SCA

ENVIRONMENTAL, INC.

November 3, 2015

Ms. Theresa Yee
County of San Mateo
400 County Center, 5th Floor
Redwood City, CA 94061

RE: Summary Report of Hazardous Building Materials
Cal Fire – Sky Londa Fire Station No. 58 Apparatus Building
17290 Skyline Blvd., Woodside, CA 94062
SCA Project No.: F11869

Dear Ms. Yee:

This letter summarizes the results of a limited hazardous materials investigation at the Cal Fire – Sky Londa Fire Station No. 58, located at 17290 Skyline Blvd., Woodside, CA. Sampling was conducted by SCA Environmental, Inc. (SCA) on October 8, 2015, by Tucker Kalman, CAC, CDPH under the direct supervision of Christina Codemo CAC, CHMM, REPA and Chuck Siu, CIH, CAC, PE. The investigation included the following:

- An inspection and survey of the Apparatus Building at Sky Londa Fire Station No. 58.
- Non-destructive sampling and testing for lead-containing coatings, polychlorinated biphenyls (PCB) in building materials, asbestos-containing materials (ACM), and asbestos-containing construction materials (ACCM).
- Assessment to quantify possible PCB lighting ballasts and mercury-containing fluorescent lighting fixtures.

The survey was limited to the following areas:

- interior and exterior building materials associated with the Apparatus Building
- sampling of the structure's concrete slab via non-destructive testing (i.e, coring was not performed)
- sampling of the asphalt within 20 feet of the building

Other buildings, storage structures, and the above ground storage tanks located at the site were not included in this survey.

The following summarizes our findings.

Asbestos Hazards

Summary of Standards
Certain existing building components or materials, which may be impacted by the planned demolition of the Apparatus Building at the Cal Fire - Sky Londa Fire Station No. 58 facility, were presumed to contain asbestos.

Asbestos-containing material (ACM) is defined by EPA regulations as those substances containing greater than 1% asbestos. The Bay Area Air Quality Management District (BAAQMD) and the Cal/EPA provide local enforcement of these regulations. Friable ACM with greater than 1% asbestos must be abated prior to demolition or renovation, and is required to be

disposed of as asbestos waste. Prior to renovation or demolition, the BAAQMD requires abatement of friable ACM, as well as non-friable ACM that may become friable during renovation (practically, this means all non-friable ACM). Federal Occupational Safety and Health Administrations (OSHA) regulations, locally enforced by CAL/OSHA, define ACM as substances that contain greater than 1% asbestos.

Methodology

Sampling activities were conducted per industry standards and the Federal AHERA regulations (40 CFR Part 763), and sample locations were documented on field diagrams (Attachment B). Under these procedures, the first sample is analyzed. If it tests positive for asbestos (>1%), the analysis is suspended for further samples of that material. If the first sample tests negative, however, the second and third samples are analyzed sequentially, in order to determine the possible presence of asbestos. If all three samples test negative, the material is considered as non-asbestos. Certain materials, such as plasters and gypsum board systems, are frequently non-homogeneous in content. For such materials, multiple samples were gathered at various points in the buildings, with all samples analyzed to determine the possible presence of asbestos.

All building material, concrete slab, and asphalt samples collected were submitted to Reservoirs Environmental Inc. (REI) Laboratory in Denver, Colorado for analysis by polarized light microscopy with dispersion staining (DS/PLM).

Results

SCA has entered the sampling data from the above-referenced structure into **Table 1: Material Matrix Report (MMR)**. Printouts which show detailed sample results, locations, and quantity estimates are included in Attachment A of this report. Materials designated as AAA are assumed to contain asbestos and require destructive testing to confirm asbestos content. Sample locations are included on the sample location diagrams in Attachment B.

1. The MMR (Table 1 in Attachment A) lists assumed and negative materials, the locations where each material is present, and the quantity estimates in each location. No asbestos was identified in any suspect material sampled.

2. As the building is still in use, SCA did not perform destructive sampling to inspect wall cavities, above ceilings, etc. in areas where this sampling would affect the use of the room. Any suspect material not sampled is listed as assumed (AAA) in the MMRs. Quantities listed in the matrices are for suspected quantities only. SCA makes no warranties or representations regarding materials or quantities that may be present behind wall cavities, above ceilings, etc.

