**SECTION 02 85 10**

**BIRD, BAT AND RODENT DROPPINGS REMEDIATION AND DISPOSAL**

**PART 1 GENERAL**

1. **SCOPE OF WORK**
   * + - 1. This project includes the disturbance, removal, cleaning and decontamination of existing bird, bat, and rodent droppings and disposal of removed materials at XXX (facility name, building IDs, address, DASNY project name and number).
         2. The remediation work shall include, but not be limited to, the following material(s):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Floor/level /location** | **Work Area Designation** | **Description of Materials** | **Removal Method(s)** | **Approximate Quantity**  **(SF/Unit)** | **Approximate Quantity**  **(LF/Unit)** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  | **Total Quantity (SF/LF/Units)** | |  |  |
|  |  |  | |  |  |

1. The high nutrient content of accumulated bird, bat, and rodent excrement provides an excellent growth medium for organisms of potential human health exposure concern.

2. Humans may become infected by inhaling dusts containing dried feces, urine, or respiratory secretions of infected birds, bats, and rodents.

3. Other sources of potential exposures include a bite from an infected bird, bat, or rodent, and handling the plumage, fur and tissues of infected animals.

4. The main disease organisms found in bird, bat, and rodent droppings are Cryptococcus, Histoplasmosis and Psittacosis

* + - * 1. The Remediation Contractor shall be aware of all conditions of the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the Remediation Contractor of its obligation to furnish all labor and materials necessary to perform the Work.
        2. All Work shall be performed in strict accordance with the Project Documents and all governing codes, rules, regulations and guidelines. Where conflicts occur between the Project Documents and applicable codes, rules, regulations and guidelines, the more stringent shall apply.
        3. Working hours shall be as required and approved by the Owner. Removal activities including, but not limited to, remediation area preparation, gross removal activities, cleaning activities, waste removal, etc. may need to be performed during ‘off-hours’ (including nights and weekends). In addition, multiple mobilizations may be required to perform the work identified in this project. The Remediation Contractor shall coordinate all Work with the facility and Owner’s representative regarding scheduling.

**1.02 SPECIAL JOB CONITIONS**

1. Any special job conditions are described below:

Describe in detail, including CIH clearance criteria for each Work Area.

**1.03 APPLICABLE GUIDANCE DOCUMENTS, REGULATIONS AND COMPLIANCE**

* + - 1. The Remediation Contractor shall comply with the following guidance documents and regulations, pertaining to Work practices, protection of Workers, authorized visitors to the site and property adjacent to the Work, except where more stringent requirements are specified.
      2. Guidance Documents:
    1. New York City Department of Health, Bureau of Environmental & Occupational Disease Epidemiology: Guidelines on Assessment and Remediation of Fungi in indoor environments.
    2. Center for Disease Control (CDC): Air Pollution and Respiratory Health -Prevention and remediation strategies for the Control and Prevention of Fungal Growth.
    3. CDC: Histplasmosis – Protecting Workers at Risk.
    4. National Institute for Occupational Safety and Health (NIOSH): publication 2005-109: Histplasmosis-Protecting Workers at Risk.
    5. The Internet Center for Wildlife Damage Management: Bat Guano & Bat Feces cleanup.
       1. Federal Regulations:

1. 29 CFR 1910.134, Respiratory Protection Standard (OSHA)
2. 29 CFR 1926, Construction Industry (OSHA)
3. 29 CFR 1926.417 and 1926.702, Lockout Tag-out (OSHA)
4. 29 CFR 1926.451 to 1926.1060, Fall Protection (OSHA)
5. 29 CFR 1910.1200, Hazard Communication Standard (OSHA)
   * + 1. Statutory Law/Regulations:
     1. New York State Department of Environmental Conservation (DEC): 6NYCRR Part 364.
   1. **SUBMITTALS**

A. Pre-Work Submittals: Within seven (7) days prior to the pre-construction conference, the Contractor shall submit an electronic copy of the documents listed below to the DASNY Project Manager, the DASNY Code Compliance Unit and the Environmental Consultant for review and Code Compliance approval prior to the commencement of remediation activities:

1. Progress Schedule:

a. Show the complete sequence of abatement activities for each Work Area and the sequencing of Work within each building or building section listed in the project documents .

b. Show the dates and hours of work for the beginning and completion of each major element of Work for all Work Areas including substantial completion dates for each Work Area, building, or phase.

