ATTACHMENT 3

ASBESTOS AND LEAD-BASED PAINT SURVEY REPORT

Good Faith Asbestos and Lead-Based Paint Survey

Eells Springs Hatchery
7570 West Eells Hill Road
Shelton, Washington 98584

Prepared For:

Washington Department of Fish and Wildlife
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Project Number: 44304-1

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EXECUTIVE SUMMARY

Kane Environmental Inc. (the Consultant) provided services, to test materials located in three (3) commercial structures located at the Eells Springs Hatchery, the Hatchery building approximately 7,200 square feet (with an attic), a one-story office building approximately 1,800 square feet and exterior restrooms approximately 76 square feet. The purpose of testing is to determine if any of the materials contained asbestos containing material (ACM) or lead-based paint. The survey will provide the Washington Department of Fish and Wildlife (the Client) with information to aid in their maintenance and have staff work safely when remodeling/renovating any of the built environment.

Of the fifty-five (55) total asbestos containing material (ACM) samples collected, **seven (7)** samples were found to be ACM, see Section 3.1.2 for additional information.

Positive ACM Results			
Sample Location	Material	Sample ID	Percent Asbestos
Office Building	Wall Paneling	WP-01 (Ext)	**23%**
Office Building	Wall Paneling	WP-02 (Ext)	**25%**
Office Building	Wall Paneling	WP-03(Ext)	**25%**
Office Building	Mastic (underneath kitchen floor tile)	F-05	**39%**
Office Building	Mastic (underneath kitchen floor tile)	F-06	**37%**
Office Building	Mastic (underneath kitchen floor tile)	F-07	**35%**
Hatchery Building	Interior window sealant	S-07	**3%** Point Count Analysis: **3.8%**

The remaining samples taken were reported as none detected (ND) at 0% ACM, see Tables 1, 2, and 3 for additional information.

Of the twenty-seven (27) total lead-based paint samples collected, **four (4)** samples were found to be above 5,000 ppm.

Positive Lead-Based Paint Results			
Sample Location	Paint Color	Sample ID	Results
Office Building	Blue	P-07 (Ext)	**70,000 ppm**
Office Building - Warehouse	White	P-09	**13,000 ppm**
Office Building	Cream	P-10	**20,000 ppm**
Hatchery Building	Silver	P-24	**30,000 ppm**

Laboratory results for the remaining samples were all <5,000 ppm, see Table 4, 5, and 6 for additional information.

1.0 INTRODUCTION

Kane Environmental, Inc. (Kane Environmental) was retained by the Washington Department of Fish and Wildlife (the Client), to conduct an assessment of potentially-regulated building materials that will be impacted during any future renovation. The regulated materials included as part of this study include potential asbestos containing materials (PACM), asbestos containing materials (ACM) and lead-based paint. Site inspection and sample collection was conducted by AHERA-certified building inspectors Ms. Emmy Kane and Mr. Mike Espinoza on April 20, 2020 and April 27, 2020. This survey was performed in accordance with proposal dated February 11, 2020, signed and authorized by Mr. Timothy Burns, Program Manager for Capital and Asset Management Program, on March 9, 2020.

1.1 Purpose and Objective

The objective of the survey was to evaluate and/or collect samples sufficient to document the presence (or absence) of asbestos associated with the structure on the Property, prior to any future potential renovation. This assessment did not include areas beyond the 'foot print' of the structure unless specifically noted within this report. The asbestos and lead-based paint survey was conducted in accordance with the "Good Faith" asbestos survey requirements in the Asbestos Hazard Emergency Response Act (AHERA) sampling requirements Code 40 of Federal Regulations (CFR) 763.86, the Puget Sound Clean Air Agency (PSCAA), Regulation III, Article 4, Washington State Department of Labor and Industries (WSDLI) Regulation Washington Administrative Code (WAC) 296-62-07721, (Communication of Hazards to Employees) as required by the Puget Sound Clean Air Agency (PSCAA) and the American Society for Testing Materials (ASTM) E2356-18 guidance document, for buildings that are scheduled for remodel/renovation.

1.2 Procedures and Methodologies

Kane Environmental Inc. (the Consultant) provided services, as outlined below, to test materials located in the commercial building on the Property, to determine if any of the materials used included asbestos or lead-based paint. The survey will provide the Client with information to aid their maintenance and other staff to work safely when remodeling/renovating any of the built environment.

The scope of services for the regulated materials assessment was limited to the following tasks:

- Perform an inspection to identify the presence, location, and quantity of ACM and presumed asbestos-containing materials (PACM) that may be impacted by the proposed project. Materials identified as suspect or presumed materials were sampled in accordance with Asbestos Hazard Emergency Response Act (AHERA) sampling requirements Code 40 of Federal Regulations (CFR) 763.86, the PSCAA, Regulation III, Article 4, Washington State Department of Labor and Industries (WSDLI) Regulation WAC 296-62-077021, (Communication of Hazards to Employees) as required by the Puget Sound Clean Air Agency (PSCAA) and by the American Society for Testing and Materials (ASTM) E2356-18.

- Perform an inspection to identify the presence and location of lead-based paint. Materials identified as potential lead-based paint were collected and analyzed by EPA Method 3051/6010C. Representative building materials were also analyzed for Toxicity Characteristic Leaching Procedure (TCLP) by EPA Method 1311/6010C/7470A.
- Analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory for the presence and quantity of asbestos. Samples were analyzed using polarized light microscopy (PLM) per Environmental Protection Agency (EPA) 600/M4-82-020 and Method 600/R-93/116.
- Incorporation of the results of the survey into this report which includes a description of survey methodology, material descriptions, sample location drawings, results of sample analysis, and material quantities as applicable.

Building inspection and sample collection was performed while the buildings were partially occupied. At the time of the building inspection, electricity was servicing the Property. *Samples were collected in partially discrete locations, partial destructive sampling occurred.*

1.2.1 Asbestos Containing Materials

Asbestos is a naturally occurring mineral fiber that was widely used as an insulating and binding material in building construction and commercial products. Asbestos is a recognized human carcinogen and has come under stringent regulatory action regarding its handling and application. In the mid-1970s, the use of asbestos was severely restricted in the United States by the Environmental Protection Agency (EPA). The EPA defines Asbestos Containing Materials (ACM) as any material which contains more than one percent asbestos.

Typically, the more hazardous forms of asbestos are those that are considered "friable". Friable refers only to ACM that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Occupational exposure to asbestos is regulated by the Federal Government through the Occupational Safety and Health Administration (OSHA) and at the state level by the Washington State Department of Labor and Industries (WSDLI). Regulation of asbestos emissions in Seattle is regulated by the Puget Sound Clean Air Agency (PSCAA). PSCAA also defines ACM as any material which contains more than one percent asbestos. However, WSDLI may consider materials containing trace amounts (e.g. less than one percent) of asbestos a potential health hazard to those employees handling such materials.

1.2.2 Asbestos Sampling Methodology

A ‘walk-through’ inspection of accessible areas on the Property was conducted prior to sampling, to identify suspect ACM and PACM by AHERA-certified asbestos inspectors Ms. Emmy Kane and Mr. Mike Espinoza. The asbestos survey was performed by AHERA-certified building inspectors in accordance with sampling protocol appropriate for the renovation of such structures. The sampling protocol was modeled after (AHERA) sampling requirements Code 40 of Federal Regulations (CFR) 763.86, the PSCAA, Regulation III, Article 4, Washington State Department of Labor and Industries (WSDLI) Regulation WAC 296-62-

077021, (Communication of Hazards to Employees) as required by the Puget Sound Clean Air Agency (PSCAA) and by the American Society for Testing and Materials (ASTM) E2356-18.

Due diligence was exercised to collect samples in a manner sufficient to determine whether the suspect materials were ACM or not ACM. Construction can render portions of the building inaccessible. As a result, additional ACM may be present in inaccessible areas. ***If suspect ACM not identified in this report are found during renovation, demolition, or any maintenance involving the disturbance of suspect ACM, such materials should be presumed to contain asbestos until sampled.***

1.2.3 Lead-Based Paint

Lead containing paint (LCP) is a potential hazard because paint may contribute to dust inside or outside of a structure. Abrasion of friction surfaces (opening and closing windows), peeling, flaking or chalking as leaded paint ages, or as a result of disturbance such as scraping, sanding, or renovation of lead paint coated materials may contribute to lead dust. Lead dust is of concern because the smaller particles are more easily absorbed by the body.

The U.S. Department of Labor and the Washington State Department of Labor and Industries require that Washington State Construction Standards for Lead be followed during "new construction, alteration, repair, or renovation of structures, substrates, or portions thereof that contain lead, or materials containing lead." These standards consider <u>any</u> detectable concentration of lead to be a potential hazard during such construction activities. Therefore, employees performing certain activities at a site where there is a possibility of exposure to lead dust may be required to wear respirators until air sample results can document that exposure to lead is below the permissible exposure limit (50 µg/m^3). Under working conditions, an action level of 30 µg/m^3 in air as an eight-hour TWA has been established by OSHA (29 CFR 1910) and Washington State Construction Standard for Lead (WAC 296-155). The EPA defines lead-based paint as equal to or greater than 5,000 ppm (or 0.5%).

1.2.4 Lead-Based Paint Sampling Methodology

The LCP survey was conducted by an AHERA-Certified Building Inspector experienced with identification and collection of LCP samples. In an effort to evaluate the possible presence of lead containing surface coatings, representative samples of paint and varnished surfaces were collected from each surface with a distinct painting history. Sample locations were selected to be representative of paint color combinations found within the building. Paint color, condition, evidence of layering, type of substrate, and location of painted areas were factors for selecting sample locations.

Paint surfaces were inspected for signs of deterioration; interior paint was in great to good condition and exterior paint was in good to poor condition, depending upon the location.

1.2.5 Sampling and Sample Documentation

Suspect ACM were grouped into homogeneous sampling areas (HSA) and categorized according to 40 CFR 763, as thermal systems insulation (TSI), surfacing material, or miscellaneous material. Samples were collected by removing small portions of the suspect material with a sharp knife or other hand tool suitable to the material being sampled. Each sample was placed in a puncture resistant, plastic baggy and labeled with individual sample numbers immediately after collection. Individual sample baggies were then placed in a large re-sealable plastic bag for transportation to the laboratory. After each sample, the sampling instrument was wiped with a clean moist disposable cloth to decontaminate the tool and minimize the potential release of asbestos fibers, possible cross-contamination or contamination of subsequent samples. Data pertinent to each sample (e.g., date, sample number, material description, material category, and material location) was recorded on a field data sheet. Data pertinent to each sample was then recorded on Figures 1, 2, and 3 and Tables 1 through 7.

2.0 PROPERTY DESCRIPTION

2.1 Property Location and Vicinity Characteristics

The Property is located in Shelton, Washington in Mason County, currently occupied by Eells Springs Hatchery. All samples were taken from the structures, unless otherwise specified, on April 20 and 27, 2020. The surrounding areas appeared to contain farmland and residential development.

3.0 ASBESTOS SAMPLING

3.1 Laboratory Analysis

A total of fifty-five (55) bulk samples of suspect asbestos containing materials (ACM) were collected and delivered to NVL in Seattle, Washington, under chain-of-custody protocol for asbestos analysis by PLM. NVL participates in the NVLAP for quality control procedures. As specified in 40 CFR Chapter I (1-187 edition) Part 763, Subpart F, Appendix A, each sample was analyzed using PLM/dispersion staining techniques, in accordance with EPA Method 600/R-93/116 and 600/M4-82-020.

3.1.1 Asbestos Sample Results

Tables 1, 2, and 3 (*Asbestos in Building Materials Analyses*), include the sample ID, figure key, sample location, sample date, sample description, and detectable asbestos concentration of the building materials sampled, are listed below. See Figures 1, 2, and 3 for approximate sampling locations. See Attachment A for the full analytical report. **See Attachment C for photographs of the sampling locations where ACM was found.**

TABLE 1
Bulk Asbestos Analyses – Restrooms
7570 West Eells Hill Road, Shelton, WA

Sample ID	Figure Key	Sample Location	Date Sampled	Homogenous Material & Sample Description	Percent Asbestos *
S-01	Blue circle	18” S, 61” E of NW corner, 31” AG, sink	4-20-20	Sealant; White	ND
S-02	Blue circle	19” S, 47” W of NE corner, toilet	4-20-20	Sealant; Yellow/brown	ND
S-03 (Ext)	Blue circle	57” E of SW corner, 56” AG, window	4-20-20	Sealant; White	ND
R-06 (Ext)	Blue circle	Black paper-like material, on W wall, 45” N of S wall, 85” AG	4-20-20	Roofing Material; Black paper	ND

AG = above ground
ND = not detected above laboratory reporting limits.

TABLE 2
Bulk Asbestos Analyses – Office Building
7570 West Eells Hill Road, Shelton, WA

Sample ID	Figure Key	Sample Location	Date Sampled	Homogenous Material & Sample Description	Percent Asbestos*
WP-01	**Red circle**	4.5' AG, 11' W from NE corner	4-20-20	Wall Paneling; Beige and white	**Layer 1: 23%**
WP-02	**Red circle**	1' AG, 7' S from NW corner	4-20-20	Wall Paneling; Beige and white	**Layer 1: 25%**
WP-03	**Red circle**	2' AG, SE corner	4-20-20	Wall Paneling; Beige and white	**Layer 1: 25%**
MM-01	Blue circle	4' 9" AG, 11' W of NE corner	4-20-20	Miscellaneous Material; Black padding/insulation between wall panels and wood board	ND
MM-02	Blue circle	32" AG, NW corner	4-20-20	Miscellaneous Material; Black padding/insulation between wall panels and wood board	ND
MM-03	Blue circle	3' AG, 2" N of SW corner	4-20-20	Miscellaneous Material; Black padding/insulation between wall panels and wood board	ND
MM-04	Blue circle	64" AG, 9" E of W wall, on N wall	4-20-20	Miscellaneous Materials; Tan/yellow gravel/sandy insulation material	ND
S-04 (Ext)	Blue circle	57" AG, 66" W of SE corner	4-20-20	Sealant; White and blue	ND
S-05	Blue circle	Bathtub in bathroom, 1.5' AG, 2.5' E of SW corner	4-20-20	Sealant; White/yellow	ND
S-06 (Ext)	Blue circle	Near SE corner on pipe, 41" W, 27" AG	4-20-20	Sealant; Clear	ND
F-01	Blue circle	Near NE corner, 6" S of N wall, 5" W of E wall, bathroom	4-20-20	Floor Tile/Mastic; White vinyl floor tile with black specks and black square pattern	ND
F-02	Blue circle	Near NE corner, 32" S of N wall, 1" W of E wall, bathroom	4-20-20	Floor Tile/Mastic; White vinyl floor tile with black specks and black square pattern	ND
F-03	Blue circle	6" N of S wall, 35" W of E wall, bedroom #2	4-20-20	Floor Tile/Mastic; White vinyl floor tile with grey, beige, and tan spots	ND

TABLE 2

Bulk Asbestos Analyses – Office Building

7570 West Eells Hill Road, Shelton, WA

Sample ID	Figure Key	Sample Location	Date Sampled	Homogenous Material & Sample Description	Percent Asbestos*
F-04	Blue circle	1" N of S wall, 52" E of W wall, bedroom #2	4-20-20	Floor Tile/Mastic; White vinyl floor tile with grey, beige, and tan spots	ND
F-05	**Red circle**	Near SW corner, 9" N of S wall, 44" E of W wall, kitchen	4-20-20	Floor Tile/Mastic; White vinyl floor tile with beige and tan dots	**Layer 1: ND Layer 2 (Mastic): 39% Layer 3: ND**
F-06	**Red circle**	NW corner, 1.5' E of W wall, 1" S of N wall, kitchen	4-20-20	Floor Tile/Mastic; White vinyl floor tile with beige and tan dots	**Layer 1: ND Layer 2 (Mastic): 37% Layer 3: ND**
F-07	**Red circle**	Near SE corner, against S wall, 4' W of E wall, kitchen	4-20-20	Floor Tile/Mastic; White vinyl floor tile with beige and tan dots	**Layer 1: ND Layer 2 (Mastic): 35% Layer 3: ND**
F-08	Blue circle	Near NE corner, 4' W of E wall, against N wall, utility room	4-20-20	Floor Tile/Mastic; Light tan vinyl floor tile with beige and brown spots	ND
F-09	Blue circle	Near SE corner, 2' N of SE corner, utility room	4-20-20	Floor Tile/Mastic; Light tan vinyl floor tile with beige and brown spots	ND
F-10	Blue circle	7' W of SE corner along S wall, bedroom #1	4-20-20	Floor Tile/Mastic; Light tan vinyl floor tile with beige and brown spots	ND
WB-01	Blue circle	3.5' W, 1" N, .5' AG from SE corner, bedroom #2	4-20-20	Wallboard; White and crumbly	ND
WB-02	Blue circle	7' W, 5' N, 2.5' AG from NW corner, utility room	4-20-20	Wallboard; White and crumbly	ND
WB-03	Blue circle	3' W, 1.5' AG of NE corner, kitchen	4-20-20	Wallboard; White and crumbly	ND
WB-04	Blue circle	SW corner, 1' AG, kitchen	4-20-20	Wallboard; White and crumbly	ND
C-01	Blue circle	2' E, 3' S, 8' AG from NW corner, kitchen	4-20-20	Ceiling; White	ND

TABLE 2

Bulk Asbestos Analyses – Office Building

7570 West Eells Hill Road, Shelton, WA

Sample ID	Figure Key	Sample Location	Date Sampled	Homogenous Material & Sample Description	Percent Asbestos*
C-02	Blue circle	.5' E, 5' N, 8' AG from SW corner, utility room	4-20-20	Ceiling; White	ND
C-03	Blue circle	1" W, 1" S, 8' AG from NE corner, bedroom #1	4-20-20	Ceiling; White	ND
CB-01	Blue circle	Tan 4" vinyl cove base and cream mastic, 0-4" AG, NW corner, bedroom #1	4-20-20	4" Vinyl Cove Base/Mastic, tan with cream mastic	ND
CB-02	Blue circle	Black 6" vinyl cove base and beige mastic, 0-4" AG, NE corner, bathroom	4-20-20	6" Vinyl Cove Base/Mastic, black with beige mastic	ND
CB-03	Blue circle	Tan 4" vinyl cove base with white paint, 0-4" AG, 5' E of NW corner, on N wall W of entry, kitchen	4-20-20	4" Vinyl Cove Base with white paint/Mastic, with cream mastic	ND
CNT-01	Blue circle	2' W, 4' AG of SE kitchen corner	4-20-20	Countertop/Mastic; White and tan	ND
CNT-02	Blue circle	5" W, 3' S, near E sink	4-20-20	Countertop/Mastic; White and tan	ND
CNT-03	Blue circle	2' W, 4" S	4-20-20	Countertop/Mastic; White and tan	ND
R-01 (Ext)	Blue circle	N side of roof above N entrance to offices, 10' W of NE roof corner	4-20-20	Roofing Material; Brown shingles with black tar	ND
R-02 (Ext)	Blue circle	N side of roof above N entrance to offices, 3' W of NE roof corner	4-20-20	Roofing Material; Brown shingles with black tar	ND
R-03 (Ext)	Blue circle	S side of building, 5' W of SE corner	4-20-20	Roofing Material; Brown shingles with black tar	ND

AG = above ground

ND = not detected above laboratory reporting limits.

TABLE 3
Bulk Asbestos Analyses – Hatchery
7570 West Eells Hill Road, Shelton, WA

Sample ID	Figure Key	Sample Location	Date Sampled	Homogenous Material & Sample Description	Percent Asbestos *
CT-04	Blue circle	99" AG, against E wall, 100" S of N wall	4-20-20	Ceiling Tile; 2'x4' porous; White	ND
CT-05	Blue circle	9' 9" AG, near SE corner, 52" N of S wall, 6" W of E wall	4-20-20	Ceiling Tile; 1'x1' porous; White with brown paper and black mastic	ND
MM-05	Blue circle	27" AG, E door frame to back room S of office	4-20-20	Miscellaneous Material; Black tar-like material with thick brown and crumbly unknown material	ND
CAR-01	Blue circle	1" W of E wall, 104" S of N wall, near SE corner	4-20-20	Carpet; Grey with white and associated mastic	ND
C-01	Blue circle	½" thick, 17' S, 2' E of W side of N door, 118" AG	4-20-20	Ceiling; White	ND
I-01	Blue circle	Attic, 3' AG, 7' E of W wall	4-20-20	Insulation; Brown with paper backing	ND
I-02	Blue circle	Attic, on S wall, 1' S of S wall, center of room	4-20-20	Insulation; Yellow	ND
WB-05	Blue circle	3.5' E of NE corner along N wall, equipment room E adjoining to W hatchery	4-20-20	Wallboard; White	ND
WB-06	Blue circle	2' AG, 6" E of S exit door, E portion of door frame, S-central wall	4-20-20	Wallboard; White	ND
S-07	**Red circle**	66" AG, on S wall, 28" W of E wall, interior windows	4-20-20	Sealant; Silver and brown	**3% (3.8%)***
PW-01	Blue circle	Backroom, 107" AG, 16" S, 64" E of NW corner	4-20-20	Pipe wrap insulation; white paper with yellow TSI	ND
PW -02	Blue circle	Backroom, 107" AG, 69" S, 64" E of NW corner	4-20-20	Pipe wrap insulation; white paper with yellow TSI	ND
PW -03	Blue circle	Backroom, 107" AG, 50" N, 64" E of SW corner	4-20-20	Pipe wrap insulation; white paper with yellow TSI	ND
R-04 (Ext)	Blue circle	127" AG, 5' S, 25' E of SW corner	4-20-20	Roofing Material; Black Paper	ND

TABLE 3
Bulk Asbestos Analyses – Hatchery
7570 West Eells Hill Road, Shelton, WA

Sample ID	Figure Key	Sample Location	Date Sampled	Homogenous Material & Sample Description	Percent Asbestos *
R-05 (Ext)	Blue circle	127" AG, 5' S, 25' E of SW corner	4-20-20	Roofing Material; Black Paper	ND

** - All layers identified in each sample were subjected to bulk asbestos analysis, results are listed. Layers for which bulk analysis identified between one and five percent asbestos by volume were subjected to 400-point count analysis to confirm their asbestos content. Results of point count analyses are listed in parentheses. Layers identified to contain greater than one percent asbestos are listed in bold text.*
AG = above ground
ND = not detected above laboratory reporting limits.

3.1.2 Asbestos Containing Material Conclusions

Laboratory analysis identified **six (6)** samples containing asbestos, WP-01, WP-02, WP-03 composed of wall paneling, and F-05, F-06, and F-07 composed of the mastic beneath the floor tile, see Figure 2. Laboratory analysis identified **one (1)** sample containing asbestos, S-07 composed of sealant, see Figure 3. Laboratory results are listed below:

- Office Building:
    - Exterior wall paneling, WP-01 at 23% ACM, WP-02 at 25% ACM, and WP-03 at 25% ACM.
    - Flooring and associated mastic, F-05 at 39% ACM, F-06 at 37% ACM, and F-07 at 35% ACM.
- Hatchery
    - Sealant, S-07 at 3%
        - Point count analysis 3.8%.

4.0 LEAD-BASED PAINT SAMPLING

4.1 Laboratory Analysis

A total of twenty-seven (27) paint chip samples were obtained from representative coatings during this survey. Samples were analyzed for total lead by NVL in Seattle, Washington. Samples were analyzed by EPA Method 3051/6010C for lead.

