PROJECT MANUAL

PROJECT NAME AND LOCATION:

Siding Replacement **Contract Number: DW2303131**
Carriage House Apartments – Buildings C

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INVITATION TO BID

King County Housing Authority (KCHA) will accept bids from qualified general contractors to furnish labor, materials and necessary equipment to perform the following:

SCOPE OF WORK: Work includes, but is not limited to, the removal and disposal of existing siding and trim; removal and reinstallation of specific windows; reseal of specific windows; supply and installation of fiber cement board siding panels and trim; removal and reinstallation of downspouts; repair and/or replacement of exterior decks and railings; various deck membrane repair/installation; exterior painting of all siding and trim, and other tasks as described in the bid documents.

PROJECT MANUAL DISTRIBUTION:

Address:		King County Housing Authority, 600 Andover Park, Seattle, WA 98188
Distribution:	*	**Documents are available for download on KCHA's website at http://www.kcha.org/business/construction/open/**

PRE-BID CONFERENCE:

Date and Time:	August 15, 2023 at 10:00 A.M.
Jobsite Address:	Carriage House Apartments, 3602 S. 180th St., SeaTac, WA 98188.
In Addition:	Contractors are strongly encouraged to attend the Pre-Bid Conference. Failure to attend the Conference will not relieve the Contractor of any responsibility for information provided at that time.
For Questions:	Questions pertaining to the bid are to be sent via email to DinaP@kcha.org no later than seven (7) calendar days prior to bid due date. All responses shall be in the form of Addenda.
Posting:	Addenda will be posted on KCHA's website.

BIDS ARE DUE:

Time:	**2:00 P.M.**
Date:	**August 29, 2023**

Submittal Process:	*	Bids may be sent to Dina Porter via email to DinaP@kcha.org.
Process:		All Bids must be received by KCHA no later than the above due date and time. No Bids will be accepted after that date and time.

BID GUARANTEE:

Amount:	Five (5%) Percent of the Total bid must accompany Each Bid
Payable to:	King County Housing Authority

PERFORMANCE AND PAYMENT BONDS: As a condition of award Performance and Payment bonds for 100% of the Contract Award Amount shall be furnished for the Work.

KCHA is an Equal Employment Opportunity Employer and strongly encourages minority-owned and women-owned businesses, socially and economically disadvantaged businesses, and small businesses to submit bids or to participate as subcontractors and suppliers on KCHA Contracts.

KCHA reserves the right to reject any or all bids or to waive any informality in the bidding. No bid shall be withdrawn for a period of 60 calendar days subsequent to the opening of the bids without the written consent of KCHA.

CONTACT PERSON: Dina Porter at DinaP@kcha.org

SECTION 01100 - SUMMARY

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Siding & Exterior Trim Replacement

1. Project Location: Carriage House Apartments, 3602 South 180th Street, SeaTac, WA 98188

a. Building C

B. The Work consists of, but is not limited to, the removal and disposal of existing siding and trim; removal and reinstallation of specific windows; reseal of specific windows; supply and installation of fiber cement board siding panels and trim; removal and reinstallation of downspouts; repair and/or replacement of exterior decks and railings; various deck membrane repair/installation; exterior painting of all siding and trim.

C. See 04-Carriage House BID SET PLANS for detailed directions and envelope installation measures.

D. Project will be constructed under a general construction contract.

1.2 WORK SEQUENCE

A. The Work shall be completed in 60 calendar days from the date of Notice to Proceed.

B. Contractor will submit written schedule outlining dates and duration of job including:

1. Construction start date
2. Schedule for work in each building
3. Anticipated final completion date

1.3 LIQUIDATED DAMAGES

A. Liquidated damages will be assessed for each calendar day that the Contractor exceeds the time for completion in the amount of $250.

1.4 USE OF THE PREMISES

A. Use of Site: Limit use of premises to work areas. Do not disturb portions of site beyond areas in which the Work is indicated.

1. Owner Occupancy: Allow for resident occupancy of site. Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate resident usage.
2. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to residents and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
3. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect property, the buildings and occupants during construction period.

1.5 PERMITS

A. Owner has secured the Building Permit. Contractor is responsible for obtaining and paying for all other necessary permits and for the coordination of all required inspections.

1.6 CONTRACT MODIFICATION PROCEDURES

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.

C. Construction Change Directive: Owner may issue a Construction Change Directive instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

D. Documentation: Maintain detailed records required for a change order to be approved and provide evidence of the following:

1. Wage Rates
2. Hours worked for each trade
3. Materials
4. Equipment

E. Do not perform change order Work without approval of the Owner. Work performed without approval will not be compensated.

1.7 UNIT PRICES

A. Unit price is an amount, stated by bidders on the Form of Proposal, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum if the estimated quantities of Work required by the Contract Documents are increased or decreased. Unit prices will be used to determine the amounts due to the Contractor from the Owner.

B. Unit prices include necessary material, plus cost for delivery, preparations required for installation, demolition, disposal, installation, insurance, and direct and indirect costs associated with the Unit Price item.

C. The Owner reserves the right to accept or reject any Unit Prices during the term of the Contract. If the Owner rejects a Unit Price, then the Contractor shall be required to submit to the Owner a breakdown of costs for the activity covered by the Unit Price. The Owner then shall make a determination as to what costs are allowable.

D. Unit Price List

1. Unit Price No. 1 – Gypsum Sheathing, 5/8" Type X Densglass Gold

    a. Unit of measure – 1 square foot.
    b. The base bid includes replacement of 25% (Approximately 3,684 SF) of existing Gypsum sheathing including removal and disposal of existing and installation of new where siding is to be removed. See Bid Set Plans for details.
    c. If, on inspection, the number of square feet required is reduced by the Owner, the Unit Price will be used as a deductive.
    d. In the event that further replacement of sheathing is required the Unit Price will be used as an additive.

2. Unit Price No. 2 – Batt Insulation (R-15)

    a. Unit of measure – 1 square foot.
    b. The base bid includes replacement of 25% (Approximately 3,684 SF) of existing batt insulation where wall sheathing is removed and wall cavity is exposed to replace damaged, damp or discolored insulation. Includes removal, disposal and installation of new batt insulation. See Bid Set Plans for details.
    c. If, on inspection, the number of square feet required is reduced by the Owner, the Unit Price will be used as a deductive.
    d. In the event that further replacement of batt insulation is required the Unit Price will be used as an additive.
    e. Invoices for Unit Price materials shall be submitted with pay applications to verify quantities.

3. Unit Price No. 3 – Provide Temporary Shoring & Perform Wall Framing Repairs

    a. Unit of measure – 10 square feet of wall.
    b. The base bid includes replacement of 10% (Approximately 1,473 SF) of existing wall framing to repair damaged and decayed wall framing where wall sheathing is removed and the framing is found to be unacceptable for new siding installation. Includes removal, disposal and installation of new wall framing. See Bid Set Plans for tails.
    c. If, on inspection, the number of square feet required is reduced by the Owner, the Unit Price will be used as a deductive.
    d. In the event that further replacement of wall framing is required the Unit Price will be used as an additive.

4. Unit Price No. 4 – Provide Temporary Shoring & Perform Deck Framing Repairs

    a. Unit of measure – 1 lineal foot of deck joists.
    b. The base bid includes replacement of 50% of existing deck framing to repair damaged and decayed cantilevered deck joists, including costs to perform interior

repairs necessary to repair or replace cantilevered joists. (Note: Assume 100% of double outer rim joists are to be removed and replaced.) See Bid Set Plans for tails.

c. If, on inspection, the number of square feet required is reduced by the Owner, the Unit Price will be used as a deductive.
d. In the event that further replacement of deck framing is required the Unit Price will be used as an additive.

5. Unit Price No. 5 – Provide Treatment of Framing and Sheathing with Bora-Care with Mold Care or an approved Equivalent

   a. Unit of measure – 1 square foot.
   b. The base bid includes treatment of 50% of the wall framing and 25% of the deck framing. See Bid Set Plans for tails.
   c. If, on inspection, the number of square feet required to be treated is reduced by the Owner, the Unit Price will be used as a deductive.
   d. In the event that further treatment is required the Unit Price will be used as an additive.

6. Unit Price No. 6 – Provide Unit Cost to Repair, Texture and Paint Existing Interior Gypsum Wallboard Liners at Head, Jamb and Sills

   a. Unit of measure – 1 opening.
   b. The base bid includes repairs at 25 window or sliding door locations to repair interior finishes as a result of removal and installation of windows and sliding doors. See Bid Set Plans for tails.
   c. If, on inspection, the number of locations requiring repairs to interior finishes is reduced by the Owner, the Unit Price will be used as a deductive.
   d. In the event that additional locations are required the Unit Price will be used as an additive.

7. Unit Price No. 7 – Provide a Lump Sum Cost to Replace All Windows and Sliding Glass Doors on the South Elevation. (Note: The South elevation of the interior courtyard is not to be included in this cost.)

   a. Unit of measure – 1 lump sum for all windows and sliding glass doors on South exterior elevation.
   b. The base bid does not include replacing all windows and sliding glass doors on the exterior South elevation. See Bid Set Plans for tails.
   c. If, on inspection, the Owner chooses to replace all windows and sliding glass doors on the exterior South elevation, the Unit Price #7 will be used as an additive.

NOTE: Invoices for Unit Price materials shall be submitted with pay applications to verify quantities. Obtain approval from the Owner prior to performing added Work. Work performed without approval will not be compensated.

1.8 PAYMENT PROCEDURES

A. Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

B. Each Application for Payment shall be consistent with previous applications and payments.

C. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.

D. Waivers of Lien: With each Application for Payment, submit conditional waivers lien from every entity who is lawfully entitled to file a lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

a. Submit final Application for Payment with or proceeded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.

E. Final Payment Application: Submit final Application for Payment with releases and close out supporting documentation.

1.9 PROJECT MEETINGS

A. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner, but no later than 7 days after execution of the Agreement.

B. Progress Meetings: Conduct progress meetings at weekly intervals.

1.10 SUBMITTALS

A. Subcontract list. Prepare written information that demonstrates capabilities and experience of firm or persons.

B. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific Accident Prevention Program (APP) to the Owner’s representative prior to the initial scheduled construction meeting.

1.11 TEMPORARY FACILITIES

A. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

B. Use of Owner's existing electric power service will not be permitted.

C. Four parking spaces and an additional lay down area shall be available to the contractor for storage containers and parking. Do not park in marked tenant spaces.

1.12 SUBSTITUTIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

B. Substitution requests may be submitted and shall include:

1. Shop drawings showing dimensions
2. Product Data, including descriptions of products and fabrication and installation procedures
3. Data showing how product meets the specifications

1.13 CONSTRUCTION WASTE MANAGEMENT

A. Regulatory Requirements: Conduct construction waste management activities in accordance with State of Washington RCW 39.04.13, and all other applicable laws and ordinances.

B. Performance Requirements

1. General: Where possible divert CDL waste from the landfill by one, or a combination of the following activities: Salvage, Reuse, Source-Separated CDL Recycling, Co-mingled CDL Recycling.

C. Removal of Construction Waste Management

1. Remove CDL waste materials from project site on a regular basis. Do not allow CDL waste to accumulate on-site.
2. Transport CDL waste materials off Owner's property and legally dispose of them.
3. Burning of CDL waste is not permitted.

1.14 EXECUTION REQUIREMENTS

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1.15 CUTTING AND PATCHING

A. Quality Assurance

1. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
2. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior

or in occupied spaces in a manner that would, in Owner's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Performance

1. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
2. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

    a. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    b. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

1.16 CLOSEOUT PROCEDURES

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

1. Prior to acceptance of the work at each building, clean project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.

B. Prior to final acceptance and final payment, Contractor shall submit a written warranty covering labor and materials for a period of two (2) years from final completion.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION (not used)

END OF SECTION 01100

SECTION 01732 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes demolition, and removal and replacement.

1. Selected portions of a building or structure to be demolished include but are not limited to:
   a. Siding, trim and belly-band
   b. Barge Boards
   c. Fascia
   d. Cornerboards
   e. All horizontal and vertical trim
   f. All surface run conduit is to be retained and remain active
   g. Remove downspouts to side behind, and reinstall.
   h. Remove all soil around building to leave minimum 6” clearance from siding, finish-grade soils to direct water away from the building.
   i. All other items necessary to perform the specified work.

2. Selected portions of a building or structure to be removed and reinstalled include but are not limited to:

   a. Windows & sliding glass doors
   b. Signage.
   c. Exterior lights.
   d. Cable and phone equipment.
   e. Downspouts
   f. All other items necessary to perform the specified work.

1.2 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.3 PROJECT CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted. Provide not less than 72-hours' notice to Owner of activities that will affect Owner's operations.

B. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

1. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.

C. Owner assumes no responsibility for condition of areas to be selectively demolished.

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

D. Hazardous Materials: A Limited Hazardous Materials Report dated November 10, 2016 is included in the specifications. Comply with all applicable laws regarding removal and disposal of hazardous materials.

1. If materials not listed in the report are suspected of containing hazardous materials are encountered, do not disturb and immediately notify Owner. Hazardous materials will be removed by Owner under a separate contract.

E. Storage or sale of removed items or materials on-site will not be permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS

A. Use repair materials identical to existing materials.

1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
2. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

3.2 UTILITY SERVICES

A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

3.3 PREPARATION

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

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
2. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
3. Protect existing site improvements, appurtenances, and landscaping to remain.

3.4 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

B. Removed and Reinstalled Items: Remove and re install items as soon as possible to prevent unsafe conditions.

1. Entry lights shall be functional at all times.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION 01732

SECTION 07462 - FIBER CEMENT SIDING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Fiber Cement Siding including Panels, Trim, Flashing, Accessories.

B. Trim: Vertical, Horizontal, Window/Door, Soffits, Fascia, Barge and Accessories.

1.2 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods, including nailing patterns.

B. Siding manufacturer's requirements for vapor retarders, primer, paint, etc.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Provide installer with not less than three years of experience with products similar to those specified.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer’s instructions to avoid damage to products.

B. Store products off the ground, on a flat surface, and under a roof or separate waterproof covering.

1. Stacking materials may result in damage to product or finish.

1.5 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.6 WARRANTY

A. Provide manufacturer’s 50-year limited siding warranty.

B. Register manufacturer's warranty, made out in Owner's name, with copy to Owner.

C. Workmanship Warranty: Application warranty for 2 years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. JamesHardie HardiePanel HZ10 Multi-Family Fiber Cement Panel Siding & Trim.

2.2 FIBER CEMENT PANEL SIDING

A. HardiePanel Siding, smooth surface, factory primed for field finishing. Reveals formed with Fry Reglet “T-piece” and ½” gap to adjacent panel. Corners using Fry Reglet “Outside Corner” shapes. Straight edge panels 48” long by 96” high and 5/16” thick. See drawings for locations. Exposed screws, as approved by manufacturer. Provide mock-up of panel installation. Align screws horizontally and vertically as approved by Owner/Architect after mock-up review.

B. ACCESSORIES

C. Fasteners: Double dipped galvanized steel or stainless steel; length as required to penetrate minimum 1-1/4 inch.. Fasteners as recommended by Manufacturer for wind speed and exposure category based on ICC Evaluation Service, Inc. (ICC-ES) Report HB.

1) Screws: Exposed fasteners, SFS Torx, 1.5”, #10 or 12 self-tapping, stainless steel with a 0.472” dia. head.

2) Galvanized Nails: James Hardie proprietary unobtrusive finishing nail, of size (depth of penetration) and strength to securely and rigidly retain the work and as required by the siding manufacturer in printed instructions.

D. Building Paper: DuPont Tyvek DrainWrap.

E. Seam Tape (Flashing tape): 3- inch wide, DuPont Tyvek Tape as distributed by DuPont Building Innovations.

2.3 FINISHES

A. Factory Primer: Provide factory applied universal primer.

1. Primer: Factory applied.

B. Topcoat: - Refer to Section 09911. Finish Paint: As specified in Section 09911.

PART 3 - EXECUTION

3.1 DEMOLITION

A. General: Demolish and dispose off site existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

B. Removed, store and reinstalled all items not identified for replacement.

3.2 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

3.3 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Install moisture barrier with penetration and junction flashing and sealed.

1. Use self-adhesive flashing tape to secure joint and laps.
2. Lap barrier over flashing and tape securely.
3. Tape all penetrations.

3.4 INSTALLATION – PANEL SIDING

A. Install materials in strict accordance with manufacturer's installation instructions and recommendations.

B. Follow manufacturer recommended installations. See 03-HZ10 Hardie Panel Installation and 04-Carriage House BID SET 230419 for details on weatherization measures and siding installation details.

C. Maintain clearance between siding and adjacent finished grade.

D. Remove soils and organic debris to provide minimum 6” clearance to bottom of siding.

E. Locate all vertical joints at stud locations and with solid backing.

3.5 INSTALLATION - TRIM

A. Install all trim true and straight with no distortions. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.

B. Install trim in longest lengths possible.

C. Corner boards shall be in one single piece.

D. Clean trim on exposed and semi exposed surfaces and leave ready for paint.

3.6 ACCESSORIES

A. Install moisture barrier and lap over flashing and tape.

1. Tape all joints and seal around penetrations.

B. Install trim materials as indicated.

C. Set all nails in trim boards and siding as per manufacturer’s instructions.

D. Caulk siding joints in strict accordance with manufacturer's installation instructions.

3.7 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 07462

SECTION 07620 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Formed roof drainage system.
2. Sheet metal flashing.

1.2 SUBMITTALS

A. Product Data: For each product indicated.

1.3 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

PART 2 - PRODUCTS

2.1 ROOF DRAINAGE SHEET METAL FABRICATIONS

A. Hanging Gutters: Gutter to remain

B. Downspouts: Standard 2” x 4” rectangular downspouts complete with front and side elbows.

C. Remove downspouts to install siding and reinstall. Repair and/or replace any damaged parts.

1. Fabricate downspouts from: 0.027-inch thick aluminum with baked on finish (Owner to select color from standard range).

D. Sealant: Geocel 2000 or approved equal.

2.2 FLASHING

A. 26 gauge min. zinc galvanized complying with ASTM A-93 coating not less than 1.50 ounce zinc coating per sq. ft. (total for both sides), with pre-painted finishes on both sides. (“Kynar” bronze color each side).

B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item.

1. Minimum Pre-primed 26 gauge hot-dipped galvanized steel sheet, or aluminum.

    a. Include folded hem on all exposed flashing.

2. Window and door flashing.
3. Bellyband and blocking flashing.
4. Joint flashing plate.
5. Fasteners: Hot-dipped galvanized or stainless steel as required to penetrate minimum 1-1/4 inch into solid backing.

PART 3 - EXECUTION

3.1 ROOF DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system. Install downspouts and plumb.

B. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide hex head screws to securely strap to building and downspouts; locate fasteners at top and bottom and at approximately 60-inches o.c. in between.

1. Provide elbows at base of downspout to direct water away from building if no site drainage is present.
2. Connect downspouts to underground drainage system if available.

3.2 FLASHING INSTALLATION

A. General: Install sheet metal roof flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.

END OF SECTION 07620

SECTION 09911 - EXTERIOR PAINTS AND COATINGS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Surface preparation and field painting of exposed exterior items and surfaces.

1. Wood

a. Siding
b. Wood Paneling
c. Horizontal and vertical trim
d. Door and window trim
e. Fascia
f. Eves Soffits
g. Handrails and deck rims
h. All previously painted exterior surfaces
i. Entry Unit Doors
j. All previously painted metal

2. Excluded

a. Vinyl Windows
b. Unpainted Foundations

1.2 REFERENCES

A. ASTM D 16 - Standard Terminology Relating to Paint, Varnish, Lacquer, and Related Products.

B. ASTM D 3359 - Standard Test Methods for Measuring Adhesion by Tape Test.

C. ASTM D 1653 - Standard Test Methods for Water Vapor Transmission of Organic Coating Films.

D. ASTM E-96 - Standard Test Methods for Water Vapor Transmission of Materials.

E. SSPC, The Society for Protective Coatings - Web Site http:www.sspc.org:

1. SSPC-SP1 Solvent Cleaning.
2. SSPC-SP2 Hand Tool Cleaning.
3. SSPC-SP3 Power Tool Cleaning.
4. SSPC-SP7 Brush-Off Blast Cleaning.

F. PDCA Paint and Decorating Contractors of America - Web Site http://www.pdca.org:

1. PDCA Standards P1 through P15

1.3 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

B. Finish Schedule: Submit finish schedule including color information, gloss and model number for each type and color of finish specified.

C. Verification Samples: For each finish product specified, two samples, minimum size 6 inches square, representing actual product, color, and patterns.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten years' experience.

B. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five years demonstrated experience in installing finishes and coatings of the same type and scope as specified.

C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques, color, sheen and application workmanship.

1. Finish areas designated by Owner.
2. Finish two exterior doors for adhesion test purposes.
3. Do not proceed with remaining work until workmanship, color, and sheen are approved by Owner.
4. Refinish mock-up area as required to produce acceptable work.
5. Provide up to three color change mock ups.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

C. Take special safety precautions against hazards from toxic and flammable materials.

D. Place paint and solvent contaminated cloths and materials, subject to spontaneous combustion, in containers and remove from job site each day.

E. Keep open flame, electrical and static spark, and other ignition sources from flammable vapors and materials at all times.

1.6 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

B. Post "WET PAINT" signs during application and curing of all coatings that may be accessed by other trades or the public.

C. Post "NO SMOKING" signs during application and curing of solvent-based materials.

1.7 COORDINATION

A. Coordinate Work with other operations and installation of finish materials to avoid damage to installed materials.

B. Do not apply coating materials until moisture or dust-producing work or other appearance or performance impairing construction activities have been completed.

1.8 WARRANTY

A. At project closeout, provide to Owner an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.

1. Include final written approval from paint manufacturer’s representative that the product has been applied in accordance with the manufacturer’s instructions as required to obtain manufacturer's standard limited warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials selected for coating systems for each type surface shall be the product of a single manufacturer.

B. Do not thin finish coats without the manufacturer’s approval.

C. Unsuitability of specified products: Claims concerning unsuitability of any material specified or inability to satisfactorily produce the work will not be entertained, unless such claim is made in writing to Owner before work is started.

D. Number of coats scheduled is minimum. Apply additional coats at no additional cost if necessary to completely hide base materials, produce uniform color, and provide satisfactory finish result.

2.2 MANUFACTURERS

A. Acceptable Manufacturer: Behr Paint Company, Santa Ana, California 92705.

1. Regional Accounts Manager: Jill Marlatt, 425.761.9077, jmarlatt@behr.com

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces scheduled to receive paint and finishes for conditions that will adversely affect execution, permanence or quality of work and which cannot be put into acceptable condition through preparatory work as included in Article 3.2 "Preparation ". Notify Owner in writing of any defects or conditions which will prevent a satisfactory installation.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may effect proper application.

C. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows;

1. Concrete: 12 percent
2. Portland Cement Plaster and Stucco: 12 percent
3. Masonry (Clay and CMU): 12 percent
4. Wood: 15 percent
5. Gypsum Board: 12 percent

D. Portland Cement Plaster Substrates: Verify that plaster is fully cured.

E. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

F. Proceed with surface preparation and coating application only after unsatisfactory conditions have been corrected.

1. Application of coating is construed as acceptance of surfaces and conditions.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to coating application.

B. Masking: All masking over windows in occupied units shall be removed at the end of each work day.

C. Do not start work until surfaces to be finished are in proper condition to produce finished surfaces of uniform, satisfactory appearance.

D. Stains and Marks: Remove completely, if possible, using materials and methods recommended by coating manufacturer; cover stains and marks which cannot be completely removed with isolating primer or sealer recommended by coating manufacturer to prevent bleed-through.

E. Remove Mildew, Algae, and Fungus using materials and methods recommended by coating manufacturer.

F. Remove dust and loose particulate matter from surfaces to receive coatings immediately prior to coating application.

G. Remove or protect adjacent hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, fabric canopies, and other items not indicated to receive coatings.

H. Move or protect equipment and fixtures adjacent to surfaces indicated to receive coatings to allow application of coatings.

I. Protect adjacent surfaces not indicated to receive coatings.

J. Prepare surfaces in accordance with manufacturer's instructions for specified coatings and indicated materials, using only methods and materials recommended by coating manufacturer.

3.3 SURFACE PREPARATION

A. All surfaces to be painted shall be pressure washed.

B. Mildew

1. A solution of 1 part Jomax house cleaner and mildew killer concentrate and 1 part water will be applied by a low pressure system such as:

    a. Gallon pressure sprayer
    b. Juice box
    c. Very low pressure airless sprayer with little or no “bounce back”.

2. All surfaces will be wetted with this mildewcide solution, not just the most easily accessible. Do not allow this solution to dry before rinsing thoroughly with clean water.

C. Metal: Pressure wash and then sand, wire brush, or scrape as necessary to remove excess rust scale and loose/peeling paint not removed initial cleaning. Prime all bare metal as soon as possible after preparation.

D. All other surfaces: Pressure wash and scrape to remove dirt contaminants, dust, and loose/peeling paint to provide a smooth surface for paint application. Hammer all protruding nail heads flush with surface before painting. Prime all bare wood areas before applying finish coat. Caulk any open miters or cracks in surface.

E. Any debris or chemical residue on windows due to power wash operation will be removed by thoroughly rinsing the windows and surrounding trim. Due care is to be exercised around window seals to prevent damage. Protect all vehicles, other surfaces or plants which will not be receiving paint but which might be harmed by chemical exposure. Temporary coverings are normally the preferred method.

F. All washed surfaces will have at least two days of continuous drying time (no rain). Surfaces to be painted must have no more that 13% moisture content before priming and painting commences. Washing one day and painting the next is not acceptable.

G. The Owner's Representative and paint manufacturer's representative shall inspect preparation prior to the application of paint finishes. Contractor will rework surfaces not properly prepared to receive paint finishes to the satisfaction of the either.

3.4 APPLICATION - GENERAL

A. Apply each coat to uniform coating thickness in accordance with manufacturer's instructions, not exceeding manufacturer's specified maximum spread rate for indicated surface; thins, brush marks, roller marks, orange-peel, or other application imperfections are not permitted.

B. Allow manufacturer's specified drying time, and ensure correct coating adhesion, for each coat before applying next coat.

C. Inspect each coat before applying next coat; touch-up surface imperfections with coating material, feathering, and sanding if required; touch-up areas to achieve flat, uniform surface without surface defects visible from 5 feet.

D. Do not apply succeeding coat until Owner and paint manufacturer's representative has approved previous coat; only approved coats will be considered in determining number of coats applied.

E. Remove dust and other foreign materials from substrate immediately prior to applying each coat.

F. Where coating application abuts other materials or other coating color, terminate coating with a clean sharp termination line without coating overlap.

G. Where color changes occur between adjoining spaces, through framed openings that are of same color as adjoining surfaces, change color at outside top corner nearest to face of closed door.

H. Re-prepare and re-coat unsatisfactory finishes; refinish entire area to corners or other natural terminations.

I. Disconnect downspouts from building during application to ensure adequate coverage of trim or siding. Re attach immediately after application.

J. Exterior Doors

1. Exterior doors shall be painted in groups that allow a single Owner provided staff member to monitor for security.
2. Doors shall be painted open and shall include painting of the hinge side (do not paint hinges or labels).
3. Remove weatherstripping prior to painting doors to ensure that doors may be secure immediately after painting.
4. Replace weatherstripping when dry.

3.5 CLEANING

A. Clean excess coating materials, and coating materials deposited on surfaces not indicated to receive coatings, as construction activities of this section progress; do not allow to dry.

B. Re-install hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items that have been removed to protect from contact with coatings.

C. Reconnect equipment adjacent to surfaces indicated to receive coatings.

D. Relocate to original position equipment and fixtures that have been moved to allow application of coatings.

E. Remove protective materials.

3.6 PROTECTION

A. Protect completed coating applications from damage by subsequent construction activities.

B. Repair to Owner's acceptance coatings damaged by subsequent construction activities. Where repairs cannot be made to Owner's acceptance, re-apply finish coating to nearest adjacent change of surface plane, in both horizontal and vertical directions.

3.7 PAINT SCHEDULE

A. Finish surfaces in accordance with schedule. Catalog names and numbers refer to products as manufactured or distributed by the Behr Paint Company, Santa Ana, California 92705, except as otherwise specified by Architect.

B. Provide paint finishes of even, uniform color, free from cloudy or mottled appearance. Properly correct non-complying work to satisfaction of Owner’s representative and representative of the Behr Paint Company.

C. Some colors, especially accent colors, may require multiple finish coats for adequate coverage and opacity.

D. The specified number of primer and finish coats is minimum acceptable. If full coverage and opacity is not obtained with specified number of coats, apply additional coats as necessary to produce required finish.

3.8 EXTERIOR PAINT SCHEDULE:

A. Exterior Substrates

1. Lap Siding, Paneling, Horizontal and Vertical trim, Window and Door Trim/Casing, Fascia, Eves, Soffits, and Handrails.

a. Primer: Spot prime as needed - Behr Premium Plus Exterior Primer & Sealer (436)
b. Finish: Coat to Cover 2 coat minimum - Behr Premium Plus Ext Satin (9050)

2. Metal and miscellaneous previously painted metal

a. Primer: Spot prime as needed - Behr Premium Plus Multi-Surface Primer & Sealer (436)
b. Finish: Coat to Cover - Behr Premium plus Ext Satin (9050)

3. Entry Doors

a. Primer: Behr Bonding Primer (432)
b. Finish: Two coats - Behr Alkyd Semi-Gloss Enamel (3900)

3.9 COLORS

A. Colors shall be selected from mock ups and shall consist of a field color, trim color and door color.

END OF SECTION 09911

SECTION 16520 - LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes exterior lights.

1.2 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with IEEE C2, "National Electrical Safety Code."

C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 ACCESSORIES

A. Materials as necessary to remove and reinstall exterior light fixtures.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Remove and reinstall exterior light fixtures and extend to accommodate new siding dimension.

1. Due to life/safety concerns lighting must be available and functioning at the end of each work day.

END OF SECTION 16521

HardiePanel® Vertical Siding

MULTIFAMILY / COMMERCIAL INSTALLATION REQUIREMENTS

EFFECTIVE DECEMBER 2020

IMPORTANT: FAILURE TO FOLLOW JAMES HARDIE WRITTEN INSTALLATION INSTRUCTIONS AND COMPLY WITH APPLICABLE BUILDING CODES MAY VIOLATE LOCAL LAWS, AFFECT BUILDING ENVELOPE PERFORMANCE AND MAY AFFECT WARRANTY COVERAGE. FAILURE TO COMPLY WITH ALL HEALTH AND SAFETY REGULATIONS WHEN CUTTING AND INSTALLING THIS PRODUCT MAY RESULT IN PERSONAL INJURY. BEFORE INSTALLATION, CONFIRM YOU ARE USING THE CORRECT HARDIEZONE® PRODUCT INSTRUCTIONS BY VISITING HARDIEZONE.COM OR CALL 1-866-942-7343 (866-9-HARDIE).

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry planks on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.

⚠ CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that airflow blows dust away from the user and others near the cutting area.
2. Cut using one of the following methods:
   - a. Best: Circular saw equipped with a HardieBlade® saw blade and attached vacuum dust collection system. Shears (manual, pneumatic or electric) may also be used, not recommended for products thicker than 7/16 in.
   - b. Better: Circular saw equipped with a dust collection feature (e.g. Roan® saw) and a HardieBlade saw blade.
   - c. Good: Circular saw equipped with a HardieBlade saw blade.

INDOORS

DO NOT grind or cut with a power saw indoors. Cut using shears (manual, pneumatic or electric) or the score and snap method, not recommended for products thicker than 7/16 in.

- DO NOT dry sweep dust; use wet dust suppression or vacuum to collect dust.
- For maximum dust reduction, James Hardie recommends using the "Best" cutting practices. Always follow the equipment manufacturer's instructions for proper operation.
- For best performance when cutting with a circular saw, James Hardie recommends using HardieBlade® saw blades.
- Go to jameshardiepros.com for additional cutting and dust control recommendations.

IMPORTANT: The Occupational Safety and Health Administration (OSHA) regulates workplace exposure to silica dust. For construction sites, OSHA has deemed that cutting fiber cement with a circular saw having a blade diameter less than 8 inches and connected to a commercially available dust collection system per manufacturer's instructions results in exposures below the OSHA Permissible Exposure Limit (PEL) for respirable crystalline silica, without the need for additional respiratory protection.

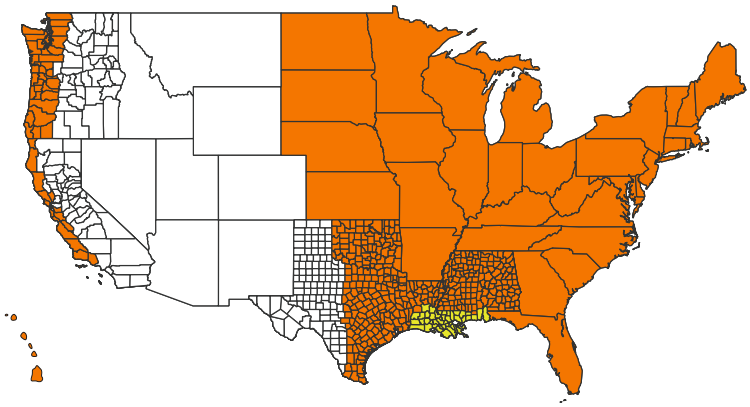
If you are unsure about how to comply with OSHA silica dust regulations, consult a qualified industrial hygienist or safety professional, or contact your James Hardie technical sales representative for assistance. James Hardie makes no representation or warranty that adopting a particular cutting practice will assure your compliance with OSHA rules or other applicable laws and safety requirements.

GENERAL REQUIREMENTS:

- Refer to table 1 for multifamily/commercial drainage requirements for James Hardie® vertical siding.
- HardiePanel® vertical siding can be installed over furring strips (in accordance with local building code requirements). HardiePanel vertical siding can be installed over braced wood or steel studs, 20 gauge (0.836 mm) minimum to 16 gauge (1.367 mm) maximum, spaced a maximum of 610mm (24 in) o.c
- Consult ESR1844 for fastener schedule as well as additional technical information at www.jameshardiecommercial.com.
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. The manufacturer will assume no responsibility for water infiltration.
- Information on installing James Hardie products over non-nailable substrates (ex: gypsum, foam,etc.) can be located in JH Tech Bulletin 19 at www.jamehardie.com
- Do not install James Hardie products such that they may remain in contact with standing water.
- HardiePanel vertical siding may be installed on vertical wall applications only.
- DO NOT use HardiePanel vertical siding in Fascia or Trim applications.
- The designer and/or architect shall take into consideration the coefficient of thermal expansion and moisture movement of the product in their design. These values can be found in the Technical Bulletin #8 "Expansion Characteristics of James Hardie® Siding Products" at www.jameshardiecommercial.com.
- James Hardie Building Products provides installation /wind load information for buildings with a maximum mean roof height of 85 feet. For information on installations above 60 feet, please contact JH technical support.
- Minimum standard panel design size is 12" x 16". Note:Panels may be notched and cut to size to fit between windows,doors, corners, etc.

Table 1: HardiePanel® Vertical Siding Wall Drainage Requirements

All national, state, and local building codes must be followed, and where they are more stringent than James Hardie Installation requirements, state and local requirements will take precedence. Consult the "Exterior Wall Drainage Requirements" bulletin at www.jameshardiecommercial.com for additional guidance and a more detailed list of drainage required areas.



MINIMUM REQUIREMENTS BY STATE/COUNTY

A	WRB[1] *Dry Climates*
B	DRAINAGE PLANE (E.G. DRAINABLE WRB) WITH 90% DRAINAGE EFFICIENCY[2] *Moist and Marine Climates*
C	RAINSCREEN (MIN. 3/8 IN. AIR GAP)[3] *Severe Wind Driven Rain Climate*

[1] Water-resistive Barrier and drainage requirements as defined by building code.
[2] Water-resistive Barrier as defined by local building code that is manufactured in a manner to enhance drainage; must meet minimum 90% drainage efficiency when tested in accordance with ASTM E2273 or other recognized national standards.
[3] Water-resistive Barrier (WRB) as defined by building code and a minimum 3/8 in. (10mm) air space between the WRB and the panel siding (formed by minimum 3/8 in. furring).

Table 1 Cont.

A: Water Resistive Barrier Condition

Figure 1

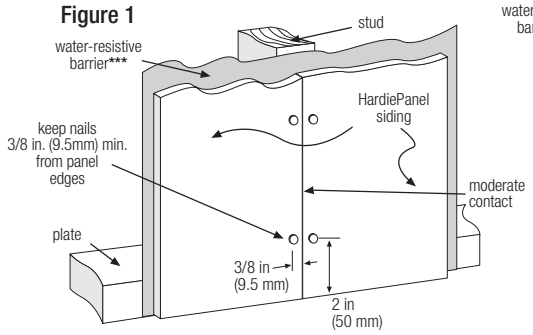


Figure 2

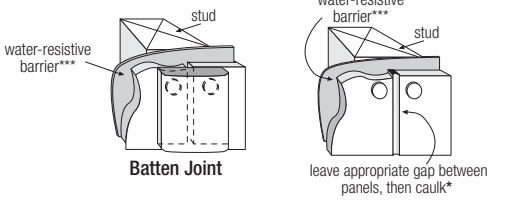


Figure 3

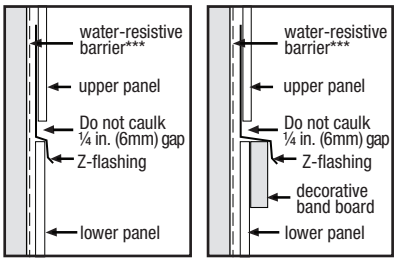
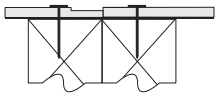


Figure 4



Recommendation: When installing Sierra 8 panel, provide a double stud at panel joints to avoid nailing through grooves.

B: Drainage Plane/Wrap Condition

Figure 1

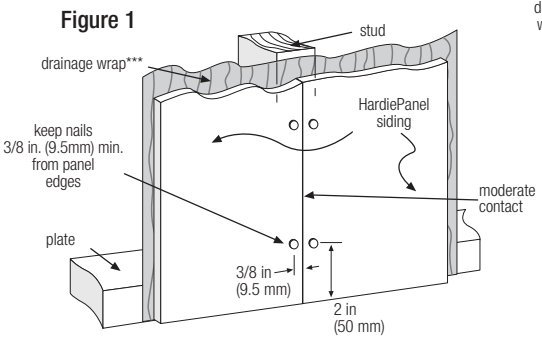


Figure 2

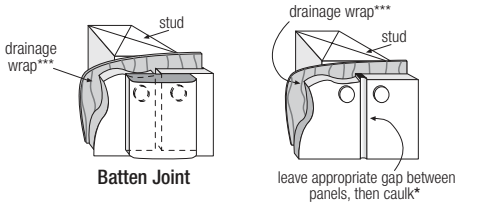


Figure 3

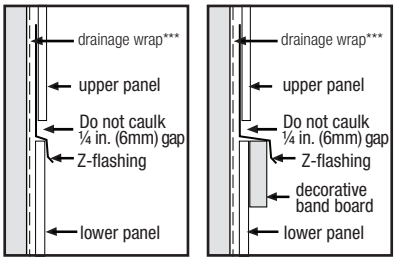
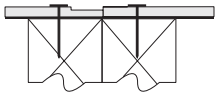


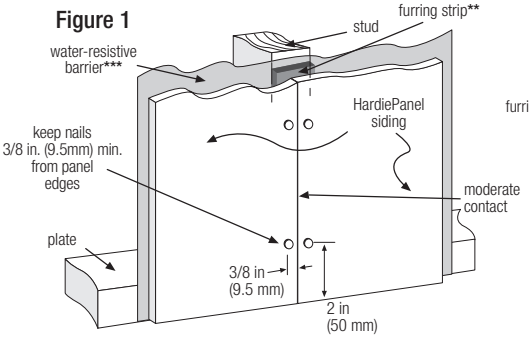
Figure 4



Recommendation: When installing Sierra 8 panel, provide a double stud at panel joints to avoid nailing through grooves.

C: Furring/Rainscreen Condition

Figure 1



* Apply caulk in accordance with caulk manufacturer's written application instructions.
** Furring as prescribed in Table 1.
*** WRB or Drainage Plane as prescribed in Table 1.

Figure 2

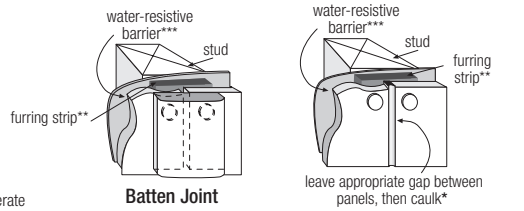


Figure 3

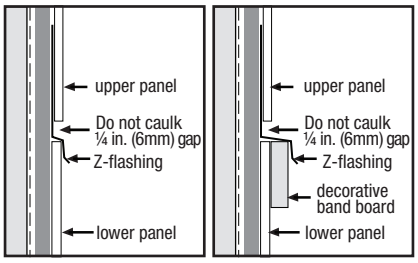
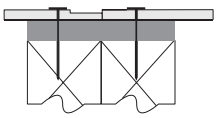


Figure 4



Recommendation: When installing Sierra 8 panel, provide a double stud at panel joints to avoid nailing through grooves.

INSTALLATION:

Fastener

Position fasteners 3/8 in from panel edges and no closer than 2 in away from corners. Do not nail into corners.

- HardiePanel vertical siding must be joined on stud.
- Double stud may be required to maintain minimum edge nailing distances.
- When screws are used to attach panels to steel studs/furring, the screws shall have wing tips. If screws do not have wing tips, then pre-drilling is required. (Not applicable when using pins) Follow screw chart for pre-drilling:

SCREW CHART

SCREW	PRE-DRILL	HEAD DIAMETER
No. 8	7/32 in	Min 0.323 in
No. 10	1/4 in	Min 0.323 in

Joint Treatment

- Vertical Joints - Install panels in moderate contact (fig. 1), alternatively joints may also be covered with battens, PVC or metal jointers or caulked (Not applicable to ColorPlus® Finish) (fig. 2).
- Horizontal Joints - Provide Z-flashing at all horizontal joints (fig. 3).

CLEARANCE AND FLASHING REQUIREMENTS

Figure 5
Roof to Wall

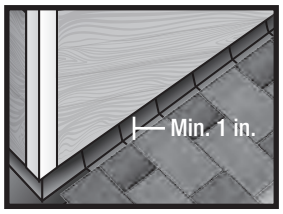


Figure 6
Horizontal Flashing

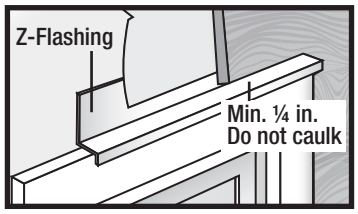


Figure 7
Kickout Flashing

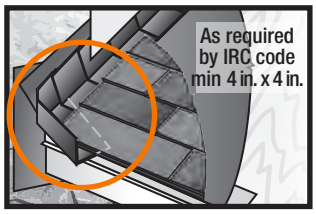


Figure 8
Slabs, Path, Steps to Siding

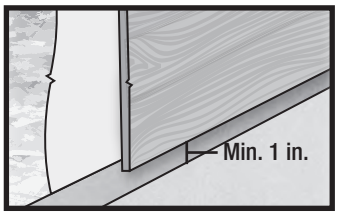


Figure 9
Deck to Wall

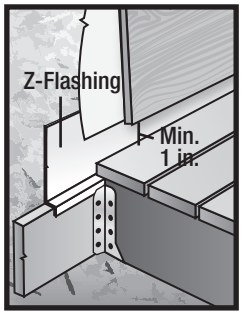


Figure 10
Ground to Siding

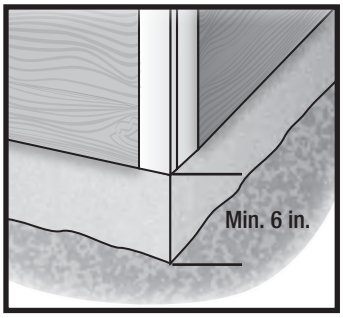


Figure 11
Gutter to Siding

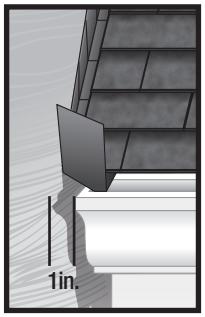


Figure 12
Sheltered Areas

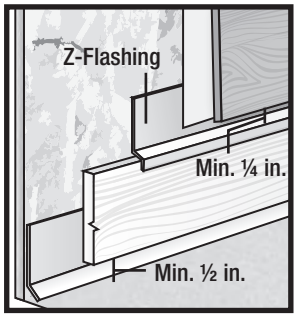


Figure 13
Mortar/Masonry

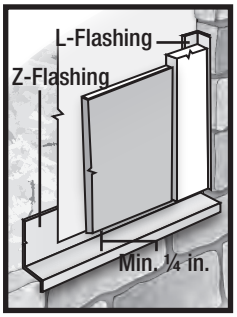


Figure 14
Drip Edge

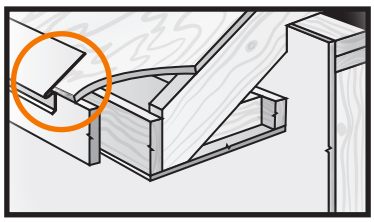


Figure 15
Block Penetration
(Recommended in HZ10 zones)

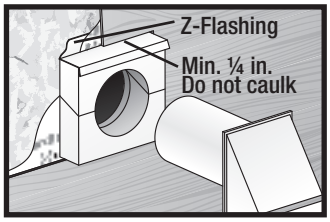
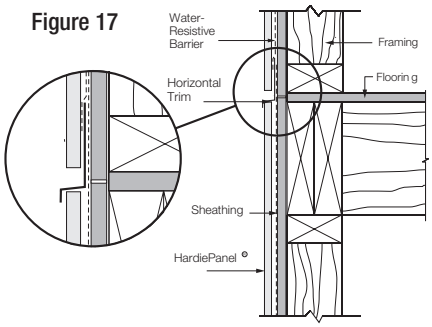


Figure 16
Valley/Shingle Extension

Do not bridge floors with HardiePanel® siding. Horizontal joints should always be created between floors, see below).

Figure 17



GENERAL FASTENING REQUIREMENTS

Refer to the applicable ESR report online to determine which fastener meets your wind load design criteria.

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion; use quality, hot-dipped galvanized nails. The manufacturer makes no warranty or representation with respect to the corrosion resistance or performance of fasteners. Stainless steel fasteners are recommended when installing James Hardie products near the ocean, large bodies of water, or in very humid climates.

Note: When utilizing express seam joints, ensure adequate nailable substrate width is available.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5

- Consult applicable product evaluation or listing for correct fasteners type and placement to achieve specified design wind loads.
- NOTE: Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.
- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space).
- NOTE: Whenever a structural member is present, HardiePlank should be fastened with even spacing to the structural member. The tables allowing direct to OSB or plywood should only be used when traditional framing is not available.

Note: Furring shown is as a best practice or as prescribed per Table 1.

DO NOT

UNDER DRIVE

IF, THEN

WOOD FRAME

HAMMER FLUSH

STEEL FRAME

REMOVE & REPLACE

DO NOT

OVER DRIVE

SLANT

IF, THEN ADDITIONAL NAIL

FACE NAIL

COUNTERSINK & FILL

DO NOT USE

ALUMINUM FASTENERS

CLIPPED HEAD NAILS

STAPLES

BLOCKED PENETRATIONS

Penetrations such as hose bibs and holes 1 ½" or larger such as dryer vents are recommended to have a block of trim around point of penetration.

PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer; does not apply for installation to steel framing).

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

For best results, use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher, such as Quad® Max or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. **Note: DO NOT caulk nail heads when using ColorPlus products; refer to the ColorPlus touch-up section.**

PAINTING

DO NOT use stain on James Hardie products. James Hardie products must be painted within 180 days. 100% acrylic topcoats are recommended.
Do not paint when wet. For application rates, refer to paint manufacturer's specifications. Back-rolling is recommended if a paint sprayer is used.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie ColorPlus products.
- Laminate sheet must be removed immediately after installation of each course. Gently wipe any residue or construction dust left on the product using a soft cloth.
- Touch up nicks, scrapes and nail heads using the ColorPlus Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardiePanel siding with ColorPlus Technology.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coaters, available from your ColorPlus product dealer.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

Not all designs will be suitable for every application.

REPAINTING JAMES HARDIE SIDING AND TRIM PRODUCTS WITH COLORPLUS TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd base paints on James Hardie products
- Apply finish coat in accordance with paint manufacturer's written instructions regarding coverage, application methods, and application temperature

COM1302 - P4/4 12/20

SILICA WARNING

DANGER: May cause cancer if dust from product is inhaled. Causes damage to lungs and respiratory system through prolonged or repeated inhalation of dust from product. Refer to the current product Safety Data Sheet before use. The hazard associated with fiber cement arises from crystalline silica present in the dust generated by activities such as cutting, machining, drilling, routing, sawing, crushing, or otherwise abrading fiber cement, and when cleaning up, disposing of or moving the dust. When doing any of these activities in a manner that generates dust you must (1) comply with the OSHA standard for silica dust and/or other applicable law, (2) follow James Hardie cutting instructions to reduce or limit the release of dust; (3) warn others in the area to avoid breathing the dust; (4) when using mechanical saw or high speed cutting tools, work outdoors and use dust collection equipment; and (5) if no other dust controls are available, wear a dust mask or respirator that meets NIOSH requirements (e.g. N-95 dust mask). During clean-up, use a well maintained vacuum and filter appropriate for capturing fine (respirable) dust or use wet clean-up methods - never dry sweep.

⚠ **WARNING:** This product can expose you to chemicals including respirable crystalline silica, which is known to the State of California to cause cancer. For more information go to P65Warnings.ca.gov.

RECOGNITION: In accordance with ICC-ES Evaluation Report ESR-1844, HardiePanel® vertical siding is recognized as a suitable alternate to that specified in the 2006, 2009, 2012 & 2015 International Residential Code for One-and Two-Family Dwellings and the 2006, 2009, 2012 & 2015 International Building Code. HardiePanel vertical siding is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida Product Approval FL#13223, Miami-Dade County Florida NOA No. 17-0406.06, U.S. Dept. of HUD Materials Release 1263f, Texas Department of Insurance Product Evaluation EC-23, City of New York MEA 223-93-M, and California DSA PA-019. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

GENERAL NOTES:

GENERAL CONDITIONS:

1. DO NOT SCALE DRAWINGS.
2. REPETITIVE FEATURES MAY BE DRAWN OR CALLED OUT ONCE, BUT SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
3. ALL WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY AND SHALL BE IN ACCORDANCE WITH ALL MANUFACTURERS' SPECIFICATIONS, DIRECTIONS AND RECOMMENDATIONS. THE WORK SHALL ALSO BE IN STRICT CONFORMANCE WITH INDUSTRY STANDARDS AND COMPLY WITH SOUND ENGINEERING AND CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL REPLACE PORTIONS OF THE INSTALLED WORK THAT DOES NOT MEET THESE REQUIREMENTS AT THEIR EXPENSE.
4. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, AND IN ACCORDANCE WITH CURRENT CODE REQUIREMENTS.
5. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED LOCAL JURISDICTION INSPECTIONS AND SPECIAL INSPECTIONS. THE CONTRACTOR SHALL PROVIDE COPIES OF THE INSPECTION REPORTS TO PACIFIC ENGINEERING TECHNOLOGIES, INC., AND THE OWNER'S REPRESENTATIVE.
6. ALL NEW AND/OR REPLACEMENT MATERIALS SHALL BE EQUAL OR BETTER IN KIND AS EXISTING MATERIALS.
7. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF TWO (2) YEARS FROM THE DATE OF FINAL ACCEPTANCE BY OWNER.
8. PLUMBING, MECHANICAL AND ELECTRICAL WORK (AS REQUIRED FOR REPAIR WORK) TO BE FILED UNDER SEPARATE PERMITS AND SHALL BE BIDDER DESIGNED. PLUMBING, MECHANICAL AND ELECTRICAL REPAIR DESIGN TO BE PERFORMED BY LICENSED AND QUALIFIED PLUMBING, MECHANICAL AND ELECTRICAL CONTRACTORS. ALL NEW MECHANICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE WASHINGTON STATE ENERGY CODE.
9. CONTACT THIS OFFICE AT (206) 281-7500 IF ANY ADDITIONAL DAMAGE IS FOUND OUTSIDE THIS SCOPE OF WORK DURING DEMOLITION OR ANY VARIATIONS TO THE SITE OR EXISTING BUILDING ARE FOUND DURING THE CONSTRUCTION WORK.

SITE CONDITIONS, SAFETY AND DEMOLITION:

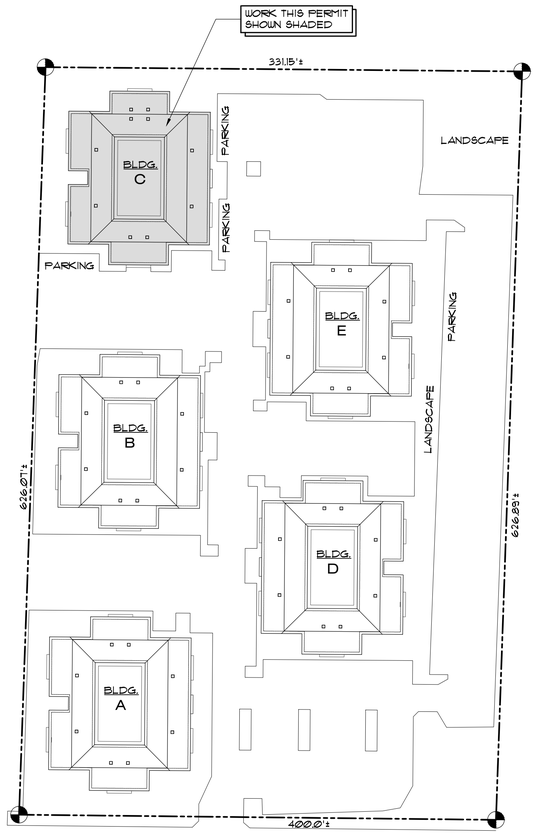
10. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONDITIONS AT THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AT THE JOB SITE DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
11. THE CONTRACTOR SHALL PROVIDE ACCEPTABLE SAFETY AND SECURITY MEASURES AND SHALL MAINTAIN SAFETY AND SECURITY AT THE JOB SITE DURING THE ENTIRE COURSE OF THE PROJECT.
12. THE CONTRACTOR SHALL PROVIDE TEMPORARY BARRICADES AND OTHER FORMS OF PROTECTION TO PROTECT THE PUBLIC FROM INJURY DUE TO DEMOLITION AND REPAIR WORK. BARRICADES ARE TO REMAIN IN PLACE AFTER DEMOLITION WORK HAS BEEN COMPLETED AND THROUGHOUT THE DURATION OF THE WORK.
13. THE CONTRACTOR SHALL REASONABLY SECURE SCAFFOLDING, WORK AREAS, BUILDING MATERIALS AND TOOLS FROM ACCESS TO THE PUBLIC AT ALL TIMES.
14. THE REQUIRED AND/OR IMPLIED DUTY OF PACIFIC ENGINEERING TECHNOLOGIES, INC., TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE DOES NOT, AND IS NOT INTENDED TO, INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
15. THE CONTRACTOR AND THE SUB-CONTRACTORS SHALL VISIT THE SITE TO REVIEW THE EXISTING SITE, BUILDING CONDITIONS, AND FEATURES, INCLUDING, BUT NOT LIMITED TO: GRADES, DIMENSIONS, ACCESS TO THE WORK, POWER ACCESS, STAGING, REFUSE DISPOSAL, MATERIAL STORAGE, ETC.
16. A PRECONSTRUCTION MEETING WILL BE HELD PRIOR TO THE START OF THE PROJECT TO REVIEW GENERAL CONDITIONS, STAGING, SEQUENCING, ETC.
17. ALL WORK SHALL BE PERFORMED DURING NORMAL BUSINESS HOURS IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL REQUIREMENTS.
18. THE CONTRACTOR SHALL COORDINATE WITH THE OWNERS REPRESENTATIVE FOR A DESIGNATED AREA WITHIN THE SITE TO BE USED FOR THE STORAGE OF MATERIALS, EQUIPMENT AND TEMPORARY CONSTRUCTION OFFICE BEFORE COMMENCING WITH THE WORK. THE SECURITY OF THE MATERIALS, EQUIPMENT AND TEMPORARY CONSTRUCTION OFFICE STORED ON-SITE IS THE RESPONSIBILITY OF THE CONTRACTOR.
19. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE FOR SCHEDULING ACCESS INTO UNITS, IF REQUIRED. IN UNITS THE CONTRACTOR ENTERS TO PERFORM REPAIRS, THE CONTRACTOR SHALL PHOTOGRAPH THE EXISTING CONDITIONS PRIOR TO REPAIRS SO AS TO AID IN RESOLVING ANY POSSIBLE CLAIMS THE OWNER'S REFRESENTATIVE MAY HAVE ABOUT DAMAGE TO INTERIORS FROM THE REPAIR WORK.
20. IT IS INTENDED TO KEEP THE BUILDINGS OCCUPIED DURING THE PERFORMANCE OF THE WORK. MAINTAIN OR PROVIDE ACCESS TO ENTRY DOORS AND A CLEAR PATH TO DRIVEWAYS, SIDEWALKS AND ENTRY WALKWAYS TO NOT ADVERSELY IMPACT THE TENANTS AND GUESTS ENTERING AND LEAVING THE BUILDING AND PREMISES AT ALL TIMES EXCEPT AS PRE-ARRANGED WITH OWNER'S REPRESENTATIVE. MAINTAIN ALL BUILDING EXITS.
21. THE WORK SHALL NOT BLOCK INGRESS OR EGRESS FROM THE SITE AT ANY TIME. THE CONTRACTOR'S VEHICLES AND EQUIPMENT SHALL NOT BLOCK THE MARKED FIRE LANES OR DRIVEWAYS AND NOT UTILIZE ANY RESERVED PARKING STALLS WITHOUT OWNER'S PERMISSION.
22. THE CONTRACTOR SHALL PROVIDE PORTABLE RESTROOM FACILITIES FOR WORKERS.
23. THE CONTRACTOR SHALL PROVIDE ITS OWN DUMPSTER FOR CONSTRUCTION DEBRIS.
24. THE CONTRACTOR SHALL PROVIDE HEAT AS NECESSARY TO COMPLETE THE WORK.
25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION, TEMPORARY BRACING, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES IN CONNECTION WITH THE WORK.
26. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING OR SUPPORT TO PREVENT MOVEMENT OR SETTLEMENT OF STRUCTURE AS NEEDED IN AREAS BEING REPAIRED.
27. PROVIDE SCAFFOLDING AND TEMPORARY WEATHER PROTECTION FOR AREAS OF THE BUILDING EXPOSED DURING CONSTRUCTION AS NECESSARY TO ACCOMPLISH THE REPAIR WORK SUFFICIENTLY AND TO PREVENT WATER DAMAGE FROM OCCURRING AS THE WORK PROGRESSES. ANY WATER DAMAGE TO THESE AREAS RESULTING DURING REPAIRS IS TO BE REPAIRED AT NO COST TO OWNER.
28. PROTECT LANDSCAPING, DRAINAGE AND IRRIGATION SYSTEMS AS REQUIRED TO ACCOMPLISH THE WORK OR REMOVE AND REPLACE LANDSCAPING, DRAINAGE AND IRRIGATION SYSTEMS, WHICHEVER IS MORE COST EFFECTIVE. FOLLOWING THE WORK, THE IRRIGATION AND DRAINAGE SYSTEMS SHALL BE TESTED TO VERIFY THAT THEY ARE FUNCTIONING PROPERLY. ALL DAMAGED ITEMS SHALL BE REPLACED AT NO COST TO THE OWNER.
29. PROPERLY PROTECT OR CAP ALL UTILITIES THAT MIGHT BE DISTURBED DUE TO DEMOLITION ACTIVITY.
30. PROTECT EXISTING FINISHES, FIXTURES, EQUIPMENT, ETC. THAT ARE TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
31. THE CONTRACTOR IS TO LAY DOWN TEMPORARY COVER OF FLOOR TILE, CARPETS, FINISHES, ETC. FOR ANY WORK TO BE COMPLETED WITHIN THE UNITS.
32. AT UNITS WHERE WORK COULD AFFECT BLINDS AND/OR DRAPERIES AT WINDOWS, REMOVE THE BLINDS AND DRAPERIES TO PERFORM THE WORK AND RE-INSTALL THEM AFTER THE WORK IS COMPLETE.

GENERAL NOTES (CONT.):

33. PRIOR TO GENERAL/SELECTIVE DEMOLITION, THE GENERAL CONTRACTOR SHALL OBTAIN THE PERMISSION OF THE OWNER'S REPRESENTATIVE TO DETERMINE WHETHER HAZARDOUS WASTES OR ASBESTOS IS PRESENT IN DEMOLITION DEBRIS. SHOULD HAZARDOUS MATERIALS OR ASBESTOS BE FOUND IN DEMOLITION DEBRIS, THE CONTRACTOR SHALL LEGALLY CONTAIN SUCH MATERIAL AND DISPOSE OF OFF SITE AT AN APPROVED DUMP SITE AFTER OBTAINING THE OWNER'S REPRESENTATIVE PERMISSION TO DO SO.
34. COORDINATE ALL DEMOLITION ACTIVITIES WITH THE OWNER'S REPRESENTATIVE.
35. THE CONTRACTOR SHALL TRANSPORT AND DISCARD IN A LEGAL MANNER ALL CONSTRUCTION DEBRIS AND REMOVED ITEMS NOT INTENDED FOR REUSE.
36. INSPECT CONCEALED SPACES UNCOVERED DURING THE DEMOLITION PHASE FOR ADDITIONAL DAMAGE.
37. REMOVE AND REPLACE ALL MOISTURE DAMAGED FINISHES INCLUDING DAMAGED THERMAL AND SOUND INSULATION.
38. THE CONTRACTOR IS TO LEAVE THE SITE BROOM CLEAN FROM CONSTRUCTION RELATED DEBRIS AFTER DEMOLITION WORK IS COMPLETE, AT THE END OF EACH DAY AND AT THE END OF THE PROJECT.