2. Remediation Work Plan and Drawing(s): Provide a written work plan description of work and drawing(s) that clearly indicates the following:

a. All Work Areas/containments numbered sequentially.

b. Locations and types of all decontamination enclosures for each Work Area/containment.

c. Entrances and exits to each Work Area/containment.

d. Type of remediation activity, technique for each Work Area and/or containment.

e. Procedures to be utilized for any cleaning and disinfecting solutions, and the proposed list of EPA registered biocides, disinfectants and microbial coatings to be utilized on the project.

f. Location of water and electrical connections to building services for each Work Area/containment.

g. Waste transport routes through the building, or exterior to the waste storage container for each Work Area/containment.

1. Safety Data Sheets (SDS)
   * 1. Provide an SDS on the EPA registered products selected for use on this project. Substitution of alternative products is not permitted without authorization by the Environmental Consultant.

B. Project Close-out Submittals: Within 30 days of the completion of each remediation phase, the **Remediation Contractor** shall submit an electronic copy of the documents listed below to DASNY Code Compliance and the Environmental Consultant for review and approval prior to Contractor’s final payment. Once DASNY Code Compliance approves the close-out submittal, the Contractor shall provide three sets of the approved close-out documents (double-sided and bound) to DASNY Project Management, including one set to be distributed to the facility.

1. Daily Supervisor’s Project Logs and daily worker attendance sheets.
2. Contractor’s Acknowledgment Statement Forms. **Original** notarized statement shall be sent to DASNY Code Compliance with the closeout submittals. The Statement shall be notarized (Original notarized statement shall be sent to DASNY Code Compliance).
3. Waste disposal documentation from a NYS DEC permitted C&D debris disposal facility.
4. All pertinent correspondence related to the project.
   1. Project Close-out Submittals: Within 30 days of the completion of each remediation phase, the **Environmental Consultant** shall submit an electronic copy of the documents listed below to DASNY Code Compliance for review and approval.
      1. Upon completion of the Project, the Environmental Consultant shall certify to the Owner, in writing, that the work is complete and acceptable in an Executive Summary of the work.
      2. The Environmental Consultant shall review and approve or disapprove all necessary guarantees, certificates of compliance, and all other close-out documentation, which the Remediation Contractor is required to submit.
      3. The Environmental Consultant shall provide to the Owner the final Project data binder to include:
         1. All daily logs including daily worker rosters.
         2. Summary of all visual inspections with the date of inspection and the date of signoff on the supervisor’s log.
         3. Any applicable sampling logs, results, chain of custody forms, and sample location plans.
         4. All pertinent correspondence related to the Project.

**1.05 PRE-CONSTRUCTION CONFERENCE**

1. Prior to start of preparatory Work under the Contract, the Remediation Contractor shall attend a pre-construction conference attended by the Owner, Facility Personnel, and Environmental Consultant.
2. Agenda for this conference shall include but not be limited to:
3. Remediation Contractor’s scope of Work,
4. Review of pre-work submittals and on-site documentation,
5. Review of Work procedures including:
6. Job site preparation,
7. Pre-cleaning of surfaces,
8. Handling of moveable objects,
9. Work Area containment, including non-moveable objects
10. Removal methods and decontamination,
11. Final inspection and clearance preparation,
12. Environmental Consultant’s duties, functions, and authority,
13. Temporary utilities,
14. Waste handling procedures and storage for disposal.
15. In conjunction with the conference, the Remediation Contractor shall accompany the Owner and Environmental Consultant on a pre-construction walk-through documenting existing conditions of finishes and furnishings, review overall Work Procedures, location of fire exits, fire protection equipment, water supply, and temporary electric tie-in.

