



## **SPECIFIC PCB REMOVAL/REMEDIATION PLAN**

Windows and Doors Replacement Project  
Buildings F, I, G+D

**Malibu High School**  
30215 Morning View Drive  
Malibu, California 90265

### **Prepared for:**

Santa Monica-Malibu Unified School District  
1651 Sixteenth Street  
Santa Monica, California 90404

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## 1 INTRODUCTION

The Santa Monica Unified School District (District) will undertake a project to remove and replace windows and doors from Buildings D, F, G and I at Malibu High School located at 30215 Morning View Drive, Malibu, California 90265. The windows and doors potentially impacted for removal are identified in the project drawings prepared for this project by HMC Architects.

The District has retained Alta Environmental (Alta) to prepare this Site Specific Polychlorinated Biphenyl (PCB) Work Plan (Plan) to be implemented for the removal and disposal of construction materials such as, but not limited to, door and window caulking and window glazing assumed to be PCB Bulk Product Waste and the surrounding porous substrates assumed to be PCB Remediation Waste.

The work included in this Plan shall be completed by a remediation contractor (Remediation Contractor) qualified to perform PCB removal/remediation work using Hazardous Waste Operations and Emergency Response (HAZWOPER) trained workers. Further, it should be noted that asbestos containing materials (ACM) and lead based paints (LBP) have also been identified within the limits of the PCB related work. Requirements for ACM and LBP remediation work are not included in this Plan. The remediation contractor should consult with the District to obtain the ACM and LBP abatement work plan.

The PCB removal work may be completed concurrently and in conjunction the ACM and LBP removal work where necessary and if feasible and cost effective. All PCB related work shall be completed using proper worker protection including air purifying respirators, disposable clothing, hand, foot, eye and head protection as required.

If a specified minimum procedure described in this document cannot be utilized, a request shall be made in writing to Districts Authorized Representative providing details of the issues encountered and recommended alternatives.

The Remediation Contractor will be required to comply with all applicable regulatory requirements including but not limited to worker training, personal protection equipment and waste disposal. The selected Remediation Contractor will be required to provide a written work plan specifically addressing conditions specific to the Site including compliance with this specification.

By submitting a bid, the Remediation Contractor warrants its intent to conduct said work properly using qualified personnel.

The Remediation Contractor shall furnish all labor, materials, services, insurance specifically covering the handling and transportation of PCBs, and equipment which is specified, shown or reasonably implied for the removal, transport, and disposal of PCBs identified in the Table 1 Section 2.1 below.

## 2 PCB REMOVAL/REMEDATION PROCEDURES

### 2.1 Scope of Work

During the delineation sampling, both caulking and glazing were observed to be present around the window and door casings. The caulking and glazing was not sampled at the Districts request, the material was assumed to be PCB Bulk Product Waste. Additionally, the porous materials around the impacted door and window casings have been assumed to be PCB Remediation Waste

The District has recently completed delineation sampling to determine if PCBs may have migrated into adjacent porous substrates. The delineation sampling included the collection of representative samples from porous surfaces to a depth of approximately one-half of inch (0.5”), starting at one inch (1”), 3 inch (3”), 6 inch (6”), 9 inch (9”), 12 inch (12”), 15 inch (15”), 20 inch (20”), and 21 (21”) inch intervals away from the door or window casings. Detected PCBs on porous surfaces are itemized in Table I below.

It should be further noted that according to Environmental Protection Agency (EPA), Memorandum, “PCB Bulk Product Waste Reinterpretation” dated October 24, 2012, building materials “Coated or serviced” with PCB bulk product waste (e.g., caulk, paint, mastic, sealants) at the time of designation for disposal to be manage as a PCB bulk product waste. The reinterpretation document allows for disposal of both PCB Bulk Product Waste and PCB Remediation Waste together as a single waste stream (PCB Bulk Product Waste).

