

**BNIM** berkebile nelson immenschuh mcdowell architects

30 May 2003

Alan Vinson  
Professional Contractors and Engineers, Inc.  
5900 C. North Tower Drive, P.O. Box 7509  
Columbia, MO 65205

**DNR Green Office Building- 99076 D/C X0056-01**  
**Re: Indoor Air Quality Management Plan**

Dear Mr. Vinson:

We have reviewed the submitted *Indoor Air Quality Management Plan*, and have provided the following comments for incorporation into the final draft:

While there is a lot of good information already listed, the plan should follow the SMACNA Guidelines, which are listed in Section 01360 3.1B: *HVAC Protection, Source Control, Pathway Interruption, Housekeeping, Scheduling, and Building Flush-Out*. The plan should have a section for each of these categories.

Other important concepts to incorporate include:

Under *HVAC Protection*:

"Water will not be allowed to stand on and around any mechanical equipment. The entire work area will be kept as dry as possible by fixing any leaks."

Under *Source Control*:

"Welded chilled water and heating water piping will be shop fabricated wherever possible in controlled conditions. The fabricated assemblies will be properly stored and protected from rust, drip, humidity, and dust damage prior to shipment to the site and installation. Welding on site shall be kept to a minimum to reduce smoke and fumes. "Smoke eaters" will be utilized to minimize the smoke generated by welding within the building. Exhaust fans should be used in confined spaces when welding is performed."

"Diffuser located in access flooring will be installed in conjunction with the floor installation. The floor diffusers will be covered in plastic until they are operational. All chase and wallboard materials will be protected from water. All damaged materials will be removed and replaced."

"No obvious mold or chemical contamination will be enclosed, hidden or painted. PCE and each Subcontractor will ensure that construction detailing due to design or construction flaws do not result in moisture intrusion in the building."

Under *Pathway Interruption*:

"Air handling units supply conditioned air to the floors. Floors with heavy dust or chemical operations will be exhausted to the outside. Wherever possible, all cutting, patching, and cleaning involving chemicals and exhausting dust shall be performed directly outdoors to protect the workers and surfaces."

"Exhaust fans may be utilized to remove dust and contaminants. Care will be taken not to exhaust air where it can be drawn back into the building."

"During rain or high humidity conditions, the HVAC system operation will be adjusted so that the indoor relative humidity does not exceed 60 percent. Surfaces that condensate will be dried and cleaned. Conditions subject to condensation will be eliminated. Exhaust fans will be prevented from drawing moist air into the building. It is preferable to have little airflow to moist air entering the building."

"Where applicable, utilize an air barrier, ranging from a dust curtain, a continuous plastic seal, or pressure differential will be used to isolate areas at different stages of completion to protect workers and surfaces from contamination during execution of the work."

"Indoor cutting or other dust-generating activities, will be centralized to areas where clean up can be carried out easily. Contaminants will be kept from being tracked into other areas of the building."

"Care will be taken to protect mechanical rooms with air handling equipment from contaminants. (For example, store construction products and waste materials elsewhere.)"

*Under Housekeeping:*

"After installation of the access flooring, vacuum clean access flooring and cover with continuous sheets of reinforced paper or plastic. Maintain protective covering until commencement of floor covering installations."

*Under Scheduling:*

"Where possible, complete all dust producing operations and applications of wet and odorous materials such as paints, sealants, and coatings before the installation of "sink" materials such as carpet, insulation, and fabric-covered furnishings."

"The installation of absorbent materials, such as drywall, fireproofing, and insulation will not be commenced until the installation of wet materials and the building shell is fully weather tight."

Also, the term "periodic inspection" is used. Inspections should be documented weekly. I have attached a sample worksheet that could be helpful in determining how these are documented.

Per 01360 1.5A:

"PCE will provide digital photographs of construction IAQ management measures such as protection of ducts, and on-site stored or installed absorptive materials."

"PCE will provide cut sheets of filtration media used during construction and installed prior to occupancy with the MERV values highlighted."