**1.06 NOTICES**

* 1. Abatement/Remediation/Removal: The process or procedure for removing and controlling the biological release and/or dispersion of microbial agents.
  2. Adequately Wetted: Sufficiently wet, mixed, or coated with a detergent solution to prevent biological and dust dispersion during the movement of contaminated items and debris.
  3. Air Filtration Unit (AFU): Local exhaust HEPA equipped air filtration unit capable of maintaining a negative pressure inside the Work Area and a constant air flow from adjacent areas into the Work Area exhausting clean filtered air outside the work zone.
  4. Air Sampling: The process of measuring inside biological contamination and outside ambient conditions.
  5. Authorized Personnel: Facility or the Director’s Representative, and all other personnel who are authorized officials of any regulating agency, be it State, Local, Federal or Private entity, who possess legal authority for enforcement or inspection of the remediation work.
  6. Isolation Barrier: Any surface which seals off the Work Area to inhibit the movement of biological agents and contamination.
  7. CIH: Certified Industrial Hygienist, certified by the American Board of Industrial Hygiene.
  8. Clearance Criteria: Shall be determined and established by the Environmental Consultant’s Certified Industrial Hygienist (see 1.02 special job conditions), conforming to all standards set forth by all authorities having jurisdiction, mentioned in the references, and shall issue the certification of cleaning for each Work Area. Clients rely on our on-site environmental consultant to “clear” Work Areas.
  9. Containment: The negative-pressurized enclosure within the building which establishes a Work Area and surrounds the location where remediation is taking place.
  10. Construction Barrier: Used for construction separation only.

Does not prevent movement of infectious biological contaminants.

Construction: ½ inch plywood and 2” x 4” studding spaced no greater then 24” o/c.

Doorways (minimum): 3 ft. x 6 ft – 8 inches (min), installed where required for ingress and egress.

Lock: Installed to secure the area when the Contractor is not on site.

* 1. Remediation Contractor: Contractor or subcontractor who has demonstrated 3 years previous experience in the clean-up of regulated chemical or physical substances, proficient in environmental remediation and the clean-up of contaminated debris and/or infectious biological agents.
  2. Critical Barrier: Two layers of 6 mil, fire retardant, polyethylene sheeting adhered in such a fashion that each layer is individually visible, and completely seals off the Work Area to prevent the distribution of infectious biological agents into the surrounding areas that are not part of the Work Area.
  3. Decontamination Unit: A serial arrangement of rooms or spaces for the purpose of separating the Work Area from the building environment. This unit provides for entering the work site, returning to the clean environment, cleaning of persons, equipment, and movement of properly contained waste material.
  4. Disposal Bag: A minimum 6 mil thick, clear polyethylene leak tight plastic bag used for packaging and transporting debris and biological waste from the Work Area to a disposal site. The disposal bag shall not have labels such as asbestos, lead or hazardous waste labels.
  5. Fixed Object: Mechanical equipment, electrical equipment, fire detection systems, alarms, and all other fixed equipment, furniture, fixtures or other items which cannot be removed from the Work Area.
  6. HEPA: High Efficiency Particulate Air filtration efficiency of 99.97% down to 0.3 microns. Filtration provided on specialized vacuums and air filtration devices to trap particles and infectious agents.
  7. Moveable Object: Equipment, furniture or other items in the Work Area which can be removed from the Work Area.
  8. Negative Pressure Ventilation System: A system established for the work zone utilizing Air filtration Unit(s) capable of maintaining a negative pressure inside the Work Area and which creates a constant air flow from adjacent outside areas into the Work Area and exhausts clean filtered air outside the work zone.
  9. Maintains minimum of one complete air change every 15 minutes and -0.02 inches of water column pressure differential compared to the area outside the containment, at a minimum.
  10. PPE: Personal Protective Equipment
  11. Respirator: Device designed to protect the wearer from the inhalation of harmful respirable dust, fumes, mists and infectious biological agents.
  12. Visible Emissions: Emissions containing particulate materials that are visually detectable without the aid of instruments.
  13. Wet Cleaning: The process of eliminating biological contamination from building surfaces and objects by using cloths, mops, or other cleaning devices which have been dampened with detergent solution.
  14. Work Area: The area where the related work or biological decontamination operations are performed which is defined and/or isolated to prevent the spread of biological agents.

