

# managing risk with responsibility

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June 26, 2008 Signature on File

TO: Mr. Lewis Jackson, Principal

**Sunshine Elementary School** 

FROM: Aston Henry, Supervisor

Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment

FISH 143, 155, 156, 157, 158, 170, 172, 174, 176

Custodial Issues Addressed
Custodial Issues Not Addressed

On June 18, 2008 I conducted an assessment of FISH 143, 155, 156, 157, 158, 170, 172, 174 and 176 at **Sunshine Elementary School**. This evaluation included observations of the flooring system, ceiling tiles, false ceiling plenum, environmental surfaces, interior and exterior walls, and the accessible ventilation equipment. Additionally, environmental parameter measurements were taken to include temperature, relative humidity, and carbon dioxide. The detailed findings, along with the recommended corrective action can be found on the attached IAQ Assessment Worksheets.

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. Within two weeks a representative from the Custodial/Grounds Department will conduct a follow-up visit to ensure that all 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 me at 754-321-3200.

cc: Dr. Joel Herbst, Area Superintendent

Jacquelyn Box, Area Director

Jeffrey S. Moquin, Director, Risk Management

Rey Olivera, Project Manager, Facilities and Construction Management

Diane Watts, Broward Teachers Union

Roy Jarrett, Federation of Public Employees

Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1

Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division Robert Krickovich, Coordinator, LEA, Facilities and Construction Management

AH/tc Enc.

	Sunsh	ine Elementar	y School		Evaluati	on Requested	June 11, 2008
Time of Day	3:00 pm		_		E	Evaluation Date	June 18, 2008
Outdoor Condi	tions Temp	perature 8	4.2	Relative Humid	dity 64.7	Ambie	nt CO2 569
l			ive Humidity	Range	CO2	Ran	
143	74.7 <b>72</b>	2 - 78	70.1	30% - 60%	661	Max 700	> Ambient 2
Noticeable Od	lor Yes		isible water age / stainingʻ	Visible m grow		Amount of mat affected	terial
Ceiling Type	2 x 4 Lay lı	n	No	No	<u> </u>		None
Wall Type	Drywall/Tacka	able	Yes	No	<u> </u>	No	orth wall
Flooring	Tile		No	No			None
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	quired
Ceiling	Yes	No	No				
Walls	No	Yes	Yes		Repair/re	eplace as appr	opriate
Flooring	Yes	No	No				
HVAC Supply	Grills Yes	No	No				
HVAC Return	Grills No	Yes	Yes		Clean witl	h Wexcide disi	nfectant
Ceiling at Sup Grills	ply Yes	No	No				
Surfaces in Ro	oom Yes	No	No				
Observations							
Findings:	tura contant in Na	rth wall					

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**Location Number** 

## 0

- Elevated moisture content in North wall
- Humidity level was elevated at the time of the assessment
- Dust and debris on HVAC return grills

### Recommendations:

#### Site Based Maintenance:

- Clean HVAC return grills with Wexcide disinfectant solution
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

# Physical Plant Operations:

- Evaluate cause of elevated moisture content in North wall and repair as appropriate. Repair/replace wall material as necessary.
- Evaluate HVAC for proper operation and repair as appropriate to lower humidity level

Time of Day 2:	:00 pm	<u> </u>		Evalu	uation Date June	18, 2008
Outdoor Conditions	Temperature	84.2	Relative Humidity	64.7	Ambient CO2	569
l	erature Range 77.4 72 - 78	Relative Humidity	30% - 60%	<b>CO2</b> 697	Range #	Occupants
Noticeable Odor [	No	Visible water damage / staining	Visible microl g? growth?	bial Am	nount of material affected	
Ceiling Type	2 x 4 Lay In  Tackable	No	No		None None	
Wall Type Flooring	Tile	No No	No No		None	
	Clean Minor E	Oust Needs		Corrective	Action Required	
Ceiling	Yes No	No				
Walls	Yes No	No				
Flooring	Yes No	No				
HVAC Supply Grills	Yes No	No				
HVAC Return Grills	Yes No	No				
Ceiling at Supply Grills	Yes No	No				
Surfaces in Room	No	Yes		Clean a	s appropriate	
- Minor dust build up of Recommendations:  Site Based Maintena - Thoroughly clean fur	rniture throughout the	ut the room e room to remove o		and debris	accumulation and cle	an as