CONSTRUCTION:

39. SUBCONTRACTORS SHALL HAVE A MINIMUM OF TEN YEARS OF EXPERIENCE INSTALLING THEIR RESPECTIVE PRODUCTS AND SHALL BE MANUFACTURER APPROVED INSTALLERS OF THOSE PRODUCTS.
40. ALL SUCH PRODUCTS AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS, INDUSTRY STANDARDS AND CODE REQUIREMENTS. THE CONTRACTOR SHALL SUBMIT TO PACIFIC ENGINEERING TECHNOLOGIES, INC., A COPY OF THE INSTALLATION INSTRUCTIONS AND RELATED INSTALLATION STANDARDS AND REQUIREMENTS FOR REVIEW AND APPROVAL AND THE CONTRACTOR SHALL KEEP A SET OF THESE INSTRUCTIONS ON THE SITE DURING REPAIRS RELATING TO THAT WORK.
41. PROVIDE WEATHER-RESISTIVE / AIR BARRIER BEHIND WALL CLADDING IN ACCORDANCE WITH IBC 1402.2 AND 1403.2 AND THE WASHINGTON STATE RESIDENTIAL ENERGY CODE R402.4 AND TABLE R402.4.1.1. WEATHER-RESISTIVE / AIR BARRIER SHALL BE CONTINUOUS AND ALL JOINTS SHALL BE TAPED OR SEALED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
42. PROVIDE FLASHINGS FOR EXTERIOR BUILDING COMPONENTS IN ACCORDANCE WITH IBC CHAPTER 1404.4.
43. INSTALL ROOFING COMPONENTS IN ACCORDANCE WITH IBC CHAPTER 15.
44. THE CONTRACTOR SHALL VERIFY THAT ALL WATERPROOFING COMPONENTS ARE COMPATIBLE WITH EACH OTHER, I.E. SEALANTS AND BACKER ROD, SEALANTS, AND SELF ADHESIVE (PEEL 'N' STICK) MEMBRANE, ETC.
45. THE CONTRACTOR SHALL SUBMIT MANUFACTURER'S PRODUCT DATA, MOCK-UP SAMPLES, SHOP DRAWINGS AND INSTALLATION INSTRUCTIONS FOR ALL PRODUCTS (SUCH AS: WINDOWS, SEALANTS, SHEET METAL FLASHINGS, SELF ADHESIVE MEMBRANES AND WATERPROOF MEMBRANES, ETC.) TO PACIFIC ENGINEERING TECHNOLOGIES, INC. FOR REVIEW PRIOR TO PRODUCT INSTALLATION.
46. THE CONTRACTOR IS TO PROVIDE PACIFIC ENGINEERING TECHNOLOGIES, INC. WITH ACCESS TO REVIEW THE INSTALLATION OF THE NEW WEATHER-RESISTIVE BARRIER AND FLASHINGS PRIOR TO BEING COVERED BY THE NEW SIDING SYSTEM. THE CONTRACTOR IS TO PROVIDE A MINIMUM OF SEVENTY-TWO (72) HOURS NOTICE (EXCLUDING WEEKENDS) PRIOR TO WHEN THE CONTRACTOR WANTS REVIEWS PERFORMED. THE CONTRACTOR IS TO MODIFY ANY CONDITIONS WITH THE INSTALLATION OF THE WEATHER-RESISTIVE BARRIER AND FLASHING SYSTEM AS DIRECTED BY PACIFIC ENGINEERING TECHNOLOGIES, INC. THAT DOES NOT COMPLY WITH THE REPAIR DRAWINGS. PACIFIC ENGINEERING TECHNOLOGIES, INC. MAY REQUIRE THAT THE SIDING BE REMOVED AND REPLACED AT NO COST TO THE OWNER IF PACIFIC ENGINEERING TECHNOLOGIES, INC. IS NOT ALLOWED TO REVIEW THE INSTALLATION OF THE WEATHER-RESISTIVE BARRIER AND FLASHINGS DUE TO INSUFFICIENT NOTIFICATION.
47. ALL NEW WINDOWS, SKYLIGHTS AND EXTERIOR DOORS SHALL COMPLY WITH THE CURRENT EDITION OF THE WASHINGTON STATE ENERGY CODE.
48. PROVIDE SAFETY GLAZING IN ACCORDANCE WITH IBC SECTIONS 2406.
49. WINDOWS, SLIDING GLASS DOORS AND DOORS SHALL BE INSTALLED WITH PENETRATION FLASHINGS AND IN ACCORDANCE IBC SECTION 1402.2, 1403.2 AND 1404.4 AND WITH ASTM E 2112.
50. NEW THERMAL INSULATION MUST COMPLY WITH THE CURRENT EDITION OF THE WASHINGTON STATE ENERGY CODE.
51. PROVIDE MINIMUM R-3 PER INCH FOR EXISTING EXPOSED CEILING, WALL, OR FLOOR CAVITIES WASHINGTON STATE ENERGY CODE R503.1.1 EXCEPTION 2.
52. WHERE WINDOWS ARE REPLACED, REPAIR THE INTERIOR FINISHES AND MODIFY OR REPLACE THE INTERIOR LINERS, AS REQUIRED TO INSTALL THE FLASHINGS AND WINDOWS.
53. ALL VENTILATION OPENINGS SHALL BE SCREENED EXCEPT DRYER VENTS. ALL VENT OPENINGS SHALL HAVE LOUVERS.
54. WHERE WINDOWS, DOORS OR SLIDING GLASS DOORS ARE TEMPORARILY REMOVED OR DISCARDED, THEY SHALL BE RE-INSTALLED OR INSTALLED BY THE END OF EACH DAY.
55. THE CONTRACTOR SHALL REPAIR INTERIOR DISTRESS, SUCH AS, BUT NOT LIMITED TO NAIL POPS RESULTING FROM THE CONSTRUCTION WORK AND REPAINT THE INSIDE OF THE UNITS IF REQUIRED. ALL REPAIRS SHALL MATCH EXISTING AS CLOSE AS POSSIBLE. PROVIDE AN ALLOWANCE FOR REPAIRS WITHIN EACH UNIT IN THE BID.
56. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL TESTING AND RECERTIFICATION OF THE EXISTING FIRE SPRINKLER AND FIRE ALARM SYSTEMS IF REQUIRED BY THE FIRE MARSHAL OR BUILDING DEPARTMENT.
57. HOLES FOR WIRING AND PLUMBING PENETRATIONS THAT PASS THROUGH FIRE-RESISTANCE RATED ASSEMBLIES ARE TO BE SEALED WITH A FIRE RATED EXPANDING FOAM OR SEALANT. THE FOAM OR SEALANT SHALL BE IN ACCORDANCE WITH ASTM E 814 OR UL 1479 WITH AN F AND T RATING NOT LESS THAN THE ASSEMBLY RATING IN ACCORDANCE WITH IBC SECTION 714.4 AND 714.5.
58. PROVIDE DIFFERENTIAL METAL PROTECTION TO PREVENT GALVANIC ACTION WHERE OCCURS.
59. THE CONTRACTOR SHALL CLEAN THE EXTERIOR OF ALL WINDOWS, DOORS, DECKS AND WALKWAYS AT THE END OF THE PROJECT.
60. UPON COMPLETION OF ALL REPAIR WORK, THE OWNER AND CONTRACTOR WILL DEVELOP A "PUNCH LIST" OF WORK ITEMS TO BE COMPLETED AS PART OF THE PROJECT CLOSE-OUT. ALL ITEMS ON THE PUNCH LIST SHALL BE CORRECTED/REPAIRED BEFORE THE OWNER'S FINAL ACCEPTANCE OF THE WORK.
61. UPON FINAL ACCEPTANCE OF THE WORK, CONTRACTOR SHALL SUBMIT AN OPERATION AND MAINTENANCE MANUAL AND ALL WARRANTIES TO THE HOMEOWNER'S ASSOCIATION.



SITE PLAN
SCALE: 1" = 60'-0"

NOTE:
THE INFORMATION ON THIS SITE PLAN IS SCHEMATIC AND HAS BEEN DERIVED FROM THE SITE PLAN INFORMATION ON RECORD WITH KING COUNTY, AERIAL PHOTOGRAPHS, AND SITE VISIT.

MAINTENANCE:

NOTE TO BUILDING OWNER:
THE SEVERE WEATHER CONDITIONS THAT ARE ENCOUNTERED DURING WINTER MONTHS IN THE PACIFIC NORTHWEST REQUIRE A DILIGENT ON-GOING MAINTENANCE PROGRAM FOR THE EXTERIOR DECKS AND ROOFS.

DECKS AND ROOFS MUST BE CLEANED ON A REGULAR BASIS SO THAT MOSS AND FUNGUS DOES NOT START TO GROW. FAILURE TO PROPERLY MAINTAIN DECKS AND ROOFS WILL LEAD TO PREMATURE FAILURE OF THE WATERPROOF MEMBRANE OR ROOFING SURFACE.

BUILDING SEALANTS SHOULD ALSO BE EXAMINED ON AN ANNUAL BASIS. ANY SEALANTS THAT ARE FOUND NOT TO BE ADHERING PROPERLY SHOULD BE REPAIRED IMMEDIATELY.

EXTERIOR WOOD SHOULD BE EXAMINED ON A REGULAR BASIS TO MAINTAIN WATER RESISTANCE AND TO ENSURE MOSS AND FUNGUS DOES NOT START TO GROW

RCW STATEMENTS:

IN ACCORDANCE WITH RCW CHAPTER 64.55 -
RCW 64.55.010(6)(A)(VI) AND 64.55.010(10) - THE OWNER DOES NOT INTEND TO SELL THE RESIDENTIAL UNITS AS CONDOMINIUMS WITHIN THE NEXT FIVE YEARS, IN LIEU OF SUBMITTING BUILDING ENCLOSURE DETAILS AND STATEMENTS, THE OWNER HAS COMPLETED AND SIGNED THE "CONDOMINIUM SALE PROHIBITION COVENANT". THE COVENANT HAS BEEN RECORDED WITH THE KING COUNTY ASSESSOR'S OFFICE, AND A COPY OF THE RECORDED COVENANT HAS BEEN SUBMITTED TO THE BUILDING DEPARTMENT.

SCOPE OF WORK SUMMARY

TYPE: SELECT EXTERIOR IMPROVEMENTS

THE PURPOSE OF THESE DRAWINGS IS TO SHOW THE DETAILS NECESSARY TO IMPROVE SELECTED EXTERIOR BUILDING COMPONENTS AT THE CARRIAGE HOUSE APARTMENTS LOCATED IN SEATAC, WASHINGTON.

THE IMPROVEMENTS INCLUDES THE FOLLOWING:
- REPLACEMENT OF WATER DAMAGED GYPSUM SHEATHING AND FRAMING.
- REMOVAL AND REPLACEMENT OF THE EXTERIOR SIDING, TRIM, SOFFITS, WEATHER-RESISTIVE BARRIER AND FLASHINGS.
- REMOVAL AND REPLACEMENT OF EXISTING DECK GUARDRAILS WITH NEW PRE-FABRICATED GUARDRAILS.
- INSTALLATION OF A NEW DECK AND WALKWAY WATERPROOF MEMBRANE.
- SELECT REMOVAL AND REPLACEMENT OF EXISTING WINDOWS AND SLIDING GLASS DOORS.

NO REVIEW HAS BEEN MADE OF THE ADEQUACY OF THE EXISTING FRAMING MEMBERS.

FIRE, MECHANICAL, ELECTRICAL AND PLUMBING WORK IS NOT INCLUDED IN THIS SCOPE OF WORK AND IS TO BE BIDDER DESIGNED (BY OTHERS) AND SUBMITTED UNDER A SEPARATE PERMIT.

VICINITY MAP
SCALE: N.T.S.

ASSESSOR'S No.: 342304-9070

LEGAL DESCRIPTION:

E 1/2 OF SE 1/4 OF NW 1/4 OF NW 1/4 LESS CO RD TGW W 68.39 FT OF SW 1/4 OF NE 1/4 OF NW 1/4 LESS CO RDS TGW A POR OF VAC RDS ADJ

BUILDING DATA:

JURISDICTION:	CITY OF SEATAC
CODE	2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC) 2018 INTERNATIONAL BUILDING CODE (IBC)
ZONING:	UH-900
OCCUPANCY:	R-2 (APARTMENTS)
CONSTRUCTION TYPE:	VA
LOT SIZE:	250,200 SQFT. (5.74 ACRES)
No. OF BUILDINGS:	5 (BUILDING A - E)
WORK THIS PERMIT:	BUILDING C ADDRESS: 3606 S. 180TH ST.
BUILDING SIZE:	
FIRST FLOOR	11,456 SQ. FT.
SECOND FLOOR	14,096 SQ. FT. (INCLUDING LOFTS)
No. OF UNITS:	48
No. OF STORIES:	2
SPRINKLERS:	NO
MANUAL FIRE ALARMS:	YES

SHEET INDEX

THE INFORMATION PRESENTED ON THESE DRAWINGS IS TO THE LEVEL OF DETAIL FOR CONSTRUCTION COST ESTIMATION ONLY, NOT FOR ACTUAL CONSTRUCTION

PRELIMINARY

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

PACIFIC ENGINEERING TECHNOLOGIES, INC.
2150 North 107th Street, Suite 320
Seattle, Washington 98133-9009
(T) (206) 281-7500 ● (800) 521-7300
(F) (206) 281-4611

Contents: SITE PLAN, VICINITY MAP AND NOTES

Project: CARRIAGE HOUSE APTS. BUILDING 'C' SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

Sheet 1.0

Job No. 23042.00

4/28/2023
23042 WD 01.dwg

MATERIAL SPECIFICATIONS:

THE MATERIAL SPECIFICATIONS ARE PRESENTED IN A SHORT FORM FORMAT. THE CONTRACTOR AND/OR SUBCONTRACTORS(S) SHALL INSTALL THE PRODUCTS IN ACCORDANCE WITH THE FOLLOWING CURRENT EDITION OF INDUSTRY STANDARDS AND CODES IN NO PARTICULAR ORDER:

A. REVISED CODE OF WASHINGTON
B. INTERNATIONAL BUILDING CODE
C. CITY OF SEATAC MUNICIPAL CODE
D. SHEET METAL AND AIR CONDITIONING NATIONAL ASSOCIATION (SMACNA)
E. MANUFACTURER'S PRODUCT INSTALLATION RECOMMENDATIONS
F. THESE REPAIR DOCUMENTS

WALL GYPSUM SHEATHING BOARD (GSB) EXTERIOR:
GYPSUM SHEATHING BOARD SHALL BE 1/2" THICK EXTERIOR RATED FIBERGLASS-FACED GYPSUM SHEATHING. SHEATHING SHALL MATCH EXISTING THICKNESS ATTACH WITH 8d GALVANIZED ROOFING NAILS AT 4" ON-CENTER OR CLOSER TO MATCH EXIST. CONDITIONS. ALL EDGES SHALL BE BLOCKED.
APPROVED PRODUCTS.
- GEORGIA-PACIFIC DENSGLASS SHEATHING

METAL FLASHINGS:
METAL FLASHINGS SHALL MEET THE FOLLOWING SPECIFICATIONS:
- METAL FLASHINGS ARE TO BE GALVANIZED G90 OR BONDERIZED (U.N.O.)
- METAL FLASHINGS SHALL BE MINIMUM 24 GAUGE (U.N.O.).
- FLASHINGS IN DIRECT CONTACT WITH CONCRETE OR BELOW GRADE ARE TO BE STAINLESS STEEL (U.N.O.)
- VISIBLE METAL FLASHINGS SHALL BE PREFINISHED (KYNAR 500 OR EQUIVALENT).
- JOINTS SHALL BE SOLDERED
- METAL FLASHINGS ARE TO BE ONE CONTINUOUS PIECE AS LONG AS POSSIBLE TO MINIMIZE JOINTS.
- HEM EXPOSED EDGES.
- FLASHINGS TO HAVE MINIMUM 6" VERTICAL LEGS AND 4" HORIZONTAL LEGS (U.N.O.)
- FLASHING FLANGES SHALL EXTEND A MINIMUM 6" BEYOND INSIDE AND OUTSIDE CORNERS AND OPENINGS (I.E. THROUGH WALL SCUPPERS).
- CUT AND FOLDED OVER LAP SPLICES AT INSIDE AND OUTSIDE CORNERS ARE NOT ACCEPTABLE.
- SET FLASHINGS IN SEALANT (REFERENCE SEALANTS SECTIONS).
- LAPS/SPLICES WITH OTHER FLASHINGS ARE TO BE 6" MINIMUM (U.N.O.) SET IN (2) 3/8" CONT. BEADS OF SEALANT PARALLEL TO EDGE OF FLASHING, (REFERENCE SEALANTS SECTIONS).
- COPING / PARAPET FLASHINGS SHALL HAVE A 12" WIDE METAL FLASHING SPLICE PLATE CENTERED UNDER THE COPING SPLICE
- PROPERLY INTEGRATE WITH OTHER WEATHER RESISTIVE BARRIER AND FLASHING ASSEMBLIES IN WEATHER BOARD FASHION WITH 6" MINIMUM VERTICAL LAPS/SPLICES AND 4" MINIMUM HORIZONTAL LAPS/SPLICES.
- PROVIDE SEPARATION (SUCH AS A LAYER OF WRB) BETWEEN DISSIMILAR METALS TO PREVENT GALVANIC ACTION (CORROSION).
- OVER-BREAK OR UNDER-BREAK METAL FLASHINGS TO PROVIDE A TIGHT FIT AGAINST THE SUBSTRATE.
- METAL FLASHINGS SHALL HAVE CONTINUOUS SUPPORT AND POSITIVE ATTACHMENT TO THE BUILDING.
- FLASHINGS SHALL BE FABRICATED TO SLOPE AWAY FROM THE BUILDING OR TOWARDS THE ROOF.
- FABRICATION AND INSTALLATION OF METAL FLASHINGS IS TO TAKE INTO ACCOUNT EXPANSION AND CONTRACTION TO AVOID BUCKLING.
- THE CONTRACTOR SHALL PROVIDE MOCK-UPS OF METAL FLASHINGS FOR APPROVAL PRIOR TO FINAL FABRICATION AND INSTALLATION.
- METAL FLASHINGS SHALL BE IN ACCORDANCE WITH SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) ARCHITECTURAL SHEET METAL MANUAL.

DECK WATERPROOF MEMBRANE (WPM) AND ACCESSORIES:
A. SHALL BE A FLUID-APPLIED, MOISTURE-CURING, POLYURETHANE, PEDESTRIAN WATERPROOFING DECK MEMBRANE COATING SYSTEM.
B. CONTRACTOR SHALL USE ALL ASSOCIATED MANUFACTURER RECOMMENDED ACCESSORIES AND PRODUCTS SUCH AS SEALANTS, REINFORCING MESH, SILICA SAND, PRIMER, ETC.
C. INSTALL WATERPROOF MEMBRANE SO THAT A UNIFORM AND CONSISTENT SURFACE IS PROVIDED WITH NO VISIBLE SEAMS OR TRANSITIONS.
D. CONTRACTOR SHALL PERFORM AN ADHESION TEST TO ALL UNIQUE SURFACES PRIOR TO APPLICATION OF THE WATERPROOF MEMBRANE SYSTEM.
E. CONTRACTOR SHALL VERIFY EACH DECK HAS A MIN. 1/4" PER FOOT SLOPE TOWARDS THE DECK EDGE.
F. THE CONTRACTOR SHALL SUBMIT A WRITTEN REPORT STATING THE PREPARATION METHOD USED AND THE ADHESION TEST RESULTS TO PACIFIC ENGINEERING TECHNOLOGIES, INC. FOR REVIEW PRIOR TO APPLICATION OF THE WATERPROOF MEMBRANE SYSTEM.

APPROVED WPM:
- POLYCOAT 150

LIQUID APPLIED FLASHING (LAF):
SHALL BE HENRY AIR-BLOC LF LIQUID APPLIED FLASHING
A. THE LAF IS TO BE INSTALLED SUCH THAT THE UNDERLYING SUBSTRATE THAT THE FLUID FLASHING IS APPLIED TO, IS NOT VISIBLE AFTER APPLICATION (OPAQUE) AT 25 MILS (WET).
B. WHERE LAF IS TO BE INTEGRATED WITH THE WRB, VERIFY THE ADHESION COMPATIBILITY WITH THE MANUFACTURER PRIOR TO PROCEEDING.
C. WHERE LAF TRANSITION WITH WRB, THE WRB SHALL BE SANDWICHED IN LAF WITH LAF LAPPING OVER THE WRB 2" MINIMUM.

SELF-ADHESIVE FLASHINGS (SAF):
SHALL BE FORTIFIBER FORTIFLASH BUTYL 20 MIL MANUFACTURED BY HENRY

MISCELLANEOUS PENETRATION FLASHINGS:
SHALL BE QUICKFLASH FLASHING PANELS
THE FLASHING PANEL SHOULD BE PROPERLY SIZED FOR THE INTENDED ELECTRICAL, PLUMBING OR MECHANICAL PENETRATION. IF A PENETRATION SIZE IS UNAVAILABLE FROM QUICKFLASH CONTACT PACIFIC ENGINEERING TECHNOLOGIES, INC. FOR DIRECTION.

WEATHER RESISTIVE BARRIER (WRB):
SHALL BE FORTIFIBER WEATHERSMART DRAINABLE
A. THE SYSTEM IS TO INCLUDE ALL ASSOCIATED ACCESSORIES AND ATTACHMENTS.
B. SEAL ALL LAPS AND SEAMS WITH MANUFACTURER'S PROVIDED TAPE AND/OR HENTRY MOISTOP SEALANT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
C. WRB VERTICAL AND HORIZONTAL LAP JOINTS SHALL BE 6" MIN. INSIDE AND OUTSIDE. CORNERS SHALL LAP 12" MIN.
D. THE EXTERIOR WEATHER BARRIER / AIR BARRIER SYSTEM SHALL HAVE A 15 YEAR MANUFACTURER WARRANTY.
E. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

FIBER CEMENT SIDING:
SHALL BE JAMES HARDIE FIBER-CEMENT HZ10 SIDING.
- HARDIEPANEL 5/16" SMOOTH VERTICAL PANELS
- ALL CUT EDGES OF THE SIDING SHALL BE PRIMED PRIOR TO INSTALLATION.
- ATTACH SIDING TO THE STRUCTURE WITH STAINLESS STEEL FASTENERS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE FASTENING PATTERN SHOULD BE DESIGNED FOR THE FOLLOWING CONDITIONS:
  a. BUILDING HEIGHT: 25'
  b. WIND SPEED: 97 MPH
  c. EXPOSURE: B

TRIM BOARDS:
SHALL BE HZ10 HARDIETRIM MANUFACTURED BY JAMES HARDIE.
- INSTALL WITH STAINLESS STEEL FINISH NAILS.
- PRIME ALL CUT ENDS WITH TWO (2) COATS OF EXTERIOR GRADE PRIMER PRIOR TO INSTALLATION AND PAINTING.

FASCIA AND BARGE WOOD TRIM:
- SHALL BE 2x PREPRIMED TIGHT KNOT CEDAR.
- PRIME ALL SIDES AND EDGES WITH TWO (2) COATS OF EXTERIOR GRADE PRIMER PRIOR TO INSTALLATION.
- FASTEN WITH STAINLESS STEEL FASTENERS

BACKER ROD:
- SHALL BE SOF-ROD BACKER ROD, MANUFACTURED BY NOMACO
- THE DIAMETER OR WIDTH SHALL BE AS RECOMMENDED BY MANUFACTURER FOR THE SPECIFIC OPENING TO RECEIVE SEALANT. WHERE BACKER RODS ARE TO TURN 90 DEGREE CORNERS THE BACKER ROD SHALL TERMINATE AT CORNER AND A NEW PIECE OF BACKER ROD WILL CONTINUE IN THE NEXT DIRECTION.
- ALLOW THE BACKER ROD TO REST (APPROXIMATELY 30 MINUTES) BEFORE APPLYING SEALANT.
- IF BACKER ROD CAN NOT BE USED IN A PARTICULAR SITUATION, BOND BREAKING

MATERIAL SPECIFICATIONS (CONT.):

TAPE SHALL BE USED TO PREVENT THREE-SIDED ADHESION. INSTALL BACKER RODS PER MANUFACTURER'S RECOMMENDATIONS.

EXTERIOR SEALANT JOINTS:
- SHALL BE AN EXTERIOR GRADE HIGH PERFORMANCE SINGLE COMPONENT PAINTABLE ELASTOMERIC JOINT SEALANT COMPLYING WITH ASTM C 920, GRADE NS, CLASS 25 OR HIGHER.
- CLEAN ALL SURFACES PRIOR TO APPLICATION OF SEALANT.
- TOOL ALL SEALANT JOINTS.
- SEALANT SHALL BE APPLIED IN ACCORDANCE WITH THE SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS AND ASTM C 1193.
- CONTRACTOR SHALL VERIFY SEALANT IS RECOMMENDED BY MANUFACTURER TO USE AND IS COMPATIBLE WITH ALL BUILDING COMPONENTS.
- SEALANT JOINTS SHALL HAVE (6) RANDOM FIELD ADHESION TESTS FOR EACH TYPE OF JOINT SUBSTRATE PERFORMED BY AN AUTHORIZED PRODUCT REPRESENTATIVE. THE CONTRACTOR SHALL PROVIDE THE WRITTEN REPORT RESULTS TO PACIFIC ENGINEERING TECHNOLOGIES, INC. FOR REVIEW.
- SEALANT COLOR SHALL BE SIMILAR TO FINAL PAINTED COLOR.

APPROVED SEALANTS:

EXTERIOR SEALANT JOINTS:
- BASF MASTERSEAL NP150
- USE BASF MASTERSEAL P173 PRIMER ON SURFACES
- SEALANT COLOR SHALL BE SIMILAR TO FINAL PAINT COLOR

WRB LAP SEALANT AND ROUGH OPENING SEALANT JOINTS:
- HENRY MOISTOP SEALANT
  SEALANT SHALL BE APPLIED IN ACCORDANCE WITH THE SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS AND ASTM C 1193.

GUTTERS AND DOWNSPOUTS:
GUTTERS SHOULD BE PREPRIMED BOX STYLE GUTTERS. PAINT THE GUTTERS TO MATCH THE FASCIA.
DOWNSPOUTS SHALL BE PREPRIMED 2x3 RECTANGULAR DOWNSPOUTS. PAINT THE DOWNSPOUTS TO MATCH THE BUILDING COLOR. DOWNSPOUTS SHALL BE INSTALLED ON CORNER TRIM AND SHALL BE STRAIGHT WITHOUT BEND DOWN TRIM. PROVIDE PAINTED SHIM AS REQUIRED.
PROVIDE NEW DRAIN LINE CONNECTIONS TO EXIST. STORM DRAIN LINE.

PROVIDE SAMPLES OF GUTTER AND DOWNSPOUTS FOR REVIEW AND APPROVAL PRIOR TO PURCHASE AND INSTALLATION.

PAINT:
- SHERWIN WILLIAMS SUPERPAINT EXTERIOR GRADE PAINT FOR HARDIE.
- USE PROPER PAINT FOR EACH SPECIFIC SUBSTRATE.

EXIT SIGNS:
EXIT SIGNS SHALL MEET THE FOLLOWING SPECIFICATIONS:
1. EXIT SIGNS SHALL BE IN ACCORDANCE WITH IBC SECTION 1013.
2. SHALL HAVE LEGIBLE LETTERS NOT LESS THAN 6" HIGH AND LETTER STROKES NOT LESS THAN 3/4" WIDE.
3. SHALL BE ILLUMINATED AT ALL TIMES WITH AN INTENSITY OF NOT LESS THAN FIVE FOOTCANDLES.
4. EXIT SIGNS SHALL BE ILLUMINATED BY ONE OF THE FOLLOWING METHODS:
   a. INTERNALLY ILLUMINATED LISTED AND LABELED IN ACCORDANCE WITH UL 924. INTERNALLY ILLUMINATED SIGNS SHALL BE ELECTRICALLY POWERED, SELF-LUMINOUS AND PHOTOLUMINESCENT.
   b. EXTERNALLY ILLUMINATED WITH A BATTERY BACKUP THAT WILL PROVIDE ILLUMINATION FOR A MINIMUM OF 90 MINUTES.

DECK SOFFIT AND LIGHT REPLACEMENT:
- LITHONIA LIGHTING MODEL NO. OLCFM

UNIT CORRIDOR CEILING LIGHT:
- LITHONIA LIGHTING CPANL 1'-0" BY 4'-0" LONG

GENERAL NOTES:
CONTRACTOR SHALL VERIFY ALL PRODUCTS AND MATERIALS ARE COMPATIBLE WITH EACH OTHER PRIOR TO INSTALLATION.

CONTRACTOR MAY SUBSTITUTE MATERIALS WITH SIMILAR QUALITY MATERIALS. SUBSTITUTED MATERIALS SHALL BE APPROVED BY PACIFIC ENGINEERING TECHNOLOGIES, INC. PRIOR TO PURCHASE AND INSTALLATION.

ALL PRODUCTS AND MATERIAL SAMPLES, INSTALLATION RECOMMENDATIONS AND SPECIFICATIONS SHALL BE SUBMITTED TO PACIFIC ENGINEERING TECHNOLOGIES, INC. FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.

CONTRACTOR IS TO FOLLOW MANUFACTURER'S APPLICATION RECOMMENDATIONS FOR COLD WEATHER WHEN TEMPERATURES ARE BELOW 40°. CONTRACTOR IS TO PERFORM AN ADHESION TEST FOR ALL QUESTIONABLE SUBSTRATES PRIOR TO FINAL INSTALLATION.

WINDOW AND SLIDING GLASS DOOR SPECIFICATIONS:

THE NEW WINDOWS AND SLIDING GLASS DOORS SHALL MEET THE FOLLOWING SPECIFICATIONS:
1. SHALL BE MIGARD TRINSIC OR PLYGEM PROSERIES 200.
2. CONTRACTOR TO VERIFY THE SIZE OF THE EXISTING ROUGH OPENING PRIOR TO ORDERING THE WINDOWS. THE WINDOW SIZE SHALL TAKE INTO ACCOUNT THE THICKNESS OF NEW FLASHINGS AND SEALANT JOINTS.
3. THE NEW WINDOWS AND SLIDING GLASS DOORS SHALL HAVE DUAL PANE GLAZING WITH INSECT SCREENS AND LOW-E COATING AND INTEGRATED NAIL FLANGES.
4. WINDOWS SHALL HAVE AIR INFILTRATION RATE OF NO MORE THAN 0.2 CFM PER SQUARE FOOT (TESTED AT LEAST 1.57 PSF), WHEN TESTED ACCORDING TO NFRC 400 OR AAMA/WDMA/CSA 101/I.S.2/A440 OR 0.3 CFM/FT² TESTED AT A PRESSURE OF AT LEAST 6.24 PSF IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S/A440 BY AN ACCREDITED, INDEPENDENT LABORATORY AND LISTED AND LABELED BY THE MANUFACTURER.
5. REFERENCE PLANS AND ELEVATIONS FOR WINDOW CONFIGURATIONS.
6. WINDOWS AND SLIDING GLASS DOORS SHALL MEET THE SAFETY GLAZING SPECIFICATIONS LISTED BELOW.
7. EGRESS WINDOWS SHALL MEET THE EGRESS SPECIFICATIONS BELOW.
8. PROVIDE FALL PROTECTION DEVICE FOR ALL OPERABLE WINDOWS WITH SILL HEIGHT OF LESS THAN 36". THE FALL PROTECTION SHALL BE IN ACCORDANCE WITH ASTM F2090.
9. DESIGN WIND PRESSURE: 25 PSF
10. ALL NEW WINDOWS AND SLIDING GLASS DOORS SHALL COMPLY WITH THE CURRENT EDITION OF THE WASHINGTON ENERGY CODE
    U-FACTOR: 0.30 MAX.

SAFETY GLAZING IN WINDOWS AND DOORS:
SAFETY GLAZING SHALL BE IN ACCORDANCE WITH IBC SECTION 2406. GLAZING IN THE FOLLOWING LOCATIONS SHALL BE TEMPERED:
1. GLAZING WITHIN 24" OF AN ADJACENT DOOR LOCATED ON THE SAME WALL UNLESS SEPARATED A MINIMUM 60" INTERVENING WALL.
2. GLAZING WITHIN 24" OF AN ADJACENT DOOR LOCATED ON AN INTERVENING WALL.
3. THE BOTTOM EDGE OF THE GLAZING IS WITHIN 60" VERTICALLY OF A BATHTUB.
4. GLAZING THAT MEETS ALL FOUR OF THESE REQUIREMENTS:
   A. INDIVIDUAL GLAZING PANE IS LARGER THAN 9 SQUARE FEET
   B. THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18" ABOVE THE FLOOR
   C. THE TOP EDGE OF THE GLAZING IS 36" ABOVE THE FLOOR
   D. THE WINDOW IS LOCATED WITHIN 36" OF A WALKING SURFACE
5. GLAZING WITHIN 36" HORIZONTALLY OF THE WALKING SURFACE ADJACENT TO STAIRWAYS OR LANDINGS AND LESS THAN 60" ABOVE THE WALKING SURFACE.
6. GLAZING WITHIN 60" HORIZONTALLY OF THE BOTTOM TREAD OR 60" ABOVE OF THE NOSE OF THE BOTTOM TREAD.
7. GLAZING IN FIXED AND OPERABLE PANELS OF ALL DOORS.
8. GLAZING IN BATHROOMS

EGRESS REQUIREMENTS:
WINDOWS IN SLEEPING ROOMS SHALL HAVE AT LEAST ONE EMERGENCY ESCAPE AND RESCUE WINDOW THAT MEETS THE FOLLOWING REQUIREMENTS.
1. SHALL BE IN ACCORDANCE WITH IBC SECTION 1030.
2. THE SILL HEIGHT SHALL BE A MAXIMUM OF 44" ABOVE THE FLOOR.
3. HAVE AN OPENING WITH A MINIMUM OPENING HEIGHT OF THE WINDOW SHALL BE 24".
4. HAVE AN OPENING WITH A MINIMUM OPENING WIDTH OF THE WINDOW SHALL BE 20".
5. HAVE A MINIMUM NET CLEAR OPENING AREA OF 5.7 SQUARE FEET.

ALLOWANCE SUMMARY:

EACH ALLOWANCE SHALL HAVE ITS OWN SEPARATE LINE ITEM.
ANY UNUSED PORTIONS OF THE ALLOWANCE ARE TO BE RETURNED TO THE OWNER. EACH ALLOWANCE SHALL INCLUDE ALL LABOR, MATERIALS, MARKUPS, OVER HEAD AND PROFIT, TAXES, GENERAL CONDITIONS, ETC. TO PERFORM THE WORK.
THE CONTRACTOR SHALL INCLUDE THE FOLLOWING ALLOWANCES IN THEIR BID:

ALLOWANCE NO. 1:
PROVIDE A COST TO REPLACE DAMAGED GYPSUM SHEATHING. FOR ESTIMATING PURPOSES ASSUME 25% OF THE GYPSUM SHEATHING WILL REQUIRE REMOVAL AND REPLACEMENT AT THE ENTIRE BUILDING. ATTACH THE NEW 5/8" TYPE 'X' DENSGLASS GOLD GYPSUM SHEATHING BOARD TO STUD FRAMING WITH 8d GALVANIZED ROOFING NAILS AT 4" ON-CENTER.
INCLUDE SQUARE FOOTAGE OF GSB REPLACEMENT INCLUDED IN BID.

ALLOWANCE NO. 2:
REMOVE AND DISCARD DAMAGED OR DISCOLORED BATT INSULATION FOR ESTIMATING PURPOSES ASSUME 25% OF THE BATT INSULATION (R-15) WILL REQUIRE REMOVAL AND REPLACEMENT WHERE THE WALL SHEATHING IS REMOVED AND THE WALL CAVITY IS EXPOSED.
INCLUDE SQUARE FOOTAGE OF BATT INSULATION INCLUDED IN BID.

ALLOWANCE NO. 3:
PROVIDE A COST TO PROVIDE TEMPORARY SHORING AND PERFORM WALL FRAMING DECAY REPAIRS. FOR ESTIMATING PURPOSES ASSUME 10% OF WALL FRAMING WILL REQUIRE REMOVAL AND REPLACEMENT OR REPAIR.
INCLUDE SQUARE FOOTAGE OF FRAMING REPLACEMENT INCLUDED IN BID.

ALLOWANCE NO. 4:
PROVIDE A COST TO PROVIDE TEMPORARY SHORING AND PERFORM DECK FRAMING REPAIRS. FOR ESTIMATING PURPOSES ASSUME THE FOLLOWING WILL REQUIRE REMOVAL AND REPLACEMENT:
- 50% OF THE CANTILEVERED DECK JOISTS (ALLOWANCE SHALL INCLUDE COSTS TO PERFORM INTERIOR REPAIRS NECESSARY TO REPAIR OR REPLACE CANTILEVERED JOISTS)
- 100% OF THE DOUBLE OUTER RIM JOISTS

INCLUDE LINEAR FOOTAGE OF FRAMING REPLACEMENT INCLUDED IN BID.

ALLOWANCE NO. 5:
PROVIDE AN ALLOWANCE TO TREAT FRAMING AND SHEATHING WITH BORA-CARE WITH MOLD CARE OR AN APPROVED EQUIVALENT. ASSUME THE FOLLOWING:
- 50% OF THE WALL FRAMING
- 25% OF THE DECK FRAMING

INCLUDE SQUARE FOOTAGE OF TREATMENT INCLUDED IN BID.

ALLOWANCE NO. 6:
PROVIDE A COST TO REPAIR, TEXTURE AND PAINT THE EXISTING INTERIOR GYPSUM WALLBOARD LINERS AT THE HEAD, JAMB AND SILLS AT 25 OPENINGS.

PROVIDE A PER OPENING COST IN THE BID.

ALLOWANCE NO. 7:
PROVIDE A LUMP SUM COST TO REPLACE ALL THE WINDOWS AND SLIDING GLASS DOORS ON THE SOUTH ELEVATION. THE SOUTH ELEVATION OF THE COURTYARD IS NOT TO BE INCLUDED IN THE COST.

4/28/2023
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PRELIMINARY

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn Y.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

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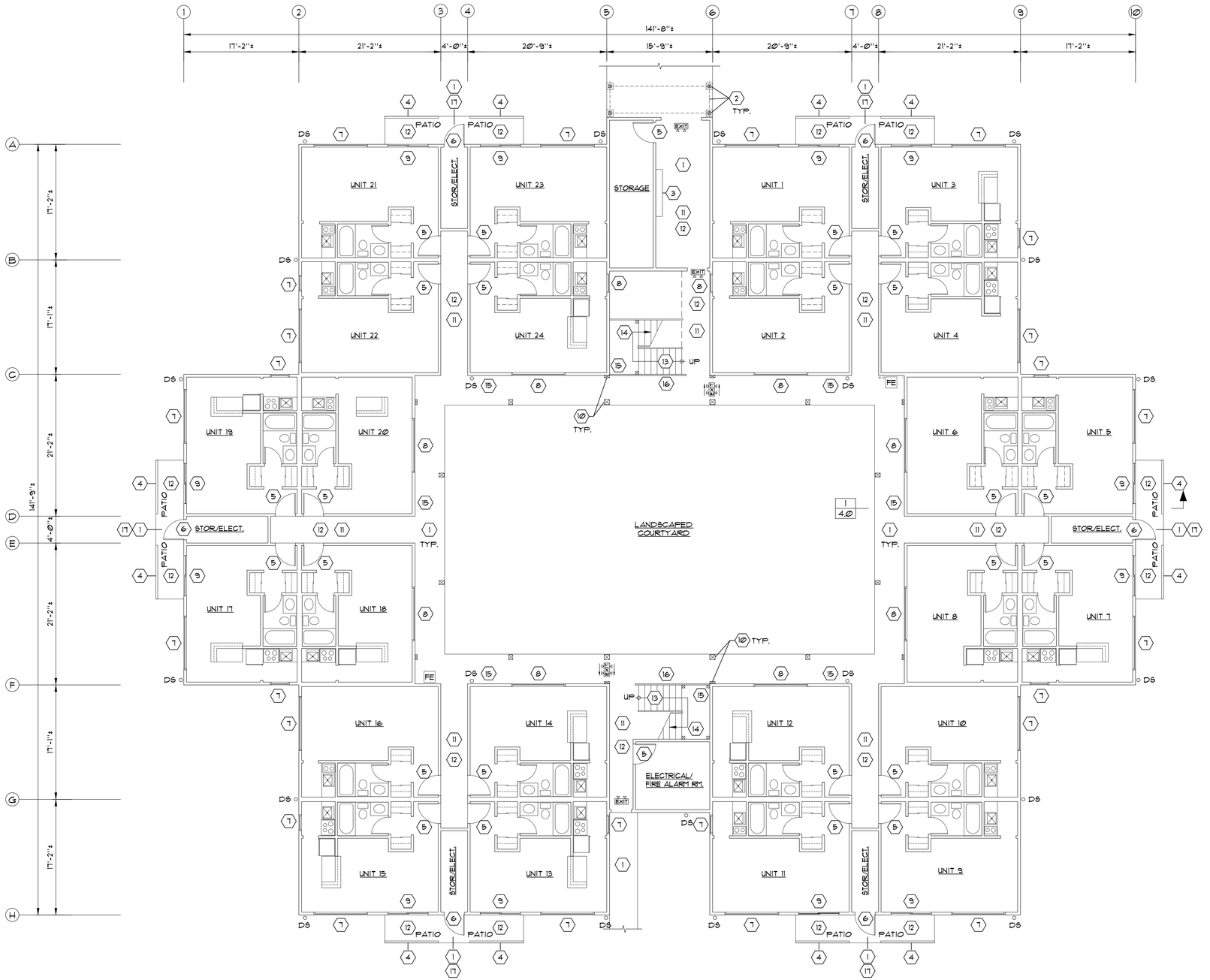
Contents: SPECIFICATIONS AND NOTES

Project: CARRIAGE HOUSE APTS. BUILDING 'C' SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

Sheet: 1.1

Job No. 23042.00



FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFERENCE FLOOR PLANS AND ELEVATIONS FOR ADDITIONAL INFORMATION.
2. REMOVE AND DISCARD ALL EXISTING SIDING, TRIM, WEATHER-RESISTIVE BARRIER, FLASHINGS, EXHAUST VENTS, CEILING LIGHTING, DECK GUARDRAILS, DOWNSPOUTS, GUTTERS, AS INDICATED ON THE FLOOR PLANS AND ELEVATIONS AROUND THE ENTIRE BUILDING.
3. TEMPORARILY REMOVE AND STORE THE FOLLOWING FOR RE-INSTALLATION AFTER THE NEW FLASHINGS HAVE BEEN INSTALLED AS INDICATED ON THE FLOOR PLANS AND ELEVATIONS.
   a. WINDOWS
   b. SLIDING GLASS DOORS
   c. SWING DOORS
   d. SIGNAGE
   e. WALL LIGHTING
4. REVIEW AND IDENTIFY DAMAGED ROOF BARGE AND FASCIA TRIM, REMOVE AND REPLACE IN-KIND.
5. AFTER THE SIDING, TRIM AND WEATHER-RESISTIVE BARRIER IS REMOVED, REVIEW THE EXISTING GYPSUM SHEATHING BOARD (GSB) FOR DAMAGE, REMOVE AND REPLACE IN-KIND.
6. WHERE THE SHEATHING IS REMOVED, REVIEW THE FRAMING AND INSULATION FOR DAMAGE, REMOVE AND REPLACE IN-KIND.
7. FOR TYPICAL SIDING INSTALLATION REF. DETAILS 1/5.0 | 2/5.0 | 3/5.0 | 4/5.0 | 6/5.0 | 7/5.0 | 10/5.0 | 11/5.0
8. FOR TYPICAL WINDOW INSTALLATION REF. DETAILS 1/5.3 | 2/5.3 | 3/5.3 | 1/5.4
9. FOR TYPICAL SLIDING GLASS DOORS INSTALLATION REF. DETAILS 4/5.3 | 5/5.3 | 6/5.3 | 7/5.3 | 1/5.6
10. FOR TYPICAL VENT HOOD INSTALLATION REF. DETAILS 1/5.1 | 2/5.1 | 3/5.1 | 4/5.1
11. FOR TYPICAL PIPE PENETRATIONS REF. DETAILS 1/5.2 | 3/5.2
12. FOR TYPICAL OUTLETS AND LIGHT PENETRATIONS REF. DETAILS 2/5.2 | 4/5.2

KEYNOTES:

1. EXIST. CONC. SLAB. CLEAN AFTER WORK IS COMPLETE.
2. EXIST. TRELLIS TO REMAIN. CLEAN, PREPARE AND STAIN AND/OR PAINT.
3. EXIST. MAILBOXES TO REMAIN.
4. EXIST. UNIT PRIVACY FENCE TO REMAIN. CLEAN, PREPARE AND PAINT.
5. EXIST DOOR TO REMAIN IN PLACE. INSTALL SEALANT AROUND PERIMETER OF DOOR TRIM AND GYPSUM SHEATHING. PREP AND PAINT.
6. EXIST. DOOR TO REMAIN IN PLACE. PREP AND PAINT. REF. DETAILS 5/5.5 | 6/5.5
7. EXIST. WINDOW. TEMP. REMOVE TO INSTALL NEW FLASHINGS IN ROUGH OPENINGS AND RE-INSTALL AFTER FLASHINGS ARE INSTALLED. REF. DETAILS 1/5.3 | 2/5.3 | 3/5.3 | 1/5.4
8. EXIST. WINDOW TO REMAIN IN PLACE. REMOVE AND REPLACE SEALANT JOINT AROUND PERIMETER OF WINDOW.
9. EXIST. SLIDING GLASS DOOR. TEMP. REMOVE TO INSTALL NEW FLASHINGS IN ROUGH OPENINGS AND RE-INSTALL AFTER FLASHINGS ARE INSTALLED. REF. DETAILS 4/5.3 | 5/5.3 | 6/5.3
10. EXIST. COLUMN AND TRIM TO REMAIN IN PLACE. PREP AND PAINT.
11. EXIST. CORRIDOR. CLEAN CONCRETE SLAB. PREPARE SURFACE AND INSTALL NEW FLASHINGS AND BASE TRIM AT WALL TRANSITIONS. REF. DETAIL 8/5.0
    PATCH, SAND AND TEXTURE EXIST. WALL AND CEILING GYPSUM SHEATHING, SEAL PENETRATIONS AND AROUND DOORS, CLEAN AND PREPARE FOR PAINT.
12. REMOVE AND REPLACE CEILING LIGHTING FIXTURE, REF. MATERIAL SPECIFICATIONS ON SHEET 1.1.
13. EXIST. STAIR TO REMAIN. CLEAN AFTER WORK IS COMPLETE.
14. EXIST. STAIR LANDING. CLEAN, PREP AND INSTALL NEW WATERPROOF MEMBRANE OVER EXIST.
15. EXIST. WALL LIGHT. TEMPORARILY REMOVE AND STORE FOR RE-USE. RE-INSTALL AFTER SIDING INSTALLATION IS COMPLETE.
16. EXIST. GUARDRAIL TO REMAIN IN PLACE. CLEAN AFTER WORK IS COMPLETE.
17. EXIST. DECK SOFFIT ABOVE. REMOVE SOFFIT TO REVIEW FRAMING FOR DECAY. REPAIR OR REPLACE DECAYED FRAMING AND INSTALL NEW GUARDRAIL BLOCKING, REF. SHEET 6.0 AND DETAIL 1/5.7 INSTALL NEW GYPSUM AND HARDIEPANEL SOFFIT.

LEGEND

- EXIST. 2x WOOD FRAMED WALL TO REMAIN
- EXISTING DOOR
- EXIT — ILLUMINATED EXIT SIGN WITH EMERGENCY LIGHTING, REF. MATERIAL SPECIFICATIONS ON SHEET 1.1
- FE — EXIST. WALL-MOUNTED FIRE EXTINGUISHER CABINET, TO BE TEMPORARILY DETACHED AND REINSTALLED AFTER WORK IS COMPLETE.
- DS — DOWNSPOUT, REMOVE AND REPLACE. PREP AND PAINT AFTER WORK IS COMPLETE

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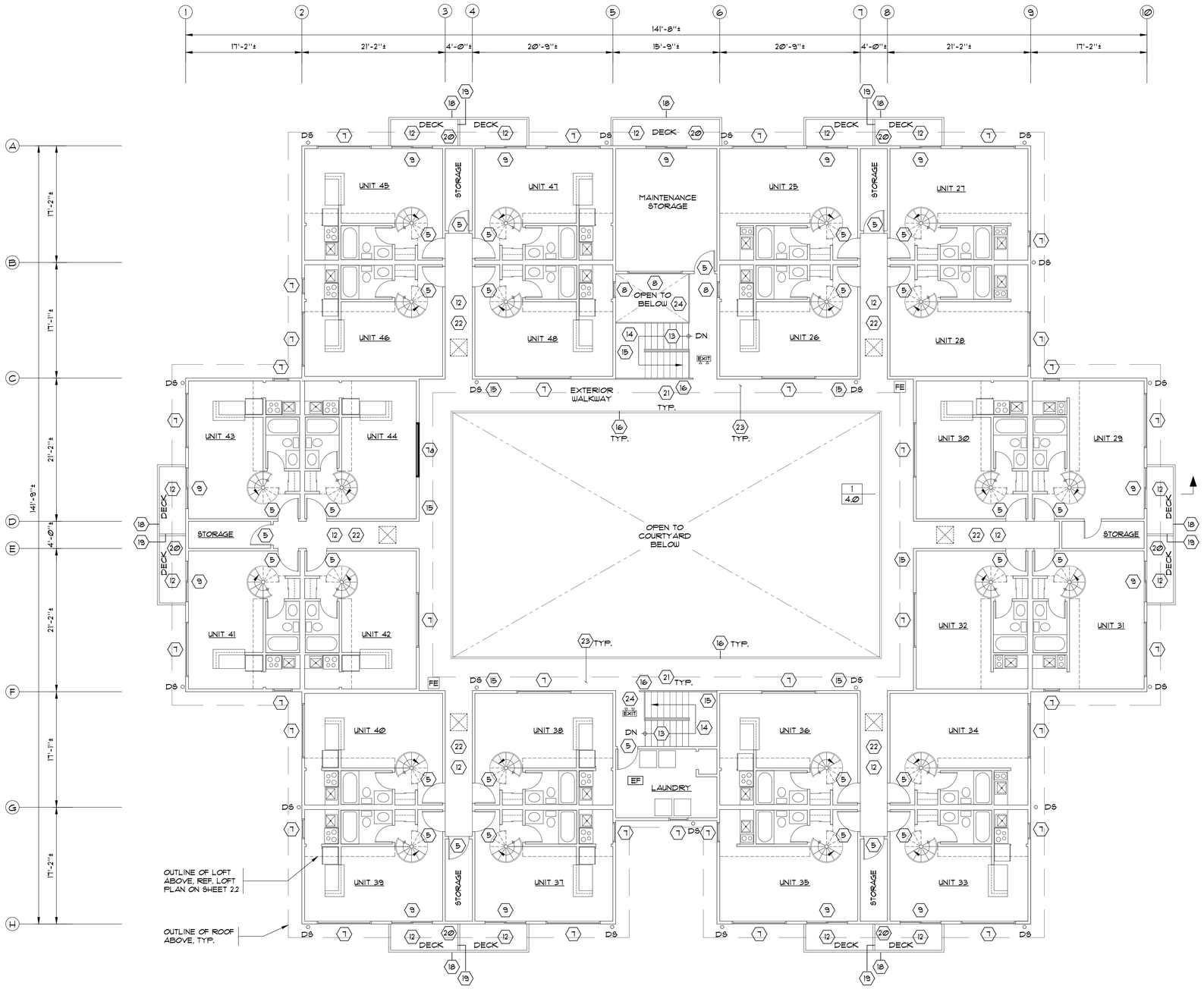

SECOND FLOOR PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFERENCE FLOOR PLANS AND ELEVATIONS FOR ADDITIONAL INFORMATION.
2. REMOVE AND DISCARD ALL EXISTING SIDING, TRIM, WEATHER-RESISTIVE BARRIER, FLASHINGS, EXHAUST VENTS, CEILING LIGHTING, DECK GUARDRAILS, DOWNSPOUTS, GUTTERS, AS INDICATED ON THE FLOOR PLANS AND ELEVATIONS AROUND THE ENTIRE BUILDING.
3. TEMPORARILY REMOVE AND STORE THE FOLLOWING FOR RE-INSTALLATION AFTER THE NEW FLASHINGS HAVE BEEN INSTALLED AS INDICATED ON THE FLOOR PLANS AND ELEVATIONS.
   a. WINDOWS
   b. SLIDING GLASS DOORS
   c. SWING DOORS
   d. SIGNAGE
   e. WALL LIGHTING
4. REVIEW AND IDENTIFY DAMAGED ROOF BARGE AND FASCIA TRIM, REMOVE AND REPLACE IN-KIND.
5. AFTER THE SIDING, TRIM AND WEATHER-RESISTIVE BARRIER IS REMOVED, REVIEW THE EXISTING GYPSUM SHEATHING BOARD (GSB) FOR DAMAGE, REMOVE AND REPLACE IN-KIND.
6. WHERE THE SHEATHING IS REMOVED, REVIEW THE FRAMING AND INSULATION FOR DAMAGE, REMOVE AND REPLACE IN-KIND.
7. FOR TYPICAL SIDING INSTALLATION REF. DETAILS 1 5.0 | 2 5.0 | 3 5.0 | 4 5.0 | 6 5.0 | 7 5.0 | 10 5.0 | 11 5.0
8. FOR TYPICAL WINDOW INSTALLATION REF. DETAILS 1 5.3 | 2 5.3 | 3 5.3 | 1 5.4
9. FOR TYPICAL SLIDING GLASS DOORS INSTALLATION REF. DETAILS 4 5.3 | 5 5.3 | 6 5.3 | 7 5.3 | 1 5.6
10. FOR TYPICAL VENT HOOD INSTALLATION REF. DETAILS 1 5.1 | 2 5.1 | 3 5.1 | 4 5.1
11. FOR TYPICAL PIPE PENETRATIONS REF. DETAILS 1 5.2 | 3 5.2
12. FOR TYPICAL OUTLETS AND LIGHT PENETRATIONS REF. DETAILS 2 5.2 | 4 5.2

KEYNOTES:

1. NOT REFERENCED.
2. NOT REFERENCED.
3. NOT REFERENCED.
4. NOT REFERENCED.
5. EXIST DOOR TO REMAIN IN PLACE. INSTALL SEALANT AROUND PERIMETER OF DOOR TRIM AND GYPSUM SHEATHING. PREP AND PAINT.
6. NOT REFERENCED.
7. EXIST. WINDOW. TEMP. REMOVE TO INSTALL NEW FLASHINGS AND RE-INSTALL AFTER FLASHINGS ARE INSTALLED. REF. DETAILS 1 5.3 | 2 5.3 | 3 5.3 | 1 5.4
7a. EXIST. WINDOW. REMOVE AND REPLACE WINDOW. REF. DETAILS 1 5.3 | 2 5.3 | 3 5.3 | 1 5.4
8. EXIST. WINDOW TO REMAIN IN PLACE. REMOVE AND REPLACE SEALANT JOINT AROUND PERIMETER OF WINDOW.
9. EXIST. SLIDING GLASS DOOR. TEMP. REMOVE TO INSTALL NEW FLASHINGS AND RE-INSTALL AFTER FLASHINGS ARE INSTALLED. REF. DETAILS 4 5.3 | 5 5.3 | 6 5.3 | 7 5.3 | 1 5.6
10. NOT REFERENCED.
11. NOT REFERENCED.
12. REMOVE AND REPLACE CEILING LIGHTING FIXTURE, REF. SPECIFICATIONS.
13. EXIST. STAIR TO REMAIN. CLEAN AFTER WORK IS COMPLETE.
14. EXIST. STAIR LANDING. CLEAN, PREP AND INSTALL NEW WATERPROOF MEMBRANE OVER EXIST.
15. EXIST. WALL LIGHT. TEMPORARILY REMOVE AND STORE FOR RE-USE. RE-INSTALL AFTER SIDING INSTALLATION IS COMPLETE.
16. EXIST. GUARDRAIL TO REMAIN IN PLACE. CLEAN AFTER WORK IS COMPLETE.
17. NOT REFERENCED.
18. EXIST. WOOD FRAMED GUARDRAIL. REMOVE GUARDRAIL AND INSTALL NEW PREFABRICATED FACE MOUNTED GUARDRAIL, REF. SHEET 6.0 AND DETAIL 1 5.7
19. EXIST. WOOD FRAMED UNIT DECK SEPARATION. INSTALL NEW PREFABRICATED SEPARATION FENCE TO MATCH DECK GUARDRAIL. DO NOT PENETRATE MEMBRANE.
20. EXIST. DECK. CLEAN AND PREPARE SURFACE. INSTALL NEW WATERPROOF MEMBRANE. REF. DETAILS 7 5.3 | 1 5.7 | 3 5.7 | 1 5.8
21. EXIST. ELEVATED WALKWAY. CLEAN AND PREPARE SURFACE. INSTALL NEW FLASHINGS AND WATERPROOF MEMBRANE. REF. DETAILS 3 5.7
22. EXIST. UNIT CORRIDOR. REMOVE EXIST. VINYL MEMBRANE AND DISCARD. PREPARE SURFACE AND INSTALL NEW FLASHINGS, WATERPROOF MEMBRANE AND BASE TRIM. REF. DETAIL 4 5.7
    PATCH, SAND AND TEXTURE EXIST. WALL AND CEILING GYPSUM SHEATHING, SEAL PENETRATIONS AND AROUND DOORS, CLEAN AND PREPARE FOR PAINT.
23. EXIST. ROOF SOFFIT ABOVE. REMOVE EXIST. SOFFIT AND REVIEW CAVITY OF EVIDENCE OF WATER DAMAGE, NOTIFY PACIFIC ENGINEERING TECHNOLOGIES IF DAMAGE IS PRESENT. REPLACE SOFFIT WITH 5/8" GYPSUM SOFFIT SHEATHING AND REF. DETAIL 12 5.7
24. EXIST. CEILING SOFFIT ABOVE. REPAIR OR REPLACE EXIST. GYPSUM CEILING. TAPE, MUD, SAND ALL JOINTS TO PROVIDE SMOOTH SURFACE. PREPARE AND PAINT.

LEGEND

- EXIT — ILLUMINATED EXIT SIGN WITH EMERGENCY LIGHTING, REF. MATERIAL SPECIFICATIONS ON SHEET 1.1
- FE — EXIST. WALL-MOUNTED FIRE EXTINGUISHER CABINET, TO BE TEMPORARILY DETACHED AND REINSTALLED AFTER WORK IS COMPLETE.
- EXIST. ATTIC ACCESS TO REMAIN.
- DS — DOWNSPOUT. REMOVE AND REPLACE. PREP AND PAINT AFTER WORK IS COMPLETE

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

PACIFIC ENGINEERING TECHNOLOGIES, INC.
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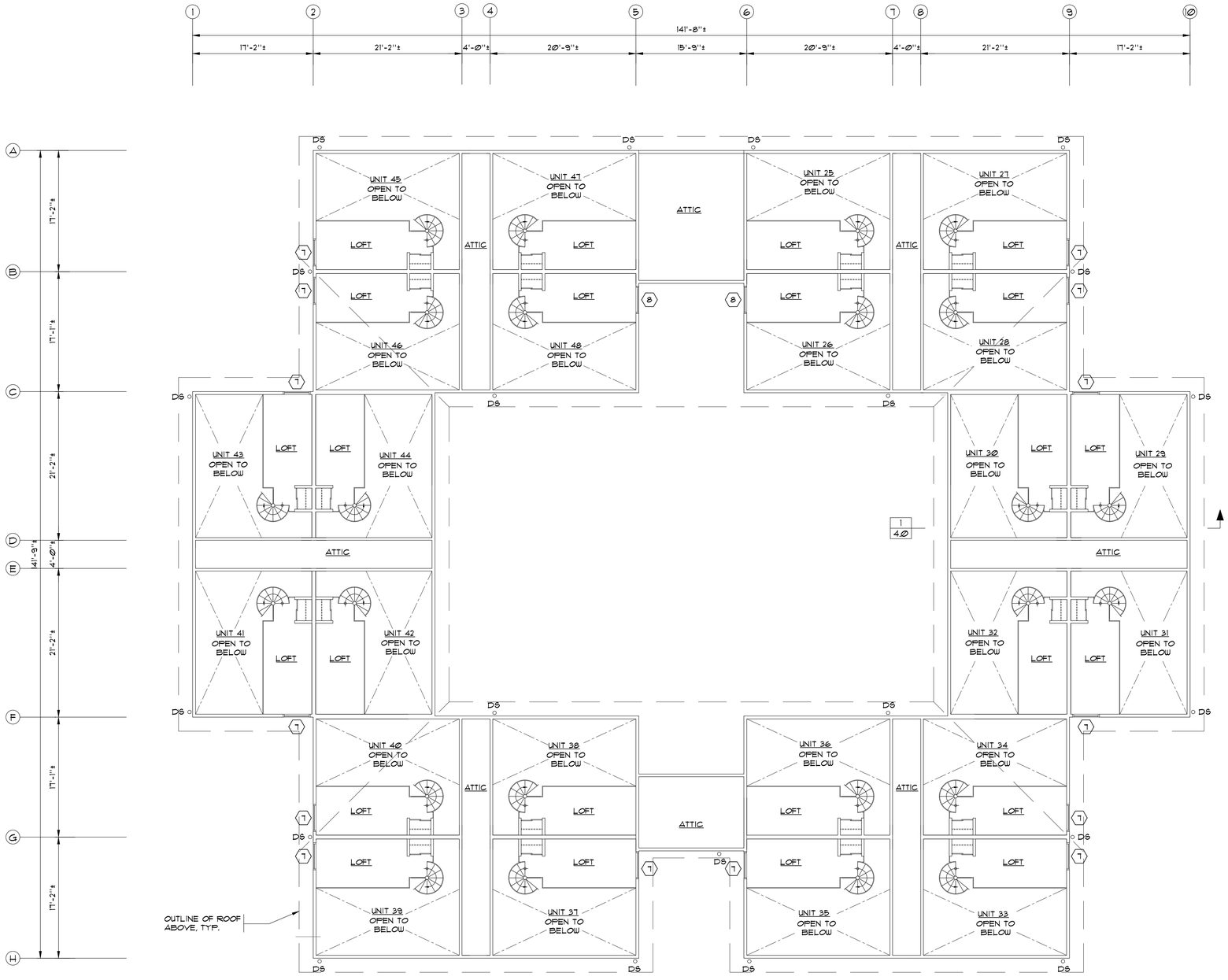
Contents: SECOND FLOOR PLAN

Project: CARRIAGE HOUSE APTS. BUILDING 'C' SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

Sheet 2.1

Job No. 23042.00

4/28/2023
23042 WD 01.dwg



LOFT PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFERENCE FLOOR PLANS AND ELEVATIONS FOR ADDITIONAL INFORMATION.
2. REMOVE AND DISCARD ALL EXISTING SIDING, TRIM, WEATHER-RESISTIVE BARRIER, FLASHINGS, EXHAUST VENTS, CEILING LIGHTING, DECK GUARDRAILS, DOWNSPOUTS, GUTTERS, AS INDICATED ON THE FLOOR PLANS AND ELEVATIONS AROUND THE ENTIRE BUILDING.
3. TEMPORARILY REMOVE AND STORE THE FOLLOWING FOR RE-INSTALLATION AFTER THE NEW FLASHINGS HAVE BEEN INSTALLED AS INDICATED ON THE FLOOR PLANS AND ELEVATIONS.
   a. WINDOWS
   b. SLIDING GLASS DOORS
   c. SWING DOORS
   d. SIGNAGE
   e. WALL LIGHTING
4. REVIEW AND IDENTIFY DAMAGED ROOF BARGE AND FASCIA TRIM, REMOVE AND REPLACE IN-KIND.
5. AFTER THE SIDING, TRIM AND WEATHER-RESISTIVE BARRIER IS REMOVED, REVIEW THE EXISTING GYPSUM SHEATHING BOARD (GSB) FOR DAMAGE, REMOVE AND REPLACE IN-KIND.
6. WHERE THE SHEATHING IS REMOVED, REVIEW THE FRAMING AND INSULATION FOR DAMAGE, REMOVE AND REPLACE IN-KIND.
7. FOR TYPICAL SIDING INSTALLATION REF. DETAILS 1/5.0 | 2/5.0 | 3/5.0 | 4/5.0 | 6/5.0 | 7/5.0 | 10/5.0 | 11/5.0
8. FOR TYPICAL WINDOW INSTALLATION REF. DETAILS 1/5.3 | 2/5.3 | 3/5.3 | 1/5.4
9. FOR TYPICAL SLIDING GLASS DOORS INSTALLATION REF. DETAILS 4/5.3 | 5/5.3 | 6/5.3 | 7/5.3 | 1/5.6
10. FOR TYPICAL VENT HOOD INSTALLATION REF. DETAILS 1/5.1 | 2/5.1 | 3/5.1 | 4/5.1
11. FOR TYPICAL PIPE PENETRATIONS REF. DETAILS 1/5.2 | 3/5.2
12. FOR TYPICAL OUTLETS AND LIGHT PENETRATIONS REF. DETAILS 2/5.2 | 4/5.2

KEYNOTES:

(1) NOT REFERENCED.
(2) NOT REFERENCED.
(3) NOT REFERENCED.
(4) NOT REFERENCED.
(5) NOT REFERENCED.
(6) NOT REFERENCED.
(7) EXIST. WINDOW. TEMP. REMOVE TO INSTALL NEW FLASHINGS AND RE-INSTALL AFTER FLASHINGS ARE INSTALLED. REF. DETAILS 1/5.3 | 2/5.3 | 3/5.3 | 1/5.4
(8) EXIST. WINDOW TO REMAIN IN PLACE. REMOVE AND REPLACE SEALANT JOINT AROUND PERIMETER OF WINDOW.