**1.07 RECORD KEEPING**

1. The Remediation Contractor shall maintain a Daily Project Log consisting of a three ring binder. During the active remediation, a copy shall be provided daily to the Environmental Consultant. The Daily Project Log shall be utilized each day to document the following information:
2. Date and time of the project,
3. Name of Project Manager/Project Supervisor,
4. List of remediation workers with last four digits of their social security number
5. Brief description of daily work activities,
6. Each remediation area shall have a daily entry / exit log, and the completed daily entry / exit logs shall be maintained in the daily project log,
7. Visual Clearance Inspection performed by the Environmental Consultant (signature, date and time of inspection).

**1.08 PROJECT SUPERVISOR:**

* 1. The Remediation Contractor shall designate a full-time Project Supervisor who is qualified to enter the Work Areas. The Project Supervisor must be able to read and write English fluently, as well as communicate in the primary language of the Workers.
  2. The Project Supervisor shall maintain a Daily Project Log and transmit a copy daily to the Environmental Consultant.
  3. The Project Supervisor shall be responsible for the performance of the Work and shall represent the Remediation Contractor in all respects at the Project site. The Supervisor shall be the primary point of contact for the Environmental Consultant.

**1.09 PROJECT MONITORING & INSPECTIONS**

1. The Owner shall engage the services of an Environmental Consultant who shall serve as the Owner’s Representative in regard to the performance of the remediation Project and provide direction as required throughout the remediation.
2. The Remediation Contractor is required to ensure cooperation of its personnel with the Environmental Consultant for the inspection, monitoring, and clearance requirements. The Remediation Contractor shall comply with all direction given by the Environmental Consultant during the course of the Project.
3. The Environmental Consultant shall review and approve or disapprove all submittals (pre-work, on-site, closeout), shop drawings and schedules.
4. The Environmental Consultant certified industrial hygienist shall provide a visual inspection for completeness of removals and cleanings during the final clearance inspection followed by collecting samples, if required, of the Work Areas.
5. The Environmental Consultant shall provide bulk and air sampling services when required for the Project.
6. The Environmental Consultant shall have the authority to direct the actions of the Remediation Contractor verbally and in writing to ensure compliance with the Project documents and all applicable laws/regulations.

**1.10 RESPIRATORY PROTECTION**

* + 1. Select respirators based upon the anticipated exposure with a minimum acceptable half-face negative pressure respirator for all remediation areas, and choose from those approved by the National Institute for Occupational Safety and Health (NIOSH). If less than full face respiratory protection is utilized, the abatement workers will also be provided with ANSI certified airtight eyewear protection to reduce potential exposure.
    2. Respirators shall be individually fit-tested to personnel under the direction of an Industrial Hygienist on a yearly basis. Fit-tested respirators shall be permanently marked to identify the individual fitted, and use shall be limited to that individual.
    3. No respirators shall be issued to personnel without such personnel participating in a respirator training program.
    4. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134.
    5. A storage area for respirators shall be provided by the Remediation Contractor in a clean area of the personal decontamination enclosure where they will be kept in a clean environment.
    6. The Remediation Contractor shall provide and make available a sufficient quantity of respirator filters so that filter changes can be made as necessary during the work day.
    7. Filters used with negative pressure air purifying respirators shall not be used any longer than one eight (8) hour work day. Any loose respirator filters found within the remediation area, must be disposed of appropriately.
    8. Any authorized visitor, Worker, or supervisor found in the Remediation Area not wearing the required respiratory protection shall be removed from the Project site and shall not be permitted to return.
    9. The Contractor shall have at least two (2) Powered Air Purifying Respirators stored on site designated for authorized visitors use. Appropriate respirator filters for authorized visitors shall be made available by the Contractor.