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June 11, 2008

	Sunsnine Elen	nentary School		Evaluation	Requested June 11, 2008
Time of Day 2:	00 pm	_		Eva	June 18, 2008
Outdoor Conditions	Temperature	84.2	Relative Humidity	64.7	Ambient CO2 569
l	7.6 Range	Relative Humidity	Range 30% - 60%	<b>CO2</b> 677	Range # Occupants  Max 700 > Ambient
Noticeable Odor [	No	Visible water damage / staining	Visible micro	bial A	mount of material
Ceiling Type	2 x 4 Lay In	No	No		None
Wall Type	Tackable	No	No		None
Flooring	Tile	No	No		None
	Clean Minor I			Correctiv	ve Action Required
Ceiling	Yes	No			
Walls	Yes	No			
Flooring	Yes No	No			
HVAC Supply Grills	Yes No	No			
HVAC Return Grills	Yes	No			
Ceiling at Supply Grills	Yes	No			
Surfaces in Room	No	Yes		Clean	as appropriate
Dbservations Findings: - No visible signs of m - Minor dust build up of					
Recommendations:  Site Based Maintena - Thoroughly clean fur - Continue to monitor appropriate	rniture throughout the			st and debris	s accumulation and clean as

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**Location Number** 

	Sui	nshine Eleme	entary School		Evaluatio	on Requested June 11, 2008
Time of Day	2:00 pm				Ev	June 18, 2008
Outdoor Condit	ions Te	mperature	84.2	Relative Humidity	64.7	Ambient CO2 569
l	emperature		Relative Humidity	90	CO2	Range # Occupants
157	76.6	72 - 78 	52.1	30% - 60%	678	Max 700 > Ambient
Noticeable Odd	or No		Visible water damage / staining	Visible microg? growth?		Amount of material affected
Ceiling Type	2 x 4 La	y In	No	No		None
Wall Type	Tackal	ole	No	No		None
Flooring	Tile		No	No		None
	Clean	Minor Du / Debris		J	Correct	ive Action Required
Ceiling	Yes	No	No			
Walls	Yes	No	No			
Flooring	Yes	No	No			
HVAC Supply 0	Grills Yes	No	No			
HVAC Return G	rills Yes	No	No			
Ceiling at Supp Grills	ly Yes	No	No			
Surfaces in Ro	om No	Yes	Yes		Clear	n as appropriate
Dbservations Findings: - No visible signs - Minor dust build Recommendation Site Based Mair	d up on furnitu	growth or wat re throughou	er intrusion t the room			
- Thoroughly clea	an furniture thi		room to remove o		st and deb	ris accumulation and clean as

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Time of Day 2:	:00 pm			Evalu	ation Date June	18, 2008
Outdoor Conditions	Temperature	84.2	Relative Humidity	64.7	Ambient CO2	569
	erature Range 75.7 72 - 78	Relative Humidity	Range 30% - 60%	<b>CO2</b> 680	Range #	Occupants
Noticeable Odor [	No	Visible water damage / staining	Visible microl growth?	bial Am	nount of material affected	
Ceiling Type	2 x 4 Lay In  Tackable	No	No		None	
Wall Type Flooring	Tile	No No	No No		None	
	Clean Minor D	Oust Needs		Corrective	Action Required	
Ceiling	Yes No	No				
Walls	Yes No	No				
Flooring	Yes No	No				
HVAC Supply Grills	Yes No	No				
HVAC Return Grills	Yes No	No				
Ceiling at Supply Grills	Yes No	No				
Surfaces in Room	No	Yes		Clean as	s appropriate	
- Minor dust build up of Recommendations:  Site Based Maintena - Thoroughly clean ful	rniture throughout the	ut the room room to remove d		and debris	accumulation and cle	an as

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June 11, 2008

	Su	nshine Eleme	ntary School		Evaluation	Requested _	June 1	11, 2008
Time of Day	2:00 pm		-		Eval	uation Date	June 1	18, 2008
Outdoor Cond	itions Te	emperature	84.2	Relative Humidity	64.7	Ambien	t CO2	569
Fish	Temperature	Range I	Relative Humidity	Range	CO2	Rang	e #	Occupants
170	70.8	72 - 78	64.5	30% - 60%	730	Max 700 >		t
Noticeable O	dor No	<u> </u>	Visible water damage / staining	Visible micr growth?		nount of mate affected	rial	
Ceiling Type	2 x 4 La	ay In	No	No		N	None	
Wall Type	Drywall/Ta	ickable	Yes	No		Wes	st wall	
Flooring	Tile		No	No		1	None	
	Clean	Minor Du / Debris			Correctiv	e Action Req	luired	
Ceiling	Yes	No	No					
Walls	No	Yes	Yes		Repair/repla	ace as appro	priate	
Flooring	Yes	No	No					
HVAC Supply	Grills Yes	No	No					
HVAC Return	Grills Yes	No	No					
Ceiling at Sup Grills	oply Yes	No	No					
Surfaces in R	oom Yes	No	No					
bservations								
	sture content in I elevated due t			rea - floors were be	ing waxed			
Recommendat	tions:							
Site Based Ma		mid air to ente	er occupied space	es. Monitor room ar	nd if humidity	does not imp	rove conta	act Physical

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**Location Number** 

- Plant Operations to generate a work order to evaluate.

   Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as
- appropriate

Physical Plant Operations:
- Evaluate cause of elevated moisture content in West wall against bathroom and repair as appropriate. Repair/replace wall material as necessary.