4.1.1 Lead Sample Results

Tables 4, 5, 6, and 7 (*Lead in Paint Analyses*), which includes the sample ID, figure key, sample location, sample date, detectable lead concentration, and the condition of the painted areas sampled, are listed below. See Figures 1, 2, and 3 for approximate sampling locations. See Attachment B for the full analytical report. **See Attachment C for photographs of the sampling locations where positive lead-based paint was found.**

TABLE 4
Lead in Paint Analyses - Restrooms
7570 West Eells Hill Road, Shelton, WA

Sample ID	Figure Key	Sample Location & Sample Description	Date Sampled	Condition of Painted Area	Detectable Lead Concentration (ppm)*
P-01 (Ext)	Blue triangle	Dark green, SE corner, 6” AG	4-20-20	Poor-Good	160
P-02 (Ext)	Blue triangle	Tan, 6” W of NE corner, 8” AG	4-20-20	Poor-Good	170
P-03	Blue triangle	White, NW corner, 7” AG	4-20-20	Poor-Good	93
P-04	Blue triangle	Grey, SE corner	4-20-20	Poor-Good	520

** According to the EPA, Lead-based paint as equal to or greater than 5,000 ppm (or 0.5%) is a potential health concern.*

TABLE 5
Lead in Paint Analyses – Office Building
7570 West Eells Hill Road, Shelton, WA

Sample ID	Figure Key	Sample Location & Sample Description	Date Sampled	Condition of Painted Area	Detectable Lead Concentration (ppm)*
P-05 (Ext)	Blue triangle	Red, 35" E of E doorway on top stair	4-20-20	Poor-Good	580
P-06 (Ext)	Blue triangle	Grey, 16" AG, 5' N of SE corner	4-20-20	Poor-Good	2,000
P-07 (Ext)	**Red triangle**	Blue, roof lining, 88", 21" N of SE corner	4-20-20	Poor-Good	**70,000**
P-08 (Ext)	Blue triangle	White, 36" E of E doorway on top stair	4-20-20	Poor-Good	210
P-09	**Red triangle**	White, 1' S, 20" E, 4' AG, warehouse	4-20-20	Poor-Good	**13,000**
P-10	**Red triangle**	Cream, 3' N, 5.5' AG from SW corner, bathroom	4-20-20	Poor-Good	**20,000**
P-11	Blue triangle	White smooth, 50" S of NE corner, 33" AG, living room	4-20-20	Poor-Good	890
P-12	Blue triangle	White bumpy, 54" S of N wall entryway, 45" AG	4-20-20	Poor-Good	550
P-13	Blue triangle	Blue, 3' AG on N entryway door adjacent to handle	4-20-20	Poor-Good	2,200
P-14	Blue triangle	Green, blue and orange, 6" AG, 1' W, on N wall, from NE corner, bathroom	4-20-20	Poor-Good	1,700
P-15	Blue triangle	Green/teal, 2' W, 4' S, 3" AG, below sink, kitchen	4-20-20	Poor-Good	500
P-16	Blue triangle	Yellow/tan, Office Building, 70" AG, 10" S of N wall along N wall, 20" E of W wall, kitchen	4-20-20	Poor-Good	430

** According to the EPA, Lead-based paint as equal to or greater than 5,000 ppm (or 0.5%) is a potential health concern.*

TABLE 6
Lead in Paint Analyses - Hatchery
7570 West Eells Hill Road, Shelton, WA

Sample ID	Figure Key	Sample Location & Sample Description	Date Sampled	Condition of Painted Area	Detectable Lead Concentration (ppm)*
P-17 (Ext)	Blue triangle	Blue/grey, 4' AG, S side of door frame along E entrance	4-20-20	Poor-Good	1,300
P-18	Blue triangle	Teal, in E fish hatchery aisles, 33" AG, 39" W of E wall	4-20-20	Poor-Good	830
P-19 (Ext)	Blue triangle	Grey, 58" AG, 43' 3" E of NW corner, windowsills	4-20-20	Poor-Good	3,500
P-20	Blue triangle	Charcoal grey, 1" AG, 98" S of N wall, SW doorway in East hatchery wing	4-20-20	Poor-Good	3,400
P-21	Blue triangle	White, 17' N, 3' E, 1' AG of S exit doors along door frame to central room	4-20-20	Poor-Good	2,000
P-22	Blue triangle	Light grey, floor paint, 15' N, 4' E of S exit doors	4-20-20	Poor-Good	630
P-23	Blue triangle	Dark grey, floor paint, 10' N, 4' E of S exit doors	4-20-20	Poor-Good	710
P-24	**Red triangle**	Silver, 8' N, 10' E, 4.5' AG of S exit doors, N of door frame to E hatchery wing	4-20-20	Poor-Good	**30,000**
P-25	Blue triangle	Salmon, 8' N, 10' E, 4.8' AG of S exit doors, N of door frame to E hatchery wing	4-20-20	Poor-Good	3,100
P-26	Blue triangle	White, bumpy, NW corner, 3' E of W wall, 1' AG breakroom	4-20-20	Poor-Good	360
P-27	Blue triangle	Grey/beige, 4.5' AG, 3' W of E side of door frame along S exit doors	4-20-20	Poor-Good	230

** According to the EPA, Lead-based paint as equal to or greater than 5,000 ppm (or 0.5%) is a potential health concern.*

4.1.2 Lead Conclusions

Laboratory analysis identified **four (4)** samples containing lead greater than 5,000 ppm, P-07, P-09, P-10, and P-24, see Figures 2 and 3. Laboratory results are listed below:

- Office Building:
    - P-07 (Ext) at 70,000, P-09 at 13,000, and P-10 at 20,000
- Hatchery
    - P-24 at 30,000 ppm

4.1.3 TCLP Conclusion

Should any additional materials be identified which are considered suspect which have not already been sampled as part of this study, Kane Environmental recommends that such materials be sampled prior to their disturbance. The other metals results can be used for application to a local landfill for disposal requirements.

Kane Environmental understands that the Client is considering the structure for demolition. If material coated with LCP is to be disposed of as part of the work, some or all of the debris may be subject to the requirements of WSDOE. According to WAC 173-303-090, a solid waste, which exceeds five milligrams per liter (mg/l) in the Toxicity Characteristic Leachate Procedure (TCLP) for lead, would be designated a dangerous waste for the purpose of disposal. The TCLP analysis conducted on miscellaneous materials in the structure resulted in a non-detectable concentration of lead and other metals.

Due to TCLP results showing <0.50 mg/L Lead detected, based on the analytical result, the demolition material may be disposed of at a regulated disposal landfill as building materials.

TABLE 7
TCLP (mg/L) Lead Results

TCLP-01	<0.50
TCLP-02	<0.50

5.0 LIMITATIONS

Should any additional materials be identified as asbestos during the course of a renovation (or the like) project(s), current federal, state, and local regulations require that a licensed asbestos-abatement contractor and trained workers remove ACM. Prior to abatement of ACM, current regulations require that a "Notice of Intent" form be filed with the WSDLI and PSCAA at least 10 days prior to commencement of the removal project. The WSDLI requires pre-abatement air monitoring and clearance air sampling upon completion of the asbestos abatement project. An asbestos removal project is not complete until the analytical results from clearance samples indicate that the residual fiber levels in the ambient air are within acceptable limits. Following removal of the ACM and assumed ACM, asbestos-containing debris must be disposed of at a landfill that accepts asbestos waste in accordance with the current federal, state, and local regulations. As previously noted, there is a possibility that other suspect materials may be present within the building that was not sampled during this survey. Contractors should use caution when performing renovation activities within the project areas even after the completion of asbestos abatement. Should renovation activities discover additional concealed suspect ACM not already sampled, workers should avoid damaging those materials until they have been properly sampled, analyzed and abated in accordance with local, state, and federal regulations.

A copy of this report must be provided to contractors bidding on work and each contractor must have a copy of this report during any scheduled renovation activities at the site. ***However, it is important to note that this document is not intended to be used for abatement bidding or specification purposes and should not be used as such.***

This hazmat survey is not intended to be the sole basis for asbestos removal bids. Confirmation of the condition and volume of the ACMs should be conducted by prospective removal contractors prior to accepting removal bids. This report is provided for the exclusive use of the client noted on the cover page, Washington Department of Fish and Wildlife (the Client) and is subject to the terms and conditions in the applicable contract between the Client and Kane Environmental. The Client is the only party to whom Kane Environmental has explained the risks involved and has been involved in the shaping of the scope of services needed to satisfactorily manage those risks, if any, from the Client's point of view. Any third party use of this report, including use by the Client's lender, prospective purchaser, or lessee will be subject to the terms and conditions governing the contractual work between the Client and Kane Environmental. The unauthorized use of, reliance on, or release of the information contained in this report, without the expressed written consent of Kane Environmental, is strictly prohibited and will be without risk or liability to Kane Environmental.

Laboratory analysis was conducted by a laboratory accredited under the guidance of the EPA or EPA-accredited agencies. The results of the analyses are accurate only to the degree of care exercised by the independent laboratories and the representative nature of the samples obtained.

5.1 Sampling Limitations

The findings presented in this report were based on field observations, bulk random sampling and analysis, review of available data. Therefore, the data obtained is clear and accurate only to the degree implied by the sources and methods used. The information presented herein is based on professional interpretation using presently accepted methods with a degree of conservatism deemed proper as of the report date. We do not warrant that future technical developments cannot supersede such data.

This survey and review of the building has been limited in scope to those areas reasonably accessible and visible at the time of the inspection. This investigation is undertaken with the risk that visual observations and random sampling alone would not reveal the presence, full nature, and extent of asbestos-containing materials. Kane Environmental makes no representation as to the asbestos content of materials not sampled or that were inaccessible to our inspectors, listed below. The asbestos sample locations are approximate, and are based on field notes, photos of sample locations, measurements taken during the survey and as-builts the Washington Department of Fish and Wildlife was able to provide for the buildings associated with the survey. The opinions presented herein apply to the site condition existing at the time of the investigation, and are based upon the interpretation of current regulations pertaining to asbestos, lead and other regulated materials. Opinions and recommendations provided herein may not apply to future conditions that may exist at the site.

PACM that was observed and not sampled due to limited access or inability to perform discrete sampling included:

- Metal throughout structure (i.e., metal pipes, water heater, etc.)
- Black and clear sealant around piping running along south wall of West and East Hatchery Wings

PACM that was observed and not sampled due to scope of work included:

- The visual identification/quantification of other potentially regulated building materials such as PCB-containing electrical devices (i.e. fluorescent lighting ballasts), as well as potentially mercury-containing fluorescent lighting lamps, thermostatic switches or electrical wiring throughout the building, which was not explored during this survey
- Mastic behind mirrors in restrooms

Should any additional materials be identified which are considered suspect which have not already been sampled as part of this study, Kane Environmental recommends that such materials be sampled prior to their disturbance.

6.0 REFERENCES

Mr. Eric Nicolai, Washington Department of Fish and Wildlife, the Client

Mason County Parcel Viewer

FIGURES

KANE ENVIRONMENTAL INC
Project #44304-1

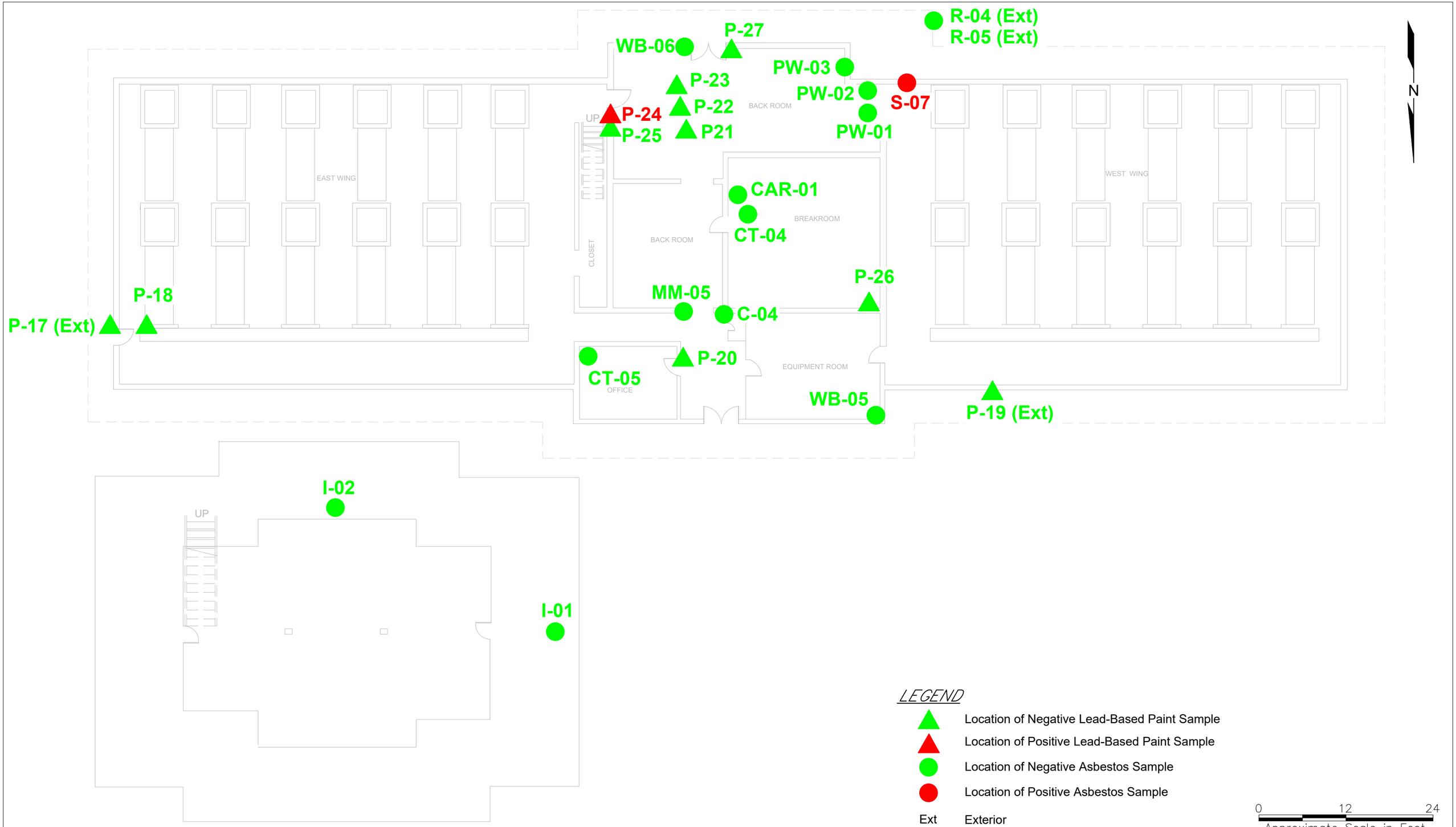
Hazardous Materials Survey
Eells Springs Hatchery
7570 West Eells Hill Road
Shelton, Washington

Figure 1 - Exterior Restroom
Sample Location Diagram with Results

KANE ENVIRONMENTAL INC
Project #44304-1

Hazardous Materials Survey
Eells Springs Hatchery
7570 West Eells Hill Road
Shelton, Washington

Figure 2 - Office Building
Sample Location Diagram with Results



KANE ENVIRONMENTAL INC
Project #44304-1

Hazardous Materials Survey
Eells Springs Hatchery
7570 West Eells Hill Road
Shelton, Washington

Figure 3 - Hatchery Building
Sample Location Diagram with Results

ATTACHMENT A
LABORATORY ANALYTICAL RESULTS/CHAINS-OF-CUSTODY – ASBESTOS

April 28, 2020

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

Emmy Kane
Kane Environmental
4015 13th Ave W
Seattle, WA 98119

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2007323.00

Client Project: Restroom 44304
Location: Shelton, WA

Dear Ms. Kane,

Enclosed please find test results for the 4 sample(s) submitted to our laboratory for analysis on 4/21/2020.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor

ANNIVERSARY 25 1995 - 2020

NVLAP Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007323.00
Client Project #: Restroom 44304
Date Received: 4/21/2020
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 20055248 **Client Sample #: S-01**
Location: Shelton, WA

Layer 1 of 1 **Description:** White soft material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Paint	None Detected ND	**None Detected ND**

Lab ID: 20055249 **Client Sample #: S-02**
Location: Shelton, WA

Layer 1 of 2 **Description:** White soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** Brown crumbly material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine grains, Fine particles	Cellulose 3%	**None Detected ND**

Lab ID: 20055250 **Client Sample #: S-03**
Location: Shelton, WA

Layer 1 of 1 **Description:** White rubbery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Paint	None Detected ND	**None Detected ND**

Lab ID: 20055251 **Client Sample #: R-06**
Location: Shelton, WA

Layer 1 of 1 **Description:** Black asphaltic fibrous material with trace amount of paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Fine particles, Paint	Cellulose 39%	**None Detected ND**

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 04/27/2020
Reviewed by: Matt Macfarlane **Date:** 04/28/2020

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES

Company	Kane Environmental	**NVL Batch Number**	**2007323.00**
Address	4015 13th Ave W Seattle, WA 98119	**TAT** 4 Days **Rush TAT**	**AH** No
Project Manager	Ms. Emmy Kane	**Due Date** 4/27/2020	**Time** 12:45 PM
Phone	(206) 691-0476	**Email**	ekane@kane-environmental.com
Cell	(206) 883-4856	**Fax**	(206) 675-0650

Project Name/Number: Restroom 44304 **Project Location:** Shelton, WA

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 4 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	20055248	S-01		A
2	20055249	S-02		A
3	20055250	S-03		A
4	20055251	R-06		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/21/20	1245
Analyzed by	Akane Yoshikawa		NVL	4/27/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 4/21/2020
Time: 1:24 PM
Entered By: Kelly AuVu

2007323

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY • MANAGEMENT • TRAINING

ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 2 Days
- ☐ 3 Days
- ☒ 4 Days
- ☐ 5 Days
- ☐ 10 Days

Please call for TAT less than 24 Hours

Company: Kane Environmental
Address: 4015 13th Ave W, Seattle, WA 98119
Phone: (206)691-0476

Project Manager: Emmy Kane
Cell: ( ) -
Email: ekane@kane-environmental.com
Fax: ( ) -

Project Name/Number: Restroom/44304
Project Location: Shelton, WA

- ☐ PCM Air (NIOSH 7400)
- ☒ PLM (EPA 600/R-93-116)
- ☐ PLM Gravimetry (600/R-93-116)
- ☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ☐ TEM (NIOSH 7402)
- ☐ EPA 400 Points (600/R-93-116)
- ☐ Asbestos in Vermiculite (EPA 600/R-04/004)
- ☐ TEM (AHERA)
- ☐ Other
- ☐ TEM (EPA Level II Modified)
- ☐ EPA 1000Points (600/R-93-116)
- ☐ Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions
- ☐ Call ( ) -
- ☐ Fax ( ) -
- ☒ Email see above

Total Number of Samples 4

	Sample ID	Description	A/R
1	S-01	sealant	
2	S-02	↓	
3	S-03	roofing material	
4	R-06		
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/20/20	0900-1600
Relinquish by	Emmy Kane		Kane Environmental	4/21/20	

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Kelly Adler		ANL	4/21/2020	1245 DB
Analyzed by					
Called by					
Faxed/Email by					

4708 Aurora Ave N, Seattle, WA 98103 | p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

April 27, 2020

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

Emmy Kane
Kane Environmental
4015 13th Ave W
Seattle, WA 98119

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2007322.00

Client Project: Offices 44304
Location: Shelton, WA

Dear Ms. Kane,

Enclosed please find test results for the 36 sample(s) submitted to our laboratory for analysis on 4/21/2020.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Nick Ly, Technical Director

ANNIVERSARY 25 1995 - 2020

NVLAP Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 20055212 **Client Sample #: WP-01**
Location: Shelton, WA

Layer 1 of 1 **Description:** Light gray cementitious material with mineral grains

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Cement/Binder, Insect parts, Mica	Spider silk <1%	**Chrysotile 23%**
Mineral grains, Sand		

Lab ID: 20055213 **Client Sample #: WP-02**
Location: Shelton, WA

Layer 1 of 1 **Description:** Light gray cementitious material with paint and trace yellow mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Cement/Binder, Insect parts, Mastic/Binder	Spider silk <1%	**Chrysotile 25%**
Mineral grains, Paint, Sand		

Lab ID: 20055214 **Client Sample #: WP-03**
Location: Shelton, WA

Layer 1 of 1 **Description:** Light gray cementitious material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Cement/Binder, Paint, Sand	None Detected ND	**Chrysotile 25%**

Lab ID: 20055215 **Client Sample #: MM-01**
Location: Shelton, WA

Layer 1 of 1 **Description:** Black asphaltic fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder	Cellulose 75%	**None Detected ND**

Lab ID: 20055216 **Client Sample #: MM-02**
Location: Shelton, WA

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1 **Description:** Black asphaltic fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder	Cellulose 73%	**None Detected ND**

Lab ID: 20055217 **Client Sample #: MM-03**
Location: Shelton, WA

Layer 1 of 1 **Description:** Tan paper with asphalt

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Binder/Filler, Mineral grains	Cellulose 45%	**None Detected ND**

Lab ID: 20055218 **Client Sample #: MM-04**
Location: Shelton, WA

Layer 1 of 1 **Description:** Off-white brittle textured material with trace mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Mastic/Binder	None Detected ND	**None Detected ND**
Starch grains		

Lab ID: 20055219 **Client Sample #: R-01**
Location: Shelton, WA

Layer 1 of 1 **Description:** Black asphaltic fibrous material with granules

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Granules, Mineral grains	Glass fibers 38%	**None Detected ND**
Sand		

Lab ID: 20055220 **Client Sample #: R-02**
Location: Shelton, WA

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: **Ms. Emmy Kane**
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	**Description:** Layered black asphaltic fibrous material with granules and mineral grains			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Granules, Mineral grains	Glass fibers	45%	**None Detected ND**
	Sand			
Layer 2 of 2	**Description:** Layered black soft asphaltic mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Calcareous particles	None Detected	ND	**None Detected ND**

Lab ID: 20055221 **Client Sample #: R-03**
Location: Shelton, WA

Layer 1 of 2	**Description:** Layered black asphaltic fibrous material with granules and mineral grains			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Granules, Insect parts	Glass fibers	40%	**None Detected ND**
	Mineral grains, Organic/binder			
Layer 2 of 2	**Description:** Layered black soft asphaltic mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder	None Detected	ND	**None Detected ND**

Lab ID: 20055222 **Client Sample #: CNT-01**
Location: Shelton, WA

Layer 1 of 1	**Description:** Brown flat hard compressed fibrous material with pale cream surface			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Adhesive/Binder, Binder/Filler	Wood fibers	98%	**None Detected ND**

Lab ID: 20055223 **Client Sample #: CNT-02**
Location: Shelton, WA

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	**Description:** Brown flat hard compressed fibrous material with off-white surface			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Adhesive/Binder, Binder/Filler	Cellulose	94%	**None Detected ND**
Layer 2 of 2	**Description:** Yellow soft mastic with wood flakes			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Wood flakes	None Detected	ND	**None Detected ND**

Lab ID: 20055224 **Client Sample #: CNT-03**
Location: Shelton, WA

Layer 1 of 2	**Description:** Brown flat hard compressed fibrous material with off-white surface			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Adhesive/Binder, Binder/Filler	Wood fibers	95%	**None Detected ND**
Layer 2 of 2	**Description:** Yellow soft mastic with wood flakes			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Wood flakes	None Detected	ND	**None Detected ND**

Lab ID: 20055225 **Client Sample #: CB-01**
Location: Shelton, WA

Layer 1 of 2	**Description:** Tan rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Rubber/Binder	Spider silk	<1%	**None Detected ND**
Layer 2 of 2	**Description:** Off-white soft mastic with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Calcareous particles, Mastic/Binder, Paint	None Detected	ND	**None Detected ND**

Lab ID: 20055226 **Client Sample #: CB-02**
Location: Shelton, WA

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 3	**Description:** White soft elastic material with trace debris			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Debris	Cellulose	<1%	**None Detected ND**
		Synthetic fibers	<1%	
		Spider silk	<1%	
Layer 2 of 3	**Description:** Black rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Rubber/Binder	None Detected	ND	**None Detected ND**
Layer 3 of 3	**Description:** Tan soft mastic with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Paint	None Detected	ND	**None Detected ND**

Lab ID: 20055227 **Client Sample #: CB-03**
Location: Shelton, WA

Layer 1 of 2	**Description:** Off-white rubbery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Rubber/Binder, Paint	Hair	<1%	**None Detected ND**
		Spider silk	<1%	
Layer 2 of 2	**Description:** Tan soft mastic with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Paint	None Detected	ND	**None Detected ND**

Lab ID: 20055228 **Client Sample #: C-01**
Location: Shelton, WA

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: **Ms. Emmy Kane**
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 3	**Description:** Pale yellow brittle textured material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Fine particles, Mineral grains	None Detected	ND	**None Detected ND**
	Paint			
Layer 2 of 3	**Description:** Tan sandy/brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Granules, Sand	None Detected	ND	**None Detected ND**
Layer 3 of 3	**Description:** White thin powdery material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Fine particles	None Detected	ND	**None Detected ND**

Lab ID: 20055229 **Client Sample #: C-02**
Location: Shelton, WA

Layer 1 of 3	**Description:** White compacted powdery material with white paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 3	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	17%	**None Detected ND**
Layer 3 of 3	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Gypsum/Binder	Cellulose	25%	**None Detected ND**

Lab ID: 20055230 **Client Sample #: C-03**
Location: Shelton, WA

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 3 **Description:** Trace thin white compacted powdery material with white paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**

Layer 2 of 3 **Description:** Pale green brittle textured material with white paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Fine particles, Mineral grains	None Detected	ND	**None Detected ND**
Paint			

Layer 3 of 3 **Description:** Tan sandy/brittle material with trace wood flakes

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Granules, Sand	None Detected	ND	**None Detected ND**
Wood flakes			

Lab ID: 20055231 **Client Sample #: WB-01**

Location: Shelton, WA

Layer 1 of 3 **Description:** Orange brittle textured material with white paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Fine particles, Mineral grains	None Detected	ND	**None Detected ND**
Paint			

Layer 2 of 3 **Description:** Tan sandy material

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Granules, Sand	Wood fibers	2%	**None Detected ND**
Wood flakes			

Layer 3 of 3 **Description:** Off-white chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Fine grains, Fine particles, Gypsum/Binder	Cellulose	30%	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 20055232 **Client Sample #: WB-02**

Location: Shelton, WA

Layer 1 of 3	**Description:** White thin bumpy compacted powdery material with white paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected ND	**None Detected ND**
Layer 2 of 3	**Description:** White thin fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler	Cellulose 16%	**None Detected ND**
Layer 3 of 3	**Description:** Off-white chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine grains, Fine particles, Gypsum/Binder	Cellulose 27%	**None Detected ND**

Lab ID: 20055233 **Client Sample #: WB-03**

Location: Shelton, WA

Layer 1 of 4	**Description:** Off-white brittle textured material with multi-colored paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine particles, Mineral grains Paint	None Detected ND	**None Detected ND**
Layer 2 of 4	**Description:** Tan sandy/brittle material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Granules, Mineral grains Sand, Wood flakes	Wood fibers 5%	**None Detected ND**
Layer 3 of 4	**Description:** Off-white thin fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler	Cellulose 13%	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 4 of 4 **Description:** Off-white chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Fine grains, Fine particles, Gypsum/Binder	Cellulose 26%	**None Detected ND**

Lab ID: 20055234 **Client Sample #: WB-04**

Location: Shelton, WA

Comments: Qualitative analysis was conducted for the presence of asbestos fibers in layer 2 of this sample.

