



CITY OF  
**MUKILTEO**

*Planning and Community  
Development Department*

**Historic Preservation  
Commission  
City Hall Council Chambers  
June 22, 2023**

The Historic Preservation Commission special meeting will be held in the City Council Chambers, 11930 Cyrus Way. For those who wish to participate remotely, live streaming of the meeting is available via Zoom.

Zoom: <https://us02web.zoom.us/j/87481430583>  
Meeting ID: 874 8143 0583 | By Phone: (253) 215-8782

**CALL TO ORDER – 6:30 PM**

**FLAG SALUTE**

**LAND ACKNOWLEDGEMENT**

**ROLL CALL**

**AGENDA ORDER**

**APPROVAL OF MINUTES FROM:**

- May 25, 2023

**PUBLIC COMMENTS**

**MEETING ITEMS**

- Hawthorn Hall Update

**REPORTS AND COMMUNICATIONS**

- Community Development Department Weekly Council Update Report (FYI)

**NEXT MEETING:**

- July 27, 2023

**ADJOURNMENT**

Complete packets are available at City Hall, 11930 Cyrus Way, Mukilteo, WA 98275

*If you have a disability, which may limit your participation in the hearing process, please contact the City Clerk's office at 425.263.8005 at least two (2) business days in advance of the meeting so that we can arrange a reasonable accommodation for you.*

**APPROVAL OF MINUTES  
MAY 25, 2023**

**CITY OF MUKILTEO, WASHINGTON**  
**HISTORIC PRESERVATION COMMISSION MEETING MINUTES**  
**MAY 25, 2023**

**City Council Chambers - 11930 Cyrus Way / Virtual Meeting via Zoom**

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CALL TO ORDER	Chairperson Carlson called the meeting to order at 6:32 PM and led the flag salute.		
ATTENDANCE	<u>Commissioners</u> Chairperson Carlson, Commissioners Allen, Archipley, Fisher, Kirk, and Ripley were present. Commissioner Northfield was excused. Councilperson Khan was present.  <u>City Staff</u> Community Development Director Galuska, and Permit Lead Reyes were present.		
AGENDA ORDER	No changes.		
APPROVAL OF MINUTES	MOTION:	To approve the minutes of March 23, 2023.	
	MADE BY:	Commissioner Fisher	
	SECONDED:	Commissioner Allen	
	ACTION:	PASSED UNANIMOUSLY 6-0	
PUBLIC COMMENTS	None.		
MEETING ITEMS	<b>Update on Hawthorne Hall.</b> Director Galuska provided updates of previous site visit with building official on condition and approximate cost to bring Hawthorne Hall up to code. <ul style="list-style-type: none"><li>▪ Approximate cost of initial repairs \$15,000 - \$20,000.</li><li>▪ Commissioners can prepare for grants and council will need approval.</li><li>▪ Commissioner Kirk and Allen volunteered to provide a letter for permission to the council to apply for a grant for Hawthorne Hall preservation.</li></ul>		
REPORTS	<b>Community Development Department Weekly Council Update Report (FYI)</b> Director Galuska provided an update of staffing in the Community Development department. <ul style="list-style-type: none"><li>▪ Planning Manager offer was sent. Senior planner position was underfilled with two Associate Planners.</li><li>▪ Loss of Dustin Goodwin as the GIS Coordinator.</li><li>▪ New City Clerk was hired.</li></ul>		
ADJOURNMENT	NEXT MEETING	<b>June 22, 2023</b>	
	MOTION:	To adjourn the meeting at 7:10 PM.	
	MADE BY:	Chair Carlson	
	SECONDED:	Commissioner Allen	
	ACTION:	PASSED UNANIMOUSLY 6-0	

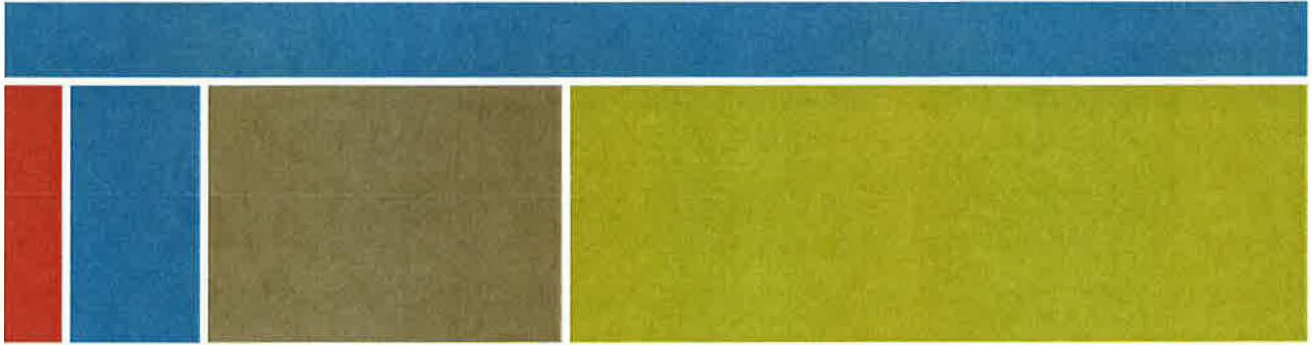
These minutes are excerpts from the Planning Commission proceedings. An audio recording of the meeting was made.

Prepared by:  
DRAFT

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Joseph Reyes, Permit Services Lead

## EXHIBIT 2



**Hawthorne Hall**

**1134 2<sup>nd</sup> Street, Mukilteo, WA**

## **Structural Condition Assessment Report**

Submitted to:  
City of Mukilteo  
11930 Cyrus Way  
Mukilteo, WA 98275

Prepared By:  
Otak, Inc.  
808 3<sup>rd</sup> Avenue, Suite 800  
Portland, OR 97204

September 18, 2020

Project No. 032959.A00

## PROJECT DEVELOPMENT TEAM

**Structural  
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### ***Appendices***

- Appendix A—Hawthorne Hall Images
- Appendix B—Checklists
- Appendix C—Hazardous Materials Report
- Appendix D—Previous Reports
- Appendix E—Cost Estimates

## Executive Summary

Otak, Inc. was retained by the City of Mukilteo to perform field investigations and prepare a structural assessment report for Hawthorne Hall, located at 1134 2<sup>nd</sup> Street, Mukilteo, Washington. This report characterizes the condition of the structural framing in Hawthorne Hall and outlines the repairs and retrofits required to bring the building up to an acceptable level of performance per current building codes. This report is intended to assist the City in making decisions about the future use of Hawthorne Hall by documenting deficiencies and providing rehabilitation costs. The request was prompted when the Boys and Girls Clubs of Snohomish County ("BGCSC"), a long term Hawthorne Hall tenant, indicated that it would vacate the building in 2019 due to the completion of its new Mukilteo Boys and Girls Club facility at 10600 47th Place West.

Based on field investigations by Otak, the building has been determined to be in fair condition overall. The foundations and stair framing were determined to be in good condition and adequate for current code required loads. The floor and wall framing are in good condition as well with some deficiencies under current code required loads. The roof framing is in good condition in the main hall but exhibits visible sagging in the west wing and areas of decay along the exposed portions of the southwest side of the building. The roof framing in the main hall and west wing is not adequate for current codes required loads.

Recommendations for repairs and retrofits to the building include bracing and strengthening of deficient structural members, installing a bearing wall or beam to alleviate sag in the roof, and additional anchors and stronger connections between members to improve the lateral resistance of the building to wind and seismic loads.

In preparing this report a hazardous materials assessment was performed by a separate consultant. A very limited amount of asbestos was found, and presence of lead paint was detected in the main hall. Costs for mitigation of hazardous materials were not included in the structural cost estimate.

## 1. Background

Hawthorne Hall was built in the mid-1920s as a community space for meetings and social events. The original building consisted of a main hall and a two-story wing to the west. A small addition on the northwest corner of the building was added later, likely between 1980 and 1993 based on the type of construction and reference documents.

A field investigation to establish the condition of the structural framing and to document the construction of the structure was performed by Otak on June 16, 2020. Additionally, previous inspection reports, historical photos, and other documents were reviewed for background on the structure; no plans or drawings were available for the site. Limited areas of the interior wall finishes were removed to investigate the sizing and condition of the wall studs, sheathing, nailing and connectors. There was existing access to both the attic area and the crawl space. Testing was limited to localized probing of wood members to detect decay and striking Concrete Masonry Units (CMU) in the chimney areas with a hammer to determine if it was un-grouted. No destructive testing was performed and no testing of timber to determine wood species was performed. A preliminary analysis of the existing framing was conducted to determine the structural adequacy for gravity loads and tier-1 screening (ASCE 41) for lateral loads based on the provided sketches, field observations, and several assumptions.

## 2. Condition Assessment

The main hall is a one story, wood-framed building with a suspended wooden floor over a crawl space. The west wing is a two-story building with a suspended wood floor at the ground level and a wood framed upper floor. The roof framing in all areas consists of trusses/rafters sheathed in 1x skip sheathing, overlain with plywood, and topped with asphalt shingles. The exterior siding is horizontal wood siding. Windows on the north side of main hall have been covered with plywood; the rest of the windows appear to date to the original construction. The building generally consists of hard ceilings. The floor in the main hall is a wood gymnasium floor; tile and carpet are used throughout the rest of the building. The wood framing members do not appear to have been treated for termites, but most appear in very good condition. There is loose fill insulation placed above the ceiling in the attic and in the wall cavities. The walls are completely wood framed with some areas showing minor amounts of mildew on the wall surface. The flooring finishes and doors exhibit signs of wear. Overall, the building is in fair condition.

This section focuses on physical condition of elements, checking for decay, cracking, or other signs of deterioration. Structural adequacy for code mandated loads is covered in the analysis section below.

### 2.1. Foundations

*Key Findings:*

*-Foundation is in good condition.*

The exterior foundations of Hawthorne Hall are concrete cast in place footings. A 2x4 wood framed cripple wall (Figure-4 in Appendix A) frames the perimeter of the crawlspace below the first floor; at the addition a concrete stem wall frames the exterior of the crawlspace. The interior foundations (Figure-1) are 6x6 posts supported on intermittent, isolated, concrete pad footings that are spaced at 8' on center (O.C.) in both directions, at the north end of the main hall they are spaced at 2' to 4' O.C. All posts are supported laterally with 2x6 kickers (Figure-3) from all four directions.

No cracking was observed on the visible portions of the exterior of the foundations. Additionally, no significant cracking was observed on the foundations visible from within the crawlspace. Cracking in foundations can be a sign of distress due to settlement or other displacement. The overall foundation system appears stable, level and in good repair.



## 2.2. Floor Framing

### Key Findings:

*-Floor framing is in good condition with no decay detected.*

The lower level flooring in the main hall, west wing, and addition is framed with 2x8 floor joists at 16 inches O.C. spanning 8 feet in the north-south direction between 6x8 floor beams. Joists are two-span joists and the lap splices for adjacent joists are staggered. The 6x8 beams have a typical span of 8 feet; in select locations around the perimeter they span up to 10 feet. This floor framing is sheathed with 1x decking.

Upper level flooring in the west wing is framed with 2x12 floor joists at 24 inches O.C. spanning 20 feet in the east-west direction and sheathed with 1x decking. Mezzanine flooring is also framed with 2x12 floor joists at 24 inches O.C. spanning 20 feet in the north-south direction and sheathed with 1x decking. Refer to Figures – 5, 6, 9.

No signs of decay were found in floor framing.

## 2.3. Wall Framing

### Key Findings:

*-Wall framing is in good condition.*

*-Walls not bolted/anchored to foundation.*

Typical wall framing for both interior and exterior walls is 2x6 framing at 16 inches O.C. (Figure-7). All the walls have 1x6 sheathing on the outside and 1x2 sheathing on the inside; both span horizontally and are attached to the wall studs with a staggered nailing pattern. In select locations, interior sheathing was removed to observe the framing and the sill plates. Generally, the framing appeared to be in good condition. In localized areas of the second floor of the west wing, some signs of minor water intrusion were observed with no signs of decay in the wood. The framing was not observed to be bolted to the foundation and appeared to have no hold-downs for the shear walls. All the windows on the north wall of the main hall had been removed and closed with plywood permanently.

Typically, doors fit squarely in their door frames, indicating that any settlement has been minimal. The brick masonry veneer surrounding the chimneys was examined and found to be in fair condition; it did not exhibit signs of cracking in the brick or mortar and appeared to remain adhered to the building.

## 2.4. Roof Framing

### Key Findings:

*-Trusses in good condition with decay limited to exterior portions.*

*-Visible sagging in some areas of roof.*

*-Deficient support for roof at sagging portion.*

The building has four types of roof framing trusses in total, two types in the main gym area (Trusses A and B), one in the second story area of the southwest side of the building (Truss C), and one in the addition on the northwest side (Truss D).

Truss Type A is a scissor truss that spans 50 feet in the east-west direction and is spaced at 24 inches O.C. over the main hall. These trusses have 2x6 top and bottom chords and 1x10 web members at approximately 5 feet O.C.. The top chord gable slopes at a rate of 8:12 and bottom chord gable slopes at a rate of 3:12. These trusses bear on the exterior walls and support a curved ceiling framed with 1x decking spanning over the bottom chords. Refer to Figures – 11, 12.

Truss Type B is a queen post raised truss that spans 50 feet in the east-west direction and is spaced at 24

inches O.C. over the northmost 15 feet of the main hall. These trusses have 2x6 top and bottom chords and (3) 1x10 web members. The top chord slopes at a rate of 8:12; the bottom chord is flat and is 4 feet higher than the wall top plates. 2x4 ceiling joists span in the north-south direction and attach to the bottom chord of the last Truss A and the north exterior wall. 2x6 ceiling rafters frame from the end bearing points to the 1/3 point on the bottom chord, refer to Figures -13, 14.

Truss Type C is a modified queen post raised truss that spans 37 feet in the north-south direction over the original west wing. These trusses have 2x6 top and bottom chords and (7) 1x10 web members sloped at 45 degrees. The top chord slopes at a rate of approximately 8:12. These trusses bear at the exterior walls at the north and south ends of the west wing, as well as an intermediate bearing point 13 feet in from each exterior wall. This intermediate bearing point coincides with the end of the bottom chord of the truss. Most areas of these top chord tails on north side were cut off (except at the stair area) and replaced with 2x6 roof rafters sloped at 3:12. The transition between Truss Type A and Truss Type C consists of 2x6 over framing rafters and (10) 2x6 vertical supports. Refer to Figure - 15.

Truss Type D is a mono truss that spans 20 feet in the east-west direction adjacent to the northwest corner of the original hall. These trusses have 2x4 top and bottom chords and (4) 2x4 web members. The top chord slopes at a rate of 6:12 and the bottom chord is level. These trusses are hung from the side of the original hall and the tops are connected to trusses A and B with 2x6 over framing members sloped at 6:12.

All ceiling and roof framing in the gym area is in good condition. There is visible sagging of the roof framing in the west wing. The intermediate bearing point of Truss Type C on the south side of the trusses is not properly supported below; the trusses bear on a wall on the second story but there is no corresponding wall at the ground story. This break in load path corresponds to the most visible area of sagging.

The roof is sheathed in 1/2-inch plywood and 1x decking which has been added after the original construction. There is a jerkinhead roof (Figure-15) at each end of the building; the jerkinhead roof features 2x6 framing in good condition. In several locations, the rafter tails have decayed and were sistered with new rafter tails (Figure-16) especially on the southwest side. All other roof and ceiling framing appeared to be in good condition with no signs of decay or distress.

Mechanical equipment and light fixtures are framed from the roof or ceiling at several locations. Some appear to be braced to the walls while others are not.

## **2.5. Stair Framing**

The building has stairs at one location connecting lower and upper levels. The stairwell is 12 feet long and 3 feet wide. The stairs are framed with (3) 2x12 stringers with clear depth of 6 inches, rise of 6.5 inches, and run of 11 inches. Framing is in good condition with no decay detected.

## **3. Structural Analysis**

A preliminary structural analysis was performed to determine the general adequacy of the structure for current code requirements.

Roof loads were based on 25 pounds per square foot (psf) roof dead loads and 25 psf roof live loads. Floor loads were assumed to be 40 psf for the west wing upper level and mezzanine floor framing, and 100 psf for the lower level floor framing including the main hall, the west wing, and the addition.

This section uses demand to capacity ratios to quantify structural sufficiency. This compares the current code demands to the capacity of individual elements. Ratios 1.0 or less are considered sufficient for current codes; ratios

higher than 1.0 are deficient. It should be noted that under the Existing Building Code, there is some allowance for buildings to be occupied when the ratio is higher than 1.0; this analysis is beyond the scope of this report.

