px;">Yes</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;">Yes</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;">N/A</span>
Flooring Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Ceiling at Supply Grills Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>		
Room Surfaces Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>				

Trash Removed	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Exhaust Fans Working	<span style="border: 1px solid black; padding: 2px;">Yes</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;">Bard unit on exterior</span>	Mechanical Room Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>
Filters Installed Properly	<span style="border: 1px solid black; padding: 2px;">No</span>	Filters Clean	<span style="border: 1px solid black; padding: 2px;">No</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>
		Inside of HVAC Unit Clean	<span style="border: 1px solid black; padding: 2px;">No</span>

Fresh Air Intake Location	<span style="border: 1px solid black; padding: 2px;">Outside of Unit</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;">Parking lot</span> ▼		

### Observations

Sign on entry door says 781 - Row of ceiling tiles in center of room stained (roof has been repaired) - Water damaged wall in 751A, restroom behind toilet - minor microbial growth on wall left of toilet - Glass mat filters installed in HVAC unit - Filters dirty - filters falling out of filter rack -  
 Three ceiling tiles were replaced by FSP with tiles that already had microbial growth on them from where they are stored. (removed during assessment)

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

Remove and replace stained ceiling tiles	▼
Remove and replace A/C filters	▼
Clean wall in restroom left of toilet	▼
	▼
	▼
	▼
	▼
	▼

### Corrective Actions to be Completed by PPO

Provide 50 - 2' x 4' ceiling tiles (pinhole)	▼
Replace ceiling tiles at heat detectors (2)	▼
Replace water damaged wall in restroom	▼
Provide the school with the proper A/C filters	▼
	▼
	▼
	▼
	▼