**1.11 TRAINING**

1. As required by applicable federal and state laws/regulations, prior to assignment to remediation work, provide annual fit tests and instruct each employee with regard to use of respirators, and protective clothing,
2. Instruct each worker regarding site-specific safety measures and emergency egress procedures,
3. Provide hazard communication (HAZCOM) training regarding the potential for exposure to microbials (e.g., microbial, bacteria, fungi), cleaning agents, anti-fungal coatings, and any other hazard(s) expected to be encountered during the remediation work. The training shall include how to recognize materials impacted with microbial, bacteria, and fungi; signs and symptoms of and hazards associated with exposure to microbial, fungal, and bacterial contamination; how to prevent contamination outside the remediation area; and how employees can protect themselves from the expected exposures. Other identified hazard(s) shall be similarly addressed.

**1.12 TEMPORARY UTILITIES**

1. Shut down and lock out all electrical power to the WorkAreas.
2. Where available, obtain power from the Owner’s existing system or provide temporary 120-240 volt, single phase, three wire, 100 amp electric service with Ground Fault Circuit Interrupters (GFCIs) for all electric requirements within the Work Area.

1. Where available, obtain from Owner's existing system. Otherwise provide power from other sources (i.e. generator).

2. Provide temporary wiring and "weatherproof" receptacles in sufficient quantity and location to serve all HEPA equipment and tools.

3. Provide wiring and receptacles as required by the Environmental Consultant for project monitoring and air sampling equipment (pumps, fans, leaf blowers, etc.), if necessary for intended tasks.

4. All power to the Work Area shall be brought in from outside the area through GFCIs at the source.

1. Provide temporary lighting with "weatherproof" fixtures for all Work Areas including decontamination areas.

1. The entire Work Area shall be kept illuminated at all times.

2. Provide lighting as required by the Environmental Consultant for the purposes of performing required inspections.

1. All temporary devices and wiring used in the Work Area shall be capable of decontamination procedures including HEPA vacuuming and wet-wiping.
2. Utilize domestic water service, if available, from Owner's existing system. Provide hot water heaters with sufficient capacity to meet Project demands.

**PART 2 PRODUCTS**

1. **PROTECTIVE CLOTHING**
   1. Provide personnel utilized during the Project with disposable protective whole body clothing, head coverings, gloves and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber for comfort, but shall not be used alone. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.
   2. The Remediation Contractor shall not, under any circumstances, permit any person to enter the Work Areas without the appropriate protective clothing and equipment. The Remediation Contractor shall provide protective clothing for use by DASNY and the Environmental Consultant. The Remediation Contractor shall furnish as many sets as required for full-time project monitoring.
   3. Eye protection and hard hats shall be provided and made available for all personnel entering any Work Area.
   4. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area.
2. **HEPA FILTER EQUIPMENT**
3. All negative air filtration units and vacuum units shall be equipped with HEPA filters.
   1. **CLEANING & DISINFECTING AGENTS**
4. Provide standard detergents to be used for cleaning which shall be diluted in water and used in a manner as directed by manufacturer labeling.
5. If approved for use by the Owner and Environmental Consultant in writing, any disinfecting agents shall be utilized as directed by manufacturer labeling.

**2.04 CLEANING SOLUTIONS**

A. Cleaners, Disinfectants and Solutions: Use of any of the following is acceptable:

1. Disinfectants/Biocides and Cleaners: Any owner approved EPA registered disinfectant appropriate for cleaning bird/animal droppings.

2. Formalin Solution: Dilute commercially available formaldehyde (containing 37-40 percent by weight of formaldehyde gas in water, stabilized with 10-15 percent methanol) with water to create a 5-percent, by volume, formalin solution.

3. Chlorine Solution: 10% Chlorine Bleach and 90% warm water mixture.

* 1. **POLYETHYLENE SHEETING**

A. Provide fire-retardant polyethylene sheeting film in the largest sheet size possible to minimize seams, 6-mil thick.

* 1. **DUCT TAPE**

A. Provide duct tape with an adhesive that is formulated to stick aggressively to sheet polyethylene and other surfaces where it will be used to create a seal.