### **3.1. Foundation**

#### *Key Findings:*

*-Foundations were found to be adequate.*

The foundation was found to be adequate for bearing using an assumed soil pressure of 1500 psf. The lack of foundation cracking, skew in doors, etc. indicates that the foundations are adequate and have not settled.

### **3.2. Floor Framing**

#### *Key Findings:*

*-First floor framing is deficient for current codes.*

*-Second floor framing is deficient for current codes.*

The ground floor joists were found to be adequate for the specified loads. Typical 6x8 floor beams were found to be adequate for the specified loads, however beams with 10 foot spans were found to be deficient. Beams with 10 foot spans had a demand to capacity ratio of about 1.5, meaning the loads on the beam were 1.5 times the capacity of the same beam. Second story floor joists were also found to be deficient with a demand to capacity ratio of about 1.3.

### **3.3. Wall Framing**

#### *Key Findings*

*-Wall framing is deficient for current codes.*

The proximity to the water and the position on the slope of a hill create a high wind condition for the structure. The existing wall framing was found to be deficient for the wind loads, with a demand to capacity ratio of about 1.5.

### **3.4. Roof Framing**

#### *Key Findings*

*-All roof trusses require some level of retrofit.*

*-Roof trusses on west wing have poor support, causing the visible sag in the roof.*

The trusses in the main hall (Truss Type A and B) were found to have a demand to capacity ratio of about 1.5. The critical members are the 1x web members. Additionally, the top chord of Truss B was found to have a demand to capacity ratio of 1.3.

The trusses at the west wing (Truss Type C) were found to be deficient with a demand to capacity ratio of about 1.6. The rafters at the north end of this segment were found to be deficient with a demand to capacity ratio of about 1.5. The lack of support for the south intermediate bearing wall on the second floor (as discussed above) creates the sag in the roof as well as strength deficiencies.

The trusses at the addition (Truss Type D) were found to be sufficient for the given loads, with a demand to capacity ratio of about 0.9.

No trusses exhibited attachment for wind uplift.

### **3.5. Stair Framing**

The stair framing was found to be adequate with a demand to capacity ratio of about 0.9.

## 4. Seismic Analysis (Tier-1 per ASCE 41) and Wind Analysis (ASCE 7)

### *Key Findings:*

*-Shear walls are deficient for current wind and seismic loads.*

*-Some additional deficiencies exist for seismic detailing, such as no bolting of framing to foundation, unbraced mechanical equipment, and unbraced chimneys.*

The seismic analysis of the building is based on Tier-1 screening and Tier-1 checklists from ASCE 41: Seismic Evaluation and Retrofit of Existing Buildings. A Tier-1 evaluation is used to quickly identify potential structural deficiencies in existing buildings which can then be further evaluated with a more detailed Tier-2 or Tier-3 analysis. The design earthquake spectral response acceleration for short periods (SDS) for this building is 0.981g, which corresponds to a high level of seismicity. This is expected due to the proximity to the Cascadia Subduction Zone, located off the west coast of North America, which extends from Vancouver B.C. to northern California. The seismic soil site class was estimated to be Class C (very dense soil and soft rock) based on visual inspection of foundation soils and assumed soil values. Seismic loading of the building was based on these parameters and the requirements of the ASCE 41 Tier-1 screening and Tier-1 checklists.

Wind loadings are based on ASCE 7: Minimum Design Loads for Buildings and Other Structures. An ultimate design wind speed of 115 miles per hour is specified for this site per ASCE 7. Included in the wind analysis were factors considering topography and site conditions.

The results of our analysis show that in both directions the lateral load demands from wind are greater than the seismic loads. Per ACSE 41, the lateral capacity of horizontal/straight sheathing is 100lbs/ft with demand to capacity ratio around 6.0 for shear walls, and the lateral capacity of plywood sheathing is 1000lbs/ft with demand to capacity ratio around 0.89 for roof diaphragm.

The lateral resisting system for the building consists of a plywood roof diaphragm (Figure-10) over the entire roof which is sheathed with ½ plywood and all the exterior walls which are sheathed with 1x6 decking (Figure-7). The forces are then transmitted down through the exterior shear walls by anchorage of the sill plates to the concrete foundations. Our analysis indicates that both in the longitudinal and transverse directions, the demands on the end shear walls and anchorages have demand to capacity ratios higher than 1.0 and therefore we recommend upgrades.

## 5. Non-Compliance Items – Checklists (Life Safety)

These checklists are part of the Tier 1 screening process and serve to quickly identify potential deficiencies. They do not serve as a detailed analysis but help in quantifying work to be done and determine pricing of repairs. A full Tier 1 checklist from ASCE 41 is included in Appendix B.

### 5.1. Basic Configuration Checklist

- Load Path – The structure does not contain a well-defined load path to transfer loads from roof to the foundation.
- Liquefaction – Washington Department of Natural Resources lists the site as having low liquefaction risk.
- Slope Failure – The building is on a slope; there are no mapped landslides on the Washington Department of Natural Resources LIDAR maps, but a hazard could still exist for slope instability.

### 5.2. Structural Checklist for Type W2

- Shear Stress Check – The shear stress in the shear walls, calculated using Section 4.4.3.3 is greater than 100lbs/ft
- Walls Connected Through Floors – The shear walls are connected through floors with continuous sheathing but with no hold-downs.
- Wood Posts Connections – No positive connections of wood posts to the foundation.
- Wood Sills – Woods sill are nailed without proper anchorage to the foundation.
- Girder-Column Connection – No positive connection between girders/columns.

### 5.3. Non-Structural Checklist for Type W2

- Flexible Couplings – No flexible couplings on fire suppression or gas piping.
- Emergency Lighting – Not properly anchored/braced.
- Masonry Chimneys – No proper anchorage for masonry chimneys at each floor level.
- Suspended Equipment – Equipment suspended does not have adequate lateral bracing to accommodate free swing without causing any damage.
- Electrical Equipment – Not laterally braced to the structure.
- Fluid/Gas Piping – Does not have flexible couplings.

## 6. Recommendations

Based on the condition of the structure as detailed in this report, the following modifications are recommended to bring the building up to an acceptable level of performance per current building codes. Costs for these modifications are included in Appendix E. Several of the recommended modifications require additional demolition and repair; for example, adding plywood sheathing to the roof requires the roof to be removed and replaced. When estimating overall costs for the project, other repair costs not considered structural, such as the cost of a new roof, may already be included in the cost of the structural repairs.

### 6.1. Foundations

- Add posts and concrete pedestals to the perimeter of the building at 8 feet O.C.. This will reduce the 10 foot spans of the 6x8 beams and provide adequate capacity for the 100 psf live load.
- Add sill anchors to the cripple wall at 24 inches O.C. to provide lateral connectivity to the foundation
- Add hold-downs to the foundation, with ties between the cripple wall and the shear walls above.
- Add positive anchorage between posts in crawlspace and foundation by bolting framing to foundation.
- Add positive connection/brackets between all beams and posts in crawlspace.

## **6.2. Floor Framing**

### **6.2.1. Level 1**

- Add positive anchorage of floor joists to the floor beams with clips or similar.

### **6.2.2. Level 2**

- Add 2x12 joists at 48 inches O.C. to second floor and mezzanine to provide 40 psf live load capacity.

## **6.3. Wall Framing**

- All the walls taller than 12 feet – place additional studs at 24 inches O.C. to provide adequate out of plane strength.
- Add bearing wall or roof beam to south end of west wing to provide load path for roof truss bearing.

## **6.4. Roof Framing**

- Truss Types A and B – brace all 1x web members to limit the span length to 5 feet.
- Truss Type B – sister a 2x6 rafter next to the top chords (8 trusses).
- Truss Type C – add 2x6 rafters at 24 inches O.C. at truss tails on south side and at roof rafters at dormer on north side.
- Add clips for uplift anchorage at all trusses.
- At several locations – replace or sister damaged rafter tails at the eaves (approximately 70 percent of rafter tails)

## **6.5. Stairs**

- (none)

## **6.6. Lateral System/Seismic**

- Add straps at joints and openings on the roof diaphragm.
- Add blocking and light gauge clips along perimeter of roof to attach roof diaphragm to shear walls.
- Add plywood sheathing (15/32 inch minimum) with rigid nailing pattern (4 inch minimum) at all exterior walls to increase lateral capacity.
- Add hold-downs at the end of each shear wall.
- Anchor hold-downs to foundation with posts and straps at cripple wall.
- Provide seismic anchorage of shear walls to sill plates and sill plates to the foundations meeting seismic requirements of latest building codes.
- Strap chimney to building and reduce chimney heights above roof.

## **6.7. Seismic Checklist Items**

- Add seismic bracing to all suspended Mechanical, Electrical, and Plumbing (MEP) equipment.
- Add flexible connections to all MEP lines.

The Existing Building Code permits buildings to be occupied under certain conditions when they do not meet current code requirement. The purpose of this investigation was to document what would be required to meet current code and not suitability for occupancy. It should be noted that the biggest deficiency encountered was the roof support condition in the west wing where the roof is sagging. Given the deficiencies for current code that were determined during this analysis, it is recommended that prior to occupancy, either the building should be investigated for suitability for occupancy or appropriate retrofits should be designed and installed.



## APPENDIX A

### Hawthorne Hall Photos

#### Foundations



Figure 1: Intermittent Concrete footings w/6x6 Posts



Figure 2: Cripple Wall studs and Sill Plate to the Concrete footing

## Hawthorne Hall Photos, Cont'd.



Figure 3: Intermittent post footing w/ kicker supports



Figure 4: Cripple wall between footings and lower level floor framing



## Hawthorne Hall Photos, Cont'd.

### Lower Level Floor Framing



Figure 5: Lower level floor joists with floor beams



Figure 6: Floor Sheathing – 1x decking

## Hawthorne Hall Photos, Cont'd.

### Wall Framing



Figure 7: Wall Farming – Wall studs w/ exteriors 1x decking as sheathing



Figure 8: Wall Studs w/ Interior 1x decking

## Hawthorne Hall Photos, Cont'd.

### Upper Level Floor Framing



Figure 9: Upper Level Floor Framing – 1x decking over 2x12 floor joists



## Hawthorne Hall Photos, Cont'd.

### Roof Framing



Figure 10: Roof Sheathing – 1x decking under 1/2" plywood.



Figure 11: Roof Framing – Truss A w/ Over framing & vertical supports

## Hawthorne Hall Photos, Cont'd.



Figure 12: Roof Framing – Truss A



Figure 13: Roof Framing – Truss B

## Hawthorne Hall Photos, Cont'd.



Figure 14: Roof Framing – Ceiling Joists under Truss B



Figure 15: Roof Framing – Truss C w/ 1x10 Web Members



## Hawthorne Hall Photos, Cont'd.



Figure 15: Roof Framing – Truss C Dutch Gable End



Figure 16: Roof Framing – Rafter Tails Failure and Sistered with new ones

## Hawthorne Hall Photos, Cont'd.



Figure 17: Chimney – No lateral bracing



## APPENDIX B

### CHAPTER 17 TIER 1 CHECKLISTS

#### 17.1 BASIC CHECKLISTS

**17.1.1 Very Low Seismicity Checklist.** The Very Low Seismicity Checklist in Table 17-1 shall be completed for all building types in Very Low Seismicity being evaluated to the Collapse Prevention Performance Level only. Tier 1 screening shall include on-site investigation and condition assessment as required by Section 4.2.1.

Where applicable, each of the evaluation statements listed in this checklist shall be marked Compliant (C), Noncompliant (NC), Not Applicable (N/A), or Unknown (U) for a Tier 1 screening. Items that are deemed acceptable to the design professional in accordance with the evaluation statement shall be categorized as Compliant, whereas items that are determined by the design professional to require further investigation shall be categorized as Noncompliant or Unknown. For evaluation statements classified as Noncompliant or Unknown, the design professional is permitted to choose to conduct further investigation using the corresponding Tier 2 evaluation procedure listed next to each evaluation statement.

**17.1.2 Basic Configuration Checklist.** The Collapse Prevention Basic Configuration Checklist in Table 17-2 shall be completed for all building types, except buildings in Very Low Seismicity, being evaluated to the Collapse Prevention Performance Level. The Immediate Occupancy Basic Configuration Checklist in Table 17-3 shall be completed for all building types being evaluated to the Immediate Occupancy Structural Performance Level. Once the appropriate Basic Configuration Checklist has been completed, complete the appropriate building type checklist in Sections 17.2 through Section 17.18 for the relevant building type and the desired Performance Level in accordance with Table 4-6. Tier 1 screening shall include on-site investigation and condition assessment as required by Section 4.2.1.

Where applicable, each of the evaluation statements listed in this checklist shall be marked Compliant (C), Noncompliant (NC), Not Applicable (N/A), or Unknown (U) for a Tier 1 screening. Items that are deemed acceptable to the design professional in accordance with the evaluation statement shall be categorized as Compliant, whereas items that are determined by the design professional to require further investigation shall be categorized as Noncompliant or Unknown. For evaluation statements classified as Noncompliant or Unknown, the design professional is permitted to choose to conduct further investigation using the corresponding Tier 2 evaluation procedure listed next to each evaluation statement.

#### 17.2 STRUCTURAL CHECKLISTS FOR BUILDING TYPES W1: WOOD LIGHT FRAMES AND W1A: MULTI-STORY, MULTI-UNIT RESIDENTIAL WOOD FRAME

For building systems and configurations that comply with the W1 or W1a building type description in Table 3-1, the Collapse Prevention Structural Checklist in Table 17-4 shall be completed where required by Table 4-6 for Collapse Prevention Structural Performance, and the Immediate Occupancy Structural Checklist in Table 17-5 shall be completed where required by Table 4-6 for Immediate Occupancy Structural Performance. Tier 1 screening shall include on-site investigation and condition assessment as required by Section 4.2.1.

Where applicable, each of the evaluation statements listed in this checklist shall be marked Compliant (C), Noncompliant (NC), Not Applicable (N/A), or Unknown (U) for a Tier 1 screening. Items that are deemed acceptable to the design professional in accordance with the evaluation statement shall be categorized as Compliant, whereas items that are determined by the design professional to require further investigation shall be categorized as Noncompliant or Unknown. For evaluation statements classified as Noncompliant or Unknown, the design professional is permitted to choose to conduct further investigation using the corresponding Tier 2 evaluation procedure listed next to each evaluation statement.

#### 17.3 STRUCTURAL CHECKLISTS FOR BUILDING TYPE W2: WOOD FRAMES, COMMERCIAL AND INDUSTRIAL

For building systems and configurations that comply with the W2 building type description in Table 3-1, the Collapse Prevention Structural Checklist in Table 17-6 shall be completed where required by Table 4-6 for Collapse Prevention Structural Performance, and the Immediate Occupancy Structural Checklist in Table 17-7 shall be completed where required by Table 4-6 for Immediate Occupancy Structural Performance. Tier 1 screening shall include on-site investigation and condition assessment as required by Section 4.2.1.