Based on these delineation results, the PCB scope of work included in this Plan includes the removal of porous materials around the window and doors (as PCB Remediation Waste) and full-removal of all impacted window and door caulking and window glazing (as PCB Bulk Product Waste) as listed in Table 1 below:

Table 1, Summary of PCB Scope of Work

Building	Location	Component/Description	Scope of Impact	Current Classification
D	Boys and girl's restrooms	Exterior double doors	<p>Full removal of door caulking from all potentially impacted double doors</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted doors approximately 0-1” interior and 0-1” exterior</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (1”)</p>

Building	Location	Component/Description	Scope of Impact	Current Classification
F	Room 301: west	High-wall aluminum window	<p>Full removal of window caulking, and window glazing</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted doors approximately 0-1" interior and 0-1" exterior</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (1")</p>
F	All	Exterior and interior doors, both single doors and double doors	<p>Full removal of door caulking</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted doors approximately 0-1" interior and 0-1" exterior</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (1")</p>
G	North side elevation	High wall aluminum window	<p>Full removal of window caulking and window glazing from all potentially impacted windows</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted windows; approximately 0-3" interior and 0-6" exterior</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (1")</p>

Building	Location	Component/Description	Scope of Impact	Current Classification
G	North and south elevation	Exterior double door	<p>Full removal of door caulking from all potentially impacted double doors</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted doors approximately 0-16" interior and 0-1" exterior</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (16" interior, and 0.1" exterior)</p>
G	North and south elevation	Exterior Single Door	<p>Full removal of door caulking from all potentially impacted doors</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted doors approximately 0-1" interior and 0-1" exterior</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (1")</p>
G	Rooms 500, 504, 506B and 506E	Interior Double Door	<p>Full removal of door caulking from all potentially impacted doors</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted doors approximately 0-16" (wood)</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (16")</p>
G	All interior doors	Interior Single Door	Full removal of door caulking from all	Assumed Bulk Product Waste)

Building	Location	Component/Description	Scope of Impact	Current Classification
			<p>potentially impacted doors</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted doors approximately 0-16" (wood)</p>	<hr/> <p>Assumed to be PCB Remediation Waste (16")</p>
G	Room 506E	Beige varnish on wood walls	For the sake of the Door and Window Replacement Project, the scope is limited to the removal of 16 inches of wood substrate around the associated door in D506E.	PCB Bulk Product Waste
I	Rooms 401 and 402	Full-wall windows	<p>Full removal of window caulking and window glazing</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted window approximately 0-1" interior and 0-1" exterior</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (1")</p>
I	Room 402; southwest entrance	Exterior double door	<p>Full removal of door caulking from all potentially impacted double doors</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted doors approximately 0-6" interior and 0-6" exterior</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (6")</p>

Building	Location	Component/Description	Scope of Impact	Current Classification
I	All interior doors	Interior Single and Double Door	<p>Full removal of door caulking from all potentially impacted doors</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted doors approximately 0-9" (plaster)</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (9")</p>
I	Interior windows; Rooms 405 and 402B	Interior Window	<p>Full removal of window caulking</p> <hr/> <p>Removal of porous materials entirely around the potentially impacted doors approximately 0-6" interior (plaster)</p>	<p>Assumed Bulk Product Waste)</p> <hr/> <p>Assumed to be PCB Remediation Waste (6")</p>

## 2.2 Waste Characterization

Impacted window and door caulking and window glazing is to be characterized as PCB Bulk Product waste unless testing of the caulking is performed prior to demolition indicating that the caulking contains PCBs in concentrations of less than fifty (<50) milligrams per kilograms (mg/kg).

The areas surrounding the potentially impacted doors and windows containing porous substrates such as, but not limited to, wood, stucco, plaster, and drywall is to be characterized as PCB Remediation Waste unless testing of the caulking is performed prior to demolition indicating that the caulking contains PCBs in concentrations of <50 mg/kg.

The District may, at its own discretion, conduct sampling of the caulking and glazing and porous surfaces prior to start of the demolition project. Results of the sampling will be shared with the Remediation Contractor, in a timely manner.

Waste generated during this project should be sorted and classified in the following categories as outlined in 40 CFR 761.3. Refer to Table 2 below.