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

PACIFIC ENGINEERING TECHNOLOGIES, INC.
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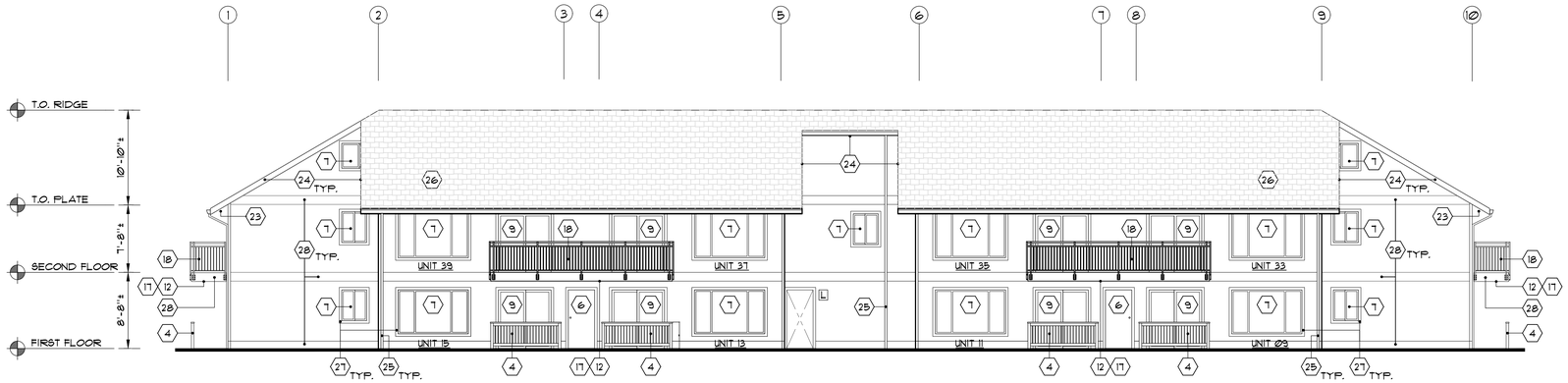
Contents: LOFT PLAN

Project: CARRIAGE HOUSE APTS. BUILDING 'C' SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

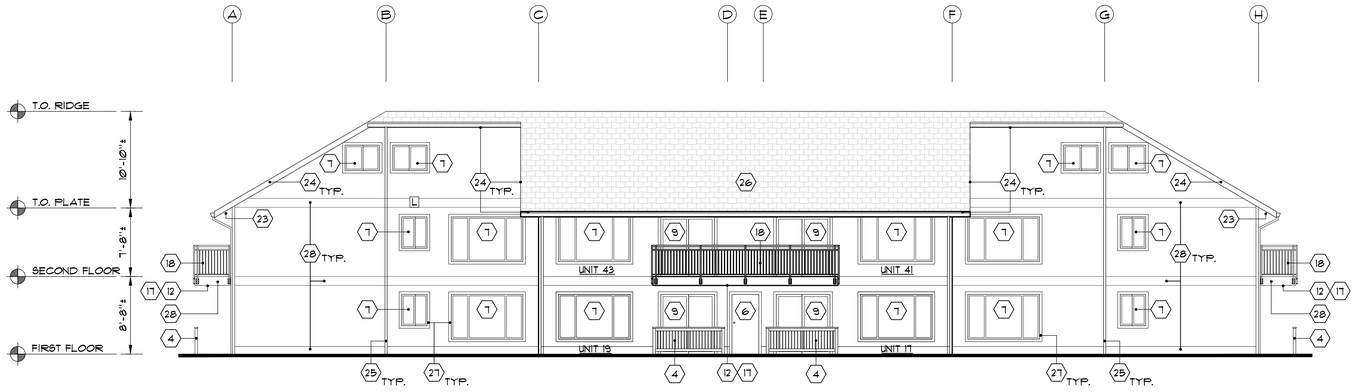
Sheet: 2.2

Job No. 23042.00



WEST ELEVATION

SCALE: 1/8" = 1'-0"



NORTH ELEVATION

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFERENCE FLOOR PLANS AND ELEVATIONS FOR ADDITIONAL INFORMATION.
2. REMOVE AND DISCARD ALL EXISTING SIDING, TRIM, WEATHER-RESISTIVE BARRIER, FLASHINGS, EXHAUST VENTS, CEILING LIGHTING, DECK GUARDRAILS, DOWNSPOUTS, GUTTERS, AS INDICATED ON THE FLOOR PLANS AND ELEVATIONS AROUND THE ENTIRE BUILDING.
3. TEMPORARILY REMOVE AND STORE THE FOLLOWING FOR RE-INSTALLATION AFTER THE NEW FLASHINGS HAVE BEEN INSTALLED AS INDICATED ON THE FLOOR PLANS AND ELEVATIONS.
   a. WINDOWS
   b. SLIDING GLASS DOORS
   c. SWING DOORS
   d. SIGNAGE
   e. WALL LIGHTING
4. REVIEW AND IDENTIFY DAMAGED ROOF BARGE AND FASCIA TRIM, REMOVE AND REPLACE IN-KIND.
5. AFTER THE SIDING, TRIM AND WEATHER-RESISTIVE BARRIER IS REMOVED, REVIEW THE EXISTING GYPSUM SHEATHING BOARD (GSB) FOR DAMAGE. REMOVE AND REPLACE IN-KIND.
6. WHERE THE SHEATHING IS REMOVED, REVIEW THE FRAMING AND INSULATION FOR DAMAGE, REMOVE AND REPLACE IN-KIND.
7. FOR TYPICAL SIDING INSTALLATION REF. DETAILS 1 5.0 | 2 5.0 | 3 5.0 | 4 5.0 | 6 5.0 | 7 5.0 | 10 5.0 | 11 5.0
8. FOR TYPICAL WINDOW INSTALLATION REF. DETAILS 1 5.3 | 2 5.3 | 3 5.3 | 1 5.4
9. FOR TYPICAL SLIDING GLASS DOORS INSTALLATION REF. DETAILS 4 5.3 | 5 5.3 | 6 5.3 | 7 5.3 | 1 5.6
10. FOR TYPICAL VENT HOOD INSTALLATION REF. DETAILS 1 5.1 | 2 5.1 | 3 5.1 | 4 5.1
11. FOR TYPICAL PIPE PENETRATIONS REF. DETAILS 1 5.2 | 3 5.2
12. FOR TYPICAL OUTLETS AND LIGHT PENETRATIONS REF. DETAILS 2 5.2 | 4 5.2

KEYNOTES:

1. NOT REFERENCED.
2. NOT REFERENCED.
3. NOT REFERENCED.
4. EXIST. UNIT PRIVACY FENCE TO REMAIN. CLEAN, PREPARE AND PAINT.
5. NOT REFERENCED.
6. EXIST. DOOR TO REMAIN IN PLACE. PREP AND PAINT. REF. DETAILS 5 5.5 | 6 5.5
7. EXIST. WINDOW. TEMP. REMOVE TO INSTALL NEW FLASHINGS AND RE-INSTALL AFTER FLASHINGS ARE INSTALLED. REF. DETAILS 1 5.3 | 2 5.3 | 3 5.3 | 1 5.4
8. NOT REFERENCED.
9. EXIST. SLIDING GLASS DOOR TEMP. REMOVE TO INSTALL NEW FLASHINGS AND RE-INSTALL AFTER FLASHINGS ARE INSTALLED. REF. DETAILS 4 5.3 | 5 5.3 | 6 5.3 | 7 5.3 | 1 5.6
10. NOT REFERENCED.
11. NOT REFERENCED.
12. REMOVE AND REPLACE CEILING LIGHTING FIXTURE, REF. SPECIFICATIONS.
13. NOT REFERENCED.
14. NOT REFERENCED.
15. NOT REFERENCED.
16. NOT REFERENCED.
17. EXIST. DECK SOFFIT. REMOVE SOFFIT TO REVIEW FRAMING FOR DECAYED FRAMING. REPAIR OR REPLACE DECAYED FRAMING AND INSTALL NEW GUARDRAIL BLOCKING. INSTALL NEW GYPSUM AND HARDIEPANEL SOFFIT.
18. EXIST. WOOD FRAMED GUARDRAIL. REMOVE GUARDRAIL AND INSTALL NEW PREFABRICATED FACE MOUNTED GUARDRAIL, REF. SHEET 6.0 AND DETAILS 1 5.7
19. NOT REFERENCED.
20. NOT REFERENCED
21. NOT REFERENCED.
22. NOT REFERENCED.
23. EXIST. ROOF SOFFIT. REMOVE EXIST. SOFFIT AND REVIEW CAVITY OF EVIDENCE OF WATER DAMAGE, NOTIFY PACIFIC ENGINEERING TECHNOLOGIES IF DAMAGE IS PRESENT. REPLACE SOFFIT WITH 5/8" GYPSUM SOFFIT SHEATHING, REF. DETAILS 5 5.7 | 6 5.7
24. EXIST. FASCIA AND BARGE BOARD. REVIEW FOR DAMAGE AND REMOVE AND REPLACE IN-KIND AS REQUIRED. REMOVE AND REPLACE EXIST. GUTTER WHERE FASCIA AND BARGE BOARD IS REQUIRED, REF. DETAIL 6 5.7
25. EXIST. DOWNSPOUT TO BE REMOVED AND REPLACED.
26. EXISTING ROOFING TO REMAIN.
27. 1x4 HARDIETRIM AROUND WINDOWS, SLIDING GLASS DOORS AND SWING DOORS, TYP.
28. 1x12 HARDIETRIM BELLY BANDS AND DECK FASCIA, TYP.

LEGEND

L EXIST. WALL LIGHT. TEMPORARILY REMOVE AND STORE FOR RE-USE AS REQ'D TO PERFORM WORK. RE-INSTALL AFTER SIDING IS INSTALLED

THE INFORMATION PRESENTED ON THESE DRAWINGS IS TO THE LEVEL OF DETAIL FOR CONSTRUCTION COST ESTIMATION ONLY, NOT FOR ACTUAL CONSTRUCTION

PRELIMINARY

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

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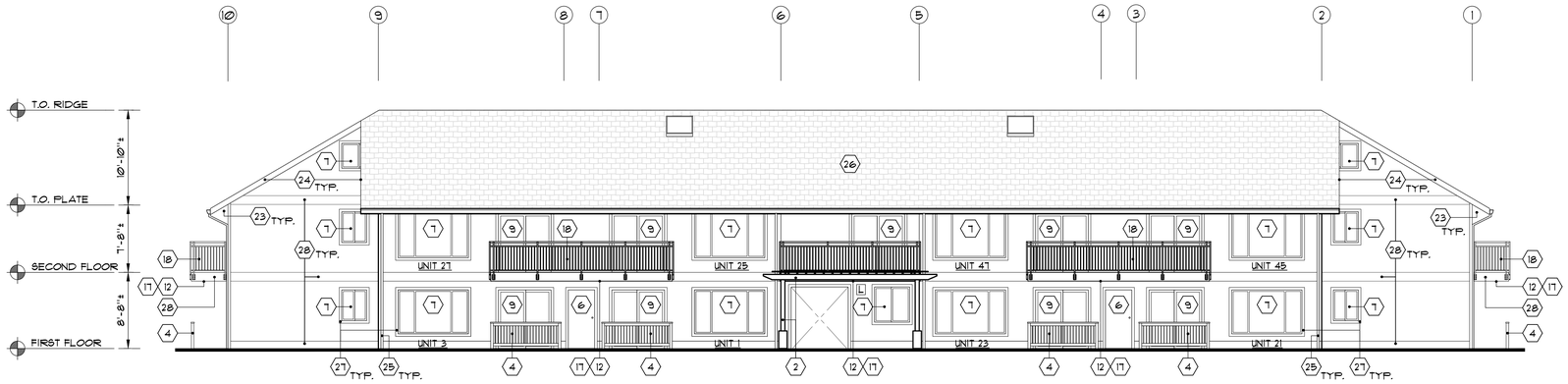
Contents: WEST AND NORTH ELEVATIONS

Project: CARRIAGE HOUSE APTS. BUILDING 'C' SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

Sheet 3.0

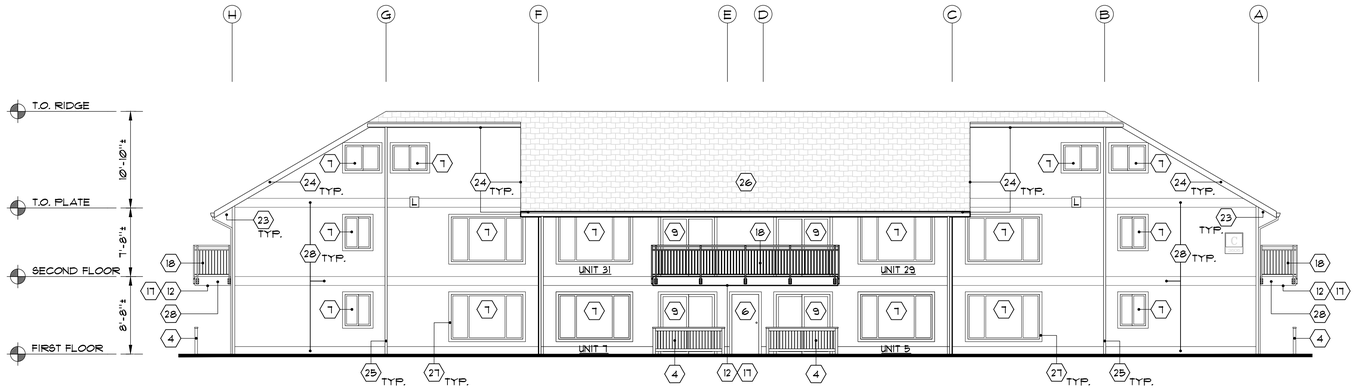
Job No. 23042.00

4/28/2023
23042 WD 01.dwg



EAST ELEVATION

SCALE: 1/8" = 1'-0"



SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFERENCE FLOOR PLANS AND ELEVATIONS FOR ADDITIONAL INFORMATION.
2. REMOVE AND DISCARD ALL EXISTING SIDING, TRIM, WEATHER-RESISTIVE BARRIER, FLASHINGS, EXHAUST VENTS, CEILING LIGHTING, DECK GUARDRAILS, DOWNSPOUTS, GUTTERS, AS INDICATED ON THE FLOOR PLANS AND ELEVATIONS AROUND THE ENTIRE BUILDING.
3. TEMPORARILY REMOVE AND STORE THE FOLLOWING FOR RE-INSTALLATION AFTER THE NEW FLASHINGS HAVE BEEN INSTALLED AS INDICATED ON THE FLOOR PLANS AND ELEVATIONS.
   a. WINDOWS
   b. SLIDING GLASS DOORS
   c. SWING DOORS
   d. SIGNAGE
   e. WALL LIGHTING
4. REVIEW AND IDENTIFY DAMAGED ROOF BARGE AND FASCIA TRIM, REMOVE AND REPLACE IN-KIND.
5. AFTER THE SIDING, TRIM AND WEATHER-RESISTIVE BARRIER IS REMOVED, REVIEW THE EXISTING GYPSUM SHEATHING BOARD (GSB) FOR DAMAGE. REMOVE AND REPLACE IN-KIND.
6. WHERE THE SHEATHING IS REMOVED, REVIEW THE FRAMING AND INSULATION FOR DAMAGE, REMOVE AND REPLACE IN-KIND.
7. FOR TYPICAL SIDING INSTALLATION REF. DETAILS 1 5.0 | 2 5.0 | 3 5.0 | 4 5.0 | 6 5.0 | 7 5.0 | 10 5.0 | 11 5.0
8. FOR TYPICAL WINDOW INSTALLATION REF. DETAILS 1 5.3 | 2 5.3 | 3 5.3 | 1 5.4
9. FOR TYPICAL SLIDING GLASS DOORS INSTALLATION REF. DETAILS 4 5.3 | 5 5.3 | 6 5.3 | 7 5.3 | 1 5.6
10. FOR TYPICAL VENT HOOD INSTALLATION REF. DETAILS 1 5.1 | 2 5.1 | 3 5.1 | 4 5.1
11. FOR TYPICAL PIPE PENETRATIONS REF. DETAILS 1 5.2 | 3 5.2
12. FOR TYPICAL OUTLETS AND LIGHT PENETRATIONS REF. DETAILS 2 5.2 | 4 5.2

KEYNOTES:

1. NOT REFERENCED.
2. EXIST. TRELLIS TO REMAIN. CLEAN, PREPARE AND STAIN AND/OR PAINT.
3. NOT REFERENCED.
4. EXIST. UNIT PRIVACY FENCE TO REMAIN. CLEAN, PREPARE AND PAINT.
5. NOT REFERENCED.
6. EXIST. DOOR TO REMAIN IN PLACE. PREP AND PAINT. REF. DETAILS 5 5.5 | 6 5.5
7. EXIST. WINDOW. TEMP. REMOVE TO INSTALL NEW FLASHINGS AND RE-INSTALL AFTER FLASHINGS ARE INSTALLED. REF. DETAILS 1 5.3 | 2 5.3 | 3 5.3 | 1 5.4
8. NOT REFERENCED.
9. EXIST. SLIDING GLASS DOOR. TEMP. REMOVE TO INSTALL NEW FLASHINGS AND RE-INSTALL AFTER FLASHINGS ARE INSTALLED. REF. DETAILS 4 5.3 | 5 5.3 | 6 5.3 | 7 5.3 | 1 5.6
10. NOT REFERENCED.
11. NOT REFERENCED.
12. REMOVE AND REPLACE CEILING LIGHTING FIXTURE, REF. SPECIFICATIONS.
13. NOT REFERENCED.
14. NOT REFERENCED.
15. NOT REFERENCED.
16. NOT REFERENCED.
17. EXIST. DECK SOFFIT. REMOVE SOFFIT TO REVIEW FRAMING FOR DECAYED FRAMING. REPAIR OR REPLACE DECAYED FRAMING AND INSTALL NEW GUARDRAIL BLOCKING. INSTALL NEW GYPSUM AND HARDIEPANEL SOFFIT.
18. EXIST. WOOD FRAMED GUARDRAIL. REMOVE GUARDRAIL AND INSTALL NEW PREFABRICATED FACE MOUNTED GUARDRAIL, REF. SHEET 6.0 AND DETAIL 1 5.7
19. NOT REFERENCED.
20. NOT REFERENCED.
21. NOT REFERENCED.
22. NOT REFERENCED.
23. EXIST. ROOF SOFFIT. REMOVE EXIST. SOFFIT AND REVIEW CAVITY OF EVIDENCE OF WATER DAMAGE, NOTIFY PACIFIC ENGINEERING TECHNOLOGIES IF DAMAGE IS PRESENT. REPLACE SOFFIT WITH 5/8" GYPSUM SOFFIT SHEATHING, REF. DETAILS 5 5.7 | 6 5.7
24. EXIST. FASCIA AND BARGE BOARD. REVIEW FOR DAMAGE AND REMOVE AND REPLACE IN-KIND AS REQUIRED. REMOVE AND REPLACE EXIST. GUTTER WHERE FASCIA AND BARGE BOARD IS REQUIRED. REF. DETAIL 6 5.7
25. EXIST. DOWNSPOUT TO BE REMOVED AND REPLACED.
26. EXISTING ROOFING TO REMAIN.
27. 1x4 HARDIETRIM AROUND WINDOWS, SLIDING GLASS DOORS AND SWING DOORS, TYP.
28. 1x12 HARDIETRIM BELLY BANDS AND DECK FASCIA, TYP.

LEGEND

L EXIST. LIGHT. TEMPORARILY REMOVE AND STORE FOR RE-USE AS REQ'D TO PERFORM WORK. RE-INSTALL AFTER SIDING IS INSTALLED

THE INFORMATION PRESENTED ON THESE DRAWINGS IS TO THE LEVEL OF DETAIL FOR CONSTRUCTION COST ESTIMATION ONLY, NOT FOR ACTUAL CONSTRUCTION

PRELIMINARY

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
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Approved

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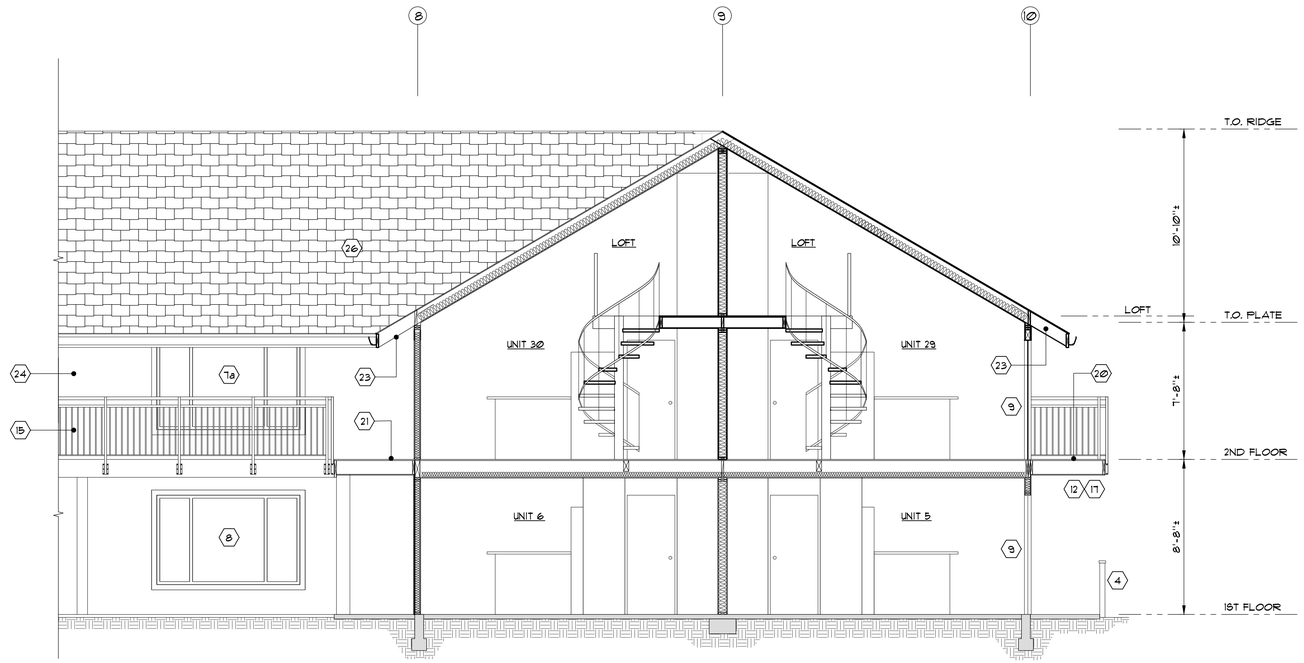
Contents: EAST AND SOUTH ELEVATIONS

Project: CARRIAGE HOUSE APTS. BUILDING 'C' SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

Sheet: 3.1

Job No. 23042.00

4/28/2023
23042 WD 01.dwg



BUILDING CROSS SECTION 1
SCALE: 1/4" = 1'-0"

KEYNOTES:

1. NOT REFERENCED.
2. NOT REFERENCED.
3. NOT REFERENCED.
4. EXIST. UNIT PRIVACY FENCE TO REMAIN. CLEAN, PREPARE AND PAINT.
5. NOT REFERENCED.
6. NOT REFERENCED.
7a. EXIST. WINDOW. REMOVE AND REPLACE WINDOW. REF. DETAILS 1/5.3 | 2/5.3 | 3/5.3 | 1/5.4
8. EXIST. WINDOW TO REMAIN IN PLACE. REMOVE AND REPLACE SEALANT JOINT AROUND PERIMETER OF WINDOW.
9. EXIST. SLIDING GLASS DOOR. TEMP. REMOVE TO INSTALL NEW FLASHINGS AND RE-INSTALL AFTER FLASHINGS ARE INSTALLED. REF. DETAILS 4/5.3 | 5/5.3 | 6/5.3 | 7/5.3 | 1/5.6
10. NOT REFERENCED.
11. NOT REFERENCED.
12. REMOVE AND REPLACE CEILING LIGHTING FIXTURE, REF. SPECIFICATIONS.
13. NOT REFERENCED.
14. NOT REFERENCED.
15. GUARDRAIL TO REMAIN IN PLACE. CLEAN AFTER WORK IS COMPLETE.
16. NOT REFERENCED.
17. EXIST. DECK SOFFIT. REMOVE SOFFIT TO REVIEW FRAMING FOR DECAYED FRAMING. REPAIR OR REPLACE DECAYED FRAMING AND INSTALL NEW GUARDRAIL BLOCKING. INSTALL NEW GYPSUM AND HARDIEPANEL SOFFIT.
18. EXIST. WOOD FRAMED GUARDRAIL. REMOVE GUARDRAIL AND INSTALL NEW PREFABRICATED FACE MOUNTED GUARDRAIL, REF. SHEET 6.0 AND DETAILS
19. NOT REFERENCED.
20. EXIST. DECK. CLEAN AND PREPARE SURFACE. INSTALL NEW WATERPROOF MEMBRANE. REF. DETAILS 7/5.3 | 1/5.7 | 3/5.7 | 1/5.8
21. NOT REFERENCED.
22. NOT REFERENCED.
23. EXIST. ROOF SOFFIT. REMOVE EXIST. SOFFIT AND REVIEW CAVITY OF EVIDENCE OF WATER DAMAGE, NOTIFY PACIFIC ENGINEERING TECHNOLOGIES IF DAMAGE IS PRESENT. REPLACE SOFFIT WITH 5/8" GYPSUM SOFFIT SHEATHING, REF. DETAIL 12/5.7
24. EXIST. CEILING SOFFIT. REPAIR OR REPLACE EXIST. GYPSUM CEILING. TAPE, MUD, SAND ALL JOINTS TO PROVIDE SMOOTH SURFACE. PREPARE AND PAINT.
25. NOT REFERENCED.
26. EXISTING ROOFING TO REMAIN.

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

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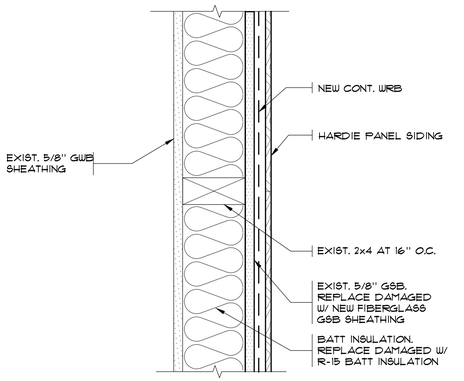
Contents: BUILDING CROSS SECTION

Project: CARRIAGE HOUSE APTS. BUILDING 'C' SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

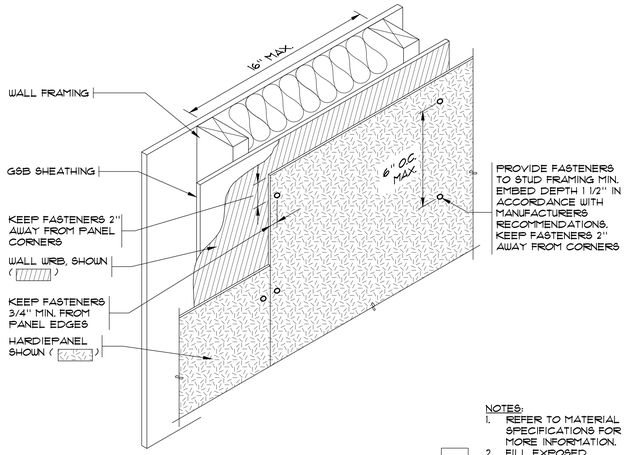
Sheet: 4.0

Job No. 23042.00

4/28/2023
23042 WD 01.dwg

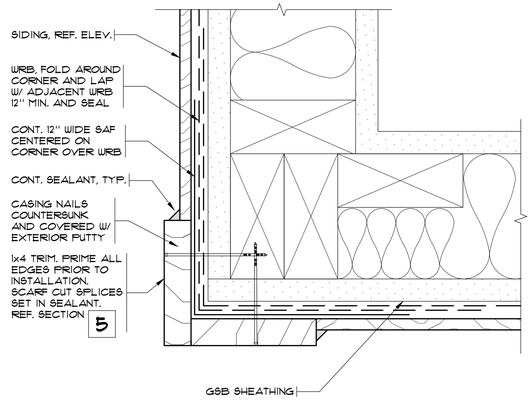


TYPICAL WALL ASSEMBLY 1
SCALE: 3" = 1'-0" (PLAN VIEW)

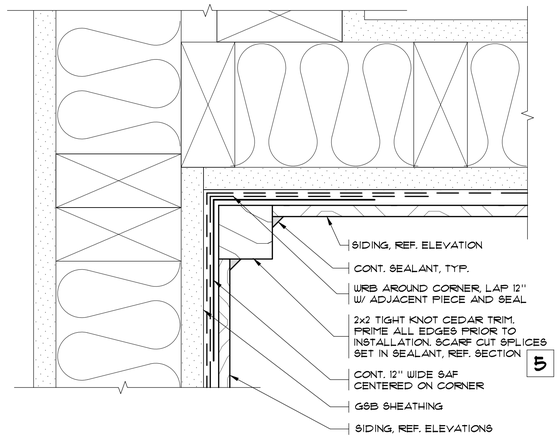


TYPICAL PANEL SIDING ASSEMBLY 2
SCALE: N.T.S.

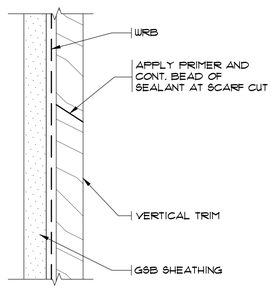
NOTES:
1. REFER TO MATERIAL SPECIFICATIONS FOR MORE INFORMATION.
2. FILL EXPOSED FASTENER PENETRATIONS TO PROVIDE SMOOTH SURFACE



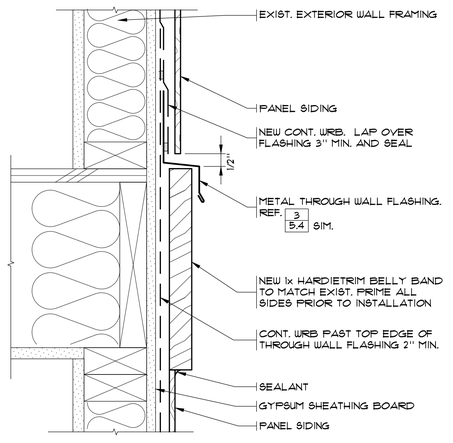
TYPICAL OUTSIDE CORNER 3
SCALE: 6" = 1'-0"



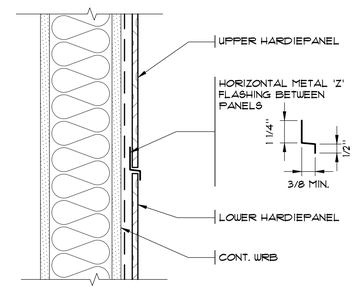
TYP. INSIDE CORNER 4
SCALE: 6" = 1'-0"



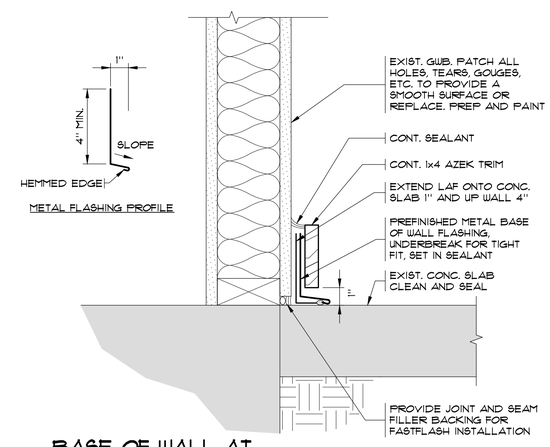
WOOD TRIM SCARF CUT 5
SCALE: 6" = 1'-0"



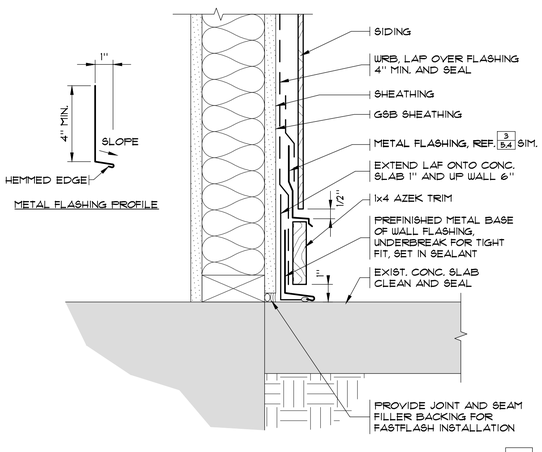
TYPICAL BELLYBAND 6
SCALE: 3" = 1'-0"



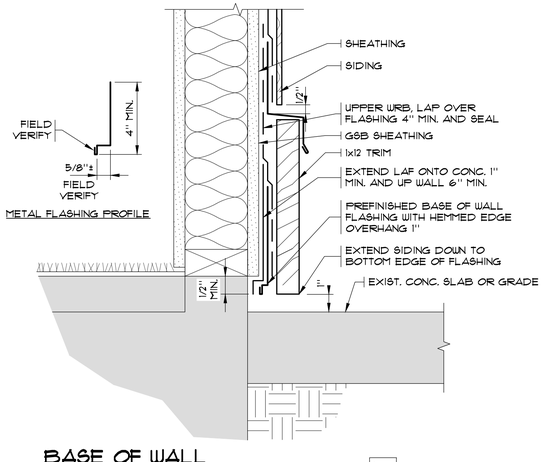
TYP. HORIZONTAL HARDIEPANEL JOINT 7
SCALE: 3" = 1'-0"



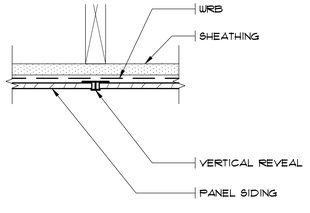
BASE OF WALL AT FIRST FLOOR UNIT ENTRY CONC. SLAB 8
SCALE: 3" = 1'-0"



BASE OF WALL AT COURTYARD CONC. SLAB 9
SCALE: 3" = 1'-0"



BASE OF WALL AT CONC. PATIO OR GRADE 10
SCALE: 3" = 1'-0"



VERTICAL PANEL REVEAL 11
SCALE: 3" = 1'-0"

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PRELIMINARY

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Designed: N. FRITZ
Drawn: V.H.N.
Checked: N.L.F.
Date: 28 APRIL, 2023
Approved:

PACIFIC ENGINEERING TECHNOLOGIES, INC.
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(F) (206) 281-4611

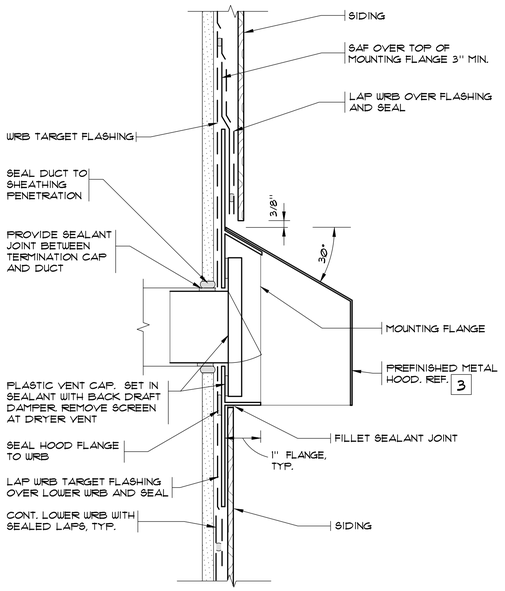
Contents: DETAILS

Project: CARRIAGE HOUSE APTS. BUILDING 'C' SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

Sheet: 5.0

Job No. 23042.00

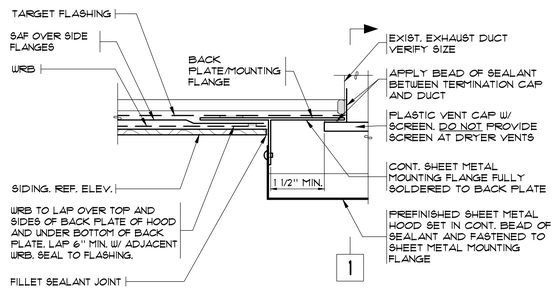
4/28/2023
23042 WD 01.dwg



VENT HOOD - SECTION 1

SCALE: 3" = 1'-0"

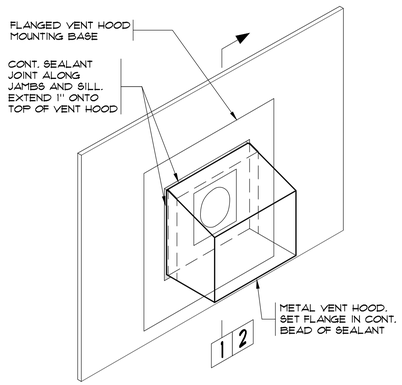
NOTE: FOR ADDITIONAL INFORMATION REF. 2 3 4



VENT HOOD - PLAN VIEW 2

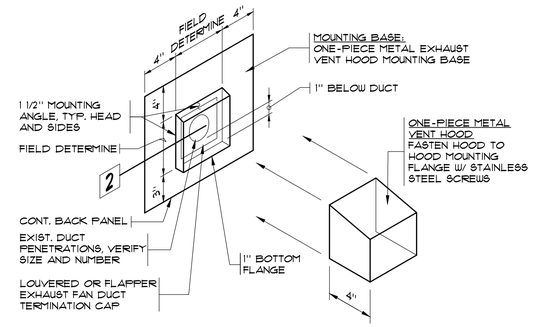
SCALE: 3" = 1'-0"

NOTE: FOR ADDITIONAL INFORMATION REF. 1 3 4

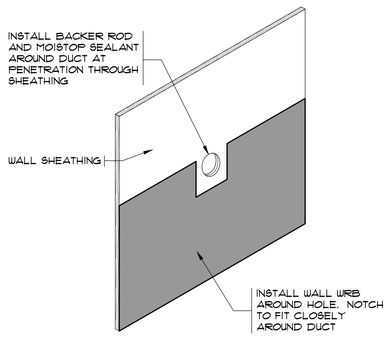


VENT HOOD - ISOMETRIC 3

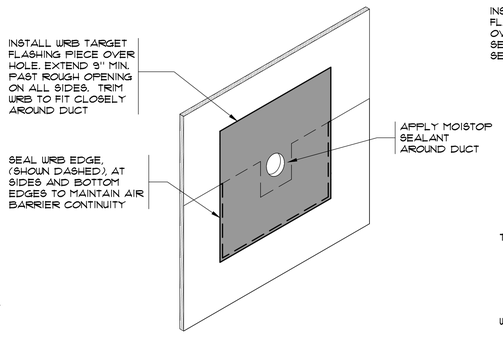
SCALE: N.T.S.



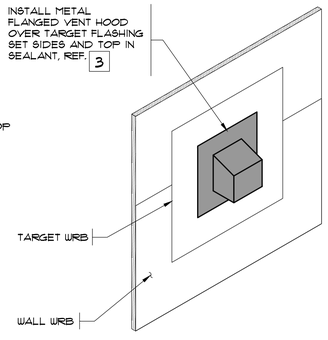
NOTES:
1. EXTEND VENT HOOD AS REQUIRED FOR MULTIPLE EXHAUST VENTS. PROVIDE VERT. METAL SUPPORT BETWEEN EA. VENT (NOT SHOWN)
2. FOR ADDITIONAL INFORMATION REF. 1 2 4
3. AT INSIDE CORNER, MODIFY JAMB FLANGES TO EXTEND ONTO ADJACENT WALL SURFACE 4" MIN.
4. SOLDER ALL SEAMS



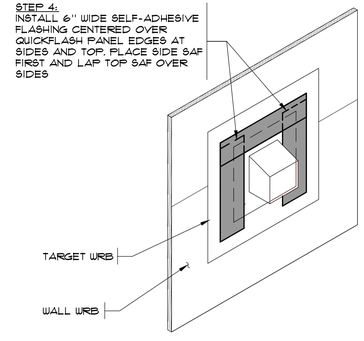
STEP #1



STEP #2



STEP #3



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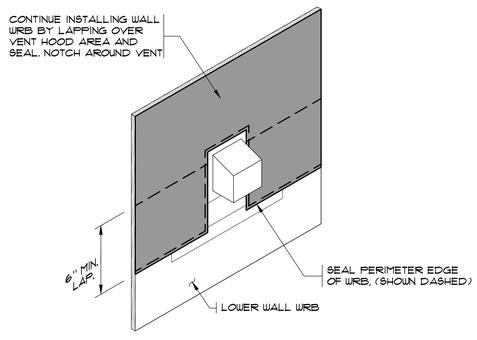

STEP #5

METAL VENT HOOD 4

N.T.S.

METAL VENT HOOD NOTES:
1. MATERIAL TO BE 24 GA. GALV. PAINTED STEEL
2. ALL SEAMS TO BE FULLY SOLDERED
3. TOP OF HOOD TO BE ANGLED 15° MINIMUM
4. FLANGES TO BE 4" MINIMUM ON ALL SIDES
5. EXTEND VENT HOOD AS NECESSARY FOR MULTIPLE VENTS
6. CONTRACTOR TO SUPPLY MOCK-UP FOR APPROVAL
7. SEAL ALL GAPS BETWEEN ROUGH OPENING AND WRB LINER WITH SPRAY FOAM OR BACKER ROD AND SEALANT
8. FOR ADDITIONAL INFORMATION, REF. 1 2 3

4/28/2023
23042 WD 01.dwg

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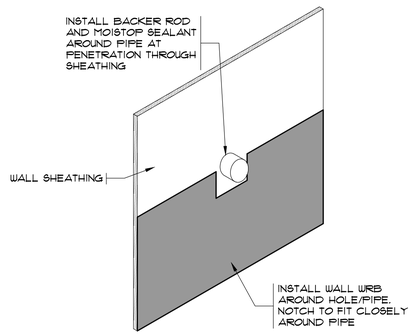
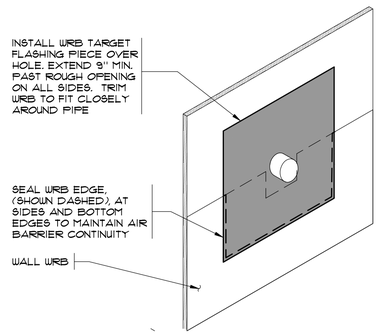
BUILDING 'C'
SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

Sheet: S1.1

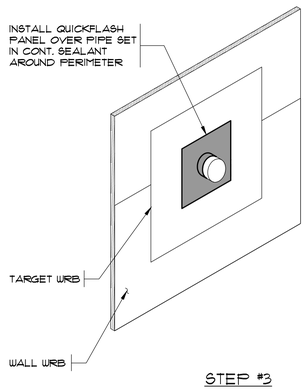
Job No. 23042.00



STEP #1



STEP #2



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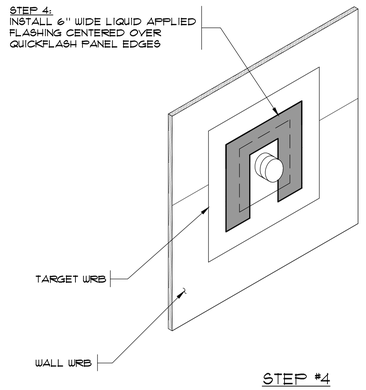
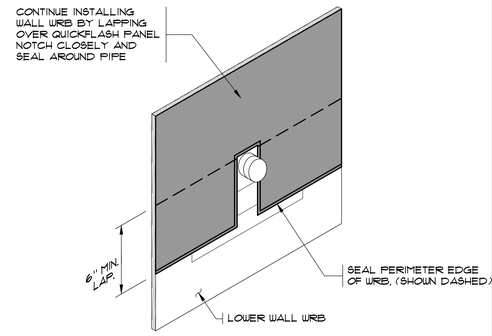


STEP #4

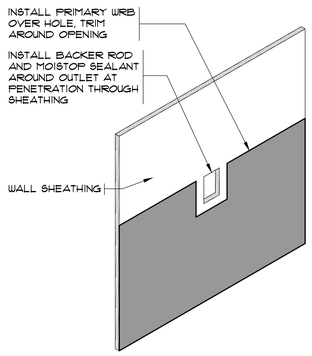


STEP #5

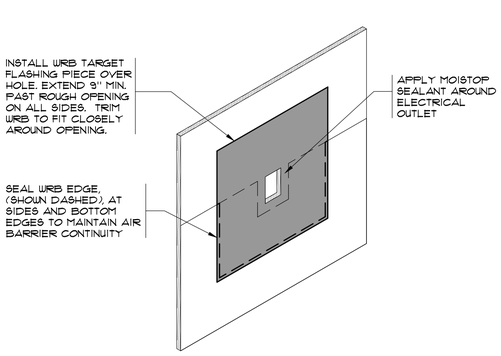
NOTE:
FOR ADDITIONAL INFORMATION REF. 3

PIPE PENETRATION 1

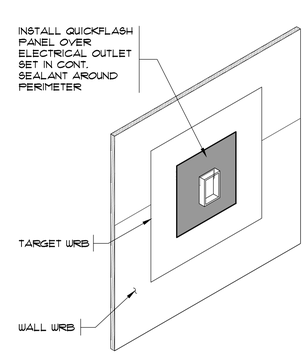
N.T.S.



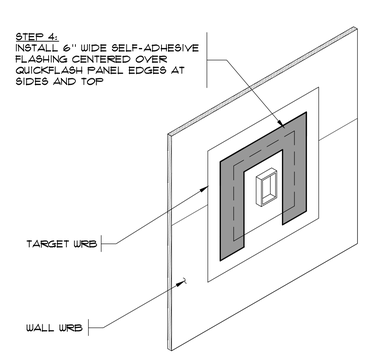
STEP #1



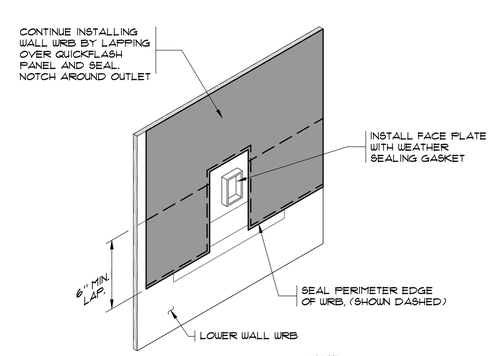
STEP #2



STEP #3



STEP #4

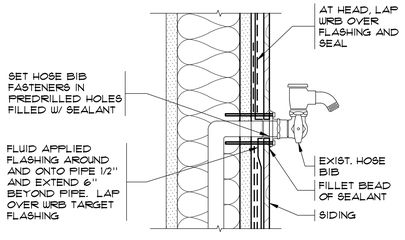


STEP #5

NOTE:
FOR ADDITIONAL INFORMATION, REF. 4

ELECTRICAL WALL OUTLET/ FIXTURE 2

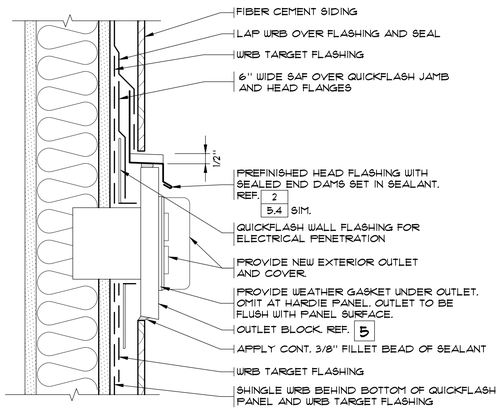
N.T.S.



HOSE BIB 3

SCALE: 3" = 1'-0"

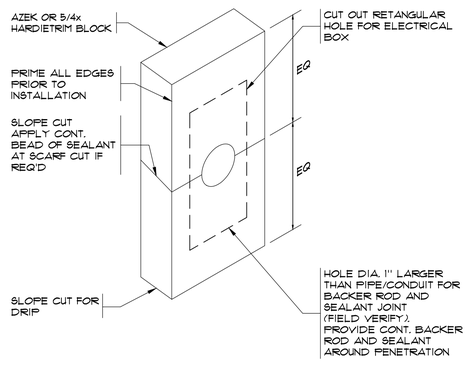
NOTE:
FOR ADDITIONAL INFORMATION REF. 1



EXTERIOR OUTLET/ FIXTURE 4

SCALE: 3" = 1'-0"

NOTE:
FOR ADDITIONAL INFORMATION REF. 2



HARDIETRIM SPLIT BLOCK 5

SCALE: N.T.S.

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Contents DETAILS

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BUILDING 'C'
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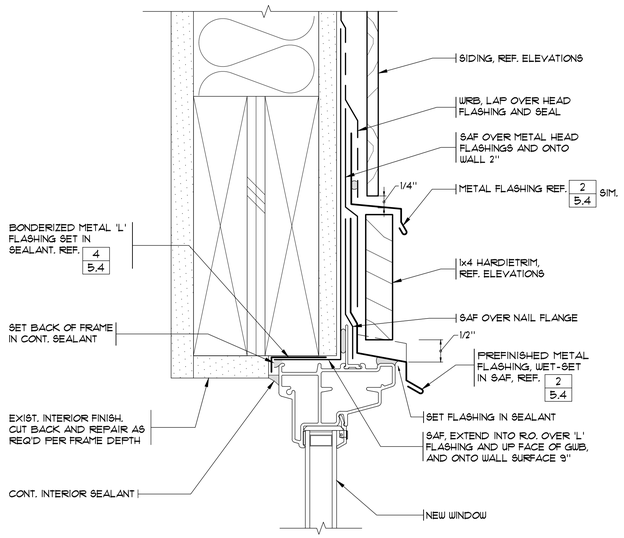
3606 S. 180TH ST. SEATAC, WA

Sheet 5.2

Job No. 23042.00

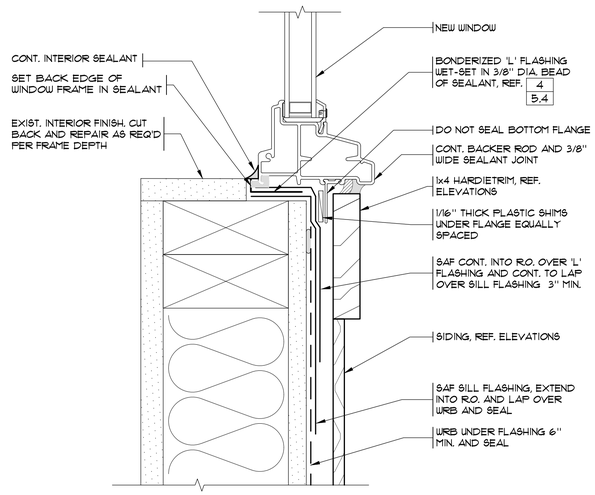
4/28/2023
23042 WD 01.dwg



WINDOW HEAD 1

SCALE: 6" = 1'-0"

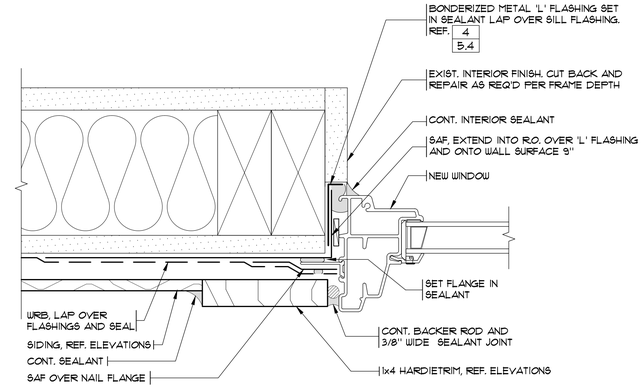
NOTE:
FOR ADDITIONAL INFORMATION, REF. 1 5.4



WINDOW SILL 2

SCALE: 6" = 1'-0"

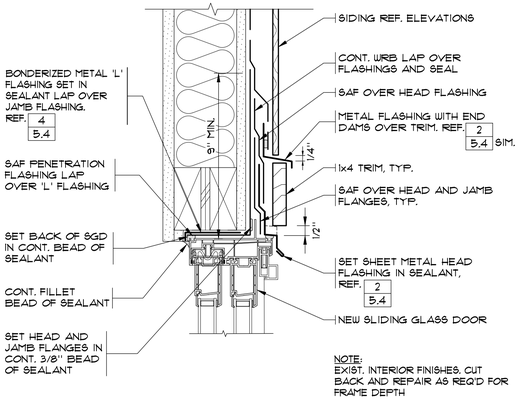
NOTE:
FOR ADDITIONAL INFORMATION, REF. 1 5.4



WINDOW JAMB 3

SCALE: 6" = 1'-0" (PLAN VIEW)

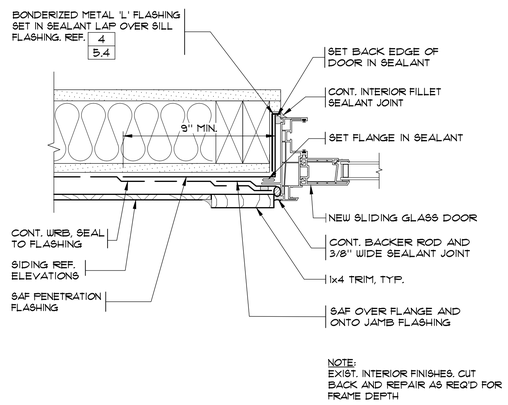
NOTE:
FOR ADDITIONAL INFORMATION, REF. SECTION 1 5.4



NOTE:
EXIST. INTERIOR FINISHES, CUT BACK AND REPAIR AS REQ'D FOR FRAME DEPTH

SLIDING GLASS DOOR 4

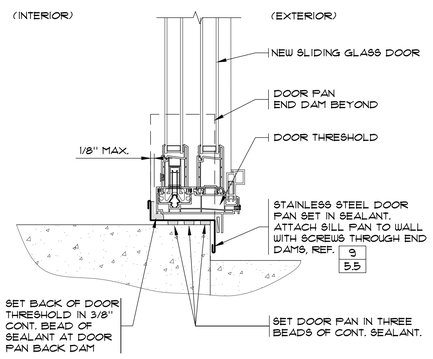
SCALE: 3" = 1'-0"



NOTE:
EXIST. INTERIOR FINISHES, CUT BACK AND REPAIR AS REQ'D FOR FRAME DEPTH

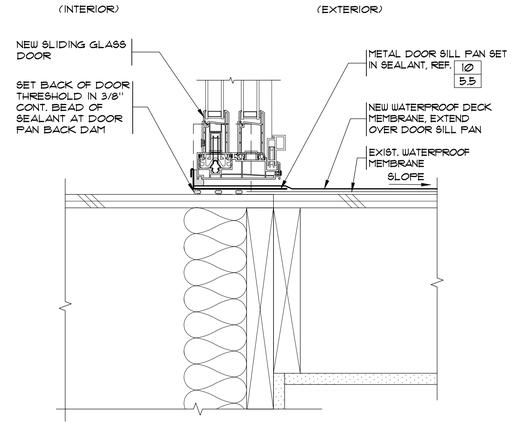
SLIDING GLASS DOOR JAMB 5

SCALE: 3" = 1'-0" (PLAN VIEW)



SLIDING GLASS DOOR AT CONCRETE 6

SCALE: 3" = 1'-0"



SLIDING GLASS DOOR SILL AT DECK 7

SCALE: 3" = 1'-0"

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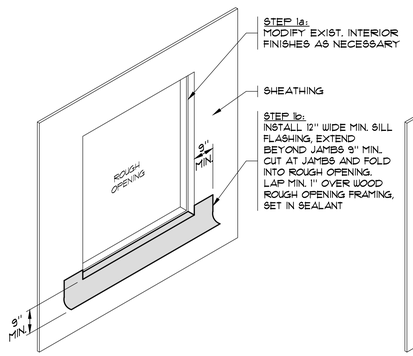
Project
CARRIAGE HOUSE APTS.
BUILDING 'C'
SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

Contents DETAILS

Sheet 5.3

Job No. 23042.00

4/28/2023
23042 WD 01.dwg

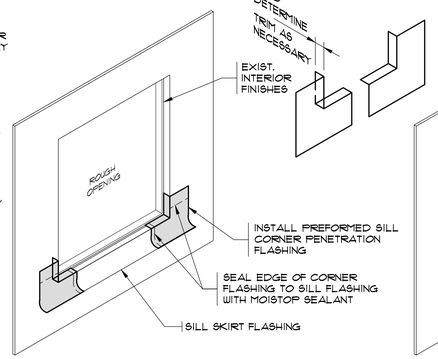


STEP 1a:
MODIFY EXIST. INTERIOR FINISHES AS NECESSARY

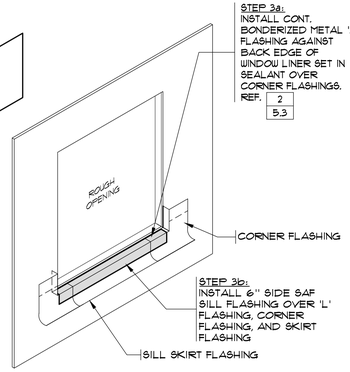
SHEATHING

STEP 1b:
INSTALL 12" WIDE MIN. SILL FLASHING, EXTEND BEYOND JAMBS 9" MIN. CUT AT JAMBS AND FOLD INTO ROUGH OPENING. LAP MIN. 1" OVER WOOD ROUGH OPENING FRAMING, SET IN SEALANT

STEP #1



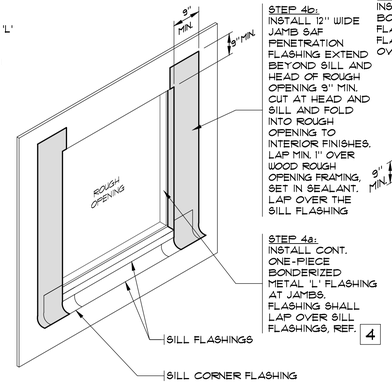
STEP #2



STEP 3a:
INSTALL CONT. BONDERIZED METAL 'L' FLASHING AGAINST BACK EDGE OF WINDOW LINER SET IN SEALANT OVER CORNER FLASHINGS. REF. 2 5.3

STEP 3b:
INSTALL 6" SIDE SAF SILL FLASHING OVER 'L' FLASHING, CORNER FLASHING, AND SKIRT FLASHING

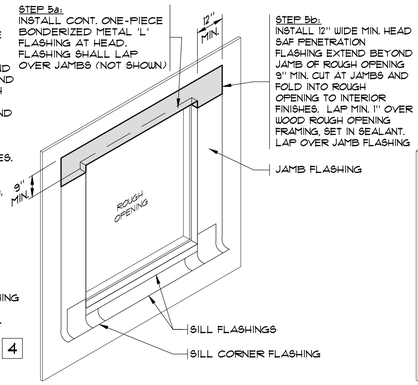
STEP #3



STEP 4b:
INSTALL 12" WIDE JAMB SAF PENETRATION FLASHING EXTEND BEYOND SILL AND HEAD OF ROUGH OPENING 9" MIN. CUT AT HEAD AND SILL AND FOLD INTO ROUGH OPENING TO INTERIOR FINISHES. LAP MIN. 1" OVER WOOD ROUGH OPENING FRAMING, SET IN SEALANT. LAP OVER THE SILL FLASHING

STEP 4a:
INSTALL CONT. ONE-PIECE BONDERIZED METAL 'L' FLASHING AT JAMBS. FLASHING SHALL LAP OVER SILL FLASHINGS, REF. 4

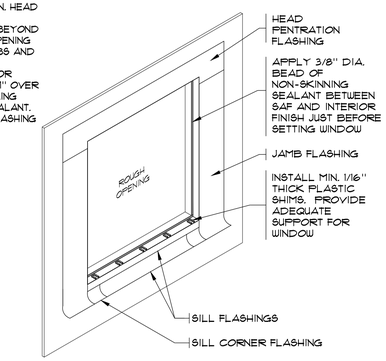
STEP #4



STEP 5a:
INSTALL CONT. ONE-PIECE BONDERIZED METAL 'L' FLASHING AT HEAD. FLASHING SHALL LAP OVER JAMBS (NOT SHOWN)

STEP 5b:
INSTALL 12" WIDE MIN. HEAD SAF PENETRATION FLASHING EXTEND BEYOND JAMB OF ROUGH OPENING 9" MIN. CUT AT JAMBS AND FOLD INTO ROUGH OPENING TO INTERIOR FINISHES. LAP MIN. 1" OVER WOOD ROUGH OPENING FRAMING, SET IN SEALANT. LAP OVER JAMB FLASHING

STEP #5



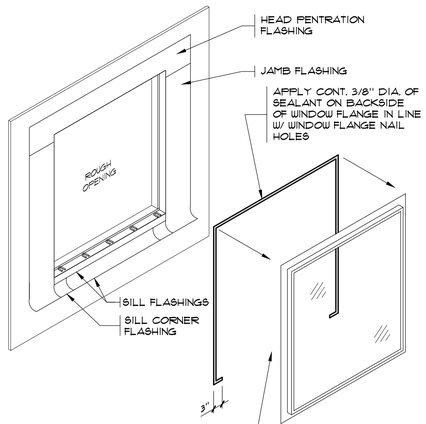
HEAD PENTRATION FLASHING

APPLY 3/8" DIA. BEAD OF NON-SKINNING SEALANT BETWEEN SAF AND INTERIOR FINISH JUST BEFORE SETTING WINDOW

JAMB FLASHING

INSTALL MIN. 1/16" THICK PLASTIC SHIMS. PROVIDE ADEQUATE SUPPORT FOR WINDOW

STEP #6

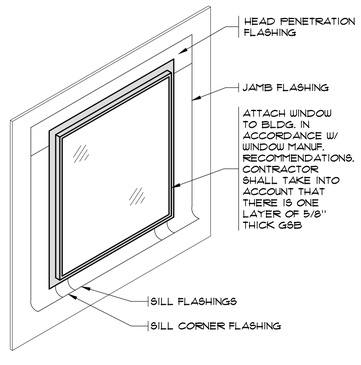


HEAD PENTRATION FLASHING

JAMB FLASHING

APPLY CONT. 3/8" DIA. OF SEALANT ON BACKSIDE OF WINDOW FLANGE IN LINE W/ WINDOW FLANGE NAIL HOLES

STEP #7

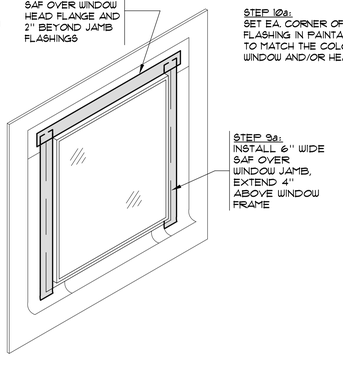


HEAD PENETRATION FLASHING

JAMB FLASHING

ATTACH WINDOW TO BLDG. IN ACCORDANCE W/ WINDOW MANUF. RECOMMENDATIONS. CONTRACTOR SHALL TAKE INTO ACCOUNT THAT THERE IS ONE LAYER OF 5/8" THICK GSB

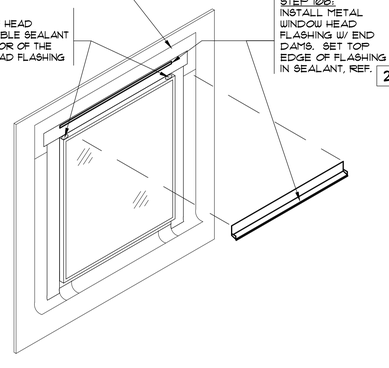
STEP #8



STEP 9b:
INSTALL 6" WIDE SAF OVER WINDOW HEAD FLANGE AND 2" BEYOND JAMB FLASHINGS

STEP 9a:
INSTALL 6" WIDE SAF OVER WINDOW JAMB, EXTEND 4" ABOVE WINDOW FRAME

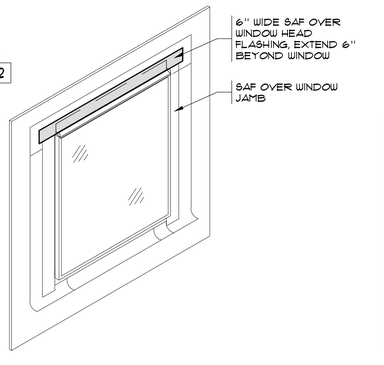
STEP #9



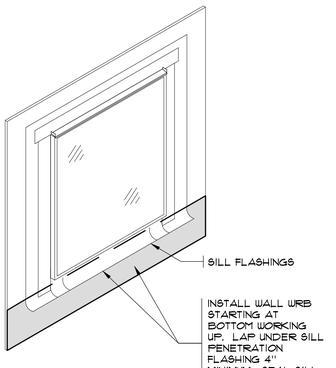
STEP 10a:
SET EA. CORNER OF HEAD FLASHING IN PAINTABLE SEALANT TO MATCH THE COLOR OF THE WINDOW AND/OR HEAD FLASHING

STEP 10b:
INSTALL METAL WINDOW HEAD FLASHING W/ END DAMS. SET TOP EDGE OF FLASHING IN SEALANT, REF. 2

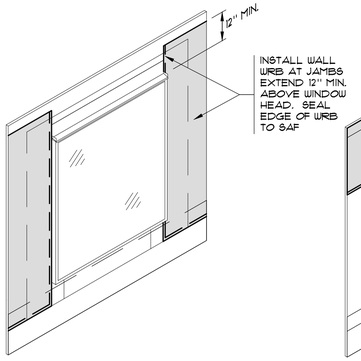
STEP #10



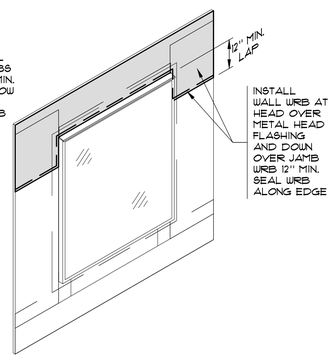
STEP #11



STEP #12



STEP #13



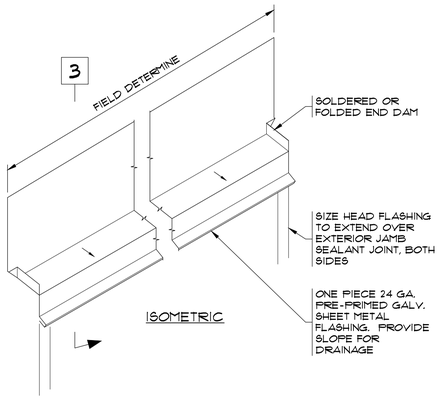
STEP #14

TYPICAL NEW WINDOW FLASHING INSTALLATION 1

NO SCALE

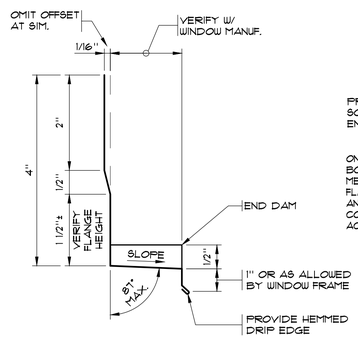
GENERAL NOTES:

1. CLEAN WINDOW FRAME, NAIL FLANGES AND FLASHINGS SUFFICIENTLY TO BOND SEALANTS.
2. PRIOR TO INSTALLATION OF WINDOW FLASHING VERIFY EXIST. ROUGH WINDOW OPENING IS SQUARE AND THE APPROPRIATE SIZE PER WINDOW MANUFACTURER'S RECOMMENDATIONS. CORRECT AS NECESSARY.
3. INSTALL FLASHINGS, SEALANT AND ATTACH WINDOW IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
4. REFERENCE ADDITIONAL DETAILS AND MATERIAL SPECIFICATIONS IN THESE DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN.
5. THE CONTRACTOR SHALL PROVIDE A MOCK-UP OF THE WINDOW DETAILS ON THIS SHEET FOR REVIEW BY PACIFIC ENGINEERING TECHNOLOGIES, INC. PRIOR TO PROCEEDING WITH THE INSTALLATION OF WINDOWS. THE MOCK-UP MAY REMAIN AS COMPLETED WORK AFTER IT HAS BEEN REVIEWED AND APPROVED.



