



Jeffrey S. Moquin, Director Risk Management Department

August 15, 2006

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Signature on File

TO:	Mr. Wade Edmond, Principal Blanche Ely High School
FROM:	Robert J. Krickovich, Coordinator, LEA Facilities and Construction Management, Environmental Division
SUBJECT:	Indoor Air Quality (IAQ) Assessment FISH 290, 292, 293, 294, 295, 296, 297, 335, 335A, 335B and 335E

On August 11, 2006 I conducted an assessment of FISH 290, 292, 293, 294, 295, 296, 297, 335, 335A, 335B and 335E at **Blanche Ely High 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.

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 Dave Archer, Project Manager, Facilities and Construction Management Jamie 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.

			IAQ As	sessment	Locat	ion Number	0361	
	В	anche Ely Hig	h School		Evalua	tion Requested	August	10, 2006
Time of Day 1	1:00 am					Evaluation Date	August	11, 2006
Outdoor Condition	s Temp	perature	89.2	Relative Hum	idity 57.	7 Ambie	nt CO2	454
	perature R	ange Rela	ative Humidity	Range	CO2	Ran	ge #	Occupants
290	72.9 72	2 - 78	54.4	30% - 60%	486	Max 700	> Ambient	4
Noticeable Odor	No		Visible water nage / staining		microbial wth?	Amount of mat affected	terial	
Ceiling Type	2 x 4 Lay I	n	Yes	Y	es	3 ce	eiling tiles	
Wall Type	Plaster		No	N	lo		None	
Flooring	12 x 12 Viny	1	No	Ν	lo		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Corre	ective Action Re	equired	
Ceiling	Νο	Yes	Yes		Replace c	eiling tiles as a	ppropriate	
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply Grill	s Yes	No	No					
HVAC Return Grills	s Yes	Νο	No					
Ceiling at Supply Grills	Yes	No	No					
Surfaces in Room	Yes	No	No					

Findings:

- 3 stained ceiling tiles (2 with visible microbial growth)

Recommendations:

Site Based Maintenance: - Remove and replace stained ceiling tiles

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 for roof leak and repair as appropriate

			IAQ As	sessment	Locatio	on Number	0361	
	E	Blanche Ely Hig	gh School		Evaluat	ion Requested	August	10, 2006
Time of Day	11:00 am				E	Evaluation Date	August	11, 2006
Outdoor Conditi	ons Tem	perature	89.2	Relative Humi	dity 57.7	Ambie	nt CO2	454
Fish Te	emperature	Range Rel	ative Humidity	Range	CO2	Ran	ge #	Occupants
292	71.9 7	2 - 78	56.6	30% - 60%	458	Max 700	> Ambient	4
Noticeable Odo	n No		Visible water mage / staining	Visible m g? grow		Amount of mat affected	terial	
Ceiling Type	2 x 4 Lay	In	Νο	No			None	
Wall Type	Plaster		No	No	>		None	
Flooring	12 x 12 Vin	iyl	No	No	>		None	
	Clean	Minor Dust / Debris	Needs Cleaning No		Correc	ctive Action Re	quired	
Ceiling	Yes	No	NO					
Walls	Yes	Νο	No					
Flooring	Yes	Νο	No					
HVAC Supply G	irills Yes	Νο	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 microbial growth

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

		IAQ As	sessment	Location Number	0361
	Blanche	Ely High School		Evaluation Requested	August 10, 2006
Time of Day 11	:00 am			Evaluation Date	August 11, 2006
Outdoor Conditions	5 Temperatu	re 89.2	Relative Humidity	57.7 Ambie	ent CO2 454
	erature Range	Relative Humidity	Range	CO2 Rar	nge # Occupants
293 7	70.6 72 - 78	59.2	30% - 60%	464 Max 700	> Ambient 4
Noticeable Odor	No	Visible water damage / stainin	Visible micro g? growth?	bial Amount of ma affected	terial
Ceiling Type	2 x 4 Lay In	Yes	Yes	2 c	eiling tiles
Wall Type	Plaster	No	No		None
Flooring	12 x 12 Vinyl	No	No		None
		r Dust Needs ebris Cleaning	9	Corrective Action Re	equired
Ceiling	Νο	es Yes	Rep	place ceiling tiles as a	ppropriate
Walls	Yes	No			
Flooring	Yes	No			
HVAC Supply Grills	S Yes	No			
HVAC Return Grills	Yes	No			
Ceiling at Supply Grills	Yes	No No			
Surfaces in Room	Yes	lo No			