Layer 1 of 2 **Description:** White brittle textured material with multi-colored paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Mineral grains	None Detected ND	**None Detected ND**
Paint		

Layer 2 of 2 **Description:** Tan sandy/brittle material with debris

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Debris, Fine particles	Cellulose	**None Detected ND**
Insect parts, Mineral grains, Plastic	Synthetic fibers	
Sand, Wood flakes	Hair	
	Spider silk	
	Wood fibers	

Lab ID: 20055235 **Client Sample #: F-01**

Location: Shelton, WA

Layer 1 of 3 **Description:** Off-white sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Synthetic foam, Vinyl/Binder	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 3 **Description:** Off-white fibrous backing with yellow soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Calcareous particles	Cellulose 38%	**None Detected ND**
	Glass fibers 6%	

Layer 3 of 3 **Description:** Dark red thin brittle adhesive (on wood)

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Adhesive/Binder, Wood	None Detected ND	**None Detected ND**

Lab ID: 20055236 **Client Sample #: F-02**
Location: Shelton, WA

Layer 1 of 2 **Description:** Off-white sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Synthetic foam, Vinyl/Binder	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** Off-white fibrous backing with yellow soft mastic (on wood)

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Calcareous particles, Mastic/Binder	Cellulose 32%	**None Detected ND**
Wood	Glass fibers 5%	

Lab ID: 20055237 **Client Sample #: F-03**
Location: Shelton, WA

Layer 1 of 3 **Description:** Pale cream sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Vinyl/Binder	None Detected ND	**None Detected ND**

Layer 2 of 3 **Description:** Light gray fibrous backing with soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Mastic/Binder	Cellulose 32%	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

			Glass fibers 5%	
			Synthetic fibers 10%	
Layer 3 of 3	**Description:** Tan wooden compressed fibrous material with tan adhesive			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Adhesive/Binder, Wood	Wood fibers 90%		**None Detected ND**

Lab ID: 20055238 **Client Sample #: F-04**

Location: Shelton, WA

Layer 1 of 2	**Description:** Pale cream sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Calcareous particles, Vinyl/Binder	None Detected ND		**None Detected ND**
Layer 2 of 2	**Description:** Light gray fibrous backing with soft mastic (on wood)			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler, Fine particles, Mastic/Binder	Cellulose 30%		**None Detected ND**
	Wood	Glass fibers 5%		
		Synthetic fibers 6%		

Lab ID: 20055239 **Client Sample #: F-05**

Location: Shelton, WA

Layer 1 of 3	**Description:** Off-white sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Synthetic foam, Vinyl/Binder	None Detected ND		**None Detected ND**
Layer 2 of 3	**Description:** Off-white fibrous backing with soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler, Mastic/Binder	None Detected ND		**Chrysotile 39%**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 3	**Description:** Tan wooden compressed fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Adhesive/Binder, Wood flakes	Wood fibers	85%	**None Detected ND**

Lab ID: 20055240 **Client Sample #: F-06**
Location: Shelton, WA

Layer 1 of 2	**Description:** Off-white sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Synthetic foam, Vinyl/Binder	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** Off-white fibrous backing with tan mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mastic/Binder	None Detected	ND	**Chrysotile 37%**

Lab ID: 20055241 **Client Sample #: F-07**
Location: Shelton, WA

Layer 1 of 2	**Description:** Off-white sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Synthetic foam, Vinyl/Binder	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** Off-white fibrous backing with tan mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mastic/Binder	None Detected	ND	**Chrysotile 35%**

Lab ID: 20055242 **Client Sample #: F-08**
Location: Shelton, WA

Layer 1 of 2	**Description:** Off-white sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Synthetic foam, Vinyl/Binder	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2 **Description:** Light gray fibrous backing with mastic (on wood)

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Calcareous particles, Mastic/Binder	Cellulose 39%	**None Detected ND**
Wood	Glass fibers 4%	

Lab ID: 20055243 **Client Sample #: F-09**

Location: Shelton, WA

Layer 1 of 2 **Description:** Off-white sheet vinyl with adhesive surface

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Adhesive/Binder, Synthetic foam, Vinyl/Binder	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** Light gray fibrous backing with mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Calcareous particles, Mastic/Binder	Cellulose 10%	**None Detected ND**
	Glass fibers 5%	

Lab ID: 20055244 **Client Sample #: F-10**

Location: Shelton, WA

Layer 1 of 2 **Description:** Off-white sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Synthetic foam, Vinyl/Binder	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** Off-white fibrous backing with soft mastic (on wood)

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Calcareous particles, Mastic/Binder	Cellulose 39%	**None Detected ND**
Wood	Glass fibers 5%	

Lab ID: 20055245 **Client Sample #: S-04**

Location: Shelton, WA

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007322.00
Client Project #: Offices 44304
Date Received: 4/21/2020
Samples Received: 36
Samples Analyzed: 36
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1 **Description:** Light gray soft material with paint (on wood)

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Calcareous particles, Paint	Wood fibers 2%	**None Detected ND**
Wood		

Lab ID: 20055246 **Client Sample #: S-05**

Location: Shelton, WA

Layer 1 of 1 **Description:** Clear soft material with trace paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Adhesive/Binder, Paint	Cellulose <1%	**None Detected ND**
	Synthetic fibers 2%	

Lab ID: 20055247 **Client Sample #: S-06**

Location: Shelton, WA

Layer 1 of 1 **Description:** Clear soft material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Adhesive/Binder, Paint	Cellulose <1%	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES

Company	Kane Environmental	**NVL Batch Number**	**2007322.00**
Address	4015 13th Ave W Seattle, WA 98119	**TAT** 4 Days **Rush TAT**	**AH** No
Project Manager	Ms. Emmy Kane	**Due Date** 4/27/2020	**Time** 12:45 PM
Phone	(206) 691-0476	**Email**	ekane@kane-environmental.com
Cell	(206) 883-4856	**Fax**	(206) 675-0650

Project Name/Number: Offices 44304 **Project Location:** Shelton, WA

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 36 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	20055212	WP-01		A
2	20055213	WP-02		A
3	20055214	WP-03		A
4	20055215	MM-01		A
5	20055216	MM-02		A
6	20055217	MM-03		A
7	20055218	MM-04		A
8	20055219	R-01		A
9	20055220	R-02		A
10	20055221	R-03		A
11	20055222	CNT-01		A
12	20055223	CNT-02		A
13	20055224	CNT-03		A
14	20055225	CB-01		A
15	20055226	CB-02		A
16	20055227	CB-03		A
17	20055228	C-01		A
18	20055229	C-02		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/21/20	1245
Analyzed by	Alla Prysyazhnyuk		NVL	4/27/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 4/21/2020
Time: 1:19 PM
Entered By: Kelly AuVu

ASBESTOS LABORATORY SERVICES

NVL

Company	Kane Environmental	**NVL Batch Number**	**2007322.00**
Address	4015 13th Ave W Seattle, WA 98119	**TAT** 4 Days **Rush TAT**	**AH** No
Project Manager	Ms. Emmy Kane	**Due Date** 4/27/2020	**Time** 12:45 PM
Phone	(206) 691-0476	**Email**	ekane@kane-environmental.com
Cell	(206) 883-4856	**Fax**	(206) 675-0650

Project Name/Number: Offices 44304 **Project Location:** Shelton, WA

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 36 Rush Samples

	Lab ID	Sample ID	Description	A/R
19	20055230	C-03		A
20	20055231	WB-01		A
21	20055232	WB-02		A
22	20055233	WB-03		A
23	20055234	WB-04		A
24	20055235	F-01		A
25	20055236	F-02		A
26	20055237	F-03		A
27	20055238	F-04		A
28	20055239	F-05		A
29	20055240	F-06		A
30	20055241	F-07		A
31	20055242	F-08		A
32	20055243	F-09		A
33	20055244	F-10		A
34	20055245	S-04		A
35	20055246	S-05		A
36	20055247	S-06		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/21/20	1245
Analyzed by	Alla Prysyazhnyuk		NVL	4/27/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 4/21/2020
Time: 1:19 PM
Entered By: Kelly AuVu

2007322

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 2 Days
- ☐ 3 Days
- ☒ 4 Days
- ☐ 5 Days
- ☐ 10 Days

Please call for TAT less than 24 Hours

Company: Kane Environmental
Address: 4015 13th Ave W, Seattle, WA 98119
Phone: (206) 691-0476

Project Manager: Emmy Kane
Cell: ( ) -
Email: ekane@kane-environmental.com
Fax: ( ) -

Project Name/Number: OFFICES/44304
Project Location: Shelton, WA

- ☐ PCM Air (NIOSH 7400)
- ☒ PLM (EPA 600/R-93-116)
- ☐ PLM Gravimetry (600/R-93-116)
- ☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ☐ TEM (NIOSH 7402)
- ☐ EPA 400 Points (600/R-93-116)
- ☐ Asbestos in Vermiculite (EPA 600/R-04/004)
- ☐ TEM (AHERA)
- ☐ Other
- ☐ TEM (EPA Level II Modified)
- ☐ EPA 1000Points (600/R-93-116)
- ☐ Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions
- ☐ Call ( ) -
- ☐ Fax ( ) -
- ☒ Email see above

Total Number of Samples 36

	Sample ID	Description	A/R
1	WP-01	wall paneling	
2	WP-02	↓	
3	WP-03	↓	
4	MM-01		
5	MM-02		
6	MM-03		
7	MM-04		
8	R-01	roofing material	
9	R-02	↓	
10	R-03	↓	
11	CNT-01	countertop and mastic	
12	CNT-02	↓	
13	CNT-03	↓	
14	CB-01	cove base and mastic	
15	CB-02	↓	

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/20/20	0900-1600
Relinquish by	Emmy Kane		Kane Environmental	4/21/20	

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Kelly		NVL	4/21/2020	1245DB
Analyzed by					
Called by					
Faxed/Email by					

2007322

NVL
INDUSTRIAL HYGIENE SERVICES
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ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 2 Days
- ☐ 3 Days
- ☒ 4 Days
- ☐ 5 Days
- ☐ 10 Days

Please call for TAT less than 24 Hours

Company: Kane Environmental
Address: 4015 13th Ave W, Seattle, WA 98119
Phone: (206) 691-0476

Project Manager: Emmy Kane
Cell: ( ) -
Email: ekane@kane-environmental.com
Fax: ( ) -

Project Name/Number: 44304
Project Location: Shelton, WA

- ☐ PCM Air (NIOSH 7400)
- ☐ TEM (NIOSH 7402)
- ☐ TEM (AHERA)
- ☐ TEM (EPA Level II Modified)
- ☒ PLM (EPA 600/R-93-116)
- ☐ EPA 400 Points (600/R-93-116)
- ☐ EPA 1000Points (600/R-93-116)
- ☐ PLM Gravimetry (600/R-93-116)
- ☐ Asbestos in Vermiculite (EPA 600/R-04/004)
- ☐ Asbestos in Sediment (EPA 1900 Points)
- ☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ☐ Other

Reporting Instructions
- ☐ Call ( ) -
- ☐ Fax ( ) -
- ☐ Email

Total Number of Samples ____

	Sample ID	Description	A/R
16	CB-03	↓	
17	C-01	ceiling	
18	C-02	↓	
19	C-03		
20	WB-01	wallboard	
21	WB-02	↓	
22	WB-03		
23	WB-04	↓	
24	F-01	flooring and mastic	
25	F-02	↓	
26	F-03		
27	F-04		
28	F-05		
29	F-06		
30	F-07	↓	

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/20/20	0900-1600
Relinquish by	Emmy Kane		Kane Environmental	4/21/20	

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by					
Analyzed by					
Called by					
Faxed/Email by					

4708 Aurora Ave N, Seattle, WA 98103 | p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

2007322

NVL
INDUSTRIAL HYGIENE SERVICES
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ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 2 Days
- ☐ 3 Days
- ☒ 4 Days
- ☐ 5 Days
- ☐ 10 Days

Please call for TAT less than 24 Hours

Company: Kane Environmental
Address: 4015 13th Ave W, Seattle, WA 98119
Phone: (206) 691-0476

Project Manager: Emmy Kane
Cell: ( ) -
Email: ekane@kane-environmental.com
Fax: ( ) -

Project Name/Number: 44304
Project Location: Shelton, WA

- ☐ PCM Air (NIOSH 7400)
- ☐ TEM (NIOSH 7402)
- ☐ TEM (AHERA)
- ☐ TEM (EPA Level II Modified)
- ☒ PLM (EPA 600/R-93-116)
- ☐ EPA 400 Points (600/R-93-116)
- ☐ EPA 1000Points (600/R-93-116)
- ☐ PLM Gravimetry (600/R-93-116)
- ☐ Asbestos in Vermiculite (EPA 600/R-04/004)
- ☐ Asbestos in Sediment (EPA 1900 Points)
- ☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ☐ Other

Reporting Instructions
☐ Call ( ) - ☐ Fax ( ) - ☐ Email

Total Number of Samples ____

	Sample ID	Description	A/R
31	F-08	↓	
32	F-09		
33	F-10		
34	S-04	sealant	
35	S-05		
36	S-06	↓	

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/20/20	0900-1600
Relinquish by	Emmy Kane		Kane Environmental	4/21/20	

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Kelly Arlen		NVL	4/21/2020	1245 PDT
Analyzed by					
Called by					
Faxed/Email by					

4708 Aurora Ave N, Seattle, WA 98103 | p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

April 27, 2020

NVL
INDUSTRIAL HYGIENE SERVICES
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Emmy Kane
Kane Environmental
4015 13th Ave W
Seattle, WA 98119

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 2007324.00

Client Project: Hatchery 44304
Location: Shelton, WA

Dear Ms. Kane,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 4/21/2020.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Nick Ly, Technical Director

ANNIVERSARY 25 1995 - 2020

NVLAP Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007324.00
Client Project #: Hatchery 44304
Date Received: 4/21/2020
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 20055252 **Client Sample #: WB-05**
Location: Shelton, WA

Layer 1 of 2 **Description:** White bumpy compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Calcareous particles, Paint	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Gypsum/Binder, Fine grains	Cellulose 25%	**None Detected ND**
	Glass fibers 6%	

Lab ID: 20055253 **Client Sample #: WB-06**
Location: Shelton, WA

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Calcareous particles, Paint	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Gypsum/Binder, Fine grains, Wood flakes	Cellulose 25%	**None Detected ND**
	Glass fibers 5%	

Lab ID: 20055254 **Client Sample #: PW-01**
Location: Shelton, WA

Layer 1 of 2 **Description:** White thin rubbery material with foil

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Metal foil, Fine particles	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007324.00
Client Project #: Hatchery 44304
Date Received: 4/21/2020
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2 **Description:** Yellow fibrous material with yellow adhesive

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Adhesive/Binder, Fine particles, Glass debris	Glass fibers 95%	**None Detected ND**

Lab ID: 20055255 **Client Sample #: PW-02**

Location: Shelton, WA

Layer 1 of 2 **Description:** White fibrous material with paper and foil

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Metal foil, Fine particles	Cellulose 55%	**None Detected ND**
	Glass fibers 9%	

Layer 2 of 2 **Description:** Yellow fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Glass debris	Glass fibers 98%	**None Detected ND**

Lab ID: 20055256 **Client Sample #: PW-03**

Location: Shelton, WA

Layer 1 of 2 **Description:** White fibrous material with pink adhesive, paper, and foil

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Adhesive/Binder, Metal foil, Fine particles	Cellulose 57%	**None Detected ND**
	Glass fibers 9%	

Layer 2 of 2 **Description:** Yellow fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Glass debris	Glass fibers 98%	**None Detected ND**

Lab ID: 20055257 **Client Sample #: S-07**

Location: Shelton, WA

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007324.00
Client Project #: Hatchery 44304
Date Received: 4/21/2020
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1 **Description:** Off-white brittle material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine grains, Paint	Cellulose <1%	**Chrysotile 3%**
Fine particles, Organic debris, Rust	Spider silk <1%	

Lab ID: 20055258 **Client Sample #: R-04**
Location: Shelton, WA

Layer 1 of 1 **Description:** Black asphaltic fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Fine particles	Cellulose 88%	**None Detected ND**
	Spider silk 2%	

Lab ID: 20055259 **Client Sample #: R-05**
Location: Shelton, WA

Layer 1 of 2 **Description:** Black asphaltic fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Fine particles	Cellulose 87%	**None Detected ND**
	Spider silk 2%	

Layer 2 of 2 **Description:** Black loose asphaltic material with debris

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Wood flakes, Organic debris	Cellulose 11%	**None Detected ND**
Fine grains, Fine particles	Spider silk 3%	

Lab ID: 20055260 **Client Sample #: CAR-01**
Location: Shelton, WA

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007324.00
Client Project #: Hatchery 44304
Date Received: 4/21/2020
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	**Description:** Gray woven fibrous material with tan crumbly mastic and plastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Fine particles, Plastic	Synthetic fibers	80%	**None Detected ND**

Lab ID: 20055261 **Client Sample #: C-04**
Location: Shelton, WA

Layer 1 of 2	**Description:** White bumpy compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	Cellulose	2%	**None Detected ND**
Layer 2 of 2	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Gypsum/Binder, Fine grains	Cellulose	27%	**None Detected ND**
		Glass fibers	3%	

Lab ID: 20055262 **Client Sample #: I-01**
Location: Shelton, WA

Layer 1 of 2	**Description:** Black asphaltic fibrous felt			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Asphalt/Binder, Fine particles	Cellulose	70%	**None Detected ND**
Layer 2 of 2	**Description:** Brown fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Fine particles	Cellulose	98%	**None Detected ND**

Lab ID: 20055263 **Client Sample #: I-02**
Location: Shelton, WA

Layer 1 of 1	**Description:** Yellow fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Fine particles, Wood flakes	Glass fibers	96%	**None Detected ND**

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007324.00
Client Project #: Hatchery 44304
Date Received: 4/21/2020
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

	Glass debris	Spider silk <1%	

Lab ID: 20055264 **Client Sample #: CT-04**
Location: Shelton, WA

Layer 1 of 1 **Description:** Off-white compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Paint	Cellulose 41%	**None Detected ND**
Glass debris, Perlite, Cork	Glass fibers 30%	
	Spider silk <1%	

Lab ID: 20055265 **Client Sample #: CT-05**
Location: Shelton, WA

Layer 1 of 3 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine grains, Paint	Cellulose 4%	**None Detected ND**

Layer 2 of 3 **Description:** Tan compressed fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles	Cellulose 98%	**None Detected ND**

Layer 3 of 3 **Description:** Brown brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder, Fine grains, Fine particles	Cellulose 2%	**None Detected ND**

Lab ID: 20055266 **Client Sample #: MM-05**
Location: Shelton, WA

Layer 1 of 2 **Description:** Brown spongy material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Cork, Fine particles	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: **Ms. Emmy Kane**
Project Location: Shelton, WA

Batch #: 2007324.00
Client Project #: Hatchery 44304
Date Received: 4/21/2020
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2 **Description:** Black asphaltic mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder, Fine particles	Cellulose <1%	**None Detected ND**

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 04/27/2020
Reviewed by: Nick Ly **Date:** 04/27/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES

NVL

Company Kane Environmental
Address 4015 13th Ave W
Seattle, WA 98119
Project Manager Ms. Emmy Kane
Phone (206) 691-0476
Cell (206) 883-4856

NVL Batch Number 2007324.00
TAT 4 Days **AH** No
Rush TAT
Due Date 4/27/2020 **Time** 12:45 PM
Email ekane@kane-environmental.com
Fax (206) 675-0650

Project Name/Number: Hatchery 44304 **Project Location:** Shelton, WA

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 15 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	20055252	WB-05		A
2	20055253	WB-06		A
3	20055254	PW-01		A
4	20055255	PW-02		A
5	20055256	PW-03		A
6	20055257	S-07		A
7	20055258	R-04		A
8	20055259	R-05		A
9	20055260	CAR-01		A
10	20055261	C-04		A
11	20055262	I-01		A
12	20055263	I-02		A
13	20055264	CT-04		A
14	20055265	CT-05		A
15	20055266	MM-05		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/21/20	1245
Analyzed by	Tiffany Querry		NVL	4/27/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 4/21/2020
Time: 1:28 PM
Entered By: Kelly AuVu

2007324

NVL
INDUSTRIAL HYGIENE SERVICES
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ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 2 Days
- ☐ 3 Days
- ☒ 4 Days
- ☐ 5 Days
- ☐ 10 Days

Please call for TAT less than 24 Hours

Company: Kane Environmental
Address: 4015 13th Ave W, Seattle, WA 98119
Phone: (206) 691-0476

Project Manager: Emmy Kane
Cell: ( ) -
Email: ekane@kane-environmental.com
Fax: ( ) -

Project Name/Number: Hatchery/44304
Project Location: Shelton, WA

- ☐ PCM Air (NIOSH 7400)
- ☒ PLM (EPA 600/R-93-116)
- ☐ PLM Gravimetry (600/R-93-116)
- ☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ☐ TEM (NIOSH 7402)
- ☐ TEM (AHERA)
- ☐ EPA 400 Points (600/R-93-116)
- ☐ Asbestos in Vermiculite (EPA 600/R-04/004)
- ☐ Other
- ☐ TEM (EPA Level II Modified)
- ☐ EPA 1000Points (600/R-93-116)
- ☐ Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions
- ☐ Call ( ) -
- ☐ Fax ( ) -
- ☒ Email see above

Total Number of Samples 15

	Sample ID	Description	A/R
1	WB-05	wallboard	
2	WB-06	↓	
3	PW-01	pipe wrap insulation	
4	PW-02	↓	
5	PW-03		
6	S-07	sealant	
7	R-04	roofing material	
8	R-05	↓	
9	CAR-01	carpet	
10	C-04	ceiling	
11	I-01		
12	I-02		
13	CT-01	ceiling tile	
14	CT-02	↓	
15	MM-05	misc. material	

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/20/20	0900-1600
Relinquish by	Emmy Kane		Kane Environmental	4/21/20	

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	[illegible]		NVL	4/21/2020	1245
Analyzed by					
Called by					
Faxed/Email by					

4708 Aurora Ave N, Seattle, WA 98103 | p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

2007324

Kelly Au Vu

From: Emmy Kane <ekane@kane-environmental.com>
Sent: Wednesday, April 22, 2020 10:19 AM
To: Client Services
Cc: Client Services
Subject: Re: Project 44304

Thank you,

Yes please change COC from CT-01 and 02 to 04 and 05.

Best,

Emmy Kane, Environmental Professional & Business Development Manager
Kane Environmental, Inc. | Environmental Issues. Business Solutions.
4015 13th Ave W, Seattle, WA 98119
T 206-691-0476 x 14 C 206-883-4856 Toll Free 1-844-529-KANE
ekane@kane-environmental.com www.kane-environmental.com
Seattle, WA | Tacoma, WA | Phoenix, AZ | Nationwide Services

From: Client Services <ClientServices@nvllabs.com>
Sent: Wednesday, April 22, 2020 10:01:43 AM
To: Emmy Kane <ekane@kane-environmental.com>
Cc: Client Services <ClientServices@nvllabs.com>
Subject: Project 44304

Hello,

Attached are the COCs that were dropped off yesterday.

Thanks & Regards,

Client Services

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ph: 206.547.0100 | fax: 206.634.1936
toll free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North, Seattle, WA 98103

May 1, 2020

NVL
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Emmy Kane
Kane Environmental
4015 13th Ave W
Seattle, WA 98119

RE: Bulk Asbestos Fiber Concentration by Point Count
NVL Batch # 2007650

Client Project: Hatchery 44304
Location: Shelton, WA

Dear Ms. Kane,

At your request, NVL Laboratories conducted analysis of your sample to determine the asbestos concentration using point count procedures.

The sample was analyzed for the presence of asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with U.S. EPA method 600/R -93/116.

Eight slides of thoroughly homogenized material are prepared for any given sample that requires point counting. In order to be counted as a point, the crosshairs of the microscope must center on either a fiber or a particle. The analyst counts at least 50 points per slide preparation. A minimum of 400 non-empty points are counted, then the number of counted asbestos fibers are divided by the total number of points counted to arrive at the percentage of asbestos in the sample.

Please see the conclusion section of the lab reports for point count results.

It has been a pleasure to be of service to you. Please feel free to call if there is anything further we can assist you with.

Sincerely,

Nick Ly, Technical Director

ANNIVERSARY 25 1995 - 2020

NVLAP Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

PLM Point Count
Bulk Asbestos Fibers Analysis

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119
Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007650.00
Client Project #: Hatchery 44304
Date Received: 4/28/2020
Samples Received: 1
Samples Analyzed: 1
Method: EPA/600R-93/116

Lab ID : 20057410 **Client Sample #: S-07 Layer 1**

Sample Description: Off-white brittle material with paint, layer 1 of 1

Introduction: This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM). Asbestos fibers were observed and quantity was determined using calibrated visual area estimation. Asbestos content was originally found to be 3 % in Layer 1 . Corresponding Lab ID 20055257

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	3	47	50
2	2	48	50
3	1	49	50
4	2	48	50
5	2	48	50
6	1	49	50
7	3	47	50
8	1	49	50
Total	15	385	400

Conclusion: This Sample Contains 3.8 % ASBESTOS

Sampled by: Client
Analyzed by: Matt Macfarlane **Date:** 04/30/2020
Reviewed by: Nick Ly **Date:** 05/01/2020

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

ASBESTOS LABORATORY SERVICES

Company	Kane Environmental	**NVL Batch Number**	**2007650.00**
Address	4015 13th Ave W Seattle, WA 98119	**TAT** 3 Days **AH** No **Rush TAT**	
Project Manager	Ms. Emmy Kane	**Due Date** 5/1/2020 **Time** 1:50 PM	
Phone	(206) 691-0476	**Email**	ekane@kane-environmental.com
Cell	(206) 883-4856	**Fax**	(206) 675-0650

Project Name/Number: Hatchery 44304 **Project Location:** Shelton, WA

Subcategory PLM Bulk

Item Code ASB-03 EPA 600/R-93-116 Asbestos by PLM (400 points) <bulk>

Total Number of Samples 1 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	20057410	S-07 Layer 1		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Emailed by Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/28/20	1350
Analyzed by	Matt Macfarlane		NVL	4/30/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions: Sample originally from batch 2007324

Date: 4/28/2020
Time: 2:59 PM
Entered By: Kelly AuVu

Kelly Au Vu

From: Emmy Kane <ekane@kane-environmental.com>
Sent: Tuesday, April 28, 2020 1:48 PM
To: Client Services
Subject: RE: Your completed NVL Final Report document: Hatchery 44304 Shelton, WA

I believe there is only one layer. Three 3 TAT. Thank you!

--

Best,

Emmy Kane, Environmental Professional & Business Development Manager
Kane Environmental, Inc. | Environmental Issues. Business Solutions.
4015 13th Ave W., Seattle, WA 98119
D 206-691-0476 x 14 C 206-883-4856 Toll Free 1-844-529-KANE
ekane@kane-environmental.com www.kane-environmental.com
Seattle, WA | Tacoma, WA | Phoenix, AZ | Nationwide Services

From: Client Services <ClientServices@nvllabs.com>
Sent: Tuesday, April 28, 2020 11:36 AM
To: Emmy Kane <ekane@kane-environmental.com>; Client Services <ClientServices@nvllabs.com>
Subject: RE: Your completed NVL Final Report document: Hatchery 44304 Shelton, WA

Hello,

Please specify which layer and the turn around time you are needing.