Table 2-PCB Waste Categories

Waste Category <sup>(1)</sup>	Materials	Concentration PCB ppm
PCB Bulk Product Waste	Source material-window and door caulking, and window glazing, and surrounding porous materials 12” away from doors and windows	≥ 50
Excluded PCB Product Waste	Source material-window and door caulking	<50
PCB Remediation Waste	Personal protection equipment and polyethylene sheeting	>50
PCB Remediation Waste	personal protection equipment, and polyethylene sheeting containing	>1 but < 50

(1) Porous substrate assumed or confirmed to be PCB Remediation Waste is to be categorized as PCB Bulk Product Waste for offsite disposal per 2012 EPA Reinterpretation. (<https://www.epa.gov/pcbs/polychlorinated-biphenyl-pcb-guidance-reinterpretation>).

Nonporous building materials formerly in direct contact with PCBs Bulk Product Waste may be decontaminated consistent with 40 CFR 761.79.

### 2.3 Engineering Controls

An integral step in implementing effective protective measures is to build a containment area at each location where removal/remediation work is completed in a manner to minimize airborne dust from migrating outside the abatement area. The containment area(s) will be maintained under constant negative air pressure by installing localized fan equipment equipped with a high efficiency particulate air filters (HEPA). The filtered exhaust from the fans will be routed outside the containment area and vented outside of the building. A minimum pressure differential of 0.02 inches water column shall be maintained at all times during the work and documented using a recording manometer.

The containment should include the following:

1. All plastic, spray-on strippable coatings and structural materials used shall be UL-certified as fire retardant or non-combustible. Fire-retardant polyethylene sheeting utilized for worker decontamination and construction/containment barriers shall be a minimum of six-mil in thickness.
2. Disposal bags or containers used to package hazardous waste shall be of six-mil polyethylene, pre-printed with labels.
3. Warning signs as required by Cal/OSHA shall be utilized at all entrances to the containment.
4. A sufficient quantity of HEPA vacuums and/or differential pressure air filtration devices equipped with HEPA filtration shall be used to during the removal/remediation work activities.

To calculate total air flow requirement:

$$\frac{\text{Total ft}^3/\text{min} = \text{Vol. of work area (in ft}^3\text{)}}{15 \text{ min}}$$

To calculate the number of units needed for the abatement:

$$\frac{\text{Number of units needed} = \text{[total ft}^3/\text{min]}}{\text{[capacity of unit in ft}^3/\text{min]}}$$

Additionally, all powered tools should be equipped with appropriate tool guards and dust/debris collection point of captures HEPA filtration systems.

All waste, including shower water and water used for dust suppression, generated during the project must be disposed in accordance with Section 2.14 of this document and all applicable regulatory requirements.

## 2.4 Air Monitoring

To verify the effectiveness of dust minimization, and engineering controls, air monitoring for respirable airborne particulates will be conducted using data-logging, real-time monitors. Following the California Division of Occupational Safety and Health (Cal-OSHA) permissible exposure limits (PELs), based on an 8-hour, time-weighted average (8-hour TWA) will be considered applicable for this work.

- Total Dust: 10 milligrams per cubic meter (mg/m<sup>3</sup>)
- Respirable Fraction: 5 mg/m<sup>3</sup>
- PCBs (42% Chlorine): 1 mg/m<sup>3</sup>
- PCBs (54% Chlorine): 0.5 mg/m<sup>3</sup>

A total airborne particulate action limit has been established for the PCB remediation work to be conducted at the site with consideration of the specific receptors, PCB concentrations, work activities, and Cal/OSHA permissible exposure limits. The action limit applies only to air monitoring at the perimeter of the work zone; an action has not been set for the active work zones (exclusion zones) as engineering controls will be used within these zones.

An action limit of 0.1 milligrams per cubic meter (mg/m<sup>3</sup>) above background will be maintained during site work. Air monitoring at a location representative of background air conducted (i.e. a location upwind of the work area) will be conducted at the same frequency as the monitoring to obtain data representative of real-time background conditions at minimum once per hour. The action limit will be used to determine when additional engineering controls and/or work stoppages will be necessary.

Should the action limit be exceeded during remediation, work procedures will be evaluated for recommendations for possible additional engineering controls or modified work practices to control dust generations. Any recommended changes to work practices will be documented. It is noted that the Cal/OSHA standards are based on an 8-hour TWA. Therefore, instantaneous exceedance of the action level and/or the standards listed above will not necessarily indicate an exceedance of the PEL.