TYPICAL HEAD FLASHING 2

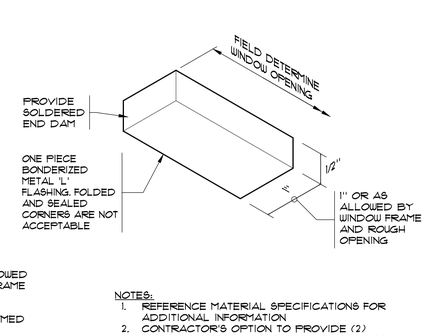
SCALE: NTS



NOTES:
1. REFERENCE MATERIAL SPECIFICATIONS FOR ADDITIONAL METAL FLASHING INFORMATION
2. OMIT OFFSET AT SIM. SECTION

HEAD FLASHING PROFILE 3

SCALE: NTS



NOTES:
1. REFERENCE MATERIAL SPECIFICATIONS FOR ADDITIONAL INFORMATION
2. CONTRACTOR'S OPTION TO PROVIDE (2) PIECE 'L' FLASHING WITH 9" MIN. SPLICE LAP AT MIDDLE OF ROUGH OPENING, SET SPLICE IN SEALANT
3. WET-SET IN FASTFLASH

'L' FLASHING 4

N.T.S.

THE INFORMATION PRESENTED ON THESE DRAWINGS IS TO THE LEVEL OF DETAIL FOR CONSTRUCTION COST ESTIMATION ONLY, NOT FOR ACTUAL CONSTRUCTION

PRELIMINARY

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

PACIFIC ENGINEERING TECHNOLOGIES, INC.
2150 North 107th Street, Suite 320
Seattle, Washington 98133-9009
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Contents DETAILS

Project CARRIAGE HOUSE APTS.
BUILDING 'C'
SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

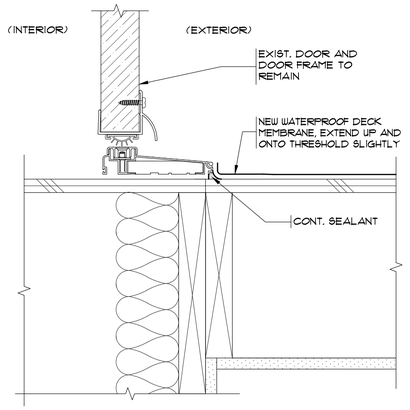
Sheet 5.4

Job No. 23042.00

4/28/2023
23042 WD 01.dwg

NOT USED

NOT USED



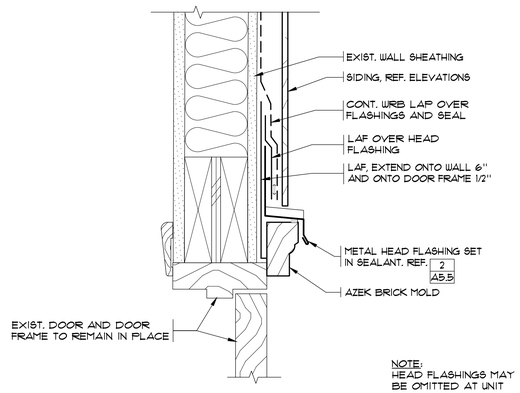
NOT USED

SECTION 1
SCALE: 3" = 1'-0"

SECTION 2
SCALE: 3" = 1'-0"

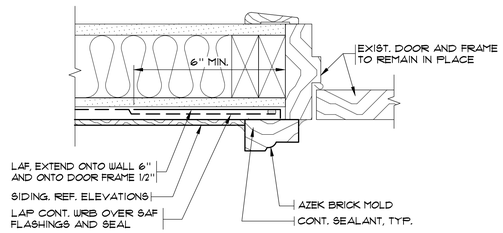
DOOR AT ENTRY WALKWAY 3
SCALE: 3" = 1'-0"

SECTION 4
SCALE: 3" = 1'-0"



NOTE:
HEAD FLASHINGS MAY BE OMITTED AT UNIT ENTRY, STORAGE ROOM, LAUNDRY AND MAINTENANCE, ROOM DOORS WHERE THEY ARE NOT EXPOSED TO THE WEATHER

EXISTING DOOR HEAD TO REMAIN IN PLACE 5
SCALE: 3" = 1'-0"



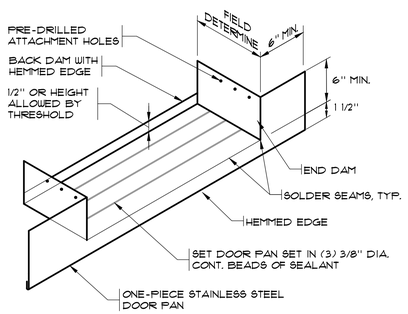
EXISTING DOOR JAMB TO REMAIN IN PLACE 6
SCALE: 3" = 1'-0"

NOT USED

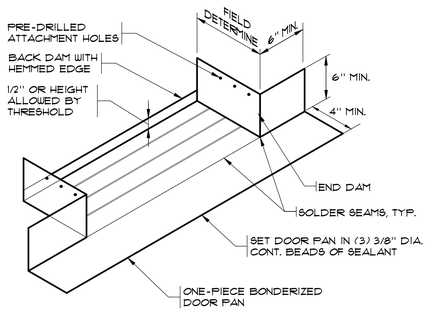
NOT USED

SECTION 7
SCALE: 3" = 1'-0"

SECTION 8
SCALE: 3" = 1'-0"



DOOR SILL PAN FLASHING 9
SCALE: N.T.S.



DOOR SILL PAN FLASHING 10
SCALE: N.T.S.

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
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Approved

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Seattle, Washington 98133-9009
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Contents: DETAILS

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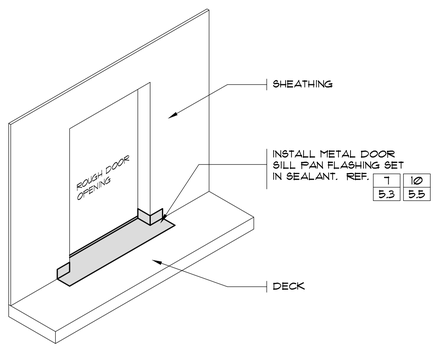
3606 S. 180TH ST. SEATAC, WA

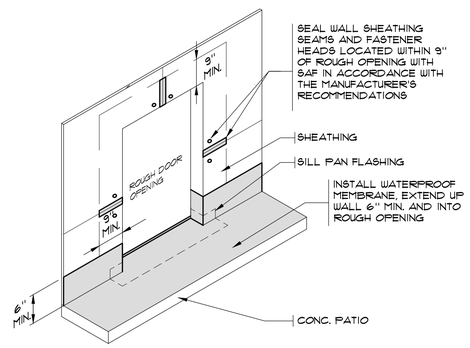
Sheet 5.5

Job No. 23042.00

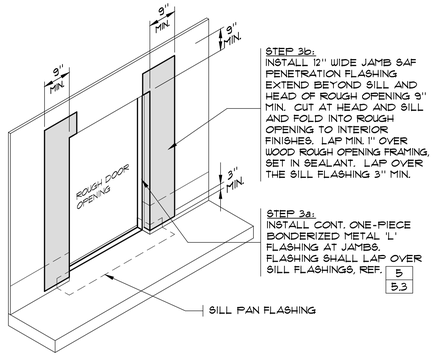
4/28/2023
23042 WD 01.dwg



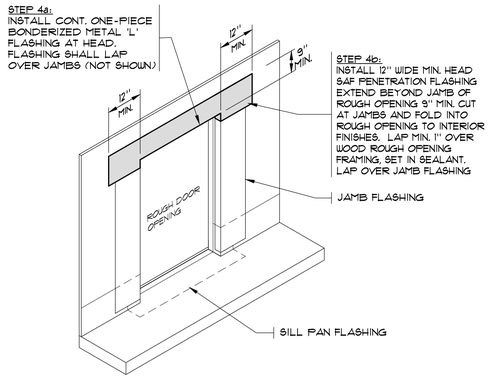
STEP #1



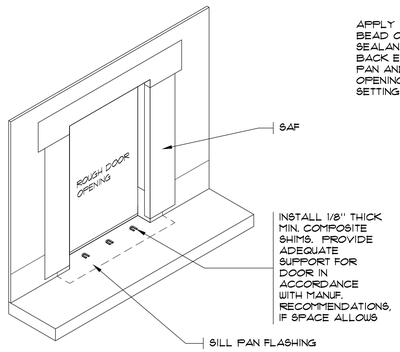
STEP #2



STEP #3



STEP #4



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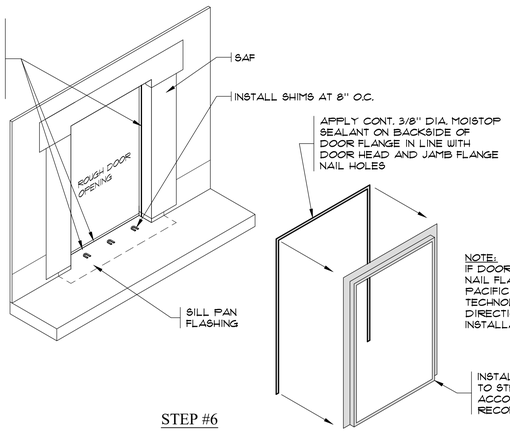

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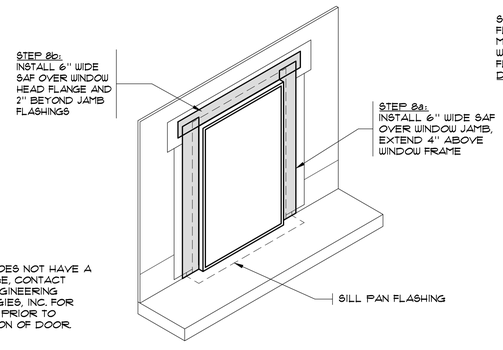

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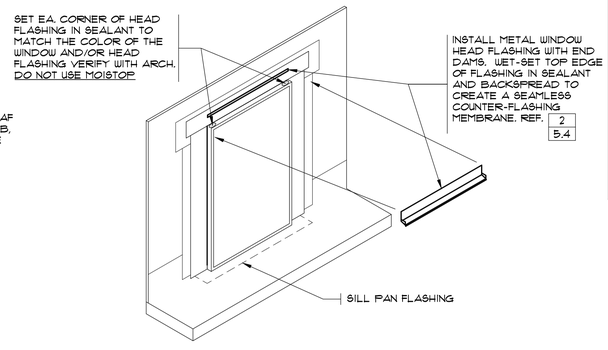
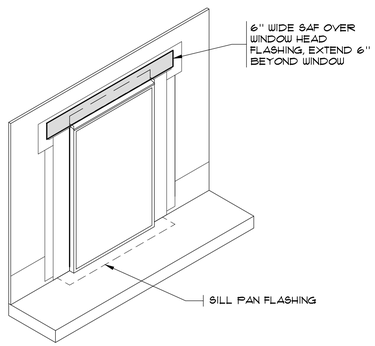
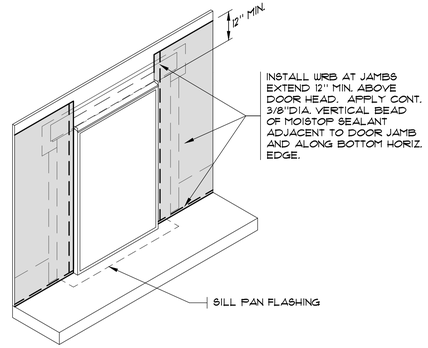


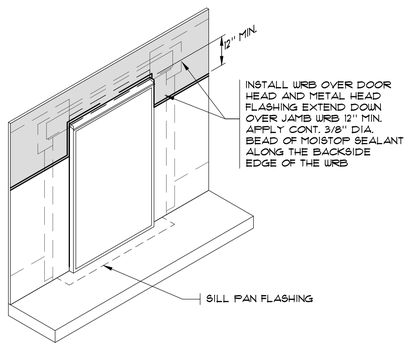
STEP #8



STEP #9



STEP #10



STEP #11

GENERAL NOTES:

1. CLEAN DOOR FRAME AND NAIL FLANGES SUFFICIENTLY TO BOND TO SEALANTS, IF PRESENT.
2. PRIOR TO INSTALLATION OF DOOR FLASHING VERIFY ROUGH OPENING IS SQUARE AND THE APPROPRIATE SIZE PER DOOR MANUFACTURER'S RECOMMENDATIONS AND ALLOWS FOR THE REINSTALLATION OF THE DOOR AFTER THE FLASHINGS ARE INSTALLED. CORRECT AS NECESSARY.
3. INSTALL FLASHINGS, SEALANT AND ATTACH DOOR IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
4. IF DOOR DOES NOT HAVE A NAIL FLANGE, CONTACT BUILDING ENVELOPE CONSULTANT FOR DIRECTION PRIOR TO INSTALLATION OF DOOR.
5. REFERENCE DETAILS IN WEATHER RESISTIVE DESIGN DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN.
6. THE CONTRACTOR SHALL PROVIDE A MOCK-UP OF THE DOOR DETAILS ON THIS SHEET FOR REVIEW BY THE BUILDING ENVELOPE CONSULTANT PRIOR TO PROCEEDING WITH THE INSTALLATION OF DOORS. THE MOCK-UP MAY REMAIN AS COMPLETED WORK AFTER IT HAS BEEN REVIEWED AND APPROVED.

TYPICAL SGD FLASHING SEQUENCE 1

SCALE: N.T.S.

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

PACIFIC ENGINEERING TECHNOLOGIES, INC.
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Contents: DETAILS

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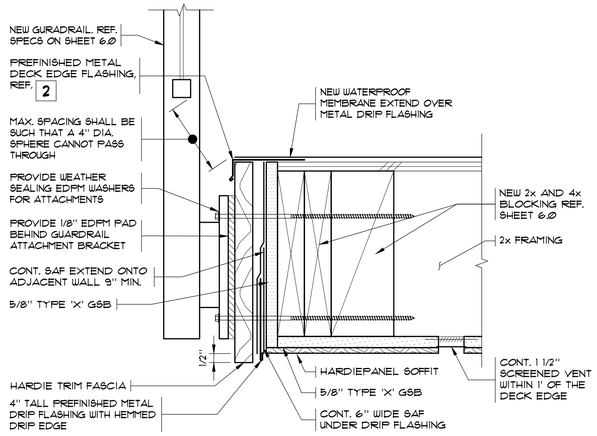
3606 S. 180TH ST. SEATAC, WA

Sheet: 5.6

Job No. 23042.00

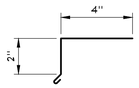
4/28/2023
23042 WD 01.dwg



DECK GUARDRAIL 1

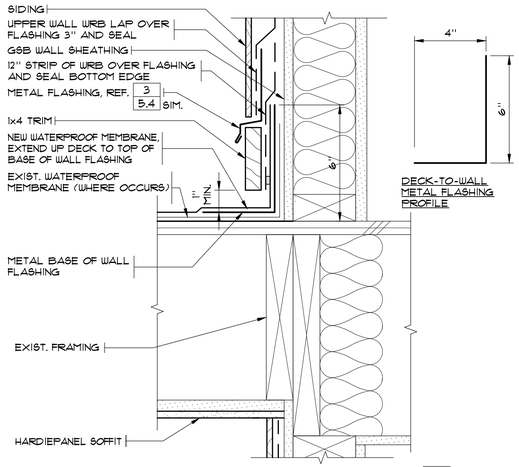
SCALE: 3" = 1'-0"

NOTE:
FOR ADDITIONAL FRAMING/BLOCKING INFORMATION REF. SHEET 6.0



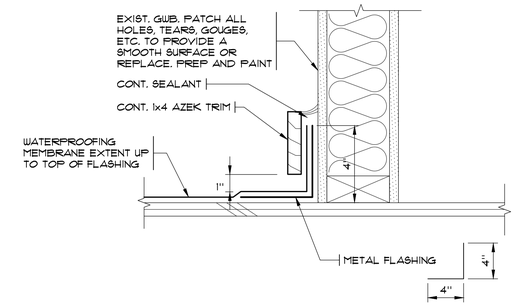
EDGE FLASHING 2

SCALE: 3" = 1'-0"



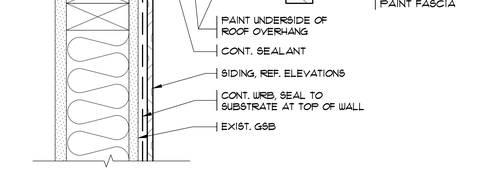
DECK OR WALKWAY TO WALL 3

SCALE: 3" = 1'-0"



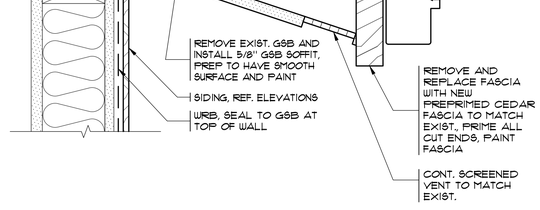
2ND FLOOR UNIT CORRIDOR 4

SCALE: 3" = 1'-0"



TYPICAL RAKE TO WALL 5

SCALE: 3" = 1'-0"



TYPICAL SOFFIT AT EAVE 6

SCALE: 3" = 1'-0"

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

No. | Revision | Date
1 | BID SET |

PACIFIC ENGINEERING TECHNOLOGIES, INC.
2100 North 107th Street, Suite 320 Seattle, Washington 98133-9009
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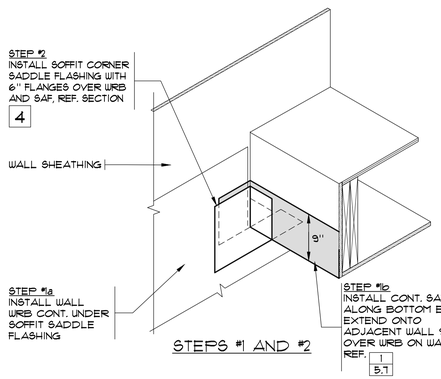
Contents: DETAILS

Project: CARRIAGE HOUSE APTS. BUILDING 'C' SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

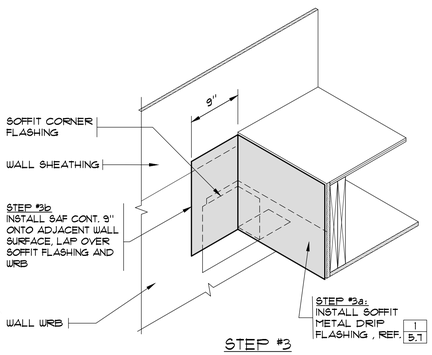
Sheet: 5.1

Job No. 23042.00

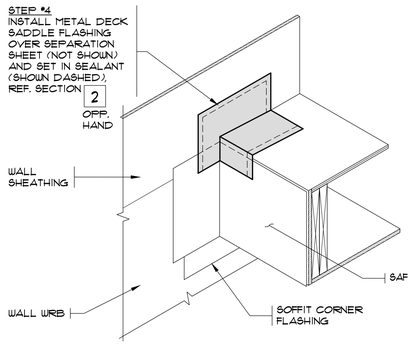
4/28/2023
23042 WD 01.dwg



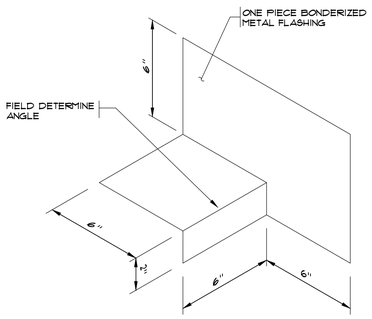
STEPS #1 AND #2



STEP #3



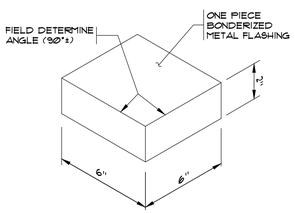
STEP #4



DECK SADDLE CORNER FLASHING 2

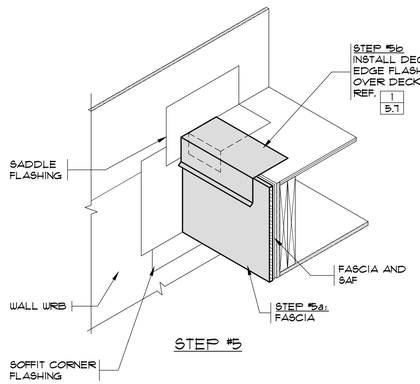
SCALE: NONE

NOTES:
1. SADDLE FLASHING TO BE INSTALLED FIRST PRIOR TO OTHER DECK SURFACE FLASHINGS.
2. REF. MATERIAL SPECIFICATION FOR ADDITIONAL INFORMATION
3. PLACE FLASHING OVER TARGET FLASHING STRIPS (WRB)

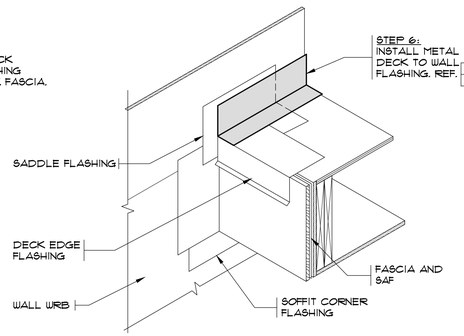


DECK OUTSIDE CORNER FLASHING 3

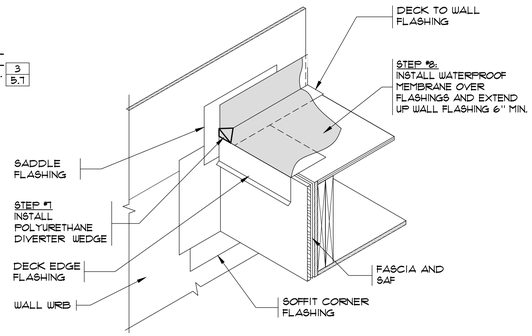
SCALE: NONE



STEP #5



STEP #6



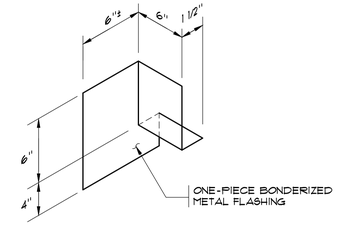
STEPS #7 AND #8

TYPICAL DECK SADDLE FLASHING AT FLAT WALL 1

SCALE: NONE

NOTES:
1. SIM. SECTION OMIT FASCIA FLASHING AND FASCIA
2. FRAMING CONDITIONS SHOWN ARE SCHEMATIC AND DO NOT SHOW EXIST. BEAM AND EXISTING FIELD CONDITIONS MAY DIFFER FROM WHAT IS SHOWN
3. FURRING AND SIDING NOT SHOWN

GENERAL NOTE FOR ALL DETAILS:
THE EXISTING EXTERIOR WALL SHEATHING VARIES BETWEEN GSB AND PLYWOOD SHEATHING. THE DETAILS TYPICALLY SHOW 1/2" GSB. TYPICALLY THE PLYWOOD SHEATHING IS LOCATED ON THE CHIMNEY WALLS, HOWEVER, EXISTING CONDITIONS MAY VARY. REMOVE AND REPLACE DAMAGED WALL SHEATHING IN-KIND TO MATCH THE EXISTING THICKNESS



SOFFIT SADDLE CORNER FLASHING 4

NO SCALE

NOTES:
1. REF. MATERIAL SPECIFICATION FOR ADDITIONAL INFORMATION
2. EXIST. CONDITIONS WILL VARY. MODIFY FLASHING TO MATCH WALL ANGLES
3. PLACE FLASHING OVER TARGET FLASHING STRIPS (WRB)

THE INFORMATION PRESENTED ON THESE DRAWINGS IS TO THE LEVEL OF DETAIL FOR CONSTRUCTION COST ESTIMATION ONLY, NOT FOR ACTUAL CONSTRUCTION

PRELIMINARY

4/28/2023
23042 WD 01.dwg

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

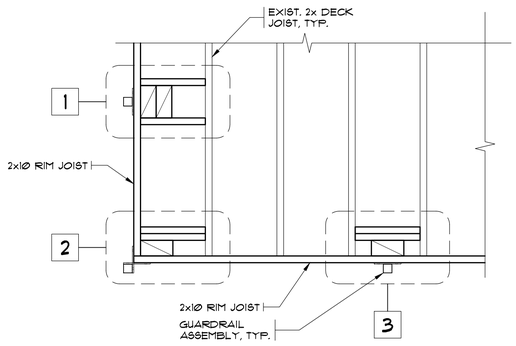
PACIFIC ENGINEERING TECHNOLOGIES, INC.
2150 North 107th Street, Suite 320
Seattle, Washington 98133-9009
(T) (206) 281-7500 ● (800) 821-7300
(F) (206) 281-4611

Contents DETAILS

Project CARRIAGE HOUSE APTS.
BUILDING 'C'
SELECT EXTERIOR IMPROVEMENTS
3606 S. 180TH ST. SEATAC, WA

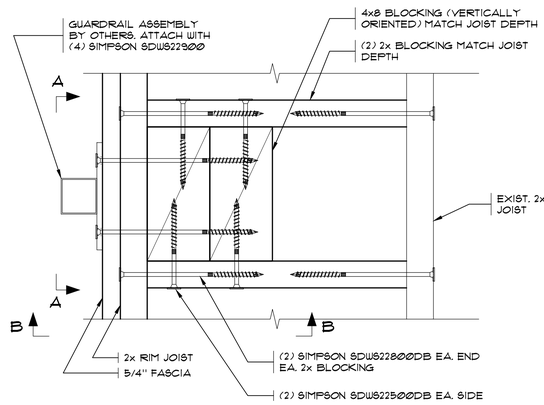
Sheet S1.8

Job No. 23042.00

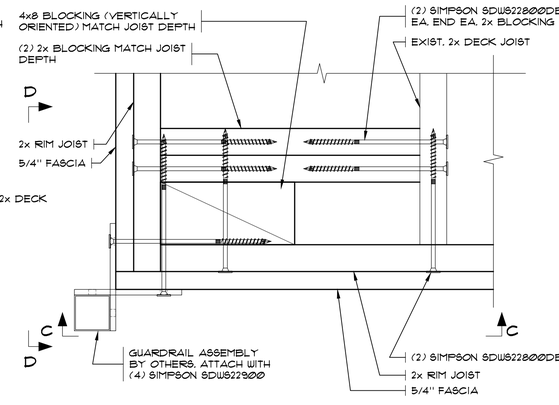


KEY PLAN
SCALE: 3/4" = 1'-0"

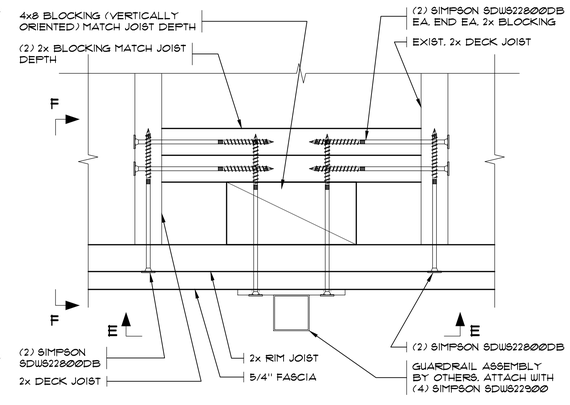
NOTE:
FLASHING, MEMBRANE AND SIDING NOT SHOWN, REF. SHEET 4.0



DECK JOISTS PARALLEL TO RIM JOIST
DETAIL 1
SCALE: 3" = 1'-0"



OUTSIDE CORNER
DETAIL 2
SCALE: 3" = 1'-0"



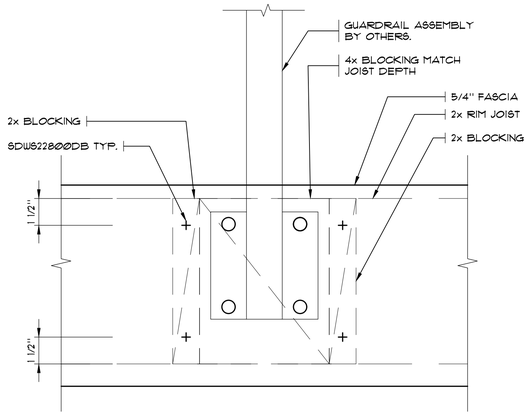
DECK JOISTS PERPENDICULAR TO RIM JOIST
DETAIL 3
SCALE: 3" = 1'-0"

GUARDRAIL NOTES:

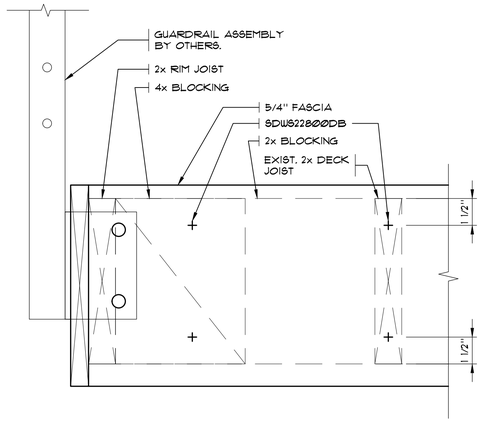
NEW GUARDRAILS SHALL MEET THE FOLLOWING SPECIFICATIONS:
NEW GUARDRAIL SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE IBC SECTIONS 1015, 1607.8.

GUARDRAIL LOADS:	
REFERENCE IBC SECTION 1607.8.1	
TOP OF RAIL (ANY DIRECTION)	50 PLF / 200 LBS. POINT LOAD
COMPONENTS	50 LBS. OVER 1 SQ. FT. AREA
SPECIFICATIONS:	
MINIMUM HEIGHT:	42"
MAXIMUM OPENINGS:	SUCH THAT A 4"DIAMETER SPHERE CANNOT PASS THROUGH
POST SPACING:	4'-0" ON-CENTER MAX.

PREFABRICATED GUARDRAILS AND CONNECTIONS SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF WASHINGTON. ALL PLATES, CONNECTIONS, ETC. SHALL BE DESIGNED TO TRANSMIT 100% OF THE MEMBER LOAD DETERMINED BY THE GUARDRAIL ANALYSIS. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS AND/OR TESTING SHOWING THAT THE GUARDRAIL MEETS THE DESIGN CRITERIA OF THE IBC TO THE OWNER AND THE ENGINEER OF RECORD FOR REVIEW PRIOR TO FABRICATION.



SECTION A-A
SCALE: 3" = 1'-0"



SECTION C-C
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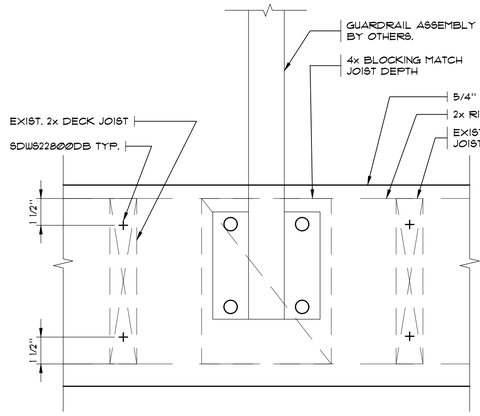
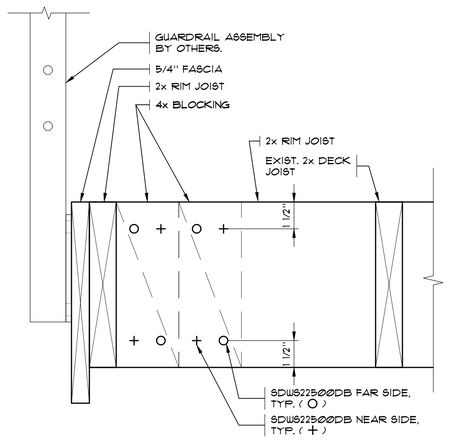
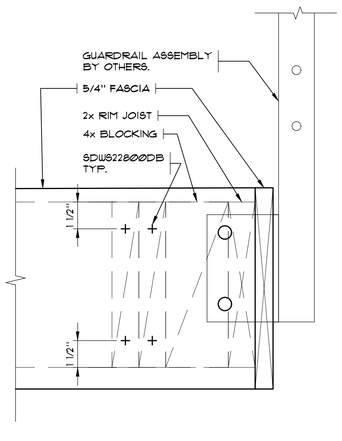


SECTION E-E
SCALE: 3" = 1'-0"



SECTION B-B
SCALE: 3" = 1'-0"



SECTION D-D
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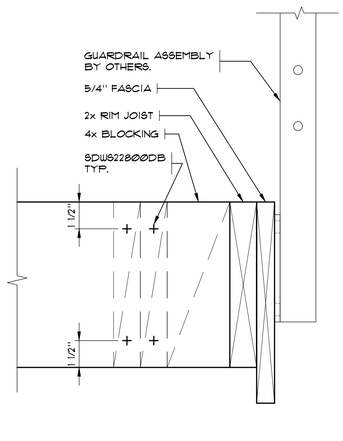

SECTION F-F
SCALE: 3" = 1'-0"

No.	Revision	Date
	BID SET	

Designed N. FRITZ
Drawn V.H.N.
Checked N.L.F.
Date 28 APRIL, 2023
Approved

PACIFIC ENGINEERING TECHNOLOGIES, INC.
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Contents: DETAILS

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3606 S. 180TH ST. SEATAC, WA

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Job No. 23042.00

PRELIMINARY

4/28/2023
23042 WD 01.dwg

INSTRUCTIONS TO BIDDERS

1.0 BIDDER RESPONSIBILITY CRITERIA

A. It is the intent of Owner to award a contract to a responsible bidder submitting the lowest responsive bid. Before award, the bidder must meet the following bidder responsibility criteria to be considered a responsible bidder. The bidder may be required by the Owner to submit documentation demonstrating compliance with the criteria. The bidder must:

1. Have a current certificate of registration as a contractor in compliance with chapter 18.27 RCW, which must have been in effect at the time of bid submittal;
2. Have a current Washington Unified Business Identifier (UBI) number;
3. If applicable, have industrial insurance coverage for the bidder's employees working in Washington as required in Title 51 RCW; an employment security department number as required in Title 50 RCW; and a state excise tax registration number as required in Title 82 RCW;
4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3);
5. Have received training on the requirements related to public works and prevailing wage under chapter 39.04.350 RCW and chapter 39.12 RCW or be listed as exempt by the department of labor and industries on its website; and
6. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW;
7. Before award of a public works contract, a bidder shall submit to the contracting agency a signed statement in accordance with RCW 9A.72.085 verifying under penalty of perjury that the bidder is in compliance with the responsible bidder criteria requirement of subsection A, 6 of this section.

1.1 SUBCONTRACTOR RESPONSIBILITY

A. The Contractor shall include the language of this section in each of its first tier subcontracts, and shall require each of its subcontractors to include the same language of this section in each of their subcontracts, adjusting only as necessary the terms used for the contracting parties. Upon request of the Owner, the Contractor shall promptly provide documentation to the Owner demonstrating that the subcontractor meets the subcontractor responsibility criteria below. The requirements of this section apply to all subcontractors regardless of tier.

B. At the time of subcontract execution, the Contractor shall verify that each of its first tier subcontractors meets the following bidder responsibility criteria:

1. Have a current certificate of registration in compliance with chapter 18.27 RCW, which must have been in effect at the time of subcontract bid submittal;
2. Have a current Washington Unified Business Identifier (UBI) number;
3. If applicable, have:

    a. Have Industrial Insurance (workers' compensation) coverage for the subcontractor's employees working in Washington, as required in Title 51 RCW;
    b. A Washington Employment Security Department number, as required in Title 50 RCW;

c. A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
d. An electrical contractor license, if required by Chapter 19.28 RCW;
e. An elevator contractor license, if required by Chapter 70.87 RCW.

4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065 (3);
5. Have received training on the requirements related to public works and prevailing wage under chapter 39.04.350 RCW and chapter 39.12 RCW or be listed as exempt by the department of labor and industries on its website; and
6. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.

1.2 SUPPLEMENTAL BIDDER RESPONSIBILITY CRITERIA

A. RCW 39.04.350(2) specifically authorizes municipalities to adopt relevant supplement criteria for determining bidder responsibility applicable to a particular project which the bidder must meet.

B. For the work in this project a responsible/qualified Bidder must meet the following standards:

1. Have a current certificate of registration as a contractor, in compliance with chapter 18.27 RCW, for the last three years under the same business name;
2. Have a good record of past performance that includes, but is not limited to, high quality work, ability to complete projects on time, contractor's integrity, compliance with public policy, financial, contractual and tax obligations, as well as Federal and State rules and regulations in performing construction contracts.
3. Have a current Experience Modification Rate (EMR) of 1.0 or less, or an average EMR rate of 1.0 or less over the last three years. The requirement may, at the Owner's sole discretion, be waived on review of a written explanation that includes details of accidents, L&I records, a Loss Ratio Report for the last five years, costs, dates of events, and changes that have been made by the contractor to reduce accidents. A current company Safety Plan shall also be reviewed.
4. Bidder shall provide evidence of previous successful completion of Siding projects, of similar scope and complexity. Poor performance, lack or response, or failure to complete projects successfully within the contract time may be grounds for the rejection of bidder.

C. Subcontractors shall have had three years minimum experience licensed in Washington State in the specific specialty contracting business.

1.3 PREPARATION OF BIDS – CONSTRUCTION

A. Bids must be submitted on the Bid Form furnished by the Owner.

B. All fields and questions on required forms must be fully answered and complete. Failure to do so may result in the bid being declared non-responsive.

C. Bidders shall acknowledge receipt of all addenda to this solicitation by inserting the addenda numbers in the space provided on the Bid Form. Failure to do so may result in the bid being declared non-responsive.

1. Bidder is responsible for checking KCHA's website for addenda prior to submitting bid.

D. In order for a bid to be considered responsive, bidders must submit the following signed documents with their bid package:

1. Bid Form
2. Bidder's Information Form
3. Bid Guarantee

E. The Bidder agrees to hold the base bid prices for sixty (60) days from date of bid opening.

1.4 BID GUARANTEE

A. A bid guarantee in the amount of 5% of the base bid amount is required. Failure of the bidder to provide bid guarantee shall render the bid non-responsive.

B. Acceptable forms of bid guarantee are: A bid bond or postal money order, or certified check or cashier's check made payable to King County Housing Authority.

C. The Owner will return bid guarantees (other than bid bonds) to unsuccessful bidders as soon as practicable, but not sooner than the execution of a contract with the successful bidder. The successful bidder's bid guarantee will be returned to the successful bidder with its official notice to proceed with the work of the contract.

1.5 AMENDMENTS TO INVITATION TO BID

A. If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

B. Bidders shall acknowledge receipt of all addenda to this solicitation by inserting the addenda numbers in the space provided on the Bid Form. Failure to do so may result in the bid being declared non-responsive.

1. Bidder is responsible for checking KCHA's website for addenda prior to submitting bid.
2. Addenda will not be issued later than three (3) calendar days before the deadline for receipt of Bids except Addendum withdrawing the request for Bids or extending the deadline for receipt of Bids.

1.6 PRE-BID MEETING

A. All potential bidders are strongly encouraged to attend. Oral statements may not be relied upon and will not be binding or legally effective.

1.7 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE

A. Before submitting a bid, the Bidder shall carefully examine each component of the Contract Documents prepared for the Work and any other available supporting data so as to be thoroughly familiar with all the requirements.

B. The Bidder shall obtain copies of all agencies and associations guidelines and standards cited in the Contract Documents and necessary to perform the Work, including full size reproductions of material provided by Owner, at their own expense.

C. The Bidder shall make a thorough and reasonable examination of the project site, facility and conditions under which the Work is to be performed, including but not limited to: Building access; resident occupancy; fire lanes; landscaping; obstacles and character of materials which may be encountered; traffic conditions; public and private utilities; the availability and cost of labor; and available facilities for transportation, handling, and storage of materials and equipment.

1.8 EXPLANATION TO PROSPECTIVE BIDDERS

A. Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must submit a request in writing to the Owner seven (7) calendar days before the bid due date. Oral explanations or instructions given before the award of a contract will not be binding. Questions shall be submitted to:

Dina Porter
King County Housing Authority
600 Andover Park W
Seattle, WA 98188
Email: DinaP@kcha.org

1.9 PREVAILING WAGES

A. Contractor shall pay no less than the Washington State Department of Labor and Industries (L&I) prevailing rate of wages to all workers, laborers, or mechanics employed in the performance of any part of the Work in accordance with RCW 39.12 and the rules and regulations of L&I. The schedule of prevailing wage rates for the locality or localities of the Work is determined by the Industrial Statistician of L&I. It is the Contractor's responsibility to verify the applicable prevailing wage rate.

1. L&I prevailing wage rates may be found at https://lni.wa.gov/licensing-permits/public-works-projects/prevailing-wage-rates/
2. The Owner has determined that the work meets the definition of residential construction.
3. The prevailing wage rates publication date is determined by the bid due date.
4. The work is to be performed in King County.
5. A copy of the prevailing wage rates is available at KCHA.
6. A copy of the prevailing wage rates may be mailed on request.

1.10 TAXES

A. All taxes imposed by law shall be included in the bid amount. The Contractor shall pay the WSST to the Department of Revenue and shall furnish proof of payment to the Owner if requested.

B. The retail sales tax does not apply to the gross contract price.

C. Prime and subcontractors are required to pay retail sales tax upon all purchases of materials, including prefabricated and precast items, equipment, leases or rentals of tools, consumables, and other tangible personal property which is installed, applied, attached, or otherwise incorporated in their work.

1.11 INSURANCE

Must, for the duration of the contract, procure and maintain Builders Risk insurance as stated in Part 2 of the General Conditions. This shall be in addition to General Liability and Automobile Liability Coverage.

1.12 ASSURANCE OF COMPLETION

A. Payment and performance bonds for 100% of the Contract Sum, including all Change Orders and taxes imposed by law, shall be furnished for the Work, and shall be in a form acceptable to the Owner.

1.13 BID ERROR

A. In the event Bidder discovers an error in its bid, the Bidder may, under certain conditions and if before the date and time that bids are due, modify, their bid, as detailed below:

1. Prior to Date and Time Bids are Due:

   a. A Bidder may withdraw its bid at any time prior to the date and time bids are due upon written request.
   b. After withdrawing an original submitted bid, a Bidder may modify and resubmit its bid at any time prior to the date and time bids are due.

2. After the Date and Time Bids are Due:

   a. A bidder who submits an erroneous low bid may withdraw the bid. The bid withdrawal is permissible if there was an obvious error in the low bid, and the mistake is readily apparent from the bid itself.
   b. Notification: Provide to the Owner, within 24 hours of bid opening, written notification of the bidder's intent to withdraw the bid due to error.
   c. Documentation: Provide to the Owner within 48 hours of bid opening, documentation sufficient in content to justify bid withdrawal to the satisfaction of the Owner. Include description and evidence of the error.
   d. Approval: the Owner will approve or reject the request for withdrawal in writing.
   e. Any low bidder who withdraws its bid is prohibited from bidding on the same project if it is subsequently re-solicited.

1.14 ADDITIVE OR DEDUCTIVE BID ITEMS

A. The low bid, for purposes of award, shall be the lowest responsive bid from a qualified responsible bidder offering the low aggregate amount for the base bid, plus additive or deductive bid alternates selected by the Owner.

1.15 BID EVALUATION

A. Responsive Bids: A bid will be considered responsive if it meets the conditions of the solicitation, in addition to but not limited to the following requirements:

1. Bid is received not later than the time and date specified.
2. Bid is submitted in the proper format on the form(s) provided.
3. Bid includes the complete scope of work as defined in bid package.
4. Bid does not include any exclusions or qualifications.
5. Bid includes Unit and Lump Sum Costs as listed in Proposal Form.
6. Forms are complete.

B. After bid opening, bids will be checked for correctness of bid item prices, extensions and the total bid price. Discrepancies shall be resolved by accepting the bid item prices and the corrected extensions and total bid price.

C. Responsible Bidders: the Owner will award contracts only to responsible bidders who demonstrate the ability to successfully perform under the terms and conditions as set forth in the Contract Documents and have successfully completed projects similar in scope and complexity.

1. Bidders must demonstrate relevant experience on similar types of projects and submit detailed information as required on the Bidder Information Form.

D. The Owner reserves the right to contact references and investigate past performance and qualifications of the Bidder, subcontractor, and project team members, including contacting third parties and/or the references provided by the Bidder.

1. The Owner may contact references for other projects including those the Bidder did not identify and/or provided references.
2. References may be asked to rate the performance of and describe their experience with project team members and subcontractors. Bidder Information may be solicited and evaluated on the following subjects: type and features of work; overall quality of project performance and quality of work; experience and technical knowledge and competence of the Bidder and Project Team Members; ability, capacity and skill to perform the Work; ability to manage submittals, requests for information, prevailing wage filings, and other paperwork; compliance with laws, ordinances, and contract provisions; and other information as deemed necessary.
3. Poor reference(s) may be justification to determine a Bidder is not responsible.

E. At the Owner's request, provide any additional explanation or information, which would assist in evaluating the qualifications of the Bidder, subcontractors, project team members, and bid price.

F. The Owner will verify information submitted and if the lowest bidder is determined to be “not responsible,” the Owner will issue, in writing, the specific reasons for this determination. The bidder may appeal this decision. The appeal must be in writing and shall be delivered to the Owner within two business days. The appeal may include additional information that was not

included in the original bid documents. KCHA will make a final determination after the receipt of the appeal. The final determination may not be appealed.

1.16 CONTRACT AWARD

A. Bonding and Insurance: Contract award will be contingent on ability to secure payment/performance bonding, and Contractor's ability to meet the Owner insurance requirements as detailed in the Bid Documents.

B. Must, for the duration of the contract, procure and maintain Builders Risk insurance as stated in Part 2 of the General Conditions. This shall be in addition to General Liability, Automobile Liability, and Professional Liability/Errors and Omissions (if applicable) Coverage.

C. Bonding, insurance certificate with endorsements, and an approved Statement of Intent to Pay Prevailing Wages shall be submitted to the Owner within 14 days of contract award. A Notice to Proceed shall be issued immediately after receipt.

D. Right to Reject Bids/Waiver: The Owner reserves the right to reject any or all bids or to waive any informalities or irregularities in the bidding.

E. Retainage Funds: The Owner will not pay interest to the Contractor for accounts where retainage funds are maintained by the Owner. As part of the procurement by which the Contractor was selected for this work, the Contractor agrees to waive any other options and has made allowances for this waiver.

GENERAL CONDITIONS

PART 1 - GENERAL PROVISIONS

1.1 DEFINITIONS

A. “Authority Having Jurisdiction (AHJ)”: A federal, state, local, or other regional department, or an individual such as a fire official, labor department, health department, building official, or other individual having statutory authority.

B. "Contract Documents" means the Instructions to Bidders, Specifications, Plans, General Conditions, Prevailing Wage Rates, Bid Form, Contract Form, other Special Forms, Drawings and Specifications, and all Addenda and modifications thereof.

C. "Contract Sum" is the total amount payable by Owner to Contractor for performance of the Work in accordance with the Contract Documents.

D. "Contract Time" is the number of consecutive Days allotted in the Contract Documents for achieving completion of the Work.

E. "Contracting Officer" means the person delegated the authority by King County Housing Authority to enter into, and/or terminate this Contract. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer.

F. "Contractor" means the person or other entity entering into the Contract with King County Housing Authority to perform all of the services or work required under the Contract.

G. "Day" means calendar day, unless otherwise specified.

H. "Final Acceptance" means the acceptance by Owner that the Contractor has completed the requirements of the Contract Documents.

I. "Force Majeure" means those acts entitling Contractor to request an equitable adjustment in the Contract Time, including, but not limited to, unusually severe weather conditions which could not have been reasonably anticipated.

J. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

K. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

L. "Liquidated Damages" means the amount prescribed in the Contract Documents to be deducted from any payments due or to become due Contractor, for each day's delay in completion of the Work beyond the time allowed in the Contract Documents as stated in the Notice to Proceed, plus any extensions of such time.

M. "Manager" means the person who is an authorized agent of the King County Housing Authority to administer the Contract.

N. "Notice to Proceed" means a notice from Owner to Contractor that defines the date on which the Contract Time begins to run.

O. "Owner" means the King County Housing Authority or its authorized representative with the authority to enter into, administer, and/or terminate the Work in accordance with the Contract Documents and make related determinations and findings.

P. "Property Manager" means the property management company, its officers and employees.

Q. "Provide": Furnish and install, complete and ready for the intended use.

R. "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a Subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime Contract or a subcontract.

S. "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another Subcontractor.

T. "Work" means the construction and services required by the Contract Documents, and includes, but is not limited to, labor, materials, supplies, equipment, services, permits, and the manufacture and fabrication of components, performed, furnished, or provided in accordance with the Contract Documents.

1.2 EXECUTION AND INTENT

A. The intent of the Specifications and Drawings is to describe a complete Project to be constructed in accordance with the Contract Documents. Contractor shall furnish all labor, materials, equipment, tools, transportation, permits, and supplies, and perform the Work required in accordance with the Contract Documents.

B. All work is to be executed in accordance with the Building Codes, as adopted by the Authority Having Jurisdiction, and other applicable codes and generally accepted industry standards. All products and materials are to be new and handled and applied in accordance with the manufacturer's recommendations.

C. Contractor makes the following representations to Owner:

1. The Contract Sum is reasonable compensation for the Work and the Contract Time is adequate for the performance of the Work, as represented by the Contract Documents;
2. Contractor has carefully reviewed the Contract Documents, had an opportunity to visit and examine the Project site, has become familiar with the local conditions in which the Work is to be performed, and has satisfied itself as to the nature, location, character, quality and quantity of the Work, the labor, materials, equipment, goods, supplies, work, permits, services and other items to be furnished and all other requirements of the Contract Documents, as well as the surface and subsurface conditions and other matters that may be encountered at the Project site or affect performance of the Work or the cost or difficulty thereof.

D. The Contract Documents are complementary. What is required by one part of the Contract Documents shall be binding as if required by all. Anything mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be of like effect as if shown or mentioned in both.

PART 2 - INSURANCE AND BONDS

2.1 INSURANCE REQUIREMENTS FOR BUILDING TRADES CONTRACTORS

A. Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or Subcontractors.

2.2 MINIMUM SCOPE OF INSURANCE

A. Contractors shall maintain coverages no less than:

1. Insurance Services Office Commercial General Liability coverage including Products/Completed Operations.
2. Insurance Services Office covering Automobile Liability, code 1 (any auto).
3. Workers' Compensation insurance as required by State law and Employer's Liability Insurance.
4. Builders Risk (Property / Course of Construction insurance covering for all risks of loss for all projects in excess of $250,000.00).

2.3 MINIMUM LIMITS OF INSURANCE

A. Contractor shall maintain limits no less than:

1. General Liability: $1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit of $2,000,000.
2. Automobile Liability: $1,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: $1,000,000 per accident for bodily injury/sickness or disease.
4. Builders Risk (Property) / Course of Construction: Completed value of project.

2.4 DEDUCTIBLES AND SELF INSURED RETENTION

A. Any deductibles or self-insured retentions must be declared to and approved by the Owner. At the option of the Owner, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Owner, its officers, officials, employees and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the Owner guaranteeing payment of losses and related investigations, claim administration and defense expenses. **NOTE: If this contract deals with hazardous materials or activities (i.e. lead based paint, asbestos, armed security guards) additional provisions covering those exposures must be included in order to protect the Owner's interests.**

2.5 OTHER INSURANCE PROVISIONS

A. The policies are to contain, or be endorsed to contain, the following provisions:

1. The Owner, the Property Manager, its officers, officials, employees, partners, agents and volunteers are to be covered as additional insureds under a "completed operations" type of additional insured endorsement with respect to general liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. The endorsement(s) effectuating the foregoing additional insured coverage shall be ISO form CG 20 10 11 85, or CG 20 10 10 01 issued concurrently with CG 20 37 10 01, or their equivalent as long as it provides additional insured coverage, without limitation, for completed operations; (ii) automobile liability arising out of vehicles owned, leased, hired, or borrowed by or on behalf of the Contractor; (iii) any insurance written on a claims made basis, shall have a retroactive date that coincides with, or precede, the commencement of any work under this contract. Evidence of such coverage shall be maintained for a minimum of six (_6_) years beyond the expiration of the project.
2. King County will not accept Certificates of Insurance Alone. Improperly Completed Endorsements will be returned to your insured for correction by an authorized representative of the insurance company.
3. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the Owner, its officers, officials, agents, partners, employees, and volunteers. Any insurance or self-insurance maintained or expired by the Owner, its officers, officials, agents, partners, employees, volunteers, or shall be excess of the Contractor's insurance and shall not contribute with it. King County Housing Authority's Insurance is Non-Contributory in Claims Settlement Funding.
4. The "General description of agreement(s) and/or activity(s) insured" shall include reference to the activity and/or to either specific King County Housing Authority's; project of site name, contract number, lease number, permit number or construction approval number.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled or materially changed, except after thirty (30) days' [ten (10) days for non-payment of premium] prior written notice by certified mail, return receipt requested, has been given to the Owner.
6. Maintenance of the proper insurance for the duration of the contract is a material element of the contract. Material changes in the required coverage or cancellation of the coverage shall constitute a material breach of the contract.
7. Builders Risk / Course of Construction policies shall contain the following provisions:

    a. The King County Housing Authority shall be named as loss payee.
    b. The insurer shall waive all rights of subrogation against the Owner and the Property Manager, its officers, officials, employees and volunteers.

2.6 ACCEPTABILITY OF INSURERS

A. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-:VII. The name of the Insurance Company underwriting the coverage and its address shall be noted on the endorsement form. Contractors must provide written verification of their insurer's rating.

2.7 VERIFICATION OF COVERAGE

A. Contractor shall furnish the Owner with original certificates and amendatory endorsements effecting coverage required by this clause. All certificates and endorsements are to be received and approved by the Owner before work commences in sufficient time to permit contractor to remedy any deficiencies. The Owner reserves the right to require complete, certified copies of all required insurance policies or pertinent parts thereof, including endorsements affecting the coverage required by these specifications at any time.

2.8 SUBCONTRACTORS

A. Subcontractors shall include the Contractor as additional insured under their policies. All coverage's for subcontractors shall be subject to all of the requirements stated herein. Contractor shall be responsible for the adequacy of required coverages for subcontractors, and compile related certificates of insurance and endorsements evidencing subcontractors' compliance.

2.9 PAYMENT AND PERFORMANCE BONDS

A. Payment and performance bonds for 100% of the Contract Award Amount shall be furnished for the Work, using the Payment Bond and Performance Bond form AIA – form A312. Change order increases of cumulative 15% increments require revisions to the bond to match the new Contract Sum.

PART 3 - PERFORMANCE

3.1 CONTRACTOR CONTROL AND SUPERVISION

A. Contractor shall be solely responsible for, and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work, and shall be responsible to Owner for acts and omissions of Contractor, Subcontractors, and their employees and agents.

B. Contractor shall enforce strict discipline and good order among Contractor's employees and other persons performing the Work. Contractor shall not permit employment of persons not skilled in tasks assigned to them. Owner may, by Notice, request Contractor to remove from the Work or Project site any employee Owner reasonably deems incompetent, careless, or otherwise objectionable.

C. The Contractor shall perform on the site, and with its own organization, work equivalent to at least 12% of the total amount of work to be performed under the contract.

D. Work Hours: The Contractor's allowable hours of operation shall be limited to those hours between 8:00 A.M. and 6:00 P.M. Monday to Friday excluding public holidays.

3.2 PERMITS, FEES, AND NOTICES

A. Unless otherwise provided in the Contract Documents, Contractor shall pay for and obtain all permits, licenses, and coordinate inspections necessary for proper execution and completion of the Work. Prior to final payment, the approved, signed permits shall be delivered to Owner.

3.3 PREVAILING WAGES

A. Statutes of the State of Washington RCW 39.12 as amended shall apply to this contract. Requirements, in brief, are stated below:

1. There shall be paid each laborer or mechanic of the Contractor or sub-Contractor engaged in work on the project under this contract in the trade or occupation listed in the schedule of Wage Rates, as determined by the Department of Labor and Industries, not less than the hourly wage rate listed therein, regardless of any contractual relationship which may be alleged to exist between the Contractor and any sub-contractor and such laborers and mechanics.
2. The "prevailing rate or wage" contained in the wage determination include health and welfare fund contributions and other fringe benefits collectively bargained for by the various management and labor organizations. Prevailing wages shall be paid based on the most recent semi-annual list as required by the Department of Labor and Industries (L&I).
3. In case any dispute arises as to what are the prevailing rates for wages of work of a similar nature, and such disputes cannot be resolved by the parties involved, including labor and management representatives, the matter shall be referred for arbitration to the Director of the Department of Labor and Industries of the State of Washington, and the Director's decision shall be final and conclusive and binding on all parties involved in the dispute.

B. Before commencing the Work, Contractor shall file a statement of "Intent to Pay Prevailing Wages."

C. After completion of the Work, Contractor shall file an "Affidavit of Wages Paid."

3.4 EQUAL EMPLOYMENT OPPORTUNITY

A. During performance of the Work:

1. Contractor shall not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, marital status, the presence of any physical, sensory, or mental disability, sexual orientation, Vietnam-era veteran status, disabled veteran status or political affiliation, nor commit any unfair practices as defined in RCW 49.60.
2. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, of any physical, sensory, or mental disability, sexual orientation, Vietnam-era veteran status, disabled veteran status, or political affiliation.
3. The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and orders in regard to Equal Employment Opportunity including but not limited to Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and the rules, regulations, and orders of the Secretary of Labor. The Contractor shall include the terms of this Clause in every subcontract so that such term shall be binding on each Subcontractor.
4. Non-Discrimination R.C.W. 49.60: These special requirements establish minimum requirements for affirmative action and are intended to define and implement the basic discrimination provisions of these specifications. Failure to comply with these requirements may constitute grounds for application of contract default.

3.5 SAFETY PRECAUTIONS

A. In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies, and equipment; and avoid work interruptions. For these purposes, the Contractor shall:

1. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific safety plan to the Owner's representative prior to the initial scheduled construction meeting.
2. Provide adequate safety devices and measures including, but not limited to, the appropriate safety literature, notice, training, permits, placement and use of barricades, signs, signal lights, ladders, scaffolding, staging, runways, hoist, construction elevators, shoring, temporary lighting, grounded outlets, wiring, hazardous materials, vehicles, construction processes, and equipment required by Chapter 19.27 RCW, State Building Code (Uniform Building, Electrical, Mechanical, Fire, and Plumbing Codes); Chapter 212-12 WAC, Fire Marshal Standards, Chapter 49.17 RCW, WISHA; Chapter 296-155 WAC, Safety Standards for Construction Work; Chapter 296-65 WAC; WISHA Asbestos Standard; WAC 296-62-071, Respirator Standard; WAC 296-62, General Occupation Health Standards, WAC 296-24, General Safety and Health Standards, WAC 296-24, General Safety and Health Standards, Chapter 49.70 RCW, and Right to Know Act.

3. Comply with the State Environmental Policy Act (SEPA), Clean Air Act, Shoreline Management Act, and other applicable federal, state, and local statutes and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources.
4. Post all permits, notices, and/or approvals in a conspicuous location at the construction site.
5. Provide any additional measures that the Owner determines to be reasonable and necessary for ensuring a safe environment in areas open to the public. Nothing in this part shall be construed as imposing a duty upon the Owner to prescribe safety conditions relating to employees, public, or agents of the Contractors.

B. Contractor to maintain safety records: Contractor shall maintain an accurate record of exposure data on all incidents relating to the Work resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment. Contractor shall immediately report any such incident to Owner. Owner shall, at all times, have a right of access to all records of exposure.

C. Contractor to provide HazMat training: Contractor shall provide all persons working on the Project site with information and training on hazardous chemicals in their work at the time of their initial assignment, and whenever a new hazard is introduced into their work area.

1. Information. At a minimum, Contractor shall inform persons working on the Project site of:

   a. WAC: The requirements of chapter 296-62 WAC, General Occupational Health Standards;
   b. Presence of hazardous chemicals: Any operations in their work area where hazardous chemicals are present; and
   c. Hazard communications program: The location and availability of written hazard communication programs, including the required list(s) of hazardous chemicals and material safety data sheets required by chapter 296-62 WAC.