* 1. **DISPOSAL BAGS**
     1. Provide unlabeled, 6-mil thick, leak-tight clear polyethylene bags. Asbestos warning labels are not permitted on the bags.

**2.08 BARRIER TAPE**

1. Provide yellow or red plastic caution tape 3 inches wide. “Asbestos” or “Lead” wording on the tape is not permitted.

**2.09 DECONTAMINATION AREA**

1. The Contractor shall provide a decontamination area for the purpose of separating each Work Area from the non-Work Areas of the building. This space/area provides for entering the Work Area, returning to the clean environment, cleaning of persons and equipment, and movement of properly-contained waste material.

**2.10 WARNING SIGNAGE**

1. Provide signage with a minimum size of 8-1/2 inches by 11 inches with a white background on which is printed in large type with wording in the format shown below:

**BIOLOGICAL WASTE REMEDIATION**

**DO NOT ENTER**

**AUTHORIZED PERSONNEL ONLY**

**RESPIRATORS AND PROTECTIVE CLOTHING**

**ARE REQUIRED IN THIS AREA**

**PART 3 EXECUTION**

* 1. **GENERAL REQUIREMENTS**

1. The scope of work includes removal of visual microbiological (bacterial and fungal) growth on impacted materials. The Remediation Contractor shall generate a Remediation Work Plan based upon the contract documents. The Work Plan shall be submitted and approved prior to its implementation. The remediation procedures shall be identified in the Work Plan for each Work Area based on the size, complexity and remediation methods required.
2. Humanely remove all remaining birds, bats, and rodents from the building. Prevent bird, bat, and rodent reentry by installing critical barriers.
3. The following submittals, documentation, and postings shall be maintained on-site by the Remediation Contractor during remediation activities at a location approved by the Environmental Consultant:
4. Project documents (report, specifications and drawings.)
5. Approved Remediation Work Plan
6. Applicable laws and regulations.
7. Safety Data Sheets of supplies/chemicals used on the Project.
8. Disposal Site/Landfill Permit from applicable regulatory agency.
9. List of emergency telephone numbers.
10. Daily Project Log with daily worker roster.
11. Entry/Exit Logs.
12. Waste Hauler’s Permit(s) from applicable regulatory agencies.
13. The following documentation shall be maintained on-site by the Environmental Consultant during abatement activities:
14. Project Monitor Daily Log and daily worker roster.
15. Project documents (specifications and drawings.)
16. **CONTAINMENT BARRIERS**
17. When containment of the Work Areas is not necessary, dust suppression methods shall be utilized.
18. When containment of the Work Area is required, the Remediation Contractor must be careful not to disturb contaminated building materials while isolating Work Areas to prevent the release of bio-hazards. Pre-cleaning of interior surfaces shall be completed prior to the erection of the containment. Moveable objects within the Work Area shall be discarded or HEPA vacuumed, wet-wiped and removed from the area or isolated from the work. Workers shall wear respirators when required, while installing isolation barriers if contaminated impacted surfaces (walls or surfaces with visible settled dusts) are likely to be disturbed. The Remediation Contractor shall completely isolate the Work Areas for the duration of the work by sealing off all walls, floors, openings, and fixtures in the Work Areas including, but not limited to, heating and ventilation supply air ducts and diffusers and return air ducts and grilles (HVAC system totally de-energized – no HVAC system airflow into or out of Work Area), return air grilles, common return air plenums, doorways, corridors, windows, skylights, and lighting with polyethylene sheeting held securely in place as described in this section. The containment must be constructed to prevent the spread of bio-hazards to areas outside the containment. Warning signage shall be posted at all accessible containment barrier locations.
19. Containment Entry and Exit Procedures shall be established as required for the work.
20. Personnel, equipment and waste decontamination procedures shall be established as required for the work.
21. **NEGATIVE PRESSURE**