Thanks & Regards,

Client Services

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ph: 206.547.0100 | fax: 206.634.1936
toll free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North, Seattle, WA 98103

2007650

From: Emmy Kane <ekane@kane-environmental.com>
Sent: Tuesday, April 28, 2020 11:26 AM
To: Client Services <ClientServices@nvllabs.com>
Subject: RE: Your completed NVL Final Report document: Hatchery 44304 Shelton, WA

Please complete 400 point county analysis on sample S-07 Lab ID: 20055257. Thank you!

--

Best,

Emmy Kane, Environmental Professional & Business Development Manager
Kane Environmental, Inc. | Environmental Issues. Business Solutions.
4015 13th Ave W., Seattle, WA 98119
D 206-691-0476 x 14 C 206-883-4856 Toll Free 1-844-529-KANE
ekane@kane-environmental.com www.kane-environmental.com
Seattle, WA | Tacoma, WA | Phoenix, AZ | Nationwide Services

From: clientservices@nvllabs.com <clientservices@nvllabs.com>
Sent: Monday, April 27, 2020 4:23 PM
To: Emmy Kane <ekane@kane-environmental.com>
Subject: Your completed NVL Final Report document: Hatchery 44304 Shelton, WA

Your requested analysis is complete, please see the attached document:

Client Job Number: Hatchery 44304
NVL Labs Batch ID: 2007324
Company Name: Kane Environmental
Project Location: Shelton, WA
Date: 4/27/2020

Thank you for choosing NVL Labs, we appreciate your business!
Thanks & Regards,

Client Services

ATTACHMENT B
LABORATORY ANALYTICAL RESULTS/CHAINS-OF-CUSTODY – LEAD-BASED PAINT

April 24, 2020

Emmy Kane
Kane Environmental
4015 13th Ave W
Seattle, WA 98119

NVL Batch # 2007320.00

RE: Total Metal Analysis
Method: EPA 7000B Lead by FAA <paint>
Item Code: FAA-02

Client Project: 44304
Location: Shelton, WA

Dear Ms. Kane,

NVL Labs received 15 sample(s) for the said project on 4/21/2020. Preparation of these samples was conducted following protocol outlined in EPA 3051/7000B , unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with EPA 7000B Lead by FAA <paint>. The results are usually expressed in mg/Kg and percentage (%). Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

Shalini Patel, Lab Supervisor

Enc.: Sample results

LAB # 101861

Analysis Report

Total Lead (Pb)

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007320.00
Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 44304
Date Received: 4/21/2020
Samples Received: 15
Samples Analyzed: 14

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
20055185	P-01	0.0638	160	< 160	<0.016
20055186	P-02	0.0588	170	< 170	<0.017
20055187	P-03	0.1073	93	< 93	<0.0093
20055188	P-04	0.0830	120	520	0.052
20055189	P-05				
20055190	P-06	0.2048	49	2000	0.20
20055191	P-07	0.0920	110	70000	7.0
20055192	P-08	0.0238	210	< 210	<0.021
20055193	P-09	0.0493	100	13000	1.3
20055194	P-10	0.0308	160	20000	2.0
20055195	P-11	0.0265	190	890	0.089
20055196	P-12	0.0162	310	550	0.055
20055197	P-13	0.0503	200	2200	0.22
20055198	P-14	0.0800	130	1700	0.17
20055199	P-15	0.1315	76	500	0.050

Comments: Small sample size (<0.05 g) for samples P-08 through P-12. Sample P-05 (insufficient sample to conduct analysis)

Sampled by: Client
Analyzed by: Ruth Schumaker
Reviewed by: Shalini Patel
Date Analyzed: 04/24/2020
Date Issued: 04/24/2020

Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram
Percent = Milligrams per kilogram / 10000
RL = Reporting Limit
'<' = Below the reporting Limit
Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 2020-0424-6
FAA-02

LEAD LABORATORY SERVICES

Company	Kane Environmental	**NVL Batch Number**	**2007320.00**
Address	4015 13th Ave W	**TAT**	4 Days **AH** No
	Seattle, WA 98119	**Rush TAT**	
Project Manager	Ms. Emmy Kane	**Due Date**	4/27/2020 **Time** 12:45 PM
Phone	(206) 691-0476	**Email**	ekane@kane-environmental.com
Cell	(206) 883-4856	**Fax**	(206) 675-0650

Project Name/Number: 44304 **Project Location:** Shelton, WA

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 15 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	20055185	P-01		A
2	20055186	P-02		A
3	20055187	P-03		A
4	20055188	P-04		A
5	20055189	P-05	Sample Not Submitted	A
6	20055190	P-06		A
7	20055191	P-07		A
8	20055192	P-08		A
9	20055193	P-09		A
10	20055194	P-10		A
11	20055195	P-11		A
12	20055196	P-12		A
13	20055197	P-13		A
14	20055198	P-14		A
15	20055199	P-15		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/21/20	1245
Analyzed by	Ruth Schumaker		NVL	4/24/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions: Sample P-05 had insufficient amount of paint to conduct analysis, advised client we would mark sample as "not submitted" -ES

Date: 4/21/2020
Time: 1:10 PM
Entered By: Kelly AuVu

2007320

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METALS CHAIN OF CUSTODY

Turn Around Time
- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
- ☐ 2 Days ☐ 3 Days ☒ 4 Days
- ☐ 5 Days ☐ 6-10 Days
- Please call for TAT less than 24 Hours

Company: Kane Environmental
Address: 4015 13th Ave W, Seattle, WA 98119
Phone: (206) 691-0476

Project Manager: Emmy Kane
Cell: ( ) -
Email: ekane@kane-environmental.com
Fax: ( ) -

Project Name/Number: 44304
Project Location: Shelton, WA

☒ Total Metals	☒ FAA (ppm	☐ Air Filter	☒ Paint Chips (%)	☐ Soil	RCRA 8
☐ TCLP	☐ ICP (PPM	☐ Paint Chips (cm)	☐ Dust Wipes		☐ Barium ☐ Chromium ☐ Silver
	☐ GFAA (ppb)	☐ Drinking Water	☐ Waste Water		☐ Arsenic ☐ Mercury ☒ Lead
	☐ CVAA (ppb)	☐ Other			☐ Selenium ☐ Cadmium

RCRA 11: ☐ Copper ☐ Zinc ☐ Other

Reporting Instructions
☐ Call ( ) - ☐ Fax ( ) - ☒ Email see above

Total Number of Samples 27

	Sample ID	Description	A/R
1	P-01	ext. dark green	
2	P-02	ext. tan	
3	P-03	White	
4	P-04	grey	
5	P-05	ext. red	
6	P-06	ext grey	
7	P-07	ext. blue	
8	P-08	ext white	
9	P-09	White	
10	P-10	cream	
11	P-11	White	
12	P-12	White bumpy	
13	P-13	blue	
14	P-14		
15	P-15	green/teal	

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/20/20	0900-1200
Relinquish by	Emmy Kane		Kane Environmental	4/21/20	

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by			NVL	4/21/2020	1245 DB
Analyzed by					
Called by					
Faxed/Email by					

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April 24, 2020

Emmy Kane
Kane Environmental
4015 13th Ave W
Seattle, WA 98119

NVL Batch # 2007321.00

RE: Total Metal Analysis
Method: EPA 7000B Lead by FAA <paint>
Item Code: FAA-02

Client Project: 44304
Location: Shelton, WA

Dear Ms. Kane,

NVL Labs received 12 sample(s) for the said project on 4/21/2020. Preparation of these samples was conducted following protocol outlined in EPA 3051/7000B , unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with EPA 7000B Lead by FAA <paint>. The results are usually expressed in mg/Kg and percentage (%). Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

Shalini Patel, Lab Supervisor

Enc.: Sample results

LAB # 101861

Analysis Report

Total Lead (Pb)

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007321.00
Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 44304
Date Received: 4/21/2020
Samples Received: 12
Samples Analyzed: 12

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
20055200	P-16	0.0115	430	< 430	< 0.043
20055201	P-17	0.2076	48	1300	0.13
20055202	P-18	0.0748	130	830	0.083
20055203	P-19	0.1720	58	3500	0.35
20055204	P-20	0.1216	82	3400	0.34
20055205	P-21	0.1952	51	2000	0.20
20055206	P-22	0.2030	49	630	0.063
20055207	P-23	0.2035	49	710	0.071
20055208	P-24	0.0794	130	30000	3.0
20055209	P-25	0.0263	190	3100	0.31
20055210	P-26	0.0393	130	360	0.036
20055211	P-27	0.0214	230	< 230	< 0.023

Comments: Small sample size (<0.05 g) for samples P-16, P-25, P-26, and P-27.

Sampled by: Client
Analyzed by: Ruth Schumaker
Reviewed by: Shalini Patel
Date Analyzed: 04/24/2020
Date Issued: 04/24/2020

Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram
Percent = Milligrams per kilogram / 10000
RL = Reporting Limit
'<' = Below the reporting Limit
Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 2020-0424-3
FAA-02

LEAD LABORATORY SERVICES

Company	Kane Environmental	**NVL Batch Number**	**2007321.00**
Address	4015 13th Ave W Seattle, WA 98119	**TAT** 4 Days **AH** No **Rush TAT**	
Project Manager	Ms. Emmy Kane	**Due Date** 4/27/2020 **Time** 12:45 PM	
Phone	(206) 691-0476	**Email**	ekane@kane-environmental.com
Cell	(206) 883-4856	**Fax**	(206) 675-0650

Project Name/Number: 44304 **Project Location:** Shelton, WA

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 12 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	20055200	P-16		A
2	20055201	P-17		A
3	20055202	P-18		A
4	20055203	P-19		A
5	20055204	P-20		A
6	20055205	P-21		A
7	20055206	P-22		A
8	20055207	P-23		A
9	20055208	P-24		A
10	20055209	P-25		A
11	20055210	P-26		A
12	20055211	P-27		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/21/20	1245
Analyzed by	Ruth Schumaker		NVL	4/24/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 4/21/2020
Time: 1:14 PM
Entered By: Kelly AuVu

2007321

NVL
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METALS CHAIN OF CUSTODY

Turn Around Time
- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
- ☐ 2 Days ☐ 3 Days ☒ 4 Days
- ☐ 5 Days ☐ 6-10 Days
- Please call for TAT less than 24 Hours

Company Kane Environmental
Address 4015 13th Ave W
Seattle, WA 98119
Phone (206) 691-0476

Project Manager Emmy Kane
Cell ( ) -
Email ekane@kane-environmental.com
Fax ( ) -

Project Name/Number 44304
Project Location Shelton, WA

☒ Total Metals	☒ FAA (ppm	☐ Air Filter	☒ Paint Chips (%)	☐ Soil	RCRA 8	RCRA 11
☐ TCLP	☐ ICP (PPM	☐ Paint Chips (cm)	☐ Dust Wipes		☐ Barium ☐ Chromium ☐ Silver	☐ Copper
	☐ GFAA (ppb)	☐ Drinking Water	☐ Waste Water		☐ Arsenic ☐ Mercury ☒ Lead	☐ Zinc
	☐ CVAA (ppb)	☐ Other			☐ Selenium ☐ Cadmium	☐ Other

Reporting Instructions
☐ Call ( ) - ☐ Fax ( ) - ☒ Email see above

Total Number of Samples 27

	Sample ID	Description	A/R
1	P-01	ext. dark green	
2	P-02	ext. tan	
3	P-03	white	
4	P-04	grey	
5	P-05	ext. red	
6	P-06	ext. grey	
7	P-07	ext. blue	
8	P-08	ext. white	
9	P-09	white	
10	P-10	cream	
11	P-11	White	
12	P-12	white bumpy	
13	P-13	blue	
14	P-14		
15	P-15	green/teal	

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/20/20	0900-1200
Relinquish by	Emmy Kane		Kane Environmental	4/21/20	

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by			NVL	4/21/2020	1245 PB
Analyzed by					
Called by					
Faxed/Email by					

2007321

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METALS CHAIN OF CUSTODY

Turn Around Time
- ❑ 2 Hour ❑ 4 Hours ❑ 24 Hours
- ❑ 2 Days ❑ 3 Days ☒ 4 Days
- ❑ 5 Days ❑ 6-10 Days
- Please call for TAT less than 24 Hours

Company: Kane Environmental
Address: 4015 13th Ave W, Seattle, WA 98119
Phone: (206) 691-0476

Project Manager: Emmy Kane
Cell: ( ) -
Email: ekane@kane-environmental.com
Fax: ( ) -

Project Name/Number: 44304
Project Location: Shelton, WA

- ❑ Total Metals ❑ TCLP
- ❑ FAA (ppm) ❑ ICP (PPM) ❑ GFAA (ppb) ❑ CVAA (ppb)
- ❑ Air Filter ❑ Paint Chips (cm) ❑ Drinking Water ❑ Other
- ❑ Paint Chips (%) ❑ Dust Wipes ❑ Waste Water ❑ Soil
- RCRA 8: ❑ Barium ❑ Chromium ❑ Silver ❑ Arsenic ❑ Mercury ❑ Lead ❑ Selenium ❑ Cadmium
- RCRA 11: ❑ Copper ❑ Zinc ❑ Other

Reporting Instructions
❑ Call ( ) - ❑ Fax ( ) - ☒ Email see above

Total Number of Samples

	Sample ID	Description	A/R
16	P-16	yellow tan	
17	P-17	ext. blue/grey	
18	P-18	teal	
19	P-19	ext. grey	
20	P-20	charcoal grey	
21	P-21	white	
22	P-22	light grey (floor)	
23	P-23	dark grey (floor)	
24	P-24	silver	
25	P-25	salmon	
26	P-26	bumpy white	
27	P-27		

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/20/20	0900-1200
Relinquish by	Emmy Kane		Kane Environmental	4/21/20	

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Kelly Nelson		NVL	4/21/2020	1545DB
Analyzed by					
Called by					
Faxed/Email by					

4708 Aurora Ave N, Seattle, WA 98103 | p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

April 30, 2020

Emmy Kane
Kane Environmental
4015 13th Ave W
Seattle, WA 98119

NVL Batch # 2007655.00

RE: Total Metal Analysis
Method: EPA 7000B Lead by FAA <paint>
Item Code: FAA-02

Client Project: 44304
Location: Shelton, WA

Dear Ms. Kane,

NVL Labs received 1 sample(s) for the said project on 4/28/2020. Preparation of these samples was conducted following protocol outlined in EPA 3051/7000B , unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with EPA 7000B Lead by FAA <paint>. The results are usually expressed in mg/Kg and percentage (%). Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

Shalini Patel, Lab Supervisor

Enc.: Sample results

LAB # 101861

Analysis Report

Total Lead (Pb)

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: Ms. Emmy Kane
Project Location: Shelton, WA

Batch #: 2007655.00
Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 44304
Date Received: 4/28/2020
Samples Received: 1
Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
20057433	P-05	0.1108	90	580	0.058

Sampled by: Client
Analyzed by: Ruth Schumaker
Reviewed by: Shalini Patel

Date Analyzed: 04/30/2020
Date Issued: 04/30/2020

Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram
Percent = Milligrams per kilogram / 10000
Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit
'<' = Below the reporting Limit

Bench Run No: 2020-0430-3
FAA-02

LEAD LABORATORY SERVICES

Company	Kane Environmental	**NVL Batch Number**	**2007655.00**
Address	4015 13th Ave W Seattle, WA 98119	**TAT** 3 Days **Rush TAT**	**AH** No
Project Manager	Ms. Emmy Kane	**Due Date** 5/1/2020	**Time** 10:10 AM
Phone	(206) 691-0476	**Email**	ekane@kane-environmental.com
Cell	(206) 883-4856	**Fax**	(206) 675-0650

Project Name/Number: 44304 **Project Location:** Shelton, WA

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	20057433	P-05		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/28/20	1010
Analyzed by	Ruth Schumaker		NVL	4/30/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 4/28/2020
Time: 3:54 PM
Entered By: Kelly AuVu

2007655

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY • MANAGEMENT • TRAINING

METALS CHAIN OF CUSTODY

Turn Around Time
- ☐ 2 Hour
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 2 Days
- ☒ 3 Days
- ☐ 4 Days
- ☐ 5 Days
- ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company: Kane Environmental
Address: 4015 13th Ave W, Seattle, WA 98119
Phone: (206) 691-0476
Project Manager: Emmy Kane
Cell: ( ) -
Email: ekane@kane-environmental.com
Fax: ( ) -

Project Name/Number	Project Location

- ☒ Total Metals
- ☐ TCLP
- ☒ GFAA (ppm)
- ☐ ICP (PPM)
- ☐ GFAA (ppb)
- ☐ CVAA (ppb)
- ☐ Air Filter
- ☒ Paint Chips (%)
- ☐ Soil
- ☐ Paint Chips (cm)
- ☐ Dust Wipes
- ☐ Drinking Water
- ☐ Waste Water
- ☐ Other

RCRA 8
- ☐ Barium
- ☐ Chromium
- ☐ Silver
- ☐ Arsenic
- ☐ Mercury
- ☒ Lead
- ☐ Selenium
- ☐ Cadmium

RCRA 11
- ☐ Copper
- ☐ Zinc
- ☐ Other

Reporting Instructions
- ☐ Call ( ) -
- ☐ Fax ( ) -
- ☒ Email see above

Total Number of Samples

	Sample ID	Description	A/R
1	P-05	red	
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/27/20	1200
Relinquish by	Emmy Kane		Kane Environmental	4/28/20	1006

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Kelly Ahr		NVL	4/28/2020	1010
Analyzed by					
Called by					
Faxed/Email by					

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2007655

Kelly Au Vu

From: Emmy Kane <ekane@kane-environmental.com>
Sent: Tuesday, April 28, 2020 1:51 PM
To: Client Services
Subject: RE: Project 44304

The lead sample is for the "Not Submitted" paint sample on 2007320 COC.

For TCLP samples, lead please.

--

Best,

Emmy Kane, Environmental Professional & Business Development Manager
Kane Environmental, Inc. | Environmental Issues. Business Solutions.
4015 13th Ave W., Seattle, WA 98119
D 206-691-0476 x 14 C 206-883-4856 Toll Free 1-844-529-KANE
ekane@kane-environmental.com www.kane-environmental.com
Seattle, WA | Tacoma, WA | Phoenix, AZ | Nationwide Services

From: Client Services <ClientServices@nvllabs.com>
Sent: Tuesday, April 28, 2020 12:06 PM
To: Emmy Kane <ekane@kane-environmental.com>
Subject: Project 44304
Importance: High

Hello,

Please see the attached COCs that were just dropped off.

The Lead COC has no project information listed, and the TCLP COC has no metal marked for what you are wanting them tested for.

Please confirm back with this information at your earliest convenience, as we will be placing both batches on hold.
Thanks & Regards,

Client Services

2007655

NVL
INDUSTRIAL HYGIENE SERVICES
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METALS CHAIN OF CUSTODY

Turn Around Time
- ☐ 2 Hour
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 2 Days
- ☐ 3 Days
- ☒ 4 Days
- ☐ 5 Days
- ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company Kane Environmental
Address 4015 13th Ave W
Seattle, WA 98119
Phone (206) 691-0476

Project Manager Emmy Kane
Cell ( ) -
Email ekane@kane-environmental.com
Fax ( ) -

Project Name/Number 44304
Project Location Shelton, WA

- ☒ Total Metals
- ☐ TCLP
- ☒ FAA (ppm
- ☐ ICP (PPM
- ☐ GFAA (ppb)
- ☐ CVAA (ppb)
- ☐ Air Filter
- ☒ Paint Chips (%)
- ☐ Soil
- ☐ Paint Chips (cm)
- ☐ Dust Wipes
- ☐ Drinking Water
- ☐ Waste Water
- ☐ Other

RCRA 8
- ☐ Barium
- ☐ Chromium
- ☐ Silver
- ☐ Arsenic
- ☐ Mercury
- ☒ Lead
- ☐ Selenium
- ☐ Cadmium

RCRA 11
- ☐ Copper
- ☐ Zinc
- ☐ Other

Reporting Instructions
☐ Call ( ) - ☐ Fax ( ) - ☒ Email see above

Total Number of Samples 27

	Sample ID	Description	A/R
1	P-01	ext. dark green	
2	P-02	ext. tan	
3	P-03	white	
4	P-04	grey	
5	P-05	ext. red	
6	P-06	ext grey	
7	P-07	ext. blue	
8	P-08	ext white	
9	P-09	white	
10	P-10	cream	
11	P-11	White	
12	P-12	White bumpy	
13	P-13	blue	
14	P-14		
15	P-15	green/teal	

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/20/20	0900-1200
Relinquish by	Emmy Kane		Kane Environmental	4/21/20	

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by			NVL	4/21/20	1245 DP3
Analyzed by					
Called by					
Faxed/Email by					

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April 30, 2020

Emmy Kane
Kane Environmental
4015 13th Ave W
Seattle, WA 98119

NVL Batch # 2007656.00

RE: Total Metal Analysis
Method: EPA 1311/7000B Lead by FAA <TCLP>
Item Code: TCLP-1

Client Project: 44304
Location: Shelton, WA

Dear Ms. Kane,

NVL Labs received 2 sample(s) for the said project on 4/28/2020. Preparation of these samples was conducted following protocol outlined in EPA 1311/7000B, unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with EPA 1311/7000B Lead by FAA <TCLP>. The results are usually expressed in mg/L and ppm. Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

Shalini Patel, Lab Supervisor

Enc.: Sample results

LAB # 101861

Analysis Report

Toxicity Characteristic Leaching Procedure - Lead (Pb)

Client: Kane Environmental
Address: 4015 13th Ave W
Seattle, WA 98119

Attention: **Ms. Emmy Kane**
Project Location: Shelton, WA

Batch #: 2007656.00
Matrix: Bulk
Method: EPA 1311/7000B
Client Project #: 44304
Date Received: 4/28/2020
Samples Received: 2
Samples Analyzed: 2

Lab ID	Client Sample #	RL mg/ L	Results in mg/L	Results in ppm
20057434	TCLP-01	0.5	< 0.5	< 0.5
20057435	TCLP-02	0.5	< 0.5	< 0.5

Sampled by: Client
Analyzed by: Ruth Schumaker
Reviewed by: Shalini Patel

Date Analyzed: 04/30/2020
Date Issued: 04/30/2020

Shalini Patel, Lab Supervisor

mg/ L =Milligrams per liter
ppm = parts per million

RL = Reporting Limit
'<' = Below the reporting Limit

Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 2020-0429-7

LEAD LABORATORY SERVICES

Company	Kane Environmental	**NVL Batch Number**	**2007656.00**
Address	4015 13th Ave W Seattle, WA 98119	**TAT** 3 Days **Rush TAT**	**AH** No
Project Manager	Ms. Emmy Kane	**Due Date** 5/1/2020	**Time** 10:10 AM
Phone	(206) 691-0476	**Email**	ekane@kane-environmental.com
Cell	(206) 883-4856	**Fax**	(206) 675-0650

Project Name/Number: 44304 **Project Location:** Shelton, WA

Subcategory Flame AA (FAA)

Item Code TCLP-1 EPA 1311/7000B Lead by FAA <TCLP>

Total Number of Samples 2 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	20057434	TCLP-01		A
2	20057435	TCLP-02		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	4/28/20	1010
Analyzed by	Ruth Schumaker		NVL	4/30/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 4/28/2020
Time: 3:58 PM
Entered By: Kelly AuVu

2007656

NVL
INDUSTRIAL HYGIENE SERVICES
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METALS CHAIN OF CUSTODY

Turn Around Tim
- ☐ 2 Hour
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 2 Days
- ☒ 3 Days
- ☐ 4 Days
- ☐ 5 Days
- ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company Kane Environmental
Address 4015 13th Ave W
Seattle, WA 98119
Phone (206) 691-0476

Project Manager Emmy Kane
Cell ( ) -
Email ekane@kane-environmental.com
Fax ( ) -

Project Name/Number 44304
Project Location Shelton, WA

- ☐ Total Metals
- ☒ TCLP
- ☐ FAA (ppm
- ☐ ICP (PPM
- ☐ GFAA (ppb)
- ☐ CVAA (ppb)
- ☐ Air Filter
- ☐ Paint Chips (cm)
- ☐ Drinking Water
- ☐ Other
- ☐ Paint Chips (%)
- ☐ Dust Wipes
- ☐ Waste Water
- ☐ Soil

RCRA 8
- ☐ Barium
- ☐ Chromium
- ☐ Silver
- ☐ Arsenic
- ☐ Mercury
- ☐ Lead
- ☐ Selenium
- ☐ Cadmium

RCRA 11
- ☐ Copper
- ☐ Zinc
- ☐ Other

Reporting Instructions
☐ Call ( ) - ☐ Fax ( ) - ☒ Email see above

Total Number of Samples

	Sample ID	Description	A/R
1	TCLP-01	ext. restroom and office building	
2	TCLP-02	hatchery building	
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Emmy Kane		Kane Environmental	4/27/20	1200
Relinquish by	Emmy Kane		Kane Environmental	4/28/20	1006

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Kelly		NVL	4/28/20	1010
Analyzed by					
Called by					
Faxed/Email by					

2007656

Kelly Au Vu

From: Emmy Kane <ekane@kane-environmental.com>
Sent: Tuesday, April 28, 2020 1:51 PM
To: Client Services
Subject: RE: Project 44304

The lead sample is for the "Not Submitted" paint sample on 2007320 COC.

For TCLP samples, lead please.

--

Best,

Emmy Kane, Environmental Professional & Business Development Manager
Kane Environmental, Inc. | Environmental Issues. Business Solutions.
4015 13th Ave W., Seattle, WA 98119
D 206-691-0476 x 14 C 206-883-4856 Toll Free 1-844-529-KANE
ekane@kane-environmental.com www.kane-environmental.com
Seattle, WA | Tacoma, WA | Phoenix, AZ | Nationwide Services

From: Client Services <ClientServices@nvllabs.com>
Sent: Tuesday, April 28, 2020 12:06 PM
To: Emmy Kane <ekane@kane-environmental.com>
Subject: Project 44304
Importance: High

Hello,

Please see the attached COCs that were just dropped off.