2. Training. At a minimum, Contractor shall provide training for persons working on the Project site which includes:

   a. Detecting hazardous chemicals: Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);
   b. Hazards of chemicals: The physical and health hazards of the chemicals in the work area;
   c. Protection from hazards: The measures such persons can take to protect themselves from these hazards, including specific procedures Contractor, or its Subcontractors, or others have implemented to protect those on the Project site from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used; and
   d. Hazard communications program: The details of the hazard communications program developed by Contractor, or its Subcontractors, including an explanation of the labeling system and the material safety data sheet, and how employees can obtain and use the appropriate hazard information.

D. Hazardous, toxic or harmful substances: Contractor's responsibility for hazardous, toxic, or harmful substances shall include the following duties:

1. Illegal use of dangerous substances: Contractor shall not keep, use, dispose, transport, generate, or sell on or about the Project site, any substances now or hereafter designated as, or which are subject to regulation as, hazardous, toxic, dangerous, or harmful by any federal, state or local law, regulation, statute or ordinance (hereinafter collectively referred to as "hazardous substances"), in violation of any such law, regulation, statute, or ordinance, but in no case shall any such hazardous substance be stored on the Project site.
2. Contractor notifications of spills, failures, inspections, and fines: Contractor shall promptly notify Owner of all spills or releases of any hazardous substances which are otherwise required to be reported to any regulatory agency and pay the cost of cleanup. Contractor shall promptly notify Owner of all failures to comply with any federal, state, or local law, regulation, or ordinance; all inspections of the Project site by any regulatory entity concerning the same; all regulatory orders or fines; and all responses or interim cleanup actions taken by or proposed to be taken by any government entity or private party on the Project site.

E. Public safety and traffic: All Work shall be performed with due regard for the safety of the public. Contractor shall perform the Work so as to cause a minimum of interruption of vehicular traffic or inconvenience to pedestrians. All arrangements to care for such traffic shall be Contractor's responsibilities. All expenses involved in the maintenance of traffic by way of detours shall be borne by Contractor.

F. Contractor to act in an emergency: In an emergency affecting the safety of life or the Work or of adjoining property, Contractor is permitted to act, at its discretion, to prevent such threatened loss or injury, and Contractor shall so act if so authorized or instructed.

G. No duty of safety by Owner: Nothing provided in this section shall be construed as imposing any duty upon Owner with regard to, or as constituting any express or implied assumption of control or responsibility over, Project site safety, or over any other safety conditions relating to employees or agents of Contractor or any of its Subcontractors, or the public.

3.6 INDEPENDENT CONTRACTOR

A. The Contractor and Owner agree the Contractor is an independent contractor with respect to the services provided pursuant to this Contract. Nothing in this Contract shall be considered to create a relationship of employer and employee between the parties hereto. Neither the Contractor nor any employee of the Contractor shall be entitled to any benefits accorded Owner employees by virtue of the services provided under this Contract. The Owner shall not be responsible for withholding or otherwise deducting federal income tax or social security or contributing to the State Industrial Insurance Program, or otherwise assuming the duties of an employer with respect to the Contractor, or any employees of the Contractor.

3.7 OPERATIONS, MATERIAL HANDLING, AND STORAGE AREAS

A. Contractor shall confine all operations, including storage of materials, to Owner-approved areas.

B. Contractor shall be responsible for the proper care and protection of its materials and equipment delivered to the Project site.

C. Contractor shall protect and be responsible for any damage or loss to the Work, or to the materials or equipment until the date of Final Acceptance, and shall repair or replace without cost to Owner any damage or loss that may occur.

3.8 PRIOR NOTICE OF EXCAVATION

A. Prior to any excavation Contractor shall engage a locate service for all underground facilities or utilities. Contractor shall pay all fees for locator services and pay for all damages caused by excavation.

3.9 UNFORESEEN PHYSICAL CONDITIONS

A. Notice requirement for concealed or unknown conditions: If Contractor encounters conditions at the site which are subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents, or unknown physical conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then Contractor shall give written notice to Owner promptly and in no event later than seven Days after the first observance of the conditions. Conditions shall not be disturbed prior to such notice.

B. Adjustment in Contract Time and Contract Sum: If such conditions differ materially and cause a change in Contractor's cost of, or time required for, performance of any part of the Work, the Contractor may be entitled to an equitable adjustment in the Contract Time or Contract Sum, or both, provided it makes a request therefore as provided in Part 5.

3.10 PROTECTION OF EXISTING STRUCTURES, EQUIPMENT, VEGETATION, UTILITIES, AND IMPROVEMENTS

A. Contractor shall protect from damage all existing conditions, including soils, structures, equipment, improvements, utilities, and vegetation at or near the Project site; and on adjacent property of a third party, the locations of which are made known to or should be known by Contractor. Contractor shall repair any damage, including that to the property of a third party, resulting from failure to comply with the requirements of the Contract Documents, any defects of equipment, material, workmanship or design furnished by the Contractor, or failure by Contractor or subcontractor at any tier to exercise reasonable care in performing the Work. If Contractor fails or refuses to repair the damage promptly, Owner may have the necessary work performed and charge the cost to Contractor.

B. New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the Specifications.

3.11 MATERIAL AND EQUIPMENT

A. All equipment, material, and articles incorporated into the Work shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in the Contract Documents. References in the Specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard quality and shall not be construed as limiting competition. Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of Owner, is equal to that named in the Specifications, unless otherwise specifically provided in the Contract Documents.

B. Substitutions shall be considered where qualities and attributes including, but not limited to, cost, performance, weight, size, durability, visual effect, and specific features and requirements indicated are deemed equal or better by the Owner at the Owner's sole discretion. All requests for substitutions shall be made in writing to Owner and shall not be deemed to be approved unless approved in writing by Owner.

3.12 CORRECTION OF NONCONFORMING WORK

A. Contractor shall promptly correct Work found by Owner not to conform to the requirements of the Contract Documents, whether observed before or after Final Acceptance.

B. If Contractor fails to correct nonconforming Work, Owner may replace, correct, or remove the nonconforming Work and charge the cost thereof to the Contractor.

3.13 CLEAN UP

A. Contractor shall at all times keep the Project site, including hauling routes, infrastructures, utilities, and storage areas, free from accumulations of waste materials. Before completing the Work, Contractor shall remove from the premises its rubbish, tools, scaffolding, equipment, and materials. Upon completing the Work, Contractor shall leave the Project site in a clean, neat, and orderly condition satisfactory to Owner. If Contractor fails to clean up as provided herein, and after reasonable notice from Owner, Owner may do so and the cost thereof shall be charged to Contractor.

3.14 SUBCONTRACTORS AND SUPPLIERS

A. Contractor shall utilize Subcontractors and suppliers which are experienced and qualified.

B. By appropriate written agreement, Contractor shall require each Subcontractor to be bound to Contractor by terms of those Contract Documents, and to assume toward Contractor all the obligations and responsibilities which Contractor assumes toward Owner in accordance with the Contract Documents. Each Subcontract shall preserve and protect the rights of Owner in accordance with the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. However, nothing in this paragraph shall be construed to alter the contractual relations between Contractor and its Subcontractors with respect to insurance or bonds.

C. Contractor shall schedule, supervise, and coordinate the operations of all Subcontractors. No Subcontracting of any of the Work shall relieve Contractor from its responsibility for the performance of the Work in accordance with the Contract Documents or any other obligations of the Contract Documents.

D. It is the Contractor's responsibility to pay its Subcontractors and material suppliers on a timely basis. The Owner reserves the right to withhold a portion of the Contractor's payment if the Contractor fails to make timely payments to the Subcontractors and material suppliers.

E. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Owner and any Subcontractor; or any persons other than Owner and Contractor.

F. The Contractor shall not enter into any subcontract with any subcontractor who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or by any state, territory, or municipality.

3.15 INDEMNIFICATION

A. The Contractor hereby agrees to indemnify, defend, and hold harmless the Authority, its successors and assigns, director, officers, officials, employees, agents, partners and volunteers (all foregoing singly and collectively (Indemnities") from a and against any and all claims, losses, harm costs, liabilities, damages and expenses, including, but not limited to, reasonable attorney's fees arising or resulting from the performance of the services, or the acts or omissions of the Contractor its successors, and assigns, employees, subcontractors or anyone acting on the contractor's behalf in connection with this Contract or its performance of this Contract.

B. Provided, however, that the Contractor will not be required to indemnify, defend, or save harmless the indemnitee as provided in the preceding paragraphs of this section if the claim, suit, or action for injuries, death, or damages is caused by the sole negligence of the indemnitee. Where such claims, suites, or actions result from the concurrent negligence of (a) the indemnitee or the indemnitee's agents or employees and (b) the Contractor or the Contractor's agent or employee, the indemnity provisions provided in the proceeding paragraphs of this section shall be valid and enforceable only to the extent of the Contractor's negligence or the negligence of its agents and employees..

C. The foregoing indemnity is specifically and expressly intended to constitute a waiver of the Contractor's immunity under Washington's Industrial Insurance act, RCW Title 51. The parties acknowledge that these provisions were specifically negotiated and agreed upon by them. If any portion of this indemnity clause is invalid or unenforceable, it shall be deemed excised and the remaining portions of the clause shall be given full force and effect.

D. The Contractor hereby agrees to require all its Subcontractors or anyone acting under its direction or control or on its behalf in connection with or incidental to the performance of this Contract to execute an indemnity clause identical to the preceding clause, specifically naming the Owner as indemnity, and failure to do so shall constitute a material breach of this Contract by the Contractor.

3.16 PROHIBITION AGAINST LIENS

A. The Contractor is prohibited from placing a lien on the Owner's property. This prohibition shall apply to all subcontractors of any tier and all materials suppliers, in accordance with RCW 35.82.190.

3.17 DAMAGES FOR FAILURE TO ACHIEVE TIMELY COMPLETION

A. Liquidated Damages

1. Timely performance and completion of the Work is essential to Owner and time limits stated in the Contract Documents are of the essence. The liquidated damage amounts set forth will be assessed not as a penalty, but as liquidated damages for breach of the Contract Documents. This amount is fixed and agreed upon by and between the Contractor and Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain. This amount shall be construed as the actual amount of damages sustained by the Owner, and may be retained by the Owner and deducted from any payments to the Contractor.

2. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed.

3.18 WAIVER AND SEVERABILITY

A. The failure or delay of either party to insist on performance of any provision of the Contract, or to exercise any right or remedy available under the Contract, shall not be construed as a waiver of that provision, right, or remedy in any later instance. Waiver or breach of any provision of the Contract shall not be construed to be a waiver of any other or subsequent breach and shall not be construed to be a modification of the terms of the Contract, unless the Contract is modified pursuant to the Clause entitled "Contract Modifications" herein.

B. If any provision of the Contract is or becomes void or unenforceable by operation of law, the remaining provisions shall be valid and enforceable.

PART 4 - PAYMENTS AND COMPLETION

4.1 CONTRACT SUM

A. The Contract Sum shall include all taxes imposed by law and properly chargeable to the Project, including sales tax. The Contractor shall pay the WSST to the Department of Revenue and shall furnish proof of payment to the Owner if requested.

B. The retail sales tax does not apply to the gross contract price.

C. Prime and subcontractors are required to pay retail sales tax upon all purchases of materials, including prefabricated and precast items, equipment, leases or rentals of tools, consumables, and other tangible personal property which is installed, applied, attached, or otherwise incorporated in their work.

4.2 APPLICATION FOR PAYMENT

A. At monthly intervals, unless determined otherwise by Owner, Contractor shall submit to Owner an Application for Payment for Work completed in accordance with the Contract Documents. Each application shall be supported by such substantiating data as Owner may require.

B. Each invoice shall include the following statement: "I hereby certify that the items listed are proper charges for materials, merchandise or services provided to the King County Housing Authority, and that all goods and/or services have been provided; that prevailing wages have been paid in accordance with the approved statements of intent filed with the Department of Labor and Industries; and that sub-contractors and/or suppliers have been paid, less earned retainage, as their interest appears in the last payment received."

C. Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule. Each Application for Payment shall be consistent with previous applications and payments.

D. Owner shall retain 5% of the amount of each progress payment until 45 Days after Final Acceptance and receipt of all documents required by law or the Contract Documents, including releases by Washington State Employment Security Department and Washington State Department of Revenue, Department of Labor & Industries, and consent of surety to release of the retainage.

E. Waivers of Lien: With each Application for Payment, submit conditional waivers lien from every entity who is lawfully entitled to file a lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

    a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.

F. Final Payment Application: Submit final Application for Payment with releases and close out supporting documentation.

G. Approved payments shall be mailed to the Contractor within 30 days.

4.3 FINAL COMPLETION, ACCEPTANCE, AND PAYMENT

A. The Owner shall make a final inspection of the Work on receipt of (1) written notice from the Contractor that the Work is ready for final inspection and (2) a final Application for Payment. When the Owner finds the Work acceptable and fully performed under the Contract Documents, and the Contractor has delivered to the Owner all warranties, permits, and operations manuals, the Owner will issue a Notice of Final Completion.

B. Acceptance of final payment by Contractor, or any Subcontractor, shall constitute a waiver and release to Owner of all claims by Contractor, or any such Subcontractor, for an increase in the Contract Sum or the Contract Time, and for every act or omission of Owner relating to or arising out of the Work, except for those Claims made in accordance with the procedures, including the time limits, set forth in PART 7 - .

PART 5 - CHANGES

5.1 CHANGE IN THE WORK

A. Owner may, at any time and without notice to Contractor's surety, order additions, deletions, revisions, or other changes in the Work. These changes in the Work shall be incorporated into the Contract Documents through the execution of Change Orders. If any change in the Work ordered by Owner causes an increase or decrease in the Contract Sum or the Contract Time, an equitable adjustment shall be made as provided in 5.2 and 5.3.

B. Pending agreement on the terms of the Change Order, Owner may direct Contractor to proceed immediately with the Change Order Work. Contractor shall not proceed with any change in the Work until it has obtained Owner's approval.

C. The Contractor agrees that any change in the Contract Amount or Contract Time provided in a Change Order is full and complete compensation to the Contractor for the change(s) to the work, deleted work, modified work, direct or indirect impact on the Contractor's schedule, and for any equitable adjustment or time extension to which the Contractor may be entitled to in this Change Order, pursuant to the Contract between the Owner and Contractor.

5.2 CHANGE IN THE CONTRACT SUM

A. Change Order Pricing - Fixed Price: When the fixed price or time and materials method is used to determine the value of any Work covered by a Change Order, or of a request for an equitable adjustment in the Contract Sum, the following procedures shall apply:

1. Contractor's Change Order proposal, or request for adjustment in the Contract Sum, shall be accompanied by a complete itemization of the costs, including labor, material, subcontractor costs, and overhead and profit. The costs shall be itemized in the manner set forth below, and shall be submitted on breakdown sheets with documentation in a form approved by Owner.
2. Any request for adjustment of Contract Sum shall include only the following items:

    a. Craft labor costs for Contractors and Subcontractors.

        1) Basic wages and benefits: Hourly rates and benefits according to applicable prevailing wages.
        2) Direct supervision shall not to exceed 15% of the cost of direct labor. No supervision markup shall be allowed for a working supervisor's hours.
        3) Worker’s Insurance. Direct contributions to the State for industrial insurance, medical aid, and supplemental pension by the class and rates established by L&I.
        4) Federal Insurance. Direct contributions required by the Federal Insurance Compensation Act; Federal Unemployment Tax Act; and the State Unemployment Compensation Act.
        5) Safety and small tools: 4% of the sum of the amounts calculated in (1), (2), and (3) above.

b. Material Costs: Material costs and applicable sales tax shall be developed from actual known costs, supplier quotations or standard industry pricing guides and shall consider all available discounts. Freight costs, express charges, or special delivery charges shall be itemized.

c. Equipment Costs: Itemization of the type of equipment and the estimated or actual length of time the equipment appropriate for the Work is or will be used on the change in the Work. Costs will be allowed for equipment and applicable sales tax only if used solely for the changed Work, or for additional rental costs actually incurred by the Contractor. The Date Quest Rental Rate (Blue Book) shall be used as a basis for establishing rental rates of equipment not listed in the above sources. The maximum rate for standby equipment shall not exceed 50% of the applicable rate.

d. Allowance for Overhead: This allowance shall compensate Contractor for all noncraft labor, temporary construction facilities, field engineering, schedule updating, as-built drawings, home office cost, B&O taxes, office engineering, estimating costs, additional overhead because of extended time and any other cost incidental to the change in the Work. This allowance shall be strictly limited in all cases an amount not to exceed the following:

1) For Contractor, for any Work actually performed by Contractor's own forces, 16% of the cost.
2) For each Subcontractor (including lower tier subcontractors), for any Work actually performed by its own forces, 16% of the cost.
3) For Contractor, for any Work performed by its Subcontractor(s), 6% of the amount due each Subcontractor.
4) For each Subcontractor, for any Work performed by its Subcontractor(s) of any lower tier, 5% of the amount due the sub-Subcontractor.

e. Allowance for Profit:

1) For Contractor or Subcontractor of any tier for work performed by their forces, 5% of the cost developed in accordance with subsections a, b & c above.
2) For Contractor or Subcontractor of any tier for work performed by a subcontractor of a lower tier, 5% of the Subcontractor cost.

f. Insurance or Bond Premium: The costs of any change or additional premium of Contractor's liability insurance and public works bond arising directly from the changed Work. The costs of any change in insurance or bond premium shall be added after overhead and profit are calculated.

B. Change Order Pricing - Unit Prices

1. Work on a unit-price basis as stated in the Specifications and at the price submitted in the Bid Form or as subsequently modified.

a. Unit prices shall include reimbursement for all direct and indirect costs of the Work, including overhead and profit, and bond and insurance costs; and
b. Quantities must be supported by field measurement verified by Owner.

5.3 CHANGE IN THE CONTRACT TIME

A. The Contract Time shall only be changed by a Change Order. Contractor shall immediately notify Owner, and shall include any request for a change in the Contract Time in its Change Order proposal.

B. If the time of Contractor's performance is changed due to an act of Force Majeure, Contractor shall request for an equitable adjustment in the Contract Time in writing within 24-hours of the occurrence.

PART 6 - CLAIMS AND DISPUTE RESOLUTION

6.1 CLAIMS PROCEDURE

A. If the parties fail to reach agreement regarding any dispute arising from the Contract Documents, Contractor's only remedy shall be to file a Claim with Owner within 30 Days from Owner's final offer.

B. The Claim shall be deemed to cover all changes in cost and time (including direct, indirect, impact, and consequential) to which Contractor may be entitled. It shall be fully substantiated and documented.

C. After Contractor has submitted a fully-documented Claim, Owner shall respond, in writing, to Contractor with a decision within 30 Days from the date the Claim is received.

D. Contractor shall proceed with performance of the Work pending final resolution of any Claim. Owner's written decision as set forth above shall be final and conclusive as to all matters set forth in the Claim.

E. Any Claim of the Contractor against the Owner for damages, additional compensation, or additional time, shall be conclusively deemed to have been waived by the Contractor unless timely made in accordance with the requirements of this section.

6.2 ARBITRATION

A. If Contractor disagrees with Owner's decision rendered in accordance with paragraph 6.1C, Contractor shall provide Owner with a written demand for arbitration. No demand for arbitration of any such Claim shall be made later than 30 Days after the date of Owner's decision on such Claim; failure to demand arbitration within said 30 Day period shall result in Owner's decision being final and binding upon Contractor and its Subcontractors.

1. Notice of the demand for arbitration shall be filed with the American Arbitration Association (AAA), with a copy provided to Owner. The parties shall negotiate or mediate under the Voluntary Construction Mediation Rules of the AAA, or mutually acceptable service.

B. All Claims arising out of the Work shall be resolved by arbitration. The judgment upon the arbitration award may be entered, or review of the award may occur, in the superior court having jurisdiction thereof. No independent legal action relating to or arising from the Work shall be maintained.

6.3 CLAIMS AUDITS

A. All Claims filed against Owner shall be subject to audit at any time following the filing of the Claim. Failure of Contractor, or Subcontractors of any tier, to maintain and retain sufficient records to allow Owner to verify all or a portion of the Claim or to permit Owner access to the books and records of Contractor, or Subcontractors of any tier, shall constitute a waiver of the Claim and shall bar any recovery.

1. In support of Owner audit of any Claim, Contractor shall promptly make available to Owner all records relating to the Work.

PART 7 - TERMINATION OF THE WORK

7.1 TERMINATION BY OWNER FOR CAUSE

A. Owner may, upon a written Notice to Contractor and to its surety, terminate (without prejudice to any right or remedy of Owner) the Work, or any part of it, for cause upon the occurrence of any one or more of the following events:

1. Contractor fails to prosecute the Work or any portion thereof with sufficient diligence to ensure Completion of the Work within the Contract Time;
2. Contractor is adjudged bankrupt, makes a general assignment for the benefit of its creditors, or a receiver is appointed on account of its insolvency;
3. Contractor fails in a material way to replace or correct Work not in conformance with the Contract Documents;
4. Contractor repeatedly fails to supply skilled workers or proper materials or equipment;
5. Contractor repeatedly fails to make prompt payment due to Subcontractors, suppliers, or for labor;
6. Contractor materially disregards or fails to comply with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction; or
7. Contractor is otherwise in material breach of any provision of the Contract Documents.

B. Upon termination, Owner may at its option:

1. Take possession of the Project site and take possession of or use all materials, equipment, tools, and construction equipment and machinery thereon owned by Contractor to maintain the orderly progress of, and to finish, the Work;
2. Finish the Work by whatever other reasonable method it deems expedient.

C. Owner's rights and duties upon termination are subject to the prior rights and duties of the surety, if any, obligated under any bond provided in accordance with the Contract Documents.

D. When Owner terminates the Work in accordance with this section, Contractor shall take the actions set forth in paragraph 7.2B, and shall not be entitled to receive further payment until the Work is accepted.

E. If the unpaid balance of the Contract Sum exceeds the cost of finishing the Work, including compensation for A/E services and expenses made necessary thereby and any other extra costs or damages incurred by Owner in completing the Work, or as a result of Contractor's actions, such excess shall be paid to Contractor. If such costs exceed the unpaid balance, Contractor shall pay the difference to Owner. Contractor shall also be liable for liquidated damages until such reasonable time as may be required for Completion. These obligations for payment shall survive termination.

F. Termination of the Work in accordance with this section shall not relieve Contractor or its surety of any responsibilities for Work performed.

G. If Owner terminates Contractor for cause, and it is later determined that none of the circumstances set forth in 7.1A exist, then such termination shall be deemed a termination for convenience pursuant to 7.2.

7.2 TERMINATION BY OWNER FOR CONVENIENCE

A. Owner may, upon Notice, terminate (without prejudice to any right or remedy of Owner) the Work, or any part of it, for the convenience of Owner.

B. Unless Owner directs otherwise, after receipt of a Notice of termination for either cause or convenience, Contractor shall promptly:

1. Stop performing Work on the date and as specified in the notice of termination;
2. Place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not terminated;
3. Cancel all orders and subcontracts, upon terms acceptable to Owner, to the extent that they relate to the performance of Work terminated;

PART 8 - MISCELLANEOUS PROVISIONS

8.1 RECORDS KEEPING AND REPORTING

A. The Contractor and all Subcontractors shall maintain accounts and records in accordance with State Auditor’s procedures, including personnel, property, financial and programmatic records which sufficiently and properly reflect all direct and indirect costs of any nature expended and services performed in the performance of this Contract and other such records as may be deemed necessary by the Owner to ensure proper accounting for all funds contributed by the Owner to the performance of this Contract and compliance with this Contract.

B. The Contractor, and its Subcontractors, shall maintain these records for a period of six (6) years after the date of Final Acceptance.

8.2 AUDITS AND INSPECTIONS

A. The records and documents with respect to all matters covered by this Contract shall be subject at all times to inspection, review or audit by the Owner or any other government agency so authorized by law during the performance of this Contract. The Owner shall have the right to an annual audit of the Contractor’s financial statement and condition.

8.3 ORGANIZATION CONFLICTS OF INTEREST

A. The Contractor warrants that to the best of its knowledge and belief and except as otherwise disclosed, it does not have any organizational conflict of interest which is defined as a situation in which the nature of work under this Contract and the Contractor's organizational, financial, contractual or other interests are such that:

1. Award of the Contract may result in an unfair competitive advantage; or
2. The Contractor's objectivity in performing the Contract work may be impaired.

B. The Contractor agrees that if after award they discover an organizational conflict of interest with respect to this Contract, they shall make an immediate and full disclosure in writing to the Contracting Officer, which shall include a description of the action, which the Contractor has taken or intends to take to eliminate or neutralize the conflict. The Owner may, however, terminate the Contract if it deems the action to be in the best interest of the Owner.

C. In the event the Contractor was aware of an organizational conflict of interest before the award of this Contract and intentionally did not disclose the conflict to the Contracting Officer, the Owner may terminate the Contract for default.

D. The provisions of this Clause shall be included in all subcontracts and consulting agreements wherein the work to be performed is similar to the services provided by the Contractor. The Contractor shall include in such subcontracts and consulting agreements any necessary provisions to eliminate or neutralize conflicts of interest.

8.4 INTERESTS OF MEMBERS OF CONGRESS

A. No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this Contract or to any benefit to arise therefrom, but this provision shall not be construed to extend to this Contract if made with a corporation for its general benefit.

8.5 INTERESTS OF MEMBERS, OFFICERS, COMMISSIONERS AND EMPLOYEES, OR FORMER MEMBERS, OFFICERS AND EMPLOYEES

A. No member, officer, or employee of the King County Housing Authority, no member of the governing body of the locality in which the project is situated, no member of the governing body in which the Owner was activated, and no other public official or such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this Contract or the proceeds thereof.

BID FORM

PROJECT NAME AND LOCATION:

Siding Replacement **Contract Number: DW2303131**
Carriage House Apartments

The undersigned, Legal Name of Bidder: _____on this date: _____, 2023, having familiarized him/herself with the contract documents, site conditions, and has field verified all measurements contained in the project manual as prepared by the Owner, hereby proposes to furnish labor, materials and necessary equipment – all including, but not limited to, demolition, disposal, new installation and the required applicable taxes and fees to complete the work for the following bid amounts:

BASE BID _____ (**$**_____)
(Including sales tax indicated in Instructions to Bidders)

UNIT PRICES See Specification Section 01100, 1.7 – Unit Prices

Unit Price No. 1 _____ ($_____)
Gypsum Sheathing (Including sales tax indicated in Instructions to Bidders)

Unit Price No. 2 _____ ($_____)
Batt Insulation (Including sales tax indicated in Instructions to Bidders)

Unit Price No. 3 _____ ($_____)
Shoring/Wall Framing (Including sales tax indicated in Instructions to Bidders)

Unit Price No. 4 _____ ($_____)
Shoring/Deck Framing (Including sales tax indicated in Instructions to Bidders)

Unit Price No. 5 _____ ($_____)
Mold Care (Including sales tax indicated in Instructions to Bidders)

Unit Price No. 6 _____ ($_____)
Gypsum Repair (Including sales tax indicated in Instructions to Bidders)

Unit Price No. 7 _____ ($_____)
Window/Glass Doors (Including sales tax indicated in Instructions to Bidders)

ADDENDA _____
Acknowledge receipt of any addenda by inserting the number(s) above

In submitting this bid, it is understood that the right is reserved by the Owner to reject any and all bids. The undersigned hereby agrees that this proposal shall be a valid and firm offer for a period of Sixty (60) calendar days from the date of Bid Opening.

BID FORM

Bidder agrees that Work will be substantially complete and ready for final payment in accordance with the Contract Documents on or before the date, within the number of calendar days indicated.

The undersigned Bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date for this Project, the bidder is not a "willful" violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

_____ _____

Signature of Bidder Print Your Name

Submitted on _____ day of _____ 2023

_____ _____

City State

BIDDER INFORMATION

BIDDER INFORMATION

Name of Bidder (Company): _____

Address: _____

Contact Name: _____

Phone Number: _____ Email Address: _____

Business Type: General Contractor ( ) Other ( ) (Please specify): _____

Bidder is a(n): ☐ Individual ☐ Partnership ☐ Joint Venture ☐ Incorporated in the state of _____

List business names & associated UBI # used by Bidder during the past 5 years if different than above:

_____

Bidder has been in business continuously from: _____
Month, Year

Business License #: _____ Federal ID #: _____

Current UBI #: _____ Dept. of L&I Worker's Comp. Acct. #: _____

Bidder has experience in work "Similar in Scope and Complexity" comparable to that required for this Project:

As a prime contractor for _____ years. As a subcontractor for _____ years.

OWNER(S) OF COMPANY (List **all** owners):	OWNER'S SOCIAL SECURITY NUMBER (only required if sole proprietorship):

No. of regular full-time employees other than owner(s): _____

Indicate clearly the kind of work your company will actually perform in this project:

_____

Approximate % of work your company will actually perform: _____

List the supervisory personnel to be employed by the Bidder and available for, and intended to, work on this project:

Name	Title	How Long With Bidder
_____	_____	_____
_____	_____	_____

BIDDER INFORMATION

SUBCONTRACTORS

Do you intend to use Subcontractor(s) in this project? Yes ☐ No ☐ (If yes, you must show the name of the subcontractors. Attach additional pages as necessary.)

Subcontractors Name	Subcontractor's UBI#	Phone Number	Trade	Years in Business
1.				
2.				
3.				
4.				
5.				

BIDDER'S EXPERIENCE

Projects successfully supervised and completed by your company for work of similar scope and value as specified in bid documents in the last 5 years. Attach additional pages as necessary.

Name of Project	Completion Date	Duration (Months)	Nature of Work	Amount of Contract
1.				
2.				
3.				
4.				
5.				

Owner's Name (of project listed above)	Project Address	Contact Person	Phone Number
1.			
2.			
3.			
4.			
5.			

Has Bidder ever been found guilty of violating any State or Federal employment laws? ☐ No ☐ Yes
If yes, give details & attach additional pages as necessary: _____

_____

_____

Has Bidder ever filed for protection under any provision of the federal bankruptcy laws or state insolvency laws?
☐ No ☐ Yes If yes, give details & attach additional pages as necessary: _____

_____

_____

BIDDER INFORMATION

Has any lien, claim and/or adverse legal action related to construction been rendered against Bidder in the past five years? (i.e., open claims, lawsuits, warrants, judgements including but not limited to those that would show on the L&I website) ☐ No ☐ Yes If yes, give details & attach additional pages as necessary: _____

_____

_____

Has Bidder or any of its employees filed any claims with Washington State Worker's Compensation or other insurance company for accidents resulting in fatal injury or dismemberment in the past 5 years? ☐ No ☐ Yes
If yes, please state:

Date	Type of Injury	Agency Receiving Claim
_____	_____	_____
_____	_____	_____

Bidders current Experience Modification Rate (EMR): _____

(If Bidder is self-insured, attach proof of EMR stated, showing complete worksheet calculations)

The bidder hereby certifies that the information contained in this Bidder's Information is accurate, complete and current.

BY: _____ NAME: _____
(signature) (print)

TITLE: _____ DATE: _____

CONTRACT FORM

This Contract is entered into by and between the King County Housing Authority, hereinafter referred to as the "Owner" whose principal office is located at 600 Andover Park West, Seattle, WA 98188 and [Name of Contractor], referred to as the "Contractor", whose principal office is located at [Contractor's Address].

IN CONSIDERATION OF the mutual benefits and conditions hereinafter contained, the parties hereto agree as follows:

1.1 Contract Documents

A. The provisions set forth in the Contract Documents are hereby incorporated into and made part of the Contract. Contractor acknowledges receipt and review of all Contract Documents applicable to performance of the work. The Contract shall consist of the following component parts:

1. This Instrument
2. Addenda
3. Specifications
4. Plans
5. Bid Form
6. Pre-Bid Agenda
7. General Conditions
8. Instructions to Bidders
9. Prevailing Wage Rates
10. Hazardous Material Report
11. Performance and Payment Bonds

1.2 Scope of Services to be Performed by the Contractor: The Contractor shall provide all labor, materials, tools, equipment, transportation, supplies, and incidentals required to complete the work in accordance with the Contract Documents for:

Project: Carriage House Apartments Siding Replacement Contract No.: DW2303131

1.3 Compensation: The total amount of the Contract shall be [$$$] dollars and [¢¢] cents ($[$$$.$$]) subject to 6additions and deductions provided therein.

1.4 Duration of Contract: The Contractor shall commence work after receipt of Notice to Proceed, follow the schedule specified in the contract documents, and all work must be completed within Sixty (60) consecutive calendar days from the date of the Notice to Proceed unless sooner terminated pursuant to the General Conditions. Upon expiration of the original Contract term, the Contract, at the Owner's sole discretion, may be extended for a period determined by the Owner.

1.5 Liquidated Damages: Timely performance and completion of the Work is essential to Owner and time limits stated in the Contract Documents are of the essence. If Completion of the Work does not occur within the Contract Time, the Contractor agrees that Liquidated Damages in the amount of **$250** per day will be assessed for each calendar day that the Contractor exceeds the time for completion.

The individuals signing this Contract warrant and represent for themselves and for their respective organizations that they are duly authorized to sign this Contract and that upon such signing their respective organizations are bound thereby.

DATED this _____ day of _____, 2023

Contractor

_____
President/Owner

Owner

_____
Robin Walls
Executive Director
KING COUNTY HOUSING AUTHORITY

CERTIFICATE OF INSURANCE

DATE(MM/DD/YY)
Issue Date

PRODUCER
Vendor's Insurance Agent
Street Address
City, State, Zip
Phone Number

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED
Vendor Name
Street Address
City, State, Zip

COMPANIES AFFORDING COVERAGE

COMPANY **A**	**ABC Insurance Company**
COMPANY **B**	**DEF Insurance Company**
COMPANY **C**	**GHI Insurance Company**
COMPANY **D**	

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH REPSECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	**GENERAL LIABILITY**	**XXX123**	**01/01/00**	**01/01/01**	GENERAL AGGREGATE	**2,000,000**
	[X] COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OP AGG	**1,000,000**
	[ ] CLAIMS MADE [X] OCCUR				PERSONAL & ADV INJURY	**1,000,000**
	OWNER'S & CONTRACTOR'S PROT				EACH OCCURRENCE	**1,000,000**
					FIRE DAMAGE (Any one fire)	**50,000**
					MED EXP (Any one person)	**5,000**
B	**AUTOMOBILE LIABILITY**	**XXX456**	**01/01/00**	**01/01/01**	COMBINED SINGLE LIMIT	**1,000,000**
	[X] ANY AUTO				BODILY INJURY (Per person)	
	[ ] ALL OWNED AUTOS					
	[ ] SCHEDULED AUTOS				BODILY INJURY (Per accident)	
	[X] HIRED AUTOS					
	[ ] NON-OWNED AUTOS				PROPERTY DAMAGE	
	GARAGE LIABILITY				AUTO ONLY-EA ACCIDENT	
	[ ] ANY AUTO				OTHER THAN AUTO ONLY:	
					EACH ACCIDENT	
					AGGREGATE	
	EXCESS LIABILITY				EACH OCCURRENCE	
	[ ] UMBRELLA FORM				AGGREGATE	
	[ ] OTHER THAN UMBRELLA FORM					
C	**WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY**	**XXX789**	**01/01/00**	**01/01/01**	[X] STATUTORY LIMITS	
	THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: [ ] INCL [ ] EXCL				EACH ACCIDENT	**1,000,000**
					DISEASE-POLICY LIMIT	**1,000,000**
					DISEASE-EACH EMPLOYEE	**1,000,000**
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

Allied Residential and King County Housing Authority are named as additional insureds with respect to above general liability and auto coverage. Re: Contract DW2303131 at Carriage House Apartments 3602 S. 180th St., SeaTac, WA 98188.

CERTIFICATE HOLDER
Allied Residential
King County Housing Authority
600 Andover Park West
Seattle, WA 98188-3326

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL **30** DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Signature of Insured's Agent

PROVIDE

GENERAL LIABILITY ENDORSEMENT

and

AUTO LIABILITY ENDORSEMENT

PBS | Engineering + Environmental

Limited Hazardous Materials Survey Report

KCHA Carriage House Apartments
3602 South 180th Street
SeaTac, Washington

Prepared for:
King County Housing Authority
700 Andover Park West, Suite E
Seattle, Washington 98188

PBS Project No. 40573.130
November 10, 2016

2517 Eastlake Avenue East, Suite 100, Seattle, WA 98102
206.233.9639 Main
866.727.0140 Fax
www.pbsenv.com

Bend | Boise | Coos Bay | Eugene | Portland | Seattle | Tri-Cities | Vancouver

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TAB 1
SUMMARY OF FINDINGS

PBS

BACKGROUND

PBS Engineering and Environmental, Inc. (PBS) performed a limited hazardous materials survey of the Carriage House Apartments located at 3602 South 180th Street in SeaTac, Washington. Accessible building areas were inspected for the presence of asbestos-containing materials (ACMs). PBS inspected (59) representative units at the site as part of this survey.

Carriage House Apartments is a residential apartment complex consisting of 5 multi-family apartment buildings totaling 236 studio type units. Typical interior finishes within the apartment units include tacked down carpeting in the living room/bedrooms, with of sheet vinyl flooring in kitchens and bathrooms. Walls and ceilings throughout consist of gypsum wallboard. Popcorn texture has been applied to most ceilings with the exception of kitchens and bathrooms. Orange peel texture has been applied to walls throughout, as well as to kitchen and bathroom ceilings. The exterior has wood composite siding with vinyl-framed windows. Attic spaces were insulated with fiberglass batt insulation.

SURVEY PROCESS

At the request of the client, this survey was limited to 59 of the 236 units throughout the complex. PBS also surveyed the building exteriors, laundry rooms and the clubhouse/office building. PBS accessed the following units as part of this survey.

- A-2
- A-10
- A-14
- A-18
- A-19
- A-23
- A-29
- A-33
- A-39
- A-45
- B-1
- B-3
- B-5
- B-6
- B-12
- B-14
- B-23
- B-25
- B-29
- B-32
- B-36
- B-47
- C-1
- C-3
- C-5
- C-6
- C-12
- C-14
- C-16
- C-23
- C-29
- C-30
- C-36
- C-47
- D-1
- D-4
- D-5
- D-6
- D-14
- D-23
- D-24
- D-29
- D-30
- D-36
- D-37
- D-48
- E-1
- E-4
- E-5
- E-6
- E-9
- E-14
- E-23
- E-24
- E-29
- E-30
- E-36
- E-37
- E-48

Accessible building areas included in the scope of work were inspected by AHERA Certified Building Inspector Chuck Greeb (Cert. No. 154781 Exp. 12/30/2016) between October 27 and November 2, 2016. Inaccessible spaces are those requiring selective demolition (such as chases), fall protection, or confined-space entry protocols to gain access.

When observed, suspect ACMs were sampled, assigned a unique identification number, and transmitted for analysis to Seattle Asbestos Test (NVLAP #201057-0) under chain-of-custody protocols. Samples were analyzed according to EPA Method 600R-93/116 using Polarized Light Microscopy (PLM), which has a reliable limit of quantification of 1% asbestos by volume.

While PBS has endeavored to identify or has presumed the presence and type of ACMs in concealed locations, additional unidentified ACMs may exist. Suspect ACMs that were not included in the scope of this investigation may exist.

In addition, PBS reviewed previous inspection data obtained from the project areas as available, and pertinent information is incorporated into this report and is attached. Previous inspection data reviewed included the following:

- NVL Labs Limited Good Faith Inspection of select units at Carriage House report dated March 21, 2016.

FINDINGS

Asbestos-Containing Materials (ACM)

The following materials were determined to contain **greater than 1% asbestos**:

- **Orange Peel Wall/Ceiling Texture** (NVL Labs Report) - walls throughout all units, kitchen and bathroom ceilings throughout all units, walls and ceiling throughout laundry rooms and the Building A office area (approx. 326,550 SF).
- **Popcorn Ceiling Texture** (confirmed >1% by point count analysis) – living room/bedroom areas throughout all units (approx. 88,000 SF).
- **Black Undercoating on Stainless Steel Kitchen Sinks** – various locations throughout the site (non-ACM at some locations - approx.160 Each)
- **Beige/White Sheet Vinyl Flooring** – Base layer of flooring in Building B and Building E Laundry Rooms (Approx. 375 SF).
- **Joint Compound associated with gypsum wallboard** (composite <1%) present throughout the site.

The following materials were determined to contain **less than 1% asbestos:**

- **Gray powdery flooring sub-layer** in Unit A-6 (confirmed <1% by point count analysis). This material was found only at this location.

The materials above may be present in units and building areas that were not accessed as part of this investigation and should be considered asbestos-containing when encountered in all units and building areas.

Non-Asbestos Containing Materials

The following materials were sampled and **did not** contain detectable asbestos.

- Gypsum wallboard (with asbestos joint compound);
- Vinyl covebase and associated mastics;
- Beige/tan sheet vinyl - 6" squares
- Beige/tan sheet vinyl - 8" squares
- Beige/tan sheet vinyl - 10" squares
- Brown sheet vinyl - 12" squares
- White and beige sheet vinyl sub-layers
- Cementitious flooring underlayment;
- Yellow sheet flooring and mastic – covered exterior 2nd floor walkways at unit entries throughout (current and prior NVL sampling)
- Caulk - floor/wall joints
- Carpet mastic – clubhouse/office building;
- Yellow carpet mastic – Mailbox Rooms (NVL Labs Report)

- Tan sheet vinyl and mastic beneath carpet – Mailbox Rooms throughout (NVL Labs Report)
- Carpet mastic – stairways throughout (NVL Labs Report)
- Beige sheet vinyl – Sensitive Files Room of Building A
- Gray cementitious walkway – throughout 2nd floor levels of Buildings A through E
- Window and door frame caulk;
- Asphalt roof shingles and felt base.

See the PLM Asbestos Bulk Sample Inventory and laboratory report included in Tab 2 for additional information.

Lead Containing Paint (LCP)

PBS collected 25 samples of representative paint coatings to be analyzed for lead content. The samples were assigned a unique identification number and transmitted to NVL Laboratories, Inc. (AIHA IH #101861) in Seattle, Washington under chain-of-custody protocols for lead analysis using Flame Atomic Absorption Spectrometry (FAAS).

Lead was detected in four (2) of the 25 samples. Lead was detected in the following paint coatings:

- White Paint on interior gypsum wallboard – Building A (0.0067%);
- Beige Paint – Building A exterior wood siding (0.0092%);
- Brown Paint – Building B exterior wood beam at stairs (0.0075%);
- Green Paint – Building C exterior wood siding (0.0084%);

See the FAAS Lead Paint Chip Sample Inventory included in Tab 3 for additional information including specific sample locations and results of paint sampling. Similar paint coatings to those identified above should be assumed to contain lead until sampled.

RECOMMENDATIONS

Asbestos-Containing Materials (ACM)

Regulations require various employee/worker compliance for all trades during activities impacting materials containing less than 1% of asbestos (gypsum wallboard assembly composite and Unit A6 sub-floor layer), which include and not limited to asbestos awareness training, initial air monitoring, worker and environmental protection, engineering controls (such as the use of wet methods and HEPA vacuums for debris cleanup), worker training and supervision by an asbestos “competent person”.

PBS recommends that ACMs to be impacted by renovation or demolition activities be removed prior to construction or only be impacted by properly trained and protected personnel in accordance with applicable local, state and federal regulations. A qualified asbestos abatement contractor licensed in the State of Washington should be employed for any removal and proper disposal of ACM in accordance with all applicable local, state and federal regulations.

The possibility exist that concealed suspect ACM may be present in wall and ceiling cavities, equipment and select areas of the building. These may include, but are not limited to ACM pipe insulation and hard-mudded fittings, other mechanical insulation, vibration joint cloth or sealants on ductwork, glued ceiling tiles, construction adhesives and wall mastics, flooring sub-layers, and vapor barriers or weatherproofing. Any suspect ACMs that were not included in this survey should be considered asbestos-containing until properly sampled by an AHERA-certified Asbestos Building Inspector.

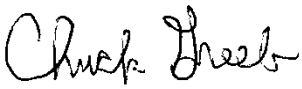
Lead-Containing Paint (LCP)

Impact of paint with detectable concentrations of lead requires construction activities to be performed in accordance with the State of Washington Department of Labor and Industries regulation for Lead in Construction (WAC 296-155-176). All construction activities performed in pre-1978 residential buildings requires compliance with the EPA and State of Washington Renovation, Repair and Painting (RRP) program regulations.

Painted coatings may exist in inaccessible areas of the building or in secondary coatings on building components. Any previously unidentified painted coatings should be considered lead containing until sampled and proven otherwise.

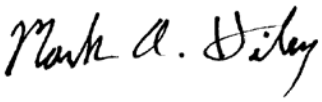
The paint sampling performed as part of this survey was not intended to meet the requirements of the HUD Guidelines for the Evaluation and Control of Lead-Based Paint in Housing.

Report prepared by:



Chuck Greeb
AHERA Building Inspector
Cert. # 154781, Exp. 12/30/2016

Report reviewed by:



Mark Hiley
Senior Project Manager

TAB 2
ASBESTOS BULK SAMPLE DATA

PBS

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
Building - A					
40573.130 -A01	Black sink undercoat	Unit A2 - Kitchen	Layer 1: Black soft/loose material	2% Chrysotile	SAT
40573.130 -A02	Orange peel wall texture	Unit A2 - Kitchen	Layer 1: White powdery material with paint	NAD	SAT
40573.130 -A03	White caulk at floor/wall joint	Unit A2 - Bathroom	Layer 1: White soft/elastic material	NAD	SAT
	Beige sheet vinyl - 8" squares		Layer 2: Beige sheet vinyl	NAD	
	Backing and mastic		Layer 3: Gray fibrous material with mastic	NAD	
	Cementitious floor underlayment		Layer 4: Gray sandy/brittle material	NAD	
40573.130 -A04	Joint compound	Unit A10 - Kitchen	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
			Composite result	<1% Ch.	
40573.130 -A05	Tan 4" covebase	Unit A10 - Kitchen	Layer 1: Tan rubbery material	NAD	SAT
	White mastic		Layer 2: White mastic	NAD	
	Brown vinyl		Layer 3: Brown vinyl	NAD	
	Wood debris		Layer 4: Brown wood debris	NAD	
40573.130 -A06	Tan sheet vinyl - 6" squares	Unit A10 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Tan sheet vinyl		Layer 3: Tan/beige sheet vinyl	NAD	
	Backing		Layer 4: Gray fibrous material	NAD	
	Cementitious floor underlayment		Layer 5: Gray sandy/brittle material	NAD	
	Gray powdery material		Layer 6: Gray powdery material with fibrous material	2% Chrysotile	
			Point count result layer 6	0.5% Ch.	
40573.130 -A07	Sink undercoat	Unit A10 - Kitchen	Layer 1: Black soft/loose material	2% Chrysotile	SAT
40573.130 -A08	Sink undercoat	Unit A29 - Kitchen	Layer 1: Black soft/loose material	NAD	SAT
			Layer 2: Off-white powdery material	NAD	
40573.130 -A09	Joint compound	Unit A14 - Closet	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
			Composite result	<1% Ch.	
40573.130 -A10	Beige sheet vinyl - 6" squares	Unit A14 - Bathroom	Layer 1: Clear soft/elastic material	NAD	SAT
	Beige sheet vinyl		Layer 2: Beige sheet vinyl	NAD	
	Backing and mastic		Layer 3: Gray fibrous material with mastic	NAD	
	Beige sheet vinyl		Layer 4: Beige sheet vinyl	NAD	
	Backing and mastic		Layer 5: gray fibrous material with mastic	NAD	
40573.130 -A11	Ceiling texture	Unit A14 - Living room	Layer 1: White soft lumpy material with paint	3% Chrysotile	SAT
			Point count result	1.75% Ch.	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -A12	Texture on gypsum wallboard	Unit A29 - Living room	Layer 1: White powdery material with paint	2% Chrysotile	SAT
40573.130 -A13	Beige sheet vinyl - 10" squares	Unit A29 - Bathroom	Layer 1: Beige sheet vinyl	NAD	SAT
	Mastic		Layer 2: Yellow mastic	NAD	
	Beige sheet vinyl		Layer 3: Beige/tan sheet vinyl	NAD	
	Yellow mastic		Layer 4: Yellow mastic	NAD	
	Beige sheet vinyl		Layer 5: Beige/gray sheet vinyl	NAD	
	Backing and mastic		Layer 6: Gray fibrous material with mastic	NAD	
	Leveling compound		Layer 7: Gray brittle material	NAD	
	Joint compound		Layer 8: White powdery material	NAD	
	Yellow sheet vinyl		Layer 9: Yellow sheet vinyl	NAD	
	Backing and mastic		Layer 10 Tan fibrous material with mastic	NAD	
	Joint compound		Layer 11: White powdery material	2% Chrysotile	
40573.130 -A14	Gray 4" vinyl covebase	Unit A33 - Bathroom	Layer 1: Gray rubbery material	NAD	SAT
	Mastic		Layer 2: Off-white mastic	NAD	
	Joint compound		Layer 3: White powdery material with paint	2% Chrysotile	
	Gypsum wallboard		Layer 4: White chalky material with paper	NAD	
			Composite result	<1% Ch.	
40573.130 -A15	Brown sheet vinyl - 12" squares	Unit A33 - Kitchen	Layer 1: Brown sheet vinyl	NAD	SAT
	Mastic		Layer 2: Yellow mastic	NAD	
	Tan sheet vinyl		Layer 3: Tan/beige sheet vinyl	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
	Brown sheet vinyl		Layer 5: Brown/beige sheet vinyl	NAD	
	Backing and mastic		Layer 6: Gray fibrous material with mastic	NAD	
	Leveling compound		Layer 7: Gray brittle material	NAD	
	Beige sheet vinyl		Layer 8: Beige sheet vinyl	NAD	
	Backing and mastic		Layer 9: Gray fibrous material with mastic	NAD	
	Unknown layer		Layer 10: Brown brittle material	NAD	
	Off-white sheet vinyl		Layer 11: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 12: Gray fibrous material with mastic	NAD	
	Off-white sheet vinyl		Layer 13: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 14: Tan fibrous material with mastic	NAD	
40573.130 -A16	Wall texture	Unit A39 - Closet	Layer 1: White powdery material with paint	NAD	SAT
	Joint compound		Layer 2: White powdery material with paint	2% Chrysotile	
	Gypsum wallboard		Layer 3: White chalky material with paper	NAD	
			Composite result	<1% Ch.	
40573.130 -A17	Tan sheet vinyl - 10" squares	Unit A39 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
	Mastic		Layer 2: Yellow mastic	NAD	
	Joint compound		Layer 3: White powdery material with paint	2% Chrysotile	
	Cementitious floor underlayment		Layer 4: Gray sandy/brittle material	NAD	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -A18	Caulk	Unit A45 - Bathroom	Layer 1: White soft/elastic material	NAD	SAT
	Beige sheet vinyl - 6" squares		Layer 2: Beige sheet vinyl	NAD	
	Mastic		Layer 3: Clear mastic	NAD	
	Paint		Layer 4: White paint	NAD	
	Beige sheet vinyl		Layer 5: Beige sheet vinyl	NAD	
	Backing and mastic		Layer 6: Gray fibrous material with mastic	NAD	
	Unknown layer		Layer 7: Trace brown brittle material	NAD	
	Off-white sheet vinyl		Layer 8: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 9: Tan fibrous material with mastic	NAD	
	Unknown layer		Layer 10: Brown brittle material	NAD	
	Paint		Layer 11: White paint	NAD	
40573.130 -A19	Beige sheet vinyl - 6" squares	Unit A45 - Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
	Mastic		Layer 2: Clear mastic	NAD	
	Beige sheet vinyl		Layer 3: Beige sheet vinyl	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
	Unknown layer		Layer 5: Brown brittle material	NAD	
	Off-white sheet vinyl		Layer 6: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 7: Tan fibrous material with mastic	NAD	
	Off-white sheet vinyl		Layer 8: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 9: Tan fibrous material with mastic	NAD	
40573.130 -A20	Texture	Unit A45 - Closet	Layer 1: White powdery material with paint	NAD	SAT
	Joint compound		Layer 2: White powdery material with paint	2% Chrysotile	
	Gypsum wallboard		Layer 3: White chalky material with paper	NAD	
			Composite result	<1% Ch.	
40573.130 -A21	Caulk	Unit A Laundry	Layer 1: White soft/elastic material	NAD	SAT
	Beige sheet vinyl		Layer 2: Beige sheet vinyl	NAD	
	Mastic		Layer 3: White mastic	NAD	
	Leveling compound		Layer 4: Gray brittle material	NAD	
	Mastic		Layer 5: Tan mastic	NAD	
	Paint		Layer 6: White paint	NAD	
40573.130 -A22	Paint	Unit A Office - Sensitive Files Room	Layer 1: White paint	NAD	SAT
	Beige sheet vinyl		Layer 2: Beige sheet vinyl	NAD	
	Mastic		Layer 3: Trace white mastic	NAD	
40573.130 -A23	Carpet mastic	Unit A Office	Layer 1: Tan mastic	NAD	SAT
	Leveling compound		Layer 2: Gray brittle material	NAD	
	Paint		Layer 3: White paint	NAD	
40573.130 -A24	Window frame caulk	Unit A exterior, courtyard	Layer 1: Tan soft/elastic material	NAD	SAT
			Layer 2: White soft/elastic material	NAD	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -A25	Gray cementitious walkway	Unit A 2nd floor at stairs	Layer 1: Gray soft/elastic	NAD	SAT
			Layer 2: Gray sandy/brittle material with paint	NAD	
	Mastic		Layer 3: Trace tan mastic	NAD	
40573.130 -A26	Composition roof	Courtyard side	Layer 1: Black asphaltic material with sand	NAD	SAT
			Layer 2: Black asphaltic material	NAD	
			Layer 3: Black asphaltic material with sand	NAD	

Building - B

40573.130 -B01	Joint compound	Unit B3 - Closet	Layer 1: White powdery material with paint	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: Off-white chalky material with paper	NAD	
40573.130 -B02	Tan sheet vinyl - 6" squares	Unit B3 - Bath	Layer 1: Tan sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Brown fibrous material with mastic	NAD	
	Cementitious flooring underlayment		Layer 3: Gray sandy/brittle material with paint	NAD	
40573.130 -B03	Popcorn ceiling	Unit B3 - Living room	Layer 1: White soft lumpy material with paint	3% Chrysotile	SAT
40573.130 -B04	Wall texture	Unit B5 - Living room	Layer 1: Off-white powdery material	NAD	SAT
	Mastic		Layer 2: Trace yellow/clear mastic	NAD	
	Unknown layer		Layer 3: Black soft material	NAD	
40573.130 -B05	Tan sheet vinyl - 10" squares	Unit B5 - Kitchen	Layer 1: Yellow mastic	NAD	SAT
	Mastic		Layer 2: White mastic	NAD	
	Joint compound		Layer 3: Trace white powdery material with paint	NAD	
	Paper		Layer 4: Trace brown paper	NAD	
40573.130 -B06	Tan sheet vinyl - 10" squares	Unit B12 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
	Mastic		Layer 2: Yellow mastic	NAD	
		\			
40573.130 -B07	Wall texture	Unit B12 - Living room	Layer 1: White powdery material with paint	NAD	SAT
40573.130 -B08	Tan sheet vinyl - 10" squares	Unit B14 - Kitchen (2 layer)	Layer 1: Tan sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Sheet vinyl		Layer 3: White sheet vinyl with paint	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
	Off-white sheet vinyl		Layer 5: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 6: Gray fibrous material with mastic	NAD	
40573.130 -B09	Gray 4" covebase	Unit B14 - Kitchen	Layer 1: Gray rubbery material	NAD	SAT
	Mastic		Layer 2: Yellow mastic	NAD	
	Paper		Layer 3: Trace white paper	NAD	
40573.130 -B10	Texture	Unit B14 - Closet	Layer 1: White powdery material with paint	2% Chrysotile	SAT
	Joint compound		Layer 2: Off-white chalky material with paper	NAD	
	Gypsum wallboard		*Composite result*	<1% Ch.	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -B11	Tan sheet vinyl - 10" squares	Unit B47 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Leveling compound		Layer 3: Gray brittle material	NAD	
	Beige sheet vinyl		Layer 4: Beige sheet vinyl with paint	NAD	
	Backing and mastic		Layer 5: Gray fibrous material with mastic	NAD	
	Yellow sheet vinyl		Layer 6: Yellow sheet vinyl	NAD	
	Backing and mastic		Layer 7: Brown fibrous material with mastic	NAD	
	Cementitious floor underlayment		Layer 8: Gray sandy/brittle material with paint	NAD	
40573.130 -B12	Tan sheet vinyl - 10" squares	Unit B23 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
	Mastic		Layer 2: Off-white mastic	NAD	
	Tan sheet vinyl		Layer 3: Tan sheet vinyl with paint	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
	Yellow sheet vinyl		Layer 5: Yellow sheet vinyl	NAD	
	Cementitious floor underlayment		Layer 6: Gray fibrous material with mastic	NAD	
40573.130 -B13	Tan sheet vinyl - 12" squares	Unit B25 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Floor leveling compound		Layer 3: Trace gray brittle material	NAD	
	Off-white sheet vinyl		Layer 4: Off-white sheet vinyl with paint	NAD	
	Backing and mastic		Layer 5: Gray fibrous material with mastic	NAD	
	Cementitious floor underlayment		Layer 6: Gray sandy/brittle material with paint	NAD	
40573.130 -B14	Gray 4" covebase	Unit B25 - Kitchen	Layer 1: Gray rubbery material	NAD	SAT
	Mastic		Layer 2: White mastic	NAD	
	Joint compound		Layer 3: White powdery material with paint	2% Chrysotile	
	Gypsum wallboard		Layer 4: Off-white material with paper	NAD	
			Composite result	<1% Ch.	
40573.130 -B15	Sink undercoat	Unit B25 - Kitchen	Layer 1: Black sheet vinyl	2% Chrysotile	SAT
40573.130 -B16	Beige sheet vinyl - 6" squares	Unit B29 - Bathroom	Layer 1: Beige sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: White fibrous material with mastic	NAD	
	Leveling compound		Layer 3: Trace gray brittle material	NAD	
	White sheet vinyl		Layer 4: White sheet vinyl with paint	NAD	
	Backing and mastic		Layer 5: Gray fibrous material with mastic	NAD	
	Tan sheet vinyl		Layer 6: Tan sheet vinyl	NAD	
	Backing and mastic		Layer 7: White fibrous material with mastic	NAD	
	Cementitious floor underlayment		Layer 8: Gray sandy/brittle material	NAD	
40573.130 -B17	Wall texture	Unit B29 - Living room	Layer 1: White powdery material with paint	NAD	SAT
			Layer 2: Trace brown paper	NAD	
40573.130 -B18	Popcorn ceiling	Unit B32 - Living room	Layer 1: White soft lumpy material with paint	3% Chrysotile	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -B19	Tan sheet vinyl - 10" squares	Unit B32 - Bathroom	Layer 1: Tan sheet vinyl	NAD	SAT
	Mastic		Layer 2: Off-white mastic	NAD	
	Tan sheet vinyl		Layer 3: Tan sheet vinyl with paint	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
	Leveling compound		Layer 5: Trace gray brittle material	NAD	
	White sheet vinyl		Layer 6: White sheet vinyl	NAD	
	Backing and mastic		Layer 7: Gray fibrous material with mastic	NAD	
	Yellow sheet vinyl		Layer 8: Yellow sheet vinyl	NAD	
	Backing and mastic		Layer 9: Brown fibrous material with mastic	NAD	
	Cementitious floor underlayment		Layer 10: Gray sandy/brittle material with paint	NAD	
40573.130 -B20	Wall texture	Unit B32 - Living room	Layer 1: White powdery material with paint	NAD	SAT
40573.130 -B21	Tan sheet vinyl - 10" squares	Unit B36 - Bathroom	Layer 1: Tan sheet vinyl	NAD	SAT
	Mastic		Layer 2: Off-white mastic	NAD	
	Tan sheet vinyl		Layer 3: Tan sheet vinyl with paint	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
	Leveling compound		Layer 5: Trace gray brittle material	NAD	
	White sheet vinyl		Layer 6: White sheet vinyl	NAD	
	Backing and mastic		Layer 7: Gray fibrous material with mastic	NAD	
	Yellow sheet vinyl		Layer 8: Yellow sheet vinyl	NAD	
	Backing and mastic		Layer 9: Brown fibrous material with mastic	NAD	
40573.130 -B22	Sink undercoat	Unit B36 - Kitchen	Layer 1: Black soft/loose material	2% Chrysotile	SAT
40573.130 -B23	Gray 4" vinyl covebase	Unit B47 - Kitchen	Layer 1: Gray rubbery material	NAD	SAT
	Mastic		Layer 2: White mastic	NAD	
	Joint compound		Layer 3: White powdery material with paper	NAD	
40573.130 -B24	Texture and joint compound	Unit B47 - Kitchen	Layer 1: Trace white powdery material with paint	NAD	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40573.130 -B25	Beige sheet vinyl	Building B Laundry room	Layer 1: Beige sheet vinyl	NAD	SAT
	Mastic		Layer 2: Off-white mastic	NAD	
	White sheet vinyl		Layer 3: White sheet vinyl	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	50% Chrysotile	
40573.130 -B26	Composition roof	Unit B Courtyard side	Layer 1: Black asphaltic material with sand	NAD	SAT
			Layer 2: Black asphaltic material with sand	NAD	
40573.130 -B27	Window frame caulk	Unit B Courtyard side	Layer 1: Beige soft/elastic material with paint	NAD	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
Building - C					
40573.130 -C01	Tan vinyl - 12" squares	Unit C3 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
	Mastic		Layer 2: Tan mastic	NAD	
	Cementitious floor underlayment		Layer 3: Gray sandy/brittle material	NAD	
40573.130 -C02	Gray 4" vinyl covebase	Unit C3 - Kitchen	Layer 1: Brown rubbery material	NAD	SAT
	Mastic		Layer 2: White mastic	NAD	
40573.130 -C03	Joint compound	Unit C3 - Kitchen	Layer 1: Off-white powdery material with paint	NAD	SAT
	Gypsum wallboard		Layer 2: White chalky material with paint	NAD	
40573.130 -C04	Popcorn ceiling	Unit C3 - Living room	Layer 1: White soft lumpy material with paint	NAD	SAT
40573.130 -C05	Caulk	Unit C5 - Living room	Layer 1: Trace off-white soft/elastic material	NAD	SAT
	Brown sheet vinyl - 6" square		Layer 2: Brown sheet vinyl	NAD	
	Backing and mastic		Layer 3: White fibrous material with mastic	NAD	
	Cementitious floor underlayment		Layer 4: Trace gray brittle material	NAD	
40573.130 -C06	Wall texture	Unit C5 - Bathroom	Layer 1: Trace white powdery material with paint	NAD	SAT
40573.130 -C07	Beige 4" vinyl covebase	Unit C12 - Bathroom	Layer 1: Beige rubbery material	NAD	SAT
	Mastic		Layer 2: Off-white mastic	NAD	
	Joint compound		Layer 3: Trace white powdery material with paint and paper	NAD	
40573.130 -C08	Brown sheet vinyl - 6" square	Unit C12 - Bathroom	Layer 1: Brown sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: White fibrous material with mastic	NAD	
	White sheet vinyl		Layer 3: White sheet vinyl	NAD	
	Backing and mastic		Layer 4: Brown fibrous material with mastic	NAD	
	Yellow sheet vinyl		Layer 5: Yellow sheet vinyl	NAD	
	Backing and mastic		Layer 6: Brown fibrous material with mastic	NAD	
40573.130 -C09	Sink undercoat	Unit C14 - Kitchen	Layer 1: Black soft/loose material	2% Chrysotile	SAT
40573.130 -C10	Tan sheet vinyl - 6" square	Unit C14 - Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with trace mastic	NAD	
40573.130 -C11	Joint compound	Unit C14 - Kitchen	Layer 1: Trace off-white powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper		
			Composite result	<1% Ch.	
40573.130 -C12	Wall texture	Unit C23 - Living room	Layer 1: Trace white powdery material with paint	NAD	SAT
			Layer 2: Trace brown paper	NAD	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -C13	Tan sheet vinyl - 10" square	Unit C23 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
	Yellow mastic		Layer 2: Yellow mastic	NAD	
	Cementitious floor underlayment		Layer 3: Gray powdery material	NAD	
	Unknown material		Layer 4: Trace white brittle material	NAD	
40573.130 -C14	Beige sheet vinyl - 6" square	Unit C29 - Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with trace mastic	NAD	
	Brown sheet vinyl		Layer 3: Brown sheet vinyl	NAD	
	Backing and mastic		Layer 4: White fibrous material with trace mastic	NAD	
40573.130 -C15	Popcorn ceiling	Unit C29 - Living room	Layer 1: White soft lumpy material with paint	NAD	SAT
40573.130 -C16	Joint compound	Unit C16 - Kitchen	Layer 1: White powdery material with paint and paper	NAD	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40573.130 -C17	Tan sheet vinyl - 10" square	Unit C16 - Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
	Mastic		Layer 2: Yellow mastic	NAD	
	Off-white sheet vinyl		Layer 3: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 4: Brown fibrous material with mastic	NAD	
	Cementitious floor underlayment		Layer 5: Gray brittle material	NAD	
40573.130 -C18	Gray 4" covebase	Unit C30 - Kitchen	Layer 1: Gray rubbery material	NAD	SAT
	Mastic		Layer 2: Off-white mastic	NAD	
	Paper		Layer 3: Brown paper with paint	NAD	
40573.130 -C19	Brown sheet vinyl - 6" square	Unit C36 - Bathroom - 2 layer	Layer 1: Brown sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Off-white fibrous material with mastic	NAD	
	Off-white sheet vinyl		Layer 3: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 4: Off-white fibrous material with mastic	NAD	
	Tan sheet vinyl		Layer 5: Tan sheet vinyl	NAD	
	Backing and mastic		Layer 6: Brown fibrous material with mastic	NAD	
40573.130 -C20	Tan 4" vinyl covebase	Unit C36 - Bathroom	Layer 1: Gray rubbery material	NAD	SAT
	Mastic		Layer 2: Off-white mastic	NAD	
	Joint compound		Layer 3: Trace white powdery material with paint and paper	2% Chrysotile	
40573.130 -C21	Wall texture	Unit C47 - Kitchen (ceiling)	Layer 1: Trace off-white powdery material with paint and paper	NAD	SAT
40573.130 -C22	Beige sheet vinyl - 6" square	Unit C47 - Bathroom	Layer 1: Beige sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Off-white fibrous material with mastic	NAD	
40573.130 -C23	Beige sheet vinyl	Building C - Laundry room	Layer 1: Beige sheet vinyl	NAD	SAT
	Cementitious underlayment		Layer 2: Gray powdery material with mastic	NAD	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -C24	Composition roof	Courtyard side	Layer 1: Black asphaltic material with sand	NAD	SAT
40573.130 -C25	Cementitious walkway	2nd floor at stairs	Layer 1: Gray hard sandy/brittle material with paint	NAD	SAT
40573.130 -C26	Yellow sheet flooring	2nd floor corridor to rooms 33-36	Layer 1: Yellow sheet vinyl	NAD	SAT
	Mastic		Layer 2: Yellow mastic	NAD	
40573.130 -C27	Window frame sealant	2nd floor courtyard side	Layer 1: Gray soft/elastic material with paint	NAD	SAT