Air monitoring stations will be established at the exterior perimeter of, and within, the designated work area. Air monitoring will be conducted at all times during PCB remediation activities. Alta will review monitoring data at minimum of once per hour during the work. The logged data will be downloaded and reviewed daily so that changes to the work practices can be recommended based on observable trends in airborne dust concentrations.

If monitoring indicates that particulate matter concentrations are not maintained below the action level, remediation activities shall cease until work practices can be evaluated and adjusted.

Air monitoring equipment will be calibrated per manufacturer's specifications.

## **2.5 Worker Protection**

The Remediation Contractor shall select the most appropriate respirators for the task. At a minimum, the workers should wear an air purifying respirator equipped with High Efficiently Particulate Air (HEPA) (HEPA) P100 filter. Disposable Tyvek suits (non-porous full-body), and appropriate hand (chemical resistant), foot, eye and hear protection should be worn at all times.

## **2.6 Worker Decontamination Systems**

Worker decontamination enclosure systems shall be provided at all locations where workers will enter or exit PCBs impacted work areas.

Worker decontamination enclosure systems constructed at the Project site shall utilize six-mil, fire-retardant polyethylene sheeting, or other approved materials for privacy.

Personnel Decontamination Units shall not be located inside the work area(s) unless specifically authorized by the Project Environmental Consultant.

Alternate methods of providing Decontamination facilities may be submitted to the Project Environmental Consultant for approval. Do not proceed with any such method(s) without the written authorization.

The worker decontamination enclosure system shall consist of at least a cleansing station in accordance with the requirements of 8 CCR 1527 and 8 CCR 1529, equipped with adequate water, towels and cleansing agents to accommodate the entire crew and visitors.

## **2.7 Equipment Decontamination**

Equipment used for the removal/remediation of PCB Bulk Product Waste and PCB Remediation Waste materials included in this work plan must be properly decontaminated by used wet-wiping and HEPA vacuuming techniques.

Prior to removing equipment from the impacted work area, the HEPA filters should be removed and disposed of in accordance with Section 2.15 of this document, and all applicable regulations. The filter compartment should be thoroughly wet-wiped and HEPA vacuums.

Equipment should be inspected by both the Supervisor supervising the remediation/removal work, and the Project Consultant.

The equipment will be removed from the area only after the equipment has been inspected and found to be acceptably clean from visible dust and debris.

## **2.8 Window and Door Caulking and Window Glazing and Porous Adjacent Materials Removal**

The removal/remediation scope of work included in this section includes the removal and off-site disposal of materials identified in Table 1, Section 2.1 of this report. The work should be completed as follows:

- Pre-clean all surfaces within the proposed work area by HEPA vacuuming and wet-wiping.
- Establish a containment work area including negative pressure enclosure as described in Section 2.3 above.
- At locations where caulking or glazing will be removed, polyethylene sheeting will be placed on the ground surface and removal will be conducted using hand tools to achieve removal to the maximum extent practicable while minimizing dust or other airborne particulates generated from the removal of caulking, glazing, or adjacent materials. No mechanical grinding or saw cutting performed directly in contact with the caulking or glazing will be allowed.
- Surface preparation for caulking and glazing removal will include surficial wetting of visibly dry and/or deterioration material to minimized dust generation.
- For glazing removal-avoid disturbing glazing and creating debris. This can be completed by sealing the glazing to the windows by using duct tape or polyethylene sheeting.
- Upon the completion of the initial removal activities, the joints will be visually inspected for the presence of any residual caulking or glazing. If residual caulking or glazing is observed, it will be removed from the adjacent material to the maximum extent practicable. This may include scrapping or chemical means to removal all visible remnants from the material.
- During the project, equipment and tools used in the process will be decontaminated through spraying and wet wiping. At the completion of the project, any non-disposable equipment and tools that handled PCBs material will be decontaminated following the procedures described in 40 CFR 761.79.
- Door and window caulking and window glazing debris generated during this project will be immediately collected in waste bags or similar container and stored in a labeled PCB Bulk Product Waste container at the end of each work shift. Waste shall be disposed of according to all applicable regulatory requirements. Conduct the required waste profiling and characterization as per Section 2.15 in this document.
- After used, disposable PPE and polyethylene sheering generated during this project will be collected, and stored in a labeled PCB Remediation Waste container. Waste shall be disposed of according to all applicable regulatory requirements. Conduct the required waste profiling and characterization as per Section 2.15 in this document. All removed waste materials will be stored on site in lined, marked, and covered roll-off containers (or similar containers) or Department of Transportation (DOT) 55 gallon drums prior to off-site