	Sunshine Ele	mentary School		<b>Evaluation Requested</b>	June 11, 2008
Time of Day	3:00 pm			Evaluation Date	June 18, 2008
Outdoor Condition	s Temperatur	e 84.2	Relative Humidity	64.7 Ambie	ent CO2 569
Fish Temp	Perature Range 72 - 78	Relative Humidity	Range 30% - 60%		nge # Occupants 0 > Ambient
Noticeable Odor	No	Visible water damage / staining	Visible micro g? growth?		
Ceiling Type	2 x 4 Lay In	No	No		None
	Drywall/Tackable	Yes	Yes	S	outh wall
Flooring	Tile	No	No		None
	Clean Minor / De		I	Corrective Action R	equired
Ceiling	Yes	o No			
Walls	No	Yes		Repair/replace as app	ropriate
Flooring	Yes	o No			
HVAC Supply Grill	s Yes N	o No			
HVAC Return Grill	s Yes N	o No			
Ceiling at Supply Grills	Yes	o No			
Surfaces in Room	Yes	No			
Dbservations					
Findings:	content in South well	l tackable material e	nd visible microbial a	arouth on drawell	
	content in South wall ired - no further signs		na visible microbiai g	growth on drywan	
Recommendations	:				
	on South wall with V			nicrobial growth at and debris accumulat	ion and clean as
Physical Plant Ope - Evaluate cause of onecessary.		ntent in South wall a	and repair as appropr	riate. Repair/replace wa	all material as
1					

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June 11, 2008

	Sun	shine Elementar	/ School		Evaluation	Requested [	June 11, 2008
Time of Day	2:30 pm	]			Eval	uation Date	June 18, 2008
Outdoor Condi	itions Ter	nperature 8	4.2	Relative Humidity	64.7	Ambier	nt CO2 569
Fish 174	71	72 - 78	67.3	30% - 60%	<b>CO2</b> 728	_	Ambient 3
Noticeable Oc	dor No		isible water age / stainingʻ	Visible microl ? growth?	bial An	nount of mate affected	erial
Ceiling Type	2 x 4 Lay	' In	No	No			None
Wall Type	Drywall/Tac	kable	No	No		1	None
Flooring	Tile		No	No			None
	Clean	Minor Dust / Debris	Needs Cleaning		Corrective	e Action Red	quired
Ceiling	Yes	No	No				
Walls	Yes	No	No				
Flooring	Yes	No	No				
HVAC Supply	Grills Yes	No	No				
HVAC Return	Grills Yes	No	No				
Ceiling at Sup Grills	ply Yes	No	No				
Surfaces in Ro	oom Yes	No	No				
bservations Findings: - No visible sign - Humidity level Recommendat Site Based Mai - Open doors al Plant Operation	is of microbial grand elevated due to ions: intenance: low outside hums to generate a version of the second control of the second co	owth or water int door being open id air to enter oc work order to eva	rusion to outside pla cupied spaces lluate.	ay area - floors were	l if humidity	does not imp	prove contact Physical n and clean as

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**Location Number** 

Time of Day	2:00	pm						E	Evalua	ition Date	Jun	e 18, 2008
Outdoor Condi	tions	Те	mperature	84.2		Relative H	lumidit	y 64.7		Ambien	t CO2	569
Fish	Tempera	ture	Range	Relative I	lumidity	Range		CO2		Rang	je	# Occupants
176			72 - 78			30% - 609	<b>/</b> 6			Max 700 >	- Ambie	ent
Noticeable Od		No		Visibl damage	e water ' staining	_	ble mici		Amo	ount of mate affected		
Ceiling Type		x 4 La		N	0		No				None	
Wall Type	_	Tackal	ole	Y	es		No			South w	indow v	vall
Flooring		Tile		N	0		No			I	None	
	Cl	ean	Minor I / Deb		Needs leaning			Correc	ctive /	Action Rec	quired	
Ceiling		Yes	No		No							
Walls		No	Yes	3	Yes			Repair/r	eplac	e as appro	priate	
Flooring		Yes	No		No							
HVAC Supply	Grills [	Yes	No		No							
HVAC Return (	Grills [	Yes	No		No							
Ceiling at Supp Grills	oly [	Yes	No		No							
Surfaces in Ro	oom [	Yes	No	]	No							
Observations												
Findings: - Elevated moist	ure cont	ent in	South wind	ow wall. Id	entified	small hole a	and crac	ks in caul	lkina.			
- Cabinets and c									3			
Recommendati	ons:											
Site Based Mail - Continue to mo			ion for any	signs of mi	crobial g	rowth as w	ell as du	ıst and de	bris a	ccumulatio	n and cl	ean as
Physical Plant of Evaluate cause Repair/replace v	e of eleva vall mate	ated m erial as	necessary	•			repair a	s appropr	riate.	Caulking m	nay be c	ause.
- Repair damage	ed cabin	ets and	a cubby spa	ices as ap <sub>l</sub>	oropriate							

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