3. The following items are assumed asbestos, pending additional “destructive testing”:

    - waterproofing membranes under the building slab and subslab baserock
    - formica counter tops and associated mastics
    - hoses used to direct fire engine exhaust outside the building while the engines are running

    SCA has listed these materials as assumed asbestos-containing items in the attached MMR and Abatement Cost Estimate. The County of San Mateo should be aware that these materials are required to be tested prior demolition of the buildings. SCA recommends that the destructive testing and testing of inaccessible/assumed materials be performed prior to preparation of abatement specifications, if possible, or that the

specifications be prepared with line items for all inclusive unit costs for abatement in the event the materials are found to contain asbestos.

Please note the following with respect to the assumed materials:

- It is not uncommon for structures to have a vapor barrier assembly under the concrete foundation slab. Given the construction date of the Apparatus building, this waterproofing system, if present, could consist of a tar-like substance with waterproofing membrane that often contains asbestos. As destructive testing was excluded from the scope of work, SCA has assumed that a waterproofing membrane and underlying baserock may be present under the Apparatus building's concrete slab. A coring contractor should be retained prior to demolition of the structure to obtain a continuous core through this area to verify the presence of a vapor barrier system. If present, the material should be tested to verify asbestos content. If the material is found to contain asbestos, the demolition contractor should possess asbestos-registration and proper training, and such concrete should not be recycled.

SCA assumes that in the future, this survey report may be referenced by Abatement Contractors providing bids for abatement of materials at the surveyed site. SCA requests that this text portion of the report be provided to bidding contractors for review. Bidding Contractors are hereby notified that the quantities included herein are estimates only, and all quantities should be field verified by the Contractor for any budgeting, planning or bidding decisions.

Lead Hazards

Summary of Standards
Certain existing painted or coated surfaces to be impacted by the proposed renovation or demolition of the facility are known to contain lead.

Since elemental lead is a suspect carcinogen and known teratogen and neurotoxic in high doses, lead-containing materials need to be identified prior to the on-set of demolition activities. Using combinations of engineering controls and personal protective equipment, lead-containing materials can be removed safely. Several sources of applicable standards are listed as follows:

1. Lead exposures in the workplace are regulated by Cal/OSHA, which has certain regulatory requirements for identifying and controlling potential lead exposures. Currently applicable regulations for the construction industry have been adopted by Cal/OSHA (8 CCR 1532.1) from the Federal OSHA regulations. The current OSHA 8-hour Permissible Exposure Level (PEL) for lead is 50 $\mu g/m^3$.

2. Current EPA and Cal/EPA regulations do not require LBP to be removed prior to demolition, unless loose and peeling. Provided that the paints are securely adhered to the substrates (i.e., non-flaking or non-peeling), disposal of intact demolition debris can generally be handled in California as non-hazardous and non-RCRA waste. Disposal requirements are as follows:

Classification and Disposal of Inorganic Lead Wastes in California								
Standards	**TTLC**	**Leachable Lead**		**Classifications**				
Concentations	**1000 mg/kg**	**5 mg/L**						
	Test Methods & Results							
Condition	**Total Pb (mg/kg)**	**STLC Pb (mg/L)**	**TCLP Pb (mg/L)**	**Non-haz waste**	**CalHaz (Non-RCRA)**	**Fed Haz (RCRA)**	**Stabilization Required**	**Landfill Class**
1a	<50 (a1)	NA		Yes	no	no	no	III
1b	<100 (a2)		NA	Yes	no	no	no	III
2a	50 to <1000	<5	<5	Yes (c)	no	no	no	III or II (d)
2b		>5	<5	no	Yes	no	no	I
2c		>5	>5	no	Yes	Yes	Yes	I
2d (b)		<5	>5	no	no	Yes	Yes	I
3a	>1000	<5	<5	No	Yes	No	no	I
3b		>5	<5	no	Yes	no	no	I
3c		>5	>5	no	Yes	Yes	Yes	I
3d (b)		<5	>5	no	no	Yes	Yes	I
4	any	any	>5	no	no	Yes	Yes	I

(a1) 50 = 10 x 5 (STLC for Pb). Per WET method, impossible to exceed STLC even if 100% soluble.
(a2) 100 = 20 x 5 (TCLP for Pb). Per TCLP method, impossible to exceed STLC even if 100% soluble.
(b) Physically impossible due to the stronger acid used in WET than TCLP.
(c) Landfills will likely require documentation that TCLP is <5, even though TCLP is almost always less than WET.
(d) Landfill dependent, function of permit, landfill liner, or landfill policy

In California, loose and peeling LBP or other wastes require characterization and testing for leachability to determine if the materials would be classified as a RCRA or California hazardous waste.