## **2.9 Proposed Procedures for Encapsulation of Porous Building Materials**

Given the limitation of certain structures, extensive building material removal may not be a feasible remedial alternative. In this case, and only upon prior approval by the District, porous building materials may be encapsulated and left in place in accordance with the procedure described below: Encapsulation is a short-term alternative to minimize exposure to PCBs. This alternative is subject to approval by District and may also be subject to USEPA approval and is contingent upon a schedule of alternate removal of the PCB impacted caulking. The use of encapsulation requires continuous implementation of BMPs, collection of surface wipe samples, and air samples to verify encapsulant effectiveness. Proposed encapsulation procedures are further described below:

1. Where >50 ppm PCB-impacted joint material is identified, remove those materials by physical means and containerize them for off-site disposal as PCB Bulk Product Waste. Following removal,

the joint will be visibly inspected to ensure that all caulking has been removed to the maximum extent practicable.

2. Surfaces will be prepared by applying a levelling based compound, washing, and cleaning with a wire brush (or equivalent). If this preparation method does not provide a suitable base for an epoxy coating then an alternative surface preparation. Porous materials formerly in direct contact with >50 ppm PCB-impacted caulking or glazing will be encapsulated with two coats of an epoxy coating, followed by the application of new caulking. The extent of the impacted porous materials located on both sides of the joint will be coated with an approved epoxy paint. Two coats, of contrasting color (so that wear of the top layer may be detected) will be applied to eliminate a direct exposure pathway and the subsequent potential leaching and transport pathway from residual PCBs.

The elimination of the exposure pathway mitigates both the potential for PCB transfer via direct contact and the material's potential as a source to other media/materials. Selection of the encapsulant and development of a periodic monitoring plan, including surface wipe samples, will be implemented in consultation with USEPA to assess potential PCB concentration on the exposed outer surfaces.

The following describes the proposed remedial activities for the porous surfaces that will not be removed:

- Prior to application of the protective coating, all surfaces will be prepared so that they are dry, clean, and sound (as described above).
- Two coats of the epoxy will be applied to interior joints, and two coats, contrasting colors, will be directly applied to the appropriate distance on either side of the joint.

All generated waste material (PPE, application tools, etc.) will be containerized in an appropriate waste container for subsequent off-site disposal.

## **2.10 Proposed Procedures for Decontamination of Non-Porous Substrates in Contact with >50 ppm Materials (window and door caulking)**

The task described below includes decontamination of nonporous materials such as, metal, glass, vinyl etc. and other non-porous materials installed adjacent to >50 ppm PCB-impacted materials identified during characterization activities or materials assumed to contain >50 ppm PCBs for the purpose of disposal.

- When possible, all nonporous materials to be decontaminated will be disassembled and transported to a secure decontamination area and staged on polyethylene sheeting. If the material cannot be easily removed, a containment area lined with polyethylene sheeting, and temporary negative pressure differential and worker decontamination facility will be used to contain all liquids generated from the decontamination process.
- Nonporous materials will be decontaminated via chemical washing with a chemical extraction solvent following the manufactures' recommended procedures for hand applications: The product will be applied and scrubbed using hand brushes; during the agitation, the surface of the material will be kept wet with a chemical extraction solvent at all times. Following a five-minute dwell time, all free liquid will be vacuumed from the surface; rinse water will be applied to the material and then

vacuumed; this procedure will be repeated three times following by a triple water rinse after the final application.

- Surface wipe samples will then be collected as described in Section 2.12.5.2 in this document.

## **2.11 Proposed Procedures for Removal of Potentially Impacted PCBs Soils**

Removal of PCBs impacted soils is not anticipated to be completed during this project. All exposed soil surfaces located within or directly below the area affected by any PCBs remediation work must be secured and protected to ensure that the soil does not become impacted with PCBs as a result of remediation work.

