

## managing risk with responsibility

| Aston A. Henry, Director  |   |
|---------------------------|---|
| Risk Management Departmen | t |

Telephone:754 321-1900Fax:754 321-1917

| November 2 | 1, 2013 Signat  | ure on File <u>For Custodial Supervisor Use Only</u>         |
|------------|---|--|
| TO:        | John LaCasse, Principal<br><b>Nova High School</b>          | Custodial Issues Addressed<br>Custodial Issues Not Addressed |
| FROM:      | Richard Rosa, Project Manager<br>Risk Management Department |  |
| SUBJECT:   | Indoor Air Quality (IAQ) Asses                              | ssment   |

On November 19, 2013, I conducted an assessment at **Nova High School**. Attached are findings and recommendations for further assessment, remediation, or corrective actions needed.

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. In an attempt to separate IAQ issues from general maintenance items, the attached assessment may contain direction for site based staff to generate a work order through COMPASS. Within two weeks a representative from the Custodial/Grounds Department will conduct a follow-up visit to ensure that all site based custodial 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 us at 754-321-1907.

cc: Shelley Meloni, Task Assigned Chief Facilities & Construction Officer, Facilities & Construction Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division Roy Norton, Manager, Custodial/Grounds, Physical Plant Operations Division Aston Henry, Director, Risk Management Sonja Coley, Senior Project Manager, Facilities & Construction Broward Teachers Union Federation of Public Employees

RR/tc Enc.

