

Jeffrey S. Moquin, Director
Risk Management Department

Telephone: 754-321-3200
Facsimile: 754-321-3290

March 15, 2006

Signature on File

TO: Mr. Chuck McCanna
Nova Blanche Forman Elementary School

FROM: Kenneth I. Partee, Project Manager
Occupational Health and Environmental Control
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 148 and 152

On February 28, 2006, members of the District's IAQ Assessment Team, along with a representative from the Facilities Task Force and the location's Head Facilities Serviceperson conducted an IAQ evaluation of FISH 148 and 152 at **Nova Blanche Forman Elementary School**. The evaluation was conducted in response to teacher complaints regarding increased absenteeism of students and the increased frequency of non-specific respiratory ailments of staff and students. The teacher occupant further reported these occurrences became apparent subsequent to Hurricane Wilma. Additionally, the occurrences appeared correlated to a date when the accordion wall system between Rooms 148 and 152 was temporarily opened.

This evaluation included observations of the flooring system, ceiling tiles, false ceiling plenum, environmental surfaces, interior and exterior walls, and the accessible ventilation equipment maintained on the building's roof. 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.

This IAQ evaluation identified several conditions potentially impacting IAQ and the appropriate work orders will be generated to correct these issues. At the time of the evaluation, no issues were identified to suggest 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 further IAQ problems, and to reduce the potential for IAQ-related complaints by building occupants, it is recommended appropriate follow up be given to each of the items identified in the Evaluation.

These findings were shared with the teacher occupant and it was agreed to conduct further evaluations in the event these corrective actions did not alleviate occupant concerns.

Should any questions arise, please feel free to contact me at (754) 321-3200.

cc: Dr. Harry LaCava, Area Superintendent
Dr. Linda Bedell, Area Director
Jeffrey S. Moquin, Director, Risk Management
Juana Romaniuk, Project Manager, Facilities and Construction Management
Dane Ramson, Broward Teachers Union
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

KP/tc
Enc.

IAQ Assessment

Location Number 1282
 Evaluation Requested February 27, 2006
 Evaluation Date February 28, 2006

Nova Blanche Forman Elementary School

Time of Day 11:40 am

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
148	70.5	72 - 78	49	30% - 60%	1421	Max 700 > Ambient	15
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		Various	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Replace stained ceiling tiles
Walls	No	Yes	Yes	Clean as appropriate
Flooring	No	Yes	Yes	Clean, sanitize and wax
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	No	Yes	Yes	Replace ceiling tiles for dirt impaction
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Several stained ceiling tiles and tiles with dirt impaction at HVAC supply grills
- Heavy dust and debris on bookshelves and books behind teacher's desk
- Dust, insect parts and cobwebs on walls and ceiling
- Dust and debris on floor
- Dust and debris on HVAC supply and return grills and on ceiling tiles at supply grills
- Dust and debris on accordion wall between FISH 148 and 152 and storage area
- Dust and debris on environmental surfaces throughout the room
- HVAC filters were not properly taped together allowing bypass of air
- Non-approved chemicals in room (cleaners and paint thinner)
- Stuffed animals, flowers and toys in room
- Leaves and other debris around drains for ventilation system

Recommendations:

Site Based Maintenance:

- Remove and replace stained ceiling tiles and ceiling tiles with dirt impaction at HVAC supply grills
- Remove books from bookshelves and clean shelves and books as appropriate
- Clean walls and ceilings as appropriate to remove dust, insect parts and cobwebs
- Clean, sanitize, strip and wax floor
- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean accordion wall between FISH 148 and 152 and wall storage area (if accessible) with Wexcide disinfectant solution
- Clean all environmental surfaces throughout the room as appropriate
- Remove and replace HVAC filters and tape together properly
- Remove non-approved chemicals from room
- Remove stuffed animals, flowers and toys from 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:

- Roof - repair lining in AHU #18 and evaluate cause of stagnant water on Southeast corner of roof
- Clear leaves and other debris from drains for ventilation system

IAQ Assessment

Location Number 1282
 Evaluation Requested February 27, 2006
 Evaluation Date February 28, 2006

Nova Blanche Forman Elementary School

Time of Day 11:25 am

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
152	72	72 - 78	52.2	30% - 60%	1365	Max 700 > Ambient	19
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		Various	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Replace stained ceiling tiles
Walls	Yes	No	No	
Flooring	No	Yes	Yes	Clean, sanitize and wax
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	No	Yes	Yes	Clean as appropriate
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Several stained ceiling tiles
- Heavy dust and debris on bookshelves and books behind teacher's desk
- Dust and debris on floor
- Dust and debris on HVAC supply and return grills and on ceiling tiles at supply grills
- Dust and debris on accordion wall between FISH 148 and 152 and storage area
- Dust and debris on environmental surfaces throughout the room
- Vines at rear of building and open conduit above roof
- Dry erase board in room with dirty marker tray
- Cabinets in the room are deteriorated from previous moisture intrusion
- HVAC filters were not properly taped together allowing bypass of air

Recommendations:

Site Based Maintenance:

- Remove and replace stained ceiling tiles
- Remove books from bookshelves and clean shelves and books as appropriate
- Clean, sanitize, strip and wax floor
- Clean HVAC supply and return grills with Wexcide disinfectant solution and clean ceiling tiles at supply grills as appropriate
- Clean accordion wall between FISH 148 and 152 and storage area with Wexcide disinfectant solution
- Clean all environmental surfaces throughout the room as appropriate
- Clean dry erase board marker tray as appropriate
- Remove and replace HVAC filters and tape together properly
- 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 false ceiling for possible leak and seal conduit area in false ceiling at rear of room
- Remove vines at rear of building and seal open conduit above roof to eliminate conduit for moisture
- Remove and replace cabinets in room as appropriate due to previous moisture intrusion