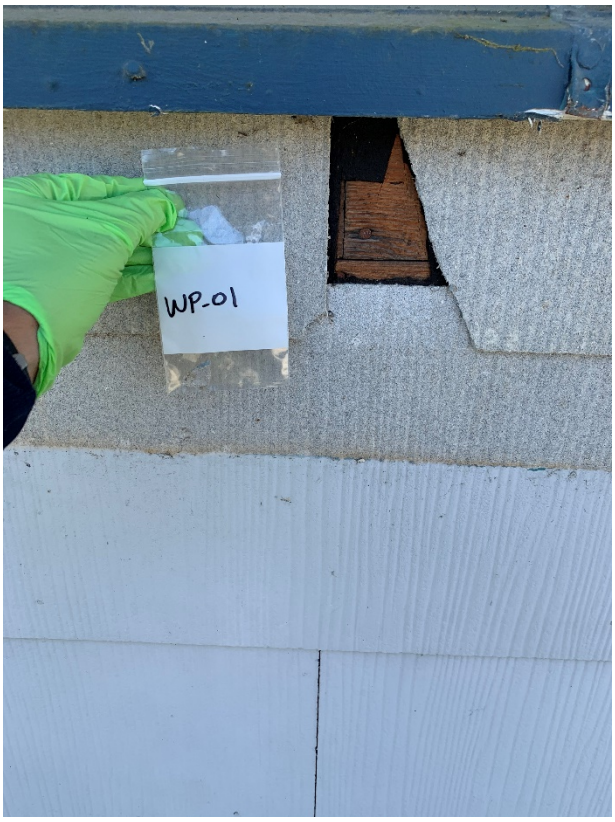
The Lead COC has no project information listed, and the TCLP COC has no metal marked for what you are wanting them tested for.

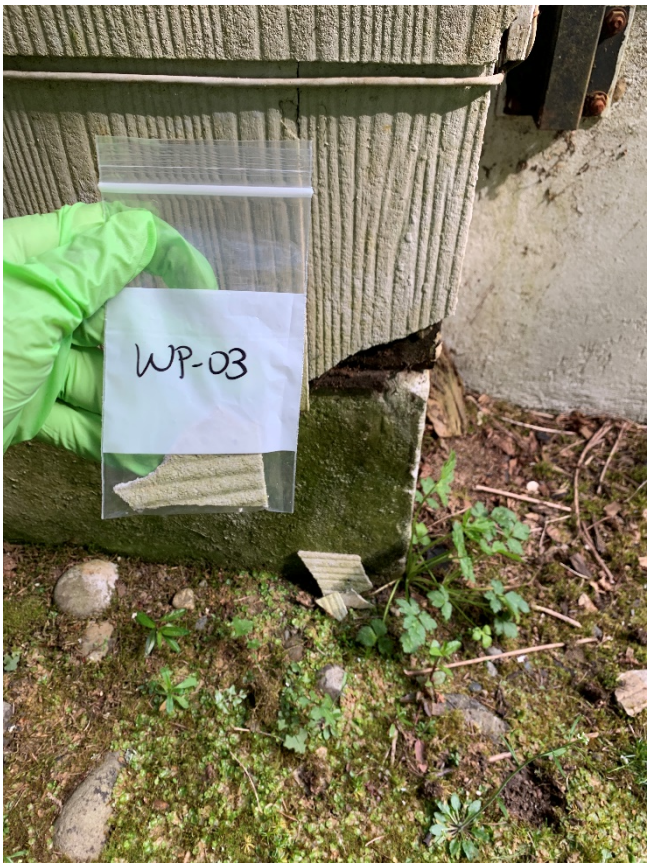
Please confirm back with this information at your earliest convenience, as we will be placing both batches on hold.
Thanks & Regards,

Client Services

ATTACHMENT C POSITIVE SAMPLE PHOTOGRAPHS

Exterior Wall Paneling

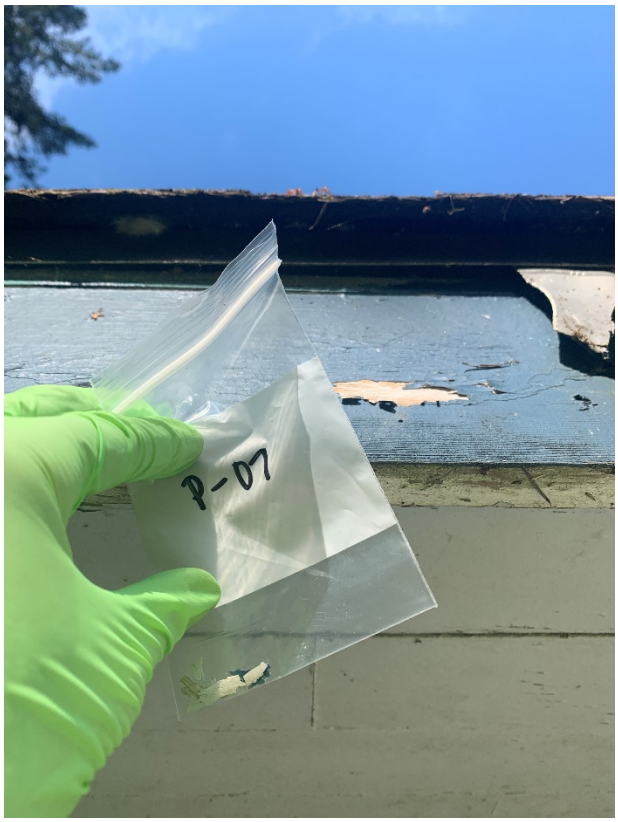



WP-03

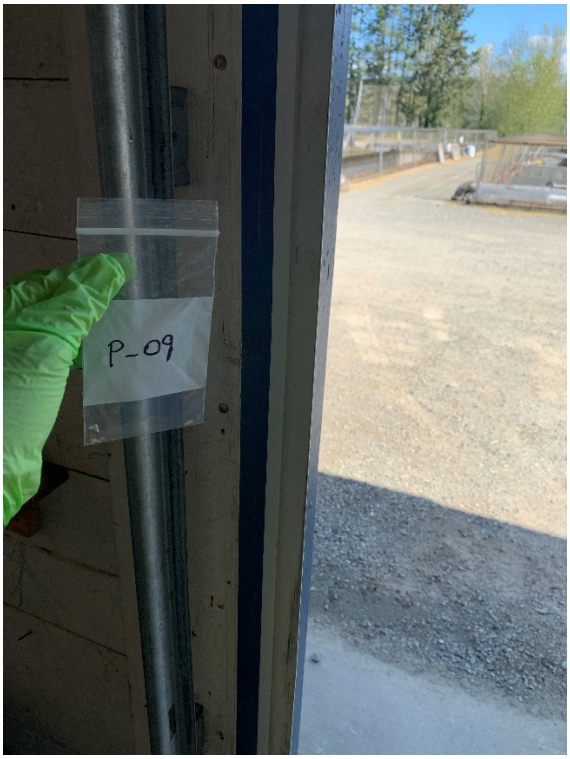
Mastic underneath Kitchen floor tile

Interior Window Sealant: Hatchery Building

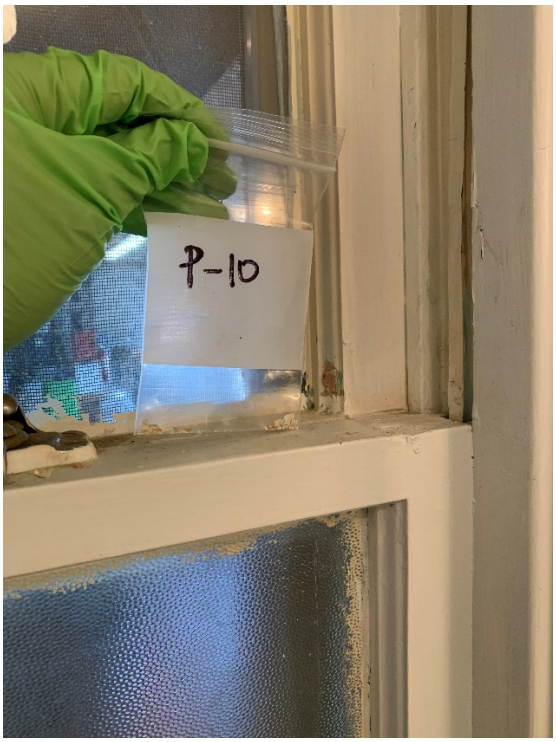
Exterior Blue Paint: Office Building



Interior White Paint: Office Building Warehouse



Interior Cream Paint: Office Building



Interior Silver Paint: Hatchery Building

ATTACHMENT D
FIELD NOTES

KANE ENVIRONMENTAL INC

HMS Data Collection Form

Date: 4/20/20

Inspector:	**Description**	**Quantity**
EK and ME	**Material Type:** Sealant	3
	Color: See below	**Condition**
	Pattern:	Poor-Good
	Material Extent:	
Sample #	**Sample Location:** Exterior Restroom	
S-01	White, sink, 18” S, 61” E of NW corner, 31” AG	
S-02	Yellow/brown, toilet, 19” S, 47” W of NE corner	
S-03 (Ext)	White, window, 57” E of SW corner, 56” AG	

Inspector:	**Description**	**Quantity**
EK and ME	**Material Type:** Roofing	1
	Color: Black paper	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Exterior Restroom	
R-06 (Ext)	Black paper-like material, on W wall, 45” N of S wall, 85” AG	

Inspector:	**Description**	**Quantity**
EK and ME	**Material Type:** Wall Paneling (Exterior)	3
	Color: Beige and white	**Condition**
	Pattern:	Poor-Good
	Material Extent:	
Sample #	**Sample Location:** Office Building	
WP-01	4.5’ AG, 11’ W from NE corner	
WP-02	1’ AG, 7’ S from NW corner	
WP-03	2’ AG, SE corner	

Inspector:	**Description**	**Quantity**
EK and ME	**Material Type:** Miscellaneous Materials	4
	Color: See below	**Condition**
	Pattern:	Poor-Good
	Material Extent:	
Sample #	**Sample Location:** Office Building	
MM-01 (Ext)	Black padding/insulation between wall panels and wood board, 4’ 9” AG, 11’ W of NE corner	
MM-02 (Ext)	Black padding/insulation between wall panels and wood board, 32” AG, NW corner	
MM-03 (Ext)	Black padding/insulation between wall panels and wood board, 3’ AG, 2” N of SW corner	
MM-04	Tan/yellow gravel/sandy insulation material around metal, 64” AG, 9” E of W wall, on N wall	

KANE ENVIRONMENTAL INC

HMS Data Collection Form

Date: 4/20/20

Inspector:	Description	Quantity
EK and ME	**Material Type:** Sealant	3
	Color: See below	**Condition**
	Pattern:	Poor-Good
	Material Extent:	
Sample #	**Sample Location:** Office Building	
S-04 (Ext)	White and blue, 57" AG, 66" W of SE corner	
S-05	White/yellow, Bathtub in bathroom, 1.5' AG, 2.5' E of SW corner	
S-06 (Ext)	Clear, near SE corner on pipe, 41" W, 27" AG	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Flooring	10
	Color: See below	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Office Building	
F-01	White vinyl floor tile with black specks and black square pattern, near NE corner, 6" S of N wall, 5" W of E wall, bathroom	
F-02	White vinyl floor tile with black specks and black square pattern, near NE corner, 32" S of N wall, 1" W of E wall, bathroom	
F-03	White vinyl floor tile with grey, beige, and tan spots, 6" N of S wall, 35" W of E wall, bedroom #2	
F-04	White vinyl floor tile with grey, beige, and tan spots, 1" N of S wall, 52" E of W wall, bedroom #2	
F-05	White vinyl floor tile with beige and tan dots, near SW corner, 9" N of S wall, 44" E of W wall, kitchen	
F-06	White vinyl floor tile with beige and tan dots NW corner, 1.5' E of W wall, 1" S of N wall, kitchen	
F-07	White vinyl floor tile with beige and tan dots, near SE corner, against S wall, 4' W of E wall, kitchen	
F-08	Light tan vinyl floor tile with beige and brown spots, near NE corner, 4' W of E wall, against N wall, utility room	
F-09	Light tan vinyl floor tile with beige and brown spots, near SE corner, 2' N of SE corner, utility room	
F-10	Light tan vinyl floor tile with beige and brown spots, 7' W of SE corner along S wall, bedroom #1	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Wallboard	4
	Color: White	**Condition**
	Pattern: Crumbly	Good
	Material Extent:	
Sample #	**Sample Location:** Office Building	
WB-01	3.5' W, 1" N, .5' AG from SE corner, bedroom #2	
WB-02	7' W, 5' N, 2.5' AG from NW corner, utility room	
WB-03	3' W, 1.5' AG of SW corner, kitchen	
WB-04	SW corner, 1' AG, kitchen	

KANE ENVIRONMENTAL INC

HMS Data Collection Form

Date: 4/20/20

Inspector:	Description	Quantity
EK and ME	**Material Type:** Ceiling	3
	Color: White	**Condition**
	Pattern: Crumbly	Good
	Material Extent:	
Sample #	**Sample Location:** Office Building	
C-01	2’ E, 3’ S, 8’ AG from NW corner, kitchen	
C-02	.5’ E, 5’ N, 8’ AG from SW corner, utility room	
C-03	1” W, 1” S, 8’ AG from NE corner, bedroom #1	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Vinyl cove base and mastic	3
	Color:	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Office Building	
CB-01	Tan 4” vinyl cove base and cream mastic, 0-4” AG, NW corner, bedroom #1	
CB-02	Black 6” vinyl cove base and beige mastic, 0-4” AG, NE corner, bathroom	
CB-03	Tan 4” vinyl cove base with white paint, 0-4” AG, 5’ E of NW corner, on N wall W of entry, kitchen	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Countertop and mastic	3
	Color: White and tan	**Condition**
	Pattern:	Good
	Material Extent: Kitchen countertop	
Sample #	**Sample Location:** Office Building, Kitchen	
CNT-01	2’ W, 4’ AG of SE kitchen corner	
CNT-02	5” W, 3’ S, NW corner of sink	
CNT-03	2’ W, 4” S	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Roofing	3
	Color: Brown shingles with black tar	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Office Building	
R-01 (Ext)	N side of roof above N entrance to offices, 10’ W of NE roof corner	
R-02 (Ext)	N side of roof above N entrance to offices, 3’ W of NE roof corner	
R-03 (Ext)	S side of building, 5’ W of SE corner	

KANE ENVIRONMENTAL INC

HMS Data Collection Form

Date: 4/20/20

Inspector:	Description	Quantity
EK and ME	**Material Type:** Ceiling Tiles	2
	Color: White	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Hatchery	
CT-04	2'x4' porous, 99" AG, against E wall, 100" S of N wall	
CT-05	1'x1' porous, 9' 9" AG, near SE corner, 52" N of S wall, 6" W of E wall, white with brown paper and black mastic	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Miscellaneous Material	1
	Color: Black tar-like material with thick brown and crumbly unknown material	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Hatchery	
MM-05	27" AG, E door frame to back room S of office	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Carpet and mastic	1
	Color: Grey with white	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Hatchery breakroom	
CAR-01	1" W of E wall, 104" S of N wall, near SE corner	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Ceiling	1
	Color: White	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Hatchery	
C-04	½" thick, 17' S, 2' E of W side of N door, 118" AG	

KANE ENVIRONMENTAL INC

HMS Data Collection Form

Date: 4/20/20

Inspector:	Description	Quantity
EK and ME	**Material Type:** Insulation	2
	Color:	**Condition**
	Pattern:	Poor
	Material Extent:	
Sample #	**Sample Location:** Hatchery Attic	
I-01	Brown with paper, 3’ AG, 7’ E of W wall	
I-02	Yellow, on S wall, 1’ S of S wall, center of room	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Wallboard	2
	Color: White	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Hatchery	
WB-05	3.5’ E of NE corner along N wall, equipment room E adjoining to W hatchery	
WB-06	2’ AG, 6” E of S exit door, E portion of door frame, S-central wall	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Sealant	1
	Color: Silver and brown	**Condition**
	Pattern:	Good
	Material Extent: Interior Windows	
Sample #	**Sample Location:** Hatchery	
S-07	66” AG, on S wall, 28” W of E wall	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Pipe wrap (TSI)	3
	Color: White paper with yellow	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Hatchery, backroom	
PW-01	107” AG, 16” S, 64” E of NW corner	
PW-02	107” AG, 69” S, 64” E of NW corner	
PW-03	107” AG, 50” N, 64” E of SW corner	

KANE ENVIRONMENTAL INC

HMS Data Collection Form

Date: 4/20/20

Inspector:	Description	Quantity
EK and ME	**Material Type:** Roofing	2
	Color: Black paper	**Condition**
	Pattern:	Good
	Material Extent:	
Sample #	**Sample Location:** Hatchery	
R-04 (Ext)	127" AG, 5' S, 25' E of SW corner	
R-05 (Ext)	127" AG, 5' S, 25' E of SW corner	

Inspector:	Description	Quantity
EK and ME	**Material Type:** Paint	27
	Color: See below	**Condition**
	Pattern: See below	Poor - Good
Sample #	**Sample Location:** Exterior Restroom, Office Building and Hatchery	
P-01 (Ext)	Dark green, Exterior Restroom, SE corner, 6" AG	
P-02 (Ext)	Tan, Exterior Restroom, 6" W of NE corner, 8" AG	
P-03	White, Exterior Restroom, NW corner, 7" AG	
P-04	Grey, Exterior Restroom, SE corner	
P-05 (Ext)	Red, Office Building, 35" E of E doorway on top stair	
P-06 (Ext)	Grey, Office Building, 16" AG, 5' N of SE corner	
P-07 (Ext)	Blue, Office Building, roof lining, 88", 21" N of SE corner	
P-08 (Ext)	White, Office Building, 36" E of E doorway on top stair	
P-09	White, Office Building, 1' S, 20" E, 4' AG, warehouse	
P-10	Cream, Office Building, 3' N, 5.5' AG from SW corner, bathroom	
P-11	White smooth, Office Building, 50" S of NE corner, 33" AG, living room	
P-12	White bumpy, Office Building, 54" S of N wall entryway, 45" AG	
P-13	Blue, Office Building, 3' AG on N entryway door adjacent to handle	
P-14	Green, blue and orange, Office Building, 6" AG, 1' W, on N wall, from NE corner, bathroom	
P-15	Green/teal, Office Building, 2' W, 4' S, 3" AG, below sink, kitchen	
P-16	Yellow/tan, Office Building, 70" AG, 10" S of N wall along N wall, 20" E of W wall, kitchen	
P-17 (Ext)	Blue/grey, Hatchery, 4' AG, S side of door frame along E entrance	
P-18	Teal, Hatchery, in E fish hatchery aisles, 33" AG, 39" W of E wall	
P-19 (Ext)	Grey, Hatchery, 58" AG, 43' 3" E of NW corner, windowsills	
P-20	Charcoal grey, Hatchery, 1" AG, 98" S of N wall, SW doorway in East hatchery wing	
P-21	White, Hatchery, 17' N, 3' E, 1' AG of S exit doors along door frame to central room	
P-22	Light grey, Hatchery, floor paint, 15' N, 4' E of S exit doors	
P-23	Dark grey, Hatchery, floor paint, 10' N, 4' E of S exit doors	
P-24	Silver, Hatchery, 8' N, 10' E, 4.5' AG of S exit doors, N of door frame to E hatchery wing	
P-25	Salmon, Hatchery, 8' N, 10' E, 4.8' AG of S exit doors, N of door frame to E hatchery wing	
P-26	White, bumpy, Hatchery, NW corner, 3' E of W wall, 1' AG breakroom	
P-27	Grey/beige, Hatchery, 4.5' AG, 3' W of E side of door frame along S exit doors	

SECTION 02000
GENERAL SITE WORK PROVISIONS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

This section specifies general requirements for all sections of *DIVISION 2 - SITE WORK*.

1.02 RELATED WORK

Provisions of the *GENERAL CONDITIONS*, *SUPPLEMENTAL CONDITIONS*, and *DIVISION 1* of the Contract are by this reference a part of this division and shall govern work under this division where applicable.

1.03 REFERENCES

References listed in *DIVISION 2* are from the following organizations' publications and reference standards:

A.	*AASHTO*	*American Association of State Highway and Transportation Officials*
B.	*ANSI*	*American National Standards Institute*
C.	*ASTM*	*American Society of Testing and Materials*
D.	*OSHA*	*Occupational Safety and Health Administration Construction Standards*
E.	*RCW*	*Revised Code of Washington*
F.	*IBC*	*International Building Code*
G.	*WAC*	*Washington Administrative Code*
H.	*WSDOT*	*Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction latest edition*

1.04 SUBMITTALS

Submit shop drawings for all items in all sections of *DIVISION 2* in accordance with the *GENERAL CONDITIONS*.

A. Product Data: Submit 1 copy of manufacturer's data for all items in *DIVISION 2*, indicating shapes, sizes, grade, and physical and structural properties.

B. Shop Drawings: Submit 1 copy of shop drawings including complete plan and profiles, size, details, and schedules for fabrication and assembly. Include material identification, details of cuts, connections, fastener types and material, fastener locations, and other pertinent data.

C. Include erection drawings, elevations, and details. The Contractor shall verify field dimensions for all prefabricated items and provide drawings for the Engineer's review and acceptance prior to installation.

1.05 SHIPPING, STORAGE, AND HANDLING

A. Protect all materials from exposure to moisture, wind, sunlight, or other excessive weather conditions that will render them unsuitable for usage as intended and be cause for rejection. Contractor shall be responsible for all costs associated with replacement of all rejected items.

B. Stockpile or store in areas protected from contamination and physical damage.

C. Storage and handling of all items to be incorporated into the project shall be such that items are not damaged. Damaged items shall be subject to rejection, and costs associated with replacement shall be the Contractor's responsibility.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION 02000

SECTION 02010
SUBSURFACE INVESTIGATION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

This section summarizes available soil investigations and, at Contractor's option, additional subsurface investigation.

1.02 PREVIOUS SOILS INVESTIGATIONS

A. A geotechnical engineering report for the design of this project was prepared by GeoEngineers, Inc., dated June 20, 2018.

B. Bidders shall satisfy themselves as to actual field conditions and shall assume full responsibility for any use or interpretations of the information and recommendations contained in the report. The Engineer does not guarantee the correctness of the designations of any materials shown in the report and other documents, nor any interpretations, deductions, or conclusions in any documents relative to subsurface conditions.

C. A copy of the report discussed in *PARAGRAPH A* is included in these Specifications as ATTACHMENT 2.

1.03 ADDITIONAL SOILS INVESTIGATION

A. The Contractor may conduct his/her own independent subsurface investigation at the Contractor's expense following the award of the Contract. Prior to any onsite soil investigation work, the Contractor shall provide the Engineer with the following:

1. Proposed test locations.

2. Work schedule.

3. Proposed backfill placement techniques and levels of compaction equipment to be used.

B. No onsite work shall be performed prior to receiving written approval from the Engineer.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION 02010

DIVISION 02060
STRUCTURE DEMOLITION

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

This Section includes the following:

A. Demolition and removal of buildings and site improvements.

B. Removing below-grade construction.

C. Disconnecting, capping or sealing, and site utilities.

1.02 REFERENCES

A. EPA

B. ANSI A10.6

C. NFPA 241

1.03 DEFINITIONS

A. Demolish: Completely remove and legally dispose of off-site.

B. Recycle: Recovery of demolition waste for subsequent processing in preparation for reuse.

1.04 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1.05 SUBMITTALS

A. Qualification Data: For asbestos abatement technician. See requirements in *DIVISION 2 - SECTION 02080 REMOVAL OF ASBESTOS-CONTAINING MATERIALS*.

B Proposed Protection Measures: Submit informational report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and for noise control. Indicate proposed locations and construction of barriers. Detail special measures proposed to protect adjacent buildings to remain.

C. Schedule of Buildings Demolition Activities: Indicate the following:

1. Detailed sequence of demolition work with starting and ending dates for each activity.

2. Temporary interruption of utility services.

3. Shutoff and capping of utility services.

D. Building Demolition Plans: Drawings indicating the following:

1. Locations of temporary protection and means of egress for adjacent occupied buildings.

E. Pre-Demolition Photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by building demolition operations. Submit digital photos of area prior to starting demolition work. Submit before the work begins.

F. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes. Submit receipts showing load tickets for all other refuse removal.

1.05 QUALITY ASSURANCE

A. Asbestos Abatement Technician Qualifications: Certified by EPA-approved certification program pursuant to the Asbestos Hazard Emergency Response Act (AHERA).

B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Standards: Comply with ANSI A10.6 and NFPA 241.

D. Pre-Demolition Conference: Conduct conference at Project site to comply with requirements in *Division 1 Section "Project Management and Coordination."*

1.06 PROJECT CONDITIONS

A. Buildings to be demolished will be vacated and their use discontinued before start of the work.

B. Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.

1. Provide no less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.

2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.

3. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.

C. Owner assumes no responsibility for buildings and structures to be demolished.

1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

2. Before building demolition, Owner will remove the following items:

a. All hatchery equipment and furniture that will be reused in the new office building (i.e. tables, chairs, filing cabinets, etc.).

D. Hazardous Materials: Hazardous materials may be present in the buildings and structures to be demolished. A project specific hazardous materials report will be provided with the request for pricing on each work order. The responsibility for removal of identified hazardous materials will be established for each work order.

E. On-site storage or sale of removed items or materials is not permitted.

F. The Contractor represents that it has visited the site to become familiar with the quantity and character of all materials to be demolished. The Contractor agrees that the premises were made available prior to deadline for submission of bids.

1.07 COORDINATION

Arrange demolition schedule after consultation with Owner regarding use of adjacent buildings, and other campus activity.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting demolition operations.

B. Review Project Record Documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.

D. Steel Tendons: Locate tensioned steel tendons and include recommendations for de-tensioning.

E. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.02 PREPARATION

A. Refrigerant: Remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction before starting demolition.

B. Existing Utilities: Locate, identify, disconnect, and seal or cap off indicated utilities serving buildings and structures to be demolished.

