Addendum No.	006
Date:	February 28, 2023
Project:	City of Great Falls Civic Center Partial HVAC Renovation
Architect:	Cushing Terrell ▪ 219 2nd Ave South ▪ Great Falls, MT 59405 ▪ (406) 452-3321
To:	All Plan Holders of Record
Pages:	107 pages total: 105 (8 1/2x11); 0 (11x17); 2 (24x36 sheets)

Acknowledge receipt of this Addendum by inserting its number and date in the Proposal Form. Failure to do so may subject Bidder to disqualification. This Addendum forms a part of the Contract Documents. It modifies them as follows:

GENERAL

Bid form to be replaced with the form included in this addendum. Updated Bid Form includes a line for including plaster subcontractor identification per specification section 092400.

The Bid Opening location will be in the Gibson Room on the second floor of the Civic Center.

SPECIFICATIONS

Include Section 092400 in its entirety.

Include Hazardous Materials Report. General Contractor is responsible for removal of hazardous materials in accordance with State and Federal regulations impacted during construction.

DRAWINGS

Sheet A102

Gypsum wallboard patch in two locations has been modified to indicate plaster to match existing adjacent construction.

Sheet A901

Soffit and Crown Moulding construction has been modified to indicate materials to match existing wall and ceiling construction.

END OF ADDENDUM #6

SECTION 00300

BID FORM

PROJECT IDENTIFICATION:

City of Great Falls Civic Center Partial HVAC Renovation

Located in Great Falls, MT

THIS BID SUBMITTED TO:
City of Great Falls – City Clerk
#2 Park Drive
P.O. Box 5021
Great Falls, MT 59403

1.01 The undersigned Bidder proposes and agrees if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents, to perform and furnish all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the terms and conditions of the Bidding Documents.

2.01 Bidder accepts all of the terms and condition of the Advertisement or Invitation to Bid, and Instruction to Bidders, including without limitations those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for sixty (60) days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged the following Addenda:

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Special Provisions, and (2) reports and drawings of a Hazardous Environmental Condition, if any, which has been identified in the Special Provisions.

E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of the Work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies and data with the Bidding Documents.

I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.

J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

4.01 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

The BIDDER certifies that no official of the OWNER, ENGINEER, or any member of such officials' immediate family, has direct or indirect interest in the pecuniary profits or Contracts of the BIDDER.

5.01 The Bidder will complete the Work in accordance with the Contract Documents for the following prices(s):

ITEM NO.	**DESCRIPTION**	**TOTAL PRICE**
1.	Base Bid, all work indicated	$_____

TOTAL AMOUNT BID PRICE $_____
(Figures)

_____
(Words)

PLASTER SUBCONTRACTOR, PER SECTION 092400

_____ _____ _____
(company) (contact name) (address)

A. The OWNER reserves the right to reject any or all bids.

6.01 Bidder agrees that the Work will be completed and ready for final payment in accordance with the Construction Agreement or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Agreement.

7.01 The following documents are attached to and made a condition of the Bid:

A. Required Bid security in the amount of 10% of the maximum Bid price including alternates, if any, and in the form of a Bid Bond identified in the Instructions To Bidders.

8.01 The terms used in this Bid with the initial capital letters have the meanings indicated in the Instructions To Bidders.

SUBMITTED on _____, _____.
(Date)

Montana Contractor's Registration # (if any) _____.

Employer's Tax ID No. _____.

If BIDDER is:

An Individual: _____
(Name typed or printed)
By: _____
(Individual's Signature)

Doing business as: _____

Business Address: _____

Phone No.: _____ FAX No.: _____

A Partnership: _____
(Partnership Name)

By: _____
(Name, typed or printed)
(Signature)_____

Business Address: _____

Phone No.: _____ FAX No.: _____

A Corporation: _____
(Corporation Name)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature of person authorized to sign)

Title: _____

Attest: _____
(Signature)

Business Address: _____

_____

Phone No.: _____ FAX No.: _____

Date of Qualification To Do Business Is: _____

_____
(Corporate Seal)

A Joint Venture: Each Joint Venture Must Sign

Joint Venture Name: _____
(Name)

By: _____
(Signature of Joint Venture Partner)

Name: _____
(Name, printed or typed)

Title: _____

Business Address: _____

_____

Phone No.: _____ FAX No.: _____

Joint Venture Name: _____
(Name)

By: _____
(Signature of Joint Venture Partner)

Name: _____
(Name, printed or typed)

Title: _____

Business Address: _____

_____

Phone No.: _____ FAX No.: _____

Address of Joint Venture for Receipt of Official Communication:

Address**:** _____

_____

Phone No.:_____ FAX No.: _____

(Each Joint Venture must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)

END OF SECTION 00300

SECTION 092400 - CEMENT PLASTERING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal lath.
2. Base-coat cement plaster.
3. Cement plaster finish coats.
4. Accessories.

1.2 ACTION SUBMITTALS

A. Product data.

B. Samples: For each type of factory-prepared finish coat and for each color and texture specified.

1.3 QUALITY ASSURANCE

A. Basis for Qualifications: Due to the historic nature of the project, all work must conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties (latest edition). These standards recognize the importance of craftsmanship and quality material in the performance of the work and emphasize a specialized level of skill and experience on the part of the contractor.

B. Subcontractors submitting bids for repair and rehabilitation of plaster features of the project must be identified on the bid proposal form submitted by the general contractor and will be evaluated and approved by the Owner in consultation with the City Historic Preservation Office after bids are received but prior to execution of the contract for construction. In the event that the listed plaster subcontractor is not approved, the contractor may select another subcontractor that is approved by Owner.

C. Plaster subcontractor must be experienced in all phases of historic plaster repair and application, specifically those including lime-based plasters. Contractor must have demonstrable experience of similar historical significance.

PART 2 - PRODUCTS

2.1 METAL LATH

A. Expanded-Metal Lath: ASTM C847, cold-rolled carbon-steel sheet with ASTM A653/A653M, G60, hot-dip galvanized-zinc coating.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. AMICO, a Gibraltar Industries company.
b. CEMCO; California Expanded Metal Products Co.
c. ClarkDietrich.
d. Marino\\WARE.
e. Phillips Manufacturing Co.

2. Flat-Rib Lath: Rib depth of not more than 1/8 inch, 2.75 lb./sq. yd..

2.2 BASE-COAT CEMENT PLASTER

A. General: Comply with ASTM C926 for applications indicated.

1. Fiber Content: Add fiber to base-coat mixes after ingredients have mixed at least two minutes. Comply with fiber manufacturer's written instructions for fiber quantities in mixes, but do not exceed 1 lb. of fiber/cu. yd. of cementitious materials.

B. Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork as follows:

1. Portland Cement Mixes:

a. Scratch Coat: For cementitious material, mix 1 part portland cement and 0 to 3/4 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material.
b. Brown Coat: For cementitious material, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 3 to 5 parts aggregate per part of cementitious material, but not less than volume of aggregate used in scratch coat.

C. Base-Coat Mixes for Use over Unit Masonry and Concrete: Single base (scratch) coat for two-coat plasterwork on low-absorption plaster bases as follows:

1. Portland Cement Mix: For cementitious material, mix 1 part portland cement and 0 to 3/4 part lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material.

2.3 CEMENT PLASTER FINISH COATS

A. Job-Mixed Finish-Coat Mixes:

1. Portland Cement Mix: For cementitious materials, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 1-1/2 to 3 parts aggregate per part of cementitious material.

2.4 ACCESSORIES

A. General: Comply with ASTM C1063, and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.

B. Metal Accessories:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. AMICO, a Gibraltar Industries company.
b. Brand X Metals, Inc.
c. CEMCO; California Expanded Metal Products Co.
d. ClarkDietrich.
e. Flannery, Inc.
f. Marino\\WARE.
g. Phillips Manufacturing Co.

2. Cornerbeads: Fabricated from zinc-coated (galvanized) steel or anodized aluminum.

a. Small nose cornerbead with expanded flanges; use unless otherwise indicated.

3. Casing Beads: Fabricated from zinc-coated (galvanized) steel or anodized aluminum; square-edged style; with expanded flanges.
4. Control Joints: Fabricated from zinc-coated (galvanized) steel; one-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.

2.5 PLASTER MATERIALS

A. Portland Cement: ASTM C150/C150M, Type I.

B. Colorants for Job-Mixed Finish Coats: Colorfast mineral pigments that produce finish plaster color to match Architect's sample.

C. Lime: ASTM C206, Type S; or ASTM C207, Type S.

D. Sand Aggregate: ASTM C897.

2.6 MISCELLANEOUS MATERIALS

A. Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.

B. Fiber for Base Coat: Alkaline-resistant glass or polypropylene fibers, 1/2 inch long, free of contaminants, manufactured for use in cement plaster.

C. Bonding Compound: ASTM C932.

D. Fasteners for Attaching Metal Lath to Substrates: ASTM C1063.

E. Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper, not less than 0.0475-inch diameter unless otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Prepare smooth, solid substrates for plaster in accordance with ASTM C926.

3.2 INSTALLATION OF METAL LATH

A. Metal Lath: Install in accordance with ASTM C1063.

3.3 INSTALLATION OF ACCESSORIES

A. Install in accordance with ASTM C1063 and at locations indicated on Drawings.

B. Reinforcement for External (Outside) Corners:

1. Install cornerbead at interior locations.

3.4 APPLICATION OF BASE-COAT CEMENT PLASTER

A. General: Comply with ASTM C926.

B. Bonding Compound: Apply on unit masonry and concrete substrates for direct application of plaster.

C. Walls; Base-Coat Mixes for Use over Metal Lath: For scratch and brown coats, for three-coat plasterwork with 3/4-inch total thickness, as follows:

1. Portland cement mixes.

D. Ceilings; Base-Coat Mixes for Use over Metal Lath: For scratch and brown coats, for three-coat plasterwork and having 1/2-inch total thickness, as follows:

1. Portland cement mixes.

E. Walls; Base-Coat Mix: For base (scratch) coat, for two-coat plasterwork and having 3/8-inch thickness on masonry, as follows:

1. Portland cement mix.

F. Ceilings; Base-Coat Mix: For base (scratch) coat, for two-coat plasterwork and having 1/4-inch thickness on concrete, as follows:

1. Portland cement mix.

3.5 APPLICATION OF CEMENT PLASTER FINISH COATS

A. Plaster Finish Coats: Apply to provide float skip trowel-textured finish to match Architect's sample.

3.6 REPAIR

A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

END OF SECTION

LIMITED ASBESTOS AND LEAD COATINGS INSPECTION

CIVIC CENTER RTU REPLACEMENT PROJECT
2 PARK DRIVE SOUTH
GREAT FALLS, MONTANA 59401

Prepared For:

Cushing Terrell

219 2nd Ave South
Great Falls, Montana 59405

Prepared By:

Air Water Soil, LLC

1321 8th Avenue North
Great Falls, Montana 59401
(406) 315-2201

AWS Project 22064

January 20, 2023

Revision 1

TABLE OF CONTENTS

APPENDICES

1.0 EXECUTIVE SUMMARY

Air Water Soil, LLC (AWS), completed a limited asbestos and lead coatings inspection within select portions of the Civic Center building, located at 2 Park Drive South in Great Falls, Montana (the site), on November 29, 2022. Additional assessment of an extended project area was completed on January 9, 2023. The site location and project area are illustrated on Figures 1 through 13 (Appendix A). The inspection – including addition of the extended "Revision 1" project area – was completed at the request of Cushing Terrell (the Architect), in support of the *Roof Top Unit (RTU) Replacement* project planned by the City of Great Falls (the City) at the site.

The scope of the initial inspection was preliminarily discussed with the Architect's project manager, Mr. Anthony Houtz, during telephone correspondence on November 11, 2022. The inspection project area and scope of work were established by the Architect's project designer, Ms. Jennisse Waters, during a site-walk with AWS's inspector on November 16, 2022. The Architect provided their *100% Bid Documents* for the project, and AWS reviewed them with Ms. Waters during the site walk. Mr. Ted Fallat of the Civic Center facilities group was also present during the site walk and provided additional input regarding building material types and locations, as well as access and logistics considerations. The initial inspection report was submitted to the Architect on December 30, 2022.

In electronic and telephone correspondence between December 30, 2022, and January 5, 2023, Mr. Houtz requested the scope of the inspection be expanded to include select portions of the Basement Boiler Room and adjoining areas, along with issuance of this report to discuss collective findings from both the initial and Revision 1 inspections. The specific building areas and materials to be included in the Revision 1 scope of work were discussed with the Architect's project engineer, Mr. Cory Jassen, and Mr. Fallat during a site walk on January 6, 2023. The initial and Revision 1 project areas are discussed in the following sections of this report.

The initial and Revision 1 inspections were completed in accordance with the scope of work agreed upon with the Architect as discussed above. The scope of work included completion of a limited asbestos and lead coatings inspection, and preparation of the original and Revision 1 reports. Authorization to proceed with the initial scope of work was provided verbally by Mr. Houtz, on November 11, 2022, and authorization to proceed with the Revision 1 scope of work was provided by Mr. Houtz on January 5, 2023.

A total of 42 separate homogeneous areas (HAs) of building materials were identified as being suspect asbestos-containing materials (ACM) within the overall project area. Three (3) HAs of thermal system insulation observed within portions of the Boiler Room and Boiler Storage Room were confirmed to contain greater than one percent (1%) asbestos and are therefore considered to be ACM.

Note that degradation from wear, exposure to the elements ("weathering"), or disturbance during renovation or demolition activities may render some types of ACM friable, making them regulated asbestos-containing materials (RACM) as defined by the Montana Department of Environmental Quality (DEQ). ACM and asbestos-contaminated wastes must be removed, transported, and disposed in accordance with applicable federal, state, and local asbestos regulations, including

those established by the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and the DEQ. This includes, but is not limited to, utilizing a Montana-accredited abatement contractor and submitting an asbestos project permit application to the DEQ for RACM. The permit application typically must be submitted 10 business days prior to initiation of project activities, depending on the quantity of RACM to be included.

Sampling and laboratory analysis of material samples from the remaining 39 HAs of suspect ACM indicated the materials did not contain detectible concentrations of asbestos; these materials have been determined to be non-ACM with no special handling and/or disposal considerations relating to asbestos (unless contaminated by ACM, as mentioned above).

A total of 43 separate HAs of suspect lead-containing surface coatings were identified and tested within the project area during this inspection. Four (4) of the identified coatings contained lead at concentrations at or above the Housing and Urban Development (HUD) lead-based paint (LBP) criterion of 1 milligram per square centimeter (1.0 mg/cm^2). Materials coated with LBP included structural steel, a plaster coated beam, and a painted wood cabinet. Additionally, 16 other HAs of coatings contained lead at concentrations from 0.10 and 0.99 mg/cm^2, which AWS conservatively reports as lead-containing paint (LCP). These included interior surface coatings on plaster and gypsum wallboard (GWB), wood-fiber ceiling tiles, wood trim and crown molding, wood shelf/bench, metal boiler components, metal breaching, and metal piping. Lead was not present at concentrations of 0.10 mg/cm^2 or more in the remaining 23 coatings.

Although LCP/LBP coatings were identified within the project area, it is understood these coatings are unlikely to be substantially materially impacted (sanded, abraded, etc.) during planned renovation activities. Materials with LCP/LBP coatings should be handled in accordance with applicable OSHA worker protection and EPA disposal regulations. LCP/LBP coatings should be left substantially intact during renovation, removal, and disposal activities, as feasible, to reduce the potential for worker exposure and/or environmental contamination. Materials coated with LCP/LBP should not be impacted by grinding, cutting with a torch, etc., and they should not be recycled unless the coatings have been properly removed and disposed. If the materials are in good condition and will not be disturbed, they may be left in place and/or coated over, if desired. Depending on the amount of LCP/LBP expected to be impacted by planned renovation, completion of a leachable lead assessment may be warranted.

AWS's recommendations, based on the findings of this assessment, are presented in Section 6 of this report. A copy of this report, and any subsequent report or addendum relating to additional asbestos assessment, should be kept at the site during any future renovation or demolition activities, as required in DEQ's asbestos regulations.

2.0 INTRODUCTION

The Architect requested AWS perform a limited asbestos and lead coatings inspection to identify materials potentially containing asbestos and lead within the initial and Revision 1 project areas at the site.

2.1 **Site Location**

The site is located at 2 Park Drive S, Great Falls, Montana, 59401 (Figure 1, Appendix A).

2.2 **Project Area**

The initial "project area" was established by the Architect to include all safely and readily accessible materials anticipated to be impacted by the planned *RTU Replacement* project, as relayed to AWS by the Architect during an on-site review of the Architect's *100% Bid Documents*. In general, wall, floor, and ceiling materials in select locations within the Basement, First Floor, and Second Floor were expected to be impacted. These materials consisted primarily of plaster and gypsum wallboard (GWB) walls and ceilings, along with associated paint, paneling, or paper coverings; lay-in and mastic-applied acoustic ceiling tile systems; and mastic-applied carpet and resilient floor coverings. Structural materials included concrete, clay tile units (CTU), and structural steel. Additional materials included fiberglass flex duct and duct seams paste.

Revision 1 extended the project area to also include portions of the Basement Boiler Room and adjoining areas which are also expected to be impacted by the planned *RTU Replacement* project. Select portions of the Boiler Room and adjoining areas (Boiler Storage, Hallway, Cleaning Storage, and File Storage) were included in the Revision 1 project area. Materials in these areas included some of the same materials identified previously (e.g., CTU, plaster, concrete, etc.), as well as additional materials, such as additional GWB and plaster systems, ceiling tiles, insulations, concrete, bricks, and gaskets.

Exterior roofing materials on the lower north and south roof areas were *not* included in the project area for this scope of work because they were recently assessed in a separate asbestos inspection. Concrete roof deck materials *were* included in this inspection, however, since they were excluded from the earlier roofing materials inspection.

Interior First Floor, Second Floor, and Basement areas of the Civic Center structure are illustrated in Figures 2 through 13 (Appendix A).

It is important to note that, since the scope of this inspection was limited to specific building areas and materials, some materials documented as being within the project area are – or may be – present in other areas of the building which are not discussed in this inspection report. Similarly, other materials not discussed in this report may also be present elsewhere at the site.

2.3 **Scope of Work**

The scope of work for this project included inspection of building materials and components throughout safely and readily accessible portions of the project area, including visual assessment,

sampling, and documentation of suspect and confirmed/presumed ACM and lead-containing surface coatings within the overall project area, including both the initial and Revision 1 areas.

AWS's scope of work for this project does not include preparation of abatement sheets, solicitation of abatement bids, or completion of abatement, oversight, or clearance monitoring activities. AWS understands that these additional services may be requested at a later date.

3.0 REGULATORY CONSIDERATIONS

AWS presents the following regulatory considerations pertaining to asbestos-containing materials and lead-containing coatings. AWS's inspection methods and recommendations are based on applicable regulatory requirements for each of these materials, respectively.

3.1 **Asbestos**

The Montana DEQ defines ACM as material containing more than 1% asbestos based on laboratory analysis of the material using the EPA Method 600/R-93/116 ("Method for the Determination of Asbestos in Bulk Building Materials") by Polarized Light Microscopy (PLM). Three categories of ACM have been defined in the National Emissions Standards for Hazardous Air Pollutants (NESHAP) standard, which is established in Title 40, Part 61, of the Code of Federal Regulations (40 CFR 61.141) and adopted by the DEQ in Title 17, Chapter 74, Subchapter 3, of the Administrative Rules of Montana (ARM 17.74.351). The NESHAP category definitions are:

- ***Category I Non-friable ACM*** means asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than one (1) percent (%) asbestos as determined using the method specified in appendix E, subpart E, 40 CFR 763, section 1 (PLM).
- ***Category II Non-friable ACM*** means any material, excluding Category I Non-friable ACM, containing more than 1% asbestos as determined using the method specified in appendix E, subpart E, 40 CFR 763, section 1, PLM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- ***Regulated ACM (RACM)*** means a) friable asbestos material; b) Category I Non-friable ACM that has become friable; c) Category I Non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; or d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by the subpart.

The definition of RACM includes all ACM associated with a structure or space which will be impacted by renovation and/or demolition activities. In other words, even non-friable Category I and Category II ACM may become RACM if disturbed during demolition or renovation activities.

An "asbestos project," as defined by Montana Code Annotated (MCA) 75-2-502, *means the encapsulation, enclosure, removal, repair, renovation, placement in new construction, demolition of asbestos in a building or other structure, or the transportation or disposal of asbestos-containing waste. The term does not include a project that involves less than 10 square feet in surface area or 3 linear feet of pipe*. Based on DEQ correspondence and AWS's understanding of DEQ's interpretation of the MCA, the removal, transport, and/or disposal of RACM (or ACM which may become friable) in amounts exceeding this threshold value constitutes an "asbestos project." DEQ's asbestos project requirements generally do not apply at facilities consisting of 4 or fewer residential dwelling units, depending on the prior and future planned uses of the facility.

Prior to undertaking a renovation or demolition project, DEQ requires an asbestos inspection to be performed for the structure or portion of the structure to be included in the renovation or demolition project, in accordance with ARM 17.74.354. The inspection must be completed by a Montana-accredited *Asbestos Inspector.* Following completion of the inspection, DEQ's notification requirements should be considered, as follows:

- Project Permit Application – This application should be used for a renovation project where quantities of RACM exceeding the "asbestos project" threshold will be or are likely to be dislodged, disturbed, or impacted (or where any non-friable ACM may be made friable). The application must be submitted to the DEQ at least 10 working days prior to initiation of any activities which will dislodge, disturb, or impact RACM (and/or make friable any ACM), including all transport and disposal activities.
- Demolition Notification – This notification must be submitted to the DEQ prior to demolition of a structure in which no ACM was identified by the inspection.
- Project Permit Application & Demolition Notification – This application & notification should be used where an asbestos project and subsequent demolition will be completed, as described above. The application & notification must be submitted to the DEQ at least 10 working days prior to initiation of any activities which will dislodge, disturb, or impact RACM (and/or make friable any ACM), including all transport and disposal activities.

Asbestos projects must be performed by individuals holding current accreditation as Montana *Asbestos Contractor/Supervisors* and/or *Asbestos Workers*, as stipulated under ARM 17.74.362. Asbestos projects are not considered complete until they have been "cleared" in accordance with the requirements set forth in ARM 17.74.357. It is important to note that clearance monitoring must be completed by a party not contractually associated with the asbestos project contractor, and there may not be any common ownership or employment relationship between the person or entity carrying out the asbestos project and the person or entity conducting the final clearance monitoring or sample analyses.

Demolition projects which will include in-place demolition of non-friable ACM (i.e., non-friable ACM which will not be rendered friable during demolition activities) require the full-time, on-site oversight of an individual holding a current Montana Asbestos Contractor/Supervisor accreditation to ensure any ACM remaining in the structure is not rendered friable during demolition activities.

All materials which contain detectable asbestos (even at concentrations less than 1%) must be properly disposed in accordance with DEQ solid waste requirements. Friable ACM waste (RACM) must be disposed at a Montana-licensed, Class II landfill. Non-friable ACM waste (Category I or Category II ACM) and materials which contain less than 1% asbestos may be disposed at a Montana-licensed, Class IV landfill. It is important to note, however, that some landfills will not accept asbestos waste, even if it is non-friable. Arrangements should be made with the landfill prior to initiation of abatement and/or demolition activities.

Handling of RACM, ACM, and non-ACM materials which contain detectable asbestos is regulated by the Occupational Safety and Health Administration (OSHA), as stipulated in 29 CFR

1926.1101. At all times, such materials must be handled in generally the same fashion as RACM unless a negative exposure assessment is completed to document workers will not be exposed to airborne fiber concentrations in exceedance of the OSHA permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter (f/cc) as an eight-hour time-weighted average (8-hour TWA) and the 30-minute, short term excursion limit (STEL) of 1.0 f/cc.

3.2 **Lead Coatings**

The purpose of a lead inspection is to identify lead-containing surface coatings and to characterize the overall concentration of leachable lead in an anticipated renovation or demolition waste stream. Identification of lead-containing coatings and/or LBP is necessary to determine whether renovation/demolition workers may potentially be exposed to airborne lead concentrations exceeding permissible exposure limits established by the OSHA. Characterization of leachable lead in the overall potential waste stream is necessary to determine proper handling and disposal of renovation waste materials as required by the RCRA.