## **3 POST-REMEDICATION/CONTAINMENT AREA CLEARANCE REQUIREMENTS**

Each work area must meet the following requirements prior to removal of the containment.

1. Contractor has completed full removal of identified PCB Bulk Product Waste and PCB Remediation Waste itemized in, Section 2.1, Table 1,
2. The containment work area has passed a thorough visual inspection completed as required in section 3.1.1 below, and
3. Wipe sample laboratory analysis have satisfactorily passed the recommended clearance levels state in Sections 3.1.2 (if applicable), and 3.1.3 below.

### **3.1.1 Confirmation final visual inspection**

Upon completion of the PCB related work in each containment work area, the Project Environmental Consultant and the Remediation Contractor will conduct a post-remediation visual inspection. If any material designated for removal, including loose dust and debris, is observed, the Contractor will be required to re-clean the area until the area is deemed to be acceptably clean.

### **3.1.2 Nonporous Building Materials**

For nonporous surfaces that are decontaminated, surface wipe samples will be collected in accordance with Section 3.1.3 of this document from location on the material formerly in contact with the PCB impacted waste. If results indicate that the PCB concentration is less than the clean-up levels, then no additional clean-up is required. If a verification sample is reported with PCB concentrations above, this surface will be cleaned again. All samples will be extracted using USEPA Method 3540C (Soxhlet Extraction) and analyzed for PCBs using USEPA Method 8082.

### **3.1.3 Wipe Sampling**

Wipe samples will be collected on gauze pads (or similar sampling media) using the Standard Wipe Test described in 40 CFR 761.123 and will be analyzed using USEPA Method 8082 for Aroclors.

In containment work area, at least two PCB wipe samples will be collected, one from a window sill (if feasible) and one from an interior smooth floor.

A comparison threshold of 1 microgram per 100 square centimeters ( $1\mu\text{g}/100\text{ cm}^2$ ) must be met for wipe samples collected at the Site. Clearance will be issued when all samples results have met these levels.

If these conditions are not met, decontamination shall be deemed incomplete and the cleaning procedures shall be repeated. The area shall be re-cleaned and re-tested at no additional cost to Owner until satisfactory levels are obtained.

The contractor is advised that wipe sample analysis may be delayed as long as 48 hours. The containment areas must be maintained until the samples are received from the laboratory.

#### **4 POST-REMEDICATION CONFIRMATORY AIR AND WIPE SAMPLING PRIOR TO RE-OCCUPANCY**

Following the completion of the project, after the containment has been removed, and the areas have been restored for normal occupancy, additional air and wipe samples will be collected from the renovated rooms. The sampling will be completed as described in Sections 2.11.5 2.11.6 above.

##### **4.1.1 Air Sampling**

Air samples will be collected prior to re-occupancy.

The air samples will be collected without a pre-filter and will be analysed for Aroclors using USEPA Method TO-10A. Each air sample will be collected on a polyurethane foam cartridge with a constant flow rate of approximately 5 liters per minute.

In each room, one air sample will be collected over 24 hours with the doors and windows closed, the HVAC system turned off, and the lights turned on.

For most locations, total PCBs in air samples will be conservatively compared to a health-based threshold of 200 ng/m<sup>3</sup>. This threshold is lower than the health protective USEPA Public Health Levels of PCBs in School Indoor Air for teachers and elementary school students and above, but consistent with the threshold cited by the USEPA Region IX for the District. (300, 450, 600, and 450 ng/m<sup>3</sup> for elementary school, middle school, high school, and faculty, respectively)

If these conditions are not met, decontamination shall be deemed incomplete and the cleaning procedures shall be repeated. The area shall be re-cleaned and re-tested at no additional cost to Owner until satisfactory levels are obtained.

The contractor is advised that air sample analysis may be delayed as long as two weeks. The containment areas must be maintained until the samples are received from the laboratory.

##### **4.1.2 Wipe Sampling**

Wipe samples will be collected prior to re-occupancy.

Wipe samples will be collected on gauze pads (or similar sampling media) using the Standard Wipe Test described in 40 CFR 761.123 and will be analysed using USEPA Method 8082 for Aroclors.

Also, in each room, at least two PCB wipe samples will be collected, one from a window sill and one from an interior floor tile.