1. Owner will shut off all utilities. Contractor must provide Owner a minimum of 72 hours' notice.

2. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.

C. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of demolition.

3.03 PROTECTION

A. Existing Utilities: Maintain utility services to remain and protect from damage during demolition operations.

B. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction, and as indicated.

1. Protect adjacent buildings and facilities from damage due to demolition activities.

2. Protect existing site improvements, appurtenances, and landscaping to remain.

3. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

4. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.

5. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.

C. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

3.04 DEMOLITION, GENERAL

A. General: Demolish indicated existing buildings and site improvements to the extent shown on the Drawings. Use methods required to complete the work within limitations of governing regulations and as follows:

1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.

2. Maintain fire watch during and for at least 8 hour after flame cutting operations.

3. Maintain adequate ventilation when using cutting torches.

4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Engineering Surveys: Maintain ongoing observation during demolition.

C. Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

D. Explosives: Use of explosives is not permitted.

3.05 DEMOLITION BY MECHANICS

A. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.

B. Remove debris from elevated portions of the building by chute, hoist, or other devise that will convey debris to grade level in a controlled descent.

Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.

C. Below-Grade Construction: Demolish foundation walls and other below-grade construction that are within footprint of new construction and extending 5 feet outside footprint indicated for new construction. Abandoned below-grade construction outside this area. Remove below-grade construction, including basements, foundation walls, and footings, completely.

D. Existing Utilities: Demolish existing utilities back to nearest junction outside footprint indicated for new construction.

3.06 SITE RESTORATION

A. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations with satisfactory soil materials according to backfill requirements in *DIVISION 2 - SECTION 02220 EXCAVATING, BACKFILL AND COMPACTION.*

B. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

3.07 REPAIRS

Promptly repair damage to adjacent buildings caused by demolition operations after consulting with Owner's representative.

3.08 DISPOSAL OF DEMOLISHED

A. Remove demolition waste materials from project site and legally dispose of them in an EPA-approved landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Do not burn demolished materials.

3.09 CLEANING

Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

END OF SECTION 02060

SECTION 02080
REMOVAL OF ASBESTOS-CONTAINING MATERIALS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. This section covers all work necessary to remove and dispose of asbestos-containing materials referenced while maintaining specified airborne asbestos fiber control limits during the life of the Contract. The Asbestos Abatement Contractor is to furnish all labor, materials, services, training, insurance, and equipment as needed to complete removal and disposal of asbestos-containing materials indicated in this section. The Asbestos Abatement Contractor shall follow all federal, state, and local ordinances, regulations, or rules pertaining to asbestos including its storage, transportation, and disposal.

B. A copy of the good faith asbestos and lead-based paint survey report is included in *ATTACHMENT 3*. The Asbestos Survey Report should be used as general guidance in determining locations, quantities, and presence of asbestos-containing materials. *ATTACHMENT 3* is not intended for bidding purposes.

C. The Asbestos Abatement Contractor is responsible for verifying all site conditions.

D. The Asbestos Abatement Contractor shall choose the work methods for this project and worker protection methods. These methods shall be reviewed by WDFW project manager or their designated agent representative for compliance with the appropriate parts of this section before the Asbestos Abatement Contractor may begin work.

1.02 CODES AND REGULATIONS

A. All Contract work shall be completed in accordance with the latest edition of standard codes and regulations as published and adopted by the governing authority. If a conflict occurs between government adopted codes or regulations and these Contract Documents, the most stringent standard shall apply. Nothing in these Specifications shall be construed to permit work not conforming to governing codes and regulations. The Asbestos Abatement Contractor is responsible for complying with any requirements of the herein mentioned codes, standards, regulations, and Specifications.

B. The Asbestos Abatement Contractor shall assume full responsibility and liability for compliance with all applicable federal, state, and local regulations pertaining to the protection of the environment, workers, visitors to the site, and persons occupying areas adjacent to the site. The Asbestos Abatement Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable federal, state, and local regulations, and shall hold the Owner harmless for failure to comply with any applicable safety or health regulation on the part of himself, his employees, or his subcontractors.

1.03 APPLICABLE CODES, RULES, AND REGULATIONS

A. *U.S. Environmental Protection Agency (EPA) National Emissions Standards for Hazardous Air Pollutants (NESHAPS) - Code of Federal Regulations (CFR) Title 40, Part 61, Subparts A and M* (required).

B. EPA Guidance Documents:

1. *Asbestos-Containing Materials in School Buildings, Parts 1 & 2, EPA C00090, 3-79, Parts 1 and 2*.

2. *Guidance for Controlling Asbestos-Containing Materials in Buildings, EPA 560/5-85-024*.

3. *Managing Asbestos in Place, EPA 20T-20003*.

C. *EPA Asbestos-Containing Materials in School; Final Rule and Notice - Section 203 of Title II of Toxic Substances Control Act (TSCA), 40 CFR Part 763 (required)*.

D. *U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Regulations*, with special attention to the following (required):

1. *29 CFR 1910 - General Industry Regulations*

2. *29 CFR 1910.134 - Respirator Regulations*

3. *29 CFR 1910.300-399 - Electrical Regulations*

4. *29 CFR 1910.1001 - Asbestos Regulations*

5. *29 CFR 1910.1200 - Hazard Communication Regulations*

6. *29 CFR 1926 - Construction Safety Regulations*

7. *29 CFR 1926.400-449 - Electrical Regulations*

8. *29 CFR 1926.1101 - Asbestos Regulations Effective October 11, 1994*

E. *American National Standards Institute (ANSI) Standards* with special attention to the following (guidance):

1. *ANSI Z9.2 - Fundamentals Governing the Design and Operation of Local Exhaust Systems*

2. *ANSI Z88.2-2015 - American National Standards Practice for Respiratory Protection*

3. *ANSI Z117.1-2009 - Safety Requirements for Confined Spaces*

4. *ANSI Z87.1-2003 - Practice for Occupational and Educational Eye and Face Protection*

5. *ANSI/CGA G7.1-2014 - Commodity Specifications for Air*

6. *ANSI/CGA C-4-1990 - Method of Marking Portable Compressed Gas Containers to Identify the Material Contained*

F. State occupational safety and health regulations, where applicable, with special attention to asbestos, respirator, construction safety, and electrical safety regulations including, but not limited to (required):

1. *WAC 296-842-100 to 22020 - Respirators*

2. *WAC 296-62-077 to 7761 - Asbestos*

3. *WAC 296-817-099 to 50025 - Hearing Loss Prevention*

4. *WAC 296-809-099 to 60004 - Confined Spaces*

5. *WAC 296-65-001 to 0050 - Asbestos Removal and Encapsulation*

6. *WAC 296-155-426 to 462 - Electrical*

7. *WAC 296-155-475 - Ladders Scaffolds and Elevating Work Platforms Fall Protection*

8. *WRD 80-16 - Directive - Respirable Air Supplied by Oil Lubricated Compressors*

9. *WRD 87-2 - Directive - Special Respirable Protection Requirements for Negative Pressure Enclosures*

G. Local Air Pollution Control Agency current regulations (required).

H. All other local, federal, and state ordinances, regulations, certifications, or rules pertaining to asbestos hazardous waste including its storage, transportation, and disposal.

1.04 SUBMITTALS AND NOTICES

A. Approval by the Owner prior to site mobilization is required of the following information and materials. Details in the Submittal package shall be site specific. Incomplete Submittal packages will not be approved. All construction delay cost incurred by the Building Owner due to an incomplete Submittal package shall be paid by the Asbestos Abatement Contractor.

1. Qualifications and Experience of the Asbestos Abatement Contractor: A statement which demonstrates the Asbestos Abatement Contractor's qualifications and experience which shall include, as a minimum, the following element:

a. Number of years firm has been engaged in asbestos abatement. Acceptable experience shall include at least 2 years of licensed asbestos abatement work in the State of Washington, unless special qualifying information acceptable to the Owner is provided to indicate that a shorter period of experience is acceptable.

2. List of all Equipment, Tools & Materials Proposed for Use on This Project: Include certification by manufacturers that all HEPA equipment meets *ANSI Z9.2*-2012.

3. A Statement of the Qualifications of the Workforce: Include at a minimum the following:

    a. A description of the qualifications and experience of all supervisors proposed for this project. Include evidence that all supervisors proposed for this project are currently *Washington State Certified Asbestos Supervisors* and have successfully completed a current EPA-approved training course in asbestos removal. Also include evidence of previous supervision of at least 2 asbestos abatement projects similar in scope and nature to the present project, providing the name, address, and telephone number of each of the purchasers of services.

    b. Evidence that all workers proposed for this project is a currently *Washington State Certified Asbestos Worker* and has been trained as required by the applicable regulations referenced above.

    c. Provide evidence that at least 2 workers on each shift have current first aid and CPR training.

4. A Copy of the Asbestos Abatement Contractor's Personal Protective Equipment Program, Including the Respiratory Protection Program: Minimal qualifications are as specified in *29 CFR 1910.1001, Asbestos; 29 CFR 1910.134 Respiratory Protection; 29 CFR 1926.58, Asbestos*. See *PARAGRAPH 1.13 - WORKER PROTECTION* for minimum respiratory protective equipment requirements. Programs utilizing equipment with a greater degree of respiratory protection will be viewed favorably.

5. A Description of the Asbestos Abatement Contractor's Medical Surveillance Program for the Employees: Minimal qualifications shall be as specified in *29 CFR 1910.1001* and *WAC 296-62-07725*.

B. Prior to commencement of work, the Asbestos Abatement Contractor shall obtain the Owner’s written approval of the following:

1. Plan of Action: Submit a plan of action for handling asbestos and other hazardous materials throughout the project for approval by the Owner. This plan shall clearly communicate procedures proposed for use in complying with the regulations as well as the requirements of these Drawings and Specifications and contain at least:

    a. Projected project schedule and work area sequence, including the length of the work shift and overtime provisions.

    b. Detailed description of the methods to be employed to control pollution and minimize hazardous waste generation.

    c. Packaging and disposal of removed asbestos debris.

    d. Cleanup procedures and disposal plan including name and location of disposal site(s), each having an EPA Identification Number as a hazardous waste disposal site, and copies of applicable certificates and registrations for hazardous waste transporter(s), transferrer(s), treater(s) and disposal site(s).

e. Exiting procedures to be followed in the case of an emergency such as fire or injury.

f. Methods to be used to assure the safety of building occupants and visitors to the site.

g. Asbestos Abatement Contractor's site-specific fall protection plan.

h. Proof of Employee Training: Sufficient proof shall be copies of Washington State Certified Asbestos Worker or Certified Asbestos Supervisor identification cards for each worker, signed by all workers participating in this project; and, for each worker, a signed statement indicating type and size respirator assigned, type of qualitative and quantitative fit tests utilized and date and results of most recent fit test.

i. Proof satisfactory to the Owner that all workers participating in this project have been examined by a licensed physician within the past year. The documentation shall include a physician's statement for each worker, stating that the worker has been found to be physically suited to perform asbestos abatement work, including wearing a respirator and impervious garments while performing vigorous physical labor.

j. Proof of notification in writing to the Washington State Department of Labor and Industries, and the Olympic Region Clean Air Agency (ORCAA), of the proposed asbestos work, not fewer than 14 days prior to commencement of the work. Copies of these notifications shall be submitted to the Owner within 24 hours of submittal to the regulatory agencies. Notifications shall be as per applicable regulation and should include the following information: Name and address of operator; estimate of the approximate amount of asbestos material being removed from the facility (in linear or square feet); location of the facility being demolished or renovated; scheduled starting and completion dates of the project; nature of planned project and method(s) to be used (in accordance with *40 CFR Part 61, NESHAPS*); and the name and location of the waste disposal site where the asbestos waste material will be deposited. Submit for the OCRAA notification in sufficient advance time to allow the required *NESHAPS* waiting period to have elapsed, and therefore not interfere with the scheduled project start date.

k. Proof shall be submitted that all required permits and arrangements for transport and disposal of asbestos-containing wastes in an approved site have been obtained.

1.05 DEFINITIONS

Abatement: Procedures to control fiber release from asbestos-containing building materials. Includes: removal, enclosure, and encapsulation.

Airlock: A system for permitting ingress or egress of personnel or equipment without permitting movement of contaminated air between a contaminated area and an uncontaminated area; typically consisting of 2 curtained doorways far enough apart to allow all activities to occur within the airlock without workers or equipment contacting the walls or doorways.

Air Filtration Device: An air-moving device equipped with a HEPA filter and high velocity fan, housed in an airtight casing, capable of removing and filtering air from a Work Area prior to discharge. When properly installed, the Air Filtration Device provides the filtered negative air pressure necessary for establishment of a Full Containment, or Negative pressure enclosure.

Air Monitoring: The process of measuring the asbestos fiber content of a volume of air using National Institute for Occupational Safety and Health (NIOSH) method *7400 "A"*, or Transmission Electron Microscopy (TEM) using *AHERA* method as applicable. Flow rate and sample volume shall be in accordance with the method chosen.

Air Monitoring Technician: A person qualified by training or experience to collect air samples for asbestos. Must be familiar with sampling techniques, sampling equipment, calibration procedures, and work practices useful for controlling air contamination.

Ambient Air Pump: A low power (1/2 h.p. to 5 h.p.) pump which takes ambient air and supplies it to the respirator through the appropriate hose line without filtering the air being supplied.

Amended Water: Water to which a surfactant has been added in accordance with manufacturer's specifications.

Asbestos-Containing Piping Insulation: This includes all piping insulation that contains asbestos materials. This includes but is not limited to fittings, valves, pipe hanger packing, and piping straights

Asbestos-Containing Waste (Including Asbestos-Contaminated Materials): Materials (including construction equipment and materials) either containing more than 1% by weight of asbestos or contaminated with asbestos to a degree that handling the materials may reasonably be expected to give rise to exposure to airborne asbestos fibers.

Authorized Visitor: The Owner's Representative or a representative of any regulatory or other entity or agency having jurisdiction over the project.

Bridging Encapsulant: An encapsulant that forms a discrete layer on the surface of asbestos-containing material.

Certified Industrial Hygienist (CIH): An industrial hygienist certified in the Comprehensive Practice or Chemical Aspects of Industrial Hygiene by the American Board of Industrial Hygiene.

Class I Asbestos Work: Activities involving the removal of TSI, surfacing ACM or PACM, and friable floor sheeting (including paper backing).

Class II Asbestos Work: Activities involving the removal of ACM that is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile, non-friable floor sheeting (including paper backing), roofing and siding shingles, and construction mastics.

Clean Room: An uncontaminated room that is part of the worker decontamination enclosure system and adjoins uncontaminated areas of the building, with provisions for separate storage of workers' street clothes and clean protective equipment.

Cleanup: All procedures necessary to remove asbestos-containing and asbestos-contaminated materials from designated areas or surfaces in a safe manner and dispose of these materials at a disposal site.

Closely Resemble: The major workplace conditions that have contributed to the levels of historic asbestos exposure are no more protective than conditions of the current workplace.

Containment Barrier: An airtight barrier consisting of walls, floors, and/or ceilings of sealed plastic sheeting, surrounding and sealing the outer perimeter of the work area.

Contaminated Area: The work area or any other area of the building with either an airborne asbestos level equal to or above 0.01 fibers/cc or visible unconfined deposits of asbestos-containing materials.

Contaminated/Equipment Room: A contaminated area or room within the decontamination enclosure system which adjoins the work area, with provisions for storage of contaminated clothing or equipment.

Critical Barriers: Dust tight barriers completely separating the work area from other portions of the building and the outside. Critical barriers may be made of sheet plastic, wood, or metal.

Curtained Doorway: A device to allow passage of personnel or equipment from one room to another while allowing controlled air flow between the rooms; typically constructed by placing 2 or 3 overlapping sheets of plastic completely over an existing or temporarily framed doorway. The top of each sheet is secured along the top of the doorway and opposing vertical edges of the sheets are secured along vertical sides of the doorway.

Decontamination Chamber: A system typically consisting of a clean room, and a contaminated/equipment room (each separated from adjoining spaces by curtained doorways), permitting workers to pre-clean outer clothing, and exit from contaminated areas and directly proceed to remotely constructed Decontamination Enclosure Systems.

Decontamination Enclosure System: A system typically consisting of a clean room, an equipment/waste removal room, a shower, and a contaminated/equipment room (each separated from adjoining spaces by curtained doorways) permitting workers, equipment, and waste to exit or be removed from contaminated areas without carrying out asbestos fibers to uncontaminated areas.

Disposal: All procedures necessary to transport the asbestos-contaminated material removed from the building and deposit it in a waste disposal site in compliance with applicable federal, state, and local regulations.

Disposal Site: A site previously approved by the U.S. Environmental Protection Agency (EPA) and state and local hazardous waste control agencies for the disposal of asbestos-containing wastes (*Class I* or *II* landfill).

Encapsulation: All procedures necessary to coat all asbestos-containing materials with an encapsulant to prevent the dispersal of asbestos fibers into the air. This will include the use of penetrating, lock down, and bridging encapsulants.

Enclosure: All procedures necessary to enclose all asbestos-containing materials behind an airtight barrier with no anticipation of or provision for penetration of the enclosure for maintenance or any other reason.

Equipment/Waste Removal Room: A room within the decontamination enclosure system that is between the shower room and the uncontaminated area. A room through which decontaminated equipment and waste containers are removed.

Fiber: A particulate form of asbestos, 5 micrometers or longer, with a length to width ratio of at least 3:1.

Full Containment Removal: Removal that takes place inside of a semi-airtight system used to segregate and isolate an asbestos abatement area, and which is continuously served by a temporary pressure differential ventilation system once abatement activities start.

Fixed Object: A unit of equipment or furniture in the work area or beneath the work area that cannot be removed from the work area.

HEPA Filter: A High Efficiency Particulate Air filter capable of trapping and retaining 99.97% of particles with aerodynamic equivalent diameters greater than or equal to 0.3 micrometers.

HEPA Vacuum Equipment: Vacuuming equipment equipped with a HEPA filter in the exhaust outlet, and so designed and maintained that 99.97% of particles with aerodynamic equivalent diameters greater than or equal to 0.3 micrometers in the inlet air are collected and retained. In no case shall the HEPA vacuum equipment permit the discharge of air containing more than 0.01 fibers/cc.

Industrial Hygienist: A person qualified by training and/or experience to specify measures for the recognition, evaluation, and control of occupational health hazards. In this project, an acceptable industrial hygienist must have substantial experience (satisfactory to the Owner's Representative) in the management of asbestos exposure reduction.

Material Safety Data Sheets (MSDS): Information on a product, supplied by the manufacturer, which provides the information listed in *29 CFR 1910.1200(g)(2)*.

Movable Object: A unit of equipment or furniture in or beneath the work area that can be removed.

Negative Initial Exposure Assessment: A demonstration by the employer, which complies with the *29 CFR 1926.1101, Paragraph (f)(2)(iii)* that employee exposure during an operation is expected to be consistently below PELs.

Negative Pressure: A minimum pressure differential of -0.02 inch of water column relative to areas adjacent to the work area, or such other measure or observation as specified by the Owners Representative. Equipment used to maintain negative pressure shall be HEPA-filtered and shall permit discharge of no more than 0.01 fibers/cc in the exhaust air stream.

Negative Pressure Enclosure: A semi-airtight system constructed to segregate and isolate an asbestos abatement work area, and which is continuously served by a temporary pressure differential ventilation system once abatement activities start. Also known as Full Containment, or Temporary Pressure Differential Enclosure.

Overlapped Joint Doorway: A joint (seam) in the plastic, overlapped by 36 inches or more, used for worker and material entrance and exit from the containment barrier around a removal operation.

Owner: The Owner or the Owner's Representative who has the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Owner acting within the limits of their authority as delegated by the Owner.

Penetrating Encapsulant: An encapsulant that is absorbed by the asbestos containing material without leaving a discrete surface layer.

Permissible Exposure Limit: An airborne concentration of asbestos of 0.1 fiber per cubic centimeter (f/cc) of air calculated as an 8-hour time-weighted average.

Post-Abatement Surface Sealer (Encapsulant, Lock Down Encapsulant): A liquid which can be applied to surfaces from which asbestos has been removed and which controls the possible release of residual fibers from the surface by penetrating into the material and binding its components together.

PACM: Presumed asbestos-containing material is thermal system insulation or surfacing material found in buildings constructed no later than 1980 and assumed to contain asbestos.

Regulated Area: An area established by the Asbestos Abatement Contractor to demarcate areas where airborne concentrations of asbestos exceed or can reasonably be expected to exceed the permissible exposure limits. The work area may take the form of a) a temporary enclosure, as required by *WAC 296-62-07711,* or b) an area demarcated in any manner that minimizes employee exposure to asbestos.

Removal: All procedures necessary to remove asbestos-containing materials from designated areas in a safe manner and dispose of those materials at a disposal site.

Removal Encapsulant: A penetrating encapsulant specifically designed for removal of asbestos-containing materials rather than for encapsulation.

Shower Room: A room between the Clean Room and the Equipment Room in the worker decontamination enclosure system, with hot and cold or warm running water suitably arranged for complete showering and washing of equipment during decontamination. The Shower Room comprises an airlock between contaminated and clean areas.

Smoke Tube Method: A method of qualitatively testing the direction and velocity of airflows utilizing titanium tetrachloride (or equivalent) ventilation smoke tubes.

Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the amount of water required for a given operation or area and enhancing the effect of the water in reducing fiber release.

Temporary Pressure Differential Ventilation System: A minimum pressure differential of -.02 inch of water column relative to areas adjacent to the work area, or such other measure or observation as specified by the Owner's Representative. Equipment used to maintain negative pressure shall be HEPA-filtered and shall permit discharge of no more than 0.01 fibers/cc in the exhaust air stream.

Transport: Hauling of asbestos-containing wastes from the building to the disposal site and deposit of the wastes therein by a firm currently approved by the EPA for the transport of hazardous wastes and approved by any state or local agencies having jurisdiction and the appropriate insurance.

Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths and mops or other cleaning tools that have been dampened with clean water.

Work Area: An isolated area of the building where abatement activities are performed, isolated from nonwork areas by negative pressure, and a containment barrier and, depending on the type of removal, a decontamination enclosure system. The inside of the barrier and the decontamination enclosure system are part of the Work Area.

1.06 HAZARDOUS MATERIALS NOTIFICATION

A. The disturbance or dislocation of asbestos-containing materials may cause asbestos fibers to be released into the building's atmosphere, thereby creating a potential health hazard to workers and building occupants. The Asbestos Abatement Contractor shall apprise all workers, supervisory personnel, subcontractors, and consultants who will be at the job site of the seriousness of the hazard and of proper work procedures that must be followed. The Asbestos Abatement Contractor shall document the compliance with this section.

B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified asbestos-containing materials the Asbestos Abatement Contractor shall take appropriate continuous measures necessary to protect all building occupants from the potential hazard of exposure to airborne asbestos. Such measures shall include the procedures and methods outlined in these Specifications, and compliance with regulations of applicable federal, state, and local agencies.

C. The Asbestos Abatement Contractor shall apprise all workers of the chemical and physical hazards associated with work conducted at this site. The Asbestos Abatement Contractor shall document compliance with this section.

1.07 PRODUCT DATA NOTIFICATION

Pursuant to *WAC 296.65.020*, the Asbestos Abatement Contractor shall provide the Owner with a complete list of all hazardous chemicals and other materials to be used during the execution of the project, including storage locations.

1.08 AIR MONITORING PERFORMED BY ASBESTOS ABATEMENT CONTRACTOR

A. Asbestos Abatement Contractor shall conduct all daily *WISHA* and daily area monitoring required by regulations. The Asbestos Abatement Contractor shall maintain a professional, timely, and honest interface with the Owner.

B. Air Monitoring:

1. Documentation on each sample shall include at least the date and time, sample number, exact sampling location, name(s) of individual(s) performing sampling, a description of work being performed at the time of sampling, sampling rate, sampling volume, analytical method, analytical results, and limit of detection as per *NIOSH* analytical methods.

2. Samples shall be analyzed per this section. The laboratory shall submit signed, permanent records of all analyses to the Owner within 2 weeks of the date of each analysis. Air monitoring results shall be posted onsite by the Asbestos Abatement Contractor within 24 hours of the end of the shift in which the samples were obtained.

3. Sampling During Abatement: Sampling during abatement in the building is intended to fulfill the following requirements:

   a. Determine dispersal of contamination from the work area into other building areas in order to assess the potential exposure of building occupants.

   b. Determine exposures of personnel performing asbestos abatement.

   c. Determine work area concentrations assumed to represent typical exposures of supervisors and visitors not physically performing abatement.

4. The Following Sampling Shall be Performed by the Asbestos Abatement Contractor's Independent Air Monitoring Firm:

   a. Public area samples shall be taken outside the work area within 10 feet of each exit of the decontamination chamber or within 10 feet of perimeter of regulated areas, and within 10 feet of the exhaust of each HEPA filtration unit. Air sampling results shall be provided to the Owner within 2 days after the sampling.

   b. Worker Samples shall be taken in the breathing zones of workers performing asbestos abatement in sufficient numbers to permit estimation of peak and Time Weighted Average (TWA) exposures. At a minimum, for TWA exposures, one (1) personal sample on worker with highest probable exposure and one (1) 30-excursion limit sample at the peak of abatement activity is required in each work area, sampled per 8 hour shift according to *WAC 296-62-07709(d)*. Air sampling results shall be provided to the Owner within 2 days after the sampling.

   c. Work Area Samples shall be taken in numbers and locations within the removal portion of the work area sufficient to permit estimation of time weighted average (TWA) concentrations of asbestos in all work areas. Work area samples shall be taken at breathing zone height of the persons performing the task, and shall be protected from direct contamination (drips, over spray, and the like) during sampling. At a minimum, one (1) work area sample shall be taken per work area per 8 hour work shift. At least one (1) work area sample shall be taken in a manner so as to represent the worker exposures for each task. Air sampling results shall be provided to the Owner within 2 days after the sampling.

   d. Minimum air sample volumes for determining airborne concentrations are as follows:

      1) **NOTE 1:** These minimum volumes may be adjusted in accordance with appropriate industrial hygiene practice to achieve a filter loading in the range of 100-1300 fibers per square millimeter of filter area.