Findings:

- 2 stained ceiling tiles (1 with visible microbial growth)

Recommendations:

Site Based Maintenance: - Remove and replace stained ceiling tiles

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 for roof leak and repair as appropriate

			IAQ As	sessment	Location Number	0361
	E	Blanche Ely Hig	h School		Evaluation Reques	sted August 10, 2006
Time of Day	11:00 am				Evaluation	Date August 11, 2006
Outdoor Condi	tions Terr	perature 8	9.2	Relative Humidity	57.7 A	mbient CO2 454
Fish	Temperature	Range Rela	tive Humidity	Range	CO2	Range # Occupants
294	71.9 7	2 - 78	56	30% - 60%	451 Max	4 700 > Ambient
Noticeable Od	or No		'isible water age / staining	Visible micro growth?		of material ected
Ceiling Type	2 x 4 Lay	In	Yes	No		2 ceiling tiles
Wall Type	Plaster		No	No		None
Flooring	12 x 12 Vir	ıyl	No	No		None
	Clean	Minor Dust / Debris	Needs Cleaning		Corrective Action	on Required
Ceiling	No	Yes	Yes	Rep	place ceiling tiles	as appropriate
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	Νο	No			

Findings:

- 2 stained ceiling tiles

Recommendations:

Site Based Maintenance: - Remove and replace stained ceiling tiles

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 for roof leak and repair as appropriate

			IAQ Asses	sment	Location N	lumber	0361	
	Blar	nche Ely High S	School		Evaluation	Requested	August	10, 2006
Time of Day	11:00 am				Eval	uation Date	August	11, 2006
Outdoor Condition	ons Tempe	rature 89.2	2 Rel	ative Humidity	57.7	Ambie	nt CO2	454
Fish Te	mperature Ran	ige Relativ	e Humidity	Range	CO2	Ran	ge #	Occupants
295	73.4 72 -	78 5	3.4 30 %	% - 60%	464	Max 700	> Ambient	4
Noticeable Odo	r No		ble water e / staining?	Visible micro growth?		nount of mat affected	terial	
Ceiling Type	2 x 4 Lay In		No	No			None	
Wall Type	Plaster		No	No			None	
Flooring	12 x 12 Vinyl		No	No			None	
Ceiling		linor Dust / Debris No	Needs Cleaning No		Corrective	e Action Re	equired	
Walls	Yes	No	No					
Flooring	Yes	No	Νο					
HVAC Supply G	rills Yes	Νο	Νο					
HVAC Return G	rills Yes	Νο	Νο					
Ceiling at Suppl Grills	y Yes	Νο	No					
Surfaces in Roo	m Yes	Νο	No					

Findings:

- Window over door does not close properly

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:

- Evaluate and repair window over door

			IAQ As	sessment	Locati	on Number	0361	
	В	lanche Ely High	n School		Evaluat	tion Requested	August	10, 2006
Time of Day	11:00 am				l	Evaluation Date	August	11, 2006
Outdoor Condi	tions Tem	perature 8	9.2	Relative Hum	nidity 57.7	7 Ambie	nt CO2	454
Fish	Temperature F	Range Relat	ive Humidity	Range	CO2	Ran	ge #	Occupants
296	74.6 7 2	2 - 78	50.7	30% - 60% [457	Max 700	> Ambient	4
Noticeable Od	or No	-	isible water age / staining		microbial wth?	Amount of mat affected	terial	
Ceiling Type	2 x 4 Lay	In	Νο	Ν	No		None	
Wall Type	Plaster		No	Ν	No		None	
Flooring	12 x 12 Vin	yl	No	1	No		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Corre	ctive Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	Yes	Νο	No					
Flooring	Yes	No	No					
HVAC Supply	Grills Yes	Νο	No					
HVAC Return (Grills Yes	No	No					
Ceiling at Sup Grills	ply Yes	Νο	No					
Surfaces in Ro	oom Yes	Νο	No					