The US Department of Housing and Urban Development (HUD) defines LBP as a surface coating containing lead in a concentration equal to or greater than (≥) 1.0 milligram per square centimeter (mg/cm^2) or 0.5% by weight. The presence of LBP on surfaces scheduled to be impacted during renovation activities increases the potential for workers to be exposed to airborne lead in concentrations greater than the OSHA PEL of 50 micrograms per cubic meter ($\mu g/m^3$), which is established in 29 CFR 1926.62. However, the presence of lead-containing surface coatings (i.e., coatings which contain lead at concentrations less than the HUD criterion of 1.0 mg/cm^2) may also present a potential exposure hazard for renovation workers. AWS conservatively considers coatings which contain ≥ 0.10 mg/cm^2 to be lead-containing paint (LCP) for this purpose.

When disturbing LCP or LBP, an employer must assume workers will be exposed to lead concentrations above the PEL, and worker protection must be provided in accordance with 29 CFR 1926.62. Alternatively, a negative exposure assessment may be completed to document the potential for exposure to airborne lead during renovation/demolition activities, on a per-task basis.

Relating to disposal of lead-containing waste, RCRA regulatory criteria for “total” lead in a waste stream is established in 40 CFR 261, Subpart C. The regulatory criteria are listed in milligrams per liter (mg/l) of dissolved lead in a solution (“wet basis”), as determined using the Toxicity Characteristic Leaching Procedure (TCLP) by EPA Method 1311. Rule-of-thumb RCRA criteria are listed in milligrams per kilogram (mg/kg) of solid metal in the material sample (“dry basis”) and assume the entire mass of the analyte will enter solution. They are therefore conservative values; however, when the analyte concentration approaches or exceeds the rule-of-thumb value for a metal, the TCLP method should be used to determine the actual leachable concentration of the analyte in the sample.

The RCRA rule-of-thumb criteria for total lead is 100 mg/kg (0.1% by weight), and the TCLP regulatory criteria for leachable lead is 5.0 mg/l, as established in 40 CFR 261.24. A waste stream with a leachable lead concentration determined to be greater than 5.0 mg/l using the TCLP analytical method is defined as a “hazardous waste” and must be transported by a hazardous waste transporter and disposed at a hazardous waste disposal facility.

For the purpose of a renovation or demolition project, a composite sample representative of the overall anticipated waste stream for the project may be collected and analyzed for leachable lead concentration. RCRA solid waste regulations set forth in 40 CFR 260.10 define a representative sample as “a sample of a universe or whole (e.g., waste pile, lagoon, groundwater) which can be expected to exhibit the average properties of the universe or whole.” If analytical data indicate the leachable lead concentration for the representative sample is less than the regulatory criteria of 5.0 mg/l, then the entire waste stream may be disposed as non-hazardous waste with regard to lead.

Materials containing 5.0 mg/l of lead or more as defined by a TCLP analysis are regulated by RCRA as hazardous waste. Material determined to be hazardous waste must be transported in accordance with Department of Transportation (DOT) regulations, as stipulated in 49 CFR 171.3. Hazardous waste must be handled and disposed in accordance with 40 CFR 260 – 265.

4.0 METHODS

AWS's methods for the asbestos and lead coatings inspection are described below. The inspection was completed and/or overseen by an experienced member(s) of AWS's industrial hygiene staff who held current Montana accreditation as *Asbestos Inspectors* during completion of the inspection. Access to the site building was provided by City personnel. The on-site portions of the initial inspection were completed on November 29 and 30, 2022. Inspection of the extended Revision 1 project area was completed on January 9, 2023, using the same methods used for the initial inspection.

Figures referenced below are presented in Appendix A. Documentation of AWS's applicable accreditations for onsite project personnel is presented as Appendix B.

4.1 **Asbestos Inspection**

AWS completed the asbestos inspection in accordance with the requirements set forth in ARM 17.74.354 and the NESHAP regulation set forth in 40 CFR 61.141. In addition to complying with the regulations cited above, AWS's sampling methods generally conformed to the requirements set forth in the Asbestos Hazard Emergency Response Act (AHERA) as outlined in 40 CFR 763.86; the AHERA sampling methods are generally accepted as the industry standard for asbestos inspections.

Visible damage at sample locations was coordinated with City personnel, where applicable. Observations and sample locations were recorded on field forms and diagrams. Sample locations for suspect ACM are presented on Figures 2 through 4.

Bulk samples of suspect ACM were placed in pre-labeled zip-top bags and shipped to Eurofins CEI Laboratory (CEI) in Cary, North Carolina, using chain-of-custody protocol. AWS requested that CEI analyze the samples using the EPA Method 600/R-93/116 by polarized light microscopy (PLM), which has an analytical sensitivity of 1% asbestos by visual estimate. Where appropriate, AWS also requested that samples found to contain asbestos in concentrations less than 1% be further analyzed using the 400 Point Count stipulation of the EPA PLM method to achieve an analytical sensitivity of 0.25%. Depending on the sample matrix, some samples are prepared using the Gravimetric Reduction stipulation of the EPA Method. Transmission Electron Microscopy (TEM) bulk sample analysis may be used in lieu of gravimetric reduction and 400 Point Count analysis when recommended by the laboratory – typically for non-friable organically bound (NOB) sample matrices.

All samples were analyzed using positive stop analysis. AWS requested standard (5-day) initial analytical turnaround time (TAT) for the samples; expedited TAT was requested for additional follow-up samples, as appropriate. CEI is accredited by the National Institute of Standards and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP) for PLM analysis and therefore meets the proficiency requirements of the DEQ. Although not specifically listed as an approved analytical method in ARM 17.74.354, DEQ has indicated to AWS that TEM bulk sample analysis of NOB samples is acceptable, as the results have been shown to be more accurate than PLM 400 Point Count analysis for NOB samples.

4.2 **Lead Coatings Inspection**

AWS identified HAs of suspect lead surface coatings on surfaces throughout the project area; surfaces on building materials which were discernably newer than 1979 were typically excluded from the inspection, per industry standard practice. The lead coatings inspection was completed in general accordance with portions of the American Standard for Testing and Materials (ASTM) Method E 1729-05 and/or Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. The lead inspection was not intended to adhere to HUD requirements for child-occupied facilities.

AWS's inspector distinguished HAs of suspect LBP visually and through field review of analytical data obtained using a Viken Pb200i x-ray fluorescence (XRF) analyzer. The XRF utilizes an ionizing radiation source and internal calculations to provide direct-read lead data. Analytical data obtained from a field calibrated XRF are accepted as accurate by the EPA and HUD. AWS's XRF was calibrated on-site and checked for accuracy against NIST certified paint standards, following the manufacturer's guidelines, prior to usage each day. The instrument was again checked against the NIST standards throughout the testing period (approximately once every 4 hours) and following completion of testing each day, to ensure analytical accuracy was maintained during the inspection.

If deemed appropriate by the inspector, multiple tests were taken within a given HA; in such instances, the highest observed concentration for tests representing a respective HA were reported. Observations and test locations were recorded on field forms and site diagrams. XRF test locations for suspect LCP/LBP are illustrated on Figures 5 through 7, in Appendix A.

Although LCP/LBP were identified during the inspection, the identified LCP/LBP are understood to be unlikely to be substantially materially impacted during completion of the planned *RTU Replacement* project. Therefore, assessment of the overall anticipated project waste stream for "total" lead was not required or completed.

5.0 RESULTS

The following sections summarize the results and findings from our inspection. Approximate locations of confirmed or presumed materials of concern throughout the project area are illustrated on Figures 8 through 10 (asbestos) and Figures 11 through 13 (lead coatings), in Appendix A. Data summary Tables 1 (asbestos) and 2 (lead coatings) are presented in Appendix C, and analytical data reports are presented in Appendix D.

5.1 **Asbestos Inspection**

A total of 42 HAs of suspect ACM were identified throughout the project area. Following is a summary of the HAs of *Confirmed ACM*, *Presumed ACM*, and *Non-ACM Determined to be ACM-Contaminated* which were identified in the project area:

- *3 HAs of Confirmed ACM (determined to be > 1% asbestos)*
  - **I4.1** – Aircell pipe insulations with cloth jacket. Observed in Boiler Room, along N portion of ceiling. 2% Chrysotile (silver paint); 55% Chrysotile (aircell insulation). RACM.
  - **I4.2** – Mudded joint fittings (MJF) with cloth jacket, on pipe joints. Observed in Boiler Room, along N portion of ceiling and upper wall. 15% Amosite; 5% Chrysotile. Category II ACM, unless rendered friable. May be feasible to remove intact, if removed by cutting pipe on either side. Likely to become friable (RACM) if removed from the fitting.
  - **I7.1** – Cork panel and pipe insulation, with black tar-like layer on pipe insulation only. Panel insulation observed along west wall of Boiler Storage. Pipe insulation observed in 2 locations near center of W wall in Boiler Storage. Panel insulation is non-ACM. Pipe insulation is Category II ACM, unless rendered friable.
- *0 HAs of Presumed ACM (assumed to contain > 1% asbestos)*
- *0 HAs of Non-ACM Determined to be ACM-Contaminated*

Asbestos was not present at detectible concentrations in material samples from the remaining 39 HAs, which have therefore been determined to be non-asbestos. However, it is important to note that any non-ACM materials determined to be inseparable from ACM should be considered to be ACM-contaminated. Such materials should be handled in the same fashion as the ACM from which they are contaminated.

A complete summary of all HAs of suspect ACM is presented in Table 1. The summary table includes descriptive locations of where each material was observed or presumed to be located throughout the project area; an assessment of the in-place condition of each material at the time of the inspection; and the classification and anticipated condition of the material during planned renovation or demolition activities.

Locations of materials presumed to contain asbestos are also illustrated on Figures 8 through 10, based on areas where they were actually observed as well as locations where they are inferred to be. These and/or other materials may be present in other locations which were not accessible for full evaluation at the time of the inspection, or in other portions of the site outside the project area.

5.2 **Lead Coatings Inspection**

A total of 43 separate HAs of suspect lead-containing surface coatings were identified and tested with the XRF throughout the project area. A total of 20 of the surface coatings identified within the project area were determined to be LCP/LBP, as summarized below:

- *16 HAs of LCP (confirmed to contain > 0.10 mg/cm^2 but < 1.0 mg/cm^2 lead)*:
  - **Pb-01** – Cream paint on plaster walls. Coat Room, Catering, Missouri Room, First Floor Halls.
  - **Pb-02** – Beige paint on plaster walls with large brick pattern. Commission Chambers, Lobbies.
  - **Pb-03** – Tan paint on plaster walls. Auditorium.
  - **Pb-04** – Cream paint on plaster walls. Auditorium.
  - **Pb-07** – Gold paint on plaster crown mold. Auditorium.
  - **Pb-08** – White paint on wood-fiber acoustic ceiling tiles (includes brown-over-white edge trim tiles). Commission Chamber, Auditorium. Presumed throughout.
  - **Pb-10** – White paint on wood crown mold. First Floor Hall.
  - **Pb-13** – White paint on plaster walls. Gibson Room.
  - **Pb-14** – Olive green paint on plaster walls. Gibson Room.
  - **Pb-17** – Dark stain on wood trim. Prosecutors Office 1.
  - **Pb-18** – White paint on plaster walls. Prosecutors Office Storage 4.
  - **Pb-31** – Red paint on wood shelf/bench. Boiler Storage.
  - **Pb-34** – Black paint on metal breaching. Boiler Room.
  - **Pb-35** – Tan paint on metal boiler components. Boiler Room.
  - **Pb-38** – Gray paint on GWB. Doorway between Boiler Room and Boiler Storage.
  - **Pb-41** – Black paint on metal piping. Boiler Room.
- *4 HAs of LBP (confirmed to contain ≥ 1.0 mg/cm^2 lead)*.
  - **Pb-06** – Brown/orange paint on plaster beam. Commission Chamber ceiling.
  - **Pb-11** – Olive green paint on structural steel. Observed over Auditorium (access from Gibson Room west wall). Presumed throughout.
  - **Pb-12** – Tan/orange paint on structural steel. Observed over Auditorium (access from Gibson Room west wall). Presumed throughout.
  - **Pb-33** – Gray paint on wood cabinet. Boiler Room (E).

A complete summary of all HAs of suspect LCP/LBP is presented in Table 2. The summary table includes descriptive locations of where each material was observed or presumed to be located throughout the project area. Confirmed and assumed LCP/LBP locations are also illustrated on Figures 11 through 13, based on areas where they were actually observed as well as locations where they are inferred to be. These and/or other materials may be present in other locations which were not accessible for full evaluation at the time of the inspection, or in other portions of the site which were outside the project area.

As noted in Section 4 above, the identified HAs of LCP/LBP are understood to be unlikely to be substantially materially impacted during completion of the planned *RTU Replacement* project. Therefore, assessment of the overall anticipated project waste stream for “total” lead was not required or completed.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings presented above, and with consideration given to applicable regulations, AWS presents the following recommendations for handling and disposal of materials of concern identified within the project area, as described in this report.

Prior to initiation of renovation activities within the project area at the site, AWS recommends the removal, transport, and disposal of all identified materials of concern when such activities may, or are likely to, disturb those materials, potentially resulting in human and/or environmental exposures. This work should be conducted in accordance with applicable DEQ, EPA, and OSHA regulations.

In order to help ensure regulatory compliance, limit the potential for human and/or environmental exposures, and facilitate solicitation of abatement bids, we recommend an abatement plan be prepared to outline requirements for handling, transportation, and disposal of materials of concern which will or may be impacted by renovation activities. The plan should be tailored to the finalized construction plan, including anticipated site-specific conditions at the time of construction (e.g., occupancy of the work area or adjoining areas during and/or after abatement activities, etc.). For instance, full-time oversight and ambient air monitoring may be more appropriate for buildings or spaces which will be occupied during and/or following abatement activities, whereas oversight and ambient air monitoring may be less important for unoccupied spaces and/or buildings which will be vacant during and after abatement.

If on-site oversight of abatement activities is desired for this project to ensure compliance with the abatement plan and to verify regulatory requirements are adhered to during the project, AWS recommends such oversight be conducted or overseen by a Professional Industrial Hygienist (PIH). Any desired and/or required post-abatement clearance monitoring should also be conducted or overseen by a PIH.

AWS can implement the recommendations provided in this report, including assistance with an abatement plan, oversight of removal, transport, and disposal of waste materials, and post-abatement clearance monitoring. Such additional services can be provided under a separate contract, if requested.

6.1 **Asbestos**

Any work which may disturb materials which contain asbestos should be conducted by an accredited asbestos abatement firm to ensure compliance with applicable DEQ, EPA, and OSHA asbestos requirements. This includes removal, transport, and disposal of materials which contain asbestos. The abatement contractor should submit a DEQ/NESHAP asbestos project permit application to the Montana DEQ at least 10 business days prior to planned initiation of regulated asbestos project activities (e.g., removal, transport, or disposal of RACM). Post-abatement asbestos clearance monitoring is recommended following removal of any materials which contain asbestos, and it is required following completion of a permitted asbestos project. This will need to be conducted by an accredited industrial hygienist which is contractually separate from the abatement contractor.

A copy of this inspection report, and any subsequent or addendum reports, should be kept on site throughout the duration of the planned renovation project, as required by DEQ.

6.2 **Lead Coatings**

Although LCP/LBP coatings were identified within the project area, it is understood these coatings are unlikely to be substantially materially impacted (sanded, abraded, etc.) during planned renovation activities. Materials with LCP/LBP coatings should be handled in accordance with applicable OSHA worker protection and EPA disposal regulations. LCP/LBP coatings should be left substantially intact during renovation, removal, and disposal activities, as feasible, to reduce the potential for worker exposure and/or environmental contamination. Materials coated with LCP/LBP should not be impacted by grinding, cutting with a torch, etc., and they should not be recycled unless the coatings have been properly removed and disposed. If the materials are in good condition and will not be disturbed, they may be left in place and/or coated over, if desired.

Post-abatement lead clearance monitoring is recommended following abatement of lead-containing surface coatings and should be completed by the PIH. Depending on the amount of LCP/LBP expected to be impacted by planned renovation, completion of a leachable lead assessment may be warranted to determine disposal requirements.

7.0 LIMITATIONS

This report was prepared specifically for use by Cushing Terrell. Use by any other entity is at the sole risk of the user(s). AWS's inspection was completed with a standard of care meeting or exceeding that of other consultants performing similar work in this area. Our findings and recommendations are based on observations and data collected during our site visit and our professional interpretation of analytical data for samples/tests collected during the project, as described above.

The scope of our inspection was limited to those accessible spaces of the project area as described in this report. If additional suspect materials are encountered, or are likely to be encountered, during future renovation or demolition activities, they should first be assessed and/or sampled to determine whether they contain materials of concern prior to being impacted by those activities. The findings and conclusions of this report may not apply to future conditions at the site which we have not had the opportunity to evaluate.

We appreciate the opportunity to provide these environmental consulting services. If you have any questions regarding this project, or if we can be of service in another consulting capacity, please me in our Great Falls office (406.315.2201).

Respectfully Submitted:

J. Scott Vosen
Principal
scott@airwatersoil.us
DEQ Accreditation: MTA-2374-IN

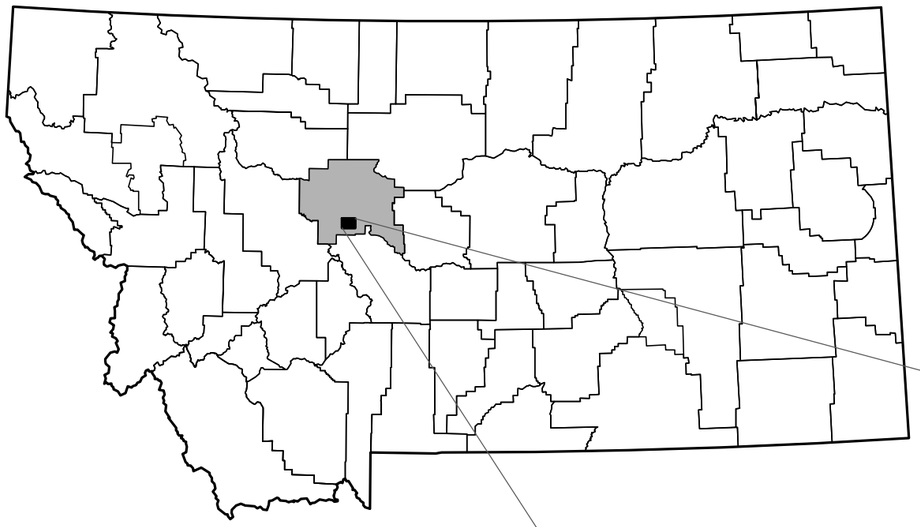
Nathan Vosen
Technician
nathan@airwatersoil.us
DEQ Accreditation: MTA-6145-IN

APPENDIX A

Figures

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

GREAT FALLS, CASCADE COUNTY, MONTANA



NORTH

1
FIG 1

SITE VICINITY MAP

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

SITE VICINITY MAP

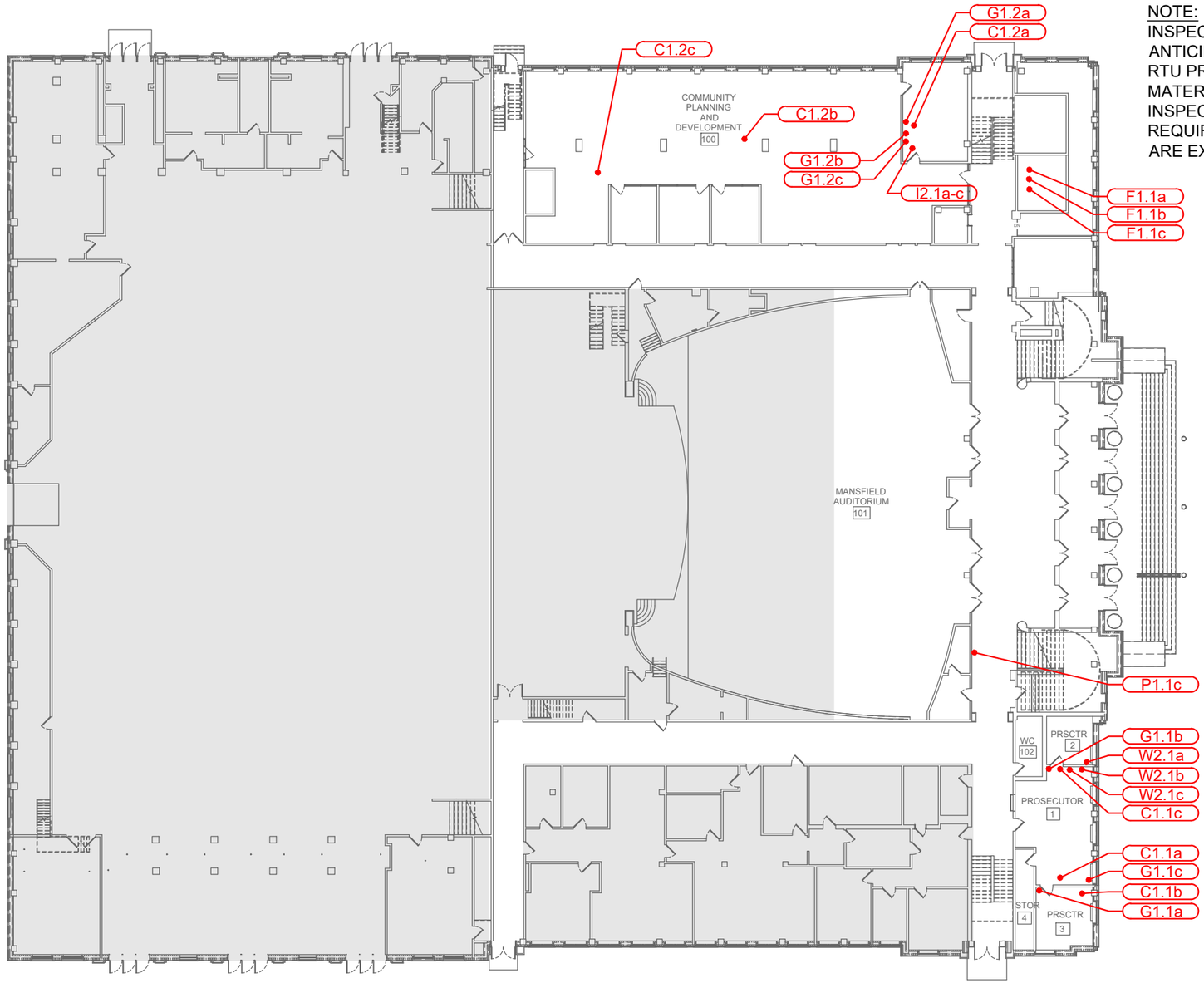
FIGURE
1

LEGEND

Xx.xX — APPROXIMATE INTERIOR SAMPLE LOCATION & RESPECTIVE HA NUMBER.

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

NOTE: THE PROJECT AREA FOR THE LIMITED INSPECTION INCLUDED ONLY THOSE MATERIALS ANTICIPATED TO BE IMPACTED BY THE PLANNED RTU PROJECT. ALL OTHER BUILDING AREAS AND MATERIALS WERE EXCLUDED FROM THE INSPECTION. ADDITIONAL ASSESSMENT MAY BE REQUIRED IF ADDITIONAL MATERIALS ARE (OR ARE EXPECTED TO BE) IMPACTED.