Where applicable, each of the evaluation statements listed in this checklist shall be marked Compliant (C), Noncompliant (NC), Not Applicable (N/A), or Unknown (U) for a Tier 1 screening. Items that are deemed acceptable to the design professional in accordance with the evaluation statement shall be categorized as Compliant, whereas items that are determined by the design

**Table 17-1. Very Low Seismicity Checklist**

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
<b>Structural Components</b>			
C NC N/A U	<b>LOAD PATH:</b> The structure contains a complete, well-defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation.	5.4.1.1	A.2.1.1
C NC N/A U	<b>WALL ANCHORAGE:</b> Exterior concrete or masonry walls that are dependent on the diaphragm for lateral support are anchored for out-of-plane forces at each diaphragm level with steel anchors, reinforcing dowels, or straps that are developed into the diaphragm. Connections have adequate strength to resist the connection force calculated in the Quick Check procedure of Section 4.4.3.7.	5.7.1.1	A.5.1.1

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

**Table 17-2. Collapse Prevention Basic Configuration Checklist**

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
<b>Low Seismicity</b>			
<b>Building System—General</b>			
C NC N/A U	<b>LOAD PATH:</b> The structure contains a complete, well-defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation.	5.4.1.1	A.2.1.1
C NC N/A U	<b>ADJACENT BUILDINGS:</b> The clear distance between the building being evaluated and any adjacent building is greater than 0.25% of the height of the shorter building in low seismicity, 0.5% in moderate seismicity, and 1.5% in high seismicity.	5.4.1.2	A.2.1.2
C NC N/A U	<b>MEZZANINES:</b> Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure.	5.4.1.3	A.2.1.3
<b>Building System—Building Configuration</b>			
C NC N/A U	<b>WEAK STORY:</b> The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above.	5.4.2.1	A.2.2.2
C NC N/A U	<b>SOFT STORY:</b> The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above.	5.4.2.2	A.2.2.3
C NC N/A U	<b>VERTICAL IRREGULARITIES:</b> All vertical elements in the seismic-force-resisting system are continuous to the foundation.	5.4.2.3	A.2.2.4
C NC N/A U	<b>GEOMETRY:</b> There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines.	5.4.2.4	A.2.2.5
C NC N/A U	<b>MASS:</b> There is no change in effective mass of more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered.	5.4.2.5	A.2.2.6
C NC N/A U	<b>TORSION:</b> The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension.	5.4.2.6	A.2.2.7

*continues*

Table 17-2 (Continued). Collapse Prevention Basic Configuration Checklist

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
<b>Moderate Seismicity (Complete the Following Items in Addition to the Items for Low Seismicity)</b>			
<b>Geologic Site Hazards</b>			
C <b>NC</b> N/A U	LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance do not exist in the foundation soils at depths within 50 ft (15.2 m) under the building.	5.4.3.1	A.6.1.1
C <b>NC</b> N/A U	SLOPE FAILURE: The building site is located away from potential earthquake-induced slope failures or rockfalls so that it is unaffected by such failures or is capable of accommodating any predicted movements without failure.	5.4.3.1	A.6.1.2
C <b>NC</b> N/A U	SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated.	5.4.3.1	A.6.1.3
<b>High Seismicity (Complete the Following Items in Addition to the Items for Moderate Seismicity)</b>			
<b>Foundation Configuration</b>			
C <b>NC</b> N/A U	OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than $0.6S_a$ .	5.4.3.3	A.6.2.1
C <b>NC</b> N/A U	TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Site Class A, B, or C.	5.4.3.4	A.6.2.2

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Table 17-3. Immediate Occupancy Basic Configuration Checklist

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
<b>Very Low Seismicity</b>			
<b>Building System—General</b>			
C NC N/A U	LOAD PATH: The structure contains a complete, well-defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation.	5.4.1.1	A.2.1.1
C NC N/A U	ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 0.5% of the height of the shorter building in low seismicity, 1.0% in moderate seismicity, and 3.0% in high seismicity.	5.4.1.2	A.2.1.2
C NC N/A U	MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure.	5.4.1.3	A.2.1.3
<b>Building System—Building Configuration</b>			
C NC N/A U	WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above.	5.4.2.1	A.2.2.2
C NC N/A U	SOFT STORY: The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above.	5.4.2.2	A.2.2.3
C NC N/A U	VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation.	5.4.2.3	A.2.2.4
C NC N/A U	GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines.	5.4.2.4	A.2.2.5
C NC N/A U	MASS: There is no change in effective mass of more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered.	5.4.2.5	A.2.2.6

*continues*

Table 17-6. Collapse Prevention Structural Checklist for Building Type W2

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
<b>Low and Moderate Seismicity</b>			
<b>Seismic-Force-Resisting System</b>			
C NC N/A U	REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2.	5.5.1.1	A.3.2.1.1
C NC N/A U	SHEAR STRESS CHECK: The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than the following values: Structural panel sheathing 1,000 lb/ft Diagonal sheathing 700 lb/ft Straight sheathing 100 lb/ft All other conditions 100 lb/ft	5.5.3.1.1	A.3.2.7.1
C NC N/A U	STUCCO (EXTERIOR PLASTER) SHEAR WALLS: Multi-story buildings do not rely on exterior stucco walls as the primary seismic-force-resisting system.	5.5.3.6.1	A.3.2.7.2
C NC N/A U	GYPSUM WALLBOARD OR PLASTER SHEAR WALLS: Interior plaster or gypsum wallboard is not used for shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building.	5.5.3.6.1	A.3.2.7.3
C NC N/A U	NARROW WOOD SHEAR WALLS: Narrow wood shear walls with an aspect ratio greater than 2-to-1 are not used to resist seismic forces.	5.5.3.6.1	A.3.2.7.4
C NC N/A U	WALLS CONNECTED THROUGH FLOORS: Shear walls have an interconnection between stories to transfer overturning and shear forces through the floor.	5.5.3.6.2	A.3.2.7.5
C NC N/A U	HILLSIDE SITE: For structures that are taller on at least one side by more than one-half story because of a sloping site, all shear walls on the downhill slope have an aspect ratio less than 1-to-1.	5.5.3.6.3	A.3.2.7.6
C NC N/A U	CRIPPLE WALLS: Cripple walls below first-floor-level shear walls are braced to the foundation with wood structural panels.	5.5.3.6.4	A.3.2.7.7
C NC N/A U	OPENINGS: Walls with openings greater than 80% of the length are braced with wood structural panel shear walls with aspect ratios of not more than 1.5-to-1 or are supported by adjacent construction through positive ties capable of transferring the seismic forces.	5.5.3.6.5	A.3.2.7.8
<b>Connections</b>			
C NC N/A U	WOOD POSTS: There is a positive connection of wood posts to the foundation.	5.7.3.3	A.5.3.3
C NC N/A U	WOOD SILLS: All wood sills are bolted to the foundation.	5.7.3.3	A.5.3.4
C NC N/A U	GIRDER-COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support.	5.7.4.1	A.5.4.1
<b>High Seismicity (Complete the Following Items in Addition to the Items for Low and Moderate Seismicity)</b>			
<b>Connections</b>			
C NC N/A U	WOOD SILL BOLTS: Sill bolts are spaced at 6 ft (1.8 m) or less with acceptable edge and end distance provided for wood and concrete.	5.7.3.3	A.5.3.7
<b>Diaphragms</b>			
C NC N/A U	DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level floors and do not have expansion joints.	5.6.1.1	A.4.1.1
C NC N/A U	ROOF CHORD CONTINUITY: All chord elements are continuous, regardless of changes in roof elevation.	5.6.1.1	A.4.1.3
C NC N/A U	DIAPHRAGM REINFORCEMENT AT OPENINGS: There is reinforcing around all diaphragm openings larger than 50% of the building width in either major plan dimension.	5.6.1.5	A.4.1.8
C NC N/A U	STRAIGHT SHEATHING: All straight-sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered.	5.6.2	A.4.2.1
C NC N/A U	SPANS: All wood diaphragms with spans greater than 24 ft (7.3 m) consist of wood structural panels or diagonal sheathing.	5.6.2	A.4.2.2

continues

Table 17-6 (Continued). Collapse Prevention Structural Checklist for Building Type W2

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
C NC N/A U	DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 ft (12.2 m) and have aspect ratios less than or equal to 4-to-1.	5.6.2	A.4.2.3
C NC N/A U	OTHER DIAPHRAGMS: The diaphragms do not consist of a system other than wood, metal deck, concrete, or horizontal bracing.	5.6.5	A.4.7.1

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Table 17-7. Immediate Occupancy Checklist for Building Type W2

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
<b>Very Low Seismicity</b>			
<b>Seismic-Force-Resisting System</b>			
C NC N/A U	REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2.	5.5.1.1	A.3.2.1.1
C NC N/A U	SHEAR STRESS CHECK: The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than the following values:	5.5.3.1.1	A.3.2.7.1
	Structural panel sheathing      1,000 lb/ft (14.6 kN/m)		
	Diagonal sheathing              700 lb/ft (10.2 kN/m)		
	Straight sheathing                100 lb/ft (1.5 kN/m)		
	All other conditions              100 lb/ft (1.5 kN/m)		
C NC N/A U	STUCCO (EXTERIOR PLASTER) SHEAR WALLS: Multi-story buildings do not rely on exterior stucco walls as the primary seismic-force-resisting system.	5.5.3.6.1	A.3.2.7.2
C NC N/A U	GYPSON WALLBOARD OR PLASTER SHEAR WALLS: Interior plaster or gypsum wallboard is not used for shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building.	5.5.3.6.1	A.3.2.7.3
C NC N/A U	NARROW WOOD SHEAR WALLS: Narrow wood shear walls with an aspect ratio greater than 2-to-1 are not used to resist seismic forces.	5.5.3.6.1	A.3.2.7.4
C NC N/A U	WALLS CONNECTED THROUGH FLOORS: Shear walls have an interconnection between stories to transfer overturning and shear forces through the floor.	5.5.3.6.2	A.3.2.7.5
C NC N/A U	HILLSIDE SITE: For structures that are taller on at least one side by more than one-half story because of a sloping site, all shear walls on the downhill slope have an aspect ratio less than 1-to-2.	5.5.3.6.3	A.3.2.7.6
C NC N/A U	CRIPPLE WALLS: Cripple walls below first-floor-level shear walls are braced to the foundation with wood structural panels.	5.5.3.6.4	A.3.2.7.7
C NC N/A U	OPENINGS: Walls with openings greater than 80% of the length are braced with wood structural panel shear walls with aspect ratios of not more than 1.5-to-1 or are supported by adjacent construction through positive ties capable of transferring the seismic forces.	5.5.3.6.5	A.3.2.7.8
C NC N/A U	HOLD-DOWN ANCHORS: All shear walls have hold-down anchors attached to the end studs constructed in accordance with acceptable construction practices.	5.5.3.6.6	A.3.2.7.9
<b>Connections</b>			
C NC N/A U	WOOD POSTS: There is a positive connection of wood posts to the foundation.	5.7.3.3	A.5.3.3
C NC N/A U	WOOD SILLS: All wood sills are bolted to the foundation.	5.7.3.3	A.5.3.4
C NC N/A U	GIRDER-COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support.	5.7.4.1	A.5.4.1

*continues*



Table 17-38. Nonstructural Checklist

Status	Evaluation Statement <sup>a,b</sup>	Tier 2 Reference	Commentary Reference
<b>Life Safety Systems</b>			
C NC N/A U	HR—not required; LS—LMH; PR—LMH. FIRE SUPPRESSION PIPING: Fire suppression piping is anchored and braced in accordance with NFPA-13.	13.7.4	A.7.13.1
C NC N/A U	HR—not required; LS—LMH; PR—LMH. FLEXIBLE COUPLINGS: Fire suppression piping has flexible couplings in accordance with NFPA-13.	13.7.4	A.7.13.2
C NC N/A U	HR—not required; LS—LMH; PR—LMH. EMERGENCY POWER: Equipment used to power or control Life Safety systems is anchored or braced.	13.7.7	A.7.12.1
C NC N/A U	HR—not required; LS—LMH; PR—LMH. STAIR AND SMOKE DUCTS: Stair pressurization and smoke control ducts are braced and have flexible connections at seismic joints.	13.7.6	A.7.14.1
C NC N/A U	HR—not required; LS—MH; PR—MH. SPRINKLER CEILING CLEARANCE: Penetrations through panelized ceilings for fire suppression devices provide clearances in accordance with NFPA-13.	13.7.4	A.7.13.3
C NC N/A U	HR—not required; LS—not required; PR—LMH. EMERGENCY LIGHTING: Emergency and egress lighting equipment is anchored or braced.	13.7.9	A.7.3.1
<b>Hazardous Materials</b>			
C NC N/A U	HR—LMH; LS—LMH; PR—LMH. HAZARDOUS MATERIAL EQUIPMENT: Equipment mounted on vibration isolators and containing hazardous material is equipped with restraints or snubbers.	13.7.1	A.7.12.2
C NC N/A U	HR—LMH; LS—LMH; PR—LMH. HAZARDOUS MATERIAL STORAGE: Breakable containers that hold hazardous material, including gas cylinders, are restrained by latched doors, shelf lips, wires, or other methods.	13.8.3	A.7.15.1
C NC N/A U	HR—MH; LS—MH; PR—MH. HAZARDOUS MATERIAL DISTRIBUTION: Piping or ductwork conveying hazardous materials is braced or otherwise protected from damage that would allow hazardous material release.	13.7.3 13.7.5	A.7.13.4
C NC N/A U	HR—MH; LS—MH; PR—MH. SHUTOFF VALVES: Piping containing hazardous material, including natural gas, has shutoff valves or other devices to limit spills or leaks.	13.7.3 13.7.5	A.7.13.3
C NC N/A U	HR—LMH; LS—LMH; PR—LMH. FLEXIBLE COUPLINGS: Hazardous material ductwork and piping, including natural gas piping, have flexible couplings.	13.7.3 13.7.5	A.7.15.4
C NC N/A U	HR—MH; LS—MH; PR—MH. PIPING OR DUCTS CROSSING SEISMIC JOINTS: Piping or ductwork carrying hazardous material that either crosses seismic joints or isolation planes or is connected to independent structures has couplings or other details to accommodate the relative seismic displacements.	13.7.3 13.7.5 13.7.6	A.7.13.6
<b>Partitions</b>			
C NC N/A U	HR—LMH; LS—LMH; PR—LMH. UNREINFORCED MASONRY: Unreinforced masonry or hollow-clay tile partitions are braced at a spacing of at most 10 ft (3.0 m) in Low or Moderate Seismicity, or at most 6 ft (1.8 m) in High Seismicity.	13.6.2	A.7.1.1
C NC N/A U	HR—LMH; LS—LMH; PR—LMH. HEAVY PARTITIONS SUPPORTED BY CEILINGS: The tops of masonry or hollow-clay tile partitions are not laterally supported by an integrated ceiling system.	13.6.2	A.7.2.1
C NC N/A U	HR—not required; LS—MH; PR—MH. DRIFT: Rigid cementitious partitions are detailed to accommodate the following drift ratios: in steel moment frame, concrete moment frame, and wood frame buildings, 0.02; in other buildings, 0.005.	13.6.2	A.7.1.2
C NC N/A U	HR—not required; LS—not required; PR—MH. LIGHT PARTITIONS SUPPORTED BY CEILINGS: The tops of gypsum board partitions are not laterally supported by an integrated ceiling system.	13.6.2	A.7.2.1
C NC N/A U	HR—not required; LS—not required; PR—MH. STRUCTURAL SEPARATIONS: Partitions that cross structural separations have seismic or control joints.	13.6.2	A.7.1.3

continues

Table 17-38 (Continued). Nonstructural Checklist

Status	Evaluation Statement <sup>a,b</sup>	Tier 2 Reference	Commentary Reference
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—MH. TOPS: The tops of ceiling-high framed or panelized partitions have lateral bracing to the structure at a spacing equal to or less than 6 ft (1.8 m).	13.6.2	A.7.1.4
<b>Ceilings</b>			
C <b>NC</b> N/A U	HR—H; LS—MH; PR—LMH. SUSPENDED LATH AND PLASTER: Suspended lath and plaster ceilings have attachments that resist seismic forces for every 12 ft <sup>2</sup> (1.1 m <sup>2</sup> ) of area.	13.6.4	A.7.2.3
C <b>NC</b> N/A U	HR—not required; LS—MH; PR—LMH. SUSPENDED GYPSUM BOARD: Suspended gypsum board ceilings have attachments that resist seismic forces for every 12 ft <sup>2</sup> (1.1 m <sup>2</sup> ) of area.	13.6.4	A.7.2.3
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—MH. INTEGRATED CEILINGS: Integrated suspended ceilings with continuous areas greater than 144 ft <sup>2</sup> (13.4 m <sup>2</sup> ) and ceilings of smaller areas that are not surrounded by restraining partitions are laterally restrained at a spacing no greater than 12 ft (3.6 m) with members attached to the structure above. Each restraint location has a minimum of four diagonal wires and compression struts, or diagonal members capable of resisting compression.	13.6.4	A.7.2.2
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—MH. EDGE CLEARANCE: The free edges of integrated suspended ceilings with continuous areas greater than 144 ft <sup>2</sup> (13.4 m <sup>2</sup> ) have clearances from the enclosing wall or partition of at least the following: in Moderate Seismicity, 1/2 in. (13 mm); in High Seismicity, 3/4 in. (19 mm).	13.6.4	A.7.2.4
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—MH. CONTINUITY ACROSS STRUCTURE JOINTS: The ceiling system does not cross any seismic joint and is not attached to multiple independent structures.	13.6.4	A.7.2.5
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. EDGE SUPPORT: The free edges of integrated suspended ceilings with continuous areas greater than 144 ft <sup>2</sup> (13.4 m <sup>2</sup> ) are supported by closure angles or channels not less than 2 in. (51 mm) wide.	13.6.4	A.7.2.6
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. SEISMIC JOINTS: Acoustical tile or lay-in panel ceilings have seismic separation joints such that each continuous portion of the ceiling is no more than 2,500 ft <sup>2</sup> (232.3 m <sup>2</sup> ) and has a ratio of long-to-short dimension no more than 4-to-1.	13.6.4	A.7.2.7
<b>Light Fixtures</b>			
C <b>NC</b> N/A U	HR—not required; LS—MH; PR—MH. INDEPENDENT SUPPORT: Light fixtures that weigh more per square foot than the ceiling they penetrate are supported independent of the grid ceiling suspension system by a minimum of two wires at diagonally opposite corners of each fixture.	13.6.4 13.7.9	A.7.3.2
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. PENDANT SUPPORTS: Light fixtures on pendant supports are attached at a spacing equal to or less than 6 ft. Unbraced suspended fixtures are free to allow a 360-degree range of motion at an angle not less than 45 degrees from horizontal without contacting adjacent components. Alternatively, if rigidly supported and/or braced, they are free to move with the structure to which they are attached without damaging adjoining components. Additionally, the connection to the structure is capable of accommodating the movement without failure.	13.7.9	A.7.3.3
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. LENS COVERS: Lens covers on light fixtures are attached with safety devices.	13.7.9	A.7.3.4
<b>Cladding and Glazing</b>			
C <b>NC</b> N/A U	HR—MH; LS—MH; PR—MH. CLADDING ANCHORS: Cladding components weighing more than 10 lb/ft <sup>2</sup> (0.48 kN/m <sup>2</sup> ) are mechanically anchored to the structure at a spacing equal to or less than the following: for Life Safety in Moderate Seismicity, 6 ft (1.8 m); for Life Safety in High Seismicity and for Position Retention in any seismicity, 4 ft (1.2 m)	13.6.1	A.7.4.1

