



Westover Magnet Elementary School
452 Stillwater Road
Stamford, Connecticut

Hard Surface Microbial Cleaning Work Plan

November 3, 2018

Project No. 28-2087-033

Tighe&Bond

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Introduction

- A. This Hard Surface Microbial Cleaning Work Plan (the "Plan") has been developed to facilitate the cleaning of hard surfaces (computers, smartboards, desks, chairs, etc.) scheduled to be moved off-site for re-use at the Westover Magnet Elementary School located at 452 Stillwater Road in Stamford, Connecticut, Connecticut (the "site").
- B. The Plan includes the following:
 - 1. Preparation of Cleaning Area Enclosure
 - 2. Cleaning and Disinfecting of Hard Surfaces
 - 3. Inspection and Swab Sampling of Cleaned Hard Surfaces by Tighe & Bond, Inc. (the "Consultant")
- C. Related documents include the following:
 - 1. Hard Surface Microbial Cleaning Work Plan - Figure 1

Contractor Requirements

- A. The Contractor(s) shall be responsible for providing temporary water, power, and heat as needed at the site to perform the work required.
- B. The Contractor(s) shall have a designated "competent person" on the site always to ensure establishment of a proper enclosure system, regulated area, and proper work practices throughout the Project.
- C. Supervisor(s) shall be thoroughly familiar and experienced with mold remediation and related work and shall enforce the use of all safety procedures and equipment. Supervisor shall be knowledgeable of EPA, OSHA, and NIOSH requirements and guidelines.
- D. Contractor shall enforce strict discipline and good order among its employees and shall not employ any person not skilled in the work assigned, nor anyone who has not received documented training in mold remediation.
- E. The Contractor shall properly coordinate work with the Owner and Consultant.
- F. The Contractor shall be responsible for addressing any concerns by the Owner and/or Consultant.

Regulations

- A. The Contractor shall be solely responsible for conducting this project and supervising all work in a manner that will be in conformance with all federal, state, and local regulations and guidelines pertaining to mold impacted surfaces remediation.
- B. Specifically, the Contractor shall comply with the requirements of the following:
 - 1. Environmental Protection Agency (EPA) "Mold Remediation in Schools and Commercial Buildings", September 2008.
 - 2. Occupational Safety and Health Administration (OSHA) Regulations for Construction (29 CFR 1926).

3. Institute of Inspection, Cleaning and Restoration Certification (IICRC) S500 "Standard and Reference Guide for Professional Water Damage Restoration", 4th Edition 2015.
4. IICRC S520 "Standard and Reference Guide for Professional Mold Remediation", 3rd Edition 2015.
5. 2003 International Building Code as adopted by the 2005 State of Connecticut Building Code including the 2009, 2011, and 2013 amendments;
6. Life Safety Code, National Fire Protection Association (NFPA);
7. Local health and safety codes, ordinances or regulations pertaining to mold remediation and all national codes and standards including American Society of Testing and Materials (ASTM), American National Standards Institute (ANSI), and Underwriter's Laboratories (UL).

Description of Work

- A. The City of Stamford (the "Owner") has staged hard surfaces in the following areas within the building:
 1. Media Center – IT equipment consisting of, but not limited to, computers, smartboards, etc.
 2. Cafeteria, Corridor at Computer, and Lobby – Furniture consisting of, but not limited to, desk, chairs, etc.

Submittals

- A. The Contractor will submit one copy each (electronic submittal is preferred) of the following submittals to the Consultant prior to the commencement of Work:
 1. Training, respirator fit-test records, and medical records of each employee who may be on the project site.
 2. Connecticut-license for an Electrical subcontractor (if needed)
 3. Chain of command for Contractor consisting of name and cell phone numbers for Project Manager and Supervisor(s) assigned to the Project.
 4. Copies of Safety Data Sheets (SDS) for materials to be used on-site.

Products

General

- A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.
- B. Damaged or deteriorated materials shall not be used and shall be removed from the premises.
- C. Polyethylene (poly) sheeting in a roll size to minimize the frequency of joints shall be delivered to the site with factory label indicating 4-mil in thickness.
- D. Tape or adhesive spray will be capable of sealing joints in adjacent poly sheets and for attachment of poly sheets to finished or unfinished surfaces of dissimilar

materials and capable of adhering under both dry and wet conditions, including use of microbial cleaning disinfectant.