Please review the attached comments and re-submit a revised report. As previously mentioned, this is a quality assurance submittal. We will need the revised report routed with proper transmittal and number of copies for approval. (Also, per a message I received this afternoon, Ms. Kolb is asking for this report to be finalized by June 16<sup>th</sup>...)

Don't hesitate to contact me if there are questions, comments, and/or concerns. Finally, sincere thanks for all of your efforts to make this a successful plan!

Sincerely,

James Pfeiffer  
BNIM Architects

cc:

File  
Wack  
Kolb  
Walker

SAMPLE

**INDOOR AIR QUALITY OBSERVATION REPORT**

Inspector: \_\_\_\_\_

Date: \_\_\_\_\_

**LEVEL FIRST**

Item	Component	Yes	No	Remarks
1	Is protective covering in place for equipment and materials?			
2	Are openings of ductwork and equipment capped and sealed?			
3	Is filter media in place to protect equipment in use?			
4	Is an action plan in place for dust control?			
5	Is an action plan in place for high VOC emitting activities?			
6	Is standing water cleaned up immediately? Is a clean and dry work environment being maintained?			
7	Has relative humidity been measured for this level?			
8	Has VOC emissions been measured for this level?			
9	Is ventilation on this level adequate?			

**LEVEL SECOND**

Item	Component	Yes	No	Remarks
1	Is protective covering in place for equipment and materials?			
2	Are openings of ductwork and equipment capped and sealed?			
3	Is filter media in place to protect equipment in use?			
4	Is an action plan in place for dust control?			
5	Is an action plan in place for high VOC emitting activities?			
6	Is standing water cleaned up immediately? Is a clean and dry work environment being maintained?			
7	Has relative humidity been measured for this level?			
8	Has VOC emissions been measured for this level?			
9	Is ventilation on this level adequate?			

## INDOOR AIR QUALITY OBSERVATION REPORT

### **LEVEL THIRD**

Item	Component	Yes	No	Remarks
1	Is protective covering in place for equipment and materials?			
2	Are openings of ductwork and equipment capped and sealed?			
3	Is filter media in place to protect equipment in use?			
4	Is an action plan in place for dust control?			
5	Is an action plan in place for high VOC emitting activities?			
6	Is standing water cleaned up immediately? Is a clean and dry work environment being maintained?			
7	Has relative humidity been measured for this level?			
8	Has VOC emissions been measured for this level?			
9	Is ventilation on this level adequate?			

### **LEVEL FOURTH**

Item	Component	Yes	No	Remarks
1	Is protective covering in place for equipment and materials?			
2	Are openings of ductwork and equipment capped and sealed?			
3	Is filter media in place to protect equipment in use?			
4	Is an action plan in place for dust control?			
5	Is an action plan in place for high VOC emitting activities?			
6	Is standing water cleaned up immediately? Is a clean and dry work environment being maintained?			
7	Has relative humidity been measured for this level?			
8	Has VOC emissions been measured for this level?			
9	Is ventilation on this level adequate?			

## INDOOR AIR QUALITY OBSERVATION REPORT

### **ROOF LEVEL**

Item	Component	Yes	No	Remarks
1	Is protective covering in place for equipment and materials?			
2	Are openings of ductwork and equipment capped and sealed?			
3	Is filter media in place to protect equipment in use?			
4	Is an action plan in place for dust control?			
5	Is an action plan in place for high VOC emitting activities?			
6	Is standing water cleaned up immediately? Is a clean and dry work environment being maintained?			
7	Has relative humidity been measured for this level?			
8	Has VOC emissions been measured for this level?			
9	Is ventilation on this level adequate?			

### **PASSENGER ELEVATOR MACHINE ROOM**

Item	Component	Yes	No	Remarks
1	Is protective covering in place for equipment and materials?			
2	Are openings of ductwork and equipment capped and sealed?			
3	Is filter media in place to protect equipment in use?			
4	Is an action plan in place for dust control?			
5	Is an action plan in place for high VOC emitting activities?			
6	Is standing water cleaned up immediately? Is a clean and dry work environment being maintained?			
7	Has relative humidity been measured for this level?			
8	Has VOC emissions been measured for this level?			
9	Is ventilation on this level adequate?			