A comparison threshold of 1 microgram per 100 square centimeters ( $1\mu\text{g}/100\text{ cm}^2$ ) must be met for wipe samples collected at the Site.

If these conditions are not met, decontamination shall be deemed incomplete and the cleaning procedures shall be repeated. The area shall be re-cleaned and re-tested at no additional cost to Owner until satisfactory levels are obtained

## **5 CONTINGENCY PLAN**

If unanticipated higher PCB concentrations or wider distribution of PCB impacted materials are found, or other obstacles force changes in the clean-up approach, remediation contingencies will be developed in and included in the remediation Plan.

## **6 QUALITY CONTROL**

A quality control (QC) assessment of all samples will be completed. This assessment will include a complete check of field documentation including sample collection and preservation methods, a completeness check of the laboratory data and documentation, a review of the internal laboratory QA/QC procedure and results including surrogate recoveries, MS/MSD results, blank results, and laboratory control standard results, and an evaluation of sample holding times, and field duplicate results, as necessary.

## **7 WASTE MANAGEMENT AND DISPOSAL**

Waste management and disposal includes on-site handling, accumulation, containerizing, and labelling, and off-site transporting (including providing and preparing manifest, bills of lading, etc.) and disposing of PCB waste streams. The PCB waste streams will be transported by a licensed waste hauler to a permitted hazardous waste disposal facility.

Secured, lined, and covered waste containers (roll-off containers or equivalent) or 55-gallon DOT-approved containers will be staged for the collection of PCB wastes generated during the work activities in accordance with applicable requirements in 40 CFR 761.65 and 40 CFR 761, Subpart K. All containers will be properly labelled and marked in accordance with 40 CFR 761.40 and 22 CCR 66262.34.

The Remediation Contractor will be required to develop and submit for review a Waste Sampling and Management Plan to the Owner and the Project Environmental Consultant for review and approval prior to commencement of the project. At a minimum, this plan shall include: name, location and contact information for the Disposal Facility, Certification by the Disposal Facility that the PCB waste will be accepted, approved hazardous waste transporter information, a plan for disposal of PCB waste streams, a description of the sampling procedures and sample frequencies, etc. for acceptance by the Disposal Facility.

Upon completion of waste profiling and acceptance at the respective facilities, PCB waste will be loaded in to transportation vehicles for shipment to the disposal facility.



PCB Bulk Product Waste such as caulking, glazing (sources) and adjacent porous materials impacted by, or assumed to be impacted by the PCB source will be segregated for disposal and transported under a manifest to a disposal facility in accordance with 40 CFR 761.62 and 22 CCR 66262.23.

PCB Remediation Waste (PPE, polyethylene sheeting) will be segregated for disposal and transported under a hazardous waste manifest to a hazardous waste landfill in accordance with 40 CFR 761.61 and 22 CCR 66262.23.

Water generated during decontamination activities (or as part of dust suppression) that is collected on polyethylene sheeting will be containerized onsite, sampled for PCBs other potential constituents, and designated for off-site disposal in accordance with 40 CFR 761.79 and/or California hazardous waste regulations, as applicable. Polyethylene sheering, PPE, and non-liquid cleaning materials will be managed and disposed of offsite in accordance with 40 CFR 761.61 (a)(5)(v).

**Note-Wastes generated as a result of the renovation work as described herein may also be considered a mixed hazardous waste due to regulated concentrations of asbestos and lead being present**

## **8 RECORDKEEPING AND DOCUMENTATION**

Following completion of the work activities, applicable records and documents will be generated and maintained at one location. A post-remediation report will be prepared which will contain a detailed description of the remediation activities, post clean up samples, appropriate figures and drawings, and analytical data tables presenting results and post-cleanup samples. In addition, the report will include volumes and disposed materials, and all waste disposal records. The post-remediation report will be prepared to provide a full accounting of all activities performed and documentation necessary to support the conclusion that the remedial activities met the objective of the project.

## **9 CERTIFICATION**

As required by 40 CFR 761.61 (a)(3)(i), a written certification is provided as an attachment to this workplan. This certification is signed by both the owner of the property where the cleanup site is located, and the party conducting the cleanup, and states that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site are on file at a location designated in the certificate, and are available for USEPA inspection.