      2) **NOTE 2:** Sample volumes smaller than 40 liters are not recommended for this project and should be used only in situations in which asbestos or other contaminants are present at such high levels that the sampling filter would become clogged if a higher volume were used.

5. The Asbestos Abatement Contractor's independent air monitoring firm shall furnish and maintain all monitoring equipment used and required herein. The Asbestos Abatement Contractor shall bear costs of daily air monitoring, analysis, and reporting required herein.

6. If area fiber concentrations outside of the work area are equal to or above 0.01 fibers/cc (or the background level, whichever is lower), the Asbestos Abatement Contractor shall notify the Owner and all abatement work in that work area shall stop. The Asbestos Abatement Contractor shall then undertake corrective action as approved by the Owner. The Asbestos Abatement Contractor may resume abatement work in that area only after it receives written authorization from the Owner. The Asbestos Abatement Contractor shall not be allowed any extension of time or compensation for damages by reason of or in connection with such work stoppages.

C. Permissible Exposure Limits:

1. If any air sample taken outside of the work area exceeds 0.01 f/cc for any time period, the Asbestos Abatement Contractor shall immediately and automatically stop all work. The Asbestos Abatement Contractor shall decontaminate the affected area and re-sample until a reading of less than 0.01 f/cc or the background level, whichever is lower, is obtained.

2. Respiratory protection, as set forth in *PARAGRAPH 1.13 - WORKER PROTECTION*, shall be worn in affected area until area is cleared for re-occupancy in accordance with *PARAGRAPH 1.15 - PROJECT DECONTAMINATION.*

D. Analytical Methods: Asbestos air samples will be analyzed using the *WISHA Reference Method (NIOSH 7400 Method)* or Transmission Electron Microscopy (TEM) according to *40 CFR 763, Subpart E, Appendix A*. Results will be reported by posting conspicuously on the job site no later than 24 hours after the end of the shift in which the sample is taken.

1.09 CLEARANCE INSPECTIONS AND SAMPLING PERFORMED BY OWNER

A. Asbestos clearance locations shall correspond with pre-abatement locations in each functional space. Acceptable clearance levels during the construction project will be 0.01 f/cc [as determined by Phase Contrast Microscopy (PCM)] or background sample results, whichever are lower. Prior to re-occupancy, aggressive clearance samples will be collected and analyzed utilizing Transmission Electron Microscopy (TEM) in accordance with *AHERA* clearance protocols. Acceptable TEM clearance levels will be 70 s/mm2 or lower.

1. The Owner will conduct a visible inspection of the area to determine completion of the work. If satisfactory, the Owner will conduct clearance air sampling in the work area after encapsulation has been allowed to dry (minimum 1 hour).

2. The Owner will start the sampling pumps and sample at least 1200 liters of air.

3. The Owner will turn off the sampling pump after sampling is complete.

4. If the clearance air sample results do not meet the criteria as specified in this section, the Asbestos Abatement Asbestos Abatement Contractor shall re-clean and have the area re-sampled for air clearance in the affected area as necessary, at no additional cost to the Owner.

1.10 QUALITY CONTROL - LABORATORY TESTING

The laboratory shall prove proficiency in the AIHA/NIOSH PAT Program and shall have a laboratory manual and Quality Control program. The Quality Control Program shall minimally meet or exceed WISHA standards. Failure to comply with these standards will require lab work to be subcontracted to another laboratory. No asbestos abatement work shall be conducted until air monitoring meets these standards. The Owner reserves the right to adjust the Quality Control procedures to meet the highest quality standards deemed acceptable by the Department of Labor and Industries.

1.11 PROJECT CLOSEOUT DOCUMENTS

A. This section describes the project closeout documentation required by the Owner upon completion of all phases of the Contract work.

B. After final completion of all Contract work, the Asbestos Abatement Contractor shall submit to the Owner 2 copies of a project closeout manual, which shall include a copy of all of the following:

1. Regulatory notifications and revisions to notifications

2. Employee and visitor sign-in sheets

3. Safety and construction meeting minutes

4. Completed daily QC report forms

5. Manometer strip chart readings

6. Air monitoring results

7. Completed clearance forms

8. Waste disposal manifests with landfill signature

1.12 ASBESTOS ABATEMENT CONTRACTOR QUALITY CONTROL

A. General Requirements: The Asbestos Abatement Contractor shall comply with the Quality Control provisions as specified herein. The Asbestos Abatement Contractor shall perform quality control inspection required by this Contract, unless specifically designated to be performed by the Owner.

B. Asbestos Abatement Contractor Quality Control (CQC) shall consist of plans, procedures, and organization necessary to provide materials, equipment, workmanship, construction, and operations that comply with the requirements of the Contract Documents.

1.13 WORKER PROTECTION

A. This section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards.

B. All workers entering regulated areas to handle asbestos-containing materials in amounts greater than 1 square foot of material must be certified Washington State Asbestos Workers with an onsite Washington State Certified Asbestos Supervisor.

C. Provide asbestos medical examinations for all workers handling asbestos-containing materials and provide medical clearance for those just entering the regulated asbestos work areas for any reason. Examinations shall as a minimum meet requirements as set forth in *WAC 296-62* and *29 CFR 1926*.

D. Materials and Equipment Provided by Asbestos Abatement Contractor:

1. Coveralls: Provide disposable full-body coveralls and disposable head covers and require that they be worn by all workers while in the regulated work areas. Provide a sufficient number for all required changes, for all workers in each regulated work area. All protective clothing and other safety equipment shall be provided by the Asbestos Abatement Contractor at no cost to the employee. Provide a sufficient number of protective suits for Owner and Authorized Visitors.

2. Boots: Provide work boots with non-skid soles, and where required by WISHA, safety boots for all workers. Provide boots at no cost to workers.

3. Goggles: Provide eye protection (goggles) as required by WISHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury, unless full face piece respirators are in use. Provide eye protection at no cost to the employee.

4. Gloves: Provide work gloves to all workers where required. Provide sufficient hand protection per day/shift at no cost to the employee.

5. Hard Hats: Provide head protection (hard hats) as required by WISHA for all workers and provide 4 spares for use by Owner and authorized visitors. Require hard hats to be worn at all times in the work area while work is in progress which may potentially cause head injury. Require hats to remain in the work area throughout the work. Thoroughly clean and decontaminate before removing them from Work Area at the end of the work. Provide hard hats at no cost to the employee.

6. Respirators, air supply, disposable coveralls, head covers, and footwear covers as outlined in these Specifications shall be provided by the Asbestos Abatement Contractor.

E. Use of Materials and Equipment:

1. In addition to these requirements for the prevention of exposure to and dissemination of asbestos fibers, all normal safety requirements, including electrical safety and fall protection, shall be enforced.

2. The Asbestos Abatement Contractor shall provide worker protection as required by the most stringent WISHA and/or EPA standards applicable to the work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.

3. All worker protection procedures, including assurance of respirator fit and decontamination procedures, shall apply to all Asbestos Abatement Contractor employees and all Authorized Visitors, except in the event of emergency requiring entrance of Life Safety or security personnel, in which case respiratory protection alone shall be provided, if feasible.

F. Decontamination Procedures: The Asbestos Abatement Contractor shall require that all workers follow the decontamination procedures in accordance with *PARAGRAPH 1.14 - DECONTAMINATION UNITS*.

G. Respiratory Protection:

1. This section describes the respiratory protection requirements and procedures to be used when working with or around asbestos-containing materials.

2. Except to the extent that more stringent requirements are written directly into the Contract Documents, the following regulations and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.

3. Air Quality for Supplied Air Respiratory Systems:

   a. The Asbestos Abatement Contractor shall provide air used for breathing in Type "C" supplied air respiratory systems (when working inside Pressure Differential Enclosures) that meet or exceed standards set for *C.G.A. Type 1 (Gaseous Air) Grade D*. The Asbestos Abatement Contractor shall provide sampling and testing of air quality in the presence of the Owner when requested to do so.

4. Air Purifying Respirators:

   a. Filter Cartridges: The Asbestos Abatement Contractor shall provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Progeny, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with *ANSI Z228.2 (1980)*. In addition, a chemical cartridge section must be added when required for solvents, etc. used by Asbestos Abatement Contractor personnel. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.

5. Non-Permitted Respirators: Single use, disposable, or quarter face respirators are strictly prohibited.

6. Supplied Air Respirator Systems: When used, the Asbestos Abatement Contractor shall provide and assure the following:

   a. Supplied air respirators shall be operated in compliance with the provisions of *WAC 296-842-100* through 22020 and *WAC 296-62-077* through *07761*.

   b. Provide equipment capable of producing air of the quality and volume required by the above reference standards applied to the job site conditions and crew size. Comply with provisions of this Specification if more stringent than the governing standard.

   c. During Type "C" Removal Operations, 2 open air lines shall be maintained at all times. Removal of workers to provide these lines will not be accepted. Asbestos Abatement Contractor shall make available 2 supplied air respirators for use by Owners.

   d. Face Piece and Hose: Provide full face piece and hose by same manufacturer that has been certified by NIOSH/MSHA as an approved Type "C" respirator assembly operating in pressure demand mode with a positive pressure face-piece or continuous flow.

   e. Auxiliary Backup System: In atmospheres which contain sufficient oxygen (greater than or equal to 19.5% oxygen) provide a pressure-demand or continuous flow full face piece supplied air respirator equipped with an emergency backup HEPA filter, in the event of loss of primary air supply.

   f. Escape Air Supply: In atmospheres which are oxygen deficient (less than 19.5% oxygen), provide a pressure-demand full face piece supplied air respirator incorporating an auxiliary self-contained breathing apparatus (SCBA) which automatically maintains an uninterrupted air supply in pressure demand mode with a positive pressure face piece, in the event of loss of primary air supply.

   g. Compressor System: The Asbestos Abatement Contractor shall assure that the compressor air system for removal workers shall incorporate in-line purifying sorbent beds and filters to deliver *Grade "D"* air free of water, oil, odors, vapors, and particulates.

   h. Warning Device: Provide a warning device that will operate independently of the building's power supply. Locate so that alarm is clearly audible above the noise level produced by equipment and work procedures in use in all parts of the work area and at the compressor. Non-oil-supplied compressor systems are not required to have the following alarms. Connect alarm to warn of:

      1) Compressor shutdown or other fault requiring use of backup air supply.

      2) Carbon Monoxide (CO) levels in excess of 20 PPM.

i. Carbon Monoxide (CO) Monitor: Continuously monitor for carbon monoxide gas. Place monitors in the air line between compressor, workers, and backup air supply and between backup air supply and workers. Connect monitors so that they also sound an alarm as specified under "Warning Devices." Non-oil-supplied compressor systems are not required to have a CO monitor.

j. Air Intake: Locate air intake remotely from any source of automobile exhaust or any exhaust from motors or buildings.

k. Ambient air pumps will not be allowed without prior Owner approval. Asbestos Abatement Contractor shall submit their intent to use ambient air pumps, the type and manufacturer of the pump (along with manufacturers' data) with proposed method of constant monitoring for carbon monoxide, compliance to *Grade "D"* respirable air requirements, and methods of assuring at least 4 CFM to each respirator supplied by the pump. This information shall be submitted to the Owner and approval granted prior to Asbestos Abatement Contractor use on this project.

7. Instruct and train each worker involved in wearing respirators in proper respiratory use. Require that each worker always wear a respirator, properly fitted on the face in the Work Area from the start of any operation that may cause airborne asbestos fibers until the Work Area is completely decontaminated. Use respiratory protection appropriate for the fiber level encountered in the workplace or as required for other toxic or oxygen-deficient situations encountered.

8. Respiratory Protection Program: Comply with *ANSI Z88.2 - 2015, Practices for Respiratory Protection*, and WISHA.

9. Require that respiratory protection be used at all times when there is any possibility of disturbance of asbestos-containing materials, whether intentional or accidental.

10. Require that a respirator be worn by everyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with *PARAGRAPH 1.09*. All persons required to wear respiratory protection shall have been properly fit tested and received a proper medical exam that certifies the person may wear a respirator.

    a. *Type "C"* supplied air will be required in negative pressure enclosures for the duration of work activities through final air clearance. Asbestos Abatement Contractor is required to perform an initial exposure 8 hour TWA) assessment for each activity in each work location. Results of this Initial Exposure Assessment will determine subsequent respiratory protection for each work activity.

11. Fit Testing: The Asbestos Abatement Contractor shall provide and assure the following:

    a. Initial Fitting: Provide quantitative fit testing of Supplied Air Respirators and qualitative fit testing of half-mask respirators (prior to the start of project). Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which he has been trained and fitted.

Written and current respirator fit test records are required to be available onsite. No workers will be allowed to work without written and current fit test records (fit tests performed within the last 6 months).

b. It is the Asbestos Abatement Contractor's responsibility to ensure that all employees required to wear respiratory protection are able to obtain a satisfactory respirator-to-skin seal. Facial hair, 1 days' worth of stubble, eyeglasses or any other condition that interferes with a proper rubber-to-skin seal shall be prohibited. Workers who are observed by the Owner with an unsatisfactory respirator-to-skin seal will not be permitted to work.

c. Upon Each Wearing: Require that each time an air-purifying respirator or supplied air respirator equipped with HEPA backup is put on, it be checked for fit with a positive and negative pressure fit check in accordance with the manufacturer's instructions or *ANSI Z88.2 (2015)*.

d. The Asbestos Abatement Contractor shall incorporate respirator fit testing, initial respirator assignment, respirator replacement assignments, and medical surveillance records into the Asbestos Abatement Contractor's WISHA mandated 30 year record keeping program. A copy of each of the referenced documents is to be incorporated into the project records and a copy of each is to be included in the project closeout documentation.

12. Type of Respiratory Protection Required: The Asbestos Abatement Contractor shall comply with all Washington State requirements for respiratory protection for asbestos work *(WAC-296-842-100)*. All work inside a pressure differential enclosure shall require workers to use supplied air respirators meeting requirements specified in this section.

13. Respiratory Protection Program: Submit completed "Respiratory Protection Program" (RPP), indicating type of respiratory protection proposed for each portion of the work and as specified in this section and as indicated in *WAC 296-842-100 to 22020*.

1.14 DECONTAMINATION UNITS

A. Where a Negative Pressure Containment has been erected, the Asbestos Abatement Contractor shall provide separate personnel and equipment decontamination facilities. A decontamination unit is required on all tasks handling asbestos-containing materials.

B. Waste and Equipment Load-Out Enclosures:

1. For removal operations not utilizing glove bags, the Asbestos Abatement Contractor shall provide a Waste Load-Out Enclosure System outside of the Work Area consisting of at least 2 chambers as follows:

a. Equipment/Waste Removal Room: The equipment/waste removal room shall be separated from the Work Area and the Clean Room by curtain doorways. This room is used to remove equipment and waste containers from the Work Area to the Clean Room.

b. Clean Room: The Clean Room shall have 2 curtained doorways: one to the Equipment/Waste Room and one to the uncontaminated area.

c. The chambers shall be of adequate size for the number of workers, equipment and/or waste material to be accommodated, but typically will have minimum dimensions of 4 feet wide and 6 feet long (doorway to doorway). All chambers shall be clean at all times. The lighting in all chambers must be adequate for the tasks and for cleaning.

2. Personnel Decontamination Units: The Asbestos Abatement Contractor shall provide a Personnel Decontamination Unit consisting of a Change Room, Shower Room, and Equipment Room. Require all persons without exception to pass through this decontamination unit for entry into and exiting from the Work Area for any purpose.

a. Change Room (Clean Room): The Asbestos Abatement Contractor shall provide a room that is separated from the Work Area by curtain doorways for the purpose of changing into protective clothing. The Asbestos Abatement Contractor shall assure at a minimum the following occurs:

1) Maintain floor of Change Room to be dry and clean at all times. Do not allow overflow water from shower to wet floor in Changing Room.

2) Damp wipe all surfaces twice after each shift change with a disinfectant solution.

3) Provide a continuously adequate supply of disposable bath towels.

4) Provide posted information for all emergency phone numbers and procedures.

b. Shower Room: The Asbestos Abatement Contractor shall provide a completely water-tight operational shower to be used for transit by cleanly dressed workers heading for the Work Area from the Change Room, or for showering by workers heading out of the Work Area after undressing in the Equipment Room.

1) Separate this room from the Work Area and Clean Room with airtight walls equipped with curtain doorways fabricated of 6-mil polyethylene.

2) Separate this room from the Change and Equipment Rooms with air-tight walls equipped with curtained doorways fabricated of 6-mil polyethylene.

3) Provide showerhead and controls.

4) Provide temporary extensions of existing hot and cold water and drainage, as necessary for a complete and operable shower.

5) Provide a nailbrush, soap dish, and a continuously adequate supply of soap and maintain in sanitary condition.

6) Arrange so that water from showering does not splash into the Change or Equipment Rooms.

7) Arrange water shut-off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside the Work Area.

8) Provide hose bib.

9) Collect wastewater in accordance with this Specification.

c. Equipment Room (Contaminated Area): The Asbestos Abatement Contractor shall require work equipment, footwear, and additional contaminated work clothing to be left here. This is a change and transit area for workers. Separate this room from the Work Area by a 6-mil polyethylene curtained doorway.

1) Separate this room from the rest of the building with air-tight walls fabricated of 6-mil polyethylene.

2) Separate this room from the Shower Room and Work Area with air-tight walls fabricated of 6-mil polyethylene.

d. Work Area (Applicable Only for Negative Pressure Enclosures): The Asbestos Abatement Contractor shall separate Work Area from the Equipment Room by polyethylene barriers.

1) Alternate methods of providing decontamination facilities may be submitted to the Owner for approval. Do not proceed with any such method(s) without written authorization of the Owner.

C. Decontamination Sequence:

1. Entering Work Area:

a. Worker enters the Change Room and removes street clothing, puts on two (2) clean disposable suits and one respirator, and passes through the Shower Room into the Equipment Room.

b. Any additional clothing and equipment left in Equipment Room needed by the worker are put on in the Equipment Room.

c. Worker proceeds to Work Area.

2. Exiting Work Area:

a. Before leaving the Work Area, require the worker to remove all gross contamination and debris from disposal suits and feet. The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment. Extra work clothing may be stored in contaminated end of the Equipment Room. Disposable coveralls are placed in a bag for disposal with other material.

Decontamination procedures found in these Specifications shall be followed by all individuals leaving the Work Area.

b. After showering, the worker moves to the Change Room and dresses in either a new disposal suit for another entry, or street clothes if leaving.

1.15 PROJECT DECONTAMINATION

A. This section details the decontamination procedures and final clearance procedures to be followed in the Work Area which has been or may have been contaminated by the elevated airborne asbestos fibers generated during abatement activities.

B. Work of this section includes the decontamination of air in the Work Area which has been or may have been contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or which may previously have had elevated fiber levels due to asbestos-containing materials in the space.

C. Work of this section also includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work, including:

1. Primary and critical barriers erected by work of this section (where applicable).

2. Decontamination enclosures erected by work of this section.

3. Temporary pressure differential system installed by work of this section.

D. Decontamination of Temporary Enclosure Areas:

1. Start of Work: Work of this section begins with the cleaning of the primary barrier. At start of work the following will be in place:

a. Critical barrier which forms the sole barrier between the Work Area and other portions of the building or the outside.

b. Critical barrier sheeting over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings including openings through ceiling leading to 1st floor, above.

c. Decontamination Units for personnel and equipment in operating condition.

d. Temporary pressure differential system in operation.

E. Cleaning of Temporary Enclosure Areas:

1. First Cleaning: Carry out a first cleaning of all surfaces of the Work Area including plastic sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. Note: A HEPA vacuum will fail if used with wet material unless set up for wet use. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces. Immediately following the cleaning of the secondary plastic, remove all secondary barrier sheeting, leaving only:

a. Critical barrier, which forms the sole barrier between the Work Area, remaining structures, other portions of the building, or the outside.

b. Critical barrier sheeting over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings.

c. Decontamination Unit in operating condition for personnel.

d. Temporary pressure differential system maintained in continuous operation.

F. Work Area Clearance Criteria of Temporary Enclosure Areas:

1. Visual Inspection:

a. When the area is ready for final inspection, notify the Owner to perform a complete visual inspection of the entire Work Area including Decontamination Unit, all plastic sheeting, seals over ventilation openings, doorways, windows, and other openings. The area shall be inspected for debris from any sources, residue on surfaces, dust, or other matter. If any such debris, residue, dust or other matter is found, repeat final cleaning and continue decontamination procedure from that point.

b. The Asbestos Abatement Contractor shall provide adequate lighting (as determined by the Owner) on all surfaces in the Work Area to be subjected to visual inspection. In addition, provide handheld lights or provide 150 foot candles at 4 feet, capable of reaching all locations in the Work Area. Provide ladders, scaffolding, and lifts as necessary to allow access to all surfaces in the areas subject to visual inspection by the Owner.

c. The Work Area will be considered visually clean when there is no evidence of visible dust and debris on any surface. Owner reserves the right to obtain dust samples for asbestos analysis for cleanliness verification.

d. When the area is visually and quantifiably clean, complete the certification at the end of this section. Visual inspection is not complete until confirmed in writing on the certification by the Owner.

e. When Owner determines that completion of the cleanup is satisfactory and the visual inspection form is complete, the Asbestos Abatement Contractor will be directed to encapsulate the Work Area.

2. Encapsulation:

a. When the Owner determines by visual inspection that cleanup has been satisfactorily complete, the Asbestos Abatement Contractor shall apply a coat of post-abatement surface sealer (lock down encapsulant) to the inside surface of the containment barrier and to other coverings and surfaces in the Work Area.

b. All wet surfaces shall be allowed to dry thoroughly (at least 1 hour). The Owner will then inspect the area.

c. When the Owner determines that the post-abatement sealant application is satisfactory and has sufficiently dried, the Owner shall complete the post abatement clearance sampling as specified in this section.

d. When the Owner determines that the post-abatement clearance samples are satisfactory and the clearance form (included in this section) has been completed, the Asbestos Abatement Contractor shall remove the remaining containment barriers in and under the Work Area, carefully folding the contaminated sides inward. The Asbestos Abatement Contractor shall inspect and HEPA vacuum or damp mop as necessary. The Decontamination Enclosure System, when used, shall be removed last, carefully folding the contaminated sides of plastic inward. All materials used in the enclosures and barriers, and all cleaning materials and equipment shall be treated as asbestos-containing waste unless cleaned by the Asbestos Abatement Contractor and approved by the Owner.

e. The Asbestos Abatement Contractor shall re-clean as necessary.

CERTIFICATE OF WORK AREA CLEARANCE

Following is an example of "Certificate of Visual Inspection." This certification is to be completed by the Asbestos Abatement Contractor and certified by the Owner at completion of each functional space worked in.

NOTES:

ASBESTOS ABATEMENT CONTRACTOR CERTIFICATION OF VISUAL INSPECTION

In accordance with *PARAGRAPH 1.15 - PROJECT DECONTAMINATION*, the Asbestos Abatement Contractor hereby certifies that they have visually inspected the Work Area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, Decontamination Unit, sheet plastic, etc.) and has found no dust, debris or residue.

Identity of Work Area: _____

By (Signature): _____ **Date:** _____

Print Name: _____

Print Title: _____

OWNER WORK AREA CLEARANCE CERTIFICATION

The Owner hereby certifies that they have accompanied the Asbestos Abatement Contractor on his visual inspection and verifies that this inspection has been thorough and air clearance sampling valid according to the Contract Specifications to the best of their knowledge and belief.

Identity of Work Area: _____

Air Sample Identification #: _____

Flow Rate: _____

Air Sampling Results: _____

Volume: _____

Analyzed By: _____

Time Sample Taken: _____

NOTES:

APPROVED FOR RE-OCCUPANCY

By (Signature): _____ **Date:** _____

Received By Owner: _____ **Date:** _____

1.16 TEMPORARY PRESSURE DIFFERENTIAL SYSTEM

This section details the use of air filtration machines in a temporary enclosure. The engineering controls of temporary enclosures and temporary pressure differential systems are required on the project when removing asbestos-containing and asbestos-contaminated materials as specified.

A. Asbestos Abatement Contractor shall protect owner and consultant from all patent infringements both real and implied.

B. Air Filtration Devices: Supply the required number and size of asbestos HEPA air filtration units to the site in accordance with these Specifications.

C. Temporary Pressure Differential: Provide a fully operational air system within the Work Areas requiring negative pressure enclosures, maintaining continuously a temporary pressure differential across Work Area enclosures of -0.02 inches of water.

D. Monitoring: Continuously monitor and record the temporary pressure differential between the full enclosure Work Area and the building outside of the area with a manometer device incorporating a strip chart recorder. Temporary pressure differential strip chart records are to be copied onto 8½ X 11 paper and incorporated into the project files and a copy of each is to be included in the project closeout documentation. Asbestos Abatement Contractor shall supply monitoring device and strip chart recorder at no additional cost to the Owner when required.

E. Preparation of the Work Area:

1. Determining the Ventilation Requirements: Provide fully operational temporary pressure differential systems supplying a minimum of 4 air changes every hour when and where required.

2. Location of Exhaust Units: Locate exhaust unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses work area as much as possible. This may be accomplished by positioning the exhaust unit(s) at a maximum distance from the worker access opening or other makeup air sources. Install one or more operational air filtration units, working during any abatement activity as a scrubbing unit not necessarily exhausted outside when necessary to maintain air flow in the Work Area.

3. Place end of unit or its exhaust duct through an opening in the plastic barrier or wall covering. The plastic around the unit or duct shall then be sealed with tape.

4. General: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with overload device tied into an electrical panel which has sufficient spare capacity to accommodate the load of all temporary pressure differential units connected. Dedication of an existing circuit may be accomplished by shutting down existing loads on the circuit.

5. Testing the System: Test temporary pressure differential system before any asbestos-containing material is wetted or removed. After the Work Area has been prepared, the decontamination facility set up, and the exhaust unit(s) installed, start the unit(s) one at a time. Demonstrate operation and testing of temporary pressure differential system to Owner.