Building - D

40573.130 -D01	Tan vinyl - 12" square	Unit D1 - Kitchen (1 layer)	Layer 1: Tan sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
40573.130 -D02	Tan vinyl - 12" square	Unit D1 - Bathroom (2 layer)	Layer 1: Tan sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Leveling compound		Layer 3: Gray brittle material	NAD	
	Tan sheet vinyl		Layer 4: Light tan sheet vinyl	NAD	
	Backing and mastic		Layer 5: Yellow fibrous material with mastic	NAD	
40573.130 -D03	Joint compound	Unit D1 - Kitchen	Layer 1: Off-white powdery material with paint	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
			Composite result	<1% Ch.	
40573.130 -D04	Beige sheet vinyl - 12" square	Unit D4	Layer 1: Beige sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
40573.130 -D05	Gray 4" vinyl covebase	Unit D5	Layer 1: Gray rubbery material	NAD	SAT
	Mastic		Layer 2: Brown mastic	NAD	
	Joint compound		Layer 3: White powdery material with paint and paper	2% Chrysotile	
40573.130 -D06	Joint compound	Unit D6	Layer 1: Off-white powdery material with paint	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
			Composite result	<1% Ch.	
40573.130 -D07	Sink undercoat	Unit D6 - Kitchen	Layer 1: Black soft/loose material	NAD	SAT
			Layer 2: Off-white brittle material	NAD	
40573.130 -D08	Gray 4" vinyl covebase	Unit D6 - Kitchen	Layer 1: Gray rubbery material	NAD	SAT
	Mastic		Layer 2: Off-white mastic	NAD	
40573.130 -D09	Tan sheet vinyl - 6" square	Unit D6 - Kitchen (1 layer)	Layer 1: Tan sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Cementitious floor underlayment		Layer 3: Gray sand/brittle material	NAD	
40573.130 -D10	Popcorn ceiling	Unit D23 - Living room	Layer 1: Off-white soft lumpy material with paint	3% Chrysotile	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -D11	Texture	Unit D23 - Closet	Layer 1: White powdery material with paint	NAD	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
40573.130 -D12	Sink undercoat	Unit D23 - Kitchen	Layer 1: Black soft/loose material	3% Chrysotile	SAT
40573.130 -D13	Popcorn ceiling	Unit D24	Layer 1: Off-white soft lumpy material with paint	3% Chrysotile	SAT
40573.130 -D14	Wall texture	Unit D24	Layer 1: White powdery material with paint	NAD	SAT
	Gypsum wallboard		Layer 2: Trace white chalky material with paper	NAD	
40573.130 -D15	Tan sheet vinyl - 6" square	Unit D24 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Off-white sheet vinyl		Layer 3: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
	Off-white sheet vinyl		Layer 5: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 6: Gray fibrous material with mastic	NAD	
40573.130 -D16	Sink undercoat	Unit D24 - Kitchen	Layer 1: Black soft/loose material	3% Chrysotile	SAT
40573.130 -D17	Beige sheet vinyl - 12" square	Unit D29 - Bathroom	Layer 1: Beige sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Beige sheet vinyl		Layer 3: Beige sheet vinyl	NAD	
	Beige sheet vinyl		Layer 4: Gray fibrous material with mastic	NAD	
	Backing and mastic		Layer 5: Gray sandy/brittle material	NAD	
40573.130 -D18	Texture	Unit D29 - Closet	Layer 1: White powdery material withy paint	NAD	SAT
	Joint compound		Layer 2: off-white powdery material with paint	2% Chrysotile	
	Gypsum wallboard		Layer 3: Pink chalky material with paper	NAD	
			Composite result	<1% Ch.	
40573.130 -D19	Beige sheet vinyl - 12" square	Unit D29 - Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Off-white sheet vinyl		Layer 3: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
40573.130 -D20	Wall texture	Unit D30 - Loft	Layer 1: White powdery material with paint	NAD	SAT
40573.130 -D21	Popcorn ceiling	Unit D30 - Loft	Layer 1: Off-white soft lumpy material with paint	3% Chrysotile	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -D22	Tan vinyl - 10" square	Unit D30 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Yellow sheet vinyl		Layer 3: Yellow sheet vinyl	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
	Off-white sheet vinyl		Layer 5: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 6: Gray fibrous material with mastic	NAD	
	Off-white sheet vinyl		Layer 7: Off-white/black sheet vinyl	NAD	
	Backing and mastic		Layer 8: Gray fibrous material with mastic	NAD	
	Leveling compound		Layer 9: Off-white brittle material	NAD	
40573.130 -D23	Tan vinyl - 10" square	Unit D36 - Bathroom	Layer 1: Off-white sheet vinyl	NAD	SAT
	Mastic		Layer 2: Clear/yellow mastic with wood debris	NAD	
	Cementitious floor underlayment		Layer 3: Gray sandy/brittle material	NAD	
40573.130 -D24	Texture, Joint compound	Unit D24 - Kitchen	Layer 1: White powdery material with paint	NAD	SAT
	Gypsum wallboard		Layer 2: Trace white chalky material with paper	NAD	
40573.130 -D25	Gray 4" covebase	Unit D36 - Kitchen	Layer 1: Gray rubbery material	NAD	SAT
	Mastic		Layer 2: Off-white mastic	NAD	
	Joint compound		Layer 3: White powdery material with paint	NAD	
	Gypsum wallboard		Layer 4: White chalky material with paper	NAD	
40573.130 -D26	Sink undercoat	Unit D37 - Kitchen	Layer 1: Black soft/loose material	2% Chrysotile	SAT
40573.130 -D27	Beige sheet vinyl - 8" square	Unit D37 - Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Off-white sheet vinyl		Layer 3: Off-white sheet vinyl	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
40573.130 -D28	Beige sheet vinyl - 6" square	Unit D48 - Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
	Backing and mastic		Layer 2: Gray fibrous material with mastic	NAD	
	Yellow sheet vinyl		Layer 3: Yellow sheet vinyl	NAD	
	Backing and mastic		Layer 4: Gray fibrous material with mastic	NAD	
40573.130 -D29	Green/yellow sheet vinyl flooring	2nd floor corridor to Units D41-D44	Layer 1: Green/yellow sheet vinyl	NAD	SAT
	Yellow mastic		Layer 2: Yellow mastic	NAD	
40573.130 -D30	Gray cementitious walkway	Unit D, 2nd floor at stair	Layer 1: Gray hard sandy/brittle material with paint	NAD	SAT
	Mastic		Layer 2: Tan mastic	NAD	
40573.130 -D31	Composition roof	Unit D, Courtyard side	Layer 1: Black asphaltic material with sand	NAD	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
Building - E					
40573.130 -E01	Gray 4" covebase Mastic	Unit E1 - Kitchen	Layer 1: Gray rubbery material Layer 2: Tan mastic	NAD NAD	SAT
40573.130 -E02	Beige sheet vinyl - 12" squares	Unit E1 - Kitchen (2 layers)	Layer 1: Beige sheet vinyl Layer 2: Yellow mastic Layer 3: Beige/gray sheet vinyl Layer 4: Gray fibrous material with mastic Layer 5: Gray brittle material Layer 6: Off-white sheet vinyl Layer 7: Gray fibrous material with mastic	NAD NAD NAD NAD NAD NAD NAD	SAT
40573.130 -E03	Texture Joint compound Gypsum wallboard	Unit E1 - Kitchen	Layer 1: Tan mastic Layer 2: Off-white powdery material with paint Layer 3: White powdery material with paint Layer 4: White chalky material with paper *Composite result*	NAD NAD 2% Chrysotile NAD <1% Ch.	SAT
40573.130 -E04	Beige sheet vinyl - 12" squares	Unit E5 - Kitchen	Layer 1: Beige sheet vinyl Layer 2: Yellow mastic Layer 3: Beige/gray sheet vinyl Layer 4: Gray fibrous material with mastic Layer 5: White paint Layer 6: Off-white sheet vinyl Layer 7: Gray fibrous material with mastic Layer 8: White powdery material with paint	NAD NAD NAD NAD NAD NAD NAD NAD	SAT
40573.130 -E05	Texture	Unit E5 - Closet	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Joint compound Gypsum wallboard		Layer 2: White chalky material with paper *Composite result*	NAD <1% Ch.	
40573.130 -E06	Gray 4" covebase Mastic	Unit E6 - Bathroom	Layer 1: Gray rubbery material Layer 2: Off-white mastic Layer 3: White powdery material with paint	NAD NAD NAD	SAT
40573.130 -E07	Beige sheet vinyl - 8" squares	Unit E6 - Bathroom	Layer 1: Beige sheet vinyl Layer 2: Yellow mastic Layer 3: Beige/off-white sheet vinyl Layer 4: Gray fibrous material with mastic Layer 5: Off-white sheet vinyl Layer 6: Gray fibrous material with mastic Layer 7: White powdery material with paint	NAD NAD NAD NAD NAD NAD NAD	SAT
40573.130 -E08	Sink undercoat	Unit E6 - Kitchen	Layer 1: Black soft/loose material	2% Chrysotile	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -E09	Sink undercoat	Unit E23 - Kitchen (new)	Layer 1: White powdery material	NAD	SAT
			Layer 2: Black soft/loose material	NAD	
40573.130 -E10	Beige sheet vinyl - 8" squares	Unit E23 - Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Yellow mastic	NAD	
			Layer 3: Tan sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: White paint	NAD	
40573.130 -E11	Texture	Unit E23 - Kitchen	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Joint compound		Layer 2: White chalky material with paper	NAD	
	Gypsum wallboard		*Composite result*	<1% Ch.	
40573.130 -E12	Beige sheet vinyl - 8" squares	Unit E24 - Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Gray brittle material with mastic	NAD	
			Layer 4: Tan fibrous material with mastic	NAD	
			Layer 5: Gray sandy/brittle material	NAD	
40573.130 -E13	Popcorn ceiling texture	Unit E24 - Living room	Layer 1: White soft lumpy material with paint	3% Chrysotile	SAT
40573.130 -E14	Sink undercoat	Unit E29 - Kitchen	Layer 1: Gray soft/loose material	NAD	SAT
40573.130 -E15	Joint compound	Unit E29 - Kitchen	Layer 1: White powdery material with paint and paper	2% Chrysotile	SAT
	Gypsum wallboard		Layer 2: White chalky material with paper	NAD	
			Composite result	<1% Ch.	
40573.130 -E16	Tan vinyl - 10" squares	Unit E29 - Kitchen	Layer 1: Tan sheet vinyl	NAD	SAT
			Layer 2: Yellow mastic	NAD	
			Layer 3: Tan/beige sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: Gray brittle material	NAD	
			Layer 6: Beige sheet vinyl	NAD	
			Layer 7: Gray fibrous material with mastic	NAD	
			Layer 8: Gray fibrous material	NAD	
			Layer 9: Gray sandy/brittle material	NAD	
40573.130 -E17	Tan vinyl - 10" squares	Unit E30 - Bathroom	Layer 1: Tan sheet vinyl	NAD	SAT
			Layer 2: Yellow mastic	NAD	
			Layer 3: Tan/beige sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: Off-white sheet vinyl	NAD	
			Layer 6: Gray fibrous material with mastic	NAD	
			Layer 7: Gray sandy/brittle material	NAD	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -E18	Gray 4" covebase Mastic	Unit E30 - Bathroom	Layer 1: Gray rubbery material Layer 2: Yellow mastic Layer 3: Brown paper	NAD NAD NAD	SAT
40573.130 -E19	Tan vinyl - 8" squares	Unit E37 - Bathroom	Layer 1: Tan sheet vinyl Layer 2: Gray fibrous material with mastic Layer 3: White paint Layer 4: Beige sheet vinyl Layer 5: Gray fibrous material with mastic Layer 6: Gray brittle material Layer 7: Gray sandy/brittle material with paint	NAD NAD NAD NAD NAD NAD NAD	SAT
40573.130 -E20	Texture Joint compound Gypsum wallboard	Unit E37 - Closet	Layer 1: White powdery material with paint and paper Layer 2: White chalky material with paper *Composite result*	2% Chrysotile NAD <1% Ch.	SAT
40573.130 -E21	Beige vinyl - 8" squares	Unit E37 - Kitchen	Layer 1: Beige sheet vinyl Layer 2: Gray fibrous material with mastic Layer 3: Off-white powdery material Layer 4: Gray sandy/brittle material	NAD NAD NAD NAD	SAT
40573.130 -E22	Texture on gypsum wallboard	Unit E37 - Closet	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.130 -E23	Texture on gypsum wallboard	Unit E48 - Bathroom	Layer 1: White powdery material with paint	NAD	SAT
40573.130 -E24	Beige vinyl - 8" squares	Unit E48 - Bathroom	Layer 1: Beige sheet vinyl Layer 2: Gray fibrous material with mastic Layer 3: Off-white powdery material Layer 4: Off-white/beige sheet vinyl Layer 5: Gray fibrous material with mastic Layer 6: White powdery material Layer 7: Off-white sheet vinyl Layer 8: Tan fibrous material with mastic Layer 9: Gray sandy/brittle material with paint	NAD NAD NAD NAD NAD NAD NAD NAD NAD	SAT
40573.130 -E25	Beige vinyl - 8" squares	Unit E48 - Kitchen	Layer 1: Beige sheet vinyl Layer 2: Gray fibrous material with mastic Layer 3: Off-white/beige sheet vinyl Layer 4: Gray fibrous material with mastic Layer 5: Off-white/beige sheet vinyl Layer 6: Tan fibrous material with mastic	NAD NAD NAD NAD NAD NAD	SAT
40573.130 -E26	Sink undercoat	Unit E48 - Kitchen	Layer 1: Black soft/loose material	2% Chrysotile	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.130 -E27	Beige vinyl	Building E - Laundry Room	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Yellow mastic	NAD	
			Layer 3: Off-white/tan sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	65% Chrysotile	
40573.130 -E28	Window frame caulk	East side	Layer 1: Gray soft/elastic material	NAD	SAT
			Layer 2: Off-white soft/elastic material	NAD	
			Layer 3: Brown wood debris	NAD	
40573.130 -E29	Composition roof	Courtyard side	Layer 1: Black asphaltic material with sand	NAD	SAT

20161385 3

PBS

Project: KCHA - Carriage House Apts. Bldg. A Project# 40.573.130

Analysis requested: PLM Date: 11/2/16

Relinq'd by/Signature: C. Greeb Date/Time: 11/2/16

Received by/Signature: Carolyn Yee Carolyn Yee Date/Time: 11/3/16 12:30

Email results to: Analyzed: Vanessa Osborn 11/7/16 10:45

☐	Brian Stanford	☐	Prudy Stoudt-McRae	☐	Harry Goren
☐	Ernest Edwards	☒	Chuck Greeb	☐	Tim Ogden
☐	Gregg Middaugh	☐	Janet Murphy	☐	Mike Smith
☒	Mark Hiley	☐	Willem Mager	☐	Other_____

TURN AROUND TIME:

☐	1 Hour	☐	24 Hours	☒	(3-5) Days
☐	2 Hours	☐	48 Hours	☐	Other_____
☐	4 Hours				

Report composite results for GWB & JC

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	-A01	Sink undercoat	A2 Kitchen	
	-A02	Wall Texture	A2 kitchen	
	-A03	Beige Sht. vinyl - 8" sq.'s	A2 bath	
	-A04	JC + GWB	A10 Kitchen	
	-A05	Tan 4" cove base	A10 Kitchen	
	-A06	Tan sht. vinyl - 6" sq.'s	A10 kitchen	
	-A07	Sink undercoat	A10 Kitchen	
	-A08	Sink undercoat	A29 kitchen	
	-A09	JC + GWB	A14 Closet	
	-A10	Beige Sht. vinyl -6" sq.'s	A14 Bathroom (2 layer)	
	-A11	Ceiling Texture	A14 Living Rm.	
	-A12	Texture on GWB	A29 Living Rm.	
	-A13	Beige Sht. vinyl -10" sq's	A29 Bathroom (Multi-layer)	
	-A14	Gray 4" vinyl cove base	A33 Bathroom	
	-A15	Brown Sht. vinyl - 12" sq.'s	A33 Kitchen (Multi-layer)	

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20161353

PBS

Project: KCHA - Carriage House Apts. Bldg. A Project# 40573.130

Analysis requested: PLM Date: 11/2/16

Relinq'd by/Signature: C. Greeb Date/Time: 11/2/16

Received by/Signature: Carolyn Yeo Carolyn Yeo Date/Time: 11/3/16 12:30

Analyzed: Warren Osborn 11/7/16 10:45

Email results to:

☐	Brian Stanford	☐	Prudy Stoudt-McRae	☐	Harry Goren
☐	Ernest Edwards	☒	Chuck Greeb	☐	Tim Ogden
☐	Gregg Middaugh	☐	Janet Murphy	☐	Mike Smith
☒	Mark Hiley	☐	Willem Mager	☐	Other

TURN AROUND TIME:

☐	1 Hour	☐	24 Hours	☒	3-4 Days
☐	2 Hours	☐	48 Hours	☐	Other
☐	4 Hours				

Report composite results for GWB & JC

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	-A16	JC + GWB	A39 Closet	
	-A17	Tan Sht. Vinyl - 10" Sq.'s	A39 kitchen	
	-A18	Beige Sht. Vinyl - 6" Sq.'s	A45 Bathroom	
	-A19	Beige Sht. Vinyl - 6" Sq.'s	A45 kitchen	
	-A20	Texture, JC, GWB	A45 Closet	
	-A21	Beige Sheet Vinyl	Laundry	
	-A22	Beige Sheet Vinyl	Office - Sensitive Files Room	
	-A23	Carpet mastic	OFFice	
	-A24	Window Frame caulk	Exterior, Courtyard	
	-A25	Gray Cementitious walkway	2nd Fl. at stair	
	A26	Composition Roof	Courtyard Site	

PBS ENGINEERING AND ENVIRONMENTAL, 130 NICKERSON ST. #107, SEATTLE, WASHINGTON 98109, (206)-233-9639, FaX: (206)-762-4780

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.:	Mr. Chuck Greeb, Mr. Mark Hiley	**Client:**	PBS Engineering and Environmental, Seattle	**Address:**	2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#:	40573.130	**Batch#:**	201613853	**Date Received:**	11/3/2016
Samples Rec'd:	26	**Date Analyzed:**	11/7/2016	**Samples Analyzed:**	26
Project Loc.:	KCHA-Carriage House Apts. Bldg. A				

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	-A01	1	Black soft/loose material	2	**Chrysotile**	Filler, Fine particles	3	Cellulose
2	-A02	1	White powdery material with paint		**None detected**	Binder/filler, Paint	4	Cellulose
3	-A03	1	White soft/elastic material		**None detected**	Binder, Filler	2	Cellulose
		2	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		3	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose, Glass fibers
		4	Gray sandy/brittle material		**None detected**	Sand, Filler, Binder	3	Cellulose
4	-A04 Composite result <1%	1	White powdery material with paint and paper	2	**Chrysotile**	Binder/filler, Paint	32	Cellulose
		2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	25	Cellulose
5	-A05	1	Tan rubbery material		**None detected**	Rubber/binder	2	Cellulose
		2	White mastic		**None detected**	Mastic/binder	2	Cellulose
		3	Brown vinyl		**None detected**	Vinyl/binder		None detected
		4	Brown wood debris		**None detected**	Wood debris	7	Cellulose
6	-A06	1	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose, Glass fibers
		3	Tan/beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	65	Cellulose, Glass fibers
		5	Gray sandy/brittle material		**None detected**	Sand, Filler, Binder	3	Cellulose
		6	Gray powdery material with fibrous material	2	**Chrysotile**	Filler, Fine particles	5	Cellulose
7	-A07	1	Black soft/loose material	2	**Chrysotile**	Filler, Fine particles	2	Cellulose
8	-A08	1	Black soft/loose material		**None detected**	Filler, Fine particles	4	Cellulose
		2	Off-white powdery material		**None detected**	Filler, Binder	3	Cellulose

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613853
Date Received: 11/3/2016
Samples Rec'd: 26
Date Analyzed: 11/7/2016
Samples Analyzed: 26
Project Loc.: KCHA-Carriage House Apts. Bldg. A

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
9	-A09 Composite result <1%	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	30	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
10	-A10	1	Clear soft/elastic material		None detected	Binder, Filler	2	Cellulose
		2	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		3	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	67	Cellulose, Glass fibers
		4	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		5	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	69	Cellulose, Glass fibers
11	-A11	1	White soft lumpy material with paint	3	Chrysotile	Synthetic foam, Filler, Binder, Paint	3	Cellulose
12	-A12	1	White powdery material with paint	2	Chrysotile	Binder/filler, Paint	3	Cellulose
13	-A13	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Yellow mastic		None detected	Mastic/binder	5	Cellulose
		3	Beige/tan sheet vinyl		None detected	Vinyl/binder		None detected
		4	Yellow mastic		None detected	Mastic/binder	4	Cellulose
		5	Beige/gray sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose, Glass fibers
		7	Gray brittle material		None detected	Filler, Binder	2	Cellulose
		8	White powdery material		None detected	Filler, Binder	2	Cellulose
		9	Yellow sheet vinyl		None detected	Vinyl/binder		None detected
		10	Tan fibrous material with mastic		None detected	Binder/filler, Mastic/binder	67	Cellulose, Glass fibers
		11	White powdery material	2	Chrysotile	Binder/filler	3	Cellulose
14	-A14	1	Gray rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Off-white mastic		None detected	Mastic/binder	2	Cellulose

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613853
Date Received: 11/3/2016
Samples Rec'd: 26
Date Analyzed: 11/7/2016
Samples Analyzed: 26
Project Loc.: KCHA-Carriage House Apts. Bldg. A

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
14	-A14 Composite result <1%	3	White powdery material with paint	2	Chrysotile	Binder/filler, Paint	4	Cellulose
		4	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	28	Cellulose
15	-A15	1	Brown sheet vinyl		None detected	Vinyl/binder	4	Glass fibers
		2	Yellow mastic		None detected	Mastic/binder	3	Cellulose
		3	Tan/beige sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose, Glass fibers
		5	Brown/beige sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose, Glass fibers
		7	Gray brittle material		None detected	Filler, Binder	4	Cellulose
		8	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		9	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	69	Cellulose, Glass fibers
		10	Brown brittle material		None detected	Filler, Binder	5	Cellulose
		11	Off-white sheet vinyl		None detected	Vinyl/binder		None detected
		12	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose, Glass fibers
		13	Off-white sheet vinyl		None detected	Vinyl/binder		None detected
		14	Tan fibrous material with mastic		None detected	Binder/filler, Mastic/binder	68	Cellulose, Glass fibers
16	-A16 Composite result <1%	1	White powdery material with paint		None detected	Binder/filler, Paint	3	Cellulose
		2	White powdery material with paint	2	Chrysotile	Binder/filler, Paint	4	Cellulose
		3	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
17	-A17	1	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Yellow mastic		None detected	Mastic/binder	2	Cellulose
		3	White powdery material with paint	2	Chrysotile	Binder/filler, Paint	3	Cellulose

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613853
Date Received: 11/3/2016
Samples Rec'd: 26
Date Analyzed: 11/7/2016
Samples Analyzed: 26
Project Loc.: KCHA-Carriage House Apts. Bldg. A

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
17	-A17	4	Gray sandy/brittle material		**None detected**	Sand, Filler, Binder	2	Cellulose
18	-A18	1	White soft/elastic material		**None detected**	Binder, Filler	2	Cellulose
		2	Beige sheet vinyl		**None detected**	Vinyl/binder	4	Glass fibers
		3	Clear mastic		**None detected**	Mastic/binder	3	Cellulose
		4	White paint		**None detected**	Paint/binder	2	Cellulose
		5	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	65	Cellulose, Glass fibers
		7	Trace brown brittle material		**None detected**	Filler, Binder	4	Cellulose
		8	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		9	Tan fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	67	Cellulose, Glass fibers
		10	Brown brittle material		**None detected**	Filler, Binder	3	Cellulose
		11	White paint		**None detected**	Paint/binder	2	Cellulose
19	-A19	1	Beige sheet vinyl		**None detected**	Vinyl/binder	5	Glass fibers
		2	Clear mastic		**None detected**	Mastic/binder	2	Cellulose
		3	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	64	Cellulose, Glass fibers
		5	Brown brittle material		**None detected**	Filler, Binder	3	Cellulose
		6	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		7	Tan fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	66	Cellulose, Glass fibers
		8	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		9	Tan fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose, Glass fibers
20	-A20 Composite result <1%	1	White powdery material with paint		**None detected**	Binder/filler, Paint	2	Cellulose
		2	White powdery material with paint	2	**Chrysotile**	Binder/filler, Paint	3	Cellulose

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613853
Date Received: 11/3/2016
Samples Rec'd: 26
Date Analyzed: 11/7/2016
Samples Analyzed: 26
Project Loc.: KCHA-Carriage House Apts. Bldg. A

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
20	Composite result <1%	3	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	24	Cellulose
21	-A21	1	White soft/elastic material		**None detected**	Binder, Filler	2	Cellulose
		2	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		3	White mastic		**None detected**	Mastic/binder	2	Cellulose
		4	Gray brittle material		**None detected**	Filler, Binder	3	Cellulose
		5	Tan mastic		**None detected**	Mastic/binder	2	Cellulose
		6	White paint		**None detected**	Paint/binder	2	Cellulose
22	-A22	1	White paint		**None detected**	Paint/binder	3	Cellulose
		2	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		3	Trace white mastic		**None detected**	Mastic/binder	2	Cellulose
23	-A23	1	Tan mastic		**None detected**	Mastic/binder	5	Synthetic fibers, Cellulose
		2	Gray brittle material		**None detected**	Filler, Binder	4	Cellulose
		3	White paint		**None detected**	Paint/binder	2	Cellulose
24	-A24	1	Tan soft/elastic material		**None detected**	Binder, Filler	2	Cellulose
		2	White soft/elastic material		**None detected**	Binder, Filler	2	Cellulose
25	-A25	1	Gray soft/elastic material		**None detected**	Binder, Filler	2	Cellulose
		2	Gray sandy/brittle material with paint		**None detected**	Sand, Filler, Binder, Paint	3	Cellulose
		3	Trace tan mastic		**None detected**	Mastic/binder	2	Cellulose
26	-A26	1	Black asphaltic material with sand		**None detected**	Asphalt/binder, Sand	21	Glass fibers
		2	Black asphaltic material		**None detected**	Asphalt/binder	3	Cellulose
		3	Black asphaltic material with sand		**None detected**	Asphalt/binder, Sand	25	Glass fibers

SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 200876

19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel:425.673.9850, Fax:425.673.9810
12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel:425.861.1111, Fax:425.861.1118
Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102

Client Job #: 40573.130
Laboratory Batch #: 201613936
Date Received: 11/8/2016
Samples Received: 3
Date Analyzed: 11/8/2016

Project: KCHA-Carriage House Apts. Bldg. A

Sample Requested for Point Count-A06

Previous Analytical Information

Previously Analyzed by: Warren Osborn
Previous Batch #: 201613853
Previous Lab ID: 6
Previous Description: Gray powdery material with fibrous material
Layer to be Point Counted: 6
Asbestos Type Found: Chrysotile
Asbestos Percentage Found: 2

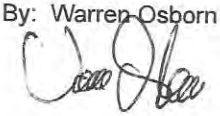
Point Count Analytical Procedures New Lab ID: 1

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	0	50	50
Slide 2	0	50	50
Slide 3	1	49	50
Slide 4	0	50	50
Slide 5	0	50	50
Slide 6	1	49	50
Slide 7	0	50	50
Slide 8	0	50	50
Total	2	398	400

Point Count Summary Results

Type of Asbestos: Chrysotile
Percentage of Asbestos: 0.5%

Analyzed By: Warren Osborn



Reviewed by: Steve Zhang, President

SEATTLE ASBESTOS TEST

NVLAP Accreditation Lab Codes: 200768 and 200876

19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel:425.673.9850, Fax:425.673.9810
12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel:425.861.1111, Fax:425.861.1118
Website:www.seattleasbestostest.com, Email:admin@seattleasbestostest.com

PLM by Point Count (400 points)

Attention: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102

Client Job #: 40573.130
Laboratory Batch #: 201613936
Date Received: 11/8/2016
Samples Received: 3
Date Analyzed: 11/8/2016

Project: KCHA-Carriage House Apts. Bldg. A

Sample Requested for Point Count-A11

Previous Analytical Information

Previously Analyzed by: Warren Osborn
Previous Batch #: 201613853
Previous Lab ID: 11
Previous Description: White soft lumpy material with paint
Layer to be Point Counted: 1
Asbestos Type Found: Chrysotile
Asbestos Percentage Found: 3

Point Count Analytical Procedures

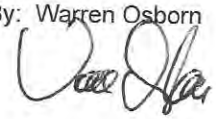
New Lab ID: 2

	Asbestos Points	Non-Asbestos Points	Total Points Counted
Slide 1	1	49	50
Slide 2	1	49	50
Slide 3	1	49	50
Slide 4	0	50	50
Slide 5	1	49	50
Slide 6	2	48	50
Slide 7	1	49	50
Slide 8	0	50	50
Total	7	393	400

Point Count Summary Results

Type of Asbestos: Chrysotile
Percentage of Asbestos: 1.75%

Analyzed By: Warren Osborn



Reviewed by: Steve Zhang, President

20161856

PBS

Project: KCHA - Carriage House Apts. Bldg. B

Project# 40573.130

Analysis requested: PLM

Date: 11/2/16

Relinq'd by/Signature: C. Greeb

Date/Time: 11/2/16

Received by/Signature: Carolyn Yee Carolyn Yee

Date/Time: 11/3/16 12:30

Email results to: Analyzed by Carolyn SAT 11/4/16 12:00

- ☐ Brian Stanford
- ☐ Ernest Edwards
- ☐ Gregg Middaugh
- ☒ Mark Hiley
- ☐ Prudy Stoudt-McRae
- ☒ Chuck Greeb
- ☐ Janet Murphy
- ☐ Willem Mager
- ☐ Harry Goren
- ☐ Tim Ogden
- ☐ Mike Smith
- ☐ Other

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ 3-5 Days
- ☐ Other

Report composite results for GWB & JC

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	-B01	JC + GWB	B3 Closet	
	-B02	Tan sht. vinyl - 6" sq.'s	B3 Bath (1 layer)	
	-B03	Popcorn Ceiling	B3 Living	
	-B04	wall Texture	B5 Living Rm.	
	-B05	Tan sht. vinyl - 10" sq.	B5 Kitch.	
	-B06	Tan sht. vinyl - 10" sq.	B12 Kitchen	
	-B07	wall Texture	B12 Living Rm.	
	-B08	Tan sht. vinyl - 10" sq.	B14 Kitchen (2 layer)	
	-B09	Gray 4" cove	B14 Kitchen	
	-B10	Text., JC, GwB	B14 Closet	
	-B11	Tan sht. vinyl - 10" sq.	B47 Kitchen	
	-B12	Tan sht. vinyl - 10" sq.	B23 Kitchen	
	-B13	Tan sht. Vinyl - 12" sq.	B25 kitchen	
	-B14	Gray 4" cove, JC, GwB	B25 Kitchen	
	-B15	Sink Undercoat	B25 Kitchen	

PBS ENGINEERING AND ENVIRONMENTAL, 130 NICKERSON ST. #107, SEATTLE, WASHINGTON 98109, (206)-233-9639, FaX: (206)-762-4780

20161385 6

PBS

Project: KCHA - Carriage House Apts. Project# 40573.30

Analysis requested: PLM Date: 11/2/16

Relinq'd by/Signature: C. Greeb Date/Time: 11/2/16

Received by/Signature: Carolyn Yeo Carolyn Yeo Date/Time: 11/3/16 12:30

Analyzed by SM 11/4/16 12:00

Email results to:

☐	Brian Stanford	☐	Prudy Stoudt-McRae	☐	Harry Goren
☐	Ernest Edwards	☒	Chuck Greeb	☐	Tim Ogden
☐	Gregg Middaugh	☐	Janet Murphy	☐	Mike Smith
☒	Mark Hiley	☐	Willem Mager	☐	Other_____

TURN AROUND TIME:

☐	1 Hour	☐	24 Hours	☒	3-5 Days
☐	2 Hours	☐	48 Hours	☐	Other_____
☐	4 Hours				

Report composite results for GWB & JC

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	B16	Beige Sht. vinyl - 6" sq.'s	B29 Bath	
	B17	Wall Texture	B29 Living Rm.	
	B18	Popcorn Ceiling	B32 Living Rm.	
	B19	Tan Sht. vinyl -10" sq.'s	B32 bathroom	
	B20	Wall Texture	B32 Living Rm.	
	B21	Tan Sht. vinyl -10" sq.s	B36 Bath room	
	B22	Sink undercoating	B36 Kitchen	
	B23	Gray 4" vinyl Covebase	B47 Kitchen	
	B24	Texture, JS GWB	B47 Kitchen	
	B25	Beige sheet vinyl	Laundry Room	
	B26	Composition Roof	Courtyard side	
	B27	Window Frame Caulk	Courtyard side	
	B28			

Masters\Office\Tech Forms & Templates\Lab Chain-of-Custody.doc

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb/ Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613856
Date Received: 11/3/2016
Samples Rec'd: 27
Date Analyzed: 11/4/2016
Samples Analyzed: 27

Project Loc.: KCHA-Carriage House Apts.

Analyzed by: Cassie Huang

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	-B01	1	White powdery material with paint	2	Chrysotile	Binder/filler, Paint	5	Cellulose
	Composite result <1%	2	Off-white chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
2	-B02	1	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Brown fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	Gray sandy/brittle material with paint		None detected	Sand, Filler, Binder, Paint	3	Cellulose
3	-B03	1	White soft lumpy material with paint	3	Chrysotile	Synthetic foam, Filler, Binder, Paint	4	Cellulose
4	-B04	1	Off-white powdery material		None detected	Filler, Binder	3	Cellulose
		2	Trace yellow/clear mastic		None detected	Mastic/binder	2	Cellulose
		3	Black soft material		None detected	Filler, Binder	3	Cellulose
5	-B05	1	Yellow mastic		None detected	Mastic/binder	2	Cellulose
		2	White mastic		None detected	Mastic/binder	3	Cellulose
		3	Trace white powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		4	Trace brown paper		None detected	Filler	72	Cellulose
6	-B06	1	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Yellow mastic		None detected	Mastic/binder	4	Cellulose
7	-B07	1	White powdery material with paint		None detected	Binder/filler, Paint	3	Cellulose
8	-B08	1	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	White sheet vinyl with paint		None detected	Vinyl/binder, Paint		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		5	Off-white sheet vinyl		None detected	Vinyl/binder		None detected

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb/ Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613856
Date Received: 11/3/2016
Samples Rec'd: 27
Date Analyzed: 11/4/2016
Samples Analyzed: 27

Project Loc.: KCHA-Carriage House Apts.

Analyzed by: Cassie Huang

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	62	Cellulose
9	-B09	1	Gray rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Yellow mastic		None detected	Mastic/binder	2	Cellulose
		3	Trace white paper		None detected	Filler	70	Cellulose
10	-B10	1	White powdery material with paint	2	Chrysotile	Binder/filler, Paint	3	Cellulose
	Composite result <1%	2	Off-white chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
11	-B11	1	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		3	Gray brittle material		None detected	Filler, Binder	2	Cellulose
		4	Beige sheet vinyl with paint		None detected	Vinyl/binder, Paint		None detected
		5	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
		6	Yellow sheet vinyl		None detected	Vinyl/binder		None detected
		7	Brown fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose
		8	Gray sandy/brittle material with paint		None detected	Sand, Filler, Binder, Paint	3	Cellulose
12	-B12	1	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Off-white mastic		None detected	Mastic/binder	4	Cellulose
		3	Tan sheet vinyl with paint		None detected	Vinyl/binder, Paint		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	61	Cellulose
		5	Yellow sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	62	Cellulose
13	-B13	1	Tan sheet vinyl		None detected	Vinyl/binder		None detected

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb/ Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613856
Date Received: 11/3/2016
Samples Rec'd: 27
Date Analyzed: 11/4/2016
Samples Analyzed: 27
Project Loc.: KCHA-Carriage House Apts.

Analyzed by: Cassie Huang

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose
		3	Trace gray brittle material		**None detected**	Filler, Binder	2	Cellulose
		4	Off-white sheet vinyl with paint		**None detected**	Vinyl/binder, Paint		None detected
		5	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	66	Cellulose
		6	Gray sandy/brittle material with paint		**None detected**	Sand, Filler, Binder, Paint	4	Cellulose
14	-B14	1	Gray rubbery material		**None detected**	Rubber/binder	2	Cellulose
		2	White mastic		**None detected**	Mastic/binder	3	Cellulose
	Composite result <1%	3	White powdery material with paint	2	**Chrysotile**	Binder/filler, Paint	2	Cellulose
		4	Off-white chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	23	Cellulose
15	-B15	1	Black soft/loose material	2	**Chrysotile**	Filler, Fine particles	2	Cellulose
16	-B16	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	White fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose
		3	Trace gray brittle material		**None detected**	Filler, Binder	3	Cellulose
		4	White sheet vinyl with paint		**None detected**	Vinyl/binder, Paint		None detected
		5	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	65	Cellulose
		6	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		7	White fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose
		8	Gray sandy/brittle material with paint		**None detected**	Sand, Filler, Binder, Paint	2	Cellulose
17	-B17	1	White powdery material with paint		**None detected**	Binder/filler, Paint	5	Cellulose
		2	Trace brown paper		**None detected**	Filler	72	Cellulose
18	-B18	1	White soft lumpy material with paint	3	**Chrysotile**	Synthetic foam, Filler, Binder, Paint	3	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb/ Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613856
Date Received: 11/3/2016
Samples Rec'd: 27
Date Analyzed: 11/4/2016
Samples Analyzed: 27
Project Loc.: KCHA-Carriage House Apts.

Analyzed by: Cassie Huang

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
19	-B19	1	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Off-white mastic		**None detected**	Mastic/binder	3	Cellulose
		3	Tan sheet vinyl with paint		**None detected**	Vinyl/binder, Paint		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	65	Cellulose
		5	Trace gray brittle material		**None detected**	Filler, Binder	4	Cellulose
		6	White sheet vinyl		**None detected**	Vinyl/binder		None detected
		7	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose
		8	Yellow sheet vinyl		**None detected**	Vinyl/binder		None detected
		9	Brown fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose
		10	Gray sandy/brittle material with paint		**None detected**	Sand, Filler, Binder, Paint	3	Cellulose
20	-B20	1	White powdery material with paint		**None detected**	Binder/filler, Paint	4	Cellulose
21	-B21	1	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Off-white mastic		**None detected**	Mastic/binder	2	Cellulose
		3	Tan sheet vinyl with paint		**None detected**	Vinyl/binder, Paint		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose
		5	Trace gray brittle material		**None detected**	Filler, Binder	4	Cellulose
		6	White sheet vinyl		**None detected**	Vinyl/binder		None detected
		7	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	64	Cellulose
		8	Yellow sheet vinyl		**None detected**	Vinyl/binder		None detected
		9	Brown fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	66	Cellulose
22	-B22	1	Black soft/loose material	**2**	**Chrysotile**	Filler, Fine particles	3	Cellulose

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb/ Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613856
Date Received: 11/3/2016
Samples Rec'd: 27
Date Analyzed: 11/4/2016
Samples Analyzed: 27
Project Loc.: KCHA-Carriage House Apts.

Analyzed by: Cassie Huang

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
23	-B23	1	Gray rubbery material		**None detected**	Rubber/binder	2	Cellulose
		2	White mastic		**None detected**	Mastic/binder	3	Cellulose
		3	White powdery material with paint and paper		**None detected**	Binder/filler, Paint	35	Cellulose
24	-B24	1	Trace white powdery material with paint		**None detected**	Binder/filler, Paint	4	Cellulose
		2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	22	Cellulose
25	-B25	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Off-white mastic		**None detected**	Mastic/binder	3	Cellulose
		3	White sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic	**50**	**Chrysotile**	Binder/filler, Mastic/binder	35	Cellulose
26	-B26	1	Black asphaltic material with sand		**None detected**	Asphalt/binder, Sand	25	Glass fibers
		2	Black asphaltic material with sand		**None detected**	Asphalt/binder, Sand	23	Glass fibers
27	-B27	1	Beige soft/elastic material with paint		**None detected**	Binder, Filler, Paint	4	Cellulose

2016 13857
KCHA

PBS

Project: Carriage House Apts. Bldg. C Project# 40573.130

Analysis requested: PLM Date: 11/1/16

Relinq'd by/Signature: C. Greeb Date/Time: 11/3/16

Received by/Signature: Carolyn Yeo Carolyn Yeo Date/Time: 11/3/16 12:30

Email results to:

☐	Brian Stanford	☐	Prudy Stoudt-McRae	☐	Harry Goren
☐	Ernest Edwards	☒	Chuck Greeb	☐	Tim Ogden
☐	Gregg Middaugh	☐	Janet Murphy	☐	Mike Smith
☒	Mark Hiley		Willem Mager	☐	Other_____

TURN AROUND TIME:

☐	1 Hour	☐	24 Hours	☒	(3-5) Days
☐	2 Hours	☐	48 Hours	☐	Other_____
☐	4 Hours				

Report composite results for GWB & JC

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	-C01	Tan vinyl -12" sq.s	Unit C3 Kitchen	
	-C02	Gray 4" vinyl cove	Unit C3 kitchen	
	-C03	JCT Comp.	Unit C3 Kitchen	
	-C04	Popcorn ceiling	Unit C3 Living Rm.	
	-C05	Brown sht. vinyl -6" sq.s	Unit C5 Bathroom	
	-C06	Wall Texture	Unit C5 Living Rm.	
	-C07	Beige 4" vinyl cove	Unit C12 Bathroom	
	-C08	Brown sht. vinyl. -6" sq.s	Unit C12 Bathroom	
	-C09	Sink undercoat	Unit C-14 Kitchen	
	-C10	Tan sht. vinyl -6" sq.s	Unit C-14 Kitchen	
	-C11	JCT Comp	Unit C-14 Kitchen	
	-C12	Wall Texture	Unit C-23 Living Rm.	
	-C13	Tan sheet vinyl -10" sq.s	Unit C-23 Kitchen	
	-C14	Beige sht. vinyl. -6" sq.s	Unit C-29 Kitchen	
	-C15	Popcorn Ceiling	Unit C-29 Living Rm.	

PBS ENGINEERING AND ENVIRONMENTAL, 130 NICKERSON ST. #107, SEATTLE, WASHINGTON 98109, (206)-233-9639, FaX: (206)-762-4780

201613857

PBS

Project: Carriage House Bldg. C

Project# 40573.130

Analysis requested: PLM

Date: 11/1/16

Relinq'd by/Signature: C. Greeb

Date/Time: 11/3/16

Received by/Signature: Carolyn Yeo Carolyn Yeo

Date/Time: 11/3/16 1230

Email results to:

☐	Brian Stanford	☐	Prudy Stoudt-McRae	☐	Harry Goren
☐	Ernest Edwards	☒	Chuck Greeb	☐	Tim Ogden
☐	Gregg Middaugh	☐	Janet Murphy	☐	Mike Smith
☒	Mark Hiley	☐	Willem Mager	☐	Other_____

TURN AROUND TIME:

☐	1 Hour	☐	24 Hours	☒	3-5 Days
☐	2 Hours	☐	48 Hours	☐	Other_____
☐	4 Hours				

Report composite results for GWB & JC

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	-C16	JC + GWB	Unit C16 Kitchen	
	-C17	Tan Vinyl - 10" Sq.'s	unit C16 Kitchen	
	-C18	Gray 4" cove	Unit C30 Kitchen	
	-C19	Brown Sht. Vinyl - 6" Sq.'s	Unit C36 Bathroom - 2 layers	
	-C20	Tan 4" vinyl cove	Unit C36 Bathroom	
	-C21	Wall Texture	Unit C47 Kitchen (ceiling)	
	-C22	Beige Sht. Vinyl - 6" Sq's	Unit C47 Bathroom	
	-C23	Beige Sheet Vinyl	Laundry Room	
	-C24	Composition Roof	Courtyard Side	
	-C25	Cementitious Walkway	2nd floor at Stair	
	-C26	Yellow sheet Flooring	2nd Floor Corridor to Rooms 33-36	
	-C27	Window Frame Sealant	2nd Fl. Courtyard Side	
	WAP			

PBS ENGINEERING AND ENVIRONMENTAL, 130 NICKERSON ST. #107, SEATTLE, WASHINGTON 98109, (206)-233-9639, FaX: (206)-762-4780

SEATTLE ASBESTOS TEST

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105, Tel: 206.633.1111, Fax: 206.633.4747, NVLAP Lab Code: 201057-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.:	Mr. Chuck Greeb/ Mr. Mark Hiley	**Client:**	PBS Engineering and Environmental, Seattle	**Address:**	2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#:	40573.130	**Batch#:**	201613857	**Date Received:**	11/3/2016
Samples Rec'd:	27	**Date Analyzed:**	11/4/2016	**Samples Analyzed:**	27
Project Loc.:	KCHA-Carriage House Apts. Bldg. C				

Analyzed by: Carolyn Yeo

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	-C01	1	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Tan mastic		None detected	Mastic/binder	2	Cellulose
		3	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
2	-C02	1	Brown rubbery material		None detected	Rubber/binder	2	Cellulose
		2	White mastic		None detected	Mastic/binder	2	Cellulose
3	-C03	1	Off-white powdery material with paint		None detected	Binder/filler, Paint	3	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	29	Cellulose
4	-C04	1	White soft lumpy material with paint		None detected	Synthetic foam, Filler, Binder, Paint	2	Cellulose
5	-C05	1	Trace off-white soft/elastic material		None detected	Binder, Filler	4	Cellulose
		2	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		3	White fibrous material with mastic		None detected	Binder/filler, Mastic/binder	62	Cellulose
		4	Trace gray brittle material		None detected	Filler, Binder	3	Cellulose
6	-C06	1	Trace white powdery material with paint		None detected	Binder/filler, Paint	2	Cellulose
7	-C07	1	Beige rubbery material		None detected	Rubber/binder	3	Cellulose
		2	Off-white mastic		None detected	Mastic/binder	2	Cellulose
		3	Trace white powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
8	-C08	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	White fibrous material with mastic		None detected	Binder/filler, Mastic/binder	67	Cellulose
		3	White sheet vinyl		None detected	Vinyl/binder		None detected
		4	Brown fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose

		5	Yellow sheet vinyl		**None detected**	Vinyl/binder		None detected
		6	Brown fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	61	Cellulose
9	-C09	1	Black soft/loose material	2	**Chrysotile**	Filler, Fine particles	2	Cellulose
10	-C10	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with trace mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose
11	-C11	1	Trace off-white powdery material with paint and paper	2	**Chrysotile**	Binder/filler, Paint	32	Cellulose
	Composite result <1%	2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	22	Cellulose
12	-C12	1	Trace white powdery material with paint		**None detected**	Binder/filler, Paint	3	Cellulose
		2	Trace brown paper		**None detected**	Filler	72	Cellulose
13	-C13	1	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Yellow mastic		**None detected**	Mastic/binder	4	Cellulose
		3	Gray powdery material		**None detected**	Filler, Binder	3	Cellulose
		4	Trace white brittle material		**None detected**	Filler, Binder	3	Cellulose
14	-C14	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with trace mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose
		3	Brown sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	White fibrous material with trace mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose
15	-C15	1	White soft lumpy material with paint		**None detected**	Synthetic foam, Filler, Binder, Paint	3	Cellulose
16	-C16	1	White powdery material with paint and paper		**None detected**	Binder/filler, Paint	32	Cellulose
		2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	26	Cellulose
17	-C17	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Yellow mastic		**None detected**	Mastic/binder	3	Cellulose
		3	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Brown fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose
		5	Gray brittle material		**None detected**	Filler, Binder	2	Cellulose
18	-C18	1	Gray rubbery material		**None detected**	Rubber/binder	2	Cellulose

		2	Off-white mastic		**None detected**	Mastic/binder	3	Cellulose
		3	Brown paper with paint		**None detected**	Filler, Paint	73	Cellulose
19	-C19	1	Brown sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Off-white fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	61	Cellulose
		3	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Off-white fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	65	Cellulose
		5	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		6	Brown fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose
20	-C20	1	Gray rubbery material		**None detected**	Rubber/binder	2	Cellulose
		2	Off-white mastic		**None detected**	Mastic/binder	3	Cellulose
		3	Trace white powdery material with paint and paper	**2**	**Chrysotile**	Binder/filler, Paint	35	Cellulose
21	-C21	1	Trace off-white powdery material with paint		**None detected**	Binder/filler, Paint	2	Cellulose
22	-C22	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Off-white fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	61	Cellulose
23	-C23	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray powdery material with mastic		**None detected**	Filler, Binder, Mastic/binder	2	Cellulose
24	-C24	1	Black asphaltic material with sand		**None detected**	Asphalt/binder, Sand	21	Glass fibers
25	-C25	1	Gray hard sandy/brittle material with paint		**None detected**	Sand, Filler, Cement/binder, Paint	3	Cellulose
26	-C26	1	Yellow sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Yellow mastic		**None detected**	Mastic/binder	2	Cellulose
27	-C27	1	Gray soft/elastic material with paint		**None detected**	Binder, Filler, Paint	4	Cellulose

20163854

PBS

Project: KCHA - Carriage House Apts. - Bldg. D

Project# 40573.130

Analysis requested: PLM

Date: 10/28/16

Relinq'd by/Signature: C. Greeb

Date/Time: 11/3/16

Received by/Signature: Carolyn Yee Carolyn Yee

Date/Time: 11/3/16 1230

Analyzed by: Kent Quickstad 11/7/16 13:45

Email results to:

- ☐ Brian Stanford
- ☐ Ernest Edwards
- ☐ Gregg Middaugh
- ☒ Mark Hiley
- ☐ Prudy Stoudt-McRae
- ☒ Chuck Greeb
- ☐ Janet Murphy
- ☐ Willem Mager
- ☐ Harry Goren
- ☐ Tim Ogden
- ☐ Mike Smith
- ☐ Other_____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ 3-5 Days
- ☐ Other_____

Report composite results for GWB & JC

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	-D01	Tan vinyl - 12" sq's	Unit D-1 Kitchen (1 layer) (1 later)	
	-D02	Tan vinyl - 12" sq's	Unit D-1 Bath (2 layer)	
	-D03	JC+GWB	Unit D-1 Kitchen	
	-D04	Beige 12" vinyl - 12" sq's	Unit D004	
	-D05	Gray 4" vinyl cove	Unit D005	
	-D06	JC+GWB	Unit D006	
	-D07	Sink undercoat	Unit D6 Kitchen	
	-D08	Gray 4" cove	Unit D6 Kitchen	
	-D09	Sheet Vinyl - Tan, 6" sq's	Unit D6 Kitchen (1 later)	
	-D10	Popcorn ceiling	Unit D23 Living Rm.	
	-D11	Texture on GWB	Unit D23 Closet	
	-D12	Sink undercoat	Unit D23 Kitchen	
	-D13	Popcorn ceiling	Unit D24	
	-D14	Wall Texture	Unit D24	
	-D15	Tan Sht. vinyl -6" sq's	Unit D24 Kitchen	

PBS ENGINEERING AND ENVIRONMENTAL, 130 NICKERSON ST. #107, SEATTLE, WASHINGTON 98109, (206)-233-9639, FaX: (206)-762-4780

2016 13854

PBS

Project: KCHA - Carriage House Bldg. D

Project# 40573.130

Analysis requested: PLM

Date: 10/28/16

Relinq'd by/Signature: C Greer

Date/Time: 11/3/16

Received by/Signature: Carolyn Yeo Carolyn Yeo

Date/Time: 11/3/16 12:30

Analyzed by: Kent Quickstad Kent Quickstad 11/7/16 13:45

Email results to:

- ☐ Brian Stanford
- ☐ Ernest Edwards
- ☐ Gregg Middaugh
- ☒ Mark Hiley
- ☐ Prudy Stoudt-McRae
- ☒ Chuck Greeb
- ☐ Janet Murphy
- ☐ Willem Mager
- ☐ Harry Goren
- ☐ Tim Ogden
- ☐ Mike Smith
- ☐ Other

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ (3-5) Days
- ☐ Other

Report composite results for GWB & JC

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	-D16	Sink Undercoat	D24 Kitchen	
	-D17	Beige Sht. Vinyl - 12" Sq.'s	D29 Bath	
	-D18	Text + JC1 GWB	D29 Closet	
	-D19	Beige Sht. Vinyl - 12" Sq.'s	D29 Kitchen	
	-D20	Wall Texture	D30 Loft	
	-D21	Popcorn Loft	D30 LOFT	
	-D22	Tan Vinyl - 10" Sq.'s	D30 Kitchen (layered)	
	-D23	Tan Vinyl - 10" Sq.'s	D36 Bath	
	-D24	Text. + JC1 GWB	D24 Kitchen	
	-D25	Gray 4" Cove + Mastic	D36 Kitchen	
	-D26	Sink Undercoat	D37 Kitchen	
	-D27	Beige Sht. Vinyl - 8" Sq.'s	D37 Kitchen	
	-D28	Beige Sht. Vinyl - 6" Sq.'s	D48 Kitchen	
	-D29	Green/Yellow Sheet Flooring	2nd Fl. Corridor to Rm's	D41-44
	-D30	Gray Cementitious Walkway	2nd Fl. at Stair	
	-D31	Composition Roof	County and Side	

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.:	Mr. Chuck Greeb / Mr. Mark Hiley	**Client:**	PBS Engineering and Environmental, Seattle	**Address:**	2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#:	40573.130	**Batch#:**	201613854	**Date Received:**	11/3/2016
Samples Rec'd:	31	**Date Analyzed:**	11/7/2016	**Samples Analyzed:**	31
Project Loc.:	KCHA-Carriage House Apts. Bldg. D				

Analyzed by: Kent Quickstad

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	-D01	1	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	67	Cellulose
2	-D02	1	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	65	Cellulose
		3	Gray brittle material		**None detected**	Filler, Binder	2	Cellulose
		4	Light tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		5	Yellow fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose
3	-D03 Composite result <1%	1	Off-white powdery material with paint	**2**	**Chrysotile**	Binder/filler, Paint	4	Cellulose
		2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	26	Cellulose
4	-D04	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose
5	-D05	1	Gray rubbery material		**None detected**	Rubber/binder	2	Cellulose
		2	Brown mastic		**None detected**	Mastic/binder	3	Cellulose
		3	White powdery material with paint and paper	**2**	**Chrysotile**	Binder/filler, Paint	31	Cellulose
6	-D06 Composite result <1%	1	Off-white powdery material with paint	**2**	**Chrysotile**	Binder/filler, Paint	4	Cellulose
		2	Off-white chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	23	Cellulose
7	-D07	1	Black soft/loose material		**None detected**	Filler, Fine particles	5	Cellulose
		2	Off-white brittle material		**None detected**	Filler, Binder	2	Cellulose
8	-D08	1	Gray rubbery material		**None detected**	Rubber/binder	2	Cellulose
		2	Off-white mastic		**None detected**	Mastic/binder	3	Cellulose
9	-D09	1	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.:	Mr. Chuck Greeb / Mr. Mark Hiley	**Client:**	PBS Engineering and Environmental, Seattle	**Address:**	2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#:	40573.130	**Batch#:**	201613854	**Date Received:**	11/3/2016
Samples Rec'd:	31	**Date Analyzed:**	11/7/2016	**Samples Analyzed:**	31
Project Loc.:	KCHA-Carriage House Apts. Bldg. D				

Analyzed by: Kent Quickstad

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose
		3	Gray sandy/brittle material		**None detected**	Sand, Filler, Binder	3	Cellulose
10	-D10	1	Off-white soft lumpy material with paint	3	**Chrysotile**	Synthetic foam, Filler, Binder, Paint	2	Cellulose
11	-D11	1	White powdery material with paint		**None detected**	Binder/filler, Paint	4	Cellulose
		2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	27	Cellulose
12	-D12	1	Black soft/loose material	3	**Chrysotile**	Filler, Fine particles	5	Cellulose
13	-D13	1	Off-white soft lumpy material with paint	3	**Chrysotile**	Synthetic foam, Filler, Binder, Paint	3	Cellulose
14	-D14	1	White powdery material with paint		**None detected**	Binder/filler, Paint	2	Cellulose
		2	Trace white chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	23	Cellulose
15	-D15	1	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose
		3	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose
		5	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	67	Cellulose
16	-D16	1	Black soft/loose material	3	**Chrysotile**	Filler, Fine particles	4	Cellulose
17	-D17	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose
		3	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose
		5	Gray sandy/brittle material		**None detected**	Sand, Filler, Binder	3	Cellulose

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb / Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613854
Date Received: 11/3/2016
Samples Rec'd: 31
Date Analyzed: 11/7/2016
Samples Analyzed: 31
Project Loc.: KCHA-Carriage House Apts. Bldg. D

Analyzed by: Kent Quickstad

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
18	-D18 Composite result <1%	1	White powdery material with paint		**None detected**	Binder/filler, Paint	2	Cellulose
		2	Off-white powdery material with paint	**2**	**Chrysotile**	Binder/filler, Paint	3	Cellulose
		3	Pink chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	25	Cellulose
19	-D19	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose
		3	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	64	Cellulose
20	-D20	1	White powdery material with paint		**None detected**	Binder/filler, Paint	3	Cellulose
21	-D21	1	Off-white soft lumpy material with paint	**3**	**Chrysotile**	Synthetic foam, Filler, Binder, Paint	5	Cellulose
22	-D22	1	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	67	Cellulose
		3	Yellow sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	61	Cellulose
		5	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	64	Cellulose
		7	Off-white/black sheet vinyl		**None detected**	Vinyl/binder		None detected
		8	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose
		9	Off-white brittle material		**None detected**	Filler, Binder	2	Cellulose
23	-D23	1	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Clear/yellow mastic with wood debris		**None detected**	Mastic/binder, Wood debris	7	Cellulose

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb / Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613854
Date Received: 11/3/2016
Samples Rec'd: 31
Date Analyzed: 11/7/2016
Samples Analyzed: 31
Project Loc.: KCHA-Carriage House Apts. Bldg. D

Analyzed by: Kent Quickstad

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
		3	Gray sandy/brittle material		**None detected**	Sand, Filler, Binder	3	Cellulose
24	-D24	1	White powdery material with paint		**None detected**	Binder/filler, Paint	2	Cellulose
		2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	29	Cellulose
25	-D25	1	Gray rubbery material		**None detected**	Rubber/binder	2	Cellulose
		2	Off-white mastic		**None detected**	Mastic/binder	3	Cellulose
		3	White powdery material with paint		**None detected**	Binder/filler, Paint	2	Cellulose
		4	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	24	Cellulose
26	-D26	1	Black soft/loose material	**2**	**Chrysotile**	Filler, Fine particles	3	Cellulose
27	-D27	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose
		3	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose
28	-D28	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	64	Cellulose
		3	Yellow sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose
29	-D29	1	Green/yellow sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Yellow mastic		**None detected**	Mastic/binder	3	Cellulose
30	-D30	1	Gray hard sandy/brittle material with paint		**None detected**	Sand, Filler, Cement/binder, Paint	2	Cellulose
		2	Tan mastic		**None detected**	Mastic/binder	3	Cellulose
31	-D31	1	Black asphaltic material with sand		**None detected**	Asphalt/binder, Sand	24	Glass fibers

20161385 5

PBS

Project: KCHA Carriage House

Project# 40573.130

Analysis requested: PLM

Date: 11/1/16

Relinq'd by/Signature: C. Greeb

Date/Time: 11/3/16

Received by/Signature: Carolyn Yee Carolyn Yee

Date/Time: 11/3/16

Email results to: Analyzed: Warren Osborn 11/8/16 9:30

- ☐ Brian Stanford
- ☐ Ernest Edwards
- ☐ Gregg Middaugh
- ☒ Mark Hiley
- ☐ Prudy Stoudt-McRae
- ☒ Chuck Greeb
- ☐ Janet Murphy
- ☐ Willem Mager
- ☐ Harry Goren
- ☐ Tim Ogden
- ☐ Mike Smith
- ☐ Other

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ (3-5) Days
- ☐ Other

Report composite results for GWB & JC

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	-E16	Tan Vinyl - 10" sq.'s	E29 Kitchen	
	-E17	Tan vinyl - 10" sq.'s	E30 Bath	
	-E18	Gray 4" Cove + Mastic	E30 Bath	
	-E19	Tan Sh. vinyl - 8" sq.'s	E37 Bath	
	-E20	Text., JC, GWB	E37 Closet	
	-E21	Beige Vinyl - 8" sq.'s	E37 Kitchen	
	-E22	Text. on GWB	E37 Closet	
	-E23	Text on GWB	E48 Bath	
	-E24	Beige Vinyl - 8" sq.'s	E48 Bath	
	-E25	Beige Vinyl - 8" sq.'s	E48 Kitchen	
	-E26	Sink U.C.	E48 Kitchen	
	-E27	Beige Vinyl	Unit E Laundry	
	-E28	window frame caulk	East side	
	-E29	Composition Roof	Courtyard side	