22. The Remediation Contractor shall establish a negative air pressure differential inside the indoor enclosed Work Areas. Negative Pressure Systems shall be exhausted to the exterior of the building. The Remediation Contractor shall ensure that negative air pressure differential is maintained until the Environmental Consultant has determined that the Work Area has passed the final inspection. If the length of the exhaust will exceed 25 feet, include adequate measures in the Remediation Work Plan to maintain the required air changes [e.g. booster fans, increased exhaust tube diameter, interior exhaust to unoccupied area (prior DASNY approval required before implementation), etc.]. See current federal and state asbestos regulations for accepted practices regarding extending length of negative air ventilation exhaust.
23. **WORK PROCEDURES**
24. All waste shall be decontaminated and/or removed within containment. As waste is removed, it shall be placed into a disposal container promptly. Disposal procedures, at a minimum, shall consist of single bagging using 6-mil clear polyethylene bags or single wrapped with 6-mil polyethylene sheeting. Bags shall be taped to form an airtight seal. Waste from HEPA-filtered vacuums shall be single bagged in 6-mil clear polyethylene bags.
25. The Remediation Contractor, at all times shall keep the site and Work Area free from accumulations of bagged material or rubbish caused by its operations and free from any flammable materials or other source of fire hazard.
26. Work from top to bottom.
    1. Remove gross residue first so as to prevent spreading material to non-contaminated areas.
    2. Gross removal of areas of accumulated waste can be performed with scrapers, plastic shovels, etc. directly into bags. Keep material wet.
27. Use of the Disinfectants/Biocides and Cleaner:
    1. Follow manufacturer’s written instructions for products use and applications.
    2. Do not perform final application ( if required by manufacturer), until final inspection and approval by DASNY or DASNY’s Environmental Consultant.
    3. Upon written notification of completion of initial cleaning, apply approved biocide/disinfectant to all cleaned surfaces.
28. Use of the Formalin Solution:
    1. Conduct decontamination when the temperature of the material being decontaminated is between 62F and 90F. Formalin solution is less effective at temperatures outside this range.
    2. Completely saturate infected areas and the immediately adjacent areas that may have little or no droppings visible.
    3. Follow manufacturer’s printed instructions ( if available), or the following CDC procedures. Quantities may vary, however the proper amount of formalin to use is that which completely saturates the contaminated material.
    4. Vertical Surfaces: One gallon per 150 square feet.
    5. Horizontal Surfaces (except on soil): One gallon per six (6) square feet.
    6. Soil Surface: One gallon per one (1) square foot.
    7. Exercise care to avoid formalin runoff.
    8. Where bird, bat, and rodent excrement is deep, apply formalin solution on alternate days to enhance the probability of contact with all of the infected material.
    9. Disinfect contaminated equipment by soaking in 5 percent formalin solution for 15 minutes.
29. Use of the Chlorine Solution:
    1. Use a light mist of the solution applied with pump action hand sprayer.
    2. Do not use high pressure or a direct stream as this will scatter waste.
30. Hosing or pressure washing shall not be permitted for removing interior deposited droppings.
31. All visually impacted materials and adjacent visually unimpacted material shall be cleaned and/or removed under full containment unless specified otherwise.
32. Cleaning and disinfecting agents shall be utilized to clean all remaining surfaces within the Work Area(s).
33. In the event that areas adjoining the enclosed project area become or are suspected of becoming impacted as a result of the Remediation Contractor's work, the Remediation Contractor shall thoroughly clean the affected areas. These areas shall be subject to detailed visual inspection and potentially post-remediation clearance sampling by the Environmental Consultant.

