SECTION 01 3546

INDOOR AIR QUALITY MANAGEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Indoor Air Quality Management Plan.
2. During construction:
   a. Protection of heating, ventilating, and air conditioning systems.
   b. Reducing emissions through source control.
   c. Pathway interruption.
   d. Housekeeping.
   e. Scheduling.
3. Before occupancy: Flush-out.

1.2 REFERENCES

A. American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) 52.2 - Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.

B. Sheet Metal and Air Conditioning Manufacturer's Association International (SMACNA) - IAQ Guidelines for Occupied Buildings Under Construction.

1.3 SUBMITTALS

A. Indoor Air Quality Management Plan:
1. Submit Indoor Air Quality Management Plan for review within 14 days after date of Notice to Proceed. Include:
   a. Procedures for implementing requirements of SMACNA IAQ Guideline.
   b. Substitution procedures for products that are responsibility of Contractor and proposed source control implementation measures to minimize building contamination.
   c. Construction sequencing and storage plans for protection of stored on-site or installed absorptive materials against moisture absorption and contamination.
   d. Filter media change schedule and Product Data for filters including MERV ratings.
   e. Name and phone number of Contractor's personnel responsible for instructing workers and overseeing and documenting results of Indoor Air Quality Management Plan.
2. Submit electronically in Adobe PDF format.
3. If required, revise and resubmit plan within ten days after receipt of comments.
4. Distribute copies of approved Indoor Air Quality Management Plan to concerned parties.

B. Photographs: Document indoor air quality management measures with date-stamped photographs including protection of ducts, on-site storage, and protection of installed absorptive materials.

C. Indoor Air Quality Testing Report showing results of air quality testing.

1.4 QUALITY ASSURANCE

A. Review and discuss Indoor Air Quality Management Plan implementation and progress at Preconstruction Conference and Progress Meetings.

1.5 DELIVERY, STORAGE AND HANDLING

A. Designate specific storage areas to facilitate protection of stored absorptive materials.

B. Clearly identify storage area. Keep clean and orderly; prevent contamination of materials.

C. Monitor storage areas for contamination; correct problems and implement preventative measures.

1.6 TRAINING

A. Provide training of indoor air quality management methods to be used at appropriate stages of Project.

B. Require participation of all subcontractors.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

3.1 IMPLEMENTATION - DURING CONSTRUCTION

A. Meet or exceed SMACNA minimum requirements for heating, ventilating, and air conditioning system protection, source control, pathway interruption, housekeeping, and scheduling.

B. Protect stored on-site or installed absorptive materials from moisture damage and volatile organic compound contamination through construction sequencing and proper storage.

C. If air handlers are used during construction, use filtration media with Minimum Efficiency Reporting Value (MERV) of 8 per ASHRAE 52.2.

D. Replace filtration media just prior to occupancy.

E. Heating, Ventilating, and Air Conditioning System Protection:
1. Keep duct systems including supply air, return air, and exhaust air and associated equipment including air handlers, variable air volume boxes, silencers, fans, and filter boxes, clean and un-contaminated.
2. Seal taps and open ends not actively being worked on with plastic and tape.
3. Provide 1 inch polyester filter media over return and exhaust air inlets during construction and until Substantial Completion.
4. Ensure that temporary and permanent filters are in place and openings are closed before running fans.
5. Protect existing heating, ventilating, and air conditioning systems with 1 inch polyester media installed over outside air intakes. Change out filter media on intakes to minimize pressure drops. Provide frequent filter change out to keep filter pressure drop at existing fan-coils below approximately 0.30 inch s.p.

F. Source Control:
1. For temporary and ancillary materials used in construction, follow requirements of similar products to minimize indoor air quality impacts.
2. Use nontoxic formulations and implement other control measures to minimize building contamination.

G. Pathway Interruption: Isolate areas where work is being performed to prevent contamination of clean spaces.

H. Housekeeping:
1. Implement cleaning activities concentrating on heating, ventilating, and air conditioning systems and building space to remove contaminants prior to occupancy.
2. Protect materials from weather and store in clean area prior to unpacking..
3. Clean coils, air filters, and fans before performing testing and balancing.
4. Provide temporary walk-off mats at entry points to construction areas; replace or clean daily.

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I. Scheduling:
   1. Sequence construction activities to reduce absorption of and volatile organic compounds by materials.
   2. Complete applications of wet and odorous materials before installing absorptive materials.

3.2 IMPLEMENTATION - BEFORE OCCUPANCY

A. After completion of construction, prior to Owner occupancy, and after completion of interior finishes, perform building flush-out:
   1. Supply total air volume of 14,000 CF of outdoor air per square foot of floor area.
   2. Maintain minimum interior temperature of 60 degrees F and maximum relative humidity of 60 percent during flush-out.

END OF SECTION