continues

Table 17-38 (Continued). Nonstructural Checklist

Status	Evaluation Statement <sup>a,b</sup>	Tier 2 Reference	Commentary Reference
C NC <del>N/A</del> U	HR—not required; LS—MH; PR—MH. CLADDING ISOLATION: For steel or concrete moment-frame buildings, panel connections are detailed to accommodate a story drift ratio by the use of rods attached to framing with oversize holes or slotted holes of at least the following: for Life Safety in Moderate Seismicity, 0.01; for Life Safety in High Seismicity and for Position Retention in any seismicity, 0.02, and the rods have a length-to-diameter ratio of 4.0 or less.	13.6.1	A.7.4.3
C <del>NC</del> N/A U	HR—MH; LS—MH; PR—MH. MULTI-STORY PANELS: For multi-story panels attached at more than one floor level, panel connections are detailed to accommodate a story drift ratio by the use of rods attached to framing with oversize holes or slotted holes of at least the following: for Life Safety in Moderate Seismicity, 0.01; for Life Safety in High Seismicity and for Position Retention in any seismicity, 0.02, and the rods have a length-to-diameter ratio of 4.0 or less.	13.6.1	A.7.4.4
C <del>NC</del> N/A U	HR—not required; LS—MH; PR—MH. THREADED RODS: Threaded rods for panel connections detailed to accommodate drift by bending of the rod have a length-to-diameter ratio greater than 0.06 times the story height in inches for Life Safety in Moderate Seismicity and 0.12 times the story height in inches for Life Safety in High Seismicity and Position Retention in any seismicity.	13.6.1	A.7.4.9
C <del>NC</del> N/A U	HR—MH; LS—MH; PR—MH. PANEL CONNECTIONS: Cladding panels are anchored out of plane with a minimum number of connections for each wall panel, as follows: for Life Safety in Moderate Seismicity, 2 connections; for Life Safety in High Seismicity and for Position Retention in any seismicity, 4 connections.	13.6.1.4	A.7.4.5
C NC <del>N/A</del> U	HR—MH; LS—MH; PR—MH. BEARING CONNECTIONS: Where bearing connections are used, there is a minimum of two bearing connections for each cladding panel.	13.6.1.4	A.7.4.6
C NC <del>N/A</del> U	HR—MH; LS—MH; PR—MH. INSERTS: Where concrete cladding components use inserts, the inserts have positive anchorage or are anchored to reinforcing steel.	13.6.1.4	A.7.4.7
C NC <del>N/A</del> U	HR—not required; LS—MH; PR—MH. OVERHEAD GLAZING: Glazing panes of any size in curtain walls and individual interior or exterior panes more than 16 ft <sup>2</sup> (1.5 m <sup>2</sup> ) in area are laminated annealed or laminated heat-strengthened glass and are detailed to remain in the frame when cracked.	13.6.1.5	A.7.4.8
<b>Masonry Veneer</b>			
C NC <del>N/A</del> U	HR—not required; LS—LMH; PR—LMH. TIES: Masonry veneer is connected to the backup with corrosion-resistant ties. There is a minimum of one tie for every 2-2/3 ft <sup>2</sup> (0.25 m <sup>2</sup> ), and the ties have spacing no greater than the following: for Life Safety in Low or Moderate Seismicity, 36 in. (914 mm); for Life Safety in High Seismicity and for Position Retention in any seismicity, 24 in. (610 mm).	13.6.1.2	A.7.5.1
C NC <del>N/A</del> U	HR—not required; LS—LMH; PR—LMH. SHELF ANGLES: Masonry veneer is supported by shelf angles or other elements at each floor above the ground floor.	13.6.1.2	A.7.5.2
C NC <del>N/A</del> U	HR—not required; LS—LMH; PR—LMH. WEAKENED PLANES: Masonry veneer is anchored to the backup adjacent to weakened planes, such as at the locations of flashing.	13.6.1.2	A.7.5.3
C NC <del>N/A</del> U	HR—LMH; LS—LMH; PR—LMH. UNREINFORCED MASONRY BACKUP: There is no unreinforced masonry backup.	13.6.1.1 13.6.1.2	A.7.7.2
C NC <del>N/A</del> U	HR—not required; LS—MH; PR—MH. STUD TRACKS: For veneer with cold-formed steel stud backup, stud tracks are fastened to the structure at a spacing equal to or less than 24 in. (610 mm) on center.	13.6.1.1 13.6.1.2	A.7.6.1

continues



Table 17-38 (Continued). Nonstructural Checklist

Status	Evaluation Statement <sup>a,b</sup>	Tier 2 Reference	Commentary Reference
C NC <del>N/A</del> U	HR—not required; LS—MH; PR—MH. ANCHORAGE: For veneer with concrete block or masonry backup, the backup is positively anchored to the structure at a horizontal spacing equal to or less than 4 ft along the floors and roof.	13.6.1.1 13.6.1.2	A.7.7.1
C NC <del>N/A</del> U	HR—not required; LS—not required; PR—MH. WEEP HOLES: In veneer anchored to stud walls, the veneer has functioning weep holes and base flashing.	13.6.1.2	A.7.5.6
C NC <del>N/A</del> U	HR—not required; LS—not required; PR—MH. OPENINGS: For veneer with cold-formed-steel stud backup, steel studs frame window and door openings.	13.6.1.1 13.6.1.2	A.7.6.2
<b>Parapets, Cornices, Ornamentation, and Appendages</b>			
C NC <del>N/A</del> U	HR—LMH; LS—LMH; PR—LMH. URM PARAPETS OR CORNICES: Laterally unsupported unreinforced masonry parapets or cornices have height-to-thickness ratios no greater than the following: for Life Safety in Low or Moderate Seismicity, 2.5; for Life Safety in High Seismicity and for Position Retention in any seismicity, 1.5.	13.6.5	A.7.8.1
C NC <del>N/A</del> U	HR—not required; LS—LMH; PR—LMH. CANOPIES: Canopies at building exits are anchored to the structure at a spacing no greater than the following: for Life Safety in Low or Moderate Seismicity, 10 ft (3.0 m); for Life Safety in High Seismicity and for Position Retention in any seismicity, 6 ft (1.8 m).	13.6.6	A.7.8.2
C NC <del>N/A</del> U	HR—H; LS—MH; PR—LMH. CONCRETE PARAPETS: Concrete parapets with height-to-thickness ratios greater than 2.5 have vertical reinforcement.	13.6.5	A.7.8.3
C NC <del>N/A</del> U	HR—MH; LS—MH; PR—LMH. APPENDAGES: Cornices, parapets, signs, and other ornamentation or appendages that extend above the highest point of anchorage to the structure or cantilever from components are reinforced and anchored to the structural system at a spacing equal to or less than 6 ft (1.8 m). This evaluation statement item does not apply to parapets or cornices covered by other evaluation statements.	13.6.6	A.7.8.4
<b>Masonry Chimneys</b>			
C NC <del>N/A</del> U	HR—LMH; LS—LMH; PR—LMH. URM CHIMNEYS: Unreinforced masonry chimneys extend above the roof surface no more than the following: for Life Safety in Low or Moderate Seismicity, 3 times the least dimension of the chimney; for Life Safety in High Seismicity and for Position Retention in any seismicity, 2 times the least dimension of the chimney.	13.6.7	A.7.9.1
C NC <del>N/A</del> U	HR—LMH; LS—LMH; PR—LMH. ANCHORAGE: Masonry chimneys are anchored at each floor level, at the topmost ceiling level, and at the roof.	13.6.7	A.7.9.2
<b>Stairs</b>			
C NC <del>N/A</del> U	HR—not required; LS—LMH; PR—LMH. STAIR ENCLOSURES: Hollow-clay tile or unreinforced masonry walls around stair enclosures are restrained out of plane and have height-to-thickness ratios not greater than the following: for Life Safety in Low or Moderate Seismicity, 15-to-1; for Life Safety in High Seismicity and for Position Retention in any seismicity, 12-to-1.	13.6.2 13.6.8	A.7.10.1
C NC <del>N/A</del> U	HR—not required; LS—LMH; PR—LMH. STAIR DETAILS: The connection between the stairs and the structure does not rely on post-installed anchors in concrete or masonry, and the stair details are capable of accommodating the drift calculated using the Quick Check procedure of Section 4.4.3.1 for moment-frame structures or 0.5 in. for all other structures without including any lateral stiffness contribution from the stairs.	13.6.8	A.7.10.2
<b>Contents and Furnishings</b>			
C NC <del>N/A</del> U	HR—LMH; LS—MH; PR—MH. INDUSTRIAL STORAGE RACKS: Industrial storage racks or pallet racks more than 12 ft high meet the requirements of ANSI/RMI MH 16.1 as modified by ASCE 7, Chapter 15.	13.8.1	A.7.11.1

continues

Table 17-38 (Continued). Nonstructural Checklist

Status	Evaluation Statement <sup>a,b</sup>	Tier 2 Reference	Commentary Reference
C <b>NC</b> N/A U	HR—not required; LS—H; PR—MH. TALL NARROW CONTENTS: Contents more than 6 ft (1.8 m) high with a height-to-depth or height-to-width ratio greater than 3-to-1 are anchored to the structure or to each other.	13.8.2	A.7.11.2
C <b>NC</b> N/A U	HR—not required; LS—H; PR—H. FALL-PRONE CONTENTS: Equipment, stored items, or other contents weighing more than 20 lb (9.1 kg) whose center of mass is more than 4 ft (1.2 m) above the adjacent floor level are braced or otherwise restrained.	13.8.2	A.7.11.3
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—MH. ACCESS FLOORS: Access floors more than 9 in. (229 mm) high are braced.	13.6.10	A.7.11.4
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—MH. EQUIPMENT ON ACCESS FLOORS: Equipment and other contents supported by access floor systems are anchored or braced to the structure independent of the access floor.	13.7.7 13.6.10	A.7.11.5
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. SUSPENDED CONTENTS: Items suspended without lateral bracing are free to swing from or move with the structure from which they are suspended without damaging themselves or adjoining components.	13.8.2	A.7.11.6
<b>Mechanical and Electrical Equipment</b>			
C <b>NC</b> N/A U	HR—not required; LS—H; PR—H. FALL-PRONE EQUIPMENT: Equipment weighing more than 20 lb (9.1 kg) whose center of mass is more than 4 ft (1.2 m) above the adjacent floor level, and which is not in-line equipment, is braced.	13.7.1 13.7.7	A.7.12.4
C <b>NC</b> N/A U	HR—not required; LS—H; PR—H. IN-LINE EQUIPMENT: Equipment installed in line with a duct or piping system, with an operating weight more than 75 lb (34.0 kg), is supported and laterally braced independent of the duct or piping system.	13.7.1	A.7.12.5
C <b>NC</b> N/A U	HR—not required; LS—H; PR—MH. TALL NARROW EQUIPMENT: Equipment more than 6 ft (1.8 m) high with a height-to-depth or height-to-width ratio greater than 3-to-1 is anchored to the floor slab or adjacent structural walls.	13.7.1 13.7.7	A.7.12.6
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—MH. MECHANICAL DOORS: Mechanically operated doors are detailed to operate at a story drift ratio of 0.01.	13.6.9	A.7.12.7
C <b>NC</b> N/A U	HR—not required; LS—not required; PR—H. SUSPENDED EQUIPMENT: Equipment suspended without lateral bracing is free to swing from or move with the structure from which it is suspended without damaging itself or adjoining components.	13.7.1 13.7.7	A.7.12.8
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. VIBRATION ISOLATORS: Equipment mounted on vibration isolators is equipped with horizontal restraints or snubbers and with vertical restraints to resist overturning.	13.7.1	A.7.12.9
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. HEAVY EQUIPMENT: Floor-supported or platform-supported equipment weighing more than 400 lb (181.4 kg) is anchored to the structure.	13.7.1 13.7.7	A.7.12.10
C <b>NC</b> N/A U	HR—not required; LS—not required; PR—H. ELECTRICAL EQUIPMENT: Electrical equipment is laterally braced to the structure.	13.7.7	A.7.12.11
C <b>NC</b> N/A U	HR—not required; LS—not required; PR—H. CONDUIT COUPLINGS: Conduit greater than 2.5 in. (64 mm) trade size that is attached to panels, cabinets, or other equipment and is subject to relative seismic displacement has flexible couplings or connections.	13.7.8	A.7.12.12
<b>Piping</b>			
C <b>NC</b> N/A U	HR—not required; LS—not required; PR—H. FLEXIBLE COUPLINGS: Fluid and gas piping has flexible couplings.	13.7.3 13.7.5	A.7.13.2

continues

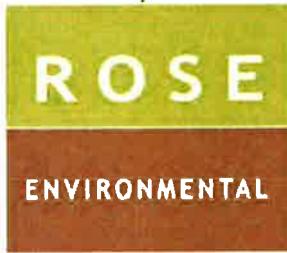
Table 17-38 (Continued). Nonstructural Checklist

Status	Evaluation Statement <sup>a,b</sup>	Tier 2 Reference	Commentary Reference
C <b>NC</b> N/A U	HR—not required; LS—not required; PR—H. FLUID AND GAS PIPING: Fluid and gas piping is anchored and braced to the structure to limit spills or leaks.	13.7.3 13.7.5	A.7.13.4
C <b>NC</b> N/A U	HR—not required; LS—not required; PR—H. C-CLAMPS: One-sided C-clamps that support piping larger than 2.5 in. (64 mm) in diameter are restrained.	13.7.3 13.7.5	A.7.13.5
C <b>NC</b> N/A U	HR—not required; LS—not required; PR—H. PIPING CROSSING SEISMIC JOINTS: Piping that crosses seismic joints or isolation planes or is connected to independent structures has couplings or other details to accommodate the relative seismic displacements.	13.7.3 13.7.5	A.7.13.6
<b>Ducts</b>			
C <b>NC</b> N/A U	HR—not required; LS—not required; PR—H. DUCT BRACING: Rectangular ductwork larger than 6 ft <sup>2</sup> (0.56 m <sup>2</sup> ) in cross-sectional area and round ducts larger than 28 in. (711 mm) in diameter are braced. The maximum spacing of transverse bracing does not exceed 30 ft (9.2 m). The maximum spacing of longitudinal bracing does not exceed 60 ft (18.3 m).	13.7.6	A.7.14.2
C NC N/A <b>U</b>	HR—not required; LS—not required; PR—H. DUCT SUPPORT: Ducts are not supported by piping or electrical conduit.	13.7.6	A.7.14.3
C <b>NC</b> N/A U	HR—not required; LS—not required; PR—H. DUCTS CROSSING SEISMIC JOINTS: Ducts that cross seismic joints or isolation planes or are connected to independent structures have couplings or other details to accommodate the relative seismic displacements.	13.7.6	A.7.14.4
<b>Elevators</b>			
C NC <b>N/A</b> U	HR—not required; LS—H; PR—H. RETAINER GUARDS: Sheaves and drums have cable retainer guards.	13.7.11	A.7.16.1
C NC <b>N/A</b> U	HR—not required; LS—H; PR—H. RETAINER PLATE: A retainer plate is present at the top and bottom of both car and counterweight.	13.7.11	A.7.16.2
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. ELEVATOR EQUIPMENT: Equipment, piping, and other components that are part of the elevator system are anchored.	13.7.11	A.7.16.3
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. SEISMIC SWITCH: Elevators capable of operating at speeds of 150 ft/min (0.30 m/min) or faster are equipped with seismic switches that meet the requirements of ASME A17.1 or have trigger levels set to 20% of the acceleration of gravity at the base of the structure and 50% of the acceleration of gravity in other locations.	13.7.11	A.7.16.4
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. SHAFT WALLS: Elevator shaft walls are anchored and reinforced to prevent toppling into the shaft during strong shaking.	13.7.11	A.7.16.5
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. COUNTERWEIGHT RAILS: All counterweight rails and divider beams are sized in accordance with ASME A17.1.	13.7.11	A.7.16.6
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. BRACKETS: The brackets that tie the car rails and the counterweight rail to the structure are sized in accordance with ASME A17.1.	13.7.11	A.7.16.7
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. SPREADER BRACKET: Spreader brackets are not used to resist seismic forces.	13.7.11	A.7.16.8
C NC <b>N/A</b> U	HR—not required; LS—not required; PR—H. GO-SLOW ELEVATORS: The building has a go-slow elevator system.	13.7.11	A.7.16.9

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

<sup>a</sup> Performance Level: HR = Hazards Reduced, LS = Life Safety, and PR = Position Retention.

