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September 21, 2005

Signature on File

TO: Ms. Rebecca Dahl, Principal
Sunrise Middle School

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

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 302, 416, 504, 506, 510A, 510B and 718

On August 12, 2005 the IAQ Assessment Team conducted an assessment of FISH 302, 416, 504, 506, 510A, 510B and 718 at **Sunrise Middle 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 754-321-3200.

cc: Dr. Verda Farrow, Area Superintendent
Dr. Roberta Insel, Area Director
Jeffrey S. Moquin, Director, Risk Management
Dave A. Archer, Project Manager III, Facilities and Construction Management
Jerrod Neal, 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

Sunrise Middle School

Location Number 0251
 Evaluation Requested August 11, 2005
 Evaluation Date August 12, 2005

Time of Day 11:39 am

Outdoor Conditions Temperature 90.8 Relative Humidity 63.3 Ambient CO2 491

| | | | | | | | |
|-----------------|-------------|---------|----------------------------------|---------------------------|-----------------------------|-------------------|-------------|
| Fish | Temperature | Range | Relative Humidity | Range | CO2 | Range | # Occupants |
| 302 | 71.6 | 72 - 78 | 63.8 | 30% - 60% | 1158 | Max 700 > Ambient | 33 |
| Noticeable Odor | No | | Visible water damage / staining? | Visible microbial growth? | Amount of material affected | | |
| Ceiling Type | Metal | | No | No | None | | |
| Wall Type | Drywall | | No | No | None | | |
| Flooring | Tile | | No | No | None | | |

| | Clean | Minor Dust / Debris | Needs Cleaning | 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 Grills | Yes | No | No | |
| Surfaces in Room | No | Yes | Yes | Clean as appropriate |

Observations

Findings: Graphic Arts

- Photo related items under sink
- Dust and debris inside and outside cabinets
- Dust and debris on light table in rear of room
- Humidity level was elevated

Recommendations:

Site Based Maintenance:

- Remove photo related items under sink (use Chemical Disposal Form to dispose of the items)
- Clean inside and outside of cabinets as appropriate
- Clean light table as appropriate
- 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 system to lower humidity level

IAQ Assessment

Sunrise Middle School

Location Number
 Evaluation Requested
 Evaluation Date

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

| | | | | | | | |
|----------------------------------|---------------------------------------|--------------------------------------|-----------------------------------|--|-----------------------------------|---|--------------------------------|
| Fish | Temperature | Range | Relative Humidity | Range | CO2 | Range | # Occupants |
| <input type="text" value="416"/> | <input type="text" value="68"/> | <input type="text" value="72 - 78"/> | <input type="text" value="68.7"/> | <input type="text" value="30% - 60%"/> | <input type="text" value="869"/> | <input type="text" value="Max 700 > Ambient"/> | <input type="text" value="1"/> |
| Noticeable Odor | | Visible water damage / staining? | | Visible microbial growth? | | Amount of material affected | |
| <input type="text" value="No"/> | | <input type="text" value="No"/> | | <input type="text" value="No"/> | | <input type="text" value="None"/> | |
| Ceiling Type | <input type="text" value="Concrete"/> | | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text" value="None"/> | | |
| Wall Type | <input type="text" value="Brick"/> | | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text" value="None"/> | | |
| Flooring | <input type="text" value="Tile"/> | | <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="No"/> | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/> |
| 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="Yes"/> | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text"/> |
| HVAC Return Grills | <input type="text" value="Yes"/> | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text"/> |
| Ceiling at Supply Grills | <input type="text" value="Yes"/> | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text"/> |
| Surfaces in Room | <input type="text" value="No"/> | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text"/> |

Observations

Findings: Boys Locker Room

- Minor stains on walls
- Rattling noise from exhasut fans
- Temperature was low
- Humidity level was elevated

Recommendations:

Site Based Maintenance:

- Clean walls as appropriate
- 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 exhaust fans as appropriate
- Evaluate and repair HVAC system to increase temperature and lower humidity level

IAQ Assessment

Location Number 0251
 Evaluation Requested August 11, 2005
 Evaluation Date August 12, 2005

Sunrise Middle School

Time of Day 10:55 am

Outdoor Conditions Temperature 90.8 Relative Humidity 63.3 Ambient CO2 491

| | | | | | | | |
|---|--|---|--|---|--|--|--|
| Fish | Temperature | Range | Relative Humidity | Range | CO2 | Range | # Occupants |
| 504/506 | 71.1 | 72 - 78 | 70.1 | 30% - 60% | 906 | Max 700 > Ambient | 31 |
| Noticeable Odor | No | | Visible water damage / staining? | Visible microbial growth? | Amount of material affected | | |
| Ceiling Type | 2 x 2 Lay In | | No | No | None | | |
| Wall Type | Plaster | | No | No | None | | |
| Flooring | Tile | | No | No | None | | |

| | Clean | Minor Dust / Debris | Needs Cleaning | Corrective Action Required |
|--------------------------|---|---|---|---|
| Ceiling | No | Yes | Yes | Clean as appropriate |
| Walls | Yes | No | No | |
| Flooring | Yes | No | No | |
| HVAC Supply Grills | No | Yes | Yes | Clean with Wexcide disinfectant |
| HVAC Return Grills | | | | |
| Ceiling at Supply Grills | No | Yes | Yes | Clean as appropriate |
| Surfaces in Room | No | Yes | Yes | Clean as appropriate |

