

managing risk with responsibility

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Jeffrey S. Moquin, Director Risk Management Department

Signature on File

January 3, 2006

TO: Ms. Kellee Stroup, Principal

McNab Elementary School

FROM: Robert J. Krickovich, Coordinator, LEA

Facilities and Construction Management, Environmental Division

SUBJECT: Indoor Air Quality (IAQ) Assessment

FISH 316, 326, 327, 328, 329, 926 and 931

On September 27, 2005 the IAQ Assessment Team conducted an assessment FISH 316, 326, 327, 328, 329, 926 and 931 at **McNab Elementary School**. The evaluation consisted of a walkthrough of the identified areas to assess the current condition of the location with regard to indoor air quality. This assessment included observations of the carpet, floor tile, ceiling tile, interior walls, false ceiling plenum, and accessible ventilation equipment.

Attached are the findings of this assessment along with recommendations for further assessment, remediation, or corrective actions, if needed.

Generally, the IAQ Assessment did not identify any existing conditions significantly impacting IAQ and thereby presenting immediate health and safety concerns 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.

Should any questions arise, or if the current concerns continue after the attached recommendations have been addressed, please feel free to contact me at 754-321-1638.

cc: Dr. Joanne Harrison, Area Superintendent
Jackie Haywood, Area Director
Jeffrey S. Moquin, Director, Risk Management
Ed Beraldi, Project Manager, Facilities and Construction Management
Jaime Daniels, Broward Teachers Union
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division

RK/tc Enc.

	McNab Ele	ementary School		Evaluation Requested September 26, 2005
Time of Day	1:30 pm			Evaluation Date September 27, 2005
Outdoor Condition	ns Temperatu	re 92.3	Relative Humidity	55.9 Ambient CO2 442
Fish Ten	73.7 Range 72 - 78	Relative Humidity	/ Range 30% - 60%	CO2 Range # Occupants 1139 Max 700 > Ambient 23
Noticeable Odor	No	Visible water damage / stainin	Visible micro g? growth?	
Ceiling Type	2 x 4 Lay In	Yes	No No	2 ceiling tiles
Wall Type	Drywall	No	No	None
Flooring	12 x 12 Vinyl	No	No	None
	Clean Minor	Dust Needs	a	Corrective Action Required
Ceiling		lo No		
Walls	Yes	No No		
Flooring	Yes	lo No		
HVAC Supply Gri	ills Yes N	lo No		
HVAC Return Gri	IIs Yes N	No No		
Ceiling at Supply Grills	Yes	lo No		
Surfaces in Roon	n Yes N	o No		
Dbservations				
Findings: - No visible microbial	growth or signs of wate	r intrusion identified		
Recommendations:				
Site Based Mainten				
- Continue to monitor	this location for any sig	ns of microbial growth	as well as dust and de	ebris accumulation and clean as appropriate

0841

Location Number

	Mc	Nab Elementa	ry School		Evaluati	on Requested September 26, 2005	
Time of Day	1:30 pm				E	September 27, 2005	
Outdoor Condi	itions Tem	perature	92.3	Relative Humidity	55.9	Ambient CO2 442	
326 Noticeable Od Ceiling Type Wall Type	72.4 7 lor No 2 x 4 Lay Drywall	2 - 78 dar	45.3 Visible water mage / staining Yes No	30% - 60% Visible micro	979 obial	Range # Occupants Max 700 > Ambient 23 Amount of material affected 2 ceiling tiles None	
Flooring	12 x 12 Vin	iyl	No	No		None	
	Clean	Minor Dust / Debris	Needs Cleaning	ı	Correc	etive 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 Sup Grills	ply Yes	No	No				
Surfaces in Ro	oom Yes	No	No				
) Dbservations							
- Visible microbial - Vinyl base missi Recommendatio Site Based Main - Remove non-ap - Thoroughly clea - Continue to mor Physical Plant O	tenance: proved chemicals f n throw rugs or dis nitor this location fo	damage inside of der windows from room card and replace r any signs of m	cabinet above s	tove as well as dust and del		nulation and clean as appropriate	
 Evaluate for cause of stained ceiling tiles and repair as necessary. Replace stained ceiling tiles as necessary. Evaluate for cause of condensation in cabinet over stove 							