<sup>b</sup> Level of Seismicity: L = Low, M = Moderate, and H = High.



## APPENDIX C

Rose Environmental

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Seattle, WA 98103

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March 26, 2020

Ms. Cristina Haworth  
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**Subject: Asbestos and Lead Paint Survey, Hawthorne Hall, 1134 2<sup>nd</sup> Street, Mukilteo**

Dear Cristina:

On March 10, 2020, Rose Environmental conducted an inspection for suspect asbestos-containing materials and lead in paint coatings at the Hawthorne Hall community building located at 1134 2<sup>nd</sup> Street in Mukilteo, Washington. The purpose of the inspection was to determine the presence or absence of these regulated building materials prior to anticipated demolition activities.

### ASBESTOS SAMPLING – METHODS & RESULTS

Mr. Ryan Anderson, Industrial Hygienist with Rose, is an EPA Asbestos Hazard Emergency Response Act (AHERA)-accredited Building Inspector (Certificate Number 175827, expiration date November 27, 2020). Rose Environmental collected samples of suspect asbestos-containing materials; the samples were collected full depth to the surface of the underlying substrate.

#### *Asbestos Laboratory Analysis*

The bulk samples collected were submitted under strict chain of custody procedures to EMSL Laboratories, a qualified independent laboratory for analysis. EMSL Laboratories is a member of the National Voluntary Laboratory Accreditation Program.

The asbestos samples were analyzed using polarized light microscopy (PLM) with dispersion staining in accordance with US EPA method 600/R-93/116 as specified in 40 CFR Chapter I (7-1-93 edition) Part 763, Subpart F, Appendix A, pages 499-504. Polarizing light microscopy quantifies asbestos concentrations at between 100% and 1% detection levels. Levels below 1% can only be stated as "trace."

## RESULTS

Sample ID	Material Description	Location	Asbestos Content	Estimated Quantity
<i>Asbestos Containing Materials</i>				
310-2	Black sink undercoating	Entry	3% chrysotile	~ 4 SF
<i>Non-Asbestos Containing Materials</i>				
310-1	Turquoise 1x1' VCT + yellow mastic	Entry	NAD	NA
310-3	Black VCB + yellow mastic		NAD	NA
310-4	GWB + joint compound		NAD	NA
310-5	White ceiling texture		NAD	NA
310-6	White/Tan patterned VCT + mastic	Girls Bathroom	NAD	NA
310-7	Tan VCB + yellow mastic		NAD	NA
310-8	White/Tan patterned VCT + black mastic	Janitors Closet	NAD	NA
310-9	Brown VCB + yellow mastic		NAD	NA
310-10	Blue patterned 1x1' VCT + mastic	Boys Bathroom	NAD	NA
310-11	Tan VSF + mastic		NAD	NA
310-12	Grey VCB + yellow mastic	Game Room	NAD	NA
310-13	GWB + joint compound		NAD	NA
310-14	Tan patterned 1x1' VCT + mastic	Kitchen	NAD	NA
310-15	Light Tan VCB + yellow mastic		NAD	NA
310-16	Blue/Grey VCB + yellow mastic	Floor 2	NAD	NA
310-17	GWB + joint compound	Floor 2 – south wall patch	NAD	NA
310-18	GWB + joint compound	Floor 2 – ceiling patch	NAD	NA
310-19	Grey chimney grout	Floor 2	NAD	NA
310-20	Black VCB + yellow mastic	Floor 2 – west room	NAD	NA
310-21	Tan speckled VSF + mastic		NAD	NA
310-22	GWB + joint compound		NAD	NA
310-23	GWB + joint compound	Kitchen – east wall	NAD	NA
310-24	GWB + joint compound	Kitchen – north wall	NAD	NA

310-25	Black shingles + tar	Roof	NAD	NA
310-26	GWB + joint compound	Floor 2 - Stairway	NAD	NA

Note: 1x1' = 1 foot by 1 foot      GWB = gypsum wallboard      VCB = vinyl cove base  
VSF = vinyl sheet flooring      VCT = vinyl composition tile      NAD = No asbestos detected  
NA = Not Applicable

In summary, the survey and laboratory results revealed that approximately 4 square feet of black sink undercoating in a sink vanity in the Entry Area contained 3% chrysotile asbestos.

### **Lead Paint Methods & Results**

Rose Environmental collected full-depth paint samples (to substrate) on representative surfaces at various wood, concrete, and steel support locations. Bulk samples collected were submitted under strict chain of custody procedures to EMSL Laboratories, Inc., accredited by the American Industrial Hygiene Association (AIHA) Environmental Lead Accreditation Program.

<b><i>Lead Sampling Results</i></b>			
<b>Sample ID</b>	<b>Description</b>	<b>Wherehouse Location</b>	<b>Lead Content (%)</b>
<b>310-L1</b>	<b>Tan paint</b>	<b>Main Exterior – top layer</b>	<b>0.013</b>
310-L2	Green paint	Exterior Trim	<0.0080
310-L3	Green paint	Exterior Railing	<0.025
<b>310-L4</b>	<b>White paint</b>	<b>Main Exterior – bottom layer</b>	<b>0.67</b>
310-L5	Green/Brown paint	Front Door Exterior	<0.0080
310-L6	White paint	Entry	<0.011
310-L7	Light Green paint	Entry	<0.0080
310-L8	Tan paint	Entry	<0.014
310-L9	Light Grey paint	Janitor Closet	<0.011
310-L10	White paint	Gym	<0.022
<b>310-L11</b>	<b>Tan paint</b>	<b>Gym</b>	<b>0.065</b>
<b>310-L12</b>	<b>Blue paint</b>	<b>Gym trim</b>	<b>0.025</b>
310-L13	Light Blue paint	Game Room	<0.036
310-L14	Light Green paint	Kitchen	<0.017
310-L15	Brown paint	Stairway	<0.028
310-L16	White paint	Floor 2	<0.011
310-L17	Black paint	Floor 2 West Room	<0.14
310-L18	Turquoise paint	Gym	<0.046



In summary, the results revealed that lead was detected in four paint coatings:

- Exterior tan and white paint layers
- Tan paint and blue trim in the Gym

All other paint samples did not detect lead above the limit of detection.

### **Conclusions**

In summary, the results of Rose Environmental's inspection confirmed asbestos content greater than one percent (>1%) in the black sink undercoating in the Entry area vanity.

Asbestos-containing materials are required to be removed and disposed of in accordance with Washington State Regulations prior to any demolition, renovation, or remodeling that would disturb these materials. Washington State Department of Labor and Industries and PSCAA require that the abatement be performed using Certified Asbestos Workers under the direct on-site supervision of a Certified Asbestos Supervisor.

Lead was detectable in several exterior siding and interior Gym paint coatings (see above). Disturbance of materials coated with lead-containing paint must be conducted in accordance with worker protection requirements in WAC 296-155, *Lead in Construction*. In addition, waste streams should be evaluated for lead content by EPA Toxicity Characteristic Leachate Procedure (TCLP) prior to disposal to ensure RCRA classifications are considered. Rose Environmental's paint survey is not intended to identify or mitigate lead dust hazards to residents (as required by EPA's Lead Renovation, Repair, and Painting [RRP] Program).

### *Limitations of Survey*

Asbestos inspections are non-comprehensive by nature and our assessment is limited to only those locations inspected and sampled. This survey was not designed to identify all potential concerns or eliminate all risk associated with abatement. No warranty, express or implied, is made. Rose Environmental LLC is not responsible for materials which require destructive means to access, or materials which are hidden from sight, those materials hidden behind walls, or materials which cannot be found with reasonable diligence. Rose Environmental LLC performed this inspection in accordance with the generally accepted standards of care that exist in the industrial hygiene profession in Washington State at the time of this study.

Respectfully,



Ryan Anderson  
Industrial Hygienist  
Rose Environmental LLC

Reviewed by,



Martin Rose, CIH  
Principal/Senior Consultant  
Rose Environmental LLC

**EMSL Analytical, Inc**

464 McCormick Street, San Leandro, CA 94577

Phone/Fax: (510) 895-3675 / (510) 895-3680

<http://www.EMSL.com>[sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

EMSL Order: 092005519

CustomerID: RSEE42

CustomerPO:

ProjectID:

Attn: **Martin Rose**  
**Rose Environmental LLC**  
**6715 Greenwood Ave N**  
**Seattle, WA 98103**

Phone: (206) 679-0699  
 Fax:  
 Received: 03/14/20 9:00 AM  
 Collected: 3/14/2020

Project: 10672 OTAK

**Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)\***

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
310-L1	092005519-0001	3/14/2020	3/17/2020	0.277 g	0.013 % wt
Site: TAN PAINT MAIN EXTERIOR					
310-L2	092005519-0002	3/14/2020	3/17/2020	0.2525 g	<0.0080 % wt
Site: GREEN PAINT EXTERIOR TRIM					
310-L3	092005519-0003	3/14/2020	3/17/2020	0.081 g	<0.025 % wt
Site: GREEN PAINT EXTERIOR RAILING					
310-L4	092005519-0004	3/14/2020	3/17/2020	0.108 g	0.67 % wt
Site: WHITE PAINT MAIN EXTERIOR FIRST COAT					
310-L5	092005519-0005	3/14/2020	3/17/2020	0.2534 g	<0.0080 % wt
Site: GREEN/BROWN PAINT FRONT DOOR EXTERIOR					
310-L6	092005519-0006	3/14/2020	3/17/2020	0.1768 g	<0.011 % wt
Site: WHITE PAINT ENTRY					
310-L7	092005519-0007	3/14/2020	3/17/2020	0.2588 g	<0.0080 % wt
Site: LIGHT GREEN PAINT ENTRY					
310-L8	092005519-0008	3/14/2020	3/17/2020	0.146 g	<0.014 % wt
Site: TAN PAINT ENTRY					
310-L9	092005519-0009	3/14/2020	3/17/2020	0.1835 g	<0.011 % wt
Site: LIGHT GRAY JANITORS CLOSET					
310-L10	092005519-0010	3/14/2020	3/17/2020	0.0916 g	<0.022 % wt
Site: WHITE PAINT GYM MAIN					
310-L11	092005519-0011	3/14/2020	3/17/2020	0.0724 g	0.065 % wt
Site: TAN PAINT GYM CEILING					
310-L12	092005519-0012	3/14/2020	3/17/2020	0.1591 g	0.025 % wt
Site: BLUE PAINT GYM TRIM					
310-L13	092005519-0013	3/14/2020	3/17/2020	0.0556 g	<0.036 % wt
Site: LIGHT BLUE PAINT GAME ROOM					
310-L14	092005519-0014	3/14/2020	3/17/2020	0.1179 g	<0.017 % wt
Site: LIGHT GREEN PAINT KITCHEN					
310-L15	092005519-0015	3/14/2020	3/17/2020	0.0714 g	<0.028 % wt
Site: BROWN PAINT STAIRWAY					

  
 Julian Neagu, Lead Laboratory Manager  
 or other approved signatory

\*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. When the information supplied by the customer can affect the validity of the results, it will be noted on the report. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA A2LA Accredited Environmental Testing Cert #2845 09

Initial report from 03/17/2020 16:38:30



**EMSL Analytical, Inc**

464 McCormick Street, San Leandro, CA 94577

Phone/Fax: (510) 895-3675 / (510) 895-3680

<http://www.EMSL.com>[sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

EMSL Order: 092005519

CustomerID: RSEE42

CustomerPO:

ProjectID:

Attn: **Martin Rose**  
**Rose Environmental LLC**  
**6715 Greenwood Ave N**  
**Seattle, WA 98103**

Phone: (206) 679-0699  
Fax:  
Received: 03/14/20 9:00 AM  
Collected: 3/14/2020

Project: 10672 OTAK

**Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)\***

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
310-L16	092005519-0016	3/14/2020	3/17/2020	0.188 g	<0.011 % wt
Site: WHITE PAINT FLOOR 2 MAIN					
310-L17	092005519-0017	3/14/2020	3/17/2020	0.014 g	<0.14 % wt
Site: BLACK PAINT FLOOR 2 WEST ROOM					
310-L18	092005519-0018	3/14/2020	3/17/2020	0.0435 g	<0.046 % wt
Site: TURQUOISE PAINT GYM TRIM					

Julian Neagu, Lead Laboratory Manager  
or other approved signatory

\*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. When the information supplied by the customer can affect the validity of the results, it will be noted on the report. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA A2LA Accredited Environmental Testing Cert #2845.09

Initial report from 03/17/2020 16:38:30

EMSL ANALYTICAL INC.  
LABORATORY PRODUCTS TRAINING

## Lead (Pb) Chain of Custody

EMSL Order ID (Lab Use Only):

092005519

PHONE: ( )

FAX: ( )

Company: <u>Rose Environmental</u>		EMSL-Bill to: <input type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street:		Third Party Billing requires written authorization from third party	
City:	State/Province:	Zip/Postal Code:	Country:
Report To (Name): <u>MARTIN &amp; RYAN</u>		Telephone #:	
Email Address:		Fax #:	Purchase Order:
Project Name/Number: <u>10672-OTAIL</u>		Please Provide Results: <input type="checkbox"/> Fax <input type="checkbox"/> Email	
U.S. State Samples Taken:		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input checked="" type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week
*Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide			
Matrix	Method	Instrument	Reporting Limit
Chips <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> mg/cm <sup>2</sup> <input type="checkbox"/> ppm (mg/kg)	SW846-7000B	Flame Atomic Absorption	0.01%
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter
	NIOSH 7300M/NIOSH 7303	ICP-OES	0.5 µg/filter
Wipe* <input type="checkbox"/> ASTM <input type="checkbox"/> non ASTM <input type="checkbox"/>	SW846-7000B	Flame Atomic Absorption	10 µg/wipe
*If no box checked, non-ASTM Wipe assumed	SW846-6010B or C	ICP-OES	1.0 µg/wipe
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)
	SW846-1311/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)
SPLP	SW846-1312/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)
	SW846-1312/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)
TTLIC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	40 mg/kg (ppm)
	22 CCR App. II, SW846-6010B or C	ICP-OES	2 mg/kg (ppm)
STLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	0.4 mg/L (ppm)
	22 CCR App. II, SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)
	SW846-6010B or C	ICP-OES	2 mg/kg (ppm)
Wastewater Unpreserved <input type="checkbox"/> Preserved with HNO <sub>3</sub> pH < 2 <input type="checkbox"/>	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)
	EPA 200.7	ICP-OES	0.020 mg/L (ppm)
Drinking Water Unpreserved <input type="checkbox"/> Preserved with HNO <sub>3</sub> pH < 2 <input type="checkbox"/>	EPA 200.8	ICP-MS	0.001 mg/L (ppm)
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)
	EPA 200.5	ICP-OES	0.003 mg/L (ppm)
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter
Other:			
Name of Sampler: <u>Ryan Anderson</u>		Signature of Sampler: <u>[Signature]</u>	
Sample #	Location	Volume/Area	Date/Time Sampled
	<u>- on pg. 2 -</u>		<u>3/10/20</u>
Client Sample #s		Total # of Samples: <u>18</u>	
Relinquished (Client): <u>[Signature]</u>	Date: <u>3/22/20</u>	Time: <u>3:30</u>	
Received (Lab): <u>Claudia Nistor</u>	Date: <u>3/12/20</u>	Time: <u>3:38 PM wI</u>	
Comments:			

Received by: [Signature] FX  
3/14/20 9AM



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

# LEAD (Pb) CHAIN OF CUSTODY EMSL ORDER ID (Lab Use Only):

PHONE: ( )

FAX: ( )

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Location	Volume/Area	Date/Time Sampled
310-L1	Tan paint	Main Exterior	
-L2	Green paint	Exterior Trim	
-L3	Green paint	Exterior Railing	
-L4	White paint	Main Exterior - First Coat	
-L5	Green/Brown paint	Front Door Exterior	
-L6	White paint	Entry	
-L7	Light green paint	↓	
-L8	Tan paint		
-L9	<del>Light grey</del> Light brown paint	Janitor's Closet	
-L10	White paint	Gym - main	
-L11	Tan paint	Gym - ceiling	
-L12	Blue paint	Gym - trim	
-L13	Light Blue paint	Gym Room	
-L14	Light Green Paint	Kitchen	
-L15	Brown paint	Stairway	
-L16	White paint	Floor 2 - main	
-L17	Black paint	Floor 2 - West room	
-L18	Torquose paint	Gym - Trim	
Comments/Special Instructions:			

Page 2 of 2 pages

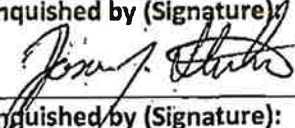

Received by: FX  
3/14/20  
9 AM





## EMSL Analytical, Inc.

### Sample Transfer Form

Receiving Lab:	EMSL- Seattle	Phone Number:	206-269-6310	
		Fax Number:		
Relinquished to:	EMSL- San Leandro	Phone Number:		
		Fax Number:		
Does new lab hold equivalent or additional accreditation? *			<input type="checkbox"/> Yes <input type="checkbox"/> No	
EMSL Customer ID # (if known):	RSEE42			
Client Name:	Rose Environmental			
Client Project:	10672-OTAK			
Tests to be Performed:	Lead Paint Chips SW846-7000B FAA			
Date Received:	3/12/20			
Date Relinquished:	3/12/20			
Date Due:	72 hour			
Special Instructions: (e.g. Work Order #, required qualifications, project specific procedures/modifications)				
Relinquished by (Signature): 	Date: 3/13/20	Received by (Signature): 	Date: 3/14/20 9 AM	
Relinquished by (Signature):	Date:	Received by (Signature):	Date:	
<b>Customer Agreement:</b> Please sign form and send to the receiving laboratory. By signing below, you agree to permit the above named receiving lab to transfer samples to a separate EMSL lab with equivalent qualifications* for analysis. The final report will be issued from the analyzing laboratory. Ensure any requirements are listed in special instructions.				
Name (please print):  Verbal OK	Signature:	Agent of:	Date: 3/13/20	
<i>If this is a recurring project or sample type that may require samples to be relinquished on a regular basis, a Standing Agreement form must be completed.</i>				

\* Receiving and analyzing labs shall be aware of required qualifications of project prior to transfer of samples.