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20161385&5 cy 11/3/16 PBS

Project: KCHA Carriage House Bldg. E

Project# 40573.130

Analysis requested: PLM

Date: 11/1/16

Relinq'd by/Signature: C. Greeb

Date/Time: 11/3/16

Received by/Signature: Carolyn Yee Carolyn Yee

Date/Time: 11/3/16

Email results to: Analyzed: Warren Osborn 11/8/16 9:30

- ☐ Brian Stanford
- ☐ Ernest Edwards
- ☐ Gregg Middaugh
- ☒ Mark Hiley
- ☐ Prudy Stoudt-McRae
- ☒ Chuck Greeb
- ☐ Janet Murphy
- ☐ Willem Mager
- ☐ Harry Goren
- ☐ Tim Ogden
- ☐ Mike Smith
- ☐ Other

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ 3-5 Days
- ☐ Other

Report composite results for GWB & JC

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	-E01	Gray 4" cove + Mastic	E-1 Kitchen	
	-E02	Beige sht. vinyl - 12" sq.'s	E-1 Kitchen (2 layers)	
	-E03	Text, JC, GWB	E-1 Kitchen	
	-E04	Beige vinyl - 12" sq.'s	E-5 Kitchen (2 layers)	
	-E05	text. JC, GWB	E5 Closet	
	-E06	Gray 4" cove + Mastic	E6 Bath	
	-E07	Beige sht. vinyl - 8" sq.'s	E6 Bath	
	-E08	Sink U.C.	E6 Kitchen	
	-E09	Sink U.C.	E 23 Kitchen (new)	
	-E10	Beige sht. vinyl -8" sq.'s	E 23 Kitchen	
	-E11	Text., JC, GWB	E 23 kitchen	
	-E12	Beige sht. vinyl - 8" sq.'s	E24 Kitchen	
	-E13	Popcorn Ceiling Text.	E24 Living Rm.	
	-E14	Sink U.C.	E29 Kitchen	
	-E15	JC + GWB	E29 Kitchen	

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SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613855
Date Received: 11/3/2016
Samples Rec'd: 29
Date Analyzed: 11/8/2016
Samples Analyzed: 29
Project Loc.: KCHA-Carriage House Bldg. E

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	-E01	1	Gray rubbery material		**None detected**	Rubber/binder	2	Cellulose
		2	Tan mastic		**None detected**	Mastic/binder	2	Cellulose
2	-E02	1	Beige sheet vinyl		**None detected**	Vinyl/binder	3	Glass fibers
		2	Yellow mastic		**None detected**	Mastic/binder	2	Cellulose
		3	Beige/gray sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose, Glass fibers
		5	Gray brittle material		**None detected**	Filler, Binder	5	Cellulose
		6	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		7	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose
3	-E03 Composite result <1%	1	Tan mastic		**None detected**	Mastic/binder	2	Cellulose
		2	Off-white powdery material with paint		**None detected**	Binder/filler, Paint	3	Cellulose
		3	White powdery material with paint	**2**	**Chrysotile**	Binder/filler, Paint	5	Cellulose
		4	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	27	Cellulose
4	-E04	1	Beige sheet vinyl		**None detected**	Vinyl/binder	3	Glass fibers
		2	Yellow mastic		**None detected**	Mastic/binder	2	Cellulose
		3	Beige/gray sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	64	Cellulose, Glass fibers
		5	White paint		**None detected**	Paint/binder	2	Cellulose
		6	Off-white/beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		7	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose
		8	White powdery material with paint		**None detected**	Binder/filler, Paint	3	Cellulose

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613855
Date Received: 11/3/2016
Samples Rec'd: 29
Date Analyzed: 11/8/2016
Samples Analyzed: 29
Project Loc.: KCHA-Carriage House Bldg. E

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
5	-E05 Composite result <1%	1	White powdery material with paint and paper	2	**Chrysotile**	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	25	Cellulose
6	-E06	1	Gray rubbery material		**None detected**	Rubber/binder	2	Cellulose
		2	Off-white mastic		**None detected**	Mastic/binder	2	Cellulose
		3	White powdery material with paint		**None detected**	Binder/filler, Paint	3	Cellulose
7	-E07	1	Beige sheet vinyl		**None detected**	Vinyl/binder	3	Glass fibers
		2	Yellow mastic		**None detected**	Mastic/binder	2	Cellulose
		3	Beige/off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	66	Cellulose, Glass fibers
		5	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	65	Cellulose
		7	White powdery material with paint		**None detected**	Binder/filler, Paint	3	Cellulose
8	-E08	1	Black soft/loose material	2	**Chrysotile**	Filler, Fine particles	3	Cellulose
9	-E09	1	White powdery material		**None detected**	Filler, Binder	2	Cellulose
		2	Black soft/loose material		**None detected**	Filler, Fine particles	4	Cellulose
10	-E10	1	Beige sheet vinyl		**None detected**	Vinyl/binder	3	Glass fibers
		2	Yellow mastic		**None detected**	Mastic/binder	2	Cellulose
		3	Tan sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	59	Cellulose, Glass fibers
		5	White paint		**None detected**	Paint/binder	2	Cellulose
11	-E11	1	White powdery material with paint and paper	2	**Chrysotile**	Binder/filler, Paint	30	Cellulose

SEATTLE ASBESTOS TEST
Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613855
Date Received: 11/3/2016
Samples Rec'd: 29
Date Analyzed: 11/8/2016
Samples Analyzed: 29
Project Loc.: KCHA-Carriage House Bldg. E

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
11	Composite result <1%	2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	26	Cellulose, Glass fibers
12	-E12	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose, Glass fibers
		3	Gray brittle material		**None detected**	Filler, Binder	4	Cellulose
		4	Tan fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	69	Cellulose
		5	Gray sandy/brittle material		**None detected**	Sand, Filler, Binder	3	Cellulose
13	-E13	1	White soft lumpy material with paint	3	**Chrysotile**	Synthetic foam, Filler, Binder, Paint	3	Cellulose
14	-E14	1	Gray soft/loose material		**None detected**	Filler, Fine particles	4	Cellulose
15	-E15	1	White powdery material with paint and paper	2	**Chrysotile**	Binder/filler, Paint	31	Cellulose
	Composite result <1%	2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	24	Cellulose
16	-E16	1	Tan sheet vinyl		**None detected**	Vinyl/binder	4	Glass fibers
		2	Yellow mastic		**None detected**	Mastic/binder	2	Cellulose
		3	Tan/beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	64	Cellulose, Glass fibers
		5	Gray brittle material		**None detected**	Filler, Binder	4	Cellulose
		6	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		7	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	68	Cellulose, Glass fibers
		8	Gray brittle material		**None detected**	Filler, Binder	3	Cellulose
		9	Gray sandy/brittle material		**None detected**	Sand, Filler, Binder	2	Cellulose
17	-E17	1	Tan sheet vinyl		**None detected**	Vinyl/binder	4	Glass fibers
		2	Yellow mastic		**None detected**	Mastic/binder	2	Cellulose
		3	Tan/beige sheet vinyl		**None detected**	Vinyl/binder		None detected

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613855
Date Received: 11/3/2016
Samples Rec'd: 29
Date Analyzed: 11/8/2016
Samples Analyzed: 29
Project Loc.: KCHA-Carriage House Bldg. E

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
17	-E17	4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	62	Cellulose, Glass fibers
		5	Off-white sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	67	Cellulose
		7	Gray sandy/brittle material		None detected	Sand, Filler, Binder	2	Cellulose
18	-E18	1	Gray rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Yellow mastic		None detected	Mastic/binder	4	Cellulose
		3	Brown paper		None detected	Filler	75	Cellulose
19	-E19	1	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose, Glass fibers
		3	White paint		None detected	Paint/binder	2	Cellulose
		4	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		5	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	62	Cellulose, Glass fibers
		6	Gray brittle material		None detected	Filler, Binder	5	Cellulose
		7	Gray sandy/brittle material with paint		None detected	Sand, Filler, Binder, Paint	2	Cellulose
20	-E20	1	White powdery material with paint and paper	2	Chrysotile	Binder/filler, Paint	34	Cellulose
	Composite result <1%	2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	28	Cellulose
21	-E21	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose, Glass fibers
		3	Off-white powdery material		None detected	Filler, Binder	4	Cellulose
		4	Gray sandy/brittle material with paint		None detected	Sand, Filler, Binder, Paint	2	Cellulose
22	-E22	1	White powdery material with paint		None detected	Binder/filler, Paint	3	Cellulose

SEATTLE ASBESTOS TEST
Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.:	Mr. Chuck Greeb, Mr. Mark Hiley	**Client:**	PBS Engineering and Environmental, Seattle	**Address:**	2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#:	40573.130	**Batch#:**	201613855	**Date Received:**	11/3/2016
Samples Rec'd:	29	**Date Analyzed:**	11/8/2016	**Samples Analyzed:**	29
Project Loc.:	KCHA-Carriage House Bldg. E				

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
22	-E22	2	White chalky material with paper		**None detected**	Binder/filler, Gypsum/binder	28	Cellulose
23	-E23	1	White powdery material with paint		**None detected**	Binder/filler, Paint	4	Cellulose
24	-E24	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	62	Cellulose, Glass fibers
		3	Off-white powdery material		**None detected**	Filler, Binder	3	Cellulose
		4	Off-white/beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		5	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	61	Cellulose, Glass fibers
		6	White powdery material		**None detected**	Filler, Binder	5	Cellulose
		7	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		8	Tan fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	66	Cellulose, Glass fibers
		9	Gray sandy/brittle material with paint		**None detected**	Sand, Filler, Binder, Paint	2	Cellulose
25	-E25	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	63	Cellulose, Glass fibers
		3	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	65	Cellulose, Glass fibers
		5	Off-white sheet vinyl		**None detected**	Vinyl/binder		None detected
		6	Tan fibrous material with mastic		**None detected**	Binder/filler, Mastic/binder	66	Cellulose, Glass fibers
26	-E26	1	Black soft/loose material	**2**	**Chrysotile**	Filler, Fine particles	2	Cellulose
27	-E27	1	Beige sheet vinyl		**None detected**	Vinyl/binder		None detected
		2	Yellow mastic		**None detected**	Mastic/binder	2	Cellulose
		3	Off-white/tan sheet vinyl		**None detected**	Vinyl/binder		None detected

SEATTLE ASBESTOS TEST

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue, WA 98005, Tel: 425.861.1111, Fax: 425.861.1118, NVLAP Lab Code: 200876-0

ANALYTICAL LABORATORY REPORT

PLM by Method EPA/600/R-93/116

Attn.: Mr. Chuck Greeb, Mr. Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 2517 Eastlake Ave. E., Suite 100, Seattle, WA 98102
Job#: 40573.130
Batch#: 201613855
Date Received: 11/3/2016
Samples Rec'd: 29
Date Analyzed: 11/8/2016
Samples Analyzed: 29
Project Loc.: KCHA-Carriage House Bldg. E

Analyzed by: Warren Osborn

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
27	-E27	4	Gray fibrous material with mastic	**55**	**Chrysotile**	Binder/filler, Mastic/binder	31	Cellulose
28	-E28	1	Gray soft/elastic material		**None detected**	Binder, Filler	4	Cellulose
		2	Off-white soft/elastic material		**None detected**	Binder, Filler	2	Cellulose
		3	Brown wood debris		**None detected**	Wood debris	7	Cellulose
29	-E29	1	Black asphaltic material with sand		**None detected**	Asphalt/binder, Sand	20	Glass fibers

TAB 3
LEAD PAINT SAMPLE DATA

PBS

AA LEAD PAINT CHIP SAMPLE INVENTORY

PBS Sample #	Paint Color / Component or Substrate	Sample Location	Results (mg/kg)	Results (%)	Lab
Building - A					
40573.130 -A-L01	White / gypsum wallboard/ wall	A10 - Kitchen	67.0	0.0067	NVL
40573.130 -A-L02	Beige / wood / siding	Courtyard - Building A	92.0	0.0092	NVL
40573.130 -A-L03	Brown / wood / trim	Courtyard - Building A	<51.0	<0.0051	NVL
Building - B					
40573.130 -B-L01	White / gypsum wallboard / wall	B25 - Closet	<53.0	<0.0053	NVL
40573.130 -B-L02	White / gypsum wallboard / wall	B47 - Kitchen	<50.0	<0.0050	NVL
40573.130 -B-L03	White / gypsum wallboard / wall	B5 - At closet	<55.0	<0.0055	NVL
40573.130 -B-L04	Brown / wood / beam	Exterior at stair	75.0	0.0075	NVL
40573.130 -B-L05	Green / wood / siding	Exterior at stair	<54.0	<0.0054	NVL
Building - C					
40573.130 -C-L05	Gray / cementitious / walkway	2nd floor walkway - Building C	<52.0	<0.0052	NVL
40573.130 -C-L06	White / wood / soffit	Building C at stair 1st floor	<53.0	<0.0053	NVL
40573.130 -C-L07	Brown / wood / beam	Building C at stair	<51.0	<0.0051	NVL
40573.130 -C-L08	White / metal / handrail	Building C at stair	<160.0	<0.0160	NVL
40573.130 -C-L09	Green / wood / siding	Building C at stair	84.0	0.0084	NVL
Building - D					
40573.130 -D-L01	White / gypsum wallboard / wall	Unit D6 - Closet	<53.0	<0.0053	NVL

mg/kg = Milligrams per kilogram
< = Less than the Limit of Detection

40573.130 -D-L02	White / gypsum wallboard / wall	Unit D24 - Living room	<55.0	<0.0055	NVL
40573.130 -D-L03	White / gypsum wallboard / wall	Unit D48 - Living room	<50.0	<0.0050	NVL
40573.130 -D-L04	White / gypsum wallboard / wall	Exterior hallway by D41-D44	<49.0	<0.0049	NVL

Building - E

40573.130 -E-L01	White / gypsum wallboard / wall	Unit E5	<52.0	<0.0052	NVL
40573.130 -E-L02	White / gypsum wallboard / wall	Unit E48	<51.0	<0.0051	NVL
40573.130 -E-L03	Brown / wood / beam	Building E - Exterior, by stairs	<53.0	<0.0053	NVL
40573.130 -E-L04	Beige / wood / beam	Building E - Courtyard	<52.0	<0.0052	NVL

November 4, 2016

Chuck Greeb
PBS Environmental (Seattle)
2517 Eastlake Ave E, Suite 100
Seattle, WA 98102

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1622261.00

Dear Mr. Greeb,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm) , Percent (%) or mg/cm^2 by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft^2. TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m^3. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

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

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. if you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director

ilac-MRA
AIHA LAP, LLC
ACCREDITED LABORATORY
INDUSTRIAL HYGIENE & ENVIRONMENTAL LEAD
ISO/IEC 17025:2005
LAB # 101861

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

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

Analysis Report

Total Lead (Pb)

Client: PBS Environmental (Seattle)
Address: 2517 Eastlake Ave E, Suite 100
Seattle, WA 98102

Attention: Mr. Chuck Greeb
Project Location: KCHA - Carriage House Apts.

Batch #: 1622261.00
Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 40573.130
Date Received: 11/3/2016
Samples Received: 14
Samples Analyzed: 14

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
16286592	40573.130-C-L01	0.1856	54.0	< 54.0	< 0.0054
16286593	40573.130-C-L02	0.1844	54.0	< 54.0	< 0.0054
16286594	40573.130-C-L03	0.1888	53.0	< 53.0	< 0.0053
16286595	40573.130-C-L04	0.1813	55.0	< 55.0	< 0.0055
16286596	40573.130-D-L01	0.1861	53.0	< 53.0	< 0.0053
16286597	40573.130-D-L02	0.1805	55.0	< 55.0	< 0.0055
16286598	40573.130-D-L03	0.1990	50.0	< 50.0	< 0.0050
16286599	40573.130-E-L01	0.1896	52.0	< 52.0	< 0.0052
16286600	40573.130-E-L02	0.1950	51.0	< 51.0	< 0.0051
16286601	40573.130-E-L03	0.1886	53.0	< 53.0	< 0.0053
16286602	40573.130-E-L04	0.1927	52.0	< 52.0	< 0.0052
16286603	40573.130-A-L01	0.1806	55.0	67.0	0.0067
16286604	40573.130-A-L02	0.2013	49.0	92.0	0.0092
16286605	40573.130-A-L03	0.1933	51.0	< 51.0	< 0.0051

Sampled by: Client
Analyzed by: Yasuyuki Hida
Reviewed by: Nick Ly

Date Analyzed: 11/03/2016
Date Issued: 11/04/2016

Nick Ly, Technical Director

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

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

Bench Run No: 2016-1103-13

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

LEAD LABORATORY SERVICES

Company PBS Environmental (Seattle)
Address 2517 Eastlake Ave E, Suite 100
Seattle, WA 98102
Project Manager Mr. Chuck Greeb
Phone (206) 233-9639
Cell (206) 369-7767

NVL Batch Number **1622261.00**
TAT 3 Days **AH** No
Rush TAT
Due Date 11/8/2016 **Time** 12:25 PM
Email Chuck.Greeb@pbsenv.com
Fax (866) 727-0140

Project Name/Number: 40573.130 **Project Location:** KCHA - Carriage House Apts.

Subcategory Flame AA (FAA)
Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 14 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	16286592	40573.130-C-L01		A
2	16286593	40573.130-C-L02		A
3	16286594	40573.130-C-L03		A
4	16286595	40573.130-C-L04		A
5	16286596	40573.130-D-L01		A
6	16286597	40573.130-D-L02		A
7	16286598	40573.130-D-L03		A
8	16286599	40573.130-E-L01		A
9	16286600	40573.130-E-L02		A
10	16286601	40573.130-E-L03		A
11	16286602	40573.130-E-L04		A
12	16286603	40573.130-A-L01		A
13	16286604	40573.130-A-L02		A
14	16286605	40573.130-A-L03		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Gary Carpenter		NVL	11/3/16	1225
Analyzed by	Yasuyuki Hida		NVL	11/3/16	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 11/3/2016
Time: 12:51 PM
Entered By: Gary Carpenter

PBS

Project: KCHA - Carriage House Apts. Project# 40573.130

Analysis requested: ~~PLM~~ FAA - Lead Date: 10/28/16

Relinq'd by/Signature: C Greeb Date/Time: 11/3/16

Received by/Signature: Gary Carpenter Date/Time: 11-3-16 1225 courier

Email results to:

☐	Brian Stanford	☐	Prudy Stoudt-McRae	☐	Harry Goren
☐	Ernest Edwards	☒	Chuck Greeb	☐	Tim Ogden
☐	Gregg Middaugh	☐	Janet Murphy	☐	Mike Smith
☒	Mark Hiley	☐	Willem Mager	☐	Other_____

TURN AROUND TIME:

☐	1 Hour	☐	24 Hours	☒	3-5 Days
☐	2 Hours	☐	48 Hours	☐	Other_____
☐	4 Hours				

~~Report composite results for GWB & JC~~

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	C-L01	white/GWB/wall	Unit C-3 Living Rm.	
	C-L02	white/GWB/wall	Unit C-12 Kitchen	
	C-L03	white/GWB/wall	Unit C-23 Living Rm.	
	C-L04	white/GWB/wall	Unit C-47 Closet	
	D-L01	white/GWB/wall	Unit D-6 Closet	
	D-L02	white/GWB/wall	Unit D-24 Living Rm	
	D-L03	white/GWB/wall	Unit D-48 Living Rm.	
	E-L01	white/GWB/Wall	Unit E-5	
	E-L02	white/GWB/wall	Unit E-48	
	E-L03	Brown/wood/Beam	Bldg. E Exterior, by Stair	
	E-L04	Beige/wood/siding	Bldg. E courtyard	
	A-L01	white/GWB/wall	A 10 Kitchen	
	A-L02	Beige/wood/siding	Courtyard Bldg. A	
	A-L03	Brown/wood/trim	Courtyard Bldg. A	

PBS ENGINEERING AND ENVIRONMENTAL, 130 NICKERSON ST. #107, SEATTLE, WASHINGTON 98109, (206)-233-9639, FaX: (206)-762-4780

1622261

November 4, 2016

Chuck Greeb
PBS Environmental (Seattle)
2517 Eastlake Ave E, Suite 100
Seattle, WA 98102

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1622260.00

Dear Mr. Greeb,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm) , Percent (%) or mg/cm^2 by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft^2. TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m^3. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

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

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. if you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director

ilac-MRA
AIHA LAP, LLC
ACCREDITED LABORATORY
INDUSTRIAL HYGIENE & ENVIRONMENTAL LEAD
ISO/IEC 17025:2005
LAB # 101861

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

Analysis Report

Total Lead (Pb)

Client: PBS Environmental (Seattle)
Address: 2517 Eastlake Ave E, Suite 100
Seattle, WA 98102

Attention: Mr. Chuck Greeb
Project Location: KCHA Carriage House Apts.

Batch #: 1622260.00
Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 40573.130
Date Received: 11/3/2016
Samples Received: 11
Samples Analyzed: 11

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
16286580	40573.130-B-L01	0.1861	53.0	< 53.0	< 0.0053
16286581	40573.130-B-L02	0.1993	50.0	< 50.0	< 0.0050
16286582	40573.130-B-L03	0.1798	55.0	< 55.0	< 0.0055
16286583	40573.130-B-L04	0.1604	62.0	75.0	0.0075
16286584	40573.130-B-L05	0.1856	54.0	< 54.0	< 0.0054
16286585	40573.130-D-L04	0.2038	49.0	< 49.0	< 0.0049
16286586	40573.130-C-L05	0.1898	52.0	< 52.0	< 0.0052
16286587	40573.130-C-L06	0.1895	53.0	< 53.0	< 0.0053
16286588	40573.130-C-L07	0.1961	51.0	< 51.0	< 0.0051
16286589	40573.130-C-L08	0.0635	160.0	< 160.0	< 0.0160
16286590	40573.130-C-L09	0.1952	51.0	84.0	0.0084

Sampled by: Client
Analyzed by: Yasuyuki Hida
Reviewed by: Nick Ly
Date Analyzed: 11/03/2016
Date Issued: 11/04/2016

Nick Ly, Technical Director

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

Bench Run No: 2016-1103-12

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

LEAD LABORATORY SERVICES

Company PBS Environmental (Seattle)
Address 2517 Eastlake Ave E, Suite 100
Seattle, WA 98102
Project Manager Mr. Chuck Greeb
Phone (206) 233-9639
Cell (206) 369-7767

NVL Batch Number **1622260.00**
TAT 3 Days **AH** No
Rush TAT
Due Date 11/8/2016 **Time** 12:25 PM
Email Chuck.Greeb@pbsenv.com
Fax (866) 727-0140

Project Name/Number: 40573.130 **Project Location:** KCHA Carriage House Apts.

Subcategory Flame AA (FAA)
Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 11 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	16286580	40573.130-B-L01		A
2	16286581	40573.130-B-L02		A
3	16286582	40573.130-B-L03		A
4	16286583	40573.130-B-L04		A
5	16286584	40573.130-B-L05		A
6	16286585	40573.130-D-L04		A
7	16286586	40573.130-C-L05		A
8	16286587	40573.130-C-L06		A
9	16286588	40573.130-C-L07		A
10	16286589	40573.130-C-L08		A
11	16286590	40573.130-C-L09		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Gary Carpenter		NVL	11/3/16	1225
Analyzed by	Yasuyuki Hida		NVL	11/3/16	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 11/3/2016
Time: 12:41 PM
Entered By: Mohammed Jamal

PBS

1622260

Project: KCHA - Carriage House Apts. Project# 40573.130

Analysis requested: FAA - Lead Date: 11/2/16

Relinq'd by/Signature: C. Greeb Date/Time: 11/3/16

Received by/Signature: Gary Carpenter Date/Time: 11-3-16 1225 courier

Email results to:

☐	Brian Stanford	☐	Prudy Stoudt-McRae	☐	Harry Goren
☐	Ernest Edwards	☒	Chuck Greeb	☐	Tim Ogden
☐	Gregg Middaugh	☐	Janet Murphy	☐	Mike Smith
☐	Mark Hiley	☐	Willem Mager	☐	Other_____

TURN AROUND TIME:

☐	1 Hour	☐	24 Hours	☐	3-5 Days
☐	2 Hours	☐	48 Hours	☐	Other_____
☐	4 Hours				

BULK SAMPLE DATA FORM

Lab #	Sample #	Material	Location	Lab
	B-L01	White/GWB/wall	B25 Closet	
	B-L02	White/GWB/wall	B47 Kitchen	
	B-L03	White/GWB/wall	B 5 At Closet.	
	B-L04	Brown/wood/Beam	Exterior at stair	
	B-L05	Green/wood/siding	Exterior at stair	
	D-L04	Green/GWB/wall	Exterior hallway by D41-44	
	C-L05	Gray/Cementitious/walkway	2nd Fl. walkway Bldg. C	
	C-L06	White/wood/soffit	Bldg. C at stair, 1st fl.	
	C-L07	Brown/wood/beam	Bldg. C at stair	
	C-L08	White/Metal/handrail	Bldg. C at stair	
	C-L09	Green/wood/siding	Bldg. C at stair	

PBS ENGINEERING AND ENVIRONMENTAL, 130 NICKERSON ST. #107, SEATTLE, WASHINGTON 98109, (206)-233-9639, FaX: (206)-762-4780

Gary Carpenter

From: Chuck Greeb <Chuck.Greeb@pbsenv.com>
Sent: Thursday, November 03, 2016 12:27 PM
To: Gary Carpenter
Subject: RE: TAT project 40573.130

3 days, please.

Chuck Greeb
Industrial Hygienist
Chuck.Greeb@pbsenv.com
206-766-7624

PBS Engineering + Environmental
Engineering | Natural Resources | Environmental | Health and Safety
www.pbsenv.com
2517 Eastlake Ave E, Ste 100 Seattle WA, 98102
ph: 206.233.9639 : fax: 866.727.0140

From: Gary Carpenter [mailto:gary.c@nvllabs.com]
Sent: Thursday, November 03, 2016 12:26 PM
To: Chuck Greeb
Subject: TAT project 40573.130

Hello Chuck! Can you confirm for me the TAT you need for this batch?

Thanks and regards.

Gary Carpenter
Marketing Coordinator
NVL Laboratories, Inc.

Email: gary.c@nvllabs.com

4708 Aurora Ave N
Seattle, WA 98103
1.888.NVL.LABS (685.5227)
Tel: 206.547.0100
Fax: 206.634.1936
www.nvllabs.com

TAB 4
INSPECTOR CERTIFICATIONS

PBS

Certificate of Completion

This is to certify that

Chuck D. Greeb

has satisfactorily completed
4 hours of refresher training as an

Asbestos Building Inspector

to comply with the training requirements of
TSCA Title II / 40 CFR 763 (AHERA)

154781
Certificate #

Instructor
EPA Provider Certificate #1085

ARGUS PACIFIC
TRAINING • CONSULTING
A Terracon COMPANY

Dec 30, 2015
Date(s) of Training
Exam Score: NA
Expiration Date: Dec 29, 2016

ARGUS PACIFIC, INC. • 1900 W NICKERSON ST, SUITE 315 • SEATTLE, WASHINGTON • 98119 • 206.285.3373 • WWW.ARGUSPACIFIC.COM

TAB 5
PREVIOUS SURVEY REPORTS

NVL™ LABS

INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

Limited Good Faith Asbestos Inspection

"Carriage House Apartments"
3602 S. 180th Street
SeaTac, WA 98188

Prepared For
Mr. Hugh Watkinson
King County Housing Authority
600 Andover Park W
Seattle, WA 98188

Project Number:	2016-0206
Inspection Date:	March 9 thru 11, 2016
Report Date:	March 21, 2016
Inspected By	Tanveer Khan / Daniel Crownhart
AHERA Certification	# 151522 / # 152896
Expiration Date	May 19, 2016 / Aug 26, 2016

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1.0 SCOPE OF WORK

A Limited Good Faith Asbestos Inspection was conducted at "Carriage House Apartments" located at 3602 S. 180th Street, SeaTac, WA 98188 on March 9 thru 11, 2016.

Tanveer Khan and Dan Crownhart, AHERA Certified Building Inspectors, conducted this survey at the request of Mr. Hugh Watkinson of the King County Housing Authority.

This survey is limited to the suspect building materials that would be impacted by the planned installation of the fire alarm system in bldg. A thru bldg. E only. The building materials that would be impacted during the renovation include the GWB walls/ceilings and exterior flooring (hallways, corridors, stairways and mailbox room) of all the affected buildings. Representative samples of the walls/ceilings were collected from each of the buildings impacted by this project. Due to occupancy, destructive sampling techniques were not used to access any hidden materials. Please note that hidden materials may exist within the structures, and all suspect materials must be treated as asbestos containing until testing proves otherwise.

This survey constitutes a survey of accessible suspect ACM in the project area and was conducted in accordance with:

The National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 Code of Federal Regulations (CFR) Part 61 requires a survey by an accredited asbestos inspector prior to demolition of a structure.

This asbestos survey also satisfies the requirements for "Good Faith" inspection outlined in Washington Administrative Code (WAC) 296-62-07221(2), *Identification*, which requires the owner of a structure to provide contractors with a written report identifying the asbestos-containing materials expected to be disturbed during renovation or demolition.

The asbestos survey section is written to comply with the AHERA asbestos sampling procedure as stated in 40 CFR 763.86. This protocol is required under the Puget Sound Clean Air Agency (PSCAA Regulation III, Article IV, rev. March 26, 2009) for all asbestos surveys prior to a building demolition.

2.0 SURVEY METHOD

Asbestos Survey Method

The NVL Labs field inspector is an Asbestos Building Inspector, certified under the requirements of the United States Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) regulation 40 CFR 763, Subpart E. A copy of his certificate is provided in Appendix B.

The AHERA Guidelines dictate the following:

The inspector must determine *homogenous areas*, which are defined as an area of Thermal System Insulation, Surfacing Material, or Miscellaneous Material that is uniform in texture and color.

Once homogenous areas have been determined, the inspector must determine whether or not material is friable or non-friable. ***Friable*** is defined as a material, that when dry, can be crushed, pulverized, or reduced to dust using hand pressure, and ***non-friable*** material is defined as a material, that when dry, *cannot* be crushed pulverized or reduced to dust using hand pressure. Materials normally defined as non-friable can become friable by definition if sufficiently damaged.

Once friability has been determined, the materials suspected of containing asbestos are divided into one of three categories: Thermal System Insulation (TSI), Surfacing Material (SM), or Miscellaneous Material (MM). Generally speaking, TSI and SM are considered to be friable, with the exception of TSI where the structural integrity of the insulation is intact and the protective out wrap is undamaged.

Once materials are divided into one of the categories, samples are collected in the following manner:

Friable Thermal System Insulation:

1. Inspector shall collect three (3) randomly distributed samples;

2. Inspector shall collect a minimum of one sample of each TSI materials that appears to have been used as a patch, as long as the patch is less than 6 LF or 6 ft^2;

3. Inspector shall collect in a manner sufficient, samples from areas of TSI applied to fittings, tees, and joints.

Friable Surfacing Material:

1. Inspector shall collect samples in random manner of surfacing materials as follows:

    a. Collect three bulk samples from an area believed to be homogeneous (defined as a material that appears to be the same or similar and was installed at the same time) that is 1,000 square feet or less in size;

    b. Collect five bulk samples from an area believed to be homogeneous that is greater than 1,000 square feet in size, but less than 5,000 square feet in size;

    c. Collect seven bulk samples from an area believed to be homogeneous that is greater than 5,000 square feet.

2.0 SURVEY METHOD (continued)

Miscellaneous Materials:

1. Inspector shall collect samples in a manner and number sufficient to determine if the material is asbestos-containing or not.

All Materials Determined to Be Non Friable:

1. Inspector shall collect samples in a manner and number sufficient to determine if the material is asbestos containing or not.

In addition to these sampling requirements, the AHERA Building Inspector is required to assess the following of each material that is found to be positive for asbestos:

1. The condition of each material;
2. Accessibility;
3. Possibility for air erosion.

Once the samples have been collected, they must be analyzed by an accredited laboratory, and they must be analyzed using polarized light microscopy methods, commonly referred to as EPA Method 600/R-93/116.

NVL Labs collected samples and obtained analytical data for suspect asbestos-containing materials identified in the building. Once collected, each bulk sample was sealed in an unadulterated plastic bag to eliminate the possibility of cross-contamination. "Chain-of-Custody" tracking was followed to maintain sample integrity during handling and data reporting at NVL Labs.

A walk-through inspection of all accessible areas of this structure was performed to identify potential asbestos-containing materials. The walk-through inspection included a review of the internal and external aspects of this structure. The locations and types of potential asbestos-containing materials were noted.

Homogeneous Materials

Homogeneous materials are defined as an area of asbestos-containing material or presumed asbestos-containing material which appears similar throughout in terms of color, texture, and date of material application. The report listing for homogenous materials will appear as follows:

Sample Number	Material Description by Layer	Location	Asbestos	Quantity	Friable
#	Layer 1 is not asbestos-containing **Layer 2 is asbestos-containing**	**Location description**	1. % **2. %**	**"X" LF/ft²**	**Yes/No**

3.0 LABORATORY INFORMATION

Laboratory Analysis: Asbestos

In accordance with 40 CFR Chapter 1 (1-1-87 edition) Part 763, Subpart F, Appendix A, asbestos samples are analyzed at NVL Labs using polarized light microscopy (PLM) with dispersion staining. If samples are not homogeneous, then sub-samples of the components are analyzed separately. All bulk samples are analyzed using EPA Method 600/R-93/116 with the following measurement uncertainties for reported % asbestos: 1%=0-3%, 5%≥1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%. Only materials containing more than 1% total asbestos were classified as "asbestos-containing" based on EPA, state, and local regulations.

Findings for samples containing more than one separable layer of materials are reported for each layer. The asbestos concentration in the sample is determined by visual estimation.

NVL Labs is accredited by the National Institute of Standards and Technology (NIST) under the National Volunteer Laboratory Accreditation Program (NVLAP) program for bulk asbestos fiber analysis; *NVLAP Lab Code 102063-0*

Laboratory Accreditation

Professional accreditations for NVL Laboratories, Inc. include the following:

NVL Laboratories, Inc. is currently accredited by the National Institute of Standards and Technology (NIST) under the National Volunteer Laboratory Accreditation Program (NVLAP) program for bulk asbestos fiber analysis.

NVLAP Lab Code 102063-0

NVL Laboratories, Inc. is approved by the American Industrial Hygiene Association (AIHA) Asbestos Analysts Registry (AAR) program for airborne asbestos fiber analysis.

AAR Counter ID 7412

NVL Laboratories, Inc. is currently accredited by the American Industrial Hygiene Association (AIHA) under the Industrial Hygiene Laboratory Accreditation Program (IHLAP). The IHLAP program is designed specifically for laboratories involved in analyzing samples to evaluate workplace exposure.

IHLAP Certification Number 563

4.0 BUILDING DESCRIPTION

General Building Type	This is a multi-family apartment complex of traditional wood framed construction.
Primary External Components	The areas surveyed have drywall and wood siding.
Foundation Type	The foundation was not part of the area surveyed.
Roofing Material(s)	The roofing was not part of the area surveyed.
Window Type(s)	The windows were not part of the area surveyed.
Flooring	The areas surveyed have carpet, and coated concrete flooring.
Thermal Systems With Insulation	The thermal system insulation was not part of the area surveyed.
Finishing	The finishing of the apartment buildings consists of textured drywall and popcorn texture ceilings.

5.0 FINDINGS

Building A

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-A-1-1	Popcorn textured ceiling	Floor 1, Unit # 17, Entry closet	3%	7200 ft^2	Yes
2016-0206-A-1-2	Not Analyzed	Floor 1, Unit # 17, Living room	Not Analyzed		
2016-0206-A-1-3	Not Analyzed	Floor 1, Unit # 18, Entry closet	Not Analyzed		
2016-0206-A-1-4	Not Analyzed	Floor 1, Unit # 18, Living room	Not Analyzed		
2016-0206-A-1-5	Not Analyzed	Floor 1, Unit # 19, Entry hall	Not Analyzed		
2016-0206-A-1-6	Not Analyzed	Floor 1, Unit # 19, Living room	Not Analyzed		
2016-0206-A-1-7	Not Analyzed	Floor 1, Unit # 20, Entry closet	Not Analyzed		
2016-0206-A-1-8	Popcorn textured ceiling	Floor 2, Unit # 29, Entry closet	3%	9600 ft^2	Yes
2016-0206-A-1-9	Not Analyzed	Floor 2, Unit # 29, Living room	Not Analyzed		
2016-0206-A-1-10	Not Analyzed	Floor 2, Unit # 41, Entry closet	Not Analyzed		
2016-0206-A-1-11	Not Analyzed	Floor 2, Unit # 41, Living room	Not Analyzed		
2016-0206-A-1-12	Not Analyzed	Floor 2, Unit # 42, Entry closet	Not Analyzed		
2016-0206-A-1-13	Not Analyzed	Floor 2, Unit # 43, Entry closet	Not Analyzed		
2016-0206-A-1-14	Not Analyzed	Floor 2, Unit # 44, Entry closet	Not Analyzed		
2016-0206-A-1-15	1: Texture with paint 2: Drywall	Floor 1, Unit # 17, Entry closet	1: 2% 2: ND	8400 ft^2 (footprint)	Yes
2016-0206-A-1-16	Not Analyzed	Floor 1, Unit # 17, Kitchen	Not Analyzed		
2016-0206-A-1-17	Not Analyzed	Floor 1, Unit # 18, Entry closet	Not Analyzed		
2016-0206-A-1-18	Not Analyzed	Floor 1, Unit # 18, Kitchen	Not Analyzed		
2016-0206-A-1-19	Not Analyzed	Floor 1, Unit # 19, Entry closet	Not Analyzed		
2016-0206-A-1-20	Not Analyzed	Floor 1, Unit # 20, Entry closet	Not Analyzed		
2016-0206-A-1-21	Not Analyzed	Floor 1, Unit # 20, Kitchen	Not Analyzed		

ND None Detected

* The friability of this material was determined at the time of this inspection. Subsequent activities such as demolition, renovation, or abatement may affect the friability of this material.

** These quantities are only an estimate of the asbestos containing material discovered on site. Accuracy of these estimates must be verified by the asbestos abatement contractor on site.

5.0 FINDINGS (continued)

Building A

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-A-1-22	1: Texture with paint 2: Drywall	Floor 2, Unit # 28, Entry closet	1: 2% 2: ND	10800 ft^2 (footprint)	Yes
2016-0206-A-1-23	Not Analyzed	Floor 2, Unit # 28, Kitchen	Not Analyzed		
2016-0206-A-1-24	Not Analyzed	Floor 2, Unit # 41, Entry closet	Not Analyzed		
2016-0206-A-1-25	Not Analyzed	Floor 2, Unit # 42, Entry closet	Not Analyzed		
2016-0206-A-1-26	Not Analyzed	Floor 2, Unit # 43, Entry closet	Not Analyzed		
2016-0206-A-1-27	Not Analyzed	Floor 2, Unit # 44, Entry closet	Not Analyzed		
2016-0206-A-1-28	Not Analyzed	Floor 2, Unit # 44, Kitchen	Not Analyzed		
2016-0206-A-1-29	1: Texture with paint 2: Drywall	Floor 2, Hallway, Across unit # 44	1: 2% 2: ND	3500 ft^2	Yes
2016-0206-A-1-30	Not Analyzed	Floor 2, Hallway, Across unit # 37	Not Analyzed		
2016-0206-A-1-31	Not Analyzed	Floor 1, Hallway, Across unit # 9	Not Analyzed		
2016-0206-A-1-32	Not Analyzed	Floor 1, Hallway, Across unit # 20	Not Analyzed		
2016-0206-A-1-33	Not Analyzed	Mailbox room	Not Analyzed		
2016-0206-A-3-1	1: Carpet flooring 2: Padding 3: Yellow mastic 4: Tan sheet vinyl 5: Gray backing with mastic 6: Concrete	Mailbox room	1: ND 2: ND 3: ND 4: ND 5: ND 6: ND		
2016-0206-A-3-2	Carpet flooring with mastic	Floor 1, East stairway	ND		
2016-0206-A-3-3	Carpet flooring with mastic	Floor 1, Hallway, Across unit # 5	ND		
2016-0206-A-3-4	1: Gray floor coating 2: Yellow mastic	Floor 2, Stairway landings	1: ND 2: ND		
2016-0206-A-3-5	Gray floor coating	Floor 2, Main corridors	ND		
2016-0206-A-3-6	Yellow floor coating	Floor 2, Hallway, Across unit # 37	ND		

ND None Detected

* The friability of this material was determined at the time of this inspection. Subsequent activities such as demolition, renovation, or abatement may affect the friability of this material.

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5.0 FINDINGS (continued)

Building B

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-B-1-1	Popcorn textured ceiling	Floor 1, Unit # 21, Entry closet	3%	7200 ft^2	Yes
2016-0206-B-1-2	Not Analyzed	Floor 1, Unit # 21, Living room	Not Analyzed		
2016-0206-B-1-3	Not Analyzed	Floor 1, Unit # 22, Entry closet	Not Analyzed		
2016-0206-B-1-4	Not Analyzed	Floor 1, Unit # 22, Living room	Not Analyzed		
2016-0206-B-1-5	Not Analyzed	Floor 1, Unit # 23, Entry closet	Not Analyzed		
2016-0206-B-1-6	Not Analyzed	Floor 1, Unit # 23, Living room	Not Analyzed		
2016-0206-B-1-7	Not Analyzed	Floor 1, Unit # 24, Entry closet	Not Analyzed		
2016-0206-B-1-8	Popcorn textured ceiling	Floor 2, Unit # 44, Entry closet	4%	9600 ft^2	Yes
2016-0206-B-1-9	Not Analyzed	Floor 2, Unit # 44, Living room	Not Analyzed		
2016-0206-B-1-10	Not Analyzed	Floor 2, Unit # 45, Entry closet	Not Analyzed		
2016-0206-B-1-11	Not Analyzed	Floor 2, Unit # 45, Living room	Not Analyzed		
2016-0206-B-1-12	Not Analyzed	Floor 2, Unit # 46, Entry closet	Not Analyzed		
2016-0206-B-1-13	Not Analyzed	Floor 2, Unit # 47, Entry closet	Not Analyzed		
2016-0206-B-1-14	Not Analyzed	Floor 2, Unit # 48, Entry closet	Not Analyzed		
2016-0206-B-1-15	1: Texture with paint 2: Drywall	Floor 1, Unit # 21, Entry closet	1: 2% 2: ND	8400 ft^2 (footprint)	Yes
2016-0206-B-1-16	Not Analyzed	Floor 1, Unit # 21, Kitchen	Not Analyzed		
2016-0206-B-1-17	Not Analyzed	Floor 1, Unit # 22, Entry closet	Not Analyzed		
2016-0206-B-1-18	Not Analyzed	Floor 1, Unit # 22, Kitchen	Not Analyzed		
2016-0206-B-1-19	Not Analyzed	Floor 1, Unit # 23, Entry closet	Not Analyzed		
2016-0206-B-1-20	Not Analyzed	Floor 1, Unit # 24, Entry closet	Not Analyzed		
2016-0206-B-1-21	Not Analyzed	Floor 1, Unit # 23, Kitchen	Not Analyzed		
2016-0206-B-1-22	1: Texture with paint 2: Drywall	Floor 2, Unit # 44, Entry closet	1: 3% 2: ND	10800 ft^2 (footprint)	Yes

ND None Detected

* The friability of this material was determined at the time of this inspection. Subsequent activities such as demolition, renovation, or abatement may affect the friability of this material.

** These quantities are only an estimate of the asbestos containing material discovered on site. Accuracy of these estimates must be verified by the asbestos abatement contractor on site.

5.0 FINDINGS (continued)

Building B

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-B-1-23	Not Analyzed	Floor 2, Unit # 44, Kitchen	Not Analyzed		
2016-0206-B-1-24	Not Analyzed	Floor 2, Unit # 45, Entry closet	Not Analyzed		
2016-0206-B-1-25	Not Analyzed	Floor 2, Unit # 46, Entry closet	Not Analyzed		
2016-0206-B-1-26	Not Analyzed	Floor 2, Unit # 47, Entry closet	Not Analyzed		
2016-0206-B-1-27	Not Analyzed	Floor 2, Unit # 45, Kitchen	Not Analyzed		
2016-0206-B-1-28	Not Analyzed	Floor 2, Unit # 48, Entry closet	Not Analyzed		
2016-0206-B-1-29	1: Texture with paint 2: Drywall	Floor 1, Hallway, Across unit # 13	1: 3% 2: ND	3500 ft^2	Yes
2016-0206-B-1-30	Not Analyzed	Floor 1, Hallway, Across unit # 23	Not Analyzed		
2016-0206-B-1-31	Not Analyzed	Floor 2, Hallway, Across unit # 37	Not Analyzed		
2016-0206-B-1-32	Not Analyzed	Floor 2, Hallway, Across unit # 48	Not Analyzed		
2016-0206-B-1-33	Not Analyzed	Mailbox room	Not Analyzed		
2016-0206-B-3-1	1: Carpet flooring 2: Yellow mastic with concrete	Mailbox room	1: ND 2: ND		
2016-0206-B-3-2	1: Carpet flooring 2: Yellow mastic 3: Concrete	Floor 1, East stairway	1: ND 2: ND 3: ND		
2016-0206-B-3-3	1: Carpet flooring 2: White mastic with woven backing 3: Yellow mastic with concrete	Floor 1, Hallway, Across unit # 9	1: ND 2: ND 3: ND		
2016-0206-B-3-4	Gray floor coating	Floor 2, Stairway landings	ND		
2016-0206-B-3-5	1: Gray floor coating 2: Brown wood debris	Floor 2, Main corridors	1: ND 2: ND		
2016-0206-B-3-6	1: Yellow floor coating/mastic 2: Black mastic	Floor 2, Hallway, Across unit # 41	1: ND 2: ND		

ND None Detected

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5.0 FINDINGS (continued)

Building C

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-C-1-1	Popcorn textured ceiling	Floor 1, Unit # 1, Entry closet	3%	6900 ft^2	Yes
2016-0206-C-1-2	Not Analyzed	Floor 1, Unit # 1, Living room	Not Analyzed		
2016-0206-C-1-3	Not Analyzed	Floor 1, Unit # 2, Entry closet	Not Analyzed		
2016-0206-C-1-4	Not Analyzed	Floor 1, Unit # 2, Living room	Not Analyzed		
2016-0206-C-1-5	Not Analyzed	Floor 1, Unit # 4, Entry closet	Not Analyzed		
2016-0206-C-1-6	Not Analyzed	Floor 1, Unit # 4, Living room	Not Analyzed		
2016-0206-C-1-7	Not Analyzed	Floor 1, Unit # 4, Living room	Not Analyzed		
2016-0206-C-1-8	Popcorn textured ceiling	Floor 2, Unit # 25, Entry closet	5%	9200 ft^2	Yes
2016-0206-C-1-9	Not Analyzed	Floor 2, Unit # 25, Living room	Not Analyzed		
2016-0206-C-1-10	Not Analyzed	Floor 2, Unit # 26, Entry closet	Not Analyzed		
2016-0206-C-1-11	Not Analyzed	Floor 2, Unit # 26, Living room	Not Analyzed		
2016-0206-C-1-12	Not Analyzed	Floor 2, Unit # 27, Entry closet	Not Analyzed		
2016-0206-C-1-13	Not Analyzed	Floor 2, Unit # 28, Entry closet	Not Analyzed		
2016-0206-C-1-14	Not Analyzed	Floor 2, Unit # 29, Entry closet	Not Analyzed		
2016-0206-C-1-15	1: Texture with paint 2: Drywall	Floor 1, Unit # 1, Entry closet	1: 2% 2: ND	8050 ft^2 (footprint)	Yes
2016-0206-C-1-16	Not Analyzed	Floor 1, Unit # 1, Kitchen	Not Analyzed		
2016-0206-C-1-17	Not Analyzed	Floor 1, Unit # 2, Entry closet	Not Analyzed		
2016-0206-C-1-18	Not Analyzed	Floor 1, Unit # 2, Kitchen	Not Analyzed		
2016-0206-C-1-19	Not Analyzed	Floor 1, Unit # 3, Entry closet	Not Analyzed		
2016-0206-C-1-20	Not Analyzed	Floor 1, Unit # 3, Kitchen	Not Analyzed		
2016-0206-C-1-21	Not Analyzed	Floor 1, Unit # 4, Entry closet	Not Analyzed		

ND None Detected

* The friability of this material was determined at the time of this inspection. Subsequent activities such as demolition, renovation, or abatement may affect the friability of this material.

** These quantities are only an estimate of the asbestos containing material discovered on site. Accuracy of these estimates must be verified by the asbestos abatement contractor on site.

5.0 FINDINGS (continued)

Building C

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-C-1-22	1: Texture with paint 2: Drywall	Floor 2, Unit # 25, Entry closet	1: 3% 2: ND	10350 ft^2 (footprint)	Yes
2016-0206-C-1-23	Not Analyzed	Floor 2, Unit # 25, Kitchen	Not Analyzed		
2016-0206-C-1-24	Not Analyzed	Floor 2, Unit # 26, Entry closet	Not Analyzed		
2016-0206-C-1-25	Not Analyzed	Floor 2, Unit # 26, Kitchen	Not Analyzed		
2016-0206-C-1-26	Not Analyzed	Floor 2, Unit # 27, Entry closet	Not Analyzed		
2016-0206-C-1-27	Not Analyzed	Floor 2, Unit # 28, Kitchen	Not Analyzed		
2016-0206-C-1-28	Not Analyzed	Floor 2, Unit # 29, Entry closet	Not Analyzed		
2016-0206-C-1-29	1: Texture with paint 2: Drywall	Floor 2, Hallway, Across unit # 32	1: 2% 2: ND	3500 ft^2	Yes
2016-0206-C-1-30	Not Analyzed	Floor 2, Hallway, Across unit # 42	Not Analyzed		
2016-0206-C-1-31	Not Analyzed	Floor 1, Hallway, Across unit # 24	Not Analyzed		
2016-0206-C-1-32	Not Analyzed	Floor 1, Hallway, Across unit # 10	Not Analyzed		
2016-0206-C-1-33	Not Analyzed	Mailbox room	Not Analyzed		
2016-0206-C-3-1	1: Carpet flooring 2: Yellow mastic 3: Gray sheet vinyl 4: Gray backing with mastic	Mailbox room	1: ND 2: ND 3: ND 4: ND		
2016-0206-C-3-2	1: Carpet flooring 2: Yellow mastic 3: Concrete	Floor 1, East stairway	1: ND 2: ND 3: ND		
2016-0206-C-3-3	1: Carpet flooring 2: White mastic 3: Yellow mastic with concrete	Floor 1, Hallway, Across unit # 5	1: ND 2: ND 3: ND		
2016-0206-C-3-4	1: Carpet flooring 2: Trace gray mastic 3: Yellow mastic	Floor 1, Hallway, Across unit # 13 & # 17	1: ND 2: ND 3: ND		

ND None Detected

* The friability of this material was determined at the time of this inspection. Subsequent activities such as demolition, renovation, or abatement may affect the friability of this material.

** These quantities are only an estimate of the asbestos containing material discovered on site. Accuracy of these estimates must be verified by the asbestos abatement contractor on site.

5.0 FINDINGS (continued)

Building C

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-C-3-5	Gray floor coating	Floor 2, Stairway landings	ND		
2016-0206-C-3-6	1: Gray floor coating 2: Yellow mastic	Floor 2, Main corridors	1: ND 2: ND		
2016-0206-C-3-7	1: Yellow mastic 2: Yellow floor coating with mastic	Floor 2, Hallway, Across unit # 42	1: ND 2: ND		

Building D

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-D-1-1	Popcorn textured ceiling	Floor 1, Unit # 5, Entry closet	5%	6900 ft^2	Yes
2016-0206-D-1-2	Not Analyzed	Floor 1, Unit # 5, Living room	Not Analyzed		
2016-0206-D-1-3	Not Analyzed	Floor 1, Unit # 6, Entry closet	Not Analyzed		
2016-0206-D-1-4	Not Analyzed	Floor 1, Unit # 6, Living room	Not Analyzed		
2016-0206-D-1-5	Not Analyzed	Floor 1, Unit # 7, Entry closet	Not Analyzed		
2016-0206-D-1-6	Not Analyzed	Floor 1, Unit # 7, Living room	Not Analyzed		
2016-0206-D-1-7	Not Analyzed	Floor 1, Unit # 8, Entry closet	Not Analyzed		
2016-0206-D-1-8	Popcorn textured ceiling	Floor 2, Unit # 28, Entry closet	4%	9200 ft^2	Yes
2016-0206-D-1-9	Not Analyzed	Floor 2, Unit # 28, Living room	Not Analyzed		
2016-0206-D-1-10	Not Analyzed	Floor 2, Unit # 29, Living room	Not Analyzed		
2016-0206-D-1-11	Not Analyzed	Floor 2, Unit # 29, Living room	Not Analyzed		
2016-0206-D-1-12	Not Analyzed	Floor 2, Unit # 30, Entry closet	Not Analyzed		
2016-0206-D-1-13	Not Analyzed	Floor 2, Unit # 31, Entry hall	Not Analyzed		
2016-0206-D-1-14	Not Analyzed	Floor 2, Unit # 32, Entry closet	Not Analyzed		

ND None Detected

* The friability of this material was determined at the time of this inspection. Subsequent activities such as demolition, renovation, or abatement may affect the friability of this material.

** These quantities are only an estimate of the asbestos containing material discovered on site. Accuracy of these estimates must be verified by the asbestos abatement contractor on site.

5.0 FINDINGS (continued)

Building D

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-D-1-15	1: Texture with paint 2: Drywall	Floor 1, Unit # 5, Entry closet	1: 4% 2: ND	8050 ft^2 (footprint)	Yes
2016-0206-D-1-16	Not Analyzed	Floor 1, Unit # 5, Kitchen	Not Analyzed		
2016-0206-D-1-17	Not Analyzed	Floor 1, Unit # 6, Entry closet	Not Analyzed		
2016-0206-D-1-18	Not Analyzed	Floor 1, Unit # 6, Kitchen	Not Analyzed		
2016-0206-D-1-19	Not Analyzed	Floor 1, Unit # 7, Entry closet	Not Analyzed		
2016-0206-D-1-20	Not Analyzed	Floor 1, Unit # 7, Kitchen	Not Analyzed		
2016-0206-D-1-21	Not Analyzed	Floor 1, Unit # 8, Entry closet	Not Analyzed		
2016-0206-D-1-22	1: Texture with paint 2: Drywall	Floor 2, Unit # 28, Entry closet	1: 3% 2: ND	10350 ft^2 (footprint)	Yes
2016-0206-D-1-23	Not Analyzed	Floor 2, Unit # 28, Kitchen	Not Analyzed		
2016-0206-D-1-24	Not Analyzed	Floor 2, Unit # 29, Entry closet	Not Analyzed		
2016-0206-D-1-25	Not Analyzed	Floor 2, Unit # 29, Kitchen	Not Analyzed		
2016-0206-D-1-26	Not Analyzed	Floor 2, Unit # 30, Entry closet	Not Analyzed		
2016-0206-D-1-27	Not Analyzed	Floor 2, Unit # 31, Entry closet	Not Analyzed		
2016-0206-D-1-28	Not Analyzed	Floor 2, Unit # 32, Entry closet	Not Analyzed		
2016-0206-D-1-29	1: Texture with paint 2: Drywall	Floor 2, Hallway, Across unit # 32	1: 3% 2: ND	3500 ft^2	Yes
2016-0206-D-1-30	Not Analyzed	Floor 2, Hallway, Across unit # 42	Not Analyzed		
2016-0206-D-1-31	Not Analyzed	Floor 1, Hallway, Across unit # 4	Not Analyzed		
2016-0206-D-1-32	Not Analyzed	Floor 1, Hallway, Across unit # 13	Not Analyzed		
2016-0206-D-1-33	Not Analyzed	Mailbox room	Not Analyzed		
2016-0206-D-3-1	1: Carpet flooring with mastic 2: Padding with tan mastic 3: Concrete	Floor 1, West stairway & Mailbox room	1: ND 2: ND 3: ND		

ND None Detected

* The friability of this material was determined at the time of this inspection. Subsequent activities such as demolition, renovation, or abatement may affect the friability of this material.

** These quantities are only an estimate of the asbestos containing material discovered on site. Accuracy of these estimates must be verified by the asbestos abatement contractor on site.

5.0 FINDINGS (continued)

Building D

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-D-3-2	Gray floor coating	Floor 1, East stairway	ND		
2016-0206-D-3-3	1: Yellow floor coating 2: Gray floor coating with mastic	Floor 1, Hallway, Across unit # 17	1: ND 2: ND		
2016-0206-D-3-4	1: Beige floor coating 2: Off-white material with tan mastic and paint	Floor 2, Main corridors	1: ND 2: ND		
2016-0206-D-3-5	1: Yellow floor coating 2: Yellow mastic 3: Off-white material	Floor 2, Hallway, Across unit # 42	1: ND 2: ND 3: ND		
2016-0206-D-3-6	1: Gray floor coating 2: Yellow mastic with paint	Floor 2, Stairway landings	1: ND 2: ND		

Building E

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-E-1-1	Popcorn textured ceiling	Floor 1, Unit # 21, Entry closet	2%	7200 ft^2	Yes
2016-0206-E-1-2	Not Analyzed	Floor 1, Unit # 21, Living room	Not Analyzed		
2016-0206-E-1-3	Not Analyzed	Floor 1, Unit # 22, Entry closet	Not Analyzed		
2016-0206-E-1-4	Not Analyzed	Floor 1, Unit # 22, Living room	Not Analyzed		
2016-0206-E-1-5	Not Analyzed	Floor 1, Unit # 23, Entry closet	Not Analyzed		
2016-0206-E-1-6	Not Analyzed	Floor 1, Unit # 23, Living room	Not Analyzed		
2016-0206-E-1-7	Not Analyzed	Floor 1, Unit # 24, Entry closet	Not Analyzed		
2016-0206-E-1-8	Popcorn textured ceiling	Floor 2, Unit # 44, Entry closet	3%	9600 ft^2	Yes
2016-0206-E-1-9	Not Analyzed	Floor 2, Unit # 44, Living room	Not Analyzed		
2016-0206-E-1-10	Not Analyzed	Floor 2, Unit # 45, Entry closet	Not Analyzed		
2016-0206-E-1-11	Not Analyzed	Floor 2, Unit # 45, Living room	Not Analyzed		
2016-0206-E-1-12	Not Analyzed	Floor 2, Unit # 46, Entry closet	Not Analyzed		

ND None Detected

* The friability of this material was determined at the time of this inspection. Subsequent activities such as demolition, renovation, or abatement may affect the friability of this material.

** These quantities are only an estimate of the asbestos containing material discovered on site. Accuracy of these estimates must be verified by the asbestos abatement contractor on site.

5.0 FINDINGS (continued)

Building E

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-E-1-13	Not Analyzed	Floor 2, Unit # 47, Entry closet	Not Analyzed		
2016-0206-E-1-14	Not Analyzed	Floor 2, Unit # 48, Entry closet	Not Analyzed		
2016-0206-E-1-15	1: Texture with paint 2: Drywall	Floor 1, Unit # 21, Entry closet	1: 2% 2: ND	8400 ft^2 (footprint)	Yes
2016-0206-E-1-16	Not Analyzed	Floor 1, Unit # 21, Kitchen	Not Analyzed		
2016-0206-E-1-17	Not Analyzed	Floor 1, Unit # 22, Entry closet	Not Analyzed		
2016-0206-E-1-18	Not Analyzed	Floor 1, Unit # 22, Kitchen	Not Analyzed		
2016-0206-E-1-19	Not Analyzed	Floor 1, Unit # 23, Entry closet	Not Analyzed		
2016-0206-E-1-20	Not Analyzed	Floor 1, Unit # 23, Kitchen	Not Analyzed		
2016-0206-E-1-21	Not Analyzed	Floor 1, Unit # 24, Entry closet	Not Analyzed		
2016-0206-E-1-22	1: Texture with paint 2: Drywall	Floor 2, Unit # 44, Entry closet	1: 2% 2: ND	10800 ft^2 (footprint)	Yes
2016-0206-E-1-23	Not Analyzed	Floor 2, Unit # 44, Kitchen	Not Analyzed		
2016-0206-E-1-24	Not Analyzed	Floor 2, Unit # 45, Entry closet	Not Analyzed		
2016-0206-E-1-25	Not Analyzed	Floor 2, Unit # 45, Kitchen	Not Analyzed		
2016-0206-E-1-26	Not Analyzed	Floor 2, Unit # 46, Entry closet	Not Analyzed		
2016-0206-E-1-27	Not Analyzed	Floor 2, Unit # 47, Entry closet	Not Analyzed		
2016-0206-E-1-28	Not Analyzed	Floor 2, Unit # 48, Entry closet	Not Analyzed		
2016-0206-E-1-29	1: Texture with paint 2: Drywall	Floor 1, Hallway, Across unit # 1	1: 2% 2: ND	3500 ft^2	Yes
2016-0206-E-1-30	Not Analyzed	Floor 1, Hallway, Across unit # 13	Not Analyzed		
2016-0206-E-1-31	Not Analyzed	Floor 2, Hallway, Across unit # 28	Not Analyzed		
2016-0206-E-1-32	Not Analyzed	Floor 2, Hallway, Across unit # 44	Not Analyzed		
2016-0206-E-1-33	Not Analyzed	Mailbox room	Not Analyzed		

ND None Detected

* The friability of this material was determined at the time of this inspection. Subsequent activities such as demolition, renovation, or abatement may affect the friability of this material.

** These quantities are only an estimate of the asbestos containing material discovered on site. Accuracy of these estimates must be verified by the asbestos abatement contractor on site.

5.0 FINDINGS (continued)

Building E

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2016-0206-E-3-1	1: Carpet flooring 2: Padding 3: Tan sheet vinyl 4: Gray backing with mastic	Mailbox room	1: ND 2: ND 3: ND 4: ND		
2016-0206-E-3-2	1: Carpet flooring 2: Concrete with mastic	Floor 1, West stairway	1: ND 2: ND		
2016-0206-E-3-3	Yellow floor coating with mastic	Floor 1, Hallway, Across unit # 5	ND		
2016-0206-E-3-4	Gray floor coating	Floor 1, East stairway	ND		
2016-0206-E-3-5	Gray floor coating	Floor 2, Stairway landings	ND		
2016-0206-E-3-6	Gray floor coating	Floor 2, Main corridors	ND		
2016-0206-E-3-7	Yellow floor coating with mastic	Floor 2, Hallway, Across unit # 45	ND		

ND None Detected

Any suspect material(s) not identified above should not be disturbed and should be tested immediately. The suspect material must be treated as asbestos-containing until testing proves otherwise.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The following is an inventory of asbestos-containing building materials identified during the Limited Good Faith Asbestos Inspection conducted at "Carriage House Apartments" 3602 S. 180th Street, SeaTac, WA 98188.

Building A thru building E

1. **Popcorn textured ceiling (Friable)**
Sample number: 2016-0206-(A/B/C/D/E)-1-1 thru 1-14

There is approximately 82,600 square feet of asbestos containing popcorn textured ceiling located in all the units of bldg. A thru bldg. E.

2. **Texture with paint (Friable)**
Sample number: 2016-0206-(A/B/C/D/E)-1-15 thru 1-28

There is approximately 94,400 square feet (footprint) of asbestos containing texture with paint associated with the interior GWB walls/ceilings of all the units in bldg. A thru bldg. E.

3. **Texture with paint (Friable)**
Sample number: 2016-0206-(A/B/C/D/E)-1-29 thru 1-33

There is a total of approximately 17,500 square feet (3500 square feet per bldg.) of asbestos containing texture with paint associated with the GWB walls/ceilings of the mailbox room and all the exterior hallways (by the unit's entrances) of bldg. A thru bldg. E.