Equipment

- A. The Contractor shall provide all clean tools and equipment necessary for the work.
- B. The Contractor shall have available sufficient inventory for materials necessary for the job including protective clothing, respirators, filter cartridges, poly sheeting of proper size and thickness, tape, and air filters.
- C. The Contractor shall provide temporary electrical power panels, electrical power cables, and electrical power sources (such as generators). Any electrical connection work affecting the building electrical power system shall be performed by a State of Connecticut-licensed electrician.
- D. The Contractor shall assist the Consultant by providing necessary tools and equipment (e.g., coveralls, extension cords, lighting, etc.) for the Consultant to conduct visual inspections and collect swab samples on cleaned and disinfected hard surfaces.
 - 1. The Consultant reserves the right to reject such items that are deemed unsafe and/or do not function properly and request items be replaced with adequate replacements. The work areas shall be safe to enter/occupy by the Consultant.
- E. The Contractor shall provide wash station and plumbing to support including sufficient hose length and drain system or an acceptable alternate for the employee decontamination unit.
- F. Exhaust air filtration system units shall contain HEPA filter(s) capable of sufficient air exhaust to create negative air pressure of - 0.02 inches of water column within the enclosure with respect to outside area.
 - 1. Digital monometers with printable readings shall be supplied and utilized during the work.
 - i. Paper printouts shall be provided to the Consultant daily.
 - 2. Equipment shall be checked for proper operation by smoke tubes or differential pressure gauge before the start of each shift and at least twice during the shift.
 - 3. Adequate exhaust air shall be provided for a minimum of four (4) air changes per hour within the cleaning area.
 - 4. No air movement system or air filtering equipment shall discharge unfiltered air outside.
 - 5. The Contractor will have reserve units so that the station system will operate continuously.
- G. Vacuum units, of suitable size and capacities for the project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter or larger.
- H. The Contractor shall provide adequate lighting to allow for appropriate cleaning and disinfecting of items and passage by workers and visitors.

Microbial Cleaning Disinfectant

- A. Disinfecting products shall include the two-part Anabec Cleaning Solution and Anabec X-70 manufactured by Anabec, Shockwave RTU manufactured by Fiberlock, or equivalent, accepted by Consultant.

Personal Protection Supplies and Equipment

- A. Respirator Types - Provide all workers with a half-face air-purifying respirator that is approved by the National Institute for Occupational Safety and Health (NIOSH) for protection against airborne mold and microbial cleaning disinfectant and meets the requirements of the OSHA Standard.
- B. Protective Clothing - Provide all workers and approved visitors with disposable coveralls, head and foot coverings, gloves, eye protection (i.e., goggles), and half-face respiratory protection.

Pre-Construction Meeting

- A. Prior to the start of work, a Pre-Construction Meeting will be scheduled and must be attended by the Contractor and any Sub-Contractors. The assigned Contractor Project Manager and Site Supervisor must also attend this meeting.

Work Area Preparation

General

- A. Where necessary, deactivate electrical power, including receptacles and light fixtures. Under no circumstances during work will the site's electrical system (receptacles and lights within the work area) be permitted to be used by the Contractor in the work area.
- B. Provide Ground Fault Circuit Interrupter (GFCI) power panels, receptacles, cabling, etc. required to provide temporary power and temporary within the work area.
 - 1. GFCI power panel installation shall be made by a State of Connecticut-licensed electrician, permitted as required, and located outside the work areas.

Enclosure Preparation

- A. Install one-layer 4 mil-thick poly sheeting on floors, walls, and the ceiling creating an enclosure. All seams shall be taped and glued. Location of enclosure depicted on Figure 1 provided in Appendix A.
- B. Install two-layers of 4-mil thick poly sheeting within the enclosure to create three zones as follows and depicted on Figure 1:
 - 1. Staging Area
 - 2. Cleaning Area
 - 3. Visual Inspection Area
- C. Cut the two layers of 4-mil poly sheeting to create double-flap openings between the three zones. Install one layer of 4-mil poly sheeting, cut to size, over the double flap openings so openings can be sealed from within the cleaning area during cleaning of hard surfaces.