Observations

Findings:

- Dust and debris on HVAC supply and return grills
- Dust and debris on ceiling tiles at HVAC supply grills
- Dust and debris on ceiling tiles at HVAC supply grills in storage closets 504A and 506A
- Damaged HVAC vents
- Temperature was low
- Humidity level was elevated

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills in 504, 504A, 506 and 506A with Wexcide disinfectant solution
- Clean ceiling tiles at HVAC supply grills as appropriate
- 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 vents
- Evaluate and repair HVAC system to increase temperature and lower humidity level

IAQ Assessment

Sunrise Middle School

Location Number
 Evaluation Requested
 Evaluation Date

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

| | | | | | | | |
|-----------------------------------|---|--------------------------------------|-----------------------------------|--|-----------------------------------|---|---------------------------------|
| Fish | Temperature | Range | Relative Humidity | Range | CO2 | Range | # Occupants |
| <input type="text" value="510A"/> | <input type="text" value="76.3"/> | <input type="text" value="72 - 78"/> | <input type="text" value="55.3"/> | <input type="text" value="30% - 60%"/> | <input type="text" value="1301"/> | <input type="text" value="Max 700 > Ambient"/> | <input type="text" value="25"/> |
| Noticeable Odor | | Visible water damage / staining? | | Visible microbial growth? | | Amount of material affected | |
| <input type="text" value="No"/> | | <input type="text" value="No"/> | | <input type="text" value="No"/> | | <input type="text" value="None"/> | |
| Ceiling Type | <input type="text" value="2 x 2 Lay In"/> | | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text" value="None"/> | | |
| Wall Type | <input type="text" value="Plaster"/> | | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text" value="None"/> | | |
| Flooring | <input type="text" value="Tile"/> | | <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="No"/> | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/> |
| 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="Yes"/> | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text" value=""/> |
| 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="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/> |
| 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 tiles at HVAC supply grills
- Dust observed on environmental surfaces

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean ceiling tiles at HVAC supply grills and adjacent ceiling tiles as appropriate
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

IAQ Assessment

Sunrise Middle School

Location Number
 Evaluation Requested
 Evaluation Date

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

| | | | | | | | |
|-----------------------------------|--|--------------------------------------|-----------------------------------|--|-----------------------------------|---|---------------------------------|
| Fish | Temperature | Range | Relative Humidity | Range | CO2 | Range | # Occupants |
| <input type="text" value="510B"/> | <input type="text" value="76"/> | <input type="text" value="72 - 78"/> | <input type="text" value="58.3"/> | <input type="text" value="30% - 60%"/> | <input type="text" value="1362"/> | <input type="text" value="Max 700 > Ambient"/> | <input type="text" value="26"/> |
| Noticeable Odor | | Visible water damage / staining? | | Visible microbial growth? | | Amount of material affected | |
| <input type="text" value="No"/> | | <input type="text" value="No"/> | | <input type="text" value="No"/> | | <input type="text" value="None"/> | |
| Ceiling Type | <input type="text" value="2 x 2 Lay In"/> | | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text" value="None"/> | | |
| Wall Type | <input type="text" value="Plaster/Partition"/> | | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text" value="None"/> | | |
| Flooring | <input type="text" value="Tile"/> | | <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="No"/> | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/> |
| 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="Yes"/> | <input type="text" value="No"/> | <input type="text" value="No"/> | <input type="text" value=""/> |
| 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="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/> |
| 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 tiles at HVAC supply grills
- Dust observed on environmental surfaces

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean ceiling tiles at HVAC supply grills and adjacent ceiling tiles as appropriate
- Clean environmental surfaces as appropriate
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

IAQ Assessment

Sunrise Middle School

Location Number 0251
 Evaluation Requested August 11, 2005
 Evaluation Date August 12, 2005

Time of Day 10:30 am

Outdoor Conditions Temperature 90.8 Relative Humidity 63.3 Ambient CO2 491

| | | | | | | | |
|-----------------|-------------|----------------------------------|-------------------|---------------------------|-----|-----------------------------|-------------|
| Fish | Temperature | Range | Relative Humidity | Range | CO2 | Range | # Occupants |
| 718 | 66.3 | 72 - 78 | 66.1 | 30% - 60% | 904 | Max 700 > Ambient | 2 |
| Noticeable Odor | | Visible water damage / staining? | | Visible microbial growth? | | Amount of material affected | |
| Ceiling Type | | No | | No | | None | |
| Wall Type | | No | | No | | None | |
| Flooring | | No | | No | | None | |

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

Observations

Findings:

- Dust and debris on skins that are hanging on wall
- Dust and debris on 15' section of driftwood and wood branches
- Dust and debris on animals traps
- Dust and debris on HVAC supply and return grills
- Dust and debris on ceiling tiles at HVAC supply grills
- Temperature was low
- Humidity level was elevated

Recommendations:

Site Based Maintenance:

- Occupant advised will bring in vacuum to clean skins hanging on wall
- Occupant to remove 15' section of driftwood and wood branches
- Occupant to clean animal traps
- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean ceiling tiles at HVAC supply grills as appropriate
- 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 system to increase temperature and lower humidity level