SPECIFIC PCB REMOVAL/REMEDIATION PLAN-REVISED

Demolition Building A, and B/C
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

Project No.: SMSD-16-6573

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Attachment: Building A, B/C, drawing

1 INTRODUCTION AND BACKGROUND

The Santa Monica-Malibu Unified School District (District) will undertake a project to fully demolish Buildings A, and B/C (Site) at Malibu High School located at 30215 Morning View Drive, Malibu, California 90265.

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 PCB Bulk Product Waste and PCB Remediation Waste.

Previously a Plan was prepared for this project, “Specific PCB Removal/Remediation Plan”, #SMSD-16-6573, dated February 10, 2017 by Alta. This plan was revised to incorporate results of a survey and sampling recently completed by Alta prior to demolition. (“Survey and Sampling (Site Characterization) of Construction Building Materials” #SMSD-17-6834). This revised plan supersedes the previous Plan.

2 GENERAL PROCEDURES

The intent of this Plan is to address the removal and remediation of PCB Bulk Product Waste and surrounding porous materials.

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 Owner’s 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 PCB identified in the Table 1 Section 3.1 below.

3 PCB REMOVAL/REMEDIATION PROCEDURES

3.1 Scope of Work

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).

Table 1

Summary of the PCBs removal/remediation scope of work.

Building	Location	Component/Description	Scope of Impact	PCB Concentration part per million (ppm)
A	Exterior and interior	Door casings	Full removal and disposal of all component and 12 inches of surrounding porous materials	7,450 ppm (Aroclor 1254)
A	Exterior and interior	All window casings	Full removal and disposal of each component and 12 inches of surrounding porous materials	Greater than 50 ppm
A	Exterior	All exterior blue, metal handrails	Full removal and disposal	122 ppm (Aroclor 1254)
A	Room 825A	Duct seam sealant	Full removal and disposal	86.5 ppm (Aroclor 1254)
A	Room 822	9” beige floor tile and mastic	Full removal and disposal	199 ppm (Aroclor 1254)
B/C	912B	9” beige floor tile and mastic	Full removal and disposal	156.4 ppm (Aroclor 1254)
B/C	904 east wall	White paint on brick wall	Full removal and disposal including surrounding porous materials to an extent practical to reach a level of clearance to be less than 1ppm	102 (Aroclor 1254)
B/C	Exterior walls	Caulking on 1’X4’ exterior wall vents	Full removal and disposal including surrounding porous materials to an extent practical	154,000 ppm (Aroclor 1254

Building	Location	Component/Description	Scope of Impact	PCB Concentration part per million (ppm)
			to reach a level of clearance to be less than 1ppm	
B/C	Exteriors	Blue paint on exterior wood door	Full removal and disposal	69 (Aroclor 1254)

1) Porous substrates assumed or confirmed to be PCB Remediation Waste are 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).

3.2 Waste Characterization

Waste generated during this project should be sorted and classified in the following categories as outlined in 40 CFR 761.3

1. PCB Bulk Product Waste-source material- reported to contain equal to or greater than 50 parts per million (PPM) PCBs;
2. >50 ppm PCB Remediation Waste-personal protection equipment, and polyethylene sheeting containing equal to or greater than 50 ppm PCBs, and
3. Excluded PCB Product Waste-source material reported to contain <50 ppm PCBs.

3.3 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:

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

To calculate the number of units needed for the abatement:

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

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 8 of this document and all applicable regulatory requirements.

3.4 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^3)
- Respirable Fraction: 5 mg/m^3
- PCBs (42% Chlorine): 1 mg/m^3
- PCBs (54% Chlorine): 0.5% mg/m^3

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^3) 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 date representative of real-time background conditions at a 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 level 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.

3.5 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.

3.6 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 and, equipped with adequate water, towels and cleansing agents to accommodate the entire crew and visitors.

3.7 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 8 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.

3.8 Source Material and Surrounding Porous Materials Removal

The removal/remediation scope of work included in this section includes the removal and off-site disposal of materials identified in Section 3.1, Table 1 included 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 3.3 above.
- At locations where PCBs are to 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.

- Surface preparation will include surficial wetting of visibly dry and/or deterioration material to minimized dust generation.
- 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.
- Waste 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 7 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 7 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.

3.9 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 using the engineering controls specified in Section 3.3 above to ensure that the soil does not became impacted with PCBs as a results of remediation work.

4 POST-REMEDIATION/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 itemized in, Section 3.1, Table 1,
2. The containment work area has passed a through visual inspection completed as required in section 4.1.1 below, and
3. Wipe sample laboratory analysis have satisfactory passed the recommended clearance levels state in sections 4.1.2 below.

4.1.1 Confirmation final visual inspection

Upon completion of the PCB related work in each containment work area, the Project Environmental Consultant and the abatement 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.

4.1.2 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 analysed 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 (1μg/100 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.

4.1.3 Porous Building Materials (e.g. concrete, brick etc.)

In areas where the PCBs are applied directly in contact with concrete or brick, delineation sampling will be completed following the removal of the identified PCB Bulk Product Waste (paint, and floor tile mastics).

- Analytical results equal to or less than 1 ppm-task complete; no additional clean up required and/or no disposal restriction will apply to the underlying or adjacent materials.
- Analytical results >1 ppm-additional removal and off-site disposal as PCB Bulk Product Waste will be conducted and the sampling process will be repeated until the clean-up level of 1ppm is met.

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 re-evaluated, and incorporated in this 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 incudes 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 container (roll-off containers or equivalent) or 55-gallon DOT-approved still 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

start of the project. At a minimum, the 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 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, used HEPA filters) 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 (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).

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 date 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 preformed 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.