Repair/replace cabinet over stove

Replace missing vinyl base on cabinet under windows

IAQ Assessment

0841

Location Number

McNab Elementary School Evaluation Requested September 26, 2005
Time of Day 1:30 pm Evaluation Date September 27, 2005
Outdoor Conditions Temperature 92.3 Relative Humidity 55.9 Ambient CO2 442
Fish Temperature Range Relative Humidity Range CO2 Range # Occupants 327 71.6 72 - 78 44 30% - 60% 1012 Max 700 > Ambient 3 Noticeable Odor No Visible water damage / staining? Visible microbial growth? Amount of material affected Ceiling Type 2 x 4 Lay In No No None
Wall Type Drywall No No None Flooring 12 x 12 Vinyl No No None
Clean Minor Dust 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 Yes No No Srills
Surfaces in Room Yes No No
Dbservations Findings: - Visible microbial growth and water damage inside cabinet above stove - Emergency egress window was partially open Recommendations: Site Based Maintenance: - Ensure that all exterior windows and doors are closed tightly - 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 Division: - Evaluate for cause of condensation in cabinet over stove - Repair/replace cabinet over stove

0841

Location Number

	N	1cNab Eleme	ntary School		Evaluat	ion Requested	Septemb	per 26, 2005
Time of Day	1:30 pm]			E	Evaluation Date	Septemb	per 27, 2005
Outdoor Cond	ditions Te	mperature	92.3	Relative Humi	dity 55.9	Ambie	ent CO2	442
Fish	Temperature	Range F	Relative Humidity	/ Range	CO2	Rar	nge i	# Occupants
328	72.2	72 - 78	48.7	30% - 60%	998	Max 700	> Ambier	nt 15
Noticeable O			Visible water damage / stainin	Visible n g? grov		Amount of ma affected		
Ceiling Type	2 x 4 La	y In	No	No			None	
Wall Type	Drywa	ıll	No	No	D		None	
Flooring	12 x 12 V	inyl	No	No	D		None	
	Clean	Minor Du / Debris		9	Correc	ctive Action Re	equired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply	y Grills No	Yes	Yes		Clean wit	h Wexcide dis	infectant	
HVAC Return	Grills Yes	No	No					
Ceiling at Sup Grills	pply Yes	No	No					
Surfaces in R	Room Yes	No	No					

0841

Location Number

Observations

Findings:

- · Non-approved SBBC chemicals identified at the time of assessment (Americlean with bleach, Lysol all purpose cleaner and Quality Care spray disinfectant)
- Dust and debris on HVAC supply grills
- Visible microbial growth and water damage inside cabinet above stove
- Throw rugs are heavily soiled and stained

Recommendations:

Site Based Maintenance:

- Remove non-approved chemicals from room
- Clean HVAC supply grills with Wexcide disinfectant solution
- Thoroughly clean throw rugs or discard and replace
- · 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 Division:

- Evaluate for cause of condensation in cabinet over stove
- Repair/replace cabinet over stove

Note - Teacher advised that there was a water leak in the wall between rooms 326 and 328 and leaked every time it rained. It has been repaired and has not flooded since.

Time of Day	1:30 pm						E	valuation Dat	e Septer	mber 27, 2005
Outdoor Condi	tions	Temperature	e 92.3	Rela	ative Hur	nidity	55.9	Amb	ient CO2	442
Fish	Temperature	Range	Relative Hur	nidity F	Range		CO2	Ra	ange	# Occupants
329	73.1	72 - 78	44.4	30%	60%		1000	Max 70	0 > Ambi	ent 1
Noticeable Od	or Yes	5	Visible w damage / st		Visible gr	micro		Amount of m affecte		
Ceiling Type	2 x 4	Lay In	No]		No			None	
Wall Type	Dry	wall	No]		No			None	
Flooring	12 x 1	2 Vinyl	No]		No			None	
	Clean	Minor / Dek		eds aning			Correc	tive Action F	Required	
Ceiling	Yes	No	D N	10						
Walls	Yes	No		lo						
Flooring	No	Ye	s Y	es		Clean and sanitize				
HVAC Supply	Grills Yes	No	N	lo						
HVAC Return	Grills Yes	No		lo						
Ceiling at Sup Grills	ply Yes	No	O N	lo						
Surfaces in Ro	oom Yes	No		lo						
Observations										
Findings: - Non-approved S room) - Dust and debris - Visible microbial - Throw rugs are s	on floor growth and w	vater damage i			freshener	s and o	deodorize	rs - very strong	perfume/flo	oral odor in the
Recommendatio Site Based Maint Remove non-app Thoroughly clea Thoroughly clea Continue to mon	tenance: proved chemi n and sanitize n throw rugs	floor		rowth as we	ll as dust a	and de	bris accur	nulation and cle	ean as appı	ropriate
Physical Plant O - Evaluate for cau - Repair/replace c	se of condens	sation in cabine	et over stove							