| Nova High       Evaluation Date       November 19, 2013       Time of Day       2:30 PM         Dutdoor Conditions       Temperature       83.4       Relative Humidity       58.9       Ambient CO2       437         Fish       Temperature       Range       Relative Humidity       Range       CO <sup>2</sup> Range       # Occupants         R.17A       T4.4       72 - 78       51.4       30% - 60%       638       Ambient       CO2         Noticeable Odor       No       Visible water damage / staining?       Visible microbial growth?       Amount of material affected         Ceiling       2':X4'       Yes       No       2 sg ft         Walls       Metal       No       No       Amount of material affected         Ceiling Clean       No       No       No       Amount of grills Clean       Mo         Walls Clean       No       No       No       Mo       Mo         Gling Clean       No       HVAC Supply       N/A       Biside of Return       N/A         Room Surfaces       Yes       Coiling at Supply       N/A       Unapproved Chemicals / No       No         Signs of Pests       No       Drain Traps Wet       No       Air Fresheners in Room       No   | IAQ Assessment                 |                                |                   |                           |          |  |
|---|--------------------------------|--------------------------------|-------------------|---------------------------|----------|--|
| Fish       Temperature       Range       Relative Humidity       Range       CO2       Range       # Occupants         R-17A       74.4       72 - 78       51.4       30% - 60%       638       MAX 700 >       Ambient         Noticeable Odor       No       Visible water damage /       Visible microbial       Amount of         growth?       Naterial affected       Amount of       Material affected         Ceiling       2' x 4'       Yes       No       2 sq ft         Walls       Metal       No       No       Mo         Floor       12' x 12' Vinyl       No       No       Mo         Ceiling Clean       No       HVAC Supply       No       HVAC Return         Grills Clean       No       Grills Clean       No       No         Walls Clean       Yes       Inside of Supply       N/A       Inside of Return       N/A         Room Surfaces       Yes       Ceiling at Supply       N/A       Unapproved Chemicals /       No         Room Cluttered       No       Food if Stored in Room is in Sealed Containers       No       Air Fresheners in Room       No         Room Cluttered       No       Food if Stored in Room is in Sealed Containers       No       in Room <td>1</td> <td>Nova High Evaluation Date</td> <td>November 19, 2013</td> <td>Time of Day 2:3</td> <td>30 PM</td> | 1                              | Nova High Evaluation Date      | November 19, 2013 | Time of Day 2:3           | 30 PM    |  |
| R-17A       74.4       72 - 78       51.4       30% - 60%       638       MAX 700 > Ambient         Noticeable Odor       No       Visible water damage / staining?       Visible microbial growth?       Amount of material affected         Ceiling       2' × 4'       Yes       No       2 sq ft         Walls       Metal       No       No       No         Floor       12" × 12" Vinyl       No       No       No         Ceiling Clean       No       HVAC Supply       No       HVAC Return Grills Clean       No         Walls Clean       Yes       Inside of Supply       NA       Inside of Return Duct Clean       N/A         Flooring Clean       Yes       Ceiling at Supply Grills Clean       N/A       Inside of Return Duct Clean       N/A         Room Surfaces       Yes       Ceiling at Supply Grills Clean       N/A       Unapproved Chemicals / Cleaners in Room       No         Room Cluttered       No       Food if Stored in Room is in Sealed Containers       No       Air Fresheners in Room       No         Mechanical Equipment Location       Eight (8) Bard like HVAC systems in classroom       Mechanical Room Clean       N/A         Fitters Installed Properly       N/A       Cooling Coil Clean       N/A       Inside of HVAC Unit Clean                                | Outdoor Conditions Temperate   | ure 83.4 Relative              | Humidity 58.9     | Ambient CO2 4             | 37       |  |
| Noticeable Odor       No       Inside Validage / Staining?       Inside Validage / growth?       material affected         Ceiling       2' x 4'       Yes       No       2 sq ft         Walls       Metal       No       No       Inside of a staining?       growth?         Valls       Metal       No       No       No       Inside of a staining?       No         Floor       12" x 12" Vinyl       No       No       No       Inside of a staining?       No         Ceiling Clean       No       HVAC Supply       No       No       Inside of a staining?       No         Ceiling Clean       No       HVAC Supply       No       No       Inside of staining?       No         Valls Clean       Yes       Inside of Supply       N/A       Inside of Return Duct Clean       N/A         Room Surfaces       Yes       Ceiling at Supply Grills Clean       N/A       Unapproved Chemicals / Cleaners in Room       No         Signs of Pests       No       Food if Stored in Room is in Sealed Containers       No       Air Fresheners in Room       No         Mechanical Equipment Location       Eight (8) Bard like HVAC systems in classroom       Mechanical Room Clean       N/A         Filters Installed Properly       N/A       Fil   |                                |                                |                   | MAX 700 >                 | ccupants |  |