6.0 CONCLUSIONS AND RECOMMENDATIONS (continued)

Contractors should be aware that concealed suspect asbestos-containing building materials may be uncovered during the course of demolition or renovation work. Contractors should have contingency plans that include stopping work, evacuation of the immediate area and sampling by a certified AHERA Building Inspector whenever these materials are found. Concealed suspect materials may include, but are not limited to: non-fiberglass pipe or roof drain insulation; spray-applied coatings; cement board; asphalt or paper vapor barriers; floorings and adhesives.

If discovered, all asbestos-containing materials that will be disturbed as a natural part of renovation and/or demolition are required to be removed and disposed of in accordance with Washington State regulations. 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 by a Certified Asbestos Supervisor. Further, NVL suggests that an AHERA inspector review this property after abatement to ensure all asbestos-containing materials have been removed by the contractor.

NVL Labs, Inc. is making the following recommendations regarding asbestos:

1. A copy of this inspection report should be maintained at the site during any renovations.

2. A copy of this inspection report should be provided to the General Contractor and any Sub Contractors working on the renovation project.

3. A licensed asbestos abatement contractor must be utilized to remove any asbestos-containing materials that will be impacted by the renovations.

7.0 LIMITATIONS OF SURVEY

The purpose of this Limited Good Faith Asbestos Inspection report is to document asbestos-containing building materials discovered at "Carriage House Apartments" 3602 S. 180th Street, SeaTac, WA 98188.

This survey is limited to the suspect building materials that would be impacted by the planned installation of the fire alarm system in bldg. A thru bldg. E only. The building materials that would be impacted during the renovation include the GWB walls/ceilings and exterior flooring (hallways, corridors, stairways and mailbox room) of all the affected buildings. Representative samples of the walls/ceilings were collected from each of the buildings impacted by this project. Due to occupancy, destructive sampling techniques were not used to access any hidden materials. Please note that hidden materials may exist within the structures, and all suspect materials must be treated as asbestos containing until testing proves otherwise.

This site visit consisted of a thorough visual walk-through of the building for the purpose of viewing and sampling potential asbestos-containing material. As hazardous material surveys are non-comprehensive by nature, NVL Laboratories, Inc. cannot be held liable for materials which require destructive means to access, materials which are hidden from sight (e.g. materials hidden behind walls), materials which cannot be found due to their obscure nature, or which otherwise cannot be discovered with reasonable diligence.

This document is the sole property of NVL Laboratories and the client, or his agent, authorizing this survey.

Inspected By

Tanveer Khan

Tanveer Khan
AHERA Building Inspector
Certification # 151522
Expiration Date: May 19, 2016

Reviewed By

Syed Hasan
Manager Field Services
AHERA Certification # 153226
Expiration Date: September 30, 2016

Inspected By

Daniel Crownhart
AHERA Building Inspector
Certification # 152896
Expiration Date: August 26, 2016

Appendix A

Laboratory Analysis Results

March 15, 2016

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

Tanveer Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1605463.00

Client Project: 2016-0206
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Dear Mr. Khan,

Enclosed please find test results for the 39 sample(s) submitted to our laboratory for analysis on 3/11/2016.

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

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

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

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

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

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

Sincerely,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605463.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188263 **Client Sample #: 2016-0206-A-1-1**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188
Layer 1 of 1 **Description:** White lumpy foamy material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Synthetic foam, Paint	Cellulose 3%	**Chrysotile 3%**

Lab ID: 16188264 **Client Sample #: 2016-0206-A-1-2** **Sample Status: Not Analyzed**

Lab ID: 16188265 **Client Sample #: 2016-0206-A-1-3** **Sample Status: Not Analyzed**

Lab ID: 16188266 **Client Sample #: 2016-0206-A-1-4** **Sample Status: Not Analyzed**

Lab ID: 16188267 **Client Sample #: 2016-0206-A-1-5** **Sample Status: Not Analyzed**

Lab ID: 16188268 **Client Sample #: 2016-0206-A-1-6** **Sample Status: Not Analyzed**

Lab ID: 16188269 **Client Sample #: 2016-0206-A-1-7** **Sample Status: Not Analyzed**

Lab ID: 16188270 **Client Sample #: 2016-0206-A-1-8**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188
Layer 1 of 1 **Description:** Beige lumpy foamy material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Synthetic foam, Paint	Cellulose 2%	**Chrysotile 3%**

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188271	**Client Sample #: 2016-0206-A-1-9**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188272	**Client Sample #: 2016-0206-A-1-10**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188273	**Client Sample #: 2016-0206-A-1-11**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188274	**Client Sample #: 2016-0206-A-1-12**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188275	**Client Sample #: 2016-0206-A-1-13**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188276	**Client Sample #: 2016-0206-A-1-14**	**Sample Status:**	**Not Analyzed**

Lab ID: 16188277 **Client Sample #: 2016-0206-A-1-15**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** Beige powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Paint	Cellulose 3%	**Chrysotile 2%**
Layer 2 of 2	**Description:** Pink chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler	Cellulose 32%	**None Detected ND**

Lab ID: 16188278	**Client Sample #: 2016-0206-A-1-16**	**Sample Status:**	**Not Analyzed**

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector.

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Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID	Client Sample #	Sample Status
16188279	2016-0206-A-1-17	Not Analyzed
16188280	2016-0206-A-1-18	Not Analyzed
16188281	2016-0206-A-1-19	Not Analyzed
16188282	2016-0206-A-1-20	Not Analyzed
16188283	2016-0206-A-1-21	Not Analyzed

Lab ID: 16188284 **Client Sample #: 2016-0206-A-1-22**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** White powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous binder, Paint	Cellulose 3%	**Chrysotile 2%**
Layer 2 of 2	**Description:** Pink chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler	Cellulose 35%	**None Detected ND**

Lab ID	Client Sample #	Sample Status
16188285	2016-0206-A-1-23	Not Analyzed
16188286	2016-0206-A-1-24	Not Analyzed

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605463.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188287	**Client Sample #: 2016-0206-A-1-25**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188288	**Client Sample #: 2016-0206-A-1-26**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188289	**Client Sample #: 2016-0206-A-1-27**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188290	**Client Sample #: 2016-0206-A-1-28**	**Sample Status:**	**Not Analyzed**

Lab ID: 16188291 **Client Sample #: 2016-0206-A-1-29**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** Beige powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Paint	Cellulose 3%	**Chrysotile 2%**
Layer 2 of 2	**Description:** Pink chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler	Cellulose 34%	**None Detected ND**

Lab ID: 16188292	**Client Sample #: 2016-0206-A-1-30**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188293	**Client Sample #: 2016-0206-A-1-31**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188294	**Client Sample #: 2016-0206-A-1-32**	**Sample Status:**	**Not Analyzed**

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Batch #: 1605463.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188295 **Client Sample #: 2016-0206-A-1-33** **Sample Status: Not Analyzed**

Lab ID: 16188296 **Client Sample #: 2016-0206-A-3-1**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 6	**Description:** Black/beige woven fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Synthetic fibers	85%	**None Detected ND**
Layer 2 of 6	**Description:** Black/gray foamy material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Synthetic foam	None Detected	ND	**None Detected ND**
Layer 3 of 6	**Description:** Yellow mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Cellulose	2%	**None Detected ND**
Layer 4 of 6	**Description:** Tan sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Vinyl/Binder, Synthetic foam	None Detected	ND	**None Detected ND**
Layer 5 of 6	**Description:** Gray fibrous backing with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mastic/Binder	Cellulose	31%	**None Detected ND**
		Glass fibers	20%	
Layer 6 of 6	**Description:** Gray sandy brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Sand	Cellulose	1%	**None Detected ND**

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605463.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188297 **Client Sample #: 2016-0206-A-3-2**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 1 **Description:** Beige/black woven fibrous material with mastic

Non-Fibrous Materials:	Other Fibrous Materials:	%	Asbestos Type: %
Binder/Filler, Mastic/Binder	Cellulose	2%	None Detected ND
	Synthetic fibers	83%	

Lab ID: 16188298 **Client Sample #: 2016-0206-A-3-3**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 1 **Description:** Red/white/blue woven fibrous material with mastic

Non-Fibrous Materials:	Other Fibrous Materials:	%	Asbestos Type: %
Binder/Filler, Mastic/Binder	Cellulose	1%	None Detected ND
	Synthetic fibers	72%	

Lab ID: 16188299 **Client Sample #: 2016-0206-A-3-4**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2 **Description:** Gray vinyl with sand

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

Layer 2 of 2 **Description:** Yellow mastic

Non-Fibrous Materials:	Other Fibrous Materials:	%	Asbestos Type: %
Mastic/Binder	Cellulose	2%	None Detected ND

Lab ID: 16188300 **Client Sample #: 2016-0206-A-3-5**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605463.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 1 **Description:** Gray elastic material with wood

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Wood	Cellulose	1%	**None Detected ND**
	Synthetic fibers	23%	
	Wood fibers	6%	

Lab ID: 16188301 **Client Sample #: 2016-0206-A-3-6**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 1 **Description:** Gray elastic material with paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Paint	Cellulose	2%	**None Detected ND**

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605463.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 39

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	16188263	2016-0206-A-1-1	Stop @ 1st Positive	A
2	16188264	2016-0206-A-1-2	"	A
3	16188265	2016-0206-A-1-3	"	A
4	16188266	2016-0206-A-1-4	"	A
5	16188267	2016-0206-A-1-5	"	A
6	16188268	2016-0206-A-1-6	"	A
7	16188269	2016-0206-A-1-7	"	A
8	16188270	2016-0206-A-1-8	Stop @ 1st Positive	A
9	16188271	2016-0206-A-1-9	"	A
10	16188272	2016-0206-A-1-10	"	A
11	16188273	2016-0206-A-1-11	"	A
12	16188274	2016-0206-A-1-12	"	A
13	16188275	2016-0206-A-1-13	"	A
14	16188276	2016-0206-A-1-14	"	A
15	16188277	2016-0206-A-1-15	Stop @ 1st Positive	A
16	16188278	2016-0206-A-1-16	"	A
17	16188279	2016-0206-A-1-17	"	A
18	16188280	2016-0206-A-1-18	"	A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Fiona Chui		NVL	3/14/16	9:06 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:44 PM
Entered By: Maxwell Raymond

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605463.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 39

Rush Samples

	Lab ID	Sample ID	Description	A/R
19	16188281	2016-0206-A-1-19	"	A
20	16188282	2016-0206-A-1-20	"	A
21	16188283	2016-0206-A-1-21	"	A
22	16188284	2016-0206-A-1-22	Stop @ 1st Positive	A
23	16188285	2016-0206-A-1-23	"	A
24	16188286	2016-0206-A-1-24	"	A
25	16188287	2016-0206-A-1-25	"	A
26	16188288	2016-0206-A-1-26	"	A
27	16188289	2016-0206-A-1-27	"	A
28	16188290	2016-0206-A-1-28	"	A
29	16188291	2016-0206-A-1-29	Stop @ 1st Positive	A
30	16188292	2016-0206-A-1-30	"	A
31	16188293	2016-0206-A-1-31	"	A
32	16188294	2016-0206-A-1-32	"	A
33	16188295	2016-0206-A-1-33	"	A
34	16188296	2016-0206-A-3-1		A
35	16188297	2016-0206-A-3-2		A
36	16188298	2016-0206-A-3-3		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Fiona Chui		NVL	3/14/16	9:06 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:44 PM
Entered By: Maxwell Raymond

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605463.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 39 Rush Samples

	Lab ID	Sample ID	Description	A/R
37	16188299	2016-0206-A-3-4		A
38	16188300	2016-0206-A-3-5		A
39	16188301	2016-0206-A-3-6		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Fiona Chui		NVL	3/14/16	9:06 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:44 PM
Entered By: Maxwell Raymond

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CHAIN of CUSTODY SAMPLE LOG

1605463

NVL B S

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

NVL Batch Number:
Client Job Number: 2016-0206
Total Samples: 39
Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address: hughw@kcha.org

Phone: (206) 574-1230 Fax: (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-A-1-1	STOP AT FIRST POSITIVE	
2		1-2	↓	
3		1-3		
4		1-4		
5		1-5		
6		1-6		
7		1-7		
8		1-8	STOP AT FIRST POSITIVE	
9		1-9		
10		1-10		
11		1-11		
12		1-12		
13		1-13		
14		1-14		
15		1-15	STOP AT FIRST POSITIVE	

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Janveer Khan	NVL	3-9-16	9:00 AM
Relinquished by	TAN KHAN	Janveer Khan	NVL	3-11-16	2:00 PM
Received by					
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

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CHAIN of CUSTODY SAMPLE LOG

1605463 S

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188
Phone: (206) 574-1230 Fax: (206) 357-2441

NVL Batch Number:
Client Job Number: 2016-0206
Total Samples: 39
Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address: hughw@kcha.org

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-A-1-16		
2		1-17		
3		1-18		
4		1-19		
5		1-20		
6		1-21		
7		1-22	STOP AT FIRST POSITIVE	
8		1-23		
9		1-24		
10		1-25		
11		1-26		
12		1-27		
13		1-28		
14		1-29	STOP AT FIRST POSITIVE	
15		1-30		

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Jamveer Khan	NVL	3-9-16	9:00 AM
Relinquished by	TAN KHAN	Jamveer Khan	NVL	3-11-16	2:00 PM
Received by	Mark		NVL	3/11/16	1430
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 293

NVL Laboratories, Inc.
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CHAIN of CUSTODY SAMPLE LOG

1605463

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

NVL Batch Number:
Client Job Number: 2016-0206
Total Samples: 39
Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address: huqhw@kcha.org

Phone: (206) 574-1230 Fax: (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8 / ☐ Chromium (Cr	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Lead (Pb)	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Mercury (Hg)	☐ Nickel (Ni) / ☐ Zinc (Zn)

☐ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-A-1-31		
2		1-32		
3		1-33		
4		3-1		
5		3-2		
6		3-3		
7		3-4		
8		3-5		
9		3-6		
10				
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Danveer Khan	NVL	3-9-16	9:00 AM
Relinquished by	TAN KHAN	Danveer Khan	NVL	3-11-16	2:00 PM
Received by				3/11/16	14:00
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 39 3

March 15, 2016

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

Tanveer Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1605461.00

Client Project: 2016-0206
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Dear Mr. Khan,

Enclosed please find test results for the 39 sample(s) submitted to our laboratory for analysis on 3/11/2016.

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

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

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

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

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

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

Sincerely,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

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p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605461.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188184 **Client Sample #: 2016-0206-B-1-1**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188
Layer 1 of 1 **Description:** White lumpy foamy material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Synthetic foam, Paint	Cellulose 2%	**Chrysotile 3%**

Lab ID: 16188185 **Client Sample #: 2016-0206-B-1-2** **Sample Status: Not Analyzed**

Lab ID: 16188186 **Client Sample #: 2016-0206-B-1-3** **Sample Status: Not Analyzed**

Lab ID: 16188187 **Client Sample #: 2016-0206-B-1-4** **Sample Status: Not Analyzed**

Lab ID: 16188188 **Client Sample #: 2016-0206-B-1-5** **Sample Status: Not Analyzed**

Lab ID: 16188189 **Client Sample #: 2016-0206-B-1-6** **Sample Status: Not Analyzed**

Lab ID: 16188190 **Client Sample #: 2016-0206-B-1-7** **Sample Status: Not Analyzed**

Lab ID: 16188191 **Client Sample #: 2016-0206-B-1-8**
Layer 1 of 1 **Description:** White lumpy foamy material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Synthetic foam, Paint	Cellulose 3%	**Chrysotile 4%**

Lab ID: 16188192 **Client Sample #: 2016-0206-B-1-9** **Sample Status: Not Analyzed**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605461.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188193	**Client Sample #: 2016-0206-B-1-10**	**Sample Status: Not Analyzed**
Lab ID: 16188194	**Client Sample #: 2016-0206-B-1-11**	**Sample Status: Not Analyzed**
Lab ID: 16188195	**Client Sample #: 2016-0206-B-1-12**	**Sample Status: Not Analyzed**
Lab ID: 16188196	**Client Sample #: 2016-0206-B-1-13**	**Sample Status: Not Analyzed**
Lab ID: 16188197	**Client Sample #: 2016-0206-B-1-14**	**Sample Status: Not Analyzed**

Lab ID: 16188198 **Client Sample #: 2016-0206-B-1-15**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Synthetic foam, Paint	Cellulose 2%	**Chrysotile 2%**

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

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

Lab ID: 16188199	**Client Sample #: 2016-0206-B-1-16**	**Sample Status: Not Analyzed**
Lab ID: 16188200	**Client Sample #: 2016-0206-B-1-17**	**Sample Status: Not Analyzed**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605461.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188201	**Client Sample #: 2016-0206-B-1-18**	**Sample Status: Not Analyzed**
Lab ID: 16188202	**Client Sample #: 2016-0206-B-1-19**	**Sample Status: Not Analyzed**
Lab ID: 16188203	**Client Sample #: 2016-0206-B-1-20**	**Sample Status: Not Analyzed**
Lab ID: 16188204	**Client Sample #: 2016-0206-B-1-21**	**Sample Status: Not Analyzed**

Lab ID: 16188205 **Client Sample #: 2016-0206-B-1-22**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Paint, Binder/Filler	Cellulose 3%	**Chrysotile 3%**

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

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

Lab ID: 16188206	**Client Sample #: 2016-0206-B-1-23**	**Sample Status: Not Analyzed**
Lab ID: 16188207	**Client Sample #: 2016-0206-B-1-24**	**Sample Status: Not Analyzed**
Lab ID: 16188208	**Client Sample #: 2016-0206-B-1-25**	**Sample Status: Not Analyzed**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605461.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188209	**Client Sample #: 2016-0206-B-1-26**	**Sample Status: Not Analyzed**
Lab ID: 16188210	**Client Sample #: 2016-0206-B-1-27**	**Sample Status: Not Analyzed**
Lab ID: 16188211	**Client Sample #: 2016-0206-B-1-28**	**Sample Status: Not Analyzed**

Lab ID: 16188212 **Client Sample #: 2016-0206-B-1-29**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Paint	Cellulose 3%	**Chrysotile 3%**

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

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

Lab ID: 16188213	**Client Sample #: 2016-0206-B-1-30**	**Sample Status: Not Analyzed**
Lab ID: 16188214	**Client Sample #: 2016-0206-B-1-31**	**Sample Status: Not Analyzed**
Lab ID: 16188215	**Client Sample #: 2016-0206-B-1-32**	**Sample Status: Not Analyzed**
Lab ID: 16188216	**Client Sample #: 2016-0206-B-1-33**	**Sample Status: Not Analyzed**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605461.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188217 **Client Sample #: 2016-0206-B-3-1**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** Gray/off-white woven fibrous carpet material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Synthetic foam	Synthetic fibers	56%	**None Detected ND**
		Glass fibers	12%	
Layer 2 of 2	**Description:** Yellow soft mastic with sandy/brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Binder/Filler, Sand	Cellulose	3%	**None Detected ND**
	Mineral grains	Synthetic fibers	2%	

Lab ID: 16188218 **Client Sample #: 2016-0206-B-3-2**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 3	**Description:** Tan/gray woven fibrous carpet material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Synthetic fibers	63%	**None Detected ND**
Layer 2 of 3	**Description:** Yellow brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Cellulose	4%	**None Detected ND**
Layer 3 of 3	**Description:** Gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Calcareous particles	Cellulose	2%	**None Detected ND**

Lab ID: 16188219 **Client Sample #: 2016-0206-B-3-3**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605461.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 3	**Description:** Red/white/green woven fibrous carpet material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Synthetic fibers	61%	**None Detected ND**
Layer 2 of 3	**Description:** White soft mastic with woven fibrous backing			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Binder/Filler	Synthetic fibers	33%	**None Detected ND**
		Cellulose	3%	
Layer 3 of 3	**Description:** Trace yellow brittle mastic with sandy/brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Binder/Filler, Sand	Cellulose	2%	**None Detected ND**

Lab ID: 16188220 **Client Sample #: 2016-0206-B-3-4**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 1	**Description:** White soft material with brittle paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Paint, Binder/Filler, Fine particles	Cellulose	2%	**None Detected ND**

Lab ID: 16188221 **Client Sample #: 2016-0206-B-3-5**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** Gray soft material with paint and interwoven fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Paint	Synthetic fibers	15%	**None Detected ND**
		Cellulose	1%	
Layer 2 of 2	**Description:** Brown wood debris			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Wood flakes	Wood fibers	33%	**None Detected ND**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605461.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188222 **Client Sample #: 2016-0206-B-3-6**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2 **Description:** Yellow soft mastic with paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Mastic/Binder, Paint	Cellulose	3%	**None Detected ND**

Layer 2 of 2 **Description:** Gray soft material with mastic and granules

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Mastic/Binder, Granules	Cellulose	3%	**None Detected ND**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

NVL LABS

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605461.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 39 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	16188184	2016-0206-B-1-1	Stop @ 1st Positive	A
2	16188185	2016-0206-B-1-2	"	A
3	16188186	2016-0206-B-1-3	"	A
4	16188187	2016-0206-B-1-4	"	A
5	16188188	2016-0206-B-1-5	"	A
6	16188189	2016-0206-B-1-6	"	A
7	16188190	2016-0206-B-1-7	"	A
8	16188191	2016-0206-B-1-8	Stop @ 1st Positive	A
9	16188192	2016-0206-B-1-9	"	A
10	16188193	2016-0206-B-1-10	"	A
11	16188194	2016-0206-B-1-11	"	A
12	16188195	2016-0206-B-1-12	"	A
13	16188196	2016-0206-B-1-13	"	A
14	16188197	2016-0206-B-1-14	"	A
15	16188198	2016-0206-B-1-15	Stop @ 1st Positive	A
16	16188199	2016-0206-B-1-16	"	A
17	16188200	2016-0206-B-1-17	"	A
18	16188201	2016-0206-B-1-18	"	A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Lori Tseng		NVL	3/14/16	9:15 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:36 PM
Entered By: Maxwell Raymond

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ASBESTOS LABORATORY SERVICES

NVL LABS

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605461.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 39 Rush Samples

	Lab ID	Sample ID	Description	A/R
19	16188202	2016-0206-B-1-19	"	A
20	16188203	2016-0206-B-1-20	"	A
21	16188204	2016-0206-B-1-21	"	A
22	16188205	2016-0206-B-1-22	Stop @ 1st Positive	A
23	16188206	2016-0206-B-1-23	"	A
24	16188207	2016-0206-B-1-24	"	A
25	16188208	2016-0206-B-1-25	"	A
26	16188209	2016-0206-B-1-26	"	A
27	16188210	2016-0206-B-1-27	"	A
28	16188211	2016-0206-B-1-28	"	A
29	16188212	2016-0206-B-1-29	Stop @ 1st Positive	A
30	16188213	2016-0206-B-1-30	"	A
31	16188214	2016-0206-B-1-31	"	A
32	16188215	2016-0206-B-1-32	"	A
33	16188216	2016-0206-B-1-33	"	A
34	16188217	2016-0206-B-3-1		A
35	16188218	2016-0206-B-3-2		A
36	16188219	2016-0206-B-3-3		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Lori Tseng		NVL	3/14/16	9:15 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:36 PM
Entered By: Maxwell Raymond

NVL Laboratories, Inc.
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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605461.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 39 Rush Samples

	Lab ID	Sample ID	Description	A/R
37	16188220	2016-0206-B-3-4		A
38	16188221	2016-0206-B-3-5		A
39	16188222	2016-0206-B-3-6		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Lori Tseng		NVL	3/14/16	9:15 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:36 PM
Entered By: Maxwell Raymond

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

CHAIN of CUSTODY SAMPLE LOG

1605461

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188
Phone: (206) 574-1230 Fax: (206) 357-2441

NVL Batch Number:
Client Job Number: 2016-0206
Total Samples: 39
Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address: hughw@kcha.org

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-B-1-1	STOP AT FIRST POSITIVE	
2		1-2		
3		1-3		
4		1-4		
5		1-5		
6		1-6		
7		1-7		
8		1-8	STOP AT FIRST POSITIVE	
9		1-9		
10		1-10		
11		1-11		
12		1-12		
13		1-13		
14		1-14		
15		1-15	STOP AT FIRST POSITIVE	

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Danveer Khan	NVL	3-9-16	9:00 AM
Relinquished by	TAN KHAN	Danveer Khan	NVL	3-11-16	2:00 PM
Received by			NVL	3/14/16	1400
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 1 of 3

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

CHAIN of CUSTODY SAMPLE LOG

1605461

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

NVL Batch Number:
Client Job Number: 2016-0206
Total Samples: 39

Turn Around Time: ☐ 1 Hr ☐ 2 Hrs ☐ 4 Hrs ☒ 2 Days ☐ 6 Hrs ☐ 1 Day ☐ 3 Days ☐ 4 Days ☐ 5 Days ☐ 10 Days
Please call for TAT less than 24 Hrs

Email address: hughw@kcha.org

Phone: (206) 574-1230 Fax: (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-B-1-16		
2		1-17		
3		1-18		
4		1-19		
5		1-20		
6		1-21		
7		1-22	STOP AT FIRST POSITIVE	
8		1-23		
9		1-24		
10		1-25		
11		1-26		
12		1-27		
13		1-28		
14		1-29	STOP AT FIRST POSITIVE	
15		1-30		

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN ICHAN	Danveer Khan	NVL	3-9-16	9:00AM
Relinquished by	TAN ICHAN	Danveer Khan	NVL	3-9-16	2:00 PM
Received by	Mayra		NVL	3/10/16	1430
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

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CHAIN of CUSTODY SAMPLE LOG

1605461

S

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

NVL Batch Number ___
Client Job Number: 2016-0206
Total Samples: 39

Turn Around Time: ☐ 1 Hr ☐ 2 Hrs ☐ 4 Hrs ☐ 6 Hrs ☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days ☐ 10 Days
Please call for TAT less than 24 Hrs

Email address: hughw@kcha.org

Phone: (206) 574-1230 Fax: (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8 / ☐ Chromium (Cr	☐ All 3 / ☐ Copper (Cu)
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Lead (Pb)	☐ Nickel (Ni)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ___ ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-B-1-31		
2		1-32		
3		1-33		
4		3-1		
5		3-2		
6		3-3		
7		3-4		
8		3-5		
9		3-6		
10		"		
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Danveer Khan	NVL	3-9-16	9:00 AM
Relinquished by	TAN KHAN	Danveer Khan	NVL	3-9-16	2:00 PM
Received by				3/10/16	1400
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

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March 14, 2016

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

Tanveer Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1605462.00

Client Project: 2016-0206
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Dear Mr. Khan,

Enclosed please find test results for the 40 sample(s) submitted to our laboratory for analysis on 3/11/2016.

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

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

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

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

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

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

Sincerely,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605462.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188223 **Client Sample #: 2016-0206-C-1-1**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188
Layer 1 of 1 **Description:** White lumpy foamy material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Synthetic foam, Paint	Cellulose 2%	**Chrysotile 3%**

Lab ID: 16188224 **Client Sample #: 2016-0206-C-1-2** **Sample Status: Not Analyzed**

Lab ID: 16188225 **Client Sample #: 2016-0206-C-1-3** **Sample Status: Not Analyzed**

Lab ID: 16188226 **Client Sample #: 2016-0206-C-1-4** **Sample Status: Not Analyzed**

Lab ID: 16188227 **Client Sample #: 2016-0206-C-1-5** **Sample Status: Not Analyzed**

Lab ID: 16188228 **Client Sample #: 2016-0206-C-1-6** **Sample Status: Not Analyzed**

Lab ID: 16188229 **Client Sample #: 2016-0206-C-1-7** **Sample Status: Not Analyzed**

Lab ID: 16188230 **Client Sample #: 2016-0206-C-1-8**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188
Layer 1 of 1 **Description:** White lumpy foamy material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Synthetic foam, Paint	Cellulose 2%	**Chrysotile 5%**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/14/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605462.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188231	**Client Sample #: 2016-0206-C-1-9**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188232	**Client Sample #: 2016-0206-C-1-10**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188233	**Client Sample #: 2016-0206-C-1-11**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188234	**Client Sample #: 2016-0206-C-1-12**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188235	**Client Sample #: 2016-0206-C-1-13**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188236	**Client Sample #: 2016-0206-C-1-14**	**Sample Status:**	**Not Analyzed**

Lab ID: 16188237 **Client Sample #: 2016-0206-C-1-15**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Paint	Cellulose 2%	**Chrysotile 2%**
Layer 2 of 2	**Description:** White chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Gypsum/Binder	Cellulose 26%	**None Detected ND**

Lab ID: 16188238	**Client Sample #: 2016-0206-C-1-16**	**Sample Status:**	**Not Analyzed**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/14/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605462.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID	Client Sample #	Sample Status
16188239	2016-0206-C-1-17	Not Analyzed
16188240	2016-0206-C-1-18	Not Analyzed
16188241	2016-0206-C-1-19	Not Analyzed
16188242	2016-0206-C-1-20	Not Analyzed
16188243	2016-0206-C-1-21	Not Analyzed

Lab ID: 16188244 **Client Sample #: 2016-0206-C-1-22**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Paint	Cellulose 2%	**Chrysotile 3%**
Layer 2 of 2	**Description:** White chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Gypsum/Binder	Cellulose 24%	**None Detected ND**

Lab ID	Client Sample #	Sample Status
16188245	2016-0206-C-1-23	Not Analyzed
16188246	2016-0206-C-1-24	Not Analyzed

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/14/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605462.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188247	**Client Sample #: 2016-0206-C-1-25**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188248	**Client Sample #: 2016-0206-C-1-26**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188249	**Client Sample #: 2016-0206-C-1-27**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188250	**Client Sample #: 2016-0206-C-1-28**	**Sample Status:**	**Not Analyzed**

Lab ID: 16188251 **Client Sample #: 2016-0206-C-1-29**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Paint	Cellulose 2%	**Chrysotile 2%**

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

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Gypsum/Binder	Cellulose 27%	**None Detected ND**

Lab ID: 16188252	**Client Sample #: 2016-0206-C-1-30**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188253	**Client Sample #: 2016-0206-C-1-31**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188254	**Client Sample #: 2016-0206-C-1-32**	**Sample Status:**	**Not Analyzed**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/14/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605462.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188255 **Client Sample #: 2016-0206-C-1-33** **Sample Status: Not Analyzed**

Lab ID: 16188256 **Client Sample #: 2016-0206-C-3-1**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 4	**Description:** Gray/brown/off-white woven fibrous carpet material with foam			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Synthetic foam, Binder/Filler	Synthetic fibers	55%	**None Detected ND**
		Glass fibers	12%	
Layer 2 of 4	**Description:** Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Synthetic fibers	3%	**None Detected ND**
		Cellulose	2%	
Layer 3 of 4	**Description:** Gray sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Vinyl/Binder, Synthetic foam	None Detected	ND	**None Detected ND**
Layer 4 of 4	**Description:** Gray fibrous backing with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mastic/Binder	Synthetic fibers	55%	**None Detected ND**
		Cellulose	2%	

Lab ID: 16188257 **Client Sample #: 2016-0206-C-3-2**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 3	**Description:** Brown/white woven fibrous carpet material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Synthetic fibers	57%	**None Detected ND**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/14/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605462.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 3	**Description:** Yellow brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Synthetic fibers	2%	**None Detected ND**
		Cellulose	1%	
Layer 3 of 3	**Description:** Gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Calcareous binder	Cellulose	1%	**None Detected ND**

Lab ID: 16188258 **Client Sample #: 2016-0206-C-3-3**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 3	**Description:** White/green/red woven fibrous carpet material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Synthetic fibers	61%	**None Detected ND**
Layer 2 of 3	**Description:** White soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Cellulose	3%	**None Detected ND**
		Synthetic fibers	2%	
Layer 3 of 3	**Description:** Yellow soft mastic with sandy/brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Binder/Filler, Sand	Synthetic fibers	4%	**None Detected ND**
	Mineral grains	Cellulose	3%	

Lab ID: 16188259 **Client Sample #: 2016-0206-C-3-4**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/14/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605462.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 3	**Description:** Red/white/gray woven fibrous carpet material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Synthetic fibers	66%	**None Detected ND**
Layer 2 of 3	**Description:** Trace gray soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Cellulose	2%	**None Detected ND**
Layer 3 of 3	**Description:** Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Synthetic fibers	2%	**None Detected ND**
		Cellulose	1%	

Lab ID: 16188260 **Client Sample #: 2016-0206-C-3-5**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 1	**Description:** Gray soft material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Paint, Fine particles	Cellulose	2%	**None Detected ND**

Lab ID: 16188261 **Client Sample #: 2016-0206-C-3-6**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** Gray soft material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Paint, Fine particles	Cellulose	3%	**None Detected ND**
Layer 2 of 2	**Description:** Yellow brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Synthetic fibers	2%	**None Detected ND**
		Cellulose	1%	

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/14/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605462.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188262 **Client Sample #: 2016-0206-C-3-7**

Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Comments: Unsure of correct layer sequence.

Layer 1 of 2 **Description:** Yellow soft mastic

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

Layer 2 of 2 **Description:** Gray soft material with paint and mastic

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Mastic/Binder, Paint, Binder/Filler	Synthetic fibers	3%	**None Detected ND**
	Cellulose	1%	

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/14/2016

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

NVL LABS

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605462.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 40 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	16188223	2016-0206-C-1-1	Stop @ 1st Pos.	A
2	16188224	2016-0206-C-1-2	***	A
3	16188225	2016-0206-C-1-3	***	A
4	16188226	2016-0206-C-1-4	***	A
5	16188227	2016-0206-C-1-5	***	A
6	16188228	2016-0206-C-1-6	***	A
7	16188229	2016-0206-C-1-7	***	A
8	16188230	2016-0206-C-1-8	Stop @ 1st Pos.	A
9	16188231	2016-0206-C-1-9	***	A
10	16188232	2016-0206-C-1-10	***	A
11	16188233	2016-0206-C-1-11	***	A
12	16188234	2016-0206-C-1-12	***	A
13	16188235	2016-0206-C-1-13	***	A
14	16188236	2016-0206-C-1-14	***	A
15	16188237	2016-0206-C-1-15	Stop @ 1st Pos.	A
16	16188238	2016-0206-C-1-16	***	A
17	16188239	2016-0206-C-1-17	***	A
18	16188240	2016-0206-C-1-18	***	A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Lori Tseng		NVL	3/14/16	8:28 PM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:38 PM
Entered By: Fatima Khan

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605462.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 40

Rush Samples

	Lab ID	Sample ID	Description	A/R
19	16188241	2016-0206-C-1-19	***	A
20	16188242	2016-0206-C-1-20	***	A
21	16188243	2016-0206-C-1-21	***	A
22	16188244	2016-0206-C-1-22	Stop @ 1st Pos.	A
23	16188245	2016-0206-C-1-23	***	A
24	16188246	2016-0206-C-1-24	***	A
25	16188247	2016-0206-C-1-25	***	A
26	16188248	2016-0206-C-1-26	***	A
27	16188249	2016-0206-C-1-27	***	A
28	16188250	2016-0206-C-1-28	***	A
29	16188251	2016-0206-C-1-29	Stop @ 1st Pos.	A
30	16188252	2016-0206-C-1-30	***	A
31	16188253	2016-0206-C-1-31	***	A
32	16188254	2016-0206-C-1-32	***	A
33	16188255	2016-0206-C-1-33	***	A
34	16188256	2016-0206-C-3-1		A
35	16188257	2016-0206-C-3-2		A
36	16188258	2016-0206-C-3-3		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Lori Tseng		NVL	3/14/16	8:28 PM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:38 PM
Entered By: Fatima Khan

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605462.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 40 Rush Samples

	Lab ID	Sample ID	Description	A/R
37	16188259	2016-0206-C-3-4		A
38	16188260	2016-0206-C-3-5		A
39	16188261	2016-0206-C-3-6		A
40	16188262	2016-0206-C-3-7		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Lori Tseng		NVL	3/14/16	8:28 PM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:38 PM
Entered By: Fatima Khan

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CHAIN of CUSTODY SAMPLE LOG

1605462 S

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

NVL Batch Number:
Client Job Number: 2016-0206
Total Samples: 40
Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address: hughw@kcha.org

Phone: (206) 574-1230 Fax: (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other	
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK		
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration			

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-C-1-1	STOP AT FIRST POSITIVE	
2		1-2		
3		1-3		
4		1-4		
5		1-5		
6		1-6		
7		1-7		
8		1-8	STOP AT FIRST POSITIVE	
9		1-9		
10		1-10		
11		1-11		
12		1-12		
13		1-13		
14		1-14		
15		1-15	STOP AT FIRST POSITIVE	

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Tanveer Khan	NVL	3-10-16	9:00 AM
Relinquished by	TAN KHAN	Tanveer Khan	NVL	3-11-16	2:00 PM
Received by			NVL	3/11/16	1400
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 1 of 3

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CHAIN of CUSTODY SAMPLE LOG

1605462

IL S

Client NVL Laboratories Inc
Street 4708 Aurora Ave N
Seattle, WA 98103
Project Manager Syed Hasan
Project Location "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

NVL Batch Number _____
Client Job Number 2016-0206
Total Samples 40
Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address hughw@kcha.org

Phone: (206) 574-1230 **Fax:** (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-C-1-16		
2		1-17		
3		1-18		
4		1-19		
5		1-20		
6		1-21		
7		1-22	STOP AT FIRST POSITIVE	
8		1-23		
9		1-24		
10		1-25		
11		1-26		
12		1-27		
13		1-28		
14		1-29	STOP AT FIRST POSITIVE	
15		1-30		

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Danveer Khan	NVL	3-10-16	9:00 AM
Relinquished by	TAN KHAN	Danveer Khan	NVL	3-11-16	2:00 PM
Received by	MGR		NVL	3/11/16	1400
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 2 of 3

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CHAIN of CUSTODY SAMPLE LOG

1605462

Client NVL Laboratories Inc
Street 4708 Aurora Ave N
Seattle, WA 98103
Project Manager Syed Hasan
Project Location "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

NVL Batch Number
Client Job Number 2016-0206
Total Samples 40
Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address hughw@kcha.org

Phone: (206) 574-1230 **Fax:** (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☑ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-C-1-31		
2		1-32		
3		1-33		
4		3-1		
5		3-2		
6		3-3		
7		3-4		
8		3-5		
9		3-6		
10		3-7		
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Danveer Khan	NVL	3-10-16	9:00 AM
Relinquished by	TAN KHAN	Danveer Khan	NVL	3-11-16	2:00 PM
Received by					
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 3 of 3

March 15, 2016

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

Tanveer Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1605460.00

Client Project: 2016-0206
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Dear Mr. Khan,

Enclosed please find test results for the 39 sample(s) submitted to our laboratory for analysis on 3/11/2016.

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

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

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

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

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

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

Sincerely,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605460.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188145 **Client Sample #: 2016-0206-D-1-1**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188
Layer 1 of 1 **Description:** White lumpy foamy material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Binder/Filler, Synthetic foam	None Detected ND	**Chrysotile 5%**

Lab ID: 16188146 **Client Sample #: 2016-0206-D-1-2** **Sample Status: Not Analyzed**

Lab ID: 16188147 **Client Sample #: 2016-0206-D-1-3** **Sample Status: Not Analyzed**

Lab ID: 16188148 **Client Sample #: 2016-0206-D-1-4** **Sample Status: Not Analyzed**

Lab ID: 16188149 **Client Sample #: 2016-0206-D-1-5** **Sample Status: Not Analyzed**

Lab ID: 16188150 **Client Sample #: 2016-0206-D-1-6** **Sample Status: Not Analyzed**

Lab ID: 16188151 **Client Sample #: 2016-0206-D-1-7** **Sample Status: Not Analyzed**

Lab ID: 16188152 **Client Sample #: 2016-0206-D-1-8**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188
Layer 1 of 1 **Description:** White lumpy foamy material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Binder/Filler, Synthetic foam	None Detected ND	**Chrysotile 4%**

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605460.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Paint

Lab ID: 16188153	**Client Sample #: 2016-0206-D-1-9**	**Sample Status: Not Analyzed**
Lab ID: 16188154	**Client Sample #: 2016-0206-D-1-10**	**Sample Status: Not Analyzed**
Lab ID: 16188155	**Client Sample #: 2016-0206-D-1-11**	**Sample Status: Not Analyzed**
Lab ID: 16188156	**Client Sample #: 2016-0206-D-1-12**	**Sample Status: Not Analyzed**
Lab ID: 16188157	**Client Sample #: 2016-0206-D-1-13**	**Sample Status: Not Analyzed**
Lab ID: 16188158	**Client Sample #: 2016-0206-D-1-14**	**Sample Status: Not Analyzed**

Lab ID: 16188159 **Client Sample #: 2016-0206-D-1-15**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** White textured compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Binder/Filler, Paint	Cellulose 1%	**Chrysotile 4%**
Layer 2 of 2	**Description:** Light pink chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose 13%	**None Detected ND**

Lab ID: 16188160	**Client Sample #: 2016-0206-D-1-16**	**Sample Status: Not Analyzed**

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605460.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188161	**Client Sample #: 2016-0206-D-1-17**	**Sample Status: Not Analyzed**
Lab ID: 16188162	**Client Sample #: 2016-0206-D-1-18**	**Sample Status: Not Analyzed**
Lab ID: 16188163	**Client Sample #: 2016-0206-D-1-19**	**Sample Status: Not Analyzed**
Lab ID: 16188164	**Client Sample #: 2016-0206-D-1-20**	**Sample Status: Not Analyzed**
Lab ID: 16188165	**Client Sample #: 2016-0206-D-1-21**	**Sample Status: Not Analyzed**

Lab ID: 16188166 **Client Sample #: 2016-0206-D-1-22**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Binder/Filler, Paint	Cellulose 2%	**Chrysotile 3%**

Layer 2 of 2 **Description:** Off-white chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Fine particles, Gypsum/Binder	Cellulose 16%	**None Detected ND**

Lab ID: 16188167	**Client Sample #: 2016-0206-D-1-23**	**Sample Status: Not Analyzed**
Lab ID: 16188168	**Client Sample #: 2016-0206-D-1-24**	**Sample Status: Not Analyzed**

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605460.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188169	**Client Sample #: 2016-0206-D-1-25**	**Sample Status: Not Analyzed**
Lab ID: 16188170	**Client Sample #: 2016-0206-D-1-26**	**Sample Status: Not Analyzed**
Lab ID: 16188171	**Client Sample #: 2016-0206-D-1-27**	**Sample Status: Not Analyzed**
Lab ID: 16188172	**Client Sample #: 2016-0206-D-1-28**	**Sample Status: Not Analyzed**

Lab ID: 16188173 **Client Sample #: 2016-0206-D-1-29**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Binder/Filler, Paint	None Detected ND	**Chrysotile 3%**

Layer 2 of 2 **Description:** Light pink chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Fine particles, Gypsum/Binder	Cellulose 12%	**None Detected ND**

Lab ID: 16188174	**Client Sample #: 2016-0206-D-1-30**	**Sample Status: Not Analyzed**
Lab ID: 16188175	**Client Sample #: 2016-0206-D-1-31**	**Sample Status: Not Analyzed**
Lab ID: 16188176	**Client Sample #: 2016-0206-D-1-32**	**Sample Status: Not Analyzed**

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605460.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188177 **Client Sample #: 2016-0206-D-1-33** **Sample Status: Not Analyzed**

Lab ID: 16188178 **Client Sample #: 2016-0206-D-3-1**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 3	**Description:** Brown/black woven fibrous material with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Mastic/Binder	Synthetic fibers	90%	**None Detected ND**
Layer 2 of 3	**Description:** Black soft material with tan soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous particles, Binder/Filler, Mastic/Binder	Glass fibers	10%	**None Detected ND**
Layer 3 of 3	**Description:** Light gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mineral grains	None Detected	ND	**None Detected ND**

Lab ID: 16188179 **Client Sample #: 2016-0206-D-3-2**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 1	**Description:** Gray textured material (on wood)			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mineral grains	Cellulose	2%	**None Detected ND**

Lab ID: 16188180 **Client Sample #: 2016-0206-D-3-3**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** Gray with light gray surface textured material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mineral grains	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605460.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 2	**Description:** Light gray hard brittle material with thin mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mineral grains, Gravel	None Detected	ND	**None Detected ND**
	Mastic/Binder			

Lab ID: 16188181 **Client Sample #: 2016-0206-D-3-4**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** Gray textured material with brown paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mineral grains, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** Off-white brittle material with tan mastic and layered paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mineral grains, Gravel	None Detected	ND	**None Detected ND**
	Mastic/Binder, Paint			

Lab ID: 16188182 **Client Sample #: 2016-0206-D-3-5**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 3	**Description:** Gray with light green surface textured material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mineral grains	None Detected	ND	**None Detected ND**
Layer 2 of 3	**Description:** Yellow mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Cellulose	1%	**None Detected ND**
Layer 3 of 3	**Description:** Off-white brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mineral grains, Gravel	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605460.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 39
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188183 **Client Sample #: 2016-0206-D-3-6**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** White /black material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous particles, Binder/Filler	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** Yellow mastic with layered paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Paint	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 03/14/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605460.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 39 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	16188145	2016-0206-D-1-1	Stop @ 1st Pos.	A
2	16188146	2016-0206-D-1-2	***	A
3	16188147	2016-0206-D-1-3	***	A
4	16188148	2016-0206-D-1-4	***	A
5	16188149	2016-0206-D-1-5	***	A
6	16188150	2016-0206-D-1-6	***	A
7	16188151	2016-0206-D-1-7	***	A
8	16188152	2016-0206-D-1-8	Stop @ 1st Pos.	A
9	16188153	2016-0206-D-1-9	***	A
10	16188154	2016-0206-D-1-10	***	A
11	16188155	2016-0206-D-1-11	***	A
12	16188156	2016-0206-D-1-12	***	A
13	16188157	2016-0206-D-1-13	***	A
14	16188158	2016-0206-D-1-14	***	A
15	16188159	2016-0206-D-1-15	Stop @ 1st Pos.	A
16	16188160	2016-0206-D-1-16	***	A
17	16188161	2016-0206-D-1-17	***	A
18	16188162	2016-0206-D-1-18	***	A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Nadezhda		NVL	3/14/16	9:09 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:34 PM
Entered By: Fatima Khan

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605460.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 39 Rush Samples

	Lab ID	Sample ID	Description	A/R
19	16188163	2016-0206-D-1-19	***	A
20	16188164	2016-0206-D-1-20	***	A
21	16188165	2016-0206-D-1-21	***	A
22	16188166	2016-0206-D-1-22	Stop @ 1st Pos.	A
23	16188167	2016-0206-D-1-23	***	A
24	16188168	2016-0206-D-1-24	***	A
25	16188169	2016-0206-D-1-25	***	A
26	16188170	2016-0206-D-1-26	***	A
27	16188171	2016-0206-D-1-27	***	A
28	16188172	2016-0206-D-1-28	***	A
29	16188173	2016-0206-D-1-29	Stop @ 1st Pos.	A
30	16188174	2016-0206-D-1-30	***	A
31	16188175	2016-0206-D-1-31	***	A
32	16188176	2016-0206-D-1-32	***	A
33	16188177	2016-0206-D-1-33	***	A
34	16188178	2016-0206-D-3-1		A
35	16188179	2016-0206-D-3-2		A
36	16188180	2016-0206-D-3-3		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Nadezhda		NVL	3/14/16	9:09 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:34 PM
Entered By: Fatima Khan

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605460.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 39 Rush Samples

	Lab ID	Sample ID	Description	A/R
37	16188181	2016-0206-D-3-4		A
38	16188182	2016-0206-D-3-5		A
39	16188183	2016-0206-D-3-6		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Nadezhda		NVL	3/14/16	9:09 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:34 PM
Entered By: Fatima Khan

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CHAIN of CUSTODY SAMPLE LOG

1605460

NVL Batch Number _____
Client Job Number 2016-0206
Total Samples 39

Client NVL Laboratories Inc
Street 4708 Aurora Ave N
Seattle, WA 98103
Project Manager Syed Hasan
Project Location "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs

Email address hughw@kcha.org

Phone: (206) 574-1230 Fax: (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-D-1-1	STOP AT FIRST POSITIVE	
2		1-2		
3		1-3		
4		1-4		
5		1-5		
6		1-6		
7		1-7		
8		1-8	STOP AT FIRST POSITIVE	
9		1-9		
10		1-10		
11		1-11		
12		1-12		
13		1-13		
14		1-14		
15		1-15	STOP AT FIRST POSITIVE	

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Janveer Khan	NVL	3-10-16	9:00 AM
Relinquished by	TAN KHAN	Janveer Khan	NVL	3-10-16	2:00 PM
Received by	[illegible]	[illegible]	[illegible]	3/11/16	1020
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 1 of 3

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CHAIN of CUSTODY SAMPLE LOG

1605460

NVL A B S

Client NVL Laboratories Inc
Street 4708 Aurora Ave N
Seattle, WA 98103
Project Manager Syed Hasan
Project Location "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

NVL Batch Number
Client Job Number 2016-0206
Total Samples 39
Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address hughw@kcha.org

Phone: (206) 574-1230 **Fax:** (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other	
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK		
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration			

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-D-1-16		
2		1-17		
3		1-18		
4		1-19		
5		1-20		
6		1-21		
7		1-22	STOP AT FIRST POSITIVE	
8		1-23		
9		1-24		
10		1-25		
11		1-26		
12		1-27		
13		1-28		
14		1-29	STOP AT FIRST POSITIVE	
15		1-30		

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Tanveer Khan	NVL	3-10-16	9:00 AM
Relinquished by	TAN KHAN	Tanveer Khan	NVL	3-11-16	2:00 PM
Received by					
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 293

NVL Laboratories, Inc.
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p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

CHAIN of CUSTODY SAMPLE LOG

1605460

NVL Batch Number
Client: NVL Laboratories Inc
Client Job Number: 2016-0206
Street: 4708 Aurora Ave N, Seattle, WA 98103
Total Samples: 39
Project Manager: Syed Hasan
Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Project Location: "Carriage House" 3602 S. 180th Street, SeaTac, WA 98188
Please call for TAT less than 24 Hrs
Email address: huqhw@kcha.org
Phone: (206) 574-1230 Fax: (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____ ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-D-1-31		
2		1-32		
3		1-33		
4		3-1		
5		3-2		
6		3-3		
7		3-4		
8		3-5		
9		3-6		
10				
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Danveer Khan	NVL	3-10-16	9:00 AM
Relinquished by	TAN KHAN	Danveer Khan	NVL	3-11-16	2:00 PM
Received by			NVL	3/11/16	1400
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 3 of 3

March 15, 2016

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

Tanveer Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1605459.00

Client Project: 2016-0206
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Dear Mr. Khan,

Enclosed please find test results for the 40 sample(s) submitted to our laboratory for analysis on 3/11/2016.

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

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

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

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

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

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

Sincerely,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605459.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188105 **Client Sample #: 2016-0206-E-1-1**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188
Layer 1 of 1 **Description:** Beige lumpy foamy material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Synthetic foam, Paint	Cellulose 3%	**Chrysotile 2%**

Lab ID: 16188106 **Client Sample #: 2016-0206-E-1-2** **Sample Status: Not Analyzed**

Lab ID: 16188107 **Client Sample #: 2016-0206-E-1-3** **Sample Status: Not Analyzed**

Lab ID: 16188108 **Client Sample #: 2016-0206-E-1-4** **Sample Status: Not Analyzed**

Lab ID: 16188109 **Client Sample #: 2016-0206-E-1-5** **Sample Status: Not Analyzed**

Lab ID: 16188110 **Client Sample #: 2016-0206-E-1-6** **Sample Status: Not Analyzed**

Lab ID: 16188111 **Client Sample #: 2016-0206-E-1-7** **Sample Status: Not Analyzed**

Lab ID: 16188112 **Client Sample #: 2016-0206-E-1-8**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188
Layer 1 of 1 **Description:** Beige lumpy foamy material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Synthetic foam, Paint	Cellulose 3%	**Chrysotile 3%**

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/15/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605459.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188113	**Client Sample #: 2016-0206-E-1-9**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188114	**Client Sample #: 2016-0206-E-1-10**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188115	**Client Sample #: 2016-0206-E-1-11**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188116	**Client Sample #: 2016-0206-E-1-12**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188117	**Client Sample #: 2016-0206-E-1-13**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188118	**Client Sample #: 2016-0206-E-1-14**	**Sample Status:**	**Not Analyzed**

Lab ID: 16188119 **Client Sample #: 2016-0206-E-1-15**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** Beige textured powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Paint	Cellulose 3%	**Chrysotile 2%**
Layer 2 of 2	**Description:** Pink chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler	Cellulose 35%	**None Detected ND**

Lab ID: 16188120	**Client Sample #: 2016-0206-E-1-16**	**Sample Status:**	**Not Analyzed**

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/15/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605459.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID	Client Sample #	Sample Status
16188121	2016-0206-E-1-17	Not Analyzed
16188122	2016-0206-E-1-18	Not Analyzed
16188123	2016-0206-E-1-19	Not Analyzed
16188124	2016-0206-E-1-20	Not Analyzed
16188125	2016-0206-E-1-21	Not Analyzed

Lab ID: 16188126 **Client Sample #: 2016-0206-E-1-22**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** Beige textured powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Paint	Cellulose 3%	**Chrysotile 2%**
Layer 2 of 2	**Description:** Pink chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler	Cellulose 34%	**None Detected ND**

Lab ID	Client Sample #	Sample Status
16188127	2016-0206-E-1-23	Not Analyzed
16188128	2016-0206-E-1-24	Not Analyzed

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/15/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605459.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188129	**Client Sample #: 2016-0206-E-1-25**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188130	**Client Sample #: 2016-0206-E-1-26**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188131	**Client Sample #: 2016-0206-E-1-27**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188132	**Client Sample #: 2016-0206-E-1-28**	**Sample Status:**	**Not Analyzed**

Lab ID: 16188133 **Client Sample #: 2016-0206-E-1-29**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2 **Description:** Beige textured powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Paint	Cellulose 3%	**Chrysotile 2%**

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

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Gypsum/Binder, Binder/Filler	Cellulose 35%	**None Detected ND**

Lab ID: 16188134	**Client Sample #: 2016-0206-E-1-30**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188135	**Client Sample #: 2016-0206-E-1-31**	**Sample Status:**	**Not Analyzed**
Lab ID: 16188136	**Client Sample #: 2016-0206-E-1-32**	**Sample Status:**	**Not Analyzed**

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/15/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605459.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 16188137 **Client Sample #: 2016-0206-E-1-33** **Sample Status: Not Analyzed**

Lab ID: 16188138 **Client Sample #: 2016-0206-E-3-1**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 4	**Description:** Beige/black woven fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Synthetic fibers	81%	**None Detected ND**
Layer 2 of 4	**Description:** Black/gray foamy material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Synthetic foam	None Detected	ND	**None Detected ND**
Layer 3 of 4	**Description:** Tan sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Vinyl/Binder, Synthetic foam	None Detected	ND	**None Detected ND**
Layer 4 of 4	**Description:** Gray fibrous backing with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mastic/Binder	Cellulose	32%	**None Detected ND**
		Glass fibers	20%	

Lab ID: 16188139 **Client Sample #: 2016-0206-E-3-2**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 2	**Description:** Beige/black woven fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Synthetic fibers	82%	**None Detected ND**

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/15/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605459.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 2 **Description:** Gray brittle material with mastic

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

Lab ID: 16188140 **Client Sample #: 2016-0206-E-3-3**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 1 **Description:** Gray elastic material with mastic

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

Lab ID: 16188141 **Client Sample #: 2016-0206-E-3-4**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 1 **Description:** Gray elastic material with wood

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Mineral grains, Wood	Cellulose	2%	**None Detected ND**
	Wood fibers	4%	

Lab ID: 16188142 **Client Sample #: 2016-0206-E-3-5**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 1 **Description:** Gray/white vinyl with sand and paint

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

Lab ID: 16188143 **Client Sample #: 2016-0206-E-3-6**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Layer 1 of 1 **Description:** Gray elastic material with wood

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Mineral grains, Wood	Cellulose	2%	**None Detected ND**

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/15/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

Batch #: 1605459.00
Client Project #: 2016-0206
Date Received: 3/11/2016
Samples Received: 40
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Wood fibers 5%

Lab ID: 16188144 **Client Sample #: 2016-0206-E-3-7**
Location: "Carriage House" 3602 S. 180th Street SeaTac, WA 98188
Layer 1 of 1 **Description:** Gray elastic material with mastic

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

Sampled by: Client
Analyzed by: Fiona Chui **Date:** 03/15/2016
Reviewed by: Nick Ly **Date:** 03/15/2016

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605459.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 40 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	16188105	2016-0206-E-1-1	Stop @ 1st Pos.	A
2	16188106	2016-0206-E-1-2	***	A
3	16188107	2016-0206-E-1-3	***	A
4	16188108	2016-0206-E-1-4	***	A
5	16188109	2016-0206-E-1-5	***	A
6	16188110	2016-0206-E-1-6	***	A
7	16188111	2016-0206-E-1-7	***	A
8	16188112	2016-0206-E-1-8	Stop @ 1st Pos.	A
9	16188113	2016-0206-E-1-9	***	A
10	16188114	2016-0206-E-1-10	***	A
11	16188115	2016-0206-E-1-11	***	A
12	16188116	2016-0206-E-1-12	***	A
13	16188117	2016-0206-E-1-13	***	A
14	16188118	2016-0206-E-1-14	***	A
15	16188119	2016-0206-E-1-15	Stop @ 1st Pos.	A
16	16188120	2016-0206-E-1-16	***	A
17	16188121	2016-0206-E-1-17	***	A
18	16188122	2016-0206-E-1-18	***	A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Fiona Chui		NVL	3/15/16	10:13 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:27 PM
Entered By: Fatima Khan

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605459.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 40 Rush Samples

	Lab ID	Sample ID	Description	A/R
19	16188123	2016-0206-E-1-19	***	A
20	16188124	2016-0206-E-1-20	***	A
21	16188125	2016-0206-E-1-21	***	A
22	16188126	2016-0206-E-1-22	Stop @ 1st Pos.	A
23	16188127	2016-0206-E-1-23	***	A
24	16188128	2016-0206-E-1-24	***	A
25	16188129	2016-0206-E-1-25	***	A
26	16188130	2016-0206-E-1-26	***	A
27	16188131	2016-0206-E-1-27	***	A
28	16188132	2016-0206-E-1-28	***	A
29	16188133	2016-0206-E-1-29	Stop @ 1st Pos.	A
30	16188134	2016-0206-E-1-30	***	A
31	16188135	2016-0206-E-1-31	***	A
32	16188136	2016-0206-E-1-32	***	A
33	16188137	2016-0206-E-1-33	***	A
34	16188138	2016-0206-E-3-1		A
35	16188139	2016-0206-E-3-2		A
36	16188140	2016-0206-E-3-3		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Fiona Chui		NVL	3/15/16	10:13 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:27 PM
Entered By: Fatima Khan

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

ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1605459.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 3/15/2016 **Time** 2:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2016-0206 **Project Location:** "Carriage House" 3602 S. 180th Street SeaTac, WA 98188

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

Total Number of Samples 40 Rush Samples

	Lab ID	Sample ID	Description	A/R
37	16188141	2016-0206-E-3-4		A
38	16188142	2016-0206-E-3-5		A
39	16188143	2016-0206-E-3-6		A
40	16188144	2016-0206-E-3-7		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Maxwell Raymond		NVL	3/11/16	1400
Analyzed by	Fiona Chui		NVL	3/15/16	10:13 AM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 3/11/2016
Time: 2:27 PM
Entered By: Fatima Khan

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

CHAIN of CUSTODY SAMPLE LOG

1605459

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

NVL Batch Number:
Client Job Number: 2016-0206
Total Samples: 40
Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address: huqhw@kcha.org

Phone: (206) 574-1230 Fax: (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8 / ☐ Chromium (Cr	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Lead (Pb)	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Mercury (Hg)	☐ Nickel (Ni) / ☐ Zinc (Zn)

☐ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-E-1-1	STOP AT FIRST POSITIVE	
2		1-2		
3		1-3		
4		1-4		
5		1-5		
6		1-6		
7		1-7		
8		1-8	STOP AT FIRST POSITIVE	
9		1-9		
10		1-10		
11		1-11		
12		1-12		
13		1-13		
14		1-14		
15		1-15	STOP AT FIRST POSITIVE	

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Jawwer Khan	NVL	3-11-16	9:00 AM
Relinquished by	TAN KHAN	Jawwer Khan	NVL	3-11-16	2:00 PM
Received by			NVL	3/11/16	1400
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

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

CHAIN of CUSTODY SAMPLE LOG

1605459

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188
Phone: (206) 574-1230 Fax: (206) 357-2441

NVL Batch Number:
Client Job Number: 2016-0206
Total Samples: 40
Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address: hughw@kcha.org

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-E-1-16		
2		1-17		
3		1-18		
4		1-19		
5		1-20		
6		1-21		
7		1-22	STOP AT FIRST POSITIVE	
8		1-23		
9		1-24		
10		1-25		
11		1-26		
12		1-27		
13		1-28		
14		1-29	STOP AT FIRST POSITIVE	
15		1-30		

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Jawaid Khan	NVL	3-11-16	9:00 AM
Relinquished by	TAN KHAN	Jawaid Khan	NVL	3-11-16	2:00 PM
Received by				3/11/16	1400
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 2 of 3

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

CHAIN of CUSTODY SAMPLE LOG

1605459

S

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: "Carriage House" 3602 S. 180th Street
SeaTac, WA 98188

NVL Batch Number:
Client Job Number: 2016-0206
Total Samples: 40

Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs

Email address: hughw@kcha.org

Phone: (206) 574-1230 Fax: (206) 357-2441

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2016-0206-E-1-31		
2		1-32		
3		1-33		
4		3-1		
5		3-2		
6		3-3		
7		3-4		
8		3-5		
9		3-6		
10		3-7		
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Janveer Khan	NVL	3-11-16	9:00 AM
Relinquished by	TAN KHAN	Janveer Khan	NVL	3-11-16	2:00 PM
Received by			NVL	3/11/16	1490
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

Page 3 of 3

Appendix B

AHERA Certifications & Laboratory Qualifications

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 102063-0

NVL Laboratories, Inc.

Seattle, WA

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2015-09-25 through 2016-09-30

Effective Dates

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

For the National Voluntary Laboratory Accreditation Program

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NVL Laboratories, Inc.
4708 Aurora Avenue N.
Seattle, WA 98103
Mr. Nghiep Vi Ly
Phone: 206-547-0100 Fax: 206-634-1936
Email: nick.l@nvllabs.com
http://www.nvllabs.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 102063-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA 600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

For the National Voluntary Laboratory Accreditation Program

Certificate of Completion

This is to certify that

Tanveer E. Khan

has satisfactorily completed
4 hours of refresher training as an

Asbestos Building Inspector

to comply with the training requirements of
TSCA Title II / 40 CFR 763 (AHERA)

151522
Certificate Number

Instructor

EPA Provider Cert. Number: 1085

ARGUS PACIFIC
TRAINING•CONSULTING

May 20, 2015
Date(s) of Training

Exam Score: NA

Expiration Date: May 19, 2016

Argus Pacific, Inc. • 1900 W. Nickerson, Suite 315 • Seattle, Washington • 98119 • 206.285.3373 • fax 206.285.3927

Certificate of Completion

This is to certify that

Daniel E. Crownhart

has satisfactorily completed
24 hours of training as an

Asbestos Building Inspector

to comply with the training requirements of
TSCA Title II / 40 CFR 763 (AHERA)

152896
Certificate #

Instructor
EPA Provider Certificate #1085

ARGUS PACIFIC
TRAINING • CONSULTING
A Terracon COMPANY

Aug 25 - 27, 2015
Date(s) of Training
Exam Score: 98
Expiration Date: Aug 26, 2016

ARGUS PACIFIC, INC. • 1900 W NICKERSON ST, SUITE 315 • SEATTLE, WASHINGTON • 98119 • 206.285.3373 • WWW.ARGUSPACIFIC.COM