NORTH

1
FIG 2

EXISTING FIRST FLOOR PLAN

SUSPECT ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

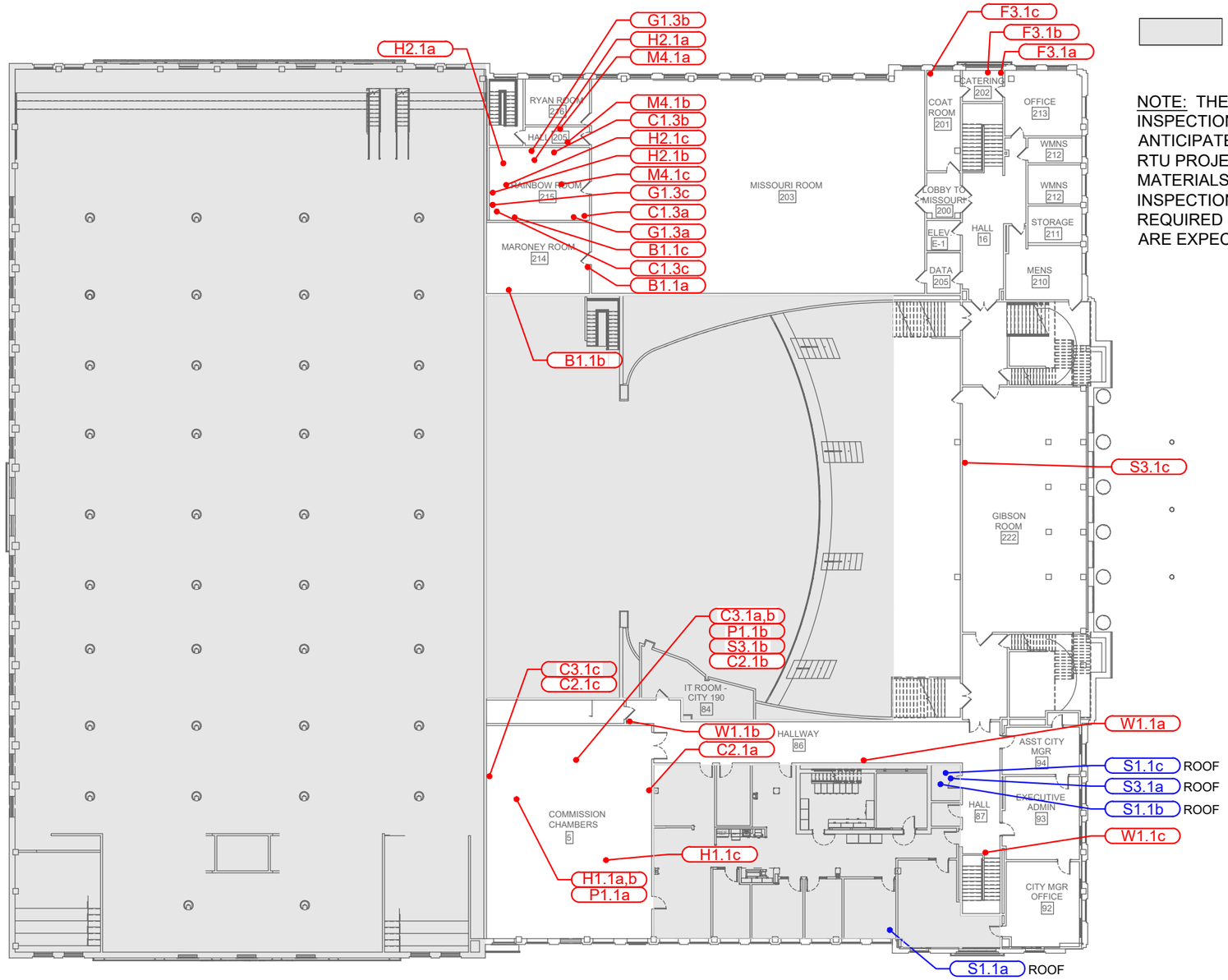
DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

SUSPECT ACM SAMPLE LOCATIONS

FIGURE
2



LEGEND

Xx.xX — APPROXIMATE INTERIOR SAMPLE LOCATION & RESPECTIVE HA NUMBER.

Xx.xX — APPROXIMATE EXTERIOR SAMPLE LOCATION & RESPECTIVE HA NUMBER.

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

NOTE: THE PROJECT AREA FOR THE LIMITED INSPECTION INCLUDED ONLY THOSE MATERIALS ANTICIPATED TO BE IMPACTED BY THE PLANNED RTU PROJECT. ALL OTHER BUILDING AREAS AND MATERIALS WERE EXCLUDED FROM THE INSPECTION. ADDITIONAL ASSESSMENT MAY BE REQUIRED IF ADDITIONAL MATERIALS ARE (OR ARE EXPECTED TO BE) IMPACTED.

NORTH

1
FIG 3

EXISTING SECOND FLOOR PLAN

SUSPECT ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

SUSPECT
ACM SAMPLE
LOCATIONS

FIGURE
3

NORTH

1
FIG 4

EXISTING BASEMENT PLAN

SUSPECT ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATIONS | SCALE: 1" = 30'-0"

LEGEND

Xx.xX — APPROXIMATE INTERIOR SAMPLE LOCATION & RESPECTIVE HA NUMBER.

Xx.xX — APPROXIMATE EXTERIOR SAMPLE LOCATION & RESPECTIVE HA NUMBER.

* INSPECTION OF ADDITIONAL BOILER ROOM AREAS COMPLETED 1-9-2023, UNDER REVISION 1 SCOPE OF WORK

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

NOTE: THE PROJECT AREA FOR THE LIMITED INSPECTION INCLUDED ONLY THOSE MATERIALS ANTICIPATED TO BE IMPACTED BY THE PLANNED RTU PROJECT. ALL OTHER BUILDING AREAS AND MATERIALS WERE EXCLUDED FROM THE INSPECTION. ADDITIONAL ASSESSMENT MAY BE REQUIRED IF ADDITIONAL MATERIALS ARE (OR ARE EXPECTED TO BE) IMPACTED.

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

SUSPECT
ACM SAMPLE
LOCATIONS

0 15 30 60

SCALE: 1" = 30'

FIGURE
4

LEGEND

- APPROXIMATE INTERIOR XRF SHOT LOCATION & NUMBER.
- PROJECT SPECIFIC BUILDING/ROOM SIDE DESIGNATIONS FOR LEAD ASSESSMENT.

NOTE: ONLY THOSE MATERIALS EXPECTED TO BE IMPACTED WERE ASSESSED.

- EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

NOTE: THE PROJECT AREA FOR THE LIMITED INSPECTION INCLUDED ONLY THOSE MATERIALS ANTICIPATED TO BE IMPACTED BY THE PLANNED RTU PROJECT. ALL OTHER BUILDING AREAS AND MATERIALS WERE EXCLUDED FROM THE INSPECTION. ADDITIONAL ASSESSMENT MAY BE REQUIRED IF ADDITIONAL MATERIALS ARE (OR ARE EXPECTED TO BE) IMPACTED.

NORTH

1
FIG 5

EXISTING FIRST FLOOR PLAN

XRF SHOT LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

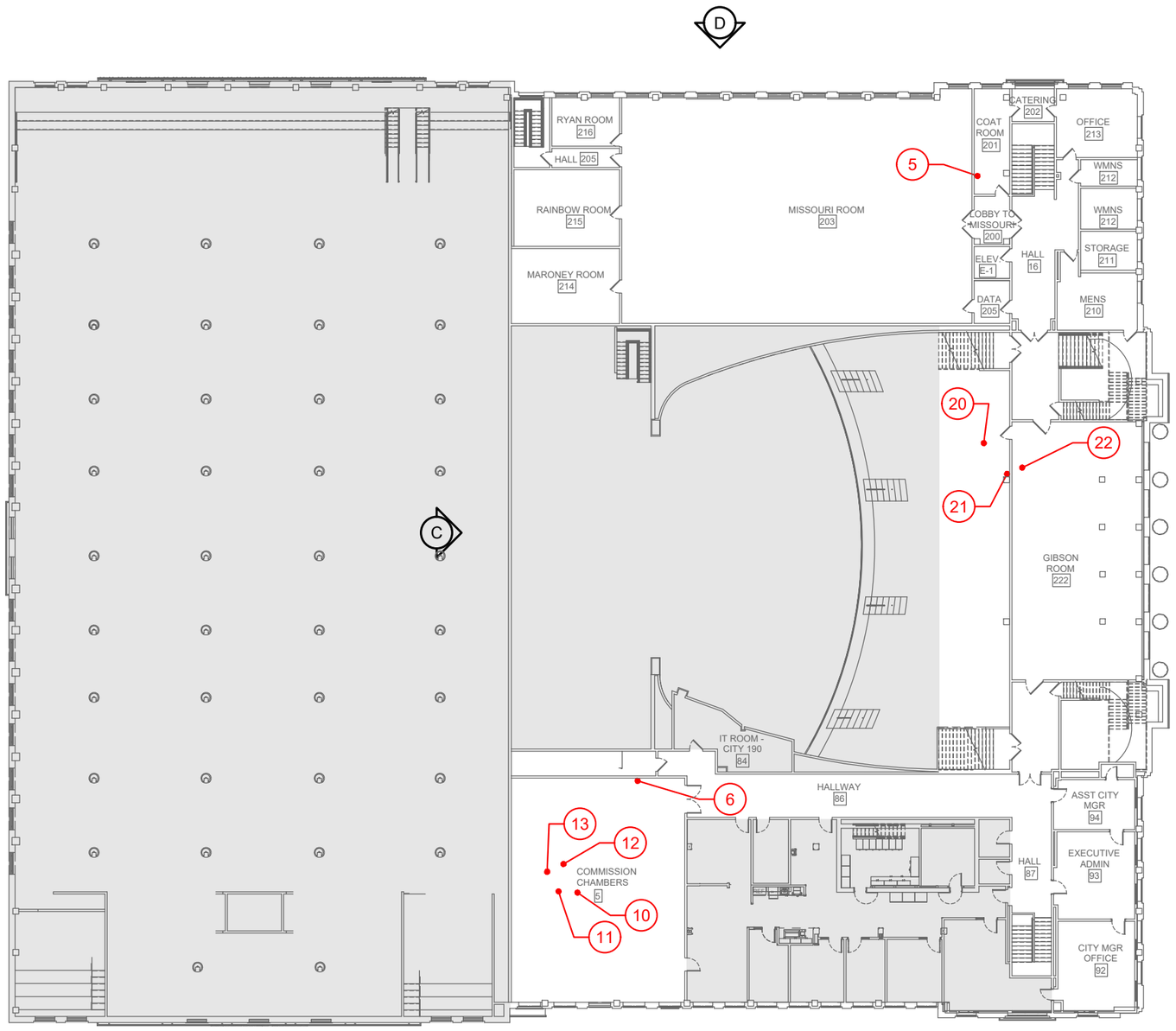
DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

XRF SHOT LOCATIONS

FIGURE
5



LEGEND

- APPROXIMATE INTERIOR XRF SHOT LOCATION & NUMBER.
- X — PROJECT SPECIFIC BUILDING/ROOM SIDE DESIGNATIONS FOR LEAD ASSESSMENT.

NOTE: ONLY THOSE MATERIALS EXPECTED TO BE IMPACTED WERE ASSESSED.

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

NOTE: THE PROJECT AREA FOR THE LIMITED INSPECTION INCLUDED ONLY THOSE MATERIALS ANTICIPATED TO BE IMPACTED BY THE PLANNED RTU PROJECT. ALL OTHER BUILDING AREAS AND MATERIALS WERE EXCLUDED FROM THE INSPECTION. ADDITIONAL ASSESSMENT MAY BE REQUIRED IF ADDITIONAL MATERIALS ARE (OR ARE EXPECTED TO BE) IMPACTED.

A

NORTH

1
FIG 6

EXISTING SECOND FLOOR PLAN

XRF SHOT LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

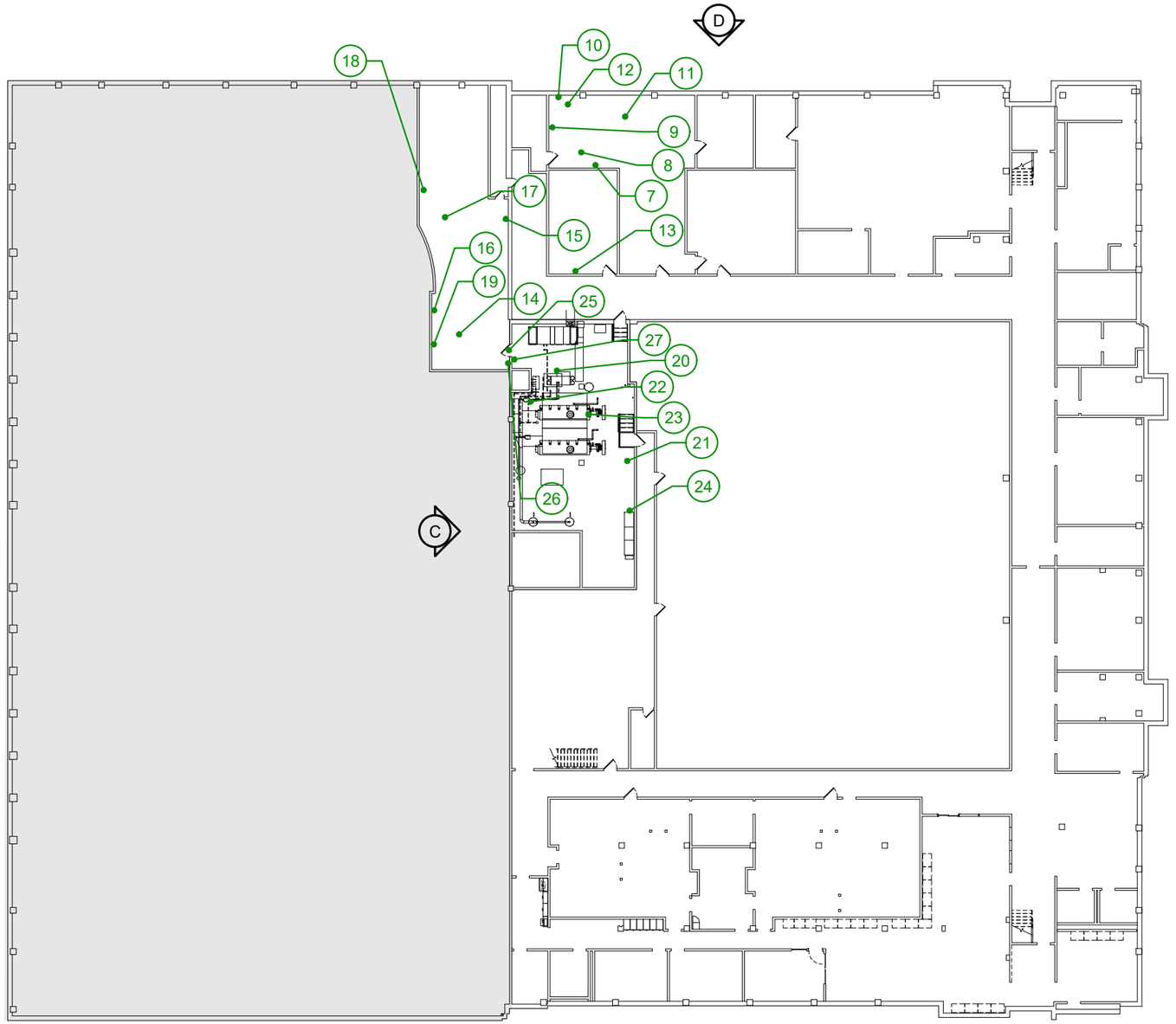
DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

XRF SHOT LOCATIONS

FIGURE
6



LEGEND

- APPROXIMATE INTERIOR XRF SHOT LOCATION & NUMBER.

* INSPECTION OF ADDITIONAL BOILER ROOM AREAS COMPLETED 1-9-2023, UNDER REVISION 1 SCOPE OF WORK

X — PROJECT SPECIFIC BUILDING/ROOM SIDE DESIGNATIONS FOR LEAD ASSESSMENT.

NOTE: ONLY THOSE MATERIALS EXPECTED TO BE IMPACTED WERE ASSESSED.

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

NOTE: THE PROJECT AREA FOR THE LIMITED INSPECTION INCLUDED ONLY THOSE MATERIALS ANTICIPATED TO BE IMPACTED BY THE PLANNED RTU PROJECT. ALL OTHER BUILDING AREAS AND MATERIALS WERE EXCLUDED FROM THE INSPECTION. ADDITIONAL ASSESSMENT MAY BE REQUIRED IF ADDITIONAL MATERIALS ARE (OR ARE EXPECTED TO BE) IMPACTED.

NORTH

1 / FIG 7

EXISTING BASEMENT PLAN

XRF SHOT LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

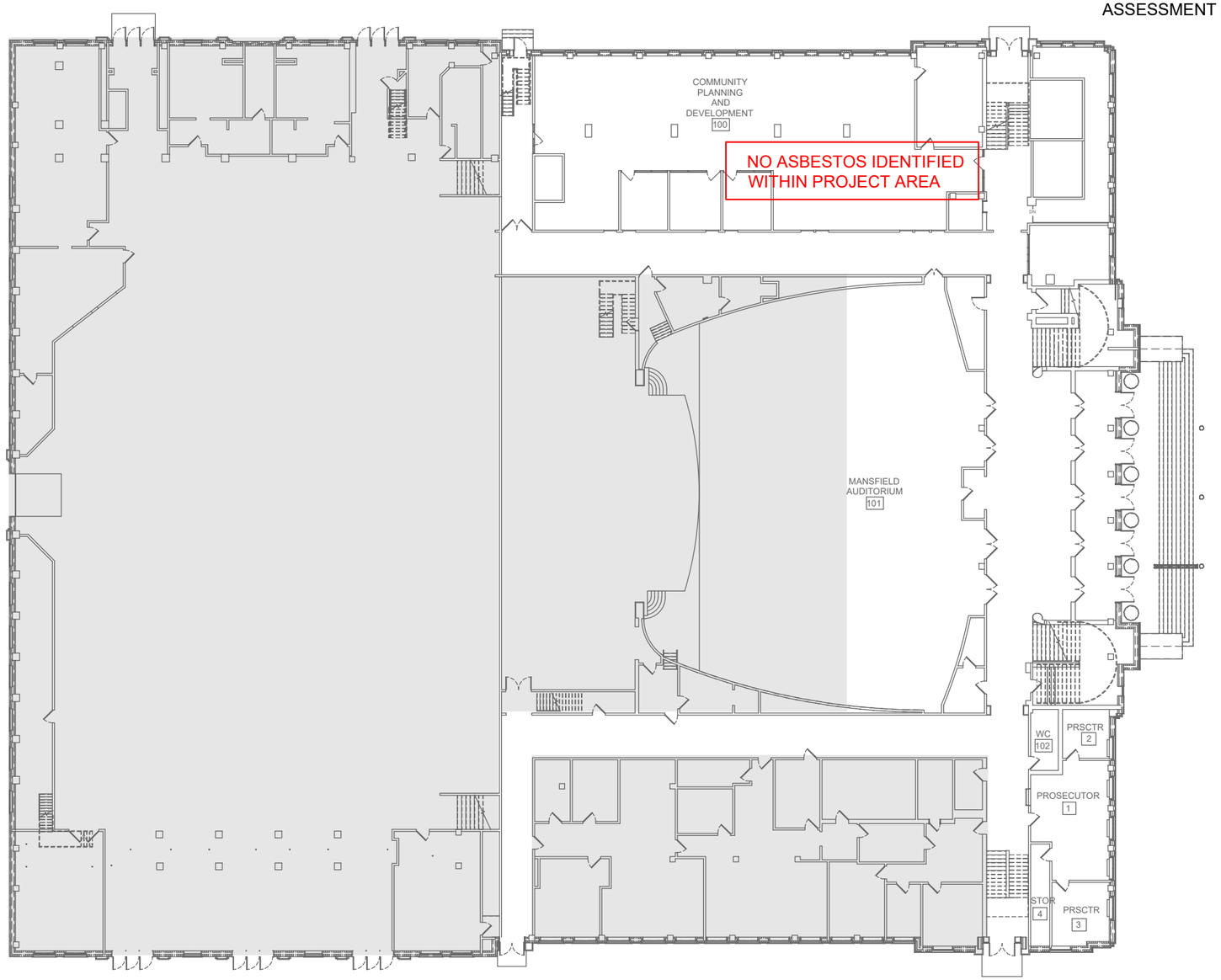
XRF SHOT LOCATIONS

FIGURE
7

LEGEND

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

NOTE: CONFIRMED ASBESTOS LOCATIONS ARE SHOWN WHERE OBSERVED. THESE (AND OTHER) MATERIALS MAY BE PRESENT IN OTHER AREAS OF THE BUILDING, INCLUDING AREAS WHICH WERE EXCLUDED FROM THE LIMITED ASSESSMENT FOR THIS PROJECT.



NORTH

1
FIG 8

EXISTING FIRST FLOOR PLAN

CONFIRMED ASBESTOS-CONTAINING MATERIAL LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

DRAWN BY
DRESCH

CHECKED BY
NSV

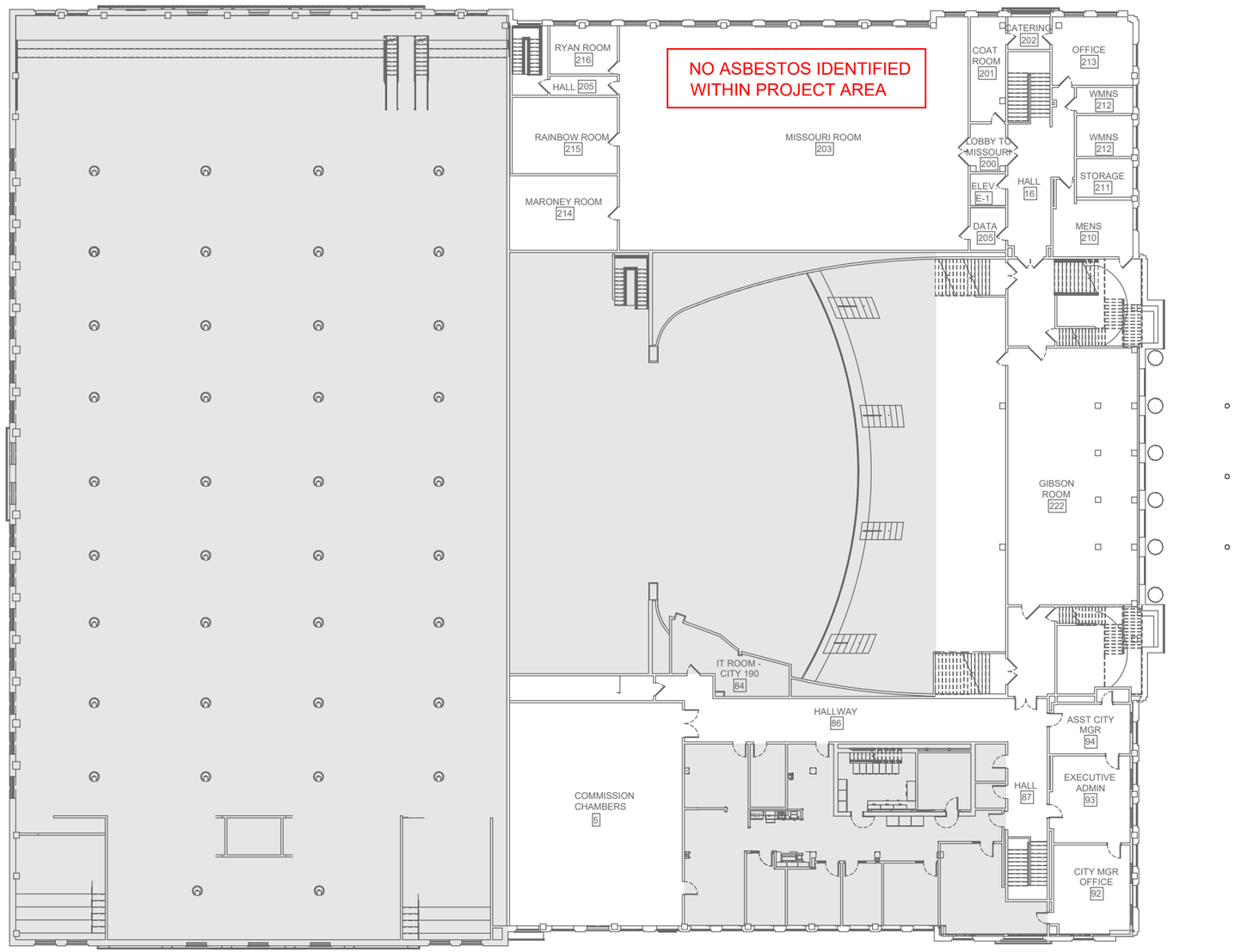
REVISION 1
CONFIRMED ACM LOCATIONS

FIGURE
8

LEGEND

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

NOTE: CONFIRMED ASBESTOS LOCATIONS ARE SHOWN WHERE OBSERVED. THESE (AND OTHER) MATERIALS MAY BE PRESENT IN OTHER AREAS OF THE BUILDING, INCLUDING AREAS WHICH WERE EXCLUDED FROM THE LIMITED ASSESSMENT FOR THIS PROJECT.