6. Demonstration of the temporary pressure differential system to the Owner will include, but not be limited to the following:

    a. Plastic barriers and sheeting move lightly in toward Work Area.

    b. Curtain of decontamination units move lightly in toward Work Area.

    c. There is a noticeable movement of air through the decontamination unit. Use smoke tubes to demonstrate air movement from Clean Room to Shower Room, from Shower Room to Equipment Room, and from Equipment Room to Work Area.

    d. Use smoke tubes to demonstrate a positive motion of air across all areas in which work is to be performed.

    e. A continuously reading manometer with strip chart recorder indicating -0.02 inches.

    f. Modify the temporary pressure differential system as necessary to successfully demonstrate the above.

F. Use of System During Abatement Operations:

1. Start exhaust units before beginning work (before any asbestos-containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant pressure differential until decontamination and final air clearance of the Work Area are complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop.

2. Do not shut down temporary pressure differential air system during encapsulating procedures unless authorized by the Owner in writing.

3. Start abatement work at a location farthest from the exhaust units and proceed toward them, when and where feasible. This is suggested during floor debris cleanup to minimize re-contamination of previously cleaned floor and support column pedestal work areas. If an electric power failure occurs, immediately stop all abatement work and do not resume until power is restored and HEPA AFD units are operating again.

4. Dismantling the System: When results of final (clearance) air tests indicate that the area has been decontaminated, exhaust units may be removed from the Work Area. Before removal from the Work Area, remove and properly dispose of pre-filter, and seal intake to the machine with 6-mil polyethylene with proper labeling to prevent environmental contamination from the HEPA filter.

G. Temporary Enclosures: This section is intended to describe the requirements for construction of enclosure barriers used to contain the asbestos fibers.

1. Materials:

a. Polyethylene Sheet: Provide a single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mils thick as indicated; and clear, frosted, or black as indicated.

b. Duct Tape: Provide duct tape in 2 inch or 3 inch widths as indicated, with an adhesive that is formulated to aggressively adhere to sheet polyethylene.

c. Spray Adhesive: Provide spray adhesive in aerosol cans which is specifically formulated to aggressively adhere to sheet polyethylene.

H. Sequence of Work: Carry out work of this section sequentially. Complete each activity before proceeding to the next.

I. Control Access: The Asbestos Abatement Contractor shall control access to all regulated areas in accordance with *PARAGRAPH 1.17*.

J. Containment Barriers for Removal Operations Not Utilizing Glove Bags:

1. The Asbestos Abatement Contractor shall erect an airtight containment barrier around the Work Area.

2. Walls shall be covered with at least two (2) layers of 6-mil plastic sheet.

3. If asbestos is not being removed from the building's ceiling surface or ceiling structure, the containment barrier shall include a ceiling consisting of one (1) layer (minimum) of 6-mil plastic sheet. If the walls and ceiling are not a continuous seamless structure, the lower edges of the ceiling plastic shall extend at least 12 inches down the walls and shall be sealed on the inside of the wall plastic.

4. All surfaces of the Work Area shall be covered with at least 1 layer of 6-mil poly and sealed with tape. The flooring plastic shall extend at least 12 inches up on the walls. The walls shall then be covered with plastic from ceiling to floor level, thus overlapping the floor plastic by a minimum of 12 inches. The bottom portion of the wall plastic is thus overlapping the floor plastic. All joints in the plastic shall be overlapped at least 12 inches and all edges of the plastic shall be sealed with tape and glue. Additional layers of 4-mil (minimum) plastic sheet may be used as drop cloths to aid in cleanup of bulk materials. If the floor or wall plastic necessitates seams, the seams in successive layers of plastic sheet shall be staggered so as to reduce the potential for water or asbestos to penetrate through the covering. A distance of 6 feet between seams shall be deemed to be sufficient.

   If the containment leaks during the abatement process, the Asbestos Abatement Contractor shall cease work, clean the containment floor around the leaking area, remove the damaged plastic and replace with new plastic as necessary to prevent additional leaks. If using large amounts of water, the Asbestos Abatement Contractor must ensure that no leaks will occur. Any damage caused by water leaks will be the responsibility of the Asbestos Abatement Contractor.

5. The decontamination enclosure system described in this section shall be sealed to the containment barrier.

6. Adequate portable fire extinguisher equipment shall be maintained within the work area, meeting at least the requirements of *29 CFR 1910.157*.

7. The Asbestos Abatement Contractor shall post emergency exiting procedures and signs marking emergency and fire exits from the work area in accordance with the approved action plan.

K. Decontamination Enclosure Systems shall be in accordance with this paragraph and *PARAGRAPH 1.17*.

1.17 REGULATED AREAS

A. Work of this section consists of preparing a regulated area for work of the following Specifications:

1. *PARAGRAPH 1.15 – PROJECT DECONTAMINATION*

2. *PARAGRAPH 3.01 – REMOVAL OF CLASS I ASBESTOS-CONTAINING MATERIALS*

3. *PARAGRAPH 3.02 – REMOVAL OF CLASS II ASBESTOS-CONTAINING MATERIALS*

B. Securing Work Area:

1. Secure Work Area from access by occupants, staff, or users of the building. Accomplish this where possible by locking doors, windows, or other means of access to the area, or by constructing temporary wood stud and plywood barriers.

2. Shut down and seal all HVAC supply and AFD exhaust units.

3. Permit access to full negative pressure enclosure Work Areas only through the Decontamination Unit(s). All other means of access shall be closed off and sealed with warning signs displayed on the clean side of the sealed access when applicable. Clearly and conspicuously mark all emergency egress (exit) locations on the interior of the containment.

4. Provide Warning Signs at each visual and physical barrier as specified in WISHA/OSHA Asbestos Standards.

5. Alternate methods of containing the Work Area may be submitted to the Owner for approval. Do not proceed with any such method(s) without prior written approval of the Owner.

6. In the event of power failure, the Owner shall be notified immediately; all removal work is to be stopped immediately and the Work Area sprayed with amended water mist. If the power failure continues for 15 minutes, personnel shall leave the work area following the decontamination procedures as per *PARAGRAPH 1.14* and shall seal the Work Area to prevent dissemination of fibers. In the event that the power failure is likely to continue past the end of shift, the Work Area will be reentered by properly protected personnel, any previously disturbed asbestos-containing material will be sprayed with post-abatement surface sealer (encapsulant), and other actions shall be taken to minimize dissemination of fibers.

7. If contaminated water leaks from the Work Area, the Owner shall be notified immediately. Any contamination outside the Work Area shall be wet-cleaned and HEPA-vacuumed to the satisfaction of the Owner. Porous surfaces such as saturated carpeting shall be considered asbestos contaminated materials and disposed of as such at no extra cost to the Building Owner.

8. All surfaces and facilities inside of regulated areas shall be protected from asbestos contamination by a minimum of 1 layer of 6-mil polyethylene, unless surfaces are considered part of the Scope of Work.

9. Setup and management of the Controlled or Regulated area are to be under the supervision of a Certified Asbestos Supervisor.

10. Before start of work, comply with requirement for worker protection in *PARAGRAPH 1.13*.

11. Do not allow eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics in the Regulated Area.

C. Demarcation of Regulated Area: Demarcate each Regulated Area with a sheet plastic drop sheet as described below.

1. Post warning signs that carry the following legends:

a. First Sign: Provide warning signs at each locked door with lettering sized in 3 inch block style leading to the Controlled Area as follows:

KEEP OUT

b. Second Sign: Immediately inside the locked door and outside the Controlled Area, post an approximately 20 inch by 14 inch manufactured caution sign displaying the following legend with letter sizes and styles of a visibility required by 20 CFR 1926:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

c. Where the controlled area is in a large area such as on part of a boiler room or open office area, delineate area with 3 inch wide polyethylene ribbon with the printed warning "CAUTION - ASBESTOS REMOVAL." Install this ribbon at between 3 and 4 feet above the floor.

D. Scheduling: Work may be carried out during those hours detailed in the Contract Documents – Work hours shall be 7:30 a.m. to 5:00 p.m. Monday through Friday.

E. Establishment of a Regulated Area:

1. Clean any existing dust or debris from the floor and walls, and other surface in the immediate location of the work prior to commencing work by damp mopping or by use of a High Efficiency Particulate Air (HEPA) filtered vacuum.

2. Cover floor in vicinity of Work Area and 10 feet beyond, with 6-mil polyethylene drop sheet. Where work is adjacent to wall, extend drop sheet up wall and secure at ceiling with duct tape.

3. Cover any objects in the Work Area, including but not limited to stored items with 6-mil polyethylene drop sheet.

4. Seal all openings, supply and exhaust vents, and convectors within 10 feet of the Work Area with 6-mil polyethylene sheeting secured and completely sealed with duct tape.

5. Perform the work per the appropriate Specification section while on plastic drop sheet.

6. Immediately remove any asbestos-containing debris on the drop sheet either by using a HEPA vacuum or by spraying with amended water or removal encapsulant, collecting with wet paper towels, placing in a disposal bag while still wet, and cleaning surface of plastic sheet with wet paper towels.

7. At completion of work in an area, complete the following before stepping off drop sheet:

a. While standing on plastic sheet, thoroughly HEPA vacuum ladder and any tools used and pass to worker standing off the sheet.

b. The worker standing off the sheet shall HEPA vacuum thoroughly the worker standing on the sheet.

c. The worker on the sheet shall thoroughly HEPA vacuum all surfaces of the plastic sheet, bags, and any other items on the sheet including his own feet.

d. If moving to the next Work Area in the same secured area, the worker on the drop sheet shall don clean foot covers, placing each foot in turn off the sheet as the foot cover is put on. Remove clean foot covers at the next Work Area while standing on the sheet. Dispose of the used foot covers along with the plastic sheet at completion of work in that area. Do not reuse foot covers.

8. If workday is complete or if next Work Area is in another secured area, all workers shall remove disposable suits turning them inside out while doing so.

9. Fold sheet and all its contents toward the center.

10. Place the sheet in a properly labeled disposal bag.

11. Partially close the bag and collapse it with the HEPA vacuum.

12. Twist the bag shut, bend over and seal with duct tape by wrapping around bag neck at least 3 times.

13. Clean all surfaces of the Work Area by use of a HEPA-filter vacuum and wet wiping until no visible residue remains.

14. At completion of work, require all workers to complete decontamination procedures in accordance with *PARAGRAPH 1.13*. Workers have the option of showering at the Decontamination Enclosure if needed or wanted.

15. Remove Respirators using the procedure in *PARAGRAPH 1.13* if shower was not used.

16. At the completion of work, require all workers to compete wet decontamination procedures in accordance with *PARAGRAPH 1.13*.

F. Existing Services:

1. In the event of power failure, the Owner shall be notified immediately; all removal work is to be stopped immediately and the Work Area sprayed with amended water mist. If the power failure continues for 15-minutes, personnel shall leave the work area following the decontamination procedures per *PARAGRAPH 1.14* and shall seal the Work Area to prevent dissemination of fibers. In the event that the power failure is likely to continue past the end of shift, the Work Area will be reentered by properly protected personnel, any previously disturbed asbestos-containing material will be sprayed with post-abatement surface sealer (encapsulant), and other actions shall be taken to minimize dissemination of fibers.

2. If contaminated water leaks from the Work Area, the Owner shall be notified immediately. Any contamination outside the Work Area shall be wet-cleaned and HEPA-vacuumed to the satisfaction of the Owner. Porous surfaces such as saturated carpeting shall be considered asbestos contaminated materials and disposed of as such at no extra cost to the Building Owner.

3. All surfaces and facilities inside of regulated areas shall be protected from asbestos contamination by a minimum of one (1) layer of 6-mil polyethylene, unless surfaces are considered part of the Scope of Work.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Plastic Sheet: Shall be polyethylene sized in lengths and widths to minimize the frequency of joints. The minimum thickness shall be:

Application	Thickness
Floor Barriers	6 mil
All others	6 mil

B. Tape: Tape shall be capable of sealing joints of adjacent sheets of plastic and of attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and shall be capable of adhering under dry and wet conditions, including wetting by amended water.

C. Surfactant (Wetting Agent): Shall consist of 50% polyoxyethylene ether and 50% polyethylene ester, or equivalent, and shall be mixed with water at a concentration of one ounce surfactant to 5 gallons of water (or as recommended by the manufacturer in the case of an equivalent) to produce amended water.

D. Post-Abatement Surface Sealer (Encapsulant, Lock Down Encapsulant): Surface sealers shall be rated as "Acceptable" using the test method described in the EPA document published as *National Technical Information Service Report PB 88-113 329/AS*, which is available from NTIS, 5285 Port Royal Road, Springfield, VA 22161. The report is summarized in *EPA Publication EPA/600/S2-87/091*, which is available from Center for Environmental Research Information, EPA, 26 Martin Luther King, Cincinnati, OH 45268.

E. Disposal Bags: Provide 6-mil thick leak-tight polyethylene bags labeled with 2 labels with text as follows:

1. First Label: Provide in accordance with WAC 296-62-07721 of WISHA's Hazard Communication Standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

2. Second Label: Provide in accordance with U.S. Department of Transportation regulation on hazardous waste marking, *49 CFR parts 171* and *172*:

RQ HAZARDOUS SUBSTANCE,
SOLID, NOS,
ORM-E, NA 9188
(ASBESTOS)

F. Additional labeling requirements including the date the material was collected for disposal, name of waste generator and the location that the waste was generated at, in accordance with ORCAA regulations.

G. Spray Adhesive: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene. If hazardous chemicals are present in adhesives, provide MSDS to Owner and proper respiratory protection to workers.

2.02 TOOLS AND EQUIPMENT

A. Airless Sprayer: Amended water and surface sealers shall be applied with an airless or other low-pressure sprayer or injector suitable for the specific application.

B. Air Purifying Equipment: Equipment used for establishing negative pressure in the Work Area shall be HEPA-filtered, and shall not discharge an air stream outside of the Work Area with asbestos fiber concentration equal to or greater than 0.01 fibers/cc.

C. Vacuum Equipment: All vacuum equipment used for cleanup shall be HEPA-filtered. At least one (1) HEPA vacuum shall be equipped with floor (hard surface and carpet) cleaning attachments.

D. Transportation Equipment: Shall be suitable for loading, temporary storage, transport, and unloading of asbestos-contaminated materials without exposure to persons or property. Shall be currently registered with the State for transport of hazardous wastes and be currently certified by the State for vehicle inspection.

E. Other Tools and Equipment: The Asbestos Abatement Contractor shall furnish all equipment such as lumber, nails, ladders, HEPA vacuums, and hardware and supplies which may be required to construct and dismantle the decontamination areas and the barriers that isolate the work area. The Asbestos Abatement Contractor shall provide other suitable tools for the abatement activities including, but not limited to hand scrapers, wire brushes, sponges, mops, and shovels.

F. Electrical: Electrical tools and equipment shall meet all applicable codes and regulations, including, in particular, *29 CFR 1910.304(f)(5)(v), 29 CFR 1926.400-449*. Ground fault circuit-interrupters shall be used at all times for all electrical equipment, as permitted by the *National Electrical Code, Paragraph 215-9 – Ground-Fault Protection for Personnel*. If an assured equipment grounding conductor program, as described by *29 CFR 1926.404(b)(1)(iii)* is established and implemented, a description of the ground conductor program shall be included in the plan of action per *PARAGRAPH 1.04*.

G. Provide enclosed or covered trucks to haul packaged waste and debris to landfill. Protect interior of trucks with critical and primary barriers as described in this section.

PART 3 - EXECUTION

3.01 REMOVAL OF CLASS I ASBESTOS-CONTAINING MATERIALS

A. General:

1. From the time the Asbestos Abatement Contractor is ready to begin asbestos removal until all barriers and decontamination systems are removed, per *PARAGRAPH 1.15* all personnel, equipment, materials, and waste containers leaving the work area shall be decontaminated as specified in *PARAGRAPHS 1.14* and *1.15*, as applicable.

2. The Asbestos Abatement Contractor shall regulate the area in accordance with *PARAGRAPH 1.17* and have the Owner's approval prior to the start of work.

3. The Asbestos Abatement Contractor shall comply with *PARAGRAPH 1.13 - WORKER PROTECTION* prior to the start of work.

4. The following procedures are minimum requirements for *Class I* asbestos work. The Asbestos Abatement Contractor may modify these procedures in their Plan of Action with approval of a Certified Industrial Hygienist or AHERA Project Designer. All changes must be approved by the Owner in writing.

B. Asbestos Removal Operations in Full Containment:

1. Construct negative pressure enclosures, decontamination units, and waste-load out units in accordance with *PARAGRAPH 1.14*.

2. The asbestos-containing material shall be sprayed or otherwise wetted with amended water. If sprayed, a fine low-pressure spray must be applied to minimize fiber emission during the spraying. The asbestos shall be sufficiently wetted to prevent airborne fiber concentrations in the work area in excess of the concentrations as specified in *PARAGRAPH 1.08*.

3. Removal of the asbestos-containing material shall be done in small sections. The asbestos-containing material shall be removed while wet and packed and sealed in asbestos-labeled plastic bags. The plastic bags may either be transported immediately or temporarily stored in the work area for later transport.

4. After completion of gross asbestos removal work, all surfaces from which asbestos has been removed shall be wire-brushed and/or wet-scrubbed or cleaned by an equivalent method to remove all visible asbestos-containing material. During this work, the surfaces being cleaned shall be kept wet whenever feasible.

5. All materials, equipment, tools and bagged waste taken from the Work Area after the initiation of work designated in this section shall be thoroughly decontaminated as follows:

   a. Tools, Equipment, Other Materials: Workers shall remove gross contamination from the material and their clothing before leaving the work area. Workers proceed to the Contaminated/Equipment Room where tools and equipment shall be washed.

b. After washing, tools, equipment, and materials are passed into the Shower Room, where they may be re-washed, and must be re-washed in the shower if necessary, to remove visible debris. Tools, equipment, and materials are passed from the Shower Room into the Equipment/Waste Removal Room and then outside the decontamination enclosure.

c. Bagged Waste: Workers shall remove gross contamination from the bagged waste and their clothing before leaving the Work Area. Workers take bagged waste to the equipment/waste removal room, where the bags are wet-cleaned. After the bagged waste is wet-cleaned in the equipment/waste room, the bags shall be handed into the clean room where they shall be placed in a second, clean labeled plastic bag, sealed, washed, and handed into the uncontaminated area, or washed and handed into the Equipment/Waste Removal Room to be placed into clean, labeled drums. The waste material in sealed double containers (2 bags, or a bag and a drum) is passed from the Equipment/Waste Removal Room to outside the decontamination enclosure.

6. Dispose of all debris as asbestos containing in accordance with *PARAGRAPH 3.03*.

3.02 REMOVAL OF CLASS II ASBESTOS-CONTAINING MATERIALS

A. Comply with *PARAGRAPHS 1.13* and *1.17* prior to start of removal of asbestos-containing materials.

B. The procedures in this section may only be used for the removal of the asbestos-containing materials listed in *PARAGRAPH 3.02 A*.

C. General Procedures for Vinyl Floor Tile and Mastic Abatement:

1. Critical barriers shall be placed over all openings to the regulated area.

2. Place a layer of 6-mil poly on the sides of the walls 12 inches up the wall surfaces in the area of abatement to contain materials.

3. Use continuous water sprinkling to limit dust and dirt rising and scattering in air to lowest practical level. Comply with environmental regulations pertaining to environmental protection.

4. Use manual methods to dislodge and remove vinyl tile intact (if possible) and mastic from specified floor surfaces.

5. Dry sweeping is prohibited.

6. Mechanical removal is prohibited unless performed in a negative pressure enclosure described in *29CFR1926.1101*.

7. Immediately remove all dusts and debris with a HEPA vacuum to avoid accumulations.

8. Remove disposable suits and place these into bag with waste.

9. Dispose of all debris as asbestos containing in accordance with *PARAGRAPH 3.03.*

10. At the completion of work, decontaminate workers in accordance with decontamination Specifications.

D. General Procedures for Non-friable Roofing Materials Abatement:

1. Remove non-friable asbestos-containing roofing material intact unless it is shown that it cannot be removed intact.

2. Dust control methods shall be used as necessary to assure no fugitive dust is generated from the removal of nonfriable asbestos-containing roofing materials.

3. Use manual methods to dislodge and remove the asbestos-containing roofing material such as spud bar and knife. Cutting machines may be used in accordance with *WAC 296-62-07712(10)(b)*.

4. Immediately remove all dusts and debris with a HEPA vacuum.

5. Removed roofing material shall be lowered to the ground via closed chute or wrapped in plastic sheeting, no later than the end of the work shift.

6. The Contractor shall continually monitor the chute, dumpster, and adjacent areas to ensure there is no fugitive roofing debris. Debris shall be immediately cleaned up and placed in the proper waste receptacle.

7. Removed roofing material shall then be transferred to a closed receptacle in a manner that precludes the dispersion of dust which is labeled according to ORCAA requirements as nonfriable asbestos-containing roofing materials.

E. General Procedures for Other Class II Abatement:

1. Remove asbestos-containing materials intact unless shown that the material cannot be removed intact.

2. Use continuous water sprinkling to limit dust and dirt rising and scattering in air to lowest practical level. Comply with environmental regulations pertaining to environmental protection.

3. Use manual methods to dislodge and remove the asbestos-containing material.

4. Immediately remove all dusts and debris with a HEPA vacuum.

5. Removed asbestos-containing material shall be removed, immediately bagged or wrapped or kept wetted until transferred to a closed receptacle no later than the end of the work shift.

6. Dispose of all debris as asbestos containing in accordance with *PARAGRAPH 3.03.*

7. Remove disposable suits and place these into bag with waste.

8. At completion of work, decontaminate workers in accordance with decontamination sections of these Specifications.

F. Asbestos Removal Operations Combining Mini-Enclosure and Glove Bag Procedures: The Asbestos Abatement Contractor shall, in accordance with *WAC 296-62-07712(7)(b)*, start abatement activities on asbestos-containing pipe insulation utilizing glove bags. The following procedures shall be strictly adhered to:

1. Glove bag removal will not be allowed on pipes with temperatures in excess of 150°F.

2. Glove bags shall be smoke-tested for leaks and any leaks shall be sealed prior to use.

3. Glove bags may be used only once and may not be moved.

4. Prior to disposal, glove bags shall be collapsed by removing air within them by using a HEPA vacuum.

5. At least 2 persons shall perform all glove bag removals.

6. Remove ACM pipe insulation and pipe using the following procedures:

   a. Seal all openings of supply and exhaust vents within 10 feet of work within a functional space.

   b. HEPA vacuum the work site. Pre-clean all surfaces within a 6 foot radius of the ACM material to be removed. Wrap and seal loose and friable asbestos-containing material adjacent to the glove bag operation in 2 layers of 6-mil poly.

   c. Wet surface with amended water or removal encapsulant.

   d. Place a layer of 6-mil poly as a drop sheet beneath the area the glove bag is fastened.

7. Once all abatement activities have been conducted in a single work area, the Asbestos Abatement Contractor shall conduct clearance activities.

8. Following completion of removal of all pipe and ACM and all incidental asbestos-containing materials associated with the project, the Asbestos Abatement Contractor shall apply an approved lock-down encapsulant as necessary to comply with standard abatement practices.

3.03 DISPOSAL OF ASBESTOS-CONTAINING MATERIALS

A. Package all asbestos-containing waste material and contaminated debris in accordance with the provisions of these Specifications and dispose of the waste at designated landfills in compliance with all applicable regulations within 10-days of material removal.

B. Double-bag (2 6-mil polyethylene disposal bags) all asbestos-containing waste and contaminated debris; bags shall not be over-filled and shall be securely sealed to prevent accidental opening or leakage. If sharp objects are included in the asbestos-containing waste, bags shall be placed in fiberboard drums for transportation to the landfill.

C. Warning labels having permanent adhesive and waterproof print, or being permanently printed on the container, shall be affixed to the sides and lid, where applicable, of all containers. Warning labels must be conspicuous and legible, and conform to the requirements of *29 CFR 1926.1101*, as well as applicable WISHA and DOE regulations. Minimum labeling requirements shall be asbestos warning labels, date of removal, building name, and building address.

D. Remove bagged or drummed materials from the building on a daily basis. Asbestos Abatement Contractor is responsible for protecting remaining finishes along route of transport through facility.

E. Do not store containerized materials outside of the Work Area. Containerized materials can be stored for no more than 8-hours within the Work Area. Take containers from the work area directly to a sealed truck or lined receptacle. Carefully load containerized waste in fully enclosed trucks or other appropriate vehicles for transport. Exercise care before and during transport to ensure that no unauthorized persons have access to the material.

F. Prior to shipment of the asbestos-containing waste, the Asbestos Abatement Contractor shall make available the transport vehicle and the waste for inspection by the Owner so that the Owner can check the amount of waste (for example, number of bags or drums, or volume of waste) and its condition (for example, whether the bags or drums appear to be sealed and not leaking).

G. At disposal site, carefully unload sealed plastic bags from the truck. If bags are intact and drums are not contaminated, the drums may be reused. Treat any drums that have been contaminated as asbestos-containing waste and dispose of in accordance with these Specifications.

H. Waste manifest(s) signed by the Asbestos Abatement Contractor and the Owner shall be provided to the Owner at the time that asbestos-containing materials are removed from the facility property. Completed waste manifest(s) signed by Asbestos Abatement Contractor, the disposal facilities, and any additional transporter(s), transferor(s) and/or treater(s) shall be provided to the Owner within 10 days of the time at which the asbestos-containing wastes are received at the disposal facilities. Completed certificate(s) of destruction signed by the Asbestos Abatement Contractor, the destruction facilities, and any additional transporter(s), transferor(s), treater(s), and/or disposal facilities shall be provided to the Owner within 10 days of the time at which the materials are destroyed. For any state requiring registration of asbestos-containing waste hauling vehicles and/or asbestos-containing waste hauling drivers, the Asbestos Abatement Contractor shall provide proof that all such vehicles and/or drivers used under this contract are currently so registered.

I. At completion of hauling and disposal of each load, submit a copy of the chain of custody form and landfill receipt to the Owner. Comply with all paperwork and response times stipulated in applicable regulations.

J. The Asbestos Abatement Contractor shall be responsible for the ultimate disposal and/or destruction of asbestos-containing wastes at approved disposal and/or destruction site(s) according to all applicable regulations.

END OF SECTION 02080