McNab Elementary School

0841

September 26, 2005

Location Number

Evaluation Requested

			Hornary Correct			•		,
Time of Day	1:30 pm	n			Ev	aluation Date	Septembe	er 27, 2005
Outdoor Condi	tions	Temperature	92.3	Relative Humidity	55.9	Ambie	ent CO2	442
Fish	Temperatur	e Range	Relative Humidity	/ Range	CO2	Ran	nge #	Occupants
926	71	72 - 78	52.6	30% - 60%	1354	Max 700	> Ambient	2
Noticeable Od	lor No	0	Visible water damage / stainin	Visible micro g? growth?		Amount of ma affected	terial	
Ceiling Type	2 x 4	Lay In	Yes	Yes		6 c	eiling tiles	
Wall Type	Struc	k Block	No	No			None	
Flooring	12 x	12 Vinyl	No	No			None	
	Clea	n Minor l		9	Correct	ive Action Re	equired	
Ceiling	No	Ye	Yes		Repl	ace ceiling ti	les	
Walls	Yes	S No	No					
Flooring	Yes	S No	No					
HVAC Supply	Grills No	Yes	Yes	С	lean with	Wexcide dis	infectant	
HVAC Return	Grills No	Ye	Yes	С	lean with	Wexcide dis	infectant	
Ceiling at Sup Grills	ply No	Ye	Yes		Clear	n as appropri	ate	
Surfaces in Ro	oom No	Yes	Yes		Clear	n as appropri	ate	

McNab Flementary School

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Evaluation Requested September 26, 2005

Location Number

Observations

Findings:

- Visible microbial growth on 1 ceiling tile Northeast corner between entry door and door to restroom. Teacher advised leak was repaired several times before but the growth keeps coming back.
- 2 stained ceiling tiles over window and 3 stained ceiling tiles on the West side of the room near windows
- Dust and debris on HVAC supply and return grills
- Dust and dirt on ceiling at HVAC supply grills
- Dust and debris on environmental surfaces throughout the room

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean ceiling at HVAC supply grills as appropriate
- Clean environmental surfaces throughout the room
- · 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 Division:

- Evaluate for cause of stained ceiling tiles and microbial growth on ceiling tile and repair as necessary. Replace stained ceiling tiles as necessary.

Time of Day	1:30 pm]					E	Evaluation Date September 27, 2005
Outdoor Condition	ns Tei	mperature	92.3	Re	lative Hu	umidity	y 55.9	Ambient CO2 442
Fish Tem	perature	Range	Relative Hum	nidity	Range		CO2	Range # Occupants
931	70.1	72 - 78	54.5	30	% - 60%		1492	Max 700 > Ambient 1
Noticeable Odor	No]	Visible wa damage / sta			le micr growth		Amount of material affected
Ceiling Type	2 x 4 Lay		No		Ĺ	No		None
Wall Type	Struck BI	ock	No		[No		None
Flooring	12 x 12 V	inyl	No		[No		None
	Clean	Minor D / Debr	is Clea				Correc	ctive Action Required
Ceiling	Yes	No	N	0				
Walls	Yes	No	N	0				
Flooring	Yes	No	N	0				
HVAC Supply Gri	lls No	Yes	Ye	es		(Clean wit	h Wexcide disinfectant
HVAC Return Gril	Is No	Yes	Ye	es		(Clean wit	h Wexcide disinfectant
Ceiling at Supply Grills	No	Yes	Ye	es			Clea	an as appropriate
Surfaces in Room	Yes	No	N	0				
hearvations								
Findings: - Non-approved SBB0 - Dust and debris on I - Dust and dirt on ceil Recommendations: Site Based Maintena - Remove non-approv - Clean ceiling tiles as - Clean HVAC supply - Clean ceiling at HVA - Continue to monitor	HVAC supply ing at HVAC seance: ved chemicals appropriate and return grace. AC supply grill	and return grills supply grills from room rills with Wexils as appropri	rills cide disinfectar iate	nt solution	ı			mulation and clean as appropriate

McNab Elementary School

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September 26, 2005

Location Number

Evaluation Requested