- D. Establish a worker decontamination unit on the non-work area side of the critical barrier. Decontamination unit shall consist of an area where personnel can wash their hands and face and change/decon PPE.
- E. Create pressure differential between work area and non-work area using acceptable negative air pressure equipment sufficient to provide four air changes per hour and create negative air pressure of -0.02 inches of water column within enclosure with respect to outside area as measured on a water gauge.

Work Procedures

- A. Microbial cleaning/disinfecting will not commence until authorized by the Consultant.
- B. Hard surfaces to be cleaned shall be moved from the Owner-located staging areas into the enclosure's staging area by the Contractor.
- C. Once sufficient items are in the staging area, the poly sheeting covering the double-flap opening into the cleaning area can be unsealed.
- D. Following unsealing of the double-flap opening, items can be loaded into the cleaning area. Poly sheeting covering the double-flap opening shall be sealed once items are loaded into the cleaning area.
- E. In accordance with manufacturer's directions and specifications, utilize the Consultant-accepted cleaning disinfectant to disinfect and sanitize hard surfaces within the cleaning area.
 - 1. Contractor shall follow manufacturers recommended number of applications, drying times, etc.
- F. After completion of the cleaning and once hard surfaces are dry, the poly sheeting covering the double-flap opening into the visual inspection area shall be unsealed and items shall be loaded into the visual inspection area. Poly sheeting covering the double-flap opening shall be sealed once items are loaded into the visual inspection area.
- G. Once hard surfaces have been passed successful visual inspection by the Consultant, items shall be removed from the visual inspection area and staged for loading into storage containers by others.
- H. The enclosure shall be routinely cleaned during the Contractor's work.
 - 1. Cleaning disinfectant, rags, PPE, etc. generated during cleaning/disinfecting shall be routinely containerized within the enclosure for disposal in owner-supplied dumpsters.
 - 2. When a waste bag is full, it shall be securely sealed with tape and cleaned before removal from work area.

Consultant Responsibilities

Visual Inspections

- A. The Consultant shall conduct periodic inspections throughout the project. Inspections shall be conducted to document the progress of the work as well as the procedures and practices employed by the Contractor.

- B. The Consultant shall perform the following inspections during the work:
1. Pre-commencement Inspection. Pre-commencement inspection shall be performed at the time requested by the Contractor. If, during the pre-commencement inspection, deficiencies are observed, the Contractor shall perform the necessary adjustments to obtain compliance.
 2. Work Area Inspections. Periodic work area inspections shall be conducted at the discretion of the Consultant. During the work area inspections, the Consultant shall observe the Contractor's work procedures, verify enclosure integrity, assess project progress, and inform the Contractor of specific items if deficiencies are noted.
 3. Final Visual Inspections. The Consultant, upon request of the Contractor, shall conduct final visual inspection of the hard surfaces cleaned. If items are determined to contain dust and/or debris, the items shall be returned to the cleaning area and cleaned/disinfected by the Contractor.