| Walls       Metal       No       No       No         Floor       12" x 12" Vinyl       No       No       No         Ceiling Clean       No       Grills Clean       No       Grills Clean       No         Walls Clean       Yes       Inside of Supply       No       Grills Clean       No         Walls Clean       Yes       Inside of Supply       N/A       Inside of Return       N/A         Flooring Clean       Yes       Ceiling at Supply       N/A       Duct Clean       NA         Room Surfaces       Yes       Ceiling at Supply       N/A       Cleaners in Room       No         Trash Removed       Yes       Exhaust Fans Working       N/A       Unapproved Chemicals /<br>Cleaners in Room       No         Signs of Pests       No       Food if Stored in Room is<br>in Sealed Containers       No       Air Fresheners<br>in Room       No         Mechanical Equipment Location       Eight (8) Bard like HVAC systems in classroom       Mechanical Room Clean       N/A         Filters Installed Property       N/A       Filters Clean       N/A       Inside of HVAC Unit Clean       N/A         Condensate Pan Clean       N/A       Cooling Coil Clean       N/A       Fresh Air Intake Free<br>of Obstruction       Yes   |                                | staining?                      | growth?           | material affected         |          |  |
| Floor       12" x 12" Vinyl       No       No       No         Ceiling Clean       No       Grills Clean       No       HVAC Supply<br>Grills Clean       No       HVAC Return<br>Grills Clean       No         Walls Clean       Yes       Inside of Supply<br>Duct Clean       N/A       Inside of Return<br>Duct Clean       N/A         Room Surfaces       Yes       Ceiling at Supply<br>Grills Clean       N/A       Unapproved Chemicals /<br>Cleaners in Room       No         Trash Removed       Yes       Exhaust Fans Working       N/A       Unapproved Chemicals /<br>Cleaners in Room       No         Signs of Pests       No       Drain Traps Wet       No       Air Fresheners<br>In Room       No         Mechanical Equipment Location       Eight (8) Bard like HVAC systems in classroom       Mechanical Room Clean       N/A         Filters Installed Properly       N/A       Filters Clean       N/A       Inside of HVAC Unit Clean       N/A         Fresh Air Intake Location       Behind Bard unit/Exterior wall       T       Fresh Air Intake Free<br>of Obstruction       Yes  |                                |                                |                   |                           |          |  |
| Walls Clean     Yes     Inside of Supply<br>Duct Clean     N/A     Inside of Return<br>Duct Clean     N/A       Room Surfaces     Yes     Ceiling at Supply<br>Grills Clean     N/A     Inside of Return<br>Duct Clean     N/A       Trash Removed     Yes     Exhaust Fans Working<br>Grills Clean     N/A     Unapproved Chemicals /<br>Cleaners in Room     No       Signs of Pests     No     Drain Traps Wet     No     Air Fresheners<br>in Sealed Containers     No       Mechanical Equipment Location     Eight (8) Bard like HVAC systems in classroom     Mechanical Room Clean     N/A       Filters Installed Properly     N/A     Filters Clean     N/A     Inside of HVAC Unit Clean     N/A       Fresh Air Intake Location     Behind Bard unit/Exterior wall     Yes     Fresh Air Intake Free<br>of Obstruction     Yes  |                                |                                |                   |                           |          |  |
| Flooring CleanYesInside of Supply<br>Duct CleanN/AInside of Return<br>Duct CleanN/ARoom Surfaces<br>CleanYesCeiling at Supply<br>Grills CleanN/aN/aN/ATrash RemovedYesExhaust Fans WorkingN/AUnapproved Chemicals /<br>Cleaners in RoomNoSigns of PestsNoDrain Traps WetNoAir Fresheners<br>in RoomNoRoom ClutteredNoFood if Stored in Room is<br>in Sealed ContainersNoAir Fresheners<br>in RoomNoMechanical Equipment LocationEight (8) Bard like HVAC systems in classroomMechanical Room CleanN/AFilters Installed ProperlyN/AFilters CleanN/AInside of HVAC Unit CleanN/AFresh Air Intake LocationBehind Bard unit/Exterior wallVFresh Air Intake Free<br>of ObstructionYes  |                                |                                | No                |                           | No       |  |
