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July 13, 2005

TO: Mr. Kenneth Fulop, Principal
Cross Creek School

FROM: Robert J. Krickovich, Coordinator, LEA
Facilities and Construction Management, Environmental Division

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 101, 120, 202, 208 and 606

On July 7, 2005 the IAQ Assessment Team conducted an assessment FISH 101, 120, 202, 208 and 606 at **Cross Creek 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
Sharon Airaghi, Area Director
Jeffrey S. Moquin, Director, Risk Management
Raul Ascarrunz, Project Manager II, Facilities and Construction Management
LaFrances Trotter, Broward Teachers Union
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division
Robert Krickovich, Project Manager II, Facilities and Construction Management

RK/tc
Enc.

IAQ Assessment

Cross Creek School

Evaluation Requested

Time of Day

Evaluation Date

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="101"/>	<input type="text" value="76"/>	<input type="text" value="72 - 78"/>	<input type="text" value="74.5"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="480"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="2"/>
Noticeable Odor	<input type="text" value="No"/>		Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="Yes"/>		<input type="text" value="Yes"/>		<input type="text" value="2 Stained - Several Replaced"/>
Wall Type	<input type="text" value="Drywall"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>
Flooring	<input type="text" value="Carpet"/>		<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text" value="Entire Carpet"/>

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Replace stained ceiling tiles"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value=""/>
Flooring	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Replace Carpet"/>
HVAC Supply Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant"/>
HVAC Return Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant"/>
Ceiling at Supply Grills	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean dust from Ceiling at Supply Grills"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value=""/>

Observations

Findings:

- Dust and debris on HVAC supply and return grills
- Dust and debris on ceiling at HVAC supply grills
- Two stained ceiling tiles
- Carpet is stained and rippled
- Elevated humidity level

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean ceiling at HVAC supply grills
- 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 Division:

- Replace carpet
- Evaluate and repair HVAC to lower humidity level

Project Manager:

- Expedite IAQ project to address building envelope problems

IAQ Assessment

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Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="120"/>	<input type="text" value="74"/>	<input type="text" value="72 - 78"/>	<input type="text" value="75"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="388"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="2"/>
Noticeable Odor	<input type="text" value="No"/>		Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling Type	<input type="text" value="Metal Strip"/>		<input type="text" value="No"/>		<input type="text" value="Yes"/>		<input type="text" value="At HVAC Supply"/>
Wall Type	<input type="text" value="Drywall"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>
Flooring	<input type="text" value="Carpet"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A (through ceiling)"/>
HVAC Return Grills	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A (above strip ceiling)"/>
Ceiling at Supply Grills	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean dust from Ceiling at Supply Grills"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

Observations

Findings:

- Visible microbial growth on ceiling at HVAC supply
- Visible microbial growth on wood chairs and tables
- Visible microbial growth on vinyl base in FISH 123 and 123A
- Water damaged walls on both sides of secondary exit door
- Elevated humidity level

Recommendations:

Site Based Maintenance:

- Clean ceiling under HVAC supply with Wexcide disinfectant solution
- Clean tables and chairs with Wexcide disinfectant solution
- Clean vinyl base in FISH 123 and 123A 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 Division:

- Evaluate cause of water damage to walls at exit door and replace drywall as appropriate
- Evaluate and repair HVAC to lower humidity level

Project Manager:

- Expedite IAQ project to address building envelope problems

IAQ Assessment

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Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="202"/>	<input type="text" value="71.5"/>	<input type="text" value="72 - 78"/>	<input type="text" value="85"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="475"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="2"/>
Noticeable Odor	<input type="text" value="Yes"/>		Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>
Wall Type	<input type="text" value="Drywall"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant"/>
HVAC Return Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant"/>
Ceiling at Supply Grills	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean dust from Ceiling at Supply Grills"/>
Surfaces in Room	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>

Observations

Findings:

- Dust and debris on HVAC supply and return grills
- Dust and debris on ceiling at HVAC supply grills
- Dust and debris on environmental surfaces throughout the room
- Non-SBBC furniture in room (upholstered)
- Visible microbial growth identified on wood desk
- Elevated humidity level

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean ceiling at HVAC supply grills
- Clean environmental surfaces throughout the room
- Remove non-SBBC furniture from room
- Clean desk with Wexcide disinfectant solution and if growth returns dispose of desk
- 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 and repair HVAC to lower humidity level

Project Manager:

- Expedite IAQ project to address building envelope problems

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Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="208"/>	<input type="text" value="73.5"/>	<input type="text" value="72 - 78"/>	<input type="text" value="76.7"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="471"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="2"/>
Noticeable Odor	<input type="text" value="Yes"/>	Visible water damage / staining?	<input type="text" value="No"/>	Visible microbial growth?	<input type="text" value="No"/>	Amount of material affected	<input type="text" value="None"/>
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>
Wall Type	<input type="text" value="Drywall"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant"/>
HVAC Return Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant"/>
Ceiling at Supply Grills	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean dust from Ceiling at Supply Grills"/>
Surfaces in Room	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>

Observations

Findings:

- Dust and debris on HVAC supply and return grills
- Dust and debris on ceiling at HVAC supply grills
- Dust and debris on environmental surfaces throughout the room
- Elevated humidity level

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean ceiling at HVAC supply grills
- 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 and repair HVAC to lower humidity level

Project Manager:

- Expedite IAQ project to address building envelope problems

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Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input style="width: 50px;" type="text" value="606"/>	<input style="width: 50px;" type="text" value="72.2"/>	<input style="width: 50px;" type="text" value="72 - 78"/>	<input style="width: 50px;" type="text" value="69.8"/>	<input style="width: 50px;" type="text" value="30% - 60%"/>	<input style="width: 50px;" type="text" value="402"/>	<input style="width: 50px;" type="text" value="Max 700 > Ambient"/>	<input style="width: 50px;" type="text" value="2"/>
Noticeable Odor	<input style="width: 100px;" type="text" value="No"/>		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	<input style="width: 100px;" type="text" value="Metal Strip"/>		<input style="width: 50px;" type="text" value="No"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 100px;" type="text" value="None"/>		
Wall Type	<input style="width: 100px;" type="text" value="Drywall"/>		<input style="width: 50px;" type="text" value="No"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 100px;" type="text" value="None"/>		
Flooring	<input style="width: 100px;" type="text" value="12 x 12 Vinyl"/>		<input style="width: 50px;" type="text" value="No"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 100px;" type="text" value="None"/>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input style="width: 50px;" type="text" value="Yes"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 100%; height: 20px;" type="text"/>
Walls	<input style="width: 50px;" type="text" value="Yes"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 100%; height: 20px;" type="text"/>
Flooring	<input style="width: 50px;" type="text" value="Yes"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 100%; height: 20px;" type="text"/>
HVAC Supply Grills	<input style="width: 50px;" type="text" value="Yes"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 100%; height: 20px;" type="text"/>
HVAC Return Grills	<input style="width: 50px;" type="text" value="Yes"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 100%; height: 20px;" type="text"/>
Ceiling at Supply Grills	<input style="width: 50px;" type="text" value="Yes"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 100%; height: 20px;" type="text"/>
Surfaces in Room	<input style="width: 50px;" type="text" value="Yes"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 50px;" type="text" value="No"/>	<input style="width: 100%; height: 20px;" type="text"/>

Observations

Findings:

- Window frames have rust damage
- Elevated humidity level

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 Division:

- Evaluate cause of damage to wall at window and repair/replace drywall as appropriate
- Evaluate and repair HVAC to lower humidity level

Project Manager:

- Expedite IAQ project to address building envelope problems