NORTH

1
FIG 9

EXISTING SECOND FLOOR PLAN

CONFIRMED ASBESTOS-CONTAINING MATERIAL LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

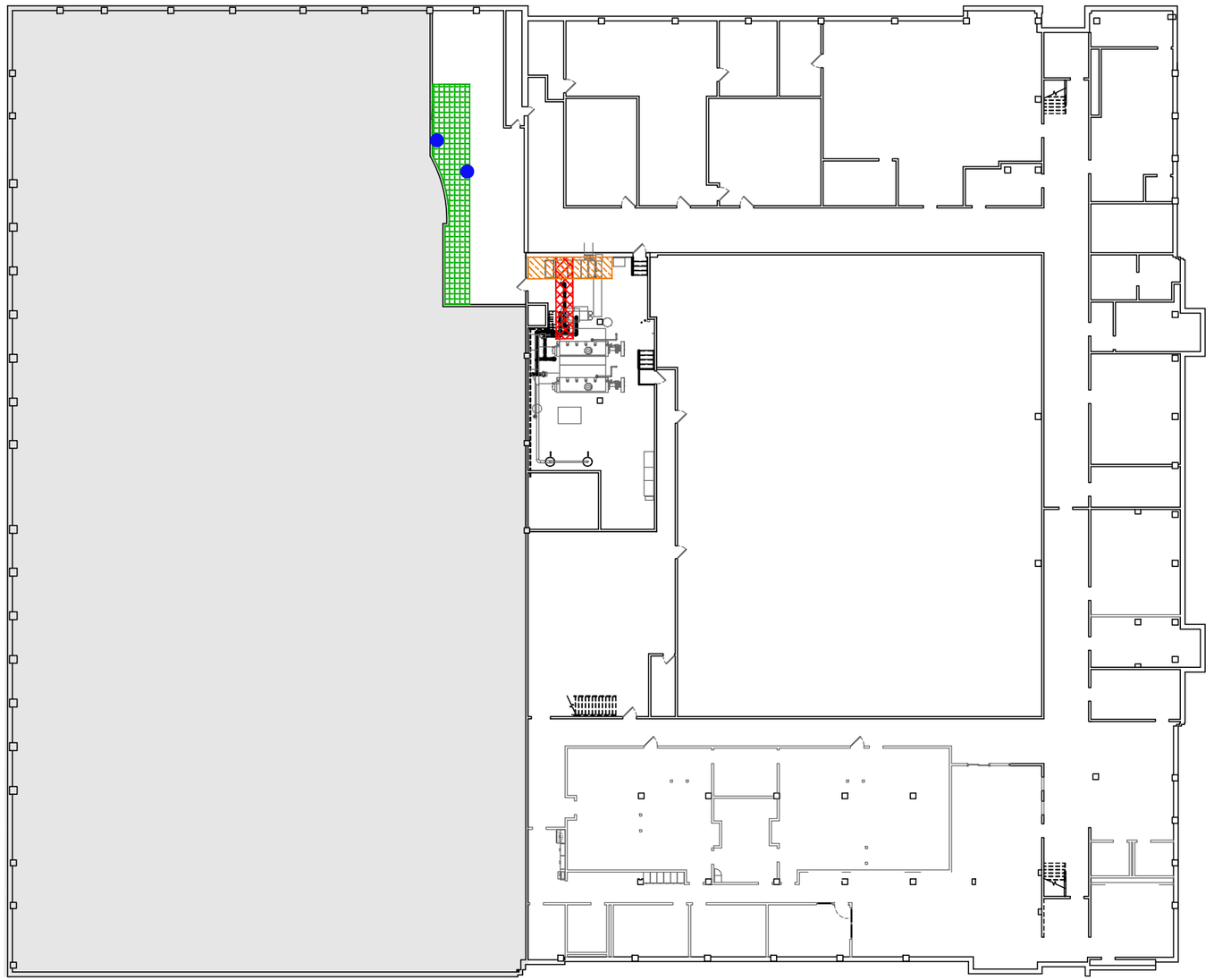
DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

CONFIRMED ACM LOCATIONS

FIGURE
9



LEGEND

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

I4.1 - AIRCELL PIPE INSULATION WITH CLOTH JACKET IN BOILER ROOM, OBSERVED ALONG N PORTION OF CEILING. 2% CHRYSOTILE (SILVER PAINT); 55% CHRYSOTILE (AIRCELL INSULATION). RACM.

I4.2 - MUDDED JOINT FITTING (MJF) WITH CLOTH JACKET, ON PIPE JOINTS IN BOILER ROOM. OBSERVED ALONG N PORTION OF CEILING AND UPPER WALL. 15% AMOSITE AND 5% CHRYSOTILE. CATEGORY II ACM (UNLESS RENDERED FRIABLE).

I7.1 - CORK PANEL AND PIPE INSULATION. BLACK TAR-LIKE LAYER ON PIPE INSULATION ONLY. OBSERVED IN BOILER STORAGE. PANEL INSULATION OBSERVED ALONG WEST WALL (GREEN HATCHING). PIPE INSULATION OBSERVED IN 2 LOCATIONS NEAR CENTER OF WEST WALL (BLUE CIRCLES). 5% CHRYSOTILE (BLACK TAR ONLY). CATEGORY II ACM (UNLESS RENDERED FRIABLE).

* INSPECTION OF ADDITIONAL BOILER ROOM AREAS COMPLETED 1-9-2023, UNDER REVISION 1 SCOPE OF WORK

NOTE: CONFIRMED ASBESTOS LOCATIONS ARE SHOWN WHERE OBSERVED. THESE (AND OTHER) MATERIALS MAY BE PRESENT IN OTHER AREAS OF THE BUILDING, INCLUDING AREAS WHICH WERE EXCLUDED FROM THE LIMITED ASSESSMENT FOR THIS PROJECT.

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

CONFIRMED ACM LOCATIONS

NORTH

1
FIG 10

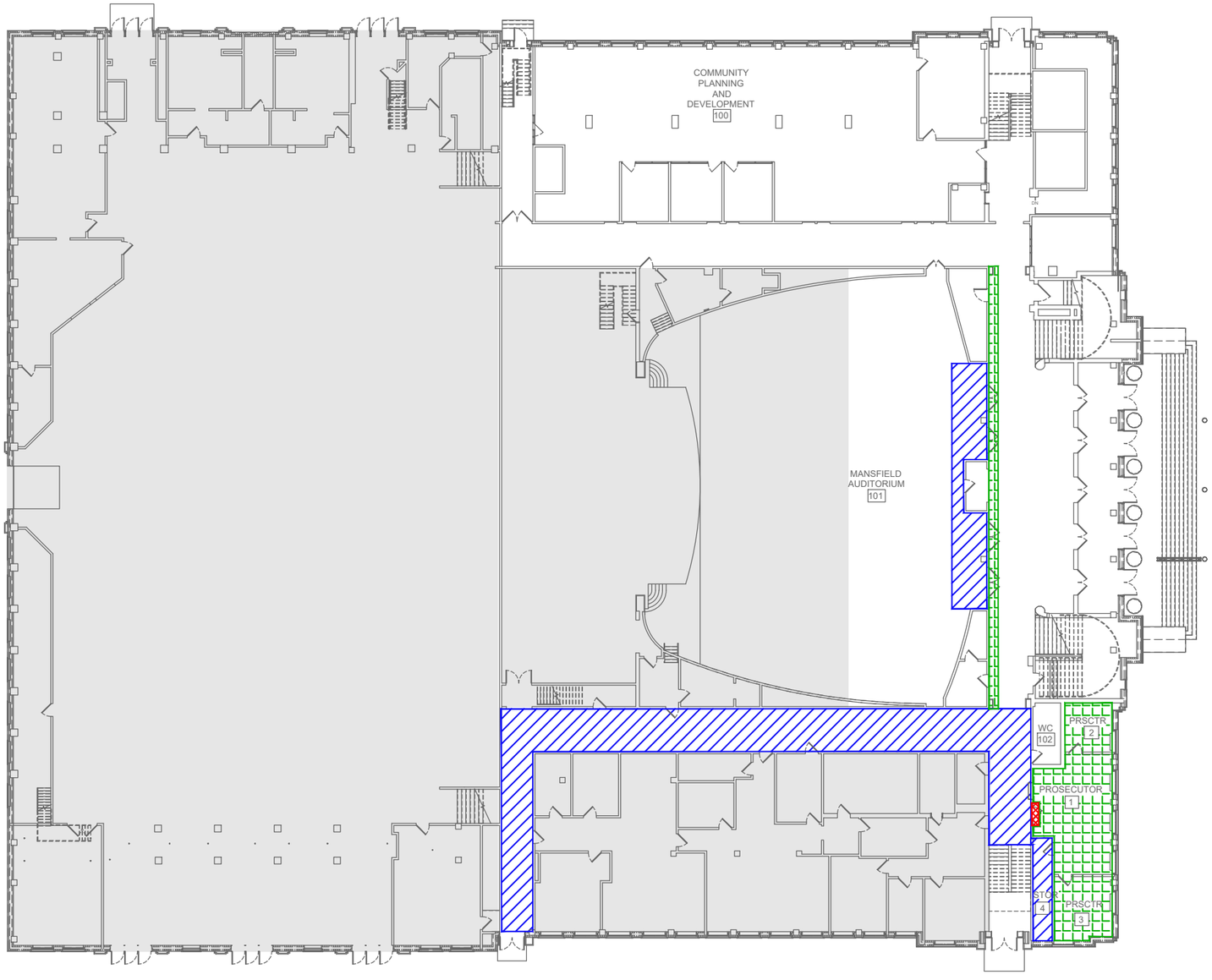
EXISTING BASEMENT PLAN

CONFIRMED ASBESTOS-CONTAINING MATERIAL LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

FIGURE
10



LEGEND

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

LEAD-CONTAINING PAINT (LCP) - CONTAINS LEAD AT CONCENTRATIONS ≥ 0.10 mg/cm² AND < 1.0 mg/cm². CREAM PAINT ON PLASTER WALLS (Pb-01) IN HALLWAYS; WHITE PAINT ON WOOD (Pb-10) CROWN MOLDS IN HALLWAYS; TAN PAINT ON PLASTER (Pb-03) ON WALLS IN AUDITORIUM; CREAM PAINT ON PLASTER (Pb-04) ON WALLS IN AUDITORIUM; WHITE PAINT ON WOOD-FIBER CEILING TILES (Pb-08) IN AUDITORIUM (INCLUDES BROWN-OVER-WHITE EDGE CEILING TILE); WHITE PAINT ON PLASTER (Pb-18) PROSECUTORS OFFICE STORAGE 4.

LEAD-CONTAINING PAINT (LCP) - CONTAINS LEAD AT CONCENTRATIONS ≥ 0.10mg/cm² AND < 1.0mg/cm². BEIGE PAINT ON LARGE BRICK FORM PLASTER (Pb-02) ON WALLS IN LOBBY; OLIVE GREEN PAINT ON PLASTER (Pb-14) ON PLASTER WALLS IN PROSECUTORS OFFICES 1-3.

LEAD-CONTAINING PAINT (LCP) - CONTAINS LEAD AT CONCENTRATIONS ≥ 0.10mg/cm² AND < 1.0mg/cm². DARK STAIN ON WOOD (Pb-17) ON DOOR CASING AND TRIM.

NOTE: CONFIRMED LCP/LBP LOCATIONS ARE SHOWN WHERE OBSERVED. THESE (AND OTHER) MATERIALS MAY BE PRESENT IN OTHER AREAS OF THE BUILDING, INCLUDING AREAS WHICH WERE EXCLUDED FROM THE LIMITED ASSESSMENT FOR THIS PROJECT.

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

DRAWN BY
DRESCH

CHECKED BY
VOSEN

REVISION 1

CONFIRMED
LCP
LOCATIONS

NORTH

1
FIG 11

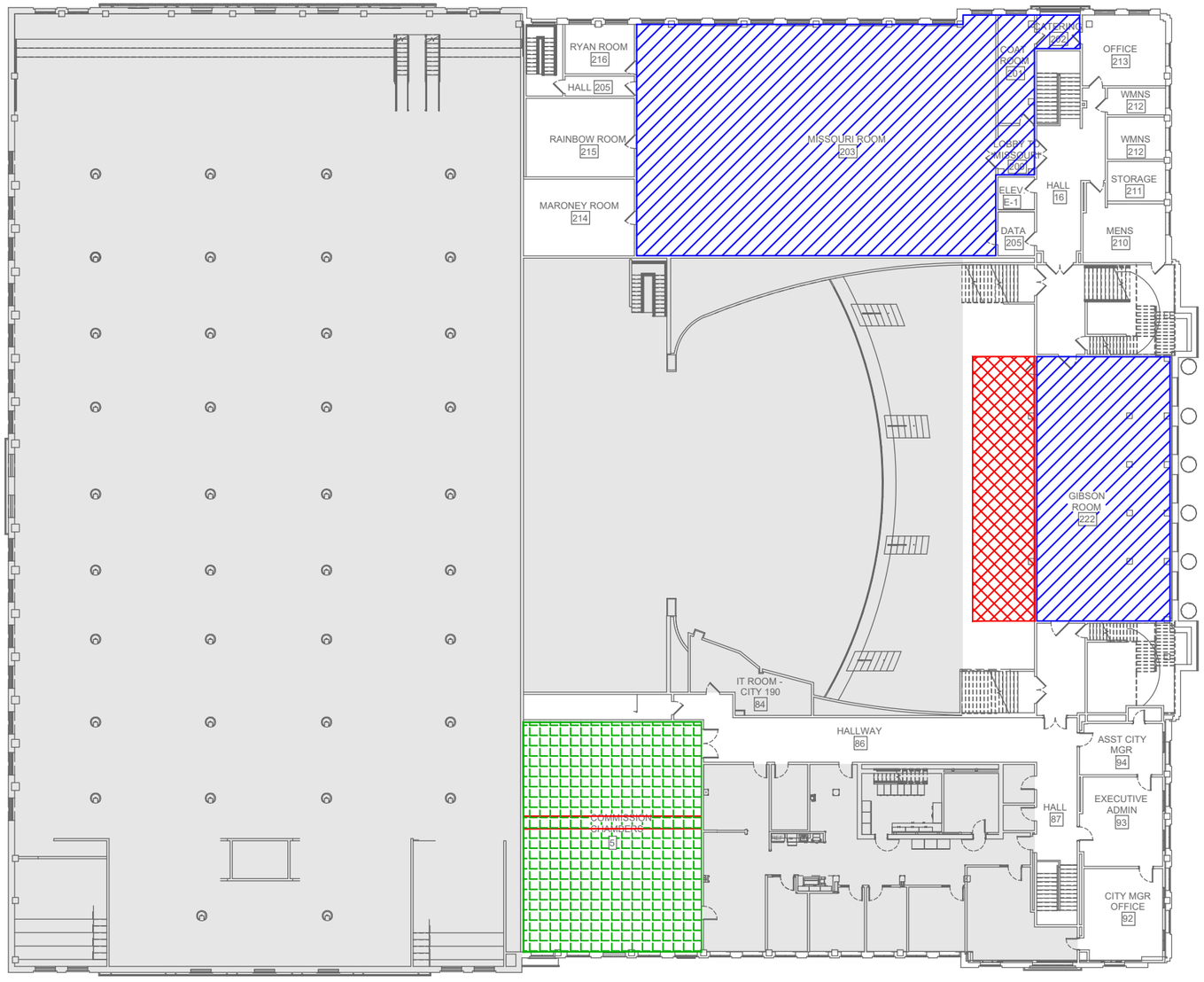
EXISTING FIRST FLOOR PLAN

CONFIRMED LEAD CONTAINING PAINT LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

FIGURE
11



LEGEND

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

LEAD-CONTAINING PAINT (LCP) - CONTAINS LEAD AT CONCENTRATIONS ≥ 0.10 mg/cm² AND < 1.0 mg/cm². CREAM PAINT ON PLASTER WALLS (Pb-01) IN MISSOURI, MISSOURI LOBBY, COAT AND CATERING ROOMS; WHITE PAINT ON PLASTER WALLS (Pb-13) IN GIBSON ROOM.

LEAD-CONTAINING PAINT (LCP) - CONTAINS LEAD AT CONCENTRATIONS ≥ 0.10 mg/cm² AND < 1.0mg/cm². BEIGE PAINT ON LARGE BRICK FORMED PLASTER WALLS (Pb-02); GOLD PAINT ON PLASTER CROWN MOLD (Pb-07) ABOVE DROP CEILING; WHITE PAINT ON WOOD-FIBER CEILING TILES (Pb-08) ABOVE DROP CEILING (INCLUDES BROWN-OVER-WHITE EDGE TRIM CEILING TILES).

LEAD-BASED PAINT (LBP) - CONTAINS LEAD AT CONCENTRATIONS ≥ 1.0mg/cm². OLIVE GREEN PAINT ON STRUCTURAL STEEL (Pb-11); TAN/ORANGE PAINT ON STRUCTURAL STEEL (Pb-12); BROWN/ORANGE PAINT ON PLASTER (Pb-06) ON BEAM ABOVE DROP CEILING IN COMMISSION CHAMBERS.

NOTE: CONFIRMED LCP/LBP LOCATIONS ARE SHOWN WHERE OBSERVED. THESE (AND OTHER) MATERIALS MAY BE PRESENT IN OTHER AREAS OF THE BUILDING, INCLUDING AREAS WHICH WERE EXCLUDED FROM THE LIMITED ASSESSMENT FOR THIS PROJECT.

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

CONFIRMED
LCP
LOCATIONS

NORTH

1
FIG 12

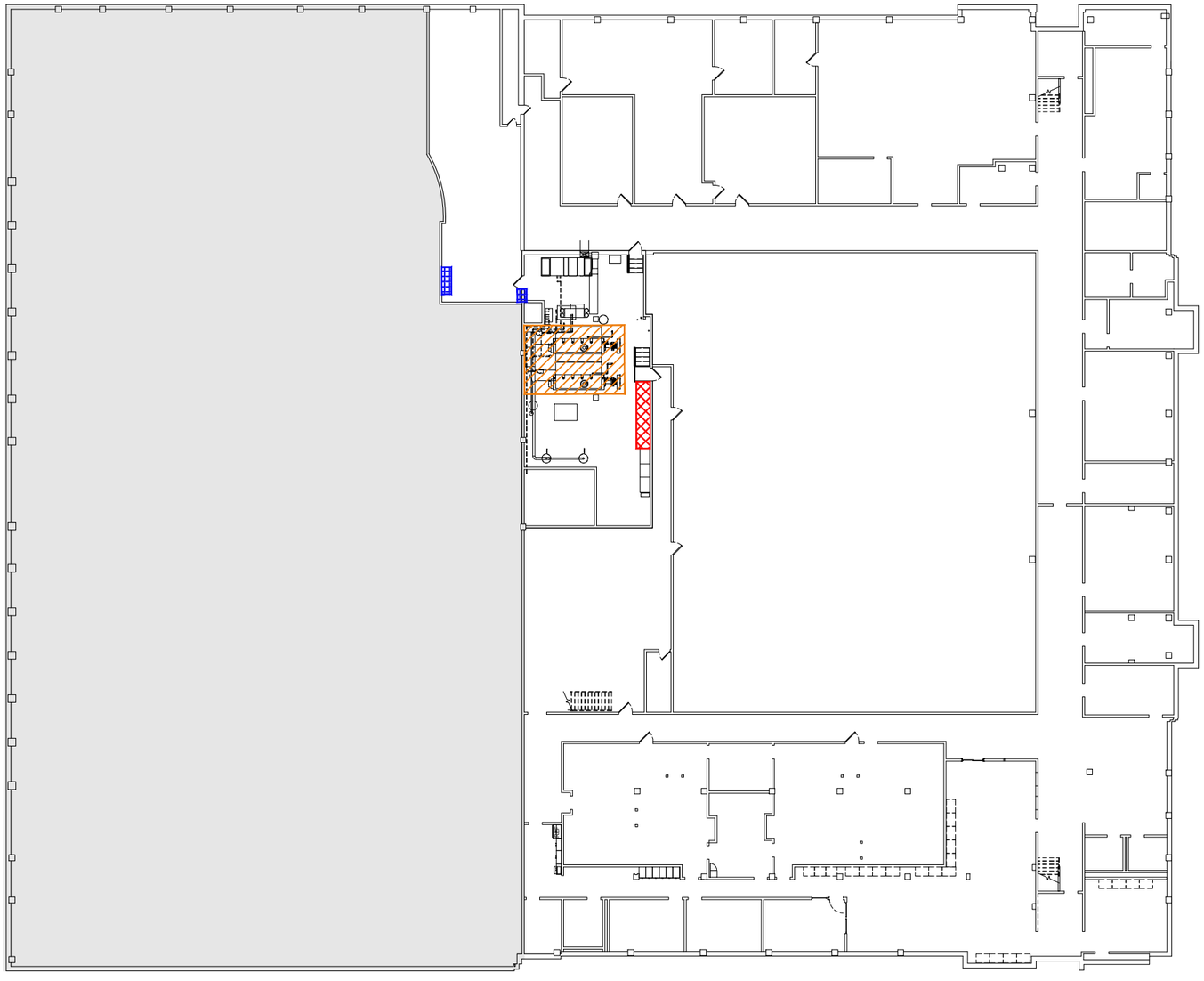
EXISTING SECOND FLOOR PLAN

CONFIRMED LEAD CONTAINING PAINT LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

FIGURE
12



LEGEND

EXCLUDED FROM PROJECT AREA AT THE TIME OF INSPECTION.

LEAD-CONTAINING PAINT (LCP) - CONTAINS LEAD AT CONCENTRATIONS ≥ 0.10 mg/cm² AND < 1.0 mg/cm². BLACK PAINT ON METAL BREACHING (Pb-34) BOILER ROOM (W); TAN PAINT ON METAL BOILER COMPONENT (Pb-35) BOILER ROOM - N & S BOILERS; BLACK PAINT ON METAL PIPING (Pb-41) BOILER ROOM - BEHIND N & S BOILERS.

LEAD-CONTAINING PAINT (LCP) - CONTAINS LEAD AT CONCENTRATIONS ≥ 0.10 mg/cm² AND < 1.0mg/cm². RED PAINT ON WOOD SHELF/BENCH (Pb-31) BOILER STORAGE (W); GRAY PAINT ON GWB (Pb-38) DOORWAY BETWEEN BOILER ROOM AND BOILER STORAGE.

LEAD-BASED PAINT (LBP) - CONTAINS LEAD AT CONCENTRATIONS ≥ 1.0mg/cm². GRAY PAINT ON WOOD CABINET (Pb-33) BOILER ROOM (E).

* INSPECTION OF ADDITIONAL BOILER ROOM AREAS COMPLETED 1-9-2023, UNDER REVISION 1 SCOPE OF WORK

NOTE: CONFIRMED LCP/LBP LOCATIONS ARE SHOWN WHERE OBSERVED. THESE (AND OTHER) MATERIALS MAY BE PRESENT IN OTHER AREAS OF THE BUILDING, INCLUDING AREAS WHICH WERE EXCLUDED FROM THE LIMITED ASSESSMENT FOR THIS PROJECT.

NORTH

1
FIG 13

EXISTING BASEMENT PLAN

CONFIRMED LEAD CONTAINING PAINT LOCATIONS | SCALE: 1" = 30'-0"

0 15 30 60

SCALE: 1" = 30'

AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

2 PARK DRIVE SOUTH, GREAT FALLS, MT
CIVIC CENTER RTU
Limited Asbestos and Lead Coatings Inspection
CUSHING TERRELL

1.20.2023
22064

DRAWN BY
DRESCH

CHECKED BY
NSV

REVISION 1

CONFIRMED
LCP
LOCATIONS

FIGURE
13

AIR WATER SOIL

APPENDIX B

Documentation of Accreditation

J SCOTT VOSEN

has met the requirements of Montana Administrative Rule 17.74.362 and/or 17.74.363 for accreditation in the following asbestos occupation(s) through the specified expiration date(s).