| Clean       Grills Clean       N/a         Trash Removed       Yes       Exhaust Fans Working       N/A       Unapproved Chemicals / Cleaners in Room       No         Signs of Pests       No       Drain Traps Wet       No       Air Fresheners in Room       No         Room Cluttered       No       Food if Stored in Room is in Sealed Containers       No       Air Fresheners in Room       No         Mechanical Equipment Location       Eight (8) Bard like HVAC systems in classroom       Mechanical Room Clean       N/A         Filters Installed Properly       N/A       Filters Clean       N/A       Inside of HVAC Unit Clean       N/A         Condensate Pan Clean       N/A       Cooling Coil Clean       N/A       Fresh Air Intake Free of Obstruction       Yes         Pollutant Sources Near Air       No       No       Intake Free of Obstruction       Yes   |                                |                                | N/A               |                           | N/A      |  |
| Signs of Pests     No     Drain Traps Wet     No     Air Fresheners in Room     No       Room Cluttered     No     Food if Stored in Room is in Sealed Containers     No     Air Fresheners in Room     No       Mechanical Equipment Location     Eight (8) Bard like HVAC systems in classroom     Mechanical Room Clean     N/A       Filters Installed Properly     N/A     Filters Clean     N/A     Inside of HVAC Unit Clean     N/A       Condensate Pan Clean     N/A     Cooling Coil Clean     N/A     Fresh Air Intake Free of Obstruction     Yes  | 100                            |                                | N/a               |                           |          |  |
| Room Cluttered No   Food if Stored in Room is<br>in Sealed Containers   No   Mechanical Equipment Location   Eight (8) Bard like HVAC systems in classroom   Mechanical Room Clean   N/A   Filters Installed Properly   N/A   Filters Clean   N/A   Condensate Pan Clean   N/A   Cooling Coil Clean   N/A   Fresh Air Intake Location   Behind Bard unit/Exterior wall   Fresh Air Intake Free of Obstruction Yes   | Trash Removed Yes              | Exhaust Fans Working           | N/A               |                           | No       |  |
| Room Cluttered       No       in Room         Mechanical Equipment Location       Eight (8) Bard like HVAC systems in classroom       Mechanical Room Clean       N/A         Filters Installed Properly       N/A       Filters Clean       N/A       Inside of HVAC Unit Clean       N/A         Condensate Pan Clean       N/A       Cooling Coil Clean       N/A       Fresh Air Intake Location       Behind Bard unit/Exterior wall   | Signs of Pests No              | Drain Traps Wet                | Νο                | Air Frachanara            |          |  |
| Filters Installed Properly     N/A     Filters Clean     N/A     Inside of HVAC Unit Clean     N/A       Condensate Pan Clean     N/A     Cooling Coil Clean     N/A     Inside of HVAC Unit Clean     N/A       Fresh Air Intake Location     Behind Bard unit/Exterior wall <ul> <li>Fresh Air Intake Free of Obstruction</li> <li>Yes</li> <li>Yes</li> </ul>  | Room Cluttered No              |                                | No                |                           |          |  |
| Condensate Pan Clean     N/A     Cooling Coil Clean     N/A       Fresh Air Intake Location     Behind Bard unit/Exterior wall <ul> <li>Fresh Air Intake Free of Obstruction</li> <li>Yes</li> </ul>  | Mechanical Equipment Location  | Eight (8) Bard like HVAC syste | ms in classroom   | Mechanical Room Clean     | N/A      |  |
| Fresh Air Intake Location     Behind Bard unit/Exterior wall       Fresh Air Intake Free of Obstruction     Yes       Pollutant Sources Near Air     No <td< td=""><td>Filters Installed Properly N/A</td><td>Filters Clean</td><td>N/A</td><td>Inside of HVAC Unit Clean</td><td>N/A</td></td<>  | Filters Installed Properly N/A | Filters Clean                  | N/A               | Inside of HVAC Unit Clean | N/A      |  |
| Pollutant Sources Near Air of Obstruction   | Condensate Pan Clean N/A       | Cooling Coil Clean             | N/A               |                           |          |  |
| Pollutant Sources Near Air  | Fresh Air Intake Location      | Behind Bard unit/Exterior wall | ▼                 |                           | Yes      |  |
|   |                                | No                             | ▼                 |                           |          |  |

## Observations

Stained ceiling tiles are located on the West side of the portable adjacent to the wall. There are numerous floor drains located throughout the portable that need to be secured or capped off. The source of the foul odor is coming from the sink area in the back of the classroom. When the water runs the odor strengthens. I opened both faucets and allowed to flush out any stagnant water that may have been in a small water heater. It appeared to have helped. Plumbers are recommended to evaluate the water heater and water source feeding the sink.

Corrective Actions to be Completed by Site Based Staff

| Replace stained ceiling tiles after repairs | ▼ |
|---|---|
| Clean HVAC supply grills with Wexcide       | ▼ |
| Vacuum/wipe return grill                    | ▼ |
|   | ▼ |
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## Corrective Actions to be Completed by PPO

| Evaluate and repair cause of stained ceiling tiles | ▼ |
|--|---|
| Plumbers to evaluate water heater & water source   | ▼ |
| Cap off all floor drains and floor vents           | ▼ |
|  | ▼ |
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