Note: If customer has been notified and approved this transfer verbally or by e-mail, the receiving lab must sign for the customer above. EMSL employee filling out form on behalf of customer shall print name of person to whom they spoke, date agreement was received, and then sign under Signature.



**EMSL Analytical, Inc.**

5900 4th Avenue S, Suite 100, 1st Floor Seattle, WA 98108

Tel/Fax: (206) 269-6310 / (206) 900-8789

<http://www.emsl.com/seattlelab@emsl.com>**EMSL Order:** 512000726**Customer ID:** RSEE42**Customer PO:****Project ID:****Attention:** Martin Rose

Rose Environmental LLC

6715 Greenwood Ave N

Seattle, WA 98103

**Phone:** (206) 679-0699**Fax:****Received Date:** 03/12/2020 3:38 PM**Analysis Date:** 03/17/2020**Collected Date:** 03/10/2020**Project:** 10672 -OTAK**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
310-1-Vinyl Floor Tile 512000726-0001	tuquoise 1x1 VCT + yellow mastic (upper) / grey 1x1 VCT + yellow mastic (lower) -Entry	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-1-Mastic 512000726-0001A	tuquoise 1x1 VCT + yellow mastic (upper) / grey 1x1 VCT + yellow mastic (lower) -Entry	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-1-Leveler 512000726-0001B	tuquoise 1x1 VCT + yellow mastic (upper) / grey 1x1 VCT + yellow mastic (lower) -Entry	Gray Non-Fibrous Homogeneous		8% Quartz 92% Non-fibrous (Other)	None Detected
310-1-Mastic 512000726-0001C	tuquoise 1x1 VCT + yellow mastic (upper) / grey 1x1 VCT + yellow mastic (lower) -Entry	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-1-Leveler 512000726-0001D	tuquoise 1x1 VCT + yellow mastic (upper) / grey 1x1 VCT + yellow mastic (lower) -Entry	White Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
310-2 512000726-0002	black sink undercoating -Entry	Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
310-3-Cove Base 512000726-0003	black VCB + mastic -Entry	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-3-Mastic 512000726-0003A	black VCB + mastic -Entry	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-3-Texture 512000726-0003B	black VCB + mastic -Entry	White Non-Fibrous Homogeneous		60% Ca Carbonate 40% Non-fibrous (Other)	None Detected
310-4-Gypsum Wallboard 512000726-0004	GWB + joint compound -Entry	Brown/White Fibrous Heterogeneous	20% Cellulose	70% Gypsum 10% Non-fibrous (Other)	None Detected
310-4-Joint Compound 512000726-0004A	GWB + joint compound -Entry	White Non-Fibrous Homogeneous		60% Ca Carbonate 40% Non-fibrous (Other)	None Detected
310-5 512000726-0005	white ceiling texture -Entry	White Non-Fibrous Homogeneous		55% Ca Carbonate 45% Non-fibrous (Other)	None Detected

Initial report from: 03/17/2020 17:09:52

**EMSL Analytical, Inc.**

5900 4th Avenue S, Suite 100, 1st Floor Seattle, WA 98108

Tel/Fax: (206) 269-6310 / (206) 900-8789

<http://www.emsl.com/seattlelab@emsl.com>**EMSL Order:** 512000726**Customer ID:** RSEE42**Customer PO:****Project ID:****Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
310-6-Vinyl Sheet Flooring	white/tan patterned VCT+ mastic - girls bathroom	Gray Fibrous Heterogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
512000726-0006					
310-6-Mastic	white/tan patterned VCT+ mastic - girls bathroom	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0006A					
310-7-Cove Base	Tan VCB + yellow mastic - girls bathroom	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0007					
310-7-Mastic	Tan VCB + yellow mastic - girls bathroom	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0007A					
310-8-Vinyl Floor Tile	white/tan patterned VCT+ black mastic - janitors closet	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0008					
310-8-Mastic	white/tan patterned VCT+ black mastic - janitors closet	Black Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
512000726-0008A					
310-9-Cove Base	brown VCB + yellow mastic - janitors closet	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0009					
310-9-Mastic	brown VCB + yellow mastic - janitors closet	Gray Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
512000726-0009A					
310-10-Vinyl Floor Tile	blue/white patterned 1x1 VCT + mastic-boys bathroom	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0010					
310-10-Mastic	blue/white patterned 1x1 VCT + mastic-boys bathroom	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0010A					
310-10-Vinyl Sheet Flooring	blue/white patterned 1x1 VCT + mastic-boys bathroom	Gray Fibrous Heterogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
512000726-0010B					
310-10-Mastic	blue/white patterned 1x1 VCT + mastic-boys bathroom	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0010C					
310-11-Flooring	tan vinyl flooring-boys bathroom	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0011					
310-11-Mastic	tan vinyl flooring-boys bathroom	Gray Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
512000726-0011A					
310-12-Cove Base	gray VCB + yellow mastic - game room	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0012					
310-12-Mastic	gray VCB + yellow mastic - game room	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
512000726-0012A					
310-13-Gypsum Wallboard	GWB + joint compound - game room stairway	Brown/White Fibrous Heterogeneous	20% Cellulose	70% Gypsum 10% Non-fibrous (Other)	None Detected
512000726-0013					
310-13-Joint Compound	GWB + joint compound - game room stairway	White Non-Fibrous Homogeneous		55% Ca Carbonate 45% Non-fibrous (Other)	None Detected
512000726-0013A					

Initial report from: 03/17/2020 17:09:52

**EMSL Analytical, Inc.**

5900 4th Avenue S, Suite 100, 1st Floor Seattle, WA 98108

Tel/Fax: (206) 269-6310 / (206) 900-8789

<http://www.emsl.com/seattlelab@emsl.com>**EMSL Order:** 512000726**Customer ID:** RSEE42**Customer PO:****Project ID:****Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
310-13-Tape 512000726-0013B	GWB + joint compound - game room stairway	White Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-14-Floor Tile 512000726-0014	Tan/brown patterned 1x1 VCT + mastic - kitchen	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-14-Mastic 512000726-0014A	Tan/brown patterned 1x1 VCT + mastic - kitchen	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-14-Mastic 2 512000726-0014B	Tan/brown patterned 1x1 VCT + mastic - kitchen	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
310-15-Cove Base 512000726-0015	light tan VCB + yellow mastic - kitchen	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-15-Mastic 512000726-0015A	light tan VCB + yellow mastic - kitchen	Yellow/Beige Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
Result includes a small amount of inseparable attached material					
310-16-Cove Base 512000726-0016	blue/gray VCB + mastic - floor 2 east	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-16-Mastic 512000726-0016A	blue/gray VCB + mastic - floor 2 east	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-17-Gypsum Wallboard 512000726-0017	GWB + joint compound - floor 2 south patch	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	65% Gypsum 13% Non-fibrous (Other)	None Detected
310-17-Joint Compound 512000726-0017A	GWB + joint compound - floor 2 south patch	White/Yellow Fibrous Homogeneous	10% Glass	50% Ca Carbonate 40% Non-fibrous (Other)	None Detected
Result includes a small amount of inseparable attached material					
310-18-Gypsum Wallboard 512000726-0018	GWB + joint compound - floor 2 ceiling patch	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	65% Gypsum 13% Non-fibrous (Other)	None Detected
310-18-Joint Compound 512000726-0018A	GWB + joint compound - floor 2 ceiling patch	White Fibrous Homogeneous	10% Glass	45% Ca Carbonate 45% Non-fibrous (Other)	None Detected
310-19 512000726-0019	gray chimney grout - chimney	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
310-20-Cove Base 512000726-0020	Black VCB + mastic - floor 2 west room	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
310-20-Mastic 512000726-0020A	Black VCB + mastic - floor 2 west room	Brown Non-Fibrous Homogeneous	2% Wollastonite	98% Non-fibrous (Other)	None Detected
310-21-Vinyl Sheet Flooring 512000726-0021	tan/brown speckled VSF + mastic- floor 2 west room	Gray Fibrous Heterogeneous	20% Cellulose 2% Glass	78% Non-fibrous (Other)	None Detected
310-21-Mastic 512000726-0021A	tan/brown speckled VSF + mastic- floor 2 west room	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 03/17/2020 17:09:52

**EMSL Analytical, Inc.**

5900 4th Avenue S, Suite 100, 1st Floor Seattle, WA 98108

Tel/Fax: (206) 269-6310 / (206) 900-8789

<http://www.emsl.com/seattlelab@emsl.com>**EMSL Order:** 512000726**Customer ID:** RSEE42**Customer PO:****Project ID:****Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
310-22-Gypsum Wallboard 512000726-0022	GWB + joint compound- floor 2 west room	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	65% Gypsum 13% Non-fibrous (Other)	None Detected
310-22-Joint Compound 512000726-0022A	GWB + joint compound- floor 2 west room	White/Black Non-Fibrous Homogeneous		45% Ca Carbonate 55% Non-fibrous (Other)	None Detected
310-23-Gypsum Wallboard 512000726-0023	GWB + joint compound- kitchen east	Brown/White Fibrous Heterogeneous	20% Cellulose	70% Gypsum 10% Non-fibrous (Other)	None Detected
310-23-Joint Compound 512000726-0023A	GWB + joint compound- kitchen east	White/Green Non-Fibrous Homogeneous		55% Ca Carbonate 45% Non-fibrous (Other)	None Detected
310-24-Gypsum Wallboard 512000726-0024	GWB + joint compound - kitchen north	Brown/White Fibrous Heterogeneous	20% Cellulose	70% Gypsum 10% Non-fibrous (Other)	None Detected
310-24-Joint Compound 512000726-0024A	GWB + joint compound - kitchen north	White/Green Non-Fibrous Homogeneous		45% Ca Carbonate 55% Non-fibrous (Other)	None Detected
310-25-Shingle 512000726-0025	Black roof shingles + tar - roof	Black/Orange Fibrous Homogeneous	35% Glass	65% Non-fibrous (Other)	None Detected
310-25-Shingle 512000726-0025A	Black roof shingles + tar - roof	Gray/Black Fibrous Homogeneous	30% Glass	70% Non-fibrous (Other)	None Detected
310-25-Tar 512000726-0025B	Black roof shingles + tar - roof	Black Non-Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
310-26-Gypsum Wallboard 512000726-0026	GWB + joint compound - upper stairway	Brown/White Fibrous Heterogeneous	20% Cellulose	65% Gypsum 15% Non-fibrous (Other)	None Detected
310-26-Joint Compound 512000726-0026A	GWB + joint compound - upper stairway	White Non-Fibrous Homogeneous		60% Ca Carbonate 40% Non-fibrous (Other)	None Detected

Analyst(s)

Jason Stuhr (58)

Rudy Baum, Interim Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Seattle, WA NVLAP Lab Code 200613, CA 2733, WA C1025

Initial report from: 03/17/2020 17:09:52



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

# Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (lab use only):

" 5 1 2 0 0 0 7 2 6 "

Company Name : <u>ROSE ENVIRONMENTAL</u>		EMSL Customer ID:	
Street:		City:	State or Province:
Zip/Postal Code:	Country:	Telephone #:	Fax #:
Report To (Name): <u>MARTIN + RYAN</u>		Please Provide Results via: <input type="checkbox"/> Fax <input type="checkbox"/> Email	
email Address:		Purchase Order Number:	
Client Project ID: <u>10672-OTAIL</u>		EMSL Project ID (internal use only):	
State or Province Collected:		CT only <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input type="checkbox"/> Same <input type="checkbox"/> Different - If bill to is different note instructions in comment. Third party billing requires written authorization from third party			
Turnaround Time (TAT) Options Please Check			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 32 Hour* <input checked="" type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week
* 32 Hour TAT available for select tests only; samples must be submitted by 11:30am. Please call ahead for large projects and/or turnaround times 6 hours or less.			
<b>PLM - Bulk (reporting limit)</b>		<b>TEM - Bulk</b>	
<input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <u>ON</u>		<input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1	
<input type="checkbox"/> PLM EPA NOB (<1%)		<input type="checkbox"/> NY ELAP Method 198.4 non-friable - NY	
Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)		<input type="checkbox"/> Chatfield Protocol (semi-quantitative)	
Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)		<input type="checkbox"/> TEM % by Mass - EPA 600/R-93/116 Section 2.5.5.2	
<input type="checkbox"/> NIOSH 9002 (<1%)		<input type="checkbox"/> TEM Qualitative via Filtration Prep Technique	
<input type="checkbox"/> NY ELAP Method 198.1- friable - NY		<input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique	
<input type="checkbox"/> NY ELAP Method 198.6 NOB- non-friable - NY		Other tests (please specify)	
<input type="checkbox"/> NY ELAP Method 198.8- Vermiculite Surfacing Material			
<input type="checkbox"/> OSHA ID-191 Modified			
<input type="checkbox"/> EMSL Standard Addition Method			
<input type="checkbox"/> Positive Stop - Clearly Identify Homogenous Areas (HA)		Date Sampled: <u>3/10/20</u>	
Sampler's Name: <u>RYAN ANDERSON</u>		Sampler's Signature: <u>[Signature]</u>	
Sample #	<del>HA#</del>	Sample Location	Material Description
<u>310-1</u>		<u>Torquise 1x1 VCT + yellow MASTIC - upper</u>	<u>Entry</u>
<u>- 2</u>		<u>Grey 1x1 VCT + MASTIC - lower</u>	
<u>- 3</u>		<u>Black Sisk Undercoating</u>	
<u>- 4</u>		<u>Black VCB + MASTIC</u>	
<u>- 5</u>		<u>Green + joint compound</u>	
<u>- 6</u>		<u>White ceiling Texture</u>	
Client Sample # (s):		Total # of Samples: <u>26</u>	
Relinquished by (Client): <u>[Signature]</u>		Date: <u>3/12/20</u>	Time: <u>3:30</u>
Received by (Lab): <u>Claudia Nishr</u>		Date: <u>3/12/20</u>	Time: <u>3:38 PM</u>
Comments/Special Instructions: <u>WI</u>			

Page 1 of \_\_\_\_\_

Controlled Document - COC-01 Asbestos Bulk - R4 - 09/10/2019

EMSL Analytical, Inc.'s (DBA: LA Testing) Laboratory Terms and Conditions are incorporated into this chain of custody by reference in their entirety. Submission of samples to EMSL Analytical Inc. constitutes acceptance and acknowledgment of all terms and conditions.

EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

# Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (lab use only):

" 5 1 2 0 0 0 7 2 6 "

Additional pages of the Chain of Custody are only necessary if  
needed for additional sample information

Sample #	HA #	Sample Location	Material Description
310 - 6		White/Tan patterned VCT + <del>black</del> MASTIC	Girls Bathroom
-7		Tan VCB + yellow MASTIC	↓
-8		White/Tan patterned VCT + black MASTIC	Janitor's Closet
-9		Brown VCB + yellow MASTIC	↓
-10		Blue/white patterned 1x1 VCT + MASTIC	Boy's Bathroom
-11		Tan <del>linoleum</del> vinyl flooring	↓
-12		Gray VCB + yellow MASTIC	Game Room
-13		GWB + joint compound	Game Room Stairway
-14		Tan/Brown patterned 1x1 VCT + MASTIC	Kitchen
-15		Light Tan/peach VCB + yellow MASTIC	↓
-16		Blue/Gray VCB + MASTIC	Floor 2 - East
-17		GWB + joint compound	Floor 2 - South patch
-18		↓	Floor 2 - Ceiling Patch
-19		Gray chimney grom	Chimney
-20		Black VCB + MASTIC	Floor 2 - West Room
-21		Tan/Brown speckled VSE + MASTIC	↓
-22		GWB + joint compound	
-23		GWB + joint compound	Kitchen - East
-24		GWB + joint compound	Kitchen - North
-25		Black roof shingles + tar	Roof
-24		GWB + joint compound	Upper Stairway
*Comments/Special Instructions:			

Page \_\_\_\_ of \_\_\_\_ pages

Controlled Document - COC-01 Asbestos Bulk - R4 - 09/10/2019

EMSL Analytical, Inc.'s (DBA: LA Testing) Laboratory Terms and Conditions are incorporated into this chain of custody by reference in their entirety. Submission of samples to EMSL Analytical Inc. constitutes acceptance and acknowledgment of all terms and conditions.





IMG\_8168



IMG\_8169



IMG\_8170



IMG\_8171



IMG\_8172



IMG\_8173



IMG\_8174



IMG\_8175



IMG\_8176



IMG\_8177



IMG\_8178



IMG\_8182



IMG\_8183



IMG\_8184



IMG\_8185



IMG\_8186



IMG\_8187



IMG\_8188



IMG\_8133



IMG\_8135



IMG\_8136



IMG\_8137



IMG\_8138



IMG\_8139



IMG\_8140



IMG\_8141



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IMG\_8143



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IMG\_8145



IMG\_8146



IMG\_8147



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IMG\_8149



IMG\_8150



IMG\_8151



IMG\_8152



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IMG\_8154



IMG\_8155



IMG\_8156



IMG\_8157



IMG\_8159



IMG\_8160



IMG\_8161



IMG\_8162



IMG\_8163



IMG\_8164



IMG\_8165



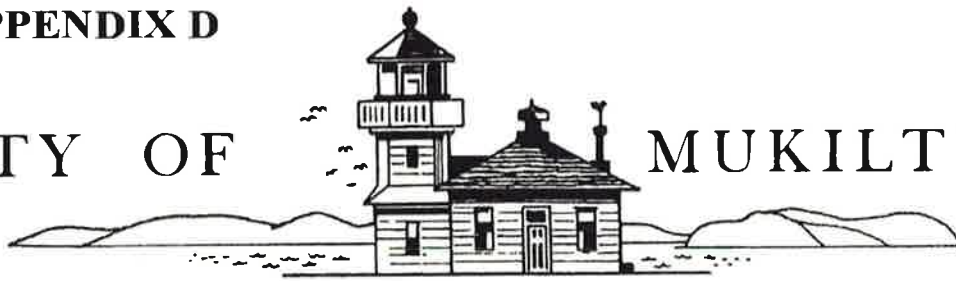
IMG\_8166



IMG\_8167

## APPENDIX D

# CITY OF MUKILTEO



4480 CHENNAULT BEACH ROAD • MUKILTEO, WASHINGTON 98275

December 29, 2006

*Initial  
Inspection*

Mr. Paul Seely  
Boy's & Girls Club of Sno. Co.  
4322 Rucker Ave  
Everett, WA 98203

Re: Inspection at  
1134 2<sup>ND</sup> Street  
Mukilteo Boy's & Girl's Club

Dear Paul

As you requested, Willie Berns and I accompanied Chuck Davis on an inspection of the Mukilteo Facility. The following was observed:

Life/Safety Repairs Needed:

- 2 1. Have a Mason and Structural Engineer examine and evaluate the exterior chimney and at the same time inspect the interior chimney. One brace is missing on the exterior chimney and the base of the chimney has severely eroded mortar
- 1 2. Remove exterior stairway, frame in exterior door, reside opening and add door to bottom of interior stairway and remove junk from 2<sup>nd</sup> floor, i.e.; old TV's & furniture.
- 2 3. Replace chimney connectors, or repair and reinstall with correct clearances. Protect heaters and vents with guards to prevent stray balls from damaging both. Replace damaged vanes on heaters.
- 4 4. Remove stove from kitchen and any other surface heating device, microwave is alright.
- 5 5. Close off loft above offices (no safe access) and remove junk in loft such as exercise equipment etc.



- 6 6. Water heater in closet on 2<sup>nd</sup> floor needs to be plumbed, wired correctly with drain pan and temperature pressure and relief valve piped to the outside or an approved location.
- 3 7. Replace, repair, or restore illuminated exit signs and lights at all locations.

Other Needed Repairs:

1. Replace missing shingles.
2. Remove portion of maple tree in contact with building.
3. Check siding above lower roof and repair or replace as necessary.
4. Replace foundation crawl vents and secure access.
5. Rear window is missing, replace or fill in properly.
6. Repair or replace damaged down spouts and to get water away from building.
7. Replace faces on heater in game room.
8. Replace tiles in bathroom, floor is rotting.
9. Lookouts and supporting barge boards at front side of building showing signs of rot at ends; replace or repair to correct condition.
10. Roof bracing-roof structure shows significant deflection (sagging) of over-spanned rafters. Braces from bearing points-strong backs should be put in place to prevent further deflection and failure of overload members. It may be possible to reduce some existing bending, but not necessary at this point in time. Prevention of future deflection should prevent structural failure.

Once you get a schedule prepared for these items please call Willie Berns, Building Inspector at 425-355-4141, ext. 250 to advise.

Sincerely

  
James. R. Bennett  
Building Official

C: Rich Leahy  
Willie Berns  
Jack Colbath  
Chuck Davis, 1134 2<sup>nd</sup> Street, Mukilteo, WA 98275

*The follow up  
Inspection  
8/17/16*

Boys & Girls Club.

1132 2<sup>ND</sup> ST.

**Life/safety inspection for the repairs of the issued found on the December 29<sup>th</sup> 2006 inspection.**

1. Facts: Have a Mason and Structural Engineer examine and evaluate the exterior chimney and at the same time inspect the interior chimney. One brace missing on the exterior chimney and the base of chimney has severely eroded mortar.

Finding: They produced no paper work on the inspection being done and one brace still appears to be missing.

2. Facts: Remove exterior stairway, frame in exterior door, reside opening and add door to bottom of interior stairway and remove junk from 2<sup>nd</sup> floor, i.e.; old TV's and furniture.

Finding: Exterior stairway removed door framed in and resided. TV's and furniture removed. No door has been added to the bottom of stairway. And they use it for storage only now.

3. Facts: Replace chimney connectors, or repair and install with correct clearances. Protect heaters and vents with guards to prevent stray balls from damaging both. Replace damaged vanes on the heaters.

Finding: A new unit heater was installed in the gym and there is an old one still hanging from ceiling not in use. And still no guard around new unit for protection.

4. Facts: Remove stove from kitchen any other surface heating devices, microwave is alright.

Findings: Stove not removed.

5. Facts: Close off loft above offices (no safe access) and remove junk in lift such as exercise equipment etc.

Findings: Loft access was closed off exercise equipment removed. Used for light storage.

6. Facts: Water heater in closet 2<sup>nd</sup> floor needs to be plumbed and wired correctly with drain pan and temperature pressure and relief valve piped to outside or an approved location.

Findings: New tank installed. Needed a permit. And code requires pan under it, two seismic straps and the p/t valve plumbed to outside or approved location.

7. Facts: Replace, repair, or restore illuminated exit signs and lights at all locations.

Findings: all exit signs and lighting appear to be in working order. And repairs made.

#### Other needed repairs.

1. Facts: Replace missing shingles.

Findings: All but the eastside of the building was re-roofed with new roofing and the east side appeared to be in good shape from what I could see.

2. Facts: Remove portion of maple tree in contact with the building.

Findings: Trees have been removed.

3. Facts: Check siding above lower roof and repair or replace as necessary.

Findings: Siding appeared to look in good shape.

4. Facts: Replace foundation crawler vents.

Findings: All crawlers vents replaced and in good shape.

5. Facts: Rear window is missing, replace or fill in properly.

Findings: Rear window and another on east side of building still need to replace or fill in.

6. Facts: Replace or repair damaged down spouts.

Finding: Damaged down spouts still need replaced.

7. Facts: Replace faces on heater in game room.

Finding: New wall heater installed.

8. Facts: Replace tiles in bath room. Floor is rotting.

Findings: Missing tile replaced and the floor appears to be sound.

9. Facts: lookouts and supporting barge boards at front of building showing signs of rot at ends replace or repair to correct the condition.

Findings: Those repairs still need to be completed.

10. Facts. Roof bracing-roof structure shows significant deflection (sagging) of over spanned rafters. Braces from bearing points-strong backs should be put in place to prevent future deflection and failure of overload members. It may be possible to reduce some existing bending, but not necessary at this point in time. Prevention of future deflection should prevent structural failure.

Finding: Nothing has been done on this issue. It appear to be in the same condition as when inspected the first time.

Two additional items seen on inspection.

11. The entry door awning torn needs replaced and the urinal partition is in poor condition and needs replaced.

Re-inspection was done on the 17<sup>th</sup> day of August 2016.

By Willie Berns

Building official, City of Mukilteo Wa.

State of Washington, Department of Community Development  
Office of Archaeology and Historic Preservation  
111 West 21st Avenue, KL-11  
Olympia, WA 98504 (206) 753-4011

LOCATION SECTION  
Address 1134 2nd Street  
City/Town/County/Zip Code Mukilteo, Snohomish County, WA 98275  
Twp. 4 Range 28 Section 4  $\frac{1}{4}$  Section             $\frac{1}{4}$  Section             
Tax No./Parcel No. 042804-1-025-0009 Acreage Less than one  
Quadrangle or map name Mukilteo Quadrangle  
UTM References Zone 10 Easting 532690 Northing 5310780  
Plat/Block/Lot Lot 1-025 Portion of S4, T28, 4  
Supplemental Map(s) Kroll

A black and white photograph of a two-story building with a gambrel roof, identified by a sign as 'BIOLOGICAL RESEARCH CENTER'. A vintage car is parked in front of the building, and trees are visible in the background.

<b>High Styles / Forms (check one or more of the following)</b>	<input type="checkbox"/> Spanish Colonial Revival / Mediterranean
<input type="checkbox"/> Greek Revival	<input type="checkbox"/> Tudor Revival
<input type="checkbox"/> Gothic Revival	<input type="checkbox"/> Craftman / Arts & Crafts
<input type="checkbox"/> Italianate	<input type="checkbox"/> Bungalow
<input type="checkbox"/> Second Empire	<input type="checkbox"/> Prairie Style
<input type="checkbox"/> Romanesque Revival	<input type="checkbox"/> Art Deco / Art Moderne
<input type="checkbox"/> Stick Style	<input checked="" type="checkbox"/> Rustic Style
<input type="checkbox"/> Queen Anne	<input type="checkbox"/> International Style
<input type="checkbox"/> Shingle Style	<input type="checkbox"/> Northwest Style
<input type="checkbox"/> Colonial Revival	<input checked="" type="checkbox"/> Commercial Vernacular
<input type="checkbox"/> Beaux Arts / Neoclassical	<input type="checkbox"/> Residential Vernacular (see below)
<input type="checkbox"/> Chicago / Commercial Style	<input type="checkbox"/> Other (specify)
<input type="checkbox"/> American Foursquare	
<input type="checkbox"/> Mission Revival	
<b>Vernacular House Types</b>	
<input type="checkbox"/> Gable front	<input type="checkbox"/> Cross gable
<input checked="" type="checkbox"/> Gable front and wing	<input type="checkbox"/> Pyramidal / Hipped
	<input type="checkbox"/> Other (specify)



# NARRATIVE SECTION

Study Unit Themes (check one or more of the following)

- ☐ Agriculture
- ☒ Architecture/Landscape Architecture
- ☐ Arts
- ☐ Commerce
- ☐ Communications
- ☐ Community Planning/Development

- ☐ Conservation
- ☒ Education
- ☒ Entertainment/Recreation
- ☐ Ethnic Heritage (specify) \_\_\_\_\_
- ☐ Health/Medicine
- ☒ Manufacturing/Industry
- ☐ Military

- ☐ Politics/Government/Law
- ☐ Religion
- ☐ Science & Engineering
- ☒ Social Movements/Organizations
- ☐ Transportation
- ☐ Other (specify) \_\_\_\_\_
- ☐ Study Unit Sub-Theme(s) (specify) \_\_\_\_\_

## Statement of Significance

Date of Construction 1925 Architect/Engineer/Builder Men in the Mukilteo community built structure.  
☐ In the opinion of the surveyor, this property appears to meet the criteria of the National Register of Historic Places  
☐ In the opinion of the surveyor, this property is located in a potential historic district (National and/or local).

31-06

The building was erected in 1920 and is presently referred to as the Boy's Club or the Royal Neighbor's Hall. It stands as a monument to the volunteers of the town who donated their labor, cash, and materials. The Crown Lumber Company donated the site and construction was supplied by the men who worked at the mill and the members of the Lodge.

It became the meeting place for all the town's social and civic functions, including the town council. In 1927, after the first Rosehill School burned down, this building became the temporary quarters for the 5th, 6th, 7th, and 8th grades. It was a dance hall and the location of many youth activities.

The lumber in the siding is No. 3 Douglas Fir, which has gained the attention of lumber experts, because of its lasting qualities in weathering for 30 years without paint or preservative.

## Description of Physical Appearance

The whole building has a rustic quality with a simplicity of form, structure and detail. It is remarkable for its wide 50' clear span and arched interior ceiling. Heavy timbers and wide Douglas Fir horizontal siding are consistent with the grand scale of the building. The building is oriented to the community rather than the Puget Sound, the building was constructed in a true community effort to create the only real community gathering space in Mukilteo. And the building retains its original inviting, accessible quality.

Changes to the building, though seemingly small and "maintenance-type", have had a major aesthetic impact on the landmark potential of this exceptional building. Wood frame multi-lite windows have been replaced with aluminum, rustic naturally weathered siding gives way to painted siding and the original hipped gable entry porch is replaced with a steel tube and canvas awning. An egress stair has been unsympathetically located on a side facade.

The eaves and fascia, still unpainted, show off the beauty of this long unpainted rustic structure.

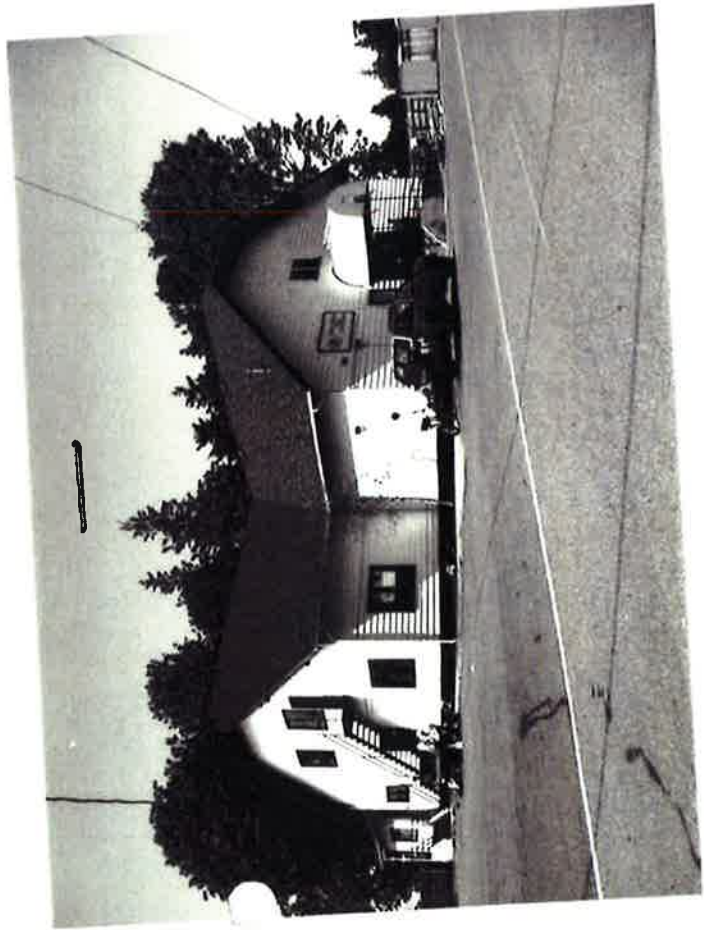
## Major Bibliographic References

Mukilteo Historical Society; Mukilteo Memories, Irv Luiten, 1977; Everett Herald, "Royal Neighbors of Mukilteo Donate Their Hall to Town", 09/18/57; Everett Herald, "Hawthorne Hall, Mukilteo's Community Center", 1951.