Observations Findings:

- Window was not shut properly and was closed at the time of the assessment.

Recommendations:

Site Based Maintenance:

- Ensure that windows are closed properly

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

			IAQ Ass	sessment	Locatio	on Number	0361	
	E	Blanche Ely Hi	gh School		Evaluat	ion Requested	August	10, 2006
Time of Day	11:00 am				E	Evaluation Date	August	11, 2006
Outdoor Condit	tions Terr	perature	89.2	Relative Humi	idity 57.7	Ambie	nt CO2	454
Fish T	emperature	Range Rel	lative Humidity	Range	CO2	Ran	ge #	Occupants
297	72.3 7	2 - 78	56.2	30% - 60%	463	Max 700	> Ambient	4
Noticeable Ode	or No		Visible water mage / staining		nicrobial wth?	Amount of mat affected	terial	
Ceiling Type	2 x 4 Lay	In	Νο	N	0		None	
Wall Type	Plaster		Νο	N	0		None	
Flooring	12 x 12 Vir	ıyl	No	N	0		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	quired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	Νο	No					
HVAC Supply (Grills Yes	No	No					
HVAC Return G	Grills Yes	No	No					
Ceiling at Supp Grills	oly Yes	No	No					
Surfaces in Ro	om Yes	No	No					

Findings:

- Window near door and on back wall (left corner) does not close properly

- 1 HVAC supply diffuser is missing

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:

Evaluate and repair window near door and on back wall (left corner)
Install HVAC supply diffuser (missing)

			IAQ As	sessment	Locatio	on Number	0361	
	B	lanche Ely Higl	n School		Evaluat	ion Requested	August	10, 2006
Time of Day	11:00 am				I	Evaluation Date	August	11, 2006
Outdoor Conditio	ons Tem	perature 8	9.2	Relative Hum	idity 57.7	Ambie	nt CO2	454
	mperature F	Range Relat	tive Humidity	Range	CO2	Ran	ge #	Occupants
335	68.5 7 2	2 - 78	62.4	30% - 60%	451	Max 700	> Ambient	4
Noticeable Odor	No		ïsible water age / staining		microbial wth?	Amount of mat affected	terial	
Ceiling Type	2 x 4 Lay	In	No	N	lo		None	
Wall Type	Plaster		No	N	lo		None	
Flooring	12 x 12 Vin	yl	No	Ν	lo		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	quired	
Ceiling	Yes	Νο	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply Gr	ills Yes	Νο	No					
HVAC Return Gr	ills Yes	Νο	No					
Ceiling at Supply Grills	Y Yes	Νο	No					
Surfaces in Rooi	m Yes	Νο	No					

Findings:

- Exterior wood window frames are rotted (6 windows)
- Hole in wall over windows between doors with a cable going through that is not sealed
- Exterior bird screens in soffit are missing
- Temperature low and humidity level elevated
- Backsplash in kitchen area off of 335 is water damaged

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:

- Replace exterior wood window frames 6 windows
- Repair hole in wall over windows between doors and seal around cable to prevent water intrusion
- Install exterior bird screens in soffit
- Evaluate and repair HVAC system to increase temperature and lower humidity
- Recaulk backsplash in kitchen area of of 335