MTA-2374

Asbestos Inspector	04/07/2023
Project Contractor/Supervisor	04/08/2023

MT DEQ Asbestos Control Program

J SCOTT VOSEN
1321 8TH AVE N
GREAT FALLS MT 59401

Certificate of Training

J. Scott Vosen

Has completed the Viken Corporation training materials presented on the topic of Instrument Operator Training, Pb200i, with regards to the materials licensed by the Commonwealth of Massachusetts and the Nuclear Regulatory Commission.

Instrument Operator Training
Viken Detection Corporation,
Pb200i

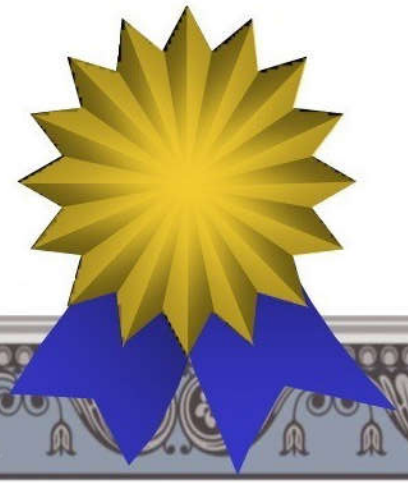
I confirm that the above named individual has received the training listed on this certificate.

Adam Robison _____ 2-25-2022

Name Date

Senior Director of Sales

Title



I certify that I have received the stated training and understand the content presented. I understand that I can follow up this training with questions from Viken Detection Corporation.

J. Scott Vosen _____ 2-25-2022

Name Date

NATHAN S VOSEN

has met the requirements of Montana Administrative Rule 17.74.362 and/or 17.74.363 for accreditation in the following asbestos occupation(s) through the specified expiration date(s).

MTA-6145

Asbestos Inspector	11/09/2023
Project Contractor/Supervisor	12/09/2023

MT DEQ Asbestos Control Program

NATHAN S VOSEN
1112 23RD AVE SW
GREAT FALLS MT 59404

Certificate of Training

Nathan Vosen

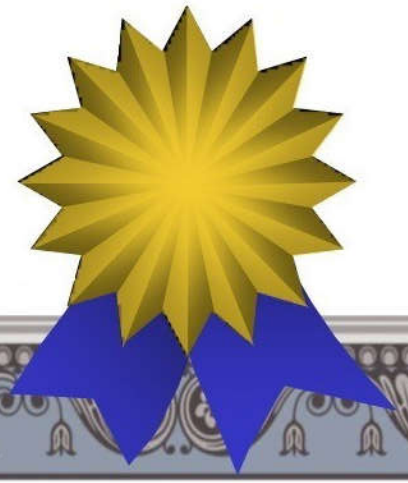
Has completed the Viken Corporation training materials presented on the topic of Instrument Operator Training, Pb200i, with regards to the materials licensed by the Commonwealth of Massachusetts and the Nuclear Regulatory Commission.

Instrument Operator Training
Viken Detection Corporation,
Pb200i

I confirm that the above named individual has received the training listed on this certificate.

Ralph Badger 12-22-2022
Name Date

Senior Service Manager
Title



I certify that I have received the stated training and understand the content presented. I understand that I can follow up this training with questions from Viken Detection Corporation.

Nathan Vosen 12-22-2022
Name Date

APPENDIX C

Data Summary Tables

AIR WATER SOIL

TABLE 1
Summary of Homogenous Areas of Suspect ACM
Limited Asbestos and Lead Coatings Inspection
Civic Center RTU Replacement
2 Park Drive South, Great Falls, MT 59401

HA Number	Material Description	Location[1]	Percent & Type of Asbestos[2]	In-Place Condition[3]	Anticipated Abatement Condition[4]
Original RTU Inspection - Completed 11-29-2022					
B1.1	Cream/yellow vinyl base cove, cream mastic.	Moroney Room, Rainbow Room.	None Detected	NF	Non-ACM
C1.1	2-ft x 2-ft white lay-in ceiling tiles.	Prosecutors Offices 1-3.	None Detected	F	Non-ACM
C1.2	2-ft x 2-ft rough, tan lay-in ceiling tiles.	Community Planning and Development, (Conference Room).	None Detected	F	Non-ACM
C1.3	2-ft x 2-ft less rough, lay-in white ceiling tiles.	Moroney Room, Rainbow Room, Hall 205, Ryan Room.	None Detected	F	Non-ACM
C2.1	2-ft x 4-ft white lay-in ceiling tiles.	Commission Chambers.	None Detected	F	Non-ACM
C3.1	Mastic applied wood fiber ceiling tiles.	Throughout.	None Detected	F	Non-ACM
F1.1	Red carpet, no mastic.	NE corner of main level.	None Detected	F	Non-ACM
F3.1	Cream vinyl sheet floor, yellow mastic.	Coat Room, Catering.	None Detected	NF	Non-ACM
G1.1	Gypsum Wallboard (GWB) system, with tape and joint compound.	Prosecutors Offices 1-3.	None Detected	NF	Non-ACM
G1.2	GWB system, with tape and joint compound	Community Planning and Development, (Conference Room).	None Detected	NF	Non-ACM
G1.3	GWB system, with tape and joint compound	Moroney Room, Rainbow Room, Hall 205, Ryan Room.	None Detected	NF	Non-ACM
H1.1	Plastic-backed fiberglass flex duct.	Above ceiling tiles in: Commission Chambers, Community Planning and Development, (Conference Room), Rainbow Room.	None Detected	F	Non-ACM
H2.1	Duct seam tape.	Above ceiling tiles in: Moroney Room, Rainbow Room, Hall 205, Ryan Room.	None Detected	F	Non-ACM
I2.1	Paper-backed fiberglass batt insulation.	Above ceiling tiles in: Community Planning and Development, (Conference Room). (Laying directly on ceiling tiles in places).	None Detected	F	Non-ACM
M4.1	Spray-on fireproofing on steel beam.	Above ceiling tiles in: Moroney Room, Rainbow Room, Hall 205, Ryan Room. (Some has fallen off of the beam and is laying on ceiling tiles).	None Detected	F	Non-ACM
P1.1	Plaster on walls and ceiling.	Throughout.	None Detected	NF	Non-ACM
S1.1	Concrete. Original.	Throughout. (Including lower roof decks).	None Detected	NF	Non-ACM
S3.1	Clay tile unit (CTU) and mortar walls.	Variously throughout.	None Detected	NF	Non-ACM
W1.1	Rough tan wallpaper.	Variously throughout.	None Detected	NF	Non-ACM

AIR WATER SOIL

TABLE 1
Summary of Homogenous Areas of Suspect ACM
Limited Asbestos and Lead Coatings Inspection
Civic Center RTU Replacement
2 Park Drive South, Great Falls, MT 59401

HA Number	Material Description	Location[1]	Percent & Type of Asbestos[2]	In-Place Condition[3]	Anticipated Abatement Condition[4]
W2.1	Wood wall panel.	Prosecutors Office: 1 (N), 2 (S).	None Detected	NF	Non-ACM
Additional Boiler Room Areas Inspection - Completed 1-9-2023 (Revision 1 Scope of Work)					
C2.1*	2-ft x 4-ft white lay-in ceiling tiles. Pinholes and fissures.	Basement File Storage.	None Detected	F	Non-ACM
G1.1*	GWB system, with tape and joint compound. Newer.	Basement File Storage, Cleaning Storage.	None Detected	NF	Non-ACM
G1.2*	GWB system - no tape or joint compound. Newer.	Stub wall at doorway between Boiler Room and Boiler Storage.	None Detected	NF	Non-ACM
H1.1	Plastic-lined fiberglass flex duct.	Boiler Room. Observed along N portion of ceiling and upper wall.	None Detected	NF	Non-ACM
I1.1	Fiberglass boiler insulation, behind metal boiler jackets.	Boiler Room - N & S Boilers.	None Detected	F	Non-ACM
I1.2	Fiberglass batt insulation at window infills.	Basement File Storage (N).	None Detected	F	Non-ACM
I3.1	Paper-backed fiberglass pipe insulation.	Variously throughout Boiler Room and adjoining areas.	None Detected	NF	Non-ACM
I4.1	Aircell pipe insulation with cloth jacket.	Boiler Room. Observed along N portion of ceiling.	2% Chrysotile *(Silver Paint)* 55% Chrysotile *(Aircell insulation)*	NF	RACM
I4.2	Mudded joint fitting (MJF) with cloth jacket, on pipe joints.	Boiler Room - Observed along N portion of ceiling and upper wall.	15% Amosite 5% Chrysotile	NF	Category II ACM *(unless rendered friable)*
I7.1	Cork panel and pipe insulation. Black tar-like layer on pipe insulation only.	Boiler Storage. Panel insulation observed along west wall. Pipe insulation observed at 2 locations near center of west wall.	5% Chrysotile *(black tar only)*	NF	Category II ACM *(unless rendered friable)*
M5.1	White paper and black mastic at base boilers.	Boiler Room - N & S Boilers.	None Detected	F	Non-ACM
M7.1	Red rubber-like gasket on valve flange.	Boiler Room - S Boiler.	None Detected	NF	Non-ACM
M7.2	White rope gasket on front of boilers.	Boiler Room - N & S Boilers.	None Detected	NF	Non-ACM
M7.2	Green rubber-like gasket on valve flange.	Boiler Room - N Boiler.	None Detected	NF	Non-ACM
P1.1*	Plaster system with white skim coat. Base plaster presumed same as P1.1 above.	Walls and Ceilings within N and E portions of Cleaning Storage.	None Detected	NF	Non-ACM
P1.2	Plaster wall system. No skim coat.	Boiler Room walls (E, S).	None Detected	NF	Non-ACM
S1.1*	Concrete. Newer. Separate from S1.1 above.	Boiler Storage, at N infill area.	None Detected	NF	Non-ACM

TABLE 1
Summary of Homogenous Areas of Suspect ACM
Limited Asbestos and Lead Coatings Inspection
Civic Center RTU Replacement
2 Park Drive South, Great Falls, MT 59401

HA Number	Material Description	Location[1]	Percent & Type of Asbestos[2]	In-Place Condition[3]	Anticipated Abatement Condition[4]
S3.1	CTU and mortar. Same as S3.1 above.	Walls and ceilings, variously throughout.	None Detected	NF	Non-ACM
S4.1	Tan brick inside boiler fire boxes. No mortar.	Boiler Room - N & S Boilers.	None Detected	NF	Non-ACM
S4.2	Red cementitious boiler fire box base material.	Boiler Room - N & S Boilers.	None Detected	NF	Non-ACM
S4.3	Tan brick and mortar. Newer, at infill areas.	Exterior, along N wall of Boiler Storage.	None Detected	NF	Non-ACM
S4.4	Tan brick and mortar. Original.	Exterior, throughout.	None Detected	NF	Non-ACM

Notes:

* - Some Homogeneous Area (HA) designations were inadvertently re-used during completion of the follow-up (Revision 1) portion of the assessment, completed within the Basement Boiler Room and adjoining areas. The duplicated HA designations are left as-is in order to match the designations in the corresponding Revision 1 laboratory analytical report.

1 - Location/room designations were assigned primarily by the architect and were included on diagrams provided by the architect. In some cases, additional designations were arbitrarily assigned by AWS at the time of inspection. Where present, fractions indicate the quantity of material in a given room or area; likewise, whole numbers in parentheses indicate the number of components in a given room/space.

2 - The percentage of asbestos is reported based on PLM analysis using the EPA Method 600/R-93/116, with a limit of detection (LOD) of 1% by volume. When preliminary data indicate asbestos is present in a material at a concentration below the LOD, additional analysis was performed using the 400 Point Count stipulation of the EPA method or using TEM bulk analysis, with a LOD of 0.25%.

3 - The In-Place Condition for each material was determined in the field by AWS's Montana-Accredited Asbestos Inspector(s). Materials are classified as either "F" for "friable" or "NF" for "non-friable" based on their *in-place* condition *at the time of the assessment*, in accordance with the Montana Department of Environmental Quality (DEQ) definitions for the respective terms.

4 - The Anticipated Abatement Condition is based on the National Emissions Standards for Hazardous Air Pollutants (NESHAP) definitions for Category I (non-friable), Category II (non-friable), and Regulated Asbestos-Containing Material (RACM; friable) which have been adopted by the DEQ. For the purpose of this report, the Anticipated Abatement Condition represents the anticipated condition of the material *during removal.* These determinations have been made by AWS based on the in-place condition and the professional experience and judgment of AWS's industrial hygienists. Materials determined to contain less than one percent (1%) asbestos are non-asbestos-containing materials (Non-ACM) unless noted otherwise. Non-ACM determined to be contaminated by ACM is classified in the same manner as the ACM it is contaminated by.

Blue shading indicates the material contains (or has been assumed to contain) more than 1% asbestos and is therefore an asbestos-containing material (ACM). This includes non-ACM which has been determined or assumed to be contaminated by ACM.

Brown shading indicates the material contains a detectable concentration of asbestos less than 1%. Removal and transport of the material are not regulated by the DEQ or the Environmental Protection Agency (EPA); however, the Occupational Safety and Health Administration (OSHA) regulates worker protection during removal. Disposal of materials containing any concentration of asbestos is regulated by DEQ.

AIR WATER SOIL

TABLE 2

Summary of Suspect Lead-Containing Coatings

Limited Asbestos and Lead Coatings Inspection
Civic Center RTU Replacement
2 Park Drive South, Great Falls, MT 59401

HA Number	Material Description	Material Location[1]	Testing Sequence[2]	Lead Concentration[3]
Original RTU Inspection - Completed 11-29-2022				
Pb-01	Cream paint on plaster.	Walls: Coat Room, Catering, Missouri Room, 1st Floor halls.	5, 14, 19	0.30
Pb-02	Beige paint on large brick formed plaster.	Walls: Commission Chamber, lobbies.	6, 23	0.22
Pb-03	Tan paint on plaster.	Walls: Auditorium.	7	0.19
Pb-04	Cream paint on plaster.	Walls: Auditorium.	8	0.61
Pb-05	Cream paint on plaster.	Crown mold: Auditorium	9	0.05
Pb-06	Brown/orange paint on plaster.	Beam above drop-ceiling in Commission Chamber.	10	3.77
Pb-07	Gold paint on plaster.	Crown mold: Above drop-ceiling in Commission Chamber.	11	0.25
Pb-08	White paint on wood-fiber ceiling tiles. (Includes brown-over-white edge trim ceiling tiles).	Ceiling: Commission Chamber, Auditorium. (Presumed throughout).	12, 13	0.30
Pb-09	White paint on plaster.	Ceiling: 1st Floor hall.	15, 18	0.01
Pb-10	White paint on wood.	Crown mold: 1st Floor hall.	16, 17	0.26
Pb-11	Olive green paint on structural steel.	Over auditorium (access from Gibson Room west wall).	20	3.18
Pb-12	Tan/orange paint on structural steel.	Over auditorium (access from Gibson Room west wall.	21	1.43
Pb-13	White paint on plaster.	Walls: Gibson Room.	22	0.13
Pb-14	Olive green paint on plaster.	Prosecutors Office 1-3.	32, 33	0.20

AIR WATER SOIL

TABLE 2
Summary of Suspect Lead-Containing Coatings
Limited Asbestos and Lead Coatings Inspection
Civic Center RTU Replacement
2 Park Drive South, Great Falls, MT 59401

HA Number	Material Description	Material Location[1]	Testing Sequence[2]	Lead Concentration[3]
Pb-15	Olive green paint on GWB.	Prosecutors Offices 1-3.	28, 29	0.07
Pb-16	Olive green paint on wood panel.	Prosecutors Offices 1-2.	30, 31	0.00
Pb-17	Dark stain on wood trim.	Prosecutors Office 1.	34, 35	0.20
Pb-18	White paint on plaster.	Prosecutors Office Storage 4.	36, 37	0.12
Additional Boiler Room Areas Inspection - Completed 1-9-2023 (Revision 1 Scope of Work)				
Pb-19	White paint on GWB wall.	File Storage.	7	0.07
Pb-20	White paint on metal duct.	File Storage.	8	0.04
Pb-21	White paint on brick walls.	File Storage.	9	-0.02
Pb-22	White paint on wood window case.	File Storage.	10	-0.01
Pb-23	White paint on clay tile unit (CTU) ceiling.	File Storage.	11	0.06
Pb-24	White paint on wood beam.	File Storage.	12	0.04
Pb-25	Tan paint on plaster walls/ceilings.	Cleaning Storage.	13	0.04
Pb-26	Silver paint on concrete walls/ceiling.	Boiler Storage.	14	0.02
Pb-27	Gray paint on concrete wall.	Boiler Storage.	15	0.05
Pb-28	White paint on concrete wall.	Boiler Storage (W).	16	0.25

AIR WATER SOIL

TABLE 2
Summary of Suspect Lead-Containing Coatings
Limited Asbestos and Lead Coatings Inspection
Civic Center RTU Replacement
2 Park Drive South, Great Falls, MT 59401

HA Number	Material Description	Material Location[1]	Testing Sequence[2]	Lead Concentration[3]
Pb-29	Green paint on wood slats at ceiling.	Boiler Storage (W).	17	0.03
Pb-30	Silver paint on wood shelf/bench.	Boiler Storage (W).	18	0.07
Pb-31	Red paint on wood shelf/bench.	Boiler Storage (W).	19	0.18
Pb-32	Blue paint on metal tank and piping.	Boiler Room, N of N boiler.	20	0.04
Pb-33	Gray paint on wood cabinet.	Boiler room (E).	21	3.43
Pb-34	Black paint on metal breaching.	Boiler Room (W).	22	0.18
Pb-35	Tan paint on metal boiler component.	Boiler Room - N & S Boilers.	23	0.11
Pb-36	Gray paint on metal electrical panels.	Boiler Room (E/SE).	24	0.07
Pb-37	Gray paint on wood	Boiler Storage.	25	0.06
Pb-38	Gray paint on GWB.	Doorway between Boiler Room and Boiler Storage.	26	0.11
Pb-39	Dark stain on wood paneling.	Doorway between Boiler Room and Boiler Storage.	27	0.05
Pb-40	Black paint on metal boiler components.	Boiler Room - N & S Boilers.	32, 33	0.07
Pb-41	Black paint on metal piping.	Boiler Room - behind N & S boilers.	34	0.20
Pb-42	Blue paint on metal valve.	Boiler Room - behind N & S boilers.	35	0.03
Pb-43	Tan paint on plaster ceiling.	Cleaning Storage.	36	0.04

TABLE 2
Summary of Suspect Lead-Containing Coatings
Limited Asbestos and Lead Coatings Inspection
Civic Center RTU Replacement
2 Park Drive South, Great Falls, MT 59401

Notes:

1 - Location/room designations were assigned primarily by the architect and were included on diagrams provided by the architect. In some cases, additional designations were arbitrarily assigned by AWS at the time of inspection. Where present, fractions indicate the quantity of material in a given room or area; likewise, whole numbers in parentheses indicate the number of components in a given room/space.

2 - Test locations are identified by their sequence and are illustrated on Figures 4-5 of this report. Tests 1-4, 24-27, and 38-39 from the initial assessment (11-29-2022) were calibration tests and are therefore excluded. Test 1-6, 28-31, and 37-38 from the additional Boiler Room Areas assessment (1-9-2023) were also calibration test and were therefore excluded. Tests discarded by the inspector in the field due to slipping or inadvertent actuation of the instrument switch are excluded. Each discarded shot (if any) is replaced by at least 1 valid test in the field. There were no discarded tests for this assessment.

3 - Lead concentrations are given in milligrams of lead per square centimeter of sampled surface area (mg/cm^2) as determined using an x-ray fluorescence (XRF) analyzer. Lead concentrations are reported following guidance from the XRF manufacturer in order to maintain compliance with the instrument's Performance Characteristic Sheet (PCS) and US Department of Housing and Urban Development (HUD) Chapter 7 requirements for substrate correction. In some cases, this includes reporting negative lead concentration values. When a homogeneous area (HA) of paint was tested in multiple areas, the highest resulting lead concentration was reported.

Indicates the lead concentration of the HA was determined to be between 0.10 and 0.99 mg/cm^2. Although the concentration is below the HUD criterion of 1.0 mg/cm^2, the paint is still considered to be lead-containing paint (LCP), and disturbance of the material may potentially result in a lead dust exposure hazard. The material may be transported and disposed as general construction debris, but it must be handled in accordance with Occupational Safety and Health Administration (OSHA) lead regulations.

Indicates the lead concentration of the HA was determined to be greater than or equal to the HUD criterion of 1.0 mg/cm^2; therefore, the material should be considered to be lead-based paint (LBP). Disturbance of the material may potentially result in a lead dust exposure hazard; the material must be handled in accordance with OSHA lead regulations. Disposal requirements will depend on how the material is removed (i.e., included with or segregated from the overall waste stream), in accordance with the Resource Conservation and Recovery Act (RCRA) requirement.