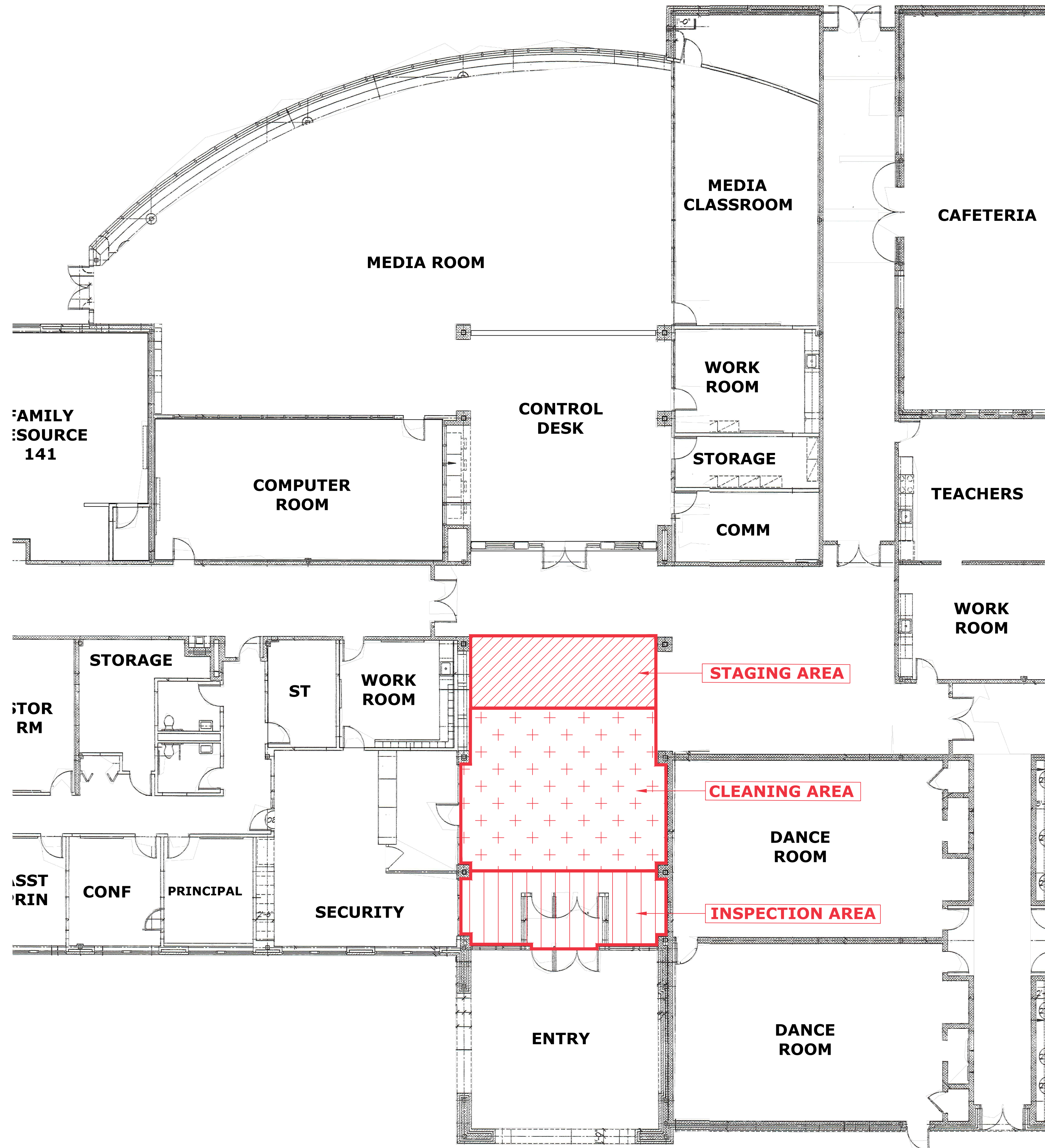
Swab Sampling

- A. The Consultant shall collect and analyze swab sample from hard surfaces following completion of cleaning and successful final visual inspection.
- A. Swab Sampling Criteria – Swab samples shall be collected on hard surfaces as items are loaded into the storage containers. One swab sample shall be collected from a hard surface in 10-foot intervals within the storage containers.
- B. Swab sample analysis shall be conducted by EMSL Analytical of Wallingford, Connecticut, on a 24-hour laboratory turnaround time. Analysis shall be by Identification of Fungal Structures via Direct Examination. Hard surfaces shall be considered clean if sample analysis does not identify mold spores.

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APPENDIX A



Westover Magnet Elementary School

City of Stamford

452 Stillwater Road
Stamford, CT

| MARK | DATE | DESCRIPTION |
|-------------|------------|-------------|
| PROJECT NO: | S2087 | |
| DATE: | 11/3/2018 | |
| FILE: | Layout.dwg | |
| DRAWN BY: | WAC | |
| CHECKED: | XX | |
| APPROVED: | XX | |

SCALE: 1/8" = 1'

Figure 1 - Hard Surface Microbial Cleaning Work Plan