**HISTORIC PROPERTY INVENTORY FORM**

(Continuation Sheet)

Field Site No. 31-06 OAH No.            Date Recorded 5/12/93  
Site Name Royal Neighbors/Hawthorne Hall  
Common Mukilteo Boys and Girls Club



# APPENDIX E

<b>City of Mukilteo - Hawthorne Hall</b> Mukilteo, Wa Otak, Inc. Portland, Or. Structural Condition Assessment Estimate 1.0	<b>ACC Cost Consultants, LLC</b> Seth J. Pszczolkowski 8060 SW Pfaffle Street, Suite 110 Tigard, Oregon 97223-8489 Phone: (503) 718-0075 Fax: (503) 718-0077 www.ArchCost.com	Estimate Date: 19-Aug-20 Document Date: 09-Jul-20 Print Date: 19-Aug-20 Print Time: 6:08 PM Constr. Start: August 2021
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## DIRECT CONSTRUCTION COST SUMMARY

Component	Area	\$ / SF	Total
<b><u>Structrual Condition Assessment</u></b>			
Foundations			\$95,120
Floor Framing			\$38,587
Wall Framing			\$111,494
Roof Framing			\$45,469
Lateral System/Seismic			\$285,995
Seismic Checklist			\$10,552
<b>TOTAL DIRECT CONSTRUCTION COST</b>			<b>\$587,217</b>
Budget			\$0
Indicated Surplus / (Deficit)			(\$587,217)
<b><u>Escalation Model through 2023</u></b>			
Escalation through 2021		see above	@ ± 5% per year
Escalation through 2022	Add ±	\$29,687	@ ± 5% per year
Escalation through 2023	Add ±	\$60,532	@ ± 5% per year

The above estimates are for direct construction cost only. They do not include furnishings & equipment, architect and engineer design fees, consultant fees, inspection and testing fees, plan check fees, state sales tax, hazardous material testing and removal, financing costs, owners contingency, nor any other normally associated development costs.

The above estimates assume a competitively bid project, with at least three qualified bidders in each of the major sub-trades as well as the general contractors.

The above estimates assume a construction start date of: August 2021. If the start of construction is delayed beyond the date above, the estimates must be indexed at a rate of 5% to 7% per year compounded.

This is a probable cost estimate based on in-progress documentation provided by the Architect. The actual bid documents will vary from this estimate due to document completion, detailing, specification, addendum, etc. The estimator has no control over the cost or availability of labor, equipment, materials, over market conditions or contractor's method of pricing, and contractor's construction logistics and scheduling. This estimate is formulated on the estimator's professional judgment and experience. The estimate makes no warranty, expressed or implied, that the quantities, bids or the negotiated cost of the work will not vary from the estimator's opinion of probable construction cost.

<b>City of Mukilteo - Hawthorne Hall</b> Mukilteo, Wa Otak, Inc. Portland, Or. Structural Condition Assessment Estimate 1.0	<b>ACC Cost Consultants, LLC</b> Seth J. Pszczolkowski 8060 SW Pfaffle Street, Suite 110 Tigard, Oregon 97223-8489 Phone: (503) 718-0075 Fax: (503) 718-0077 www.ArchCost.com	Estimate Date: 19-Aug-20 Document Date: 09-Jul-20 Print Date: 19-Aug-20 Print Time: 6:08 PM Constr. Start: August 2021
---	---	--

Structural Condition Assessment	Quantity	Unit	Cost / Unit	Cost	Sub-totals	comments
<b>Foundations</b>						
Posts and Concrete Pedestals						
concrete pedestal	15	ea	160.00	2,400		
6x6 post	60	lf	25.50	1,530		assume 4' ht. each
hardware						
post base	15	ea	59.00	885		verify required, assume abu
post cap	15	ea	50.00	750		verify required, assume pcz
fasteners & hardware	1	sum	110.00	110		
Sub-total					5,675	
Sill Anchors						
drill & epoxy sill anchors at 24" oc	195	ea	40.00	7,800		
fasteners & hardware	1	sum	270.00	270		
Sub-total					8,070	
Holddowns						
remove 1x2 decking/wall finish	392	sf	5.50	2,156		
temp dust control barriers	1	sum	500.00	500		allowance
protect floors	1	sum	250.00	250		allowance
haul & disposal	1	sum	400.00	400		
6x6 post	56	lf	25.50	1,428		assume 4' ht. each
drill & epoxy holddown, at crawlspace	14	ea	250.00	3,500		
6x6 post	196	lf	25.50	4,998		assume 14' ht. avg.
cmst strapping through floor to wall	14	ea	80.00	1,120		
fasteners & hardware	1	sum	340.00	340		
replace 1x2 decking/wall finish	392	sf	9.25	3,626		
paint interior walls	392	sf	0.95	372		
Sub-total					18,690	
Post/Foundation Connection						
drill & epoxy L bracket, assume 2 sides	216	ea	158.00	34,128		~108 posts, assume hl35
fasteners & hardware	1	sum	1,190.00	1,190		
Sub-total					35,318	
Post/Beam Connection						
install retrofit post cap hardware	108	ea	35.00	3,780		assume ac6 (pair)
fasteners & hardware	1	sum	130.00	130		
Sub-total					3,910	
<b>SUB-TOTAL Foundations</b>				71,663	<b>\$71,663</b>	
Estimating/Design Contingency			10.00%	7,166		
Index To Construction Start	August 2021		5.00%	3,941		@ ± 5% per year
General Conditions / Insurance / Bond			10.50%	8,691		
General Contractor OH & Profit			4.00%	3,658	23,457	32.73%
<b>TOTAL DIRECT CONSTRUCTION COST Foundations</b>					<b>\$95,120</b>	
<b>Floor Framing</b>						
Level 1						
add clips to floor joist	608	ea	\$12.00	\$7,290		assume h2.5a
fasteners & hardware	1	sum	260.00	260		
Sub-total					7,550	



<b>City of Mukilteo - Hawthorne Hall</b> Mukilteo, Wa Otak, Inc. Portland, Or. Structural Condition Assessment Estimate 1.0	<b>ACC Cost Consultants, LLC</b> Seth J. Pszczolkowski 8060 SW Pfaffle Street, Suite 110 Tigard, Oregon 97223-8489 Phone: (503) 718-0075 Fax: (503) 718-0077 www.ArchCost.com	Estimate Date: 19-Aug-20 Document Date: 09-Jul-20 Print Date: 19-Aug-20 Print Time: 6:08 PM Constr. Start: August 2021
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Structural Condition Assessment	Quantity	Unit	Cost / Unit	Cost	Sub-totals	comments
<b>Floor Framing - Continued</b>						
Level 2						
remove finished ceiling	1,600	sf	1.25	2,000		verify, assume gypbd
temp dust control barriers	1	sum	800.00	800		allowance
protect floors	1	sum	2,500.00	2,500		allowance
haul & disposal	1	sum	420.00	420		
add 2x12 joists @ 48" oc, upper floor	1,000	sf	3.94	3,938		
add 2x12 joists @ 48" oc, mezzanine	600	sf	3.94	2,363		
fasteners & hardware	1	sum	220.00	220		
replace finished ceiling, gypbd	1,600	sf	4.50	7,200		
paint gypboard ceilings	1,600	sf	1.30	2,080		
Sub-total					\$21,521	
<b>SUB-TOTAL Floor Framing</b>				29,071	<b>\$29,071</b>	
Estimating/Design Contingency			10.00%	2,907		
Index To Construction Start	August 2021		5.00%	1,599		@ ± 5% per year
General Conditions / Insurance / Bond			10.50%	3,526		
General Contractor OH & Profit			4.00%	1,484	9,516	32.73%
<b>TOTAL DIRECT CONSTRUCTION COST</b>						
<b>Floor Framing</b>					<b>\$38,587</b>	

<b>Wall Framing</b>						
Stud Framing - gable ends only						
remove 1x2 decking/wall finish	2,808	sf	\$5.50	\$15,444		
temp dust control barriers	1	sum	1,750.00	1,750		allowance
protect floors	1	sum	750.00	750		allowance
haul & disposal	1	sum	2,320.00	2,320		
add 2x6 studs @ 24" oc	2,808	sf	10.00	28,080		assume 12' ht.
fasteners & hardware	1	sum	980.00	980		
replace 1x2 decking/wall finish	2,808	sf	9.25	25,974		
paint interior walls	2,808	sf	0.95	2,668		
Sub-total					77,966	
Roof Truss Bearing						
remove finished ceiling	80	sf	1.25	100		verify, assume gypbd
temp dust control barriers	1	sum	250.00	250		allowance
protect floors	1	sum	200.00	200		allowance
temp shoring	20	lf	12.00	240		
haul & disposal	1	sum	120.00	120		
spread footing	2	ea	430.00	860		
6x6 post	32	lf	25.50	816		assume 12' ht.
6 3/4x24 roof beam	20	lf	114.75	2,295		assume size, verify
hardware						
post base	2	ea	59.00	118		verify required, assume abu
post cap	2	ea	200.00	400		verify required, assume eccq
fasteners & hardware	1	sum	170.00	170		
replace finished ceiling, gypbd	80	sf	4.50	360		
paint gypboard ceilings	80	sf	1.30	104		
Sub-total					\$6,033	

<b>City of Mukilteo - Hawthorne Hall</b> Mukilteo, Wa Otak, Inc. Portland, Or. Structural Condition Assessment Estimate 1.0	<b>ACC Cost Consultants, LLC</b> Seth J. Pszczolkowski 8060 SW Pfaffle Street, Suite 110 Tigard, Oregon 97223-8489 Phone: (503) 718-0075 Fax: (503) 718-0077 www.ArchCost.com	Estimate Date: 19-Aug-20 Document Date: 09-Jul-20 Print Date: 19-Aug-20 Print Time: 6:08 PM Constr. Start: August 2021
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Structural Condition Assessment	Quantity	Unit	Cost / Unit	Cost	Sub-totals	comments
<b>SUB-TOTAL Wall Framing</b>				83,999	<b>\$83,999</b>	
Estimating/Design Contingency			10.00%	8,400		@ ± 5% per year 32.73%
Index To Construction Start	August 2021		5.00%	4,620		
General Conditions / Insurance / Bond			10.50%	10,187		
General Contractor OH & Profit			4.00%	4,288	27,495	
<b>TOTAL DIRECT CONSTRUCTION COST Wall Framing</b>					<b>\$111,494</b>	
<b>Roof Framing</b>						
Truss A & B - @ 24" oc						
1x member bracing, less than 5' span	11,700	sf	1.00	\$11,700		truss a - 195 sf/ea of truss
1x member bracing, less than 5' span	4,875	sf	1.00	\$4,875		truss b - 325 sf/ea of truss
fasteners & hardware	1	sum	580.00	580		
Sub-total					\$17,155	
Truss B						
sister 2x6 rafter to top chord	512	lf	5.63	2,880		
fasteners & hardware	1	sum	100.00	100		
Sub-total					\$2,980	
Truss C						
add 2x6 rafter @ 24" oc	412	lf	5.63	2,319		assume full length
fasteners & hardware	1	sum	80.00	80		
Sub-total					\$2,399	
Uplift Anchorage						
add uplift clips at all trusses	130	ea	12.00	1,560		assume h2.5a
fasteners & hardware	1	sum	50.00	50		
Sub-total					\$1,610	
Rafter Tail Repair						
remove damaged rafter tail	307	sf	12.50	3,833		assume 70% of rafter tails
haul & disposal	1	sum	570.00	570		
replace damaged rafter tail	307	sf	18.00	5,519		assume 70% of rafter tails
fasteners & hardware	1	sum	190.00	190		
Sub-total					\$10,112	
<b>SUB-TOTAL Roof Framing</b>				34,256	<b>\$34,256</b>	
Estimating/Design Contingency			10.00%	3,426		@ ± 5% per year 32.73%
Index To Construction Start	August 2021		5.00%	1,884		
General Conditions / Insurance / Bond			10.50%	4,154		
General Contractor OH & Profit			4.00%	1,749	11,213	
<b>TOTAL DIRECT CONSTRUCTION COST Roof Framing</b>					<b>\$45,469</b>	
<b>Lateral System/Seismic</b>						
Roof Diaphragm						
remove roofing to deck, complete	8,235	sf	\$2.00	\$16,471		
temp weather protection	8,235	sf	2.00	16,471		

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Structural Condition Assessment	Quantity	Unit	Cost / Unit	Cost	Sub-totals	comments
<b>Lateral System/Seismic - Continued</b>						
<b>Roof Diaphragm - continued</b>						
haul & disposal	1	sum	2,470.00	2,470		
19/32" roof sheathing	8,235	sf	2.75	22,647		
ridge strapping	34	ea	20.00	675		assume st22
fasteners & hardware	1	sum	820.00	820		
composite asphalt shingle	8,235	sf	9.25	76,178		
slip sheet	9,059	sf	0.20	1,812		
ridge vent strip	185	lf	15.00	2,775		verify required
misc. flashing	8,235	sf	0.55	4,529		
Sub-total					\$144,848	
<b>Roof Diaphragm Blocking</b>						
roof demolition noted in Roof Diaphragm	1	sum	0.00	0		nic, verify
remove roof sheathing	648	sf	2.00	1,296		
haul & disposal	1	sum	190.00	190		
2x6 truss blocking	324	lf	4.50	1,458		
shear clips	243	ea	12.00	2,916		assume a35 @ 16" oc
replace 1/2" sheathing	648	sf	2.50	1,620		
fasteners & hardware	1	sum	210.00	210		
roofing noted in Roof Diaphragm	1	sum	0.00	0		nic, verify
Sub-total					\$7,690	
<b>Sheathing Exterior Walls</b>						
remove wall finish	6,384	sf	1.00	6,384		assume interior
temp dust control barriers	1	sum	3,250.00	3,250		allowance
protect floors	1	sum	1,500.00	1,500		allowance
haul & disposal	1	sum	960.00	960		
15/32 wall sheathing	6,384	sf	2.50	15,960		
fasteners & hardware	1	sum	560.00	560		
holddowns/strapping	1	sum	0.00	0		see holddowns in foundations
replace wall finish	6,384	sf	3.75	23,940		
paint interior walls	6,384	sf	0.95	6,065		
Sub-total					\$58,619	
<b>Seismic Anchorage</b>						
seismic anchorage	1	sum	0.00	0		see sill anchors in foundations
Sub-total					\$0	
<b>Strap Chimney</b>						
strap chimney to building	1	sum	1,500.00	1,500		2 locations
lower chimney height						
remove chimney cap	1	sum	0.00	0		verify not required
demo portion of chimney	144	sf	10.00	1,440		2 locations
haul & disposal	1	sum	220.00	220		
chimney cap	2	ea	575.00	1,150		
Sub-total					\$4,310	
<b>SUB-TOTAL Lateral System/Seismic</b>				215,467	<b>\$215,467</b>	
<b>Estimating/Design Contingency</b>						
Index To Construction Start	August 2021		10.00%	21,547		@ ± 5% per year
General Conditions / Insurance / Bond			5.00%	11,851		
General Contractor OH & Profit			10.50%	26,131		
			4.00%	11,000	70,528	32.73%
<b>TOTAL DIRECT CONSTRUCTION COST</b>						
<b>Lateral System/Seismic</b>					<b>\$285,995</b>	

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Structural Condition Assessment	Quantity	Unit	Cost / Unit	Cost	Sub-totals	comments
<b>Seismic Checklist</b>						
Seismic Bracing						
plumbing						
water heater bracing	2	ea	\$250.00	\$500		
flex couplings	2	ea	675.00	1,350		
hvac						
heater bracing	1	ea	250.00	250		
flex coupling	2	ea	675.00	1,350		
electrical						
misc. bracing	1	sum	4,500.00	4,500		
Sub-total					\$7,950	
<b>SUB-TOTAL Seismic Checklist</b>				7,950	<b>\$7,950</b>	
Estimating/Design Contingency			10.00%	795		
Index To Construction Start	August 2021		5.00%	437		@ ± 5% per year
General Conditions / Insurance / Bond			10.50%	964		
General Contractor OH & Profit			4.00%	406	2,602	32.73%
<b>TOTAL DIRECT CONSTRUCTION COST</b>						
<b>Seismic Checklist</b>					<b>\$10,552</b>	