			IAQ As	sessment	Location	Number	0361	
	В	lanche Ely Hig	h School		Evaluation	Requested	August	10, 2006
Time of Day	11:00 am				Eva	luation Date	August	11, 2006
Outdoor Conditior	ns Tem	perature	89.2	Relative Humidity	57.7	Ambie	nt CO2	454
	perature R	ange Rela	ative Humidity	Range	CO2	Ran	ige #	Occupants
335A	68.5 7 2	2 - 78	62.4	30% - 60%	451	Max 700	> Ambien	t 4
Noticeable Odor	No		Visible water nage / staining	Visible micro growth?		mount of ma affected	terial	
Ceiling Type	2 x 4 Lay I	n	Νο	No			None	
Wall Type	Plaster		No	Yes		4" x 5' be	hind book	ase
Flooring	12 x 12 Vin	yl	No	No			None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correctiv	ve Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	No	Yes	Yes	C	lean with \	Nexcide disi	infectant	
Flooring	Yes	No	No					
HVAC Supply Gril	lls Yes	No	No					
HVAC Return Gril	ls Yes	Νο	No					
Ceiling at Supply Grills	Yes	No	No					
Surfaces in Room	Yes	No	No					

Findings:

- Roof leak above bookcase exterior wall
- Bookcase is water damaged
- Visible microbial growth (4" x 5') on wall behind bookcase Temperature low and humidity level elevated

Recommendations:

Site Based Maintenance:

- Remove and dispose of bookcase
- Clean wall behind bookcase 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 for roof leak and repair as appropriate. Repair/replace damaged wall material as appropriate.
- Evaluate and repair HVAC system to increase temperature and lower humidity

			IAQ As	sessment	Locatio	on Number	0361	
		Blanche Ely Hig	gh School		Evaluat	ion Requested	August	10, 2006
Time of Day	11:00 am				E	Evaluation Date	August	11, 2006
Outdoor Condi	tions Ten	perature	89.2	Relative Humidit	y 57.7	Ambie	nt CO2	454
	Temperature	Range Rel	ative Humidity	Range	CO2	Ran	ge #	Occupants
335B	68.5	' 2 - 78	62.4	30% - 60%	451	Max 700	> Ambient	4
Noticeable Od	lor No		Visible water mage / staining	Visible mic ? growth		Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay	In	No	No			None	
Wall Type	Plaster		Yes	No		3 sc	quare feet	
Flooring	12 x 12 Vii	nyl	No	No			None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	equired	
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					

Findings:

- Wall plaster is water damaged and deteriorating
- Roof is leaking at exterior wall and shows severe water staining and water damaged paint
- Temperature low and humidity level elevated

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:

- Evaluate for roof leak and repair as appropriate. Repair/replace damaged wall material as appropriate.
- Evaluate and repair HVAC system to increase temperature and lower humidity

		IAQ As	sessment	Location Number	0361
	Blanche	Ely High School		Evaluation Requested	August 10, 2006
Time of Day 11	:00 am			Evaluation Date	August 11, 2006
Outdoor Conditions	Temperatur	e 89.2	Relative Humidity	57.7 Ambie	ent CO2 454
	erature Range	Relative Humidity	Range		nge # Occupants
335E	72 - 78		30% - 60%	Max 700) > Ambient
Noticeable Odor	No	Visible water damage / staining	Visible micro g? growth?	bial Amount of ma affected	
Ceiling Type	2 x 4 Lay In	No	No		None
Wall Type	Plaster	Yes	No	12 :	square feet
Flooring	12 x 12 Vinyl	No	No		None
	Clean Minor / Del	oris Cleaning		Corrective Action R	equired
Ceiling	Yes	No No			
Walls	Yes	No			
Flooring	Yes	No			
HVAC Supply Grills	Yes	No			
HVAC Return Grills	Yes	No			
Ceiling at Supply Grills	Yes	No			
Surfaces in Room	Yes	No			

Findings: Mechanical Room

- Wall plaster is severely water damaged and deteriorating

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:

Evaluate for roof leak and repair as appropriate. Repair/replace damaged wall material as appropriate.