3. The major definitions of LBP or lead-coated surfaces are listed as follows:

   - HUD defines LBP as paint that contains either $\geq$0.5% by weight of lead, or $\geq$1 mg/cm^2.
   - Consumer Product Safety Commission (CPSC) prohibits the manufacturing of paint that contains more than 90 ppm of lead.

4. Lead is on the "Proposition 65" list, based on its potential to cause reproductive harm.

5. The California Department of Public Health (CDPH) requires the use of Certified Lead Workers and Supervisors for lead abatement projects at public buildings with a greater than 20 years expected life or whenever work is completed specifically to abate Lead-Based paints as defined by HUD. The CDPH certification requirements do not apply to industrial sites; however, dust controls and personnel protection are still required under 17 CCR Section 35001 through 36100.

Methodology

SCA collected a number of bulk samples for analysis to determine the lead content of these materials. Materials included lead paints and coatings, as well as vinyl flooring. Lead samples collected were submitted to REI Inc. in Denver, Colorado for analysis for total lead content by Flame Atomic Absorption (Flame AA).

Results
SCA has entered the lead sampling data into Table 1 included in Attachment A. The MMR shows detailed sample results and locations of the sampled materials. Sample locations are included on the sample location diagrams in Attachment B.

1. Lead concentrations for paints ranged from <24.6 ppm (parts per million) to 31,360 ppm.
2. Lead was detected in vinyl flooring found in the building at 35.4 ppm.

As lead was identified in some paints and a detailed inventory of paints was not performed for the project, for the purpose of complying with the Cal/OSHA lead in construction regulation (8 CCR 1532.1), all coated surfaces shall be considered to contain some lead and require demolition dust control procedures for compliance with Cal/OSHA's Construction Lead Standard under 8 CCR 1532.1. The aforementioned regulation contains requirements for lead air monitoring, work practices, respiratory protection, etc., that are triggered by the presence of even very low levels of lead.

In addition, based on the California Total Threshold Level Concentration (TTLC) hazardous waste standard, the paints may be classified as hazardous wastes. Additional sampling and analysis for leachable lead content by the Contractor or Consultant during demolition will be required for waste characterization.

None of the applicable regulations require removal of lead paint prior to renovation if the paints are securely adhered to the substrates (i.e., non-flaking or non-peeling). Disposal of the demolition debris in this case can be handled as non-hazardous and non-RCRA waste after the loose and flaking paint have been removed, as long as demolition practices do not compromise worker safety and waste stream characterization testing has been performed for verification.

Conventional demolition techniques should be employed for all painted surfaces and removal of vinyl flooring with the Contractor complying with applicable OSHA and Cal/OSHA statutes regarding:

- Worker awareness training;
- Exposure monitoring, as needed;
- Medical examinations, which may include blood lead level testing; and
- Establishing a written respiratory protection program.

Polychlorinated Biphenyls (PCBs) & Mercury-Containing Items

Methodology
SCA visually inspected for any caulking or putties associated with the Apparatus building, which are suspected to contain PCBs. These items are usually found around windows or doors, around the glass plains of windows, or at joints between walls. SCA did not visually identify any exposed caulking or putties during the investigation. SCA also quantified lighting ballasts that were observed in conjunction with mercury-containing, fluorescent lighting fixtures in various locations throughout the building.

Results
Quantities of fluorescent tubes in various locations are included in Table 1 in Attachment A.

1. Various lighting ballasts were identified throughout the buildings. Multiple ballasts in the Apparatus building were inspected by SCA and found to contain a "No PCBs" label. These items are therefore considered non PCB-containing and do not require disposal as PCB wastes.
2. Mercury-containing fluorescent tubes were identified throughout the building. Fluorescent light tubes and thermostats are required to be either disposed of as hazardous material, or recycled for their mercury contents. Note that costs for fluorescent tube disposal do not tend to be significant compared to overall abatement costs.

If you have any questions, please contact us.

Sincerely,
SCA ENVIRONMENTAL, INC.

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Appendices:
A: Materials Matrix Report
B: Sample Location Drawings
C: Asbestos Laboratory Report
D: Lead Laboratory Report