INVITATION TO BID AND INSTRUCTIONS TO BIDDERS

FY2016-065

ABATEMENT AND DEMOLITION FOR FOUR (4) RESIDENTIAL STRUCTURES (FOURPLEX BUILDINGS) LOCATED AT: 101 WADE LANE, 117 WADE LANE, 157 WADE LANE, AND 355 W. OUTER DRIVE

NOTE: <u>OPTIONAL SITE VISIT & PRE-BID MEETING</u>
<u>SEPTEMBER 8, 2015 AT 4:00P.M., LOCAL TIME</u>
<u>AT 101 WADE LANE</u>

<u>BID OPENING</u>

September 15, 2015
2:00 p.m., Local Time

at the
Central Services Complex Materials Management Conference Room
City of Oak Ridge
100 Woodbury Lane
P. O. Box 1
Oak Ridge, Tennessee 37831-0001

Telephone: (865) 425-1819
Fax: (865) 482-8475
Attn: Lyn Majeski

CITY OF OAK RIDGE, TENNESSEE
Invitation to Bid and Instructions to Bidders

FY2016-065 **August 26, 2015**

Project: Abatement and Demolition for Four (4) Residential Structures – Fourplex Buildings – 101 Wade Lane, 117 Wade Lane, 157 Wade Lane, and 355 W. Outer Drive

Invitation

Bids will be received by the City of Oak Ridge until 2:00 p.m. local time, September 15, 2015, then publicly opened in the Central Services Complex Materials Management Conference Room at 100 Woodbury Lane, Oak Ridge, Tennessee 37830, for furnishing all labor, materials, supplies, tools, and equipment necessary to perform all work and services described in the Contract attached hereto, in strict accordance with the terms and provisions of said Contract and any attachments thereto. (See attached Specifications/Scope of Work)

All bids must be completed and submitted on the Bid Form provided. All options must be bid unless the Bid Form provides otherwise. The bids shall be submitted on or before the time set for the opening of bids. Bids received after the time so set are late bids and will not be considered. Late bids, unmarked envelopes, and incorrectly marked envelopes will not be opened. Electronic bids are not accepted.

Optional Pre-Bid Meeting & Site Visit

An optional pre-bid meeting and site visit will be held on September 8, 2015, at 4:00 p.m., local time, at 101 Wade Lane, Oak Ridge, Tennessee 37830. Prospective Bidders are encouraged to attend, however, attendance is not required in order to submit a bid. Please contact Lyn Majeski at (865) 425-1819 if directions to the pre-bid meeting site are needed.

Discrepancies

Should the Bidder find any discrepancies in, or omission from, the bid documents, or should the Bidder be in doubt as to their meaning, the Bidder shall at once notify Lyn Majeski at (865) 425-1819 and obtain an interpretation or clarification prior to submitting a bid. Any interpretation or clarification given in accordance with this provision shall be in writing and will be distributed to all known Bidders. Only questions answered in writing will be binding. Oral and other interpretations or clarifications will be without legal effect.

Prices

The Bidder shall submit LUMP SUM bid prices as specified on Bid Form. It is agreed that this bid document in its entirety is included in and made a part of the contract between the City and the successful Bidder.

Withdrawal of Bids

Bids may be withdrawn on written or telegraphic request received from Bidders prior to the time fixed for opening the bids.

Rejection of Bids

The City reserves the right to reject any and all bids when such rejection is in the interest of the City of Oak Ridge; to reject the bid of a Bidder who has previously failed to perform properly or complete on time jobs of a similar nature; to reject the bid of a Bidder who is not, in the opinion of the City, in a position to perform the Contract, and to reject the bid of a Bidder not submitted in accordance with this Invitation to Bid.

References

With the bid, each Bidder shall furnish at least three (3) references for whom work similar to that covered by the specifications herein was performed, the year in which such work was performed and the manner of its execution, and giving such other information as will tend to show the Bidder's ability to perform the required work.

Equipment

The Bidder shall have available under Bidder's control, tools and equipment of the type, character and amount required to complete the proposed work within the specified time. Each Bidder shall furnish a list of the tools and equipment proposed for use on the work if requested.

Personnel

Each Bidder shall have available or shall agree to have available under Bidder's control sufficient equipment and personnel to complete the proposed work within the specified time.

Method of Work

Upon request, each Bidder shall describe the method or methods to be used in the performance of the required work.

Bidders Interested in More than One Bid

A party who has quoted prices to a Bidder is not thereby disqualified from quoting prices to other Bidders or from submitting a bid directly for the work; however, more than one bid for the same work from an individual or entity under the same or different name will not be considered.

Insurance

The successful Bidder will be required to maintain Worker's Compensation, Comprehensive General Liability, and Comprehensive Automobile Liability and Property Damage Insurance in accordance with the provisions of the Contract Documents. The City of Oak Ridge, Tennessee shall be named as an additional insured.

Bid Surety

Each bid shall be accompanied by a bid guarantee payable to the City in the amount of ten percent (10%) of the total bid amount. The form of the bid guarantee shall be a bid bond or other suitable instrument (i.e. cashier's check, certified check, or Letter of Credit). The bid guarantees of unsuccessful Bidders shall be return to them by the City within fifteen (15) consecutive calendar days after execution of the Contract.

Completion and Performance Bond

This project requires a fifty percent (50%) completion and performance bond.

Award of Contract

The City will make the award as soon as practicable to the lowest responsible Bidder, price and other factors considered, provided it is reasonable and in the best interest of the City. The City reserves the right to award the contract to more than one bidder if in the best interest of the City. The successful Bidder(s) shall be required to execute the Contract attached hereto.

Timeframe for Completion

Work shall commence within twelve (12) business days after the Contractor's receipt of a written Notice to Proceed from the City and shall be completed within thirty five (35) calendar days of commencement, unless an alternate schedule is approved by the parties in writing.

City Officers and Employees Not To Have Financial Interest

No contract shall be made with any officer or employee of the City or any firm or corporation in which any officer or employee of the City has financial interest.

Compliance with All Laws, Ordinances, Statutes, and Regulations

The Contractor shall comply with all federal, state, county and local laws, ordinances, statutes, and regulations. Pursuant to City Code § 5-413, the City may not accept bids from Bidders in default of any payment of any nature due to the City, including but not