

managing risk with responsibility

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June 19, 2007	Signature on File	For Custodial Supervisor Use Only
TO:	Ms. Sherry Bees,, Principal Maplewood Elementary School	Custodial Issues Addressed Custodial Issues Not Addressed
FROM:	Edward See, Project Manager Risk Management Department	
SUBJECT:	Indoor Air Quality (IAQ) Assessment FISH 115B, 140, 142, 151, 164, 201, 202, 402,	403, 403A, and Portable 974C

On May 23, 2007 Jeffrey Moquin and I conducted an assessment of FISH 115B, 140, 142, 151, 164, 201, 202, 402, 403, 403A and Portable 974C at **Maplewood 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. Joanne Harrison, Area Superintendent Jackie Haywood, Area Director Jeffrey S. Moquin, Director, Risk Management Philip Kaufold, Project Manager, Facilities and Construction Management Sam Bays, Project Manager, Facilities and Construction Management Ruby Fitzgerald, 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

ES/tc Enc.

			IAQ Ass	sessment	Locatio	on Number	2741	
	Maplew	ood Elementary	/ School		Evaluat	ion Requested	May 2	23, 2007
Time of Day	9:03 am				E	Evaluation Date	May 2	23, 2007
Outdoor Conditi	ions Tem	perature 8	3.3	Relative Hum	idity 47	Ambie	nt CO2	536
	emperature R	ange Relat	ive Humidity	Range	CO2	Ran	ige #	Occupants
115B	72	2 - 78		30% - 60%		Max 700	> Ambien	t
Noticeable Odd	or No		isible water age / staining?		nicrobial wth?	Amount of mat affected	terial	
Ceiling Type	2 x 4 Lay I	n	Νο	Ν	0		None	
Wall Type	Drywall		Νο	Ν	0		None	
Flooring	Vinyl		No	Ν	0		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	equired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	Yes					
HVAC Supply G	Grills Yes	Νο	No					
HVAC Return G	irills Yes	Νο	No					
Ceiling at Supp Grills	ly Yes	No	No					
Surfaces in Roc	om Yes	No	No					

Findings:

- No signs of water intrusion or visible microbial growth

- Room is used as computer hardware/network room. Principal advised that the temperature has reached as high as 90 degrees and there were instances where the computer crashed.

- HVAC return is not functioning

-Recommendations:

Site Based Maintenance:

- 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 and Facilities and Construction Management:

Facilities project replaced air handlers and duct work but there are still problems with test and balance - some rooms are warmer than others. PPO and FCM to evaluate HVAC for proper operation and repair as appropriate.
 Evaluate HVAC return for proper operation and repair as appropriate

			IAQ As	sessment	Locatio	on Number	2741	
	Maplew	ood Elementar	y School		Evaluati	ion Requested	May 2	3, 2007
Time of Day	9:03 am				E	Evaluation Date	May 2	3, 2007
Outdoor Conditior	ns Tem	perature 8	3.3	Relative Humidit	y 47	Ambie	nt CO2	536
Fish Tem	perature F	Range Rela	tive Humidity	Range	CO2	Ran	ige #	Occupants
140	76.2 7	2 - 78	49.3	30% - 60%	1103	Max 700	> Ambient	4
Noticeable Odor	Yes		/isible water age / staining	Visible mic g? growth		Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay	In	No	No] [None	
Wall Type	Tackable)	No	No] [None	
Flooring	Vinyl		No	No]		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	Yes	No	No					
Flooring	No	Yes	Yes		Cle	ean and sanitiz	2e	
HVAC Supply Gri	lls Yes	No	No					
HVAC Return Gril	Is Yes	Νο	No					
Ceiling at Supply Grills	Yes	No	No					
Surfaces in Room	Yes	No	No					

Findings:

- No signs of water intrusion or visible microbial growth

- Musty odor in room

- Dust and dirt build up on throw rug and floor

-Recommendations:

Site Based Maintenance:

- Thoroughly clean throw rug or discard and clean and sanitize floor

			IAQ As	sessment	Location	Number	2741	
	Maplev	vood Elementa	ry School		Evaluatio	n Requested	May 2	3, 2007
Time of Day	9:03 am				Ev	aluation Date	May 2	3, 2007
Outdoor Condition	ns Tem	perature	33.3	Relative Humidity	47	Ambie	nt CO2	536
Fish Tem	perature	Range Rela	tive Humidity	Range	CO2	Rar	nge #	Occupants
142	76 7	2 - 78	50.1	30% - 60%	1171	Max 700	> Ambient	3
Noticeable Odor	No		/isible water nage / staining	Visible micro g? growth?	-	Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay	In	No	No			None	
Wall Type	Tackable	e	No	No			None	
Flooring	Vinyl		No	No			None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correcti	ve Action Re	equired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Νο	Yes	Yes		Clea	n and sanitiz	ze	
HVAC Supply Gri	lls Yes	No	No					
HVAC Return Gri	lls No	Yes	Yes	C	lean with	Wexcide dis	infectant	
Ceiling at Supply Grills	Yes	No	No					
Surfaces in Roon	Yes	No	No					

Findings:

- No signs of water intrusion or visible microbial growth
- Dust and dirt build up on throw rug and floor
- Excessive clutter in room
- Dust and debris on HVAC return grill
- 2 potted plants with soil

-Recommendations:

Site Based Maintenance:

- Thoroughly clean throw rug or discard and clean and sanitize floor
- Encourage occupant to reduce clutter to assist with cleaning efforts
- Clean HVAC return grill with Wexcide disinfectant solution
- Remove potted plants

			IAQ As	sessment	Locatio	on Number	2741	
	Maplew	vood Elementar	y School		Evaluati	ion Requested	May 2	3, 2007
Time of Day	9:03 am				E	Evaluation Date	May 2	3, 2007
Outdoor Condi	tions Tem	perature 8	3.3	Relative Humidi	ty 47	Ambie	nt CO2	536
Fish	Temperature	Range Rela	tive Humidity	Range	CO2	Ran	ige #	Occupants
151	76.5 7	2 - 78	45.4	30% - 60%	1196	Max 700	> Ambient	13
Noticeable Od	lor No	-	'isible water age / staining	Visible mic g? growth		Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay	In	No	No]		None	
Wall Type	Tackable	;	No	No]		None	
Flooring	Vinyl		No	No]		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply	Grills Yes	Νο	No					
HVAC Return	Grills Yes	No	No					
Ceiling at Sup Grills	ply Yes	No	No					
Surfaces in Ro	oom Yes	Νο	No					

Findings:

- No signs of water intrusion or visible microbial growth

- Dust and dirt build up on throw rug

-Recommendations:

Site Based Maintenance:

- Thoroughly clean throw rug or discard

			IAQ As	sessment	Locati	on Number	2741	
	Maplew	ood Elementary	y School		Evaluat	tion Requested	May 2	3, 2007
Time of Day	9:03 am				I	Evaluation Date	May 2	3, 2007
Outdoor Condi	tions Tem	perature 8	3.3	Relative Humid	ity 47	Ambie	nt CO2	536
Fish	Temperature F	Range Relat	ive Humidity	Range	CO2	Ran	nge #	Occupants
164	76.4 7	2 - 78	48.3	30% - 60%	1325	Max 700	> Ambient	19
Noticeable Od	lor No		isible water age / staining	Visible mi 9? growt		Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay	In	No	No]		None	
Wall Type	Tackable	;	No	No			None	
Flooring	Vinyl		No	No]		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Corre	ctive Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	Yes	Νο	No					
Flooring	Yes	Νο	No					
HVAC Supply	Grills Yes	No	No					
HVAC Return	Grills Yes	No	No					
Ceiling at Sup Grills	ply Yes	Νο	No					
Surfaces in Ro	oom Yes	No	No					

Findings:

- No signs of water intrusion or visible microbial growth

- Ceiling tile missing by rear air supply grill

-Recommendations:

Site Based Maintenance:

- Replace missing ceiling tile

			IAQ As	sessment	Location	Number	2741	
	Maplev	vood Elementar	y School		Evaluation	n Requested	May 2	3, 2007
Time of Day	9:03 am				Eva	aluation Date	May 2	3, 2007
Outdoor Conditio	ons Terr	perature 8	3.3	Relative Humidity	47	Ambie	nt CO2	536
Fish Ter	mperature	Range Rela	tive Humidity	Range	CO2	Rar	nge #	Occupants
201	73.5 7	2 - 78	52.6	30% - 60%	1524	Max 700	> Ambient	32
Noticeable Odor	Yes		'isible water age / staining	Visible micro g? growth?	-	Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay	In	No	No			None	
Wall Type	Tackable & D	rywall	No	No			None	
Flooring	Vinyl		No	No			None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correcti	ve Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply Gr	ills Yes	No	No					
HVAC Return Gr	ills Yes	No	No					
Ceiling at Supply Grills	/ Yes	No	No					
Surfaces in Roor	n Yes	No	No					

Findings:

- No signs of water intrusion or visible microbial growth
- Odor in room from air freshener or body spray
- Dust and dirt build up on throw rug
- Room was above typical occupancy
- CO2 level was slightly elevated

-Recommendations:

Site Based Maintenance:

- Thoroughly clean throw rug or discard

- 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 and Facilities and Construction Management:

- Evaluate HVAC system for proper operation and repair as appropriate to lower CO2 level

			IAQ As	sessment	Locatio	n Number	2741	
	Maplew	ood Elementar	y School		Evaluatio	on Requested	May 2	3, 2007
Time of Day	9:03 am				E	valuation Date	May 2	3, 2007
Outdoor Condi	tions Tem	perature 8	3.3	Relative Humidity	/ 47	Ambie	nt CO2	536
Fish	Temperature F	Range Relat	tive Humidity	Range	CO2	Ran	nge #	Occupants
202	73.5 7 2	2 - 78	51.5	30% - 60%	1380	Max 700	> Ambient	t 25
Noticeable Od	lor No		'isible water age / staining	Visible micr growth		Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay	In	No	No	Γ		None	
Wall Type	Drywall		No	No	Γ		None	
Flooring	Vinyl		No	No	[None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correct	tive Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	Yes	No	No					
Flooring	Yes	No	Yes					
HVAC Supply	Grills Yes	No	No					
HVAC Return	Grills Yes	Νο	No					
Ceiling at Sup Grills	ply Yes	Νο	No					
Surfaces in Ro	oom Yes	No	No					

Findings:

- No signs of water intrusion or visible microbial growth

- Dust and dirt build up on throw rug
- CO2 level was slightly elevated

-Recommendations:

Site Based Maintenance:

- Thoroughly clean throw rug or discard

- 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 and Facilities and Construction Management:

- Evaluate HVAC system for proper operation and repair as appropriate to lower CO2 level

			IAQ As	sessment	Locati	on Number	2741	
	Maplew	ood Elementar	y School		Evaluat	tion Requested	May 2	23, 2007
Time of Day	9:03 am				I	Evaluation Date	May 2	23, 2007
Outdoor Conditi	ons Tem	perature 8	3.3	Relative Humid	ity 47	Ambie	ent CO2	536
Fish Te	emperature F	Range Rela	tive Humidity	Range	CO2	Ran	nge #	Occupants
402	73.5 7	2 - 78	47.2	30% - 60%	1147	Max 700	> Ambien	t 15
Noticeable Odo	n No		/isible water age / staining	Visible mi g? growt		Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay	In	No	No			None	
Wall Type	Tackable & D	rywall	No	No			None	
Flooring	Vinyl		No	No			None	
	Clean	Minor Dust / Debris	Needs Cleaning		Corre	ctive Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply G	irills Yes	No	No					
HVAC Return G	rills Yes	No	No					
Ceiling at Suppl Grills	ly Yes	No	No					
Surfaces in Roo	om Yes	No	No					

Findings:

No signs of water intrusion or visible microbial growth 3 potted plants with soil in room

-Recommendations:

Site Based Maintenance:

Remove potted plants

			IAQ Ass	sessment	Location	n Number	2741	
	Maplewo	od Elementar	y School		Evaluatio	on Requested	May 2	3, 2007
Time of Day	9:03 am				Ev	valuation Date	May 2	3, 2007
Outdoor Conditio	ons Temp	erature 8	3.3	Relative Humidity	47	Ambie	nt CO2	536
Fish Te	mperature Ra	nge Rela	tive Humidity	Range	CO2	Ran	ge #	Occupants
403	72.7 72	- 78	51.7	30% - 60%	1319	Max 700	> Ambient	17
Noticeable Odor	r No	-	'isible water age / staining'	Visible micro ? growth?		Amount of mat affected	terial	
Ceiling Type	2 x 4 Lay In		Νο	No			None	
Wall Type	Tackable & Dry	wall	No	No			None	
Flooring	Vinyl		No	No	Γ		None	
Ceiling	Clean Yes	Minor Dust / Debris No	Needs Cleaning No		Correct	ive Action Re	equired	
Walls	Yes	Νο	No					
Flooring	Yes	No	No					
HVAC Supply G	rills Yes	Νο	No					
HVAC Return Gr	rills Yes	Νο	No					
Ceiling at Supply Grills	y Yes	Νο	No					
Surfaces in Room	m Yes	Νο	No					

Findings: - No signs of water intrusion or visible microbial growth

-Recommendations:

		IAQ	Assessment	Locati	on Number	2741	
	Maplewood	Elementary Schoo	-	Evaluat	ion Requested	May 2	3, 2007
Time of Day	9:03 am			I	Evaluation Date	May 23	3, 2007
Outdoor Conditio	ons Tempera	ture 83.3	Relative Hu	midity 47	Ambie	ent CO2	536
Fish Ter	nperature Rang	e Relative Hum	^{idity} Range	CO2	Ran	nge #	Occupants
403A	74 72 - 7 8	3 51.8	30% - 60%	1384	Max 700	> Ambient	0
Noticeable Odor	No	Visible wa damage / sta		e microbial owth?	Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay In	No		No		None	
Wall Type	Tackable & Drywa	No		No		None	
Flooring	Vinyl	No	C	No		None	
Ceiling		or Dust Nee Debris Clea No N	ning	Correc	ctive Action Re	equired	
Walls	Yes	No	0				
Flooring	Yes	No	0				
HVAC Supply Gr	ills Yes	No	0				
HVAC Return Gr	ills Yes	No	0				
Ceiling at Supply Grills	Yes	No	0				
Surfaces in Roor	n Yes	No	0				

Findings: Storage Room
- No signs of water intrusion or visible microbial growth

-Recommendations:

Site Based Maintenance:

			IAQ As	sessment	Locatio	on Number	2741	
	Maplev	vood Elementar	y School		Evaluat	ion Requested	May 2	3, 2007
Time of Day	9:03 am				E	Evaluation Date	May 2	3, 2007
Outdoor Condit	tions Terr	perature 8	3.3	Relative Humi	dity 47	Ambie	nt CO2	536
Fish T	[emperature	Range Rela	tive Humidity	Range	CO2	Ran	ige #	Occupants
P-974C	69.9 7	2 - 78	43.4	30% - 60%	614	Max 700	> Ambient	4
Noticeable Od	or No		'isible water age / staining		nicrobial wth?	Amount of mat affected	terial	
Ceiling Type	2 x 4 Lay	In	No	N	0		None	
Wall Type	Tackable	9	Yes	N	0	So	outh Wall	
Flooring	Vinyl		No	N	0		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	No	Yes	Yes		Repair/	replace wall m	aterial	
Flooring	Yes	No	Yes					
HVAC Supply (Grills Yes	Νο	No					
HVAC Return 0	Grills Yes	Νο	No					
Ceiling at Supp Grills	oly Yes	No	No					
Surfaces in Ro	om Yes	No	No					

Findings:

- Paint is bubbling on South wall under dry erase board and moisture level was elevated

- Temperature was low at the time of the assessment

-Recommendations:

Site Based Maintenance:

- Adjust the thermostat to increase the temperature. Continue to monitor condition and initiate a work order for Physical Plant Operations to evaluate the HVAC system if temperature does not improve.

- 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 bubbling paint and elevated moisture in South wall under dry erase board - Refer to work order EQ00847