

**THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA**

**ENVIRONMENTAL HEALTH & SAFETY DEPARTMENT**

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February 12, 2018

Signature on File

TO: Rick Rodriguez, Principal  
**Sea Castle Elementary**

FROM: Alison Witoshynsky, Project Manager  
Environmental Health & Safety 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
<hr/>	
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On February 8, 2018, I conducted an assessment at **Sea Castle 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: Sam Bays, Director, Maintenance Operations  
Shelley Meloni, Director, Pre-Construction  
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division  
Greg Neiman, Area Supervisor, Zone 1  
Kurt Wirz, Area Manager Trades  
Gerald Devio, Supervisor II Custodial  
Benjamin Osborne, Supervisor II Custodial  
Mark Murray, Supervisor II Custodial  
Broward Teachers Union  
Federation of Public Employees

# IAQ Assessment

Sea Castle Elementary

Evaluation Date February 8, 2018

Time of Day 12:30 PM

Outdoor Conditions    Temperature 82.9

Relative Humidity 72.9

Ambient CO2 428

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">138</span>	<span style="border: 1px solid black; padding: 2px;">75.7</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">67.0</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">1046</span>	<span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">6</span>
Noticeable Odor		<span style="border: 1px solid black; padding: 2px;">No</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</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>
Walls	<span style="border: 1px solid black; padding: 2px;">Drywall</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>
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	
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;">N/A</span>	Inside of Return Duct Clean	
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;">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;">N/A</span>	Unapproved Chemicals / Cleaners in Room	
Signs of Pests		<span style="border: 1px solid black; padding: 2px;">No</span>	Drain Traps Wet		<span style="border: 1px solid black; padding: 2px;">N/A</span>	Air Fresheners in Room	
Room Cluttered		<span style="border: 1px solid black; padding: 2px;">Yes</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 124</span>			Mechanical Room Clean	
Filters Installed Properly		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Filters Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of HVAC Unit Clean	
Condensate Pan Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Cooling Coil Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>		
Fresh Air Intake Location			<span style="border: 1px solid black; padding: 2px;">Roof top</span> ▼			Fresh Air Intake Free of Obstruction	
Pollutant Sources Near Air Intake			<span style="border: 1px solid black; padding: 2px;">No</span> ▼			<span style="border: 1px solid black; padding: 2px;">Yes</span>	

**Observations**

Occupants report mold odors within the room. The room is cluttered with books, cardboard boxes, and papers. Light layer of dust is present around the supply grills on the ceiling tiles. Tight corners of the floor and on horizontal surfaces has light to medium dust layer. Previously inspected this room in July 2017. Observed wet wall material directly adjacent to the windows. Appears that the sprinkler head is directed at the wall/window and may be contributing to water intrusion. Wall materials were all dry during this inspection.

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

Clean dust from ceiling tiles or replace	▼
Floor needs mop/vacuum along walls/corners	▼
Encourage occupant to reduce clutter	▼
Thoroughly clean horizontal surfaces	▼
Remove cardboard boxes; store items in plastic	▼
Adjust head(s) on sprinklers; direct away from buildings	▼
	▼
	▼

**Corrective Actions to be Completed by PPO**

Evaluate and repair HVAC system as needed	▼
Repair HVAC to Reduce Humidity Levels	▼
Evaluate fresh air damper at HVAC	▼
Caulk windows from outside	▼
Ceiling tile cuts needed around supply vents	▼
	▼
	▼
	▼

# IAQ Assessment

Sea Castle Elementary

Evaluation Date February 8, 2018

Time of Day 12:30 PM

Outdoor Conditions    Temperature 82.9

Relative Humidity 72.9

Ambient CO2 428

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">206</span>	<span style="border: 1px solid black; padding: 2px;">71.4</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">73.2</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">1191</span>	<span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">8</span>
Noticeable Odor		<span style="border: 1px solid black; padding: 2px;">No</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</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;">2 missing @ exhaust</span>
Walls	<span style="border: 1px solid black; padding: 2px;">Drywall</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>
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;">No</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;">N/A</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;">No</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;">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;">N/A</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;">Yes</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 200C</span>					Mechanical Room Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Filters Installed Properly	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Filters Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of HVAC Unit Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Condensate Pan Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Cooling Coil Clean		<span style="border: 1px solid black; padding: 2px;">Yes</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;">No</span> ▼						

**Observations**

Occupants report mold odors within the room. FISH 206 is the kitchen, FISH 206H (kitchen managers office) and 206J (dry storage) are adjacent. FISH 206J and portions of 206 are cluttered with cardboard boxes. Light layer of dust is present around the supply grills on the ceiling tiles. Light dust layer on supply grills and on surrounding ceiling tiles. 2 small cut ceiling tiles missing near exhaust. FISH 206H needs to be vacuumed/dusted. The filter in the return in the hallway 005 @ door to 008 is very dirty and needs to be replaced.

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

Clean dust from return grill	▼
Remove and replace A/C Filters (005/008)	▼
Thoroughly clean ALL surfaces (206H)	▼
Remove cardboard boxes; store items in plastic	▼
Encourage occupant to reduce clutter	▼
	▼
	▼
	▼

**Corrective Actions to be Completed by PPO**

Evaluate and repair HVAC system as needed	▼
Repair HVAC to Reduce CO2 Levels	▼
Repair HVAC to Reduce Humidity Levels	▼
Evaluate fresh air damper at HVAC	▼
Ceiling tile cuts needed around supply vents	▼
Clean HVAC supply grills and drops	▼
	▼
	▼