

APPENDIX B - DUST, CONTAMINANT, ODOR AND FUNGAL CONTROL MEASURES

Purpose: Construction-related dust, contaminants and odors can cause significant problems for university students and staff, which disrupt normal university operations. Dust is not merely a nuisance, but can cause sensitive individuals to become ill. Dust also can damage scientific equipment or ruin experimental data. The A/E shall select from among the following types of control measures for projects to ensure that construction-related dust, contaminants and odors do not migrate from the job site and disrupt normal university operations. Consult with the owner's representative and the staff at the Department of Environmental Health & Safety (DEHS) to select reasonable dust control measures and risk assessments that fit the situation.

Areas with a history of suspected water infiltration, visible fungal growth or wet construction areas can adversely affect people with reduced immune systems, inflammatory lung diseases and respiratory health concerns such as asthma and severe allergies. Such areas also adversely affect recent surgery patients. Follow the Safe Operating Procedure for Fungal Abatement and consult with DEHS and Mold Abatement Services for further direction on fungal control measures.

If construction is expected to affect several floors or a large area of a building, consider moving occupants from that area until construction is completed. Rationale: The level of containment can be minimized if occupants are not present. Complaints from university employees and exposure to construction dust and odors in adjacent occupied areas will be eliminated. Demolition and construction work can be completed without disruption due to repair of dust barriers and occupant complaints.

Note: It's important to keep all work areas clean on a regular basis, preferably daily.

Level 1 - Initial control measures, which should be considered for all projects:

Internal Measures

- A. Send a written notice to building occupants or other potentially affected individuals informing them about the start of construction, expected noise, dust and/or odor issues, measures to be taken to control these issues, and expected ending date.
- B. Close doors surrounding the construction. Install gaskets and door sweeps on doors.
- C. Evaluate supply/return duct system. Seal and/or filter return or exhaust ductwork as necessary to isolate construction area.
- D. Wet materials during demolition so visible emissions do not occur.
- F. Use cutting tools to remove materials in large pieces. Do not use impact tools to demolish materials.

External Measures

- A. Send a written notice to building occupants or other potentially affected individuals informing them about the start of construction, expected noise, dust and/or odor issues, measures to be taken to control these issues, and expected ending date.
- B. Evaluate supply/return duct system. Seal and/or filter return or exhaust ductwork as necessary to isolate construction area.
- C. Wet materials during demolition so visible emissions do not occur.
- D. Cover or wet materials being removed from the job site.
- E. Use cutting tools to remove materials in large pieces. Do not use impact tools to demolish materials.
- F. Sweep streets near job site frequently enough to prevent visible airborne emissions from affecting normal university operations.
- G. Wet gravel and/or dirt driveways in construction area, especially during dry periods that have heavy traffic flow.

Level 2 - More extensive control measures if Level 1 does not work or if project has special considerations:

Internal Measures

- A. Seal around ductwork and pipes with plastic, tape or caulk.
- B. Enclose work area with plastic sheets or sheet rock on the construction side of framing. Enclosures must be continuous from the floor to the deck above. Seal joint perimeters with caulk or tape.
- C. Maintain airflow from clean areas to dirty areas on the job site. Provide fans or other ventilation equipment to exhaust air from construction areas to the outside. Direct exhaust away from building openings or air intakes.
- D. Use exhaust devices on tools to capture dust at the source.
- E. Remove construction debris in covered containers and/or in wet condition.

External Measures

- A. Protect doors and windows on adjacent buildings.
- B. Protect air intakes on adjacent buildings.
- C. Use exhaust devices on tools to capture dust at source.
- D. Remove construction debris in covered containers and/or in wet condition.

Level 3 - Additional measures for special projects involving sensitive patient and/or research areas:

Internal Measures

- A. Fully enclose all work areas with sheet rock or plastic sheeting. Seal joints or other openings with caulk or tape. Create negative pressure for this enclosed work area by exhausting temporary ventilation from the work to the exterior.
- B. Provide a frame-supported plastic barrier for projects of three days or less.
- C. Periodically perform particle counts or chemical analysis in clean areas. Check adjacent areas to ensure that airflow is away from clean areas.
- D. Install air filtration equipment to prevent contaminating occupied spaces adjacent to

construction area.

- E. Ensure that the air filtration equipment is functional prior to use.
- F. Have construction workers change into clean clothes and/or remove work shoes before entering clean areas.
- G. Provide an area for workers to clean up and change into clean clothes.
- H. Avoid transporting construction debris through clean areas.
- I. Schedule all work with the owner's representative to ensure that it has a minimal impact on normal university operations.
- J. Work inside a glove bag. Glove bags typically are used for asbestos abatement to control dust. They also could be used for other small-scale activities in sensitive areas to control dust migration.

External Measures

- A. Periodically perform particle counts or chemical analysis in clean areas. Check adjacent areas to ensure that airflow is away from clean areas.
- B. Install air filtration equipment to prevent contaminating occupied spaces adjacent to the construction area.
- C. Ensure that the air filtration equipment is functional prior to use.
- D. Provide an area for workers to clean up and change into clean clothes.
- E. Avoid transporting construction debris through clean areas.
- F. Schedule all work with the owner's representative to ensure that it has a minimal impact on normal university operations.

End of Appendix B - Dust, Contaminant and Odor Control Measures
University of Minnesota Facilities Management
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