**3.05 CLEARANCE PREPARATION**

1. When containment areas are not utilized, the Work Area and areas used by remedial workers for egress shall be cleaned.
2. When containment is utilized, all Work Area surfaces and layers of polyethylene barrier sheeting shall be cleaned. If negative pressure is utilized, the negative air machines shall remain in operation until notified by the Environmental Consultant of satisfactory clearance.
   1. **POST-REMEDIATION CLEARANCE INSPECTIONS**
3. After all visible accumulations of material and debris are removed, the Remediation Contractor shall notify the Environmental Consultant’s certified industrial hygienist for a post-remediation final clearance visual inspection and collection of samples, if required. The Remediation Contractor and Environmental Consultant shall conduct a thorough visual inspection of the Work Area. If during this inspection, any visible dust, debris and/or water damage is observed or visible animal waste is present on any surface within the Work Area, the Remediation Contractor shall perform removal and re-cleaning, as required. The Remediation Contractor shall pay all associated costs for the re-cleaning and additional post-remediation verification inspection and any sampling services.
4. Post-remediation verification sampling (if requested by the Owner) shall proceed only upon written notice of successful post-remediation visual clearance issued by the Environmental Consultant.
5. Application of any anti-microbial coating shall proceed only upon receipt of written notice of successful post-remediation verification visual inspection (and post-remediation verification sampling, if requested by Owner) issued by the Environmental Consultant. The anti-microbial coating shall not be applied prior to the post-remediation verification process.
6. Breakdown of containment shall proceed only upon receipt of clearance issued by the Environmental Consultant and completion of anti-microbial coating application. No person shall remove or dismantle any containment structures or materials from a project site prior to receipt by the remediation contractor of satisfactory clearance as determined by the owner’s Environmental Consultant.
   1. **POST-REMEDIATION VERIFICATION SAMPLING (if requested by owner)**
7. The Environmental Consultant may conduct post-remediation air or dust sampling, at the discretion of the owner. Samples shall be analyzed by an AIHA accredited microbiological laboratory.
   1. **RESTORATION OF UTILITIES, FIRESTOPPING AND FINISHES**
8. After final clearance, remove locks and restore electrical and HVAC systems. All temporary power shall be disconnected, and all temporary plumbing shall be removed.
9. Finishes damaged by the Remediation Contractor including, but not limited to, plaster/paint due to duct tape, spray adhesives, and floor tile lifted due to wet or humid conditions, shall be restored and/or replaced prior to final payment. All foam, expandable foam products and materials used to seal Work Area openings shall be completely removed upon completion of remediation activities.
10. All penetrations through fire rated construction shall be fire stopped using materials and systems tested in accordance with ASTM E814.

**PART 4 DISPOSAL OF WASTE**

* 1. **APPLICABLE REGULATIONS**

1. State Regulations:
2. 6 NYCRR Subparts 360-1 & 360-7, Construction and Demolition Debris Landfills
   1. Construction and Demolition (C&D) Debris shall be solid waste resulting from the remediation, demolition, construction, remodeling and repair.

END OF SECTION 02 85 10

APPENDIX A

CONTRACTOR’S ACKNOWLEGEMENT STATEMENT

**CONTRACTOR’S ACKNOWLEDGEMENT STATEMENT**

**Re: Remediation**

(DASNY Project Title)

(Project Location-Campus, Building ID, Floor

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(DASNY Project Number) Project Date(s) (Start/End)

**In consideration of the following individuals’ employment in connection with the remediation, handling, and disposal of biologically contaminated materials at the referenced project, I hereby certify that the employees: a) have received the medical examinations required by OSHA 29 CFR 1926.134; b) have been fit tested specifically for respirators used on the Project; and c) have received training as required, including the health implications and risks involved, as well as the use and limitations of the respiratory equipment to be used.**

|  |  |  |
| --- | --- | --- |
| Employee Name  (Supervisor and Handlers)  (Print Name) | Last Four Digits of  Social Security # | State Drivers  Licensed ID#  (Identify the State) |
| **1.** |  |  |
| **2.** |  |  |
| **3.** |  |  |
| **4.** |  |  |
| **5.** |  |  |
| **6.** |  |  |
| **7.** |  |  |
| **8.** |  |  |
| **9.** |  |  |
| **10.** |  |  |

Project Supervisor:

(Print Name) (Signature)

(Notary block here) Notary Name:

Date:

Page