APPENDIX D

Analytical Reports

eurofins | CEI

December 8, 2022

Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

CLIENT PROJECT: Civic Center RTU, 22064
CEI LAB CODE: B2217104

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on December 1, 2022. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,

Tianbao Bai, Ph.D., CIH
Laboratory Director

NVLAP® TESTING
NVLAP LAB CODE 101768-0

eurofins | CEI

ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Air Water Soil LLC (AWS)

CLIENT PROJECT: Civic Center RTU, 22064

LAB CODE: B2217104

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 12/08/22

TOTAL SAMPLES ANALYZED: 60

SAMPLES >1% ASBESTOS:

730 SE Maynard Road • Cary, NC 27511 • 919.481.1413

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Civic Center RTU, 22064 **LAB CODE: B2217104**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
P1.1a		B2217104.01	Gray	Plaster	None Detected
P1.1b		B2217104.02	Gray	Plaster	None Detected
P1.1c		B2217104.03	Gray	Plaster	None Detected
C1.1a		B2217104.04	White,Gray	Ceiling Tile	None Detected
C1.1b		B2217104.05	White,Gray	Ceiling Tile	None Detected
C1.1c		B2217104.06	White,Gray	Ceiling Tile	None Detected
W1.1a		B2217104.07	Off-white,Beige	Wallpaper	None Detected
W1.1b		B2217104.08	Off-white,Beige	Wallpaper	None Detected
W1.1c		B2217104.09	Off-white,Beige	Wallpaper	None Detected
H1.1a		B2217104.10	Yellow,Gray	Flex Duct	None Detected
H1.1b		B2217104.11	Yellow,Gray	Flex Duct	None Detected
H1.1c		B2217104.12	Yellow,Gray	Flex Duct	None Detected
G1.1a		B2217104.13	Off-white,Tan	Gwb System	None Detected
G1.1b		B2217104.14	Off-white,Tan	Gwb System	None Detected
G1.1c		B2217104.15	Off-white,Tan	Gwb System	None Detected
G1.2a		B2217104.16	Off-white,Brown	Gwb System	None Detected
G1.2b		B2217104.17	Off-white,Brown	Gwb System	None Detected
G1.2c		B2217104.18	Off-white,Brown	Gwb System	None Detected
C1.2a		B2217104.19	Gray	Ceiling Tile	None Detected
C1.2b		B2217104.20	Gray	Ceiling Tile	None Detected
C1.2c		B2217104.21	Gray	Ceiling Tile	None Detected
H2.1a		B2217104.22	Yellow	Duct Seam Tape	None Detected
H2.1b		B2217104.23	Yellow	Duct Seam Tape	None Detected
H2.1c		B2217104.24	Yellow	Duct Seam Tape	None Detected
M4.1a		B2217104.25	Gray	Spray-on Fireproofing	None Detected
M4.1b		B2217104.26	Gray	Spray-on Fireproofing	None Detected
M4.1c		B2217104.27	Gray	Spray-on Fireproofing	None Detected
C3.1a		B2217104.28	Brown	Glue	None Detected
C3.1b		B2217104.29	Brown	Glue	None Detected
C3.1c		B2217104.30	Brown	Glue	None Detected
C2.1a		B2217104.31	Gray,Brown	Ceiling Tile	None Detected

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Civic Center RTU, 22064 **LAB CODE: B2217104**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
C2.1b		B2217104.32	Gray,Brown	Ceiling Tile	None Detected
C2.1c		B2217104.33	Gray,Brown	Ceiling Tile	None Detected
S3.1a	Layer 1	B2217104.34	Red	CTU	None Detected
	Layer 2	B2217104.34	Gray	Mortar	None Detected
S3.1b	Layer 1	B2217104.35	Red	CTU	None Detected
	Layer 2	B2217104.35	Gray	Mortar	None Detected
S3.1b	Layer 1	B2217104.36	Red	CTU	None Detected
	Layer 2	B2217104.36	Gray	Mortar	None Detected
F3.1a		B2217104.37A	Beige,Off-white	Vinyl Sheet Floor	None Detected
	Layer 1	B2217104.37B	Tan,Yellow	Mastic	None Detected
	Layer 2	B2217104.37B	Black	Mastic	None Detected
F3.1b		B2217104.38A	Beige,Off-white	Vinyl Sheet Floor	None Detected
	Layer 1	B2217104.38B	Tan,Yellow	Mastic	None Detected
	Layer 2	B2217104.38B	Black	Mastic	None Detected
F3.1c		B2217104.39A	Beige,Off-white	Vinyl Sheet Floor	None Detected
	Layer 1	B2217104.39B	Tan,Yellow	Mastic	None Detected
	Layer 2	B2217104.39B	Black	Mastic	None Detected
C1.3a		B2217104.40	Gray	Ceiling Tile	None Detected
C1.3b		B2217104.41	Gray	Ceiling Tile	None Detected
C1.3c		B2217104.42	Gray	Ceiling Tile	None Detected
G1.3a		B2217104.43	Off-white,Brown	Gwb System	None Detected
G1.3b		B2217104.44	Off-white,Brown	Gwb System	None Detected
G1.3c		B2217104.45	Off-white,Brown	Gwb System	None Detected
B1.1a		B2217104.46A	Beige	Vinyl Base Cove	None Detected
		B2217104.46B	Yellow,Tan	Adhesive	None Detected
B1.1b		B2217104.47A	Beige	Vinyl Base Cove	None Detected
		B2217104.47B	Yellow,Tan	Adhesive	None Detected
B1.1c		B2217104.48A	Beige	Vinyl Base Cove	None Detected
		B2217104.48B	Yellow,Tan	Adhesive	None Detected
F1.1a		B2217104.49A	Red,Gray	Carpet	None Detected
		B2217104.49B	Off-white,Gray	Adhesive	None Detected

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Civic Center RTU, 22064 **LAB CODE: B2217104**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
F1.1b		B2217104.50A	Red,Gray	Carpet	None Detected
		B2217104.50B	Off-white,Gray	Adhesive	None Detected
F1.1c		B2217104.51A	Red,Gray	Carpet	None Detected
		B2217104.51B	Off-white,Gray	Adhesive	None Detected
S1.1a		B2217104.52	Gray	Concrete	None Detected
S1.1b		B2217104.53	Gray	Concrete	None Detected
S1.1c		B2217104.54	Gray	Concrete	None Detected
W2.1a		B2217104.55	Brown	Wood Wall Panel	None Detected
W2.1b		B2217104.56	Brown	Wood Wall Panel	None Detected
W2.1c		B2217104.57	Brown	Wood Wall Panel	None Detected
I2.1a	Layer 1	B2217104.58	Black,Brown	Wrap	None Detected
	Layer 2	B2217104.58	Yellow	Batt Insulation	None Detected
I2.1b	Layer 1	B2217104.59	Black,Brown	Wrap	None Detected
	Layer 2	B2217104.59	Yellow	Batt Insulation	None Detected
I2.1c	Layer 1	B2217104.60	Black,Brown	Wrap	None Detected
	Layer 2	B2217104.60	Yellow	Batt Insulation	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
P1.1a B2217104.01	Plaster	Heterogeneous Gray Non-fibrous Bound			65% 5% 30%	Binder Paint Silicates	None Detected
P1.1b B2217104.02	Plaster	Heterogeneous Gray Non-fibrous Bound			65% 5% 30%	Binder Paint Silicates	None Detected
P1.1c B2217104.03	Plaster	Heterogeneous Gray Non-fibrous Bound			65% 5% 30%	Binder Paint Silicates	None Detected
C1.1a B2217104.04	Ceiling Tile	Heterogeneous White,Gray Fibrous Bound	15% 20% 15%	Fiberglass Cellulose Mineral Wool	25% 20% 5%	Binder Perlite Paint	None Detected
C1.1b B2217104.05	Ceiling Tile	Heterogeneous White,Gray Fibrous Bound	15% 20% 15%	Fiberglass Cellulose Mineral Wool	25% 20% 5%	Binder Perlite Paint	None Detected
C1.1c B2217104.06	Ceiling Tile	Heterogeneous White,Gray Fibrous Bound	15% 20% 15%	Fiberglass Cellulose Mineral Wool	25% 20% 5%	Binder Perlite Paint	None Detected
W1.1a B2217104.07	Wallpaper	Homogeneous Off-white,Beige Fibrous Bound	10% 25%	Cellulose Synthetic Fiber	65%	Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		 Non-Fibrous		ASBESTOS %
W1.1b B2217104.08	Wallpaper	Homogeneous Off-white,Beige Fibrous Bound	10% 25%	Cellulose Synthetic Fiber	65%	Binder	None Detected
W1.1c B2217104.09	Wallpaper	Homogeneous Off-white,Beige Fibrous Bound	10% 25%	Cellulose Synthetic Fiber	65%	Binder	None Detected
H1.1a B2217104.10	Flex Duct	Homogeneous Yellow,Gray Fibrous Loosely Bound	75% 20%	Fiberglass Mineral Wool	5%	Vinyl	None Detected
H1.1b B2217104.11	Flex Duct	Homogeneous Yellow,Gray Fibrous Loosely Bound	75% 20%	Fiberglass Mineral Wool	5%	Vinyl	None Detected
H1.1c B2217104.12	Flex Duct	Homogeneous Yellow,Gray Fibrous Loosely Bound	75% 20%	Fiberglass Mineral Wool	5%	Vinyl	None Detected
G1.1a B2217104.13	Gwb System	Heterogeneous Off-white,Tan Fibrous Bound	15% <1%	Cellulose Fiberglass	70% 10% 5%	Gypsum Binder Calc Carb	None Detected
G1.1b B2217104.14	Gwb System	Heterogeneous Off-white,Tan Fibrous Bound	15% <1%	Cellulose Fiberglass	70% 10% 5%	Gypsum Binder Calc Carb	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
G1.1c B2217104.15	Gwb System	Heterogeneous Off-white,Tan Fibrous Bound	15% <1%	Cellulose Fiberglass	70% 15%	Gypsum Binder	None Detected
G1.2a B2217104.16	Gwb System	Heterogeneous Off-white,Brown Fibrous Bound	20%	Cellulose	75% 5%	Gypsum Paint	None Detected
G1.2b B2217104.17	Gwb System	Heterogeneous Off-white,Brown Fibrous Bound	20%	Cellulose	75% 5%	Gypsum Paint	None Detected
G1.2c B2217104.18	Gwb System	Heterogeneous Off-white,Brown Fibrous Bound	20%	Cellulose	75% 5%	Gypsum Paint	None Detected
C1.2a B2217104.19	Ceiling Tile	Homogeneous Gray Fibrous Bound	45% 35% 10%	Fiberglass Mineral Wool Cellulose	10%	Binder	None Detected
C1.2b B2217104.20	Ceiling Tile	Homogeneous Gray Fibrous Bound	35% 45% 10%	Fiberglass Mineral Wool Cellulose	10%	Binder	None Detected
C1.2c B2217104.21	Ceiling Tile	Homogeneous Gray Fibrous Bound	35% 45% 10%	Fiberglass Mineral Wool Cellulose	10%	Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
H2.1a B2217104.22	Duct Seam Tape	Homogeneous Yellow Fibrous Bound	90%	Cellulose	10%	Binder	None Detected
H2.1b B2217104.23	Duct Seam Tape	Homogeneous Yellow Fibrous Bound	90%	Cellulose	10%	Binder	None Detected
H2.1c B2217104.24	Duct Seam Tape	Homogeneous Yellow Fibrous Bound	90%	Cellulose	10%	Binder	None Detected
M4.1a B2217104.25	Spray-on Fireproofing	Heterogeneous Gray Fibrous Loosely Bound	45% 45%	Fiberglass Mineral Wool	5% 5%	Calc Carb Binder	None Detected
M4.1b B2217104.26	Spray-on Fireproofing	Heterogeneous Gray Fibrous Loosely Bound	45% 45%	Fiberglass Mineral Wool	5% 5%	Calc Carb Binder	None Detected
M4.1c B2217104.27	Spray-on Fireproofing	Heterogeneous Gray Fibrous Loosely Bound	45% 45%	Fiberglass Mineral Wool	5% 5%	Calc Carb Binder	None Detected
C3.1a B2217104.28	Glue	Homogeneous Brown Non-fibrous Bound			100%	Mastic	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
C3.1b B2217104.29	Glue	Homogeneous Brown Non-fibrous Bound			100%	Mastic	None Detected
C3.1c B2217104.30	Glue	Homogeneous Brown Non-fibrous Bound			100%	Mastic	None Detected
C2.1a B2217104.31	Ceiling Tile	Heterogeneous Gray,Brown Fibrous Bound	25% 20% 20%	Cellulose Fiberglass Mineral Wool	10% 25%	Perlite Binder	None Detected
C2.1b B2217104.32	Ceiling Tile	Heterogeneous Gray,Brown Fibrous Bound	25% 20% 20%	Cellulose Fiberglass Mineral Wool	10% 20% 5%	Perlite Binder Paint	None Detected
C2.1c B2217104.33	Ceiling Tile	Heterogeneous Gray,Brown Fibrous Bound	25% 20% 20%	Cellulose Fiberglass Mineral Wool	10% 20% 5%	Perlite Binder Paint	None Detected
S3.1a Layer 1 B2217104.34	CTU	Homogeneous Red Non-fibrous Bound			60% 40%	Binder Silicates	None Detected
Layer 2 B2217104.34	Mortar	Homogeneous Gray Non-fibrous Bound			60% 20% 20%	Binder Silicates Calc Carb	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
S3.1b	CTU	Homogeneous			60%	Binder	None Detected
Layer 1		Red			40%	Silicates	
B2217104.35		Non-fibrous					
		Bound					
Layer 2	Mortar	Homogeneous			60%	Binder	None Detected
B2217104.35		Gray			20%	Silicates	
		Non-fibrous			20%	Calc Carb	
		Bound					
S3.1b	CTU	Homogeneous			60%	Binder	None Detected
Layer 1		Red			40%	Silicates	
B2217104.36		Non-fibrous					
		Bound					
Layer 2	Mortar	Homogeneous			60%	Binder	None Detected
B2217104.36		Gray			20%	Silicates	
		Non-fibrous			20%	Calc Carb	
		Bound					
F3.1a	Vinyl Sheet Floor	Heterogeneous	45%	Cellulose	45%	Vinyl	None Detected
B2217104.37A		Beige,Off-white			10%	Calc Carb	
		Fibrous					
		Bound					
Layer 1	Mastic	Homogeneous			100%	Mastic	None Detected
B2217104.37B		Tan,Yellow					
		Non-fibrous					
		Bound					
Layer 2	Mastic	Homogeneous			100%	Mastic	None Detected
B2217104.37B		Black					
		Non-fibrous					
		Bound					

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
F3.1b B2217104.38A	Vinyl Sheet Floor	Heterogeneous Beige,Off-white Fibrous Bound	45%	Cellulose	45% 10%	Vinyl Calc Carb	None Detected
Layer 1 B2217104.38B	Mastic	Homogeneous Tan,Yellow Non-fibrous Bound			100%	Mastic	None Detected
Layer 2 B2217104.38B	Mastic	Homogeneous Black Non-fibrous Bound			100%	Mastic	None Detected
F3.1c B2217104.39A	Vinyl Sheet Floor	Heterogeneous Beige,Off-white Fibrous Bound	45%	Cellulose	45% 10%	Vinyl Calc Carb	None Detected
Layer 1 B2217104.39B	Mastic	Homogeneous Tan,Yellow Non-fibrous Bound			100%	Mastic	None Detected
Layer 2 B2217104.39B	Mastic	Homogeneous Black Non-fibrous Bound			100%	Mastic	None Detected
C1.3a B2217104.40	Ceiling Tile	Heterogeneous Gray Fibrous Bound	40% 40%	Fiberglass Mineral Wool	15% 5%	Binder Metal Foil	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
C1.3b B2217104.41	Ceiling Tile	Heterogeneous Gray Fibrous Bound	40% 40%	Fiberglass Mineral Wool	15% 5%	Binder Metal Foil	None Detected
C1.3c B2217104.42	Ceiling Tile	Heterogeneous Gray Fibrous Bound	40% 40%	Fiberglass Mineral Wool	15% 5%	Binder Metal Foil	None Detected
G1.3a B2217104.43	Gwb System	Heterogeneous Off-white,Brown Fibrous Bound	20%	Cellulose	10% 65% 5%	Binder Gypsum Calc Carb	None Detected
G1.3b B2217104.44	Gwb System	Heterogeneous Off-white,Brown Fibrous Bound	20%	Cellulose	10% 65% 5%	Binder Gypsum Calc Carb	None Detected
G1.3c B2217104.45	Gwb System	Heterogeneous Off-white,Brown Fibrous Bound	20%	Cellulose	10% 65% 5%	Binder Gypsum Calc Carb	None Detected
B1.1a B2217104.46A	Vinyl Base Cove	Homogeneous Beige Non-fibrous Bound			100%	Vinyl	None Detected
B2217104.46B	Adhesive	Homogeneous Yellow,Tan Non-fibrous Bound			100%	Mastic	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous	NON-ASBESTOS COMPONENTS Non-Fibrous	ASBESTOS %
B1.1b B2217104.47A	Vinyl Base Cove	Homogeneous Beige Non-fibrous Bound		100% Vinyl	None Detected
B2217104.47B	Adhesive	Homogeneous Yellow,Tan Non-fibrous Bound		100% Mastic	None Detected
B1.1c B2217104.48A	Vinyl Base Cove	Homogeneous Beige Non-fibrous Bound		100% Vinyl	None Detected
B2217104.48B	Adhesive	Homogeneous Yellow,Tan Non-fibrous Bound		100% Mastic	None Detected
F1.1a B2217104.49A	Carpet	Homogeneous Red,Gray Fibrous Bound	100% Synthetic Fiber		None Detected
B2217104.49B	Adhesive	Homogeneous Off-white,Gray Non-fibrous Bound		100% Mastic	None Detected
F1.1b B2217104.50A	Carpet	Homogeneous Red,Gray Fibrous Bound	100% Synthetic Fiber		None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
B2217104.50B	Adhesive	Homogeneous Off-white,Gray Non-fibrous Bound			100%	Mastic	None Detected
F1.1c B2217104.51A	Carpet	Homogeneous Red,Gray Fibrous Bound	100%	Synthetic Fiber			None Detected
B2217104.51B	Adhesive	Homogeneous Off-white,Gray Non-fibrous Bound			100%	Mastic	None Detected
S1.1a B2217104.52	Concrete	Homogeneous Gray Non-fibrous Bound			60% 40%	Binder Silicates	None Detected
S1.1b B2217104.53	Concrete	Homogeneous Gray Non-fibrous Bound			60% 40%	Binder Silicates	None Detected
S1.1c B2217104.54	Concrete	Homogeneous Gray Non-fibrous Bound			60% 40%	Binder Silicates	None Detected
W2.1a B2217104.55	Wood Wall Panel	Heterogeneous Brown Fibrous Bound	95%	Cellulose	5%	Vinyl	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
W2.1b B2217104.56	Wood Wall Panel	Heterogeneous Brown Fibrous Bound	95%	Cellulose	5%	Vinyl	None Detected
W2.1c B2217104.57	Wood Wall Panel	Heterogeneous Brown Fibrous Bound	95%	Cellulose	5%	Vinyl	None Detected
I2.1a Layer 1 B2217104.58	Wrap	Heterogeneous Black,Brown Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
Layer 2 B2217104.58	Batt Insulation	Homogeneous Yellow Fibrous Bound	100%	Fiberglass			None Detected
I2.1b Layer 1 B2217104.59	Wrap	Heterogeneous Black,Brown Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
Layer 2 B2217104.59	Batt Insulation	Homogeneous Yellow Fibrous Bound	100%	Fiberglass			None Detected
I2.1c Layer 1 B2217104.60	Wrap	Heterogeneous Black,Brown Fibrous Bound	70%	Cellulose	30%	Tar	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B2217104
Date Received: 12-01-22
Date Analyzed: 12-05-22
Date Reported: 12-08-22

Project: Civic Center RTU, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous	Non-Fibrous	ASBESTOS %
Layer 2 B2217104.60	Batt Insulation	Homogeneous Yellow Fibrous Bound	100% Fiberglass		None Detected

eurofins | CEI

LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
Non-Trem = Non-Asbestiform Tremolite
Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. *Estimated measurement of uncertainty is available on request.*

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Information provided by customer includes customer sample ID and sample description.

ANALYST: Patrick Yarnell

APPROVED BY: Tianbao Bai, Ph.D., CIH
Laboratory Director

Scott Minyard

NVLAP® TESTING
NVLAP LAB CODE 101768-0

eurofins | CEI

CHAIN OF CUSTODY

60

730 SE Maynard Road, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

Fed Ex
8172-6381-4680

LAB USE ONLY:	
ECEI Lab Code:	B2217104
ECEI Lab I.D. Range:	

COMPANY INFORMATION	PROJECT INFORMATION
ECEI CLIENT #: 30887	Job Contact: J. Scott Vosen
Company: Air Water Soil, LLC	Email / Tel: scott@airwatersoil.us / 406-315-2201
Address: 1321 8th Avenue North, Suite 207	Project Name: Civic Center RTU
Great Falls, MT 59401	Project ID#: 22064
Email: scott@airwatersoil.us	PO #:
Tel: 406.315.2201 Fax:	STATE SAMPLES COLLECTED IN: MT

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600/R-93/116	☐	☐	☐	☐	☐	☒
PLM POINT COUNT (400)	EPA 600/R-93/116	☐	☐	☐	☐	☐	☐
PLM POINT COUNT (1000)	EPA 600/R-93/116	☐	☐	☐	☐	☐	☐
PLM GRAV w POINT COUNT	EPA 600/R-93/116		☐	☐	☐	☐	☐
PLM BULK	CARB 435		☐	☐	☐	☐	☐
PCM AIR*	NIOSH 7400	☐	☐	☐	☐	☐	☐
TEM AIR	EPA AHERA	☐	☐	☐	☐	☐	☐
TEM AIR	NIOSH 7402	☐	☐	☐	☐	☐	☐
TEM AIR (PCME)	ISO 10312	☐	☐	☐	☐	☐	☐
TEM AIR	ASTM 6281-15	☐	☐	☐	☐	☐	☐
TEM BULK	CHATFIELD / EPA 600/R-93/116 Sec. 2.5.5.1		☐	☐	☐	☐	☐
TEM DUST WIPE	ASTM D6480-19	☐	☐	☐	☐	☐	☐
TEM DUST MICROVAC	ASTM D5755-09 (2014)	☐	☐	☐	☐	☐	☐
TEM SOIL	ASTM D7521-16			☐	☐	☐	☐
TEM VERMICULITE	CINCINNATI METHOD			☐	☐	☐	☐
TEM QUALITATIVE	IN-HOUSE METHOD		☐	☐	☐	☐	☐
OTHER:		☐	☐	☐	☐	☐	☐

**Blanks should be taken from the same sample lot as field samples.*

REMARKS / SPECIAL INSTRUCTIONS:
Standard postitive stop. When asbestos is present at < 1% by PLM, analyze by 400PC (nonfriable) or 400PC with gravimetric reduction (NOB). Use TEM Bulk for NOB floor tiles, per CEI recommendation. Please contact AWS before analyzing GWB via 400PC.

BMB Accept Samples
☐ Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
Nathan Vosen	11-30-2022	BMB	12/1 10:00

By submitting samples, you are agreeing to ECEI's Terms and Conditions.
Samples will be disposed of 30 days after analysis

Version: CCOC.01.20.1/2.LD

eurofins | CEI

SAMPLING FORM

COMPANY CONTACT INFORMATION	
Company: Air Water Soil, LLC	Job Contact: Scott Vosen
Project Name: Civic Center RTU	scott@airwatersoil.us
Project ID#: 22064	Tel: 406.315.2201

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
1 - P1.1a	Plaster Walls / ceilings		PLM ☒	TEM ☐
2 ↓ b	↓		PLM ☐	TEM ☐
3 c	↓		PLM ☐	TEM ☐
4 - C1.1a	2ft x 2ft ceiling tiles white		PLM ☐	TEM ☐
5 ↓ b	↓		PLM ☐	TEM ☐
6 ↓ c	↓		PLM ☐	TEM ☐
7 - W1.1a	Tan wallpaper rough		PLM ☐	TEM ☐
8 ↓ b	↓		PLM ☐	TEM ☐
9 c	↓		PLM ☐	TEM ☐
10 - H1.1a	Flex duct		PLM ☐	TEM ☐
11 ↓ b	↓		PLM ☐	TEM ☐
12 c	↓		PLM ☐	TEM ☐
13 - G1.1a	GWB system		PLM ☐	TEM ☐
14 ↓ b	↓		PLM ☐	TEM ☐
15 c	↓		PLM ☐	TEM ☐
16 - G1.2a	GWB system		PLM ☐	TEM ☐
17 ↓ b	↓		PLM ☐	TEM ☐
18 c	↓		PLM ☐	TEM ☐
19 - C1.2a	2ft x 2ft ceiling tile rough		PLM ☐	TEM ☐
20 ↓ b	↓		PLM ☐	TEM ☐
21 c	↓		PLM ☐	TEM ☐
22 - H2.1a	Duct seam tape		PLM ☐	TEM ☐
23 ↓ b	↓		PLM ☐	TEM ☐
24 c	↓		PLM ☐	TEM ☐
25 - M4.1a	Spray on fire proofing		PLM ☐	TEM ☐
26 ↓ b	↓		PLM ☐	TEM ☐
27 c	↓		PLM ☐	TEM ☐
28 - C3.1a	glue on ceiling tile		PLM ☐	TEM ☐
29 ↓ b	↓		PLM ☐	TEM ☐
30 ↓ c	↓		PLM ☐	TEM ☐

30

eurofins | CEI

SAMPLING FORM

COMPANY CONTACT INFORMATION	
Company: Air Water Soil, LLC	Job Contact: Scott Vosen
Project Name: Civic Center RTU	scott@airwatersoil.us
Project ID#: 22064	Tel: 406.315.2201

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
31 - C2.1a	2ft x 4ft Ceiling tile white		PLM ☒	TEM ☐
32 ↓ b	↓		PLM ☐	TEM ☐
33 c			PLM ☐	TEM ☐
34 - S3.1 a	CTU + Morter		PLM ☐	TEM ☐
35 ↓ b	↓		PLM ☐	TEM ☐
36 c			PLM ☐	TEM ☐
37 - F3.1 a	Cream vinyl sheet floor		PLM ☐	TEM ☐
38 ↓ b	↓		PLM ☐	TEM ☐
39 c			PLM ☐	TEM ☐
40 - C1.3 a	2ft x 2ft ceiling tile smooth		PLM ☐	TEM ☐
41 ↓ b	↓		PLM ☐	TEM ☐
42 c			PLM ☐	TEM ☐
43 - G1.3 a	GWB system		PLM ☐	TEM ☐
44 ↓ b	↓		PLM ☐	TEM ☐
45 ↓ c			PLM ☐	TEM ☐
46 - B1.1 a	Cream vinyl base cove		PLM ☐	TEM ☐
47 ↓ b	↓		PLM ☐	TEM ☐
48 c			PLM ☐	TEM ☐
49 - F1.1 a	red carpet		PLM ☐	TEM ☐
50 ↓ b	↓		PLM ☐	TEM ☐
51 ↓ c			PLM ☐	TEM ☐
52 - S1.1 a	Concrete		PLM ☐	TEM ☐
53 ↓ b	↓		PLM ☐	TEM ☐
54 c			PLM ☐	TEM ☐
55 - W2.1 a	wood wall panel		PLM ☐	TEM ☐
56 ↓ b	↓		PLM ☐	TEM ☐
57 c			PLM ☐	TEM ☐
58 - I2.1 a	Fiberglass batt insulation		PLM ☐	TEM ☐
59 ↓ b	↓		PLM ☐	TEM ☐
60 ↓ c			PLM ☐	TEM ☐

eurofins | CEI

January 18, 2023

Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

CLIENT PROJECT: Civic Center RTU - Boiler Room, 22064
CEI LAB CODE: B230839

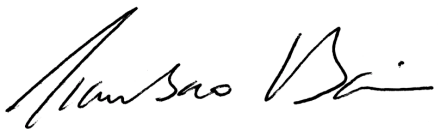
Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on January 11, 2023. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,



Tianbao Bai, Ph.D., CIH
Laboratory Director

NVLAP® TESTING
NVLAP LAB CODE 101768-0

eurofins | CEI

ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Air Water Soil LLC (AWS)

CLIENT PROJECT: Civic Center RTU - Boiler Room, 22064

LAB CODE: B230839

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 01/18/23

TOTAL SAMPLES ANALYZED: 59

SAMPLES >1% ASBESTOS: 4

730 SE Maynard Road • Cary, NC 27511 • 919.481.1413

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Civic Center RTU - Boiler Room, 22064 **LAB CODE: B230839**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
1-I1.1a		B230839.01	White	Fiberglass Insulation	None Detected
2-I1.1b		B230839.02	White	Fiberglass Insulation	None Detected
3-I1.1c		B230839.03	White	Fiberglass Insulation	None Detected
4-I3.1a	Layer 1	B230839.04	Yellow,White	Pipe Insulation Wrap	None Detected
	Layer 2	B230839.04	Yellow	Insulation	None Detected
5-I3.1b	Layer 1	B230839.05	Yellow,White	Pipe Insulation Wrap	None Detected
	Layer 2	B230839.05	Yellow	Insulation	None Detected
6-I3.1c	Layer 1	B230839.06	Yellow,White	Pipe Insulation Wrap	None Detected
	Layer 2	B230839.06	Yellow	Insulation	None Detected
7-M5.1a	Layer 1	B230839.07	Brown,Black	Paper	None Detected
	Layer 2	B230839.07	White	Mastic	None Detected
8-M5.1b	Layer 1	B230839.08	Brown,Black	Paper	None Detected
	Layer 2	B230839.08	White	Mastic	None Detected
9-M5.1c	Layer 1	B230839.09	Brown,Black	Paper	None Detected
	Layer 2	B230839.09	White	Mastic	None Detected
10-S4.1a		B230839.10	Tan	Brick	None Detected
11-S4.1b		B230839.11	Tan	Brick	None Detected
12-S4.1c		B230839.12	Tan	Brick	None Detected
13-S4.2a		B230839.13	Gray	Concrete	None Detected
14-S4.2b		B230839.14	Gray	Concrete	None Detected
15-S4.2c		B230839.15	Gray	Concrete	None Detected
16-M7.1a		B230839.16	Red	Gasket	None Detected
17-M7.1b		B230839.17	Red	Gasket	None Detected
18-M7.1c		B230839.18	Red	Gasket	None Detected
19-M7.2a		B230839.19	Off-white	Insulation	None Detected
20-M7.2b		B230839.20	Off-white	Insulation	None Detected
21-M7.2c		B230839.21	Off-white	Insulation	None Detected
22-I7.1a	Layer 1	B230839.22	Brown	Cork Pipe Insulation	None Detected
	Layer 2	B230839.22	Black	Tar	None Detected
23-I7.1b	Layer 1	B230839.23	Brown	Cork Pipe Insulation	None Detected
	Layer 2	B230839.23	Black	Tar	Chrysotile 5%

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Civic Center RTU - Boiler Room, 22064 **LAB CODE: B230839**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
24-I7.1c		B230839.24		Sample Not Analyzed per COC	
25-S1.1a		B230839.25	Gray	Infill Concrete	None Detected
26-S1.1b		B230839.26	Gray	Infill Concrete	None Detected
27-S1.1c		B230839.27	Gray	Infill Concrete	None Detected
28-P1.1a	Layer 1	B230839.28	White,Tan	Skim Coat	None Detected
	Layer 2	B230839.28	Gray	Plaster	None Detected
	Layer 3	B230839.28	Tan	Mud	None Detected
29-P1.1b	Layer 1	B230839.29	White,Tan	Skim Coat	None Detected
	Layer 2	B230839.29	Gray	Plaster	None Detected
30-P1.1c	Layer 1	B230839.30	White,Tan	Skim Coat	None Detected
	Layer 2	B230839.30	Gray	Plaster	None Detected
31-H1.1a	Layer 1	B230839.31	Gray,Clear	Flex Duct Wrap	None Detected
	Layer 2	B230839.31	Pink	Flex Duct Insulation	None Detected
32-H1.1b	Layer 1	B230839.32	Gray,Clear	Flex Duct Wrap	None Detected
	Layer 2	B230839.32	Pink	Flex Duct Insulation	None Detected
33-H1.1c	Layer 1	B230839.33	Gray,Clear	Flex Duct Wrap	None Detected
	Layer 2	B230839.33	Pink	Flex Duct Insulation	None Detected
34-I4.1a	Layer 1	B230839.34	Silver	Silver Paint	Chrysotile 2%
	Layer 2	B230839.34	Gray	Aircell Insulation	Chrysotile 55%
35-I4.1b		B230839.35		Sample Not Analyzed per COC	
36-I4.1c		B230839.36		Sample Not Analyzed per COC	
37-S4.3a	Layer 1	B230839.37	Gray	Infill Brick	None Detected
	Layer 2	B230839.37	Gray	Mortar	None Detected
38-S4.3b	Layer 1	B230839.38	Gray	Infill Brick	None Detected
	Layer 2	B230839.38	Gray	Mortar	None Detected
39-S4.3c	Layer 1	B230839.39	Gray	Infill Brick	None Detected
	Layer 2	B230839.39	Gray	Mortar	None Detected
40-S4.4a	Layer 1	B230839.40	Off-white	Brick	None Detected
	Layer 2	B230839.40	Gray	Mortar	None Detected
41-S4.4b	Layer 1	B230839.41	Off-white	Brick	None Detected
	Layer 2	B230839.41	Gray	Mortar	None Detected

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Civic Center RTU - Boiler Room, 22064 **LAB CODE: B230839**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
42-S4.4c	Layer 1	B230839.42	Off-white	Brick	None Detected
	Layer 2	B230839.42	Gray	Mortar	None Detected
44-S3.1d	Layer 1	B230839.43	Red	CTU	None Detected
	Layer 2	B230839.43	Gray	Mortar	None Detected
46-G1.1a		B230839.44	Off-white,Brown	Wallboard/Mud	None Detected
47-G1.1b		B230839.45	Off-white,Brown	Wallboard/Mud	None Detected
48-G1.1c		B230839.46	Off-white,Brown	Wallboard/Mud	None Detected
49-G1.2a		B230839.47	Brown,Gray	Wallboard	None Detected
50-G1.2b		B230839.48	Brown,Gray	Wallboard	None Detected
51-G1.2c		B230839.49	Brown,Gray	Wallboard	None Detected
52-M7.2a		B230839.50	Green	Gasket	None Detected
53-M7.2b		B230839.51	Green	Gasket	None Detected
54-M7.2c		B230839.52	Green	Gasket	None Detected
55-I4.2a	Layer 1	B230839.53	Tan,Blue	Mjf Wrap	None Detected
	Layer 2	B230839.53	Gray,Brown	Mjf Insulation	**Amosite 15% Chrysotile 5%**
56-I4.2b		B230839.54		Sample Not Analyzed per COC	
57-I4.2c		B230839.55		Sample Not Analyzed per COC	
58-C2.1a		B230839.56	White,Brown	Ceiling Tile	None Detected
59-C2.1b		B230839.57	White,Brown	Ceiling Tile	None Detected
60-C2.1c		B230839.58	White,Brown	Ceiling Tile	None Detected
61-I1.2a		B230839.59	Brown	Insulation	None Detected
62-I1.2b		B230839.60	Brown	Insulation	None Detected
63-I1.2		B230839.61	Brown	Insulation	None Detected
64-P1.2a		B230839.62	Gray	Plaster	None Detected
65-P1.2b		B230839.63	Gray	Plaster	None Detected
66-P1.2c		B230839.64	Gray	Plaster	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		NON-ASBESTOS COMPONENTS Non-Fibrous		ASBESTOS %
1-I1.1a B230839.01	Fiberglass Insulation	Homogeneous White Fibrous Loosely Bound	100%	Fiberglass			None Detected
2-I1.1b B230839.02	Fiberglass Insulation	Homogeneous White Fibrous Loosely Bound	100%	Fiberglass			None Detected
3-I1.1c B230839.03	Fiberglass Insulation	Homogeneous White Fibrous Loosely Bound	100%	Fiberglass			None Detected
4-I3.1a Layer 1 B230839.04	Pipe Insulation Wrap	Heterogeneous Yellow,White Fibrous Bound	15% 25%	Fiberglass Cellulose	10% 30% 20%	Paint Binder Metal Foil	None Detected
Layer 2 B230839.04	Insulation	Homogeneous Yellow Fibrous Loosely Bound	100%	Fiberglass			None Detected
5-I3.1b Layer 1 B230839.05	Pipe Insulation Wrap	Heterogeneous Yellow,White Fibrous Bound	15% 25%	Fiberglass Cellulose	10% 30% 20%	Paint Binder Metal Foil	None Detected
Layer 2 B230839.05	Insulation	Homogeneous Yellow Fibrous Loosely Bound	100%	Fiberglass			None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
6-I3.1c	Pipe Insulation Wrap	Heterogeneous	15%	Fiberglass	10%	Paint	None Detected
Layer 1		Yellow,White	25%	Cellulose	30%	Binder	
B230839.06		Fibrous			20%	Metal Foil	
		Bound					
Layer 2	Insulation	Homogeneous	100%	Fiberglass			None Detected
B230839.06		Yellow					
		Fibrous					
		Loosely Bound					
7-M5.1a	Paper	Heterogeneous	90%	Cellulose	10%	Paint	None Detected
Layer 1		Brown,Black					
B230839.07		Fibrous					
		Bound					
Layer 2	Mastic	Heterogeneous			5%	Paint	None Detected
B230839.07		White			95%	Mastic	
		Fibrous					
		Bound					
8-M5.1b	Paper	Heterogeneous	90%	Cellulose	10%	Paint	None Detected
Layer 1		Brown,Black					
B230839.08		Fibrous					
		Bound					
Layer 2	Mastic	Heterogeneous			5%	Paint	None Detected
B230839.08		White			95%	Mastic	
		Fibrous					
		Bound					
9-M5.1c	Paper	Heterogeneous	90%	Cellulose	10%	Paint	None Detected
Layer 1		Brown,Black					
B230839.09		Fibrous					
		Bound					

eurofins | CEI

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous	Non-Fibrous	ASBESTOS %
Layer 2 B230839.09	Mastic	Heterogeneous White Fibrous Bound	5% 95%	Paint Mastic	None Detected
10-S4.1a B230839.10	Brick	Homogeneous Tan Non-fibrous Tightly Bound	60% 40%	Binder Silicates	None Detected
11-S4.1b B230839.11	Brick	Homogeneous Tan Non-fibrous Tightly Bound	60% 40%	Binder Silicates	None Detected
12-S4.1c B230839.12	Brick	Homogeneous Tan Non-fibrous Tightly Bound	60% 40%	Binder Silicates	None Detected
13-S4.2a B230839.13	Concrete	Homogeneous Gray Non-fibrous Bound	60% 40%	Binder Silicates	None Detected
14-S4.2b B230839.14	Concrete	Homogeneous Gray Non-fibrous Bound	60% 40%	Binder Silicates	None Detected
15-S4.2c B230839.15	Concrete	Homogeneous Gray Non-fibrous Bound	60% 40%	Binder Silicates	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		NON-ASBESTOS COMPONENTS Non-Fibrous		ASBESTOS %
16-M7.1a B230839.16	Gasket	Homogeneous Red Non-fibrous Bound			50% 50%	Binder Calc Carb	None Detected
17-M7.1b B230839.17	Gasket	Homogeneous Red Non-fibrous Bound			50% 50%	Binder Calc Carb	None Detected
18-M7.1c B230839.18	Gasket	Homogeneous Red Non-fibrous Bound			50% 50%	Binder Calc Carb	None Detected
19-M7.2a B230839.19	Insulation	Homogeneous Off-white Fibrous Loose	100%	Fiberglass			None Detected
20-M7.2b B230839.20	Insulation	Homogeneous Off-white Fibrous Loose	100%	Fiberglass			None Detected
21-M7.2c B230839.21	Insulation	Homogeneous Off-white Fibrous Loose	100%	Fiberglass			None Detected
22-I7.1a Layer 1 B230839.22	Cork Pipe Insulation	Heterogeneous Brown Non-fibrous Bound			100% <1%	Cork Paint	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
Layer 2 B230839.22	Tar	Homogeneous Black Fibrous Bound	10%	Cellulose	90%	Tar	None Detected
23-I7.1b Layer 1 B230839.23	Cork Pipe Insulation	Heterogeneous Brown Non-fibrous Bound			100% <1%	Cork Paint	None Detected
Layer 2 B230839.23	Tar	Homogeneous Black Fibrous Bound	10%	Cellulose	85%	Tar	**5% Chrysotile**
24-I7.1c B230839.24	Sample Not Analyzed per COC						
25-S1.1a B230839.25	Infill Concrete	Homogeneous Gray Non-fibrous Tightly Bound			60% 40%	Binder Silicates	None Detected
26-S1.1b B230839.26	Infill Concrete	Homogeneous Gray Non-fibrous Tightly Bound			60% 40%	Binder Silicates	None Detected
27-S1.1c B230839.27	Infill Concrete	Homogeneous Gray Non-fibrous Tightly Bound			60% 40%	Binder Silicates	None Detected
28-P1.1a Layer 1 B230839.28	Skim Coat	Heterogeneous White,Tan Non-fibrous Bound			5% 55% 40%	Paint Binder Silicates	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
Layer 2 B230839.28	Plaster	Homogeneous Gray Non-fibrous Bound			60% 40%	Binder Silicates	None Detected
Layer 3 B230839.28	Mud	Homogeneous Tan Fibrous Bound	5%	Cellulose	55% 40%	Binder Calc Carb	None Detected
29-P1.1b Layer 1 B230839.29	Skim Coat	Heterogeneous White,Tan Non-fibrous Bound			5% 55% 40%	Paint Binder Silicates	None Detected
Layer 2 B230839.29	Plaster	Homogeneous Gray Non-fibrous Bound			60% 40%	Binder Silicates	None Detected
30-P1.1c Layer 1 B230839.30	Skim Coat	Heterogeneous White,Tan Non-fibrous Bound			5% 55% 40%	Paint Binder Silicates	None Detected
Layer 2 B230839.30	Plaster	Homogeneous Gray Non-fibrous Bound			60% 40%	Binder Silicates	None Detected
31-H1.1a Layer 1 B230839.31	Flex Duct Wrap	Homogeneous Gray,Clear Fibrous Bound	20%	Fiberglass	80%	Plastic	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
Layer 2 B230839.31	Flex Duct Insulation	Homogeneous Pink Fibrous Loosely Bound	100%	Fiberglass			None Detected
32-H1.1b Layer 1 B230839.32	Flex Duct Wrap	Homogeneous Gray,Clear Fibrous Bound	20%	Fiberglass	80%	Plastic	None Detected
Layer 2 B230839.32	Flex Duct Insulation	Homogeneous Pink Fibrous Loosely Bound	100%	Fiberglass			None Detected
33-H1.1c Layer 1 B230839.33	Flex Duct Wrap	Homogeneous Gray,Clear Fibrous Bound	20%	Fiberglass	80%	Plastic	None Detected
Layer 2 B230839.33	Flex Duct Insulation	Homogeneous Pink Fibrous Loosely Bound	100%	Fiberglass			None Detected
34-I4.1a Layer 1 B230839.34	Silver Paint	Homogeneous Silver Fibrous Bound			98%	Paint	**2% Chrysotile**
Layer 2 B230839.34	Aircell Insulation	Homogeneous Gray Fibrous Loosely Bound	10%	Cellulose	35%	Binder	**55% Chrysotile**
35-I4.1b B230839.35	Sample Not Analyzed per COC						

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous	Non-Fibrous		ASBESTOS %
36-I4.1c B230839.36	Sample Not Analyzed per COC					
37-S4.3a Layer 1 B230839.37	Infill Brick	Homogeneous Gray Non-fibrous Tightly Bound		60% 40%	Binder Silicates	None Detected
Layer 2 B230839.37	Mortar	Homogeneous Gray Non-fibrous Tightly Bound		60% 40%	Binder Silicates	None Detected
38-S4.3b Layer 1 B230839.38	Infill Brick	Homogeneous Gray Non-fibrous Tightly Bound		60% 40%	Binder Silicates	None Detected
Layer 2 B230839.38	Mortar	Homogeneous Gray Non-fibrous Tightly Bound		60% 40%	Binder Silicates	None Detected
39-S4.3c Layer 1 B230839.39	Infill Brick	Homogeneous Gray Non-fibrous Tightly Bound		60% 40%	Binder Silicates	None Detected
Layer 2 B230839.39	Mortar	Homogeneous Gray Non-fibrous Tightly Bound		60% 40%	Binder Silicates	None Detected
40-S4.4a Layer 1 B230839.40	Brick	Homogeneous Off-white Non-fibrous Tightly Bound		60% 40%	Binder Silicates	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous	Non-Fibrous	ASBESTOS %
Layer 2 B230839.40	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	60% 40%	Binder Silicates	None Detected
41-S4.4b Layer 1 B230839.41	Brick	Homogeneous Off-white Non-fibrous Tightly Bound	60% 40%	Binder Silicates	None Detected
Layer 2 B230839.41	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	60% 40%	Binder Silicates	None Detected
42-S4.4c Layer 1 B230839.42	Brick	Homogeneous Off-white Non-fibrous Tightly Bound	60% 40%	Binder Silicates	None Detected
Layer 2 B230839.42	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	60% 40%	Binder Silicates	None Detected
44-S3.1d Layer 1 B230839.43	CTU	Homogeneous Red Non-fibrous Tightly Bound	60% 40%	Binder Silicates	None Detected
Layer 2 B230839.43	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	60% 40%	Binder Silicates	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
46-G1.1a B230839.44	Wallboard/Mud	Heterogeneous Off-white,Brown Fibrous Bound	15%	Cellulose	70% 5% 10%	Calc Carb Silicates Calc Carb	None Detected
47-G1.1b B230839.45	Wallboard/Mud	Heterogeneous Off-white,Brown Fibrous Bound	15% 5%	Cellulose Fiberglass	65% 5% 10%	Calc Carb Silicates Calc Carb	None Detected
48-G1.1c B230839.46	Wallboard/Mud	Heterogeneous Off-white,Brown Fibrous Bound	15%	Cellulose	70% 5% 10%	Calc Carb Silicates Calc Carb	None Detected
49-G1.2a B230839.47	Wallboard	Heterogeneous Brown,Gray Fibrous Bound	20%	Cellulose	5% 75%	Paint Gypsum	None Detected
50-G1.2b B230839.48	Wallboard	Heterogeneous Brown,Gray Fibrous Bound	20%	Cellulose	5% 75%	Paint Gypsum	None Detected
51-G1.2c B230839.49	Wallboard	Heterogeneous Brown,Gray Fibrous Bound	20%	Cellulose	5% 75%	Paint Gypsum	None Detected
52-M7.2a B230839.50	Gasket	Homogeneous Green Fibrous Bound	5%	Wollastonite	95%	Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
53-M7.2b B230839.51	Gasket	Homogeneous Green Fibrous Bound	5%	Wollastonite	95%	Binder	None Detected
54-M7.2c B230839.52	Gasket	Homogeneous Green Fibrous Bound	5%	Wollastonite	95%	Binder	None Detected
55-I4.2a Layer 1 B230839.53	Mjf Wrap	Heterogeneous Tan,Blue Fibrous Bound	95%	Cellulose	5%	Paint	None Detected
Layer 2 B230839.53	Mjf Insulation	Heterogeneous Gray,Brown Fibrous Loosely Bound	10%	Cellulose	75%	Calc Carb	**15% Amosite 5% Chrysotile**
56-I4.2b B230839.54	Sample Not Analyzed per COC						
57-I4.2c B230839.55	Sample Not Analyzed per COC						
58-C2.1a B230839.56	Ceiling Tile	Heterogeneous White,Brown Fibrous Loosely Bound	30% 15% 15%	Cellulose Fiberglass Mineral Wool	10% 5% 25%	Perlite Paint Binder	None Detected
59-C2.1b B230839.57	Ceiling Tile	Heterogeneous White,Brown Fibrous Loosely Bound	30% 15% 15%	Cellulose Fiberglass Mineral Wool	10% 5% 25%	Perlite Paint Binder	None Detected

eurofins | CEI

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Air Water Soil LLC (AWS)
1321 8th Avenue, Suite 207
Great Falls, MT 59401

Lab Code: B230839
Date Received: 01-11-23
Date Analyzed: 01-16-23
Date Reported: 01-18-23

Project: Civic Center RTU - Boiler Room, 22064

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		 Non-Fibrous		ASBESTOS %
60-C2.1c B230839.58	Ceiling Tile	Heterogeneous White,Brown Fibrous Loosely Bound	30% 15% 15%	Cellulose Fiberglass Mineral Wool	10% 5% 25%	Perlite Paint Binder	None Detected
61-I1.2a B230839.59	Insulation	Homogeneous Brown Fibrous Loosely Bound	100%	Fiberglass			None Detected
62-I1.2b B230839.60	Insulation	Homogeneous Brown Fibrous Loosely Bound	100%	Fiberglass			None Detected
63-I1.2 B230839.61	Insulation	Homogeneous Brown Fibrous Loosely Bound	100%	Fiberglass			None Detected
64-P1.2a B230839.62	Plaster	Homogeneous Gray Non-fibrous Tightly Bound			60% 40%	Binder Silicates	None Detected
65-P1.2b B230839.63	Plaster	Homogeneous Gray Non-fibrous Tightly Bound			60% 40%	Binder Silicates	None Detected
66-P1.2c B230839.64	Plaster	Homogeneous Gray Non-fibrous Tightly Bound			60% 40%	Binder Silicates	None Detected

eurofins | CEI

LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
Non-Trem = Non-Asbestiform Tremolite
Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. *Estimated measurement of uncertainty is available on request.*

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Information provided by customer includes customer sample ID and sample description.

ANALYST: Patrick Yarnell

APPROVED BY: Tianbao Bai, Ph.D., CIH
Laboratory Director

Scott Minyard

NVLAP® TESTING
NVLAP LAB CODE 101768-0

(64)

eurofins | CEI

CHAIN OF CUSTODY

730 SE Maynard Road, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

Fed Ex
8172-6381-4657

LAB USE ONLY:
ECEI Lab Code: B230839
ECEI Lab I.D. Range:

COMPANY INFORMATION	PROJECT INFORMATION
ECEI CLIENT #: 30887	Job Contact: J. Scott Vosen
Company: Air Water Soil, LLC	Email / Tel: scott@airwatersoil.us / 406-315-2201
Address: 1321 8th Avenue North, Suite 207	Project Name: Civic Center RTU - Boiler Room
Great Falls, MT 59401	Project ID#: 22064
Email: scott@airwatersoil.us	PO #:
Tel: 406.315.2201 Fax:	STATE SAMPLES COLLECTED IN: MT

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600/R-93/116	☐	☐	☐	☐	☐	☒
PLM POINT COUNT (400)	EPA 600/R-93/116	☐	☐	☐	☐	☐	☐
PLM POINT COUNT (1000)	EPA 600/R-93/116	☐	☐	☐	☐	☐	☐
PLM GRAV w POINT COUNT	EPA 600/R-93/116		☐	☐	☐	☐	☐
PLM BULK	CARB 435		☐	☐	☐	☐	☐
PCM AIR*	NIOSH 7400	☐	☐	☐	☐	☐	☐
TEM AIR	EPA AHERA	☐	☐	☐	☐	☐	☐
TEM AIR	NIOSH 7402	☐	☐	☐	☐	☐	☐
TEM AIR (PCME)	ISO 10312	☐	☐	☐	☐	☐	☐
TEM AIR	ASTM 6281-15	☐	☐	☐	☐	☐	☐
TEM BULK	CHATFIELD / EPA 600/R-93/116 Sec. 2.5.5.1		☐	☐	☐	☐	☐
TEM DUST WIPE	ASTM D6480-19	☐	☐	☐	☐	☐	☐
TEM DUST MICROVAC	ASTM D5755-09 (2014)	☐	☐	☐	☐	☐	☐
TEM SOIL	ASTM D7521-16			☐	☐	☐	☐
TEM VERMICULITE	CINCINNATI METHOD			☐	☐	☐	☐
TEM QUALITATIVE	IN-HOUSE METHOD		☐	☐	☐	☐	☐
OTHER:		☐	☐	☐	☐	☐	☐

Blanks should be taken from the same sample lot as field samples.

REMARKS / SPECIAL INSTRUCTIONS:
Standard postitive stop. When asbestos is present at < 1% by PLM, analyze by 400PC (nonfriable) or 400PC with gravimetric reduction (NOB). Use TEM Bulk for NOB floor tiles, per CEI recommendation. Please contact AWS before analyzing GWB via 400PC.

☒ Accept Samples
☐ Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
Nathan Vosen	01-10-23 8:15	fw	1/11/23 9:50am

By submitting samples, you are agreeing to ECEI's Terms and Conditions.
Samples will be disposed of 30 days after analysis

Version: CCOC.01.20.1/2.LD

8172 6381 4657

eurofins | CEI

SAMPLING FORM

COMPANY CONTACT INFORMATION	
Company: Air Water Soil, LLC	Job Contact: Scott Vosen
Project Name: Civic Center RTU - Boiler Room	scott@airwatersoil.us
Project ID#: 22064	Tel: 406.315.2201

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
1 - I 1.1 a	Fiberglass insulation		PLM ☒	TEM ☐
2 ↓ b	↓		PLM ☐	TEM ☐
3 c			PLM ☐	TEM ☐
4 - I 3.1 a	Fiberglass pipe insulation		PLM ☐	TEM ☐
5 ↓ b	↓		PLM ☐	TEM ☐
6 c			PLM ☐	TEM ☐
7 - M 5.1 a	paper + mastic		PLM ☐	TEM ☐
8 ↓ b	↓		PLM ☐	TEM ☐
9 c			PLM ☐	TEM ☐
10 - S 4.1 a	Brick		PLM ☐	TEM ☐
11 ↓ b	↓		PLM ☐	TEM ☐
12 c			PLM ☐	TEM ☐
13 - S 4.2 a	Concrete		PLM ☐	TEM ☐
14 ↓ b	↓		PLM ☐	TEM ☐
15 c			PLM ☐	TEM ☐
16 - M 7.1 a	red gasket		PLM ☐	TEM ☐
17 ↓ b	↓		PLM ☐	TEM ☐
18 c			PLM ☐	TEM ☐
19 - M 7.2 a	Rope gasket		PLM ☐	TEM ☐
20 ↓ b	↓		PLM ☐	TEM ☐
21 c			PLM ☐	TEM ☐
22 - I 7.1 a	Cork pipe insulation		PLM ☐	TEM ☐
23 ↓ b	↓		PLM ☐	TEM ☐
24 c			PLM ☐	TEM ☐
25 - S 1.1 a	infill concrete		PLM ☐	TEM ☐
26 ↓ b	↓		PLM ☐	TEM ☐
27 c			PLM ☐	TEM ☐
28 - P 1.1 a	plaster + white skim coat		PLM ☐	TEM ☐
29 ↓ b	↓		PLM ☐	TEM ☐
30 c			PLM ☐	TEM ☐

.24

eurofins | CEI

SAMPLING FORM

COMPANY CONTACT INFORMATION	
Company: Air Water Soil, LLC	Job Contact: Scott Vosen
Project Name: Civic Center RTU - Boiler Room	scott@airwatersoil.us
Project ID#: 22064	Tel: 406.315.2201

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
31 - H1.1 a	Flex duct		PLM ☒	TEM ☐
32 ↓ b	↓		PLM ☐	TEM ☐
33 ↓ c	↓		PLM ☐	TEM ☐
34 - I4.1 a	aircell		PLM ☐	TEM ☐
35 ↓ b	↓		PLM ☐	TEM ☐
.36 36 ↓ c	↓		PLM ☐	TEM ☐
37 - S4.3 a	infill brick + morter		PLM ☐	TEM ☐
38 ↓ b	↓		PLM ☐	TEM ☐
39 ↓ c	↓		PLM ☐	TEM ☐
40 - S4.4 a	brick + morter		PLM ☐	TEM ☐
41 ↓ b	↓		PLM ☐	TEM ☐
42 ↓ c	↓		PLM ☐	TEM ☐
.43 44 - S3.1 d	CTU + Morter		PLM ☐	TEM ☐
46 - G1.1 a	GWB system		PLM ☐	TEM ☐
47 ↓ b	↓		PLM ☐	TEM ☐
48 ↓ c	↓		PLM ☐	TEM ☐
49 - G1.2 a	GWB		PLM ☐	TEM ☐
50 ↓ b	↓		PLM ☐	TEM ☐
51 ↓ c	↓		PLM ☐	TEM ☐
52 - M7.2 a	green gasket		PLM ☐	TEM ☐
53 ↓ b	↓		PLM ☐	TEM ☐
54 ↓ c	↓		PLM ☐	TEM ☐
55 - I4.2 a	MJF		PLM ☐	TEM ☐
56 ↓ b	↓		PLM ☐	TEM ☐
57 ↓ c	↓		PLM ☐	TEM ☐
58 - C2.1 a	white lay-in ceiling tile		PLM ☐	TEM ☐
59 ↓ b	↓		PLM ☐	TEM ☐
60 ↓ c	↓		PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐

eurofins | CEI

SAMPLING FORM

COMPANY CONTACT INFORMATION	
Company: Air Water Soil, LLC	Job Contact: Scott Vosen
Project Name: Civic Center RTU - Boiler Room	scott@airwatersoil.us
Project ID#: 22064	Tel: 406.315.2201

-64

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
61 - I 1.2 a	Fiberglass insulation		PLM ☒	TEM ☐
62 ↓ b	↓		PLM ↓	TEM ☐
63 ↓ c			PLM ↓	TEM ☐
64 - P 1.2 a	Plaster		PLM ↓	TEM ☐
65 ↓ b			PLM ↓	TEM ☐
66 ↓ c			PLM ↓	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐

Version: CCOC.01.20.2/2.LD

Company Viken Detection
Model Pb200i
Type XRF Lead Paint Analyzer
Serial Num. 3161
App Version Pb200i-5.2.0

Reading #	Pb Conc.	Units	3 SD	NomSecs	Date	Component	Substrate	Color	Insp.
1	1.04	mg/cm^2	0.14	5.04	1/9/2023	NIST STANDARD 0.8-1.2			NSV
2	1.04	mg/cm^2	0.14	5.07	1/9/2023	NIST STANDARD 0.8-1.2			NSV
3	0.98	mg/cm^2	0.14	5.1	1/9/2023	NIST STANDARD 0.8-1.2			NSV
4	0.01	mg/cm^2	0.14	5.17	1/9/2023	NIST STANDARD BLANK			NSV
5	0	mg/cm^2	0.14	5.03	1/9/2023	NIST STANDARD BLANK			NSV
6	-0.01	mg/cm^2	0.14	5.17	1/9/2023	NIST STANDARD BLANK			NSV
7	0.07	mg/cm^2	0.14	5.09	1/9/2023	Wall	GWB	White	NSV
8	0.04	mg/cm^2	0.14	5.01	1/9/2023	Duct	Metal	White	NSV
9	-0.02	mg/cm^2	0.14	5.09	1/9/2023	Duct	Metal	White	NSV
10	-0.01	mg/cm^2	0.14	5.08	1/9/2023	Window Case	Wood	White	NSV
11	0.06	mg/cm^2	0.14	5.03	1/9/2023	Window Case	Wood	White	NSV
12	0.04	mg/cm^2	0.16	3.81	1/9/2023	Window Case	Wood	White	NSV
13	0.04	mg/cm^2	0.14	5.17	1/9/2023	Wall	Plaster	Tan	NSV
14	0.02	mg/cm^2	0.14	5.08	1/9/2023	Wall	Concrete	Silver	NSV
15	0.05	mg/cm^2	0.14	5.07	1/9/2023	Wall	Concrete	Gray	NSV
16	0.25	mg/cm^2	0.14	5.05	1/9/2023	Wall	Concrete	White	NSV
17	0.03	mg/cm^2	0.14	5.22	1/9/2023	Ceiling	Wood	Green	NSV
18	0.07	mg/cm^2	0.14	5.01	1/9/2023	Wall	Wood	Silver	NSV
19	0.18	mg/cm^2	0.14	5.26	1/9/2023	Shelf	Wood	Red	NSV
20	0.04	mg/cm^2	0.14	5.2	1/9/2023	Radiator	Metal	Blue-Lt	NSV
21	3.43	mg/cm^2	0.14	5.02	1/9/2023	Cabinet	Wood	Gray	NSV
22	0.18	mg/cm^2	0.14	5.02	1/9/2023	Duct	Metal	Black	NSV
23	0.11	mg/cm^2	0.14	5.12	1/9/2023	Radiator	Metal	Tan	NSV
24	0.07	mg/cm^2	0.14	5.13	1/9/2023	Shelf	Metal	Gray	NSV
25	0.06	mg/cm^2	0.14	5.24	1/9/2023	Wall	Wood	Gray	NSV
26	0.11	mg/cm^2	0.14	5.22	1/9/2023	Wall	GWB	Gray	NSV
27	0.05	mg/cm^2	0.14	5.21	1/9/2023	Wall	Wood	Stain-Dk	NSV
28	1.01	mg/cm^2	0.14	5.17	1/9/2023	NIST STANDARD 0.8-1.2			NSV
29	-0.01	mg/cm^2	0.14	5.05	1/9/2023	NIST STANDARD BLANK			NSV
30	0.98	mg/cm^2	0.14	5.09	1/9/2023	NIST STANDARD 0.8-1.2			NSV
31	0.01	mg/cm^2	0.14	5.06	1/9/2023	NIST STANDARD BLANK			NSV
32	0.01	mg/cm^2	0.22	2	1/9/2023	Pipe	Metal	Black	NSV
33	0.07	mg/cm^2	0.14	5.03	1/9/2023	Pipe	Metal	Black	NSV
34	0.2	mg/cm^2	0.14	5.1	1/9/2023	Pipe	Metal	Black	NSV
35	0.03	mg/cm^2	0.14	5.17	1/9/2023	Pipe	Metal	Blue	NSV
36	0.04	mg/cm^2	0.14	5.01	1/9/2023	Ceiling	Plaster	Tan	NSV
37	0.98	mg/cm^2	0.14	5.14	1/9/2023	NIST STANDARD 0.8-1.2			NSV
38	-0.01	mg/cm^2	0.14	5.09	1/9/2023	NIST STANDARD BLANK			NSV

Performance Characteristic Sheet

EFFECTIVE DATE: **December 1, 2015**

MANUFACTURER AND MODEL:

Make: ***Heuresis***
Models: ***Model Pb200i***
Source: ***^{57}Co, 5 mCi (nominal – new source)***

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Action Level mode

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

ACTION LEVEL MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Results not corrected for substrate bias on any substrate	Brick Concrete Drywall Metal Plaster Wood	1.0 1.0 1.0 1.0 1.0 1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated using test results on building components in the HUD archive. Testing was conducted on 146 test samples in November 2015, with two separate instruments running software version 2.1-2 in Action Level test mode. The actual source strength of each instrument on the day of testing was approximately 2.0 mCi; source ages were approximately one year.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If the average (rounded to 1 decimal place) of three readings is outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

> Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.
>
> Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.
>
> <u>For each substrate type</u> (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):
>
> Correction value = (1st + 2nd + 3rd + 4th + 5th + 6th *Reading*)/6 - 1.02 mg/cm^2
>
> Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and the retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF readings.

Compute the average of all ten re-test XRF readings.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

In the Action Level paint test mode, the instrument takes the longest time to complete readings close to the Federal standard of 1.0 mg/cm^2. The table below shows the mean and standard deviation of actual reading times by reading level for paint samples during the November 2015 archive testing. The tested instruments reported readings to one decimal place. No significant differences in reading times by substrate were observed. These times apply only to instruments with the same source strength as those tested (2.0 mCi). Instruments with stronger sources will have shorter reading times and those with weaker sources, longer reading times, than those in the table.

Mean and Standard Deviation of Reading Times in Action Level Mode by Reading Level		
Reading (mg/cm^2)	**Mean Reading Time (seconds)**	**Standard Deviation (seconds)**
< 0.7	3.48	0.47
0.7	7.29	1.92
0.8	13.95	1.78
0.9 – 1.2	15.25	0.66
1.3 – 1.4	6.08	2.50
≥ 1.5	3.32	0.05

CLASSIFICATION OF RESULTS:

XRF results are classified as **positive** if they are **greater than or equal** to the stated threshold for the instrument (1.0 mg/cm^2), and *negative* if they are *less than* the threshold.

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. The report may be downloaded at http://www2.epa.gov/lead/methodology-xrf-performance-characteristic-sheets-epa-747-r-95-008-september-1997.

This XRF Performance Characteristic Sheet (PCS) was developed by QuanTech, Inc., under a contract with the XRF manufacturer.

1 A102 SECOND FLOOR PLAN

1/8" = 1'-0"

1000 500 0 8 16

SCALE IN MM SCALE IN FEET

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

NORTH REF

DEMO KEYNOTES

8. CONTRACTOR TO CUT A PORTION OF WALL TO ALLOW PLUMBING OF HVAC UNITS, RE: MECH DWGS. PATCH AND PAINT TO MATCH EXISTING AFTER INSTALLATION.

Cushing Terrell.
cushingterrell.com
800.757.9522

CITYGFCC_RTU*
CITY OF GREAT FALLS, MT

CIVIC CENTER RTU REPLACEMENT

STATE OF MONTANA
CTA ARCHITECTS
ANTHONY D HOUTZ
2490
LICENSED ARCHITECT

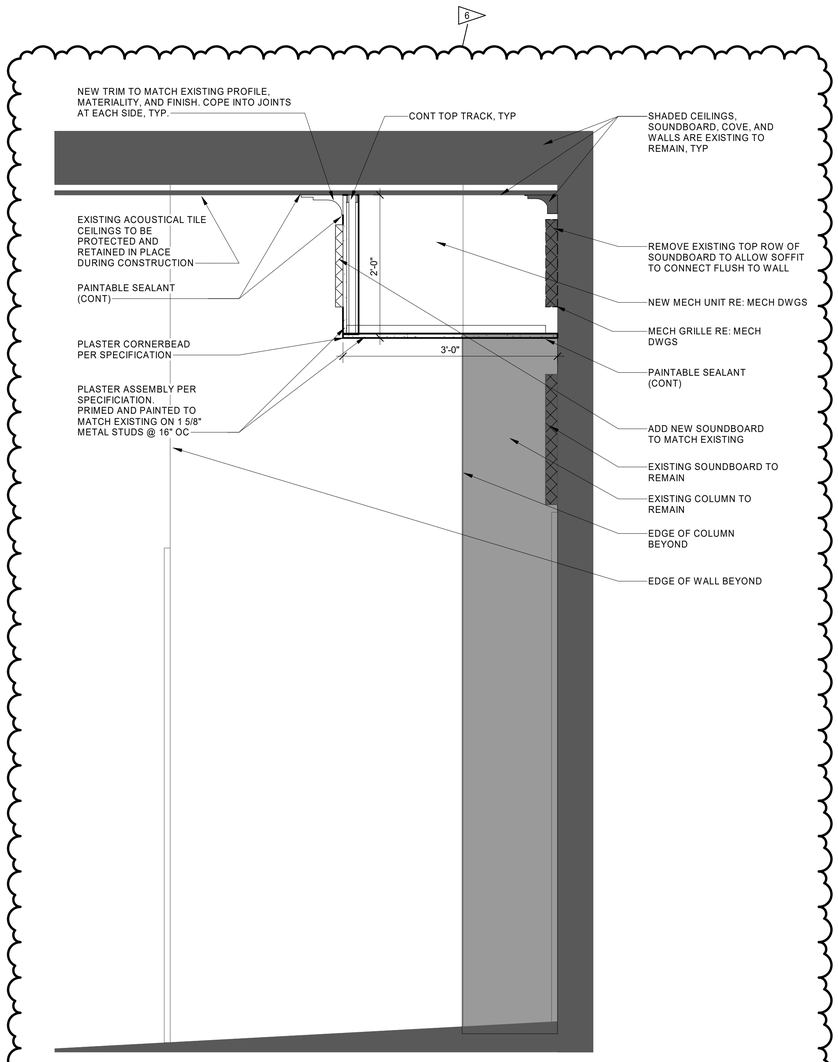
BID DOCUMENTS

10.24.2022
PROJECT# | CIVIC CENTER RTU
DESIGNED BY | A. HOUTZ, AIA
DRAWN BY | J. WATERS
REVISIONS
6 02.27.2023 ADD-06

100% BID DOCUMENTS

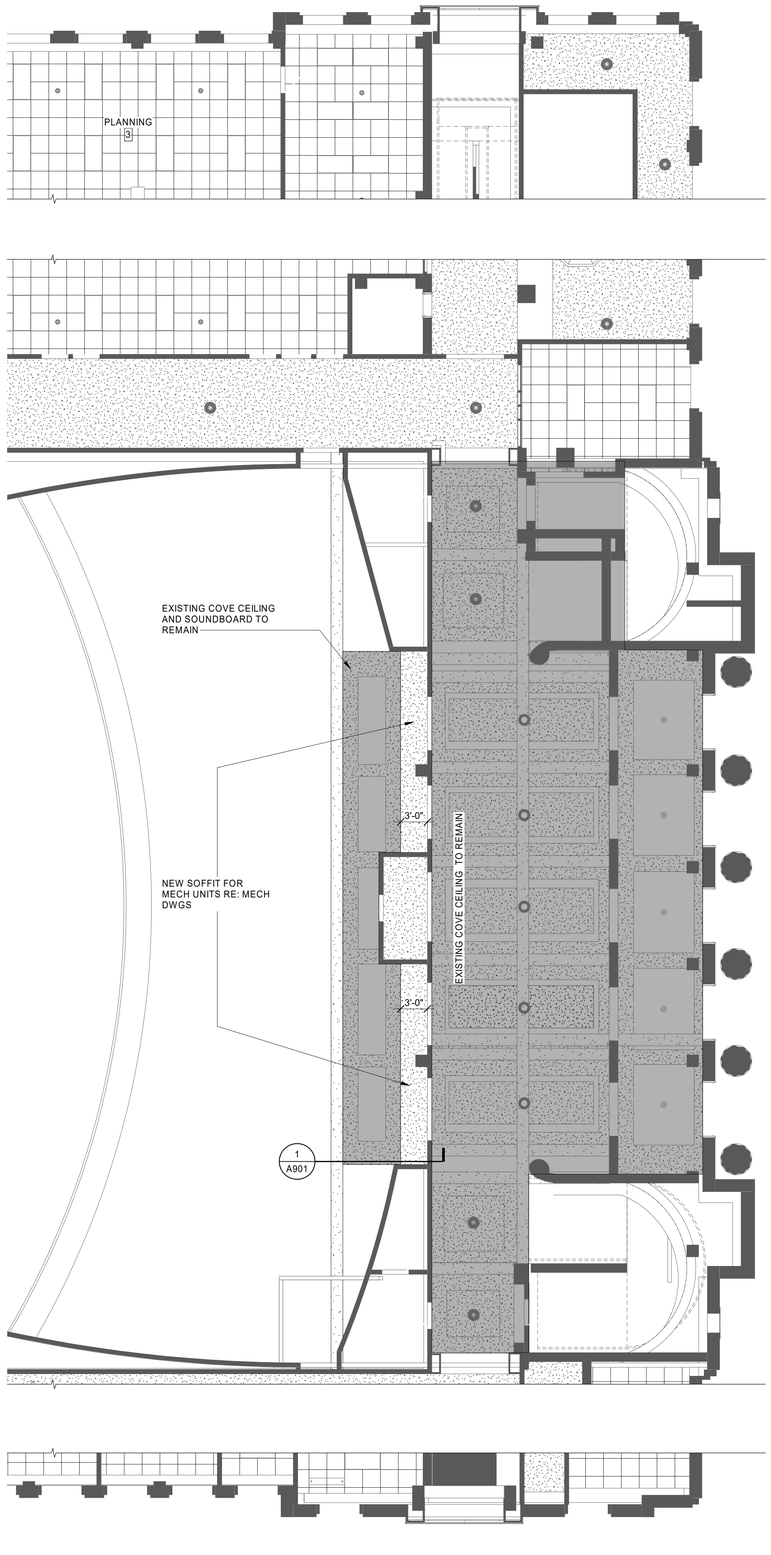
SECOND FLOOR PLAN

A102



1 A901 SOFFIT SECTION DETAIL

1" = 1'-0"



2 A901 FIRST FLOOR RCP RENO

1/8" = 1'-0"

1000 500 0 8 16

SCALE IN MM | SCALE IN FEET

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

NORTH REF

REFLECTED CEILING LEGEND

CEILING MATERIAL — ACT

CEILING HEIGHT — 00'-00 00/00"

ADDITIONAL NOTES — NOTES

2X2 ACOUSTICAL LAY-IN CEILING

GYPSUM BOARD CEILING - PAINT

EXPOSED STRUCTURE AND DECK - PAINT

LIGHTING - SEE ELECTRICAL

HVAC REGISTERS - SEE MECHANICAL

CEILING MATERIAL

ACT1	2X2 ACOUSTICAL LAY-IN PANEL, USG MARS OR EQUAL
EXP	EXPOSED STRUCTURE AND DECK - PAINT
GYP	GYPSUM BOARD - SKIP-TROWEL FINISH. PRIME AND PAINT.

CEILING HEIGHT

VAR	VARIES

ADDITIONAL NOTES

1. ALL CEILING INSTALLATIONS MUST MEET ASTM C636 FOR SEISMIC CATEGORY B.
2. ALL WIRE TIES ARE TO BE THREE TIGHT TURNS AROUND THEMSELVES WITHIN THREE INCHES. TWELVE-GAUGE HANGER WIRE SPACED 4 FT ON CENTER (ASTM C636 SECTION 2.3.4).
3. CEILING AREAS OF 1000 SQUARE FEET OR LESS SHALL BE EXEMPT FROM LATERAL-FORCE BRACING REQUIREMENTS. (ASTM E580 SECTION 1.6).

GENERAL NOTES

A. SHADED AREA INDICATE EXISTING TO REMAIN.
B. DASHED INDICATED TO BE REMOVED.
C. CEILING CONTRACTOR TO ENSURE INSTALLATION OF ACOUSTICAL CEILING COMPLIES WITH LOCAL SEISMIC REQUIREMENTS.
D. GC TO COORDINATE WITH MECHANICAL ON ACOUSTICAL TILE GRID REMOVAL THROUGHOUT BUILDING AS NEEDED FOR HVAC DUCT INSTALL, UNO.
E. GC TO COORDINATE REPLACEMENT OF GRID AND LIGHTS WITH MECH AND ARCH.

Cushing Terrell.
cushingterrell.com
800.757.9522

CITYGFCC_RTU*
CITY OF GREAT FALLS, MT

CIVIC CENTER RTU REPLACEMENT

STATE OF MONTANA — CITY ARCHITECTS — ANTHONY D HOUTZ — 2490 — LICENSED ARCHITECT

BID DOCUMENTS

10.24.2022
PROJECT# | CIVIC CENTER RTU
DESIGNED BY | A. HOUTZ, AIA
DRAWN BY | J. WATERS
REVISIONS
6 02.27.2023 ADD-06

100% BID DOCUMENTS

FIRST FLOOR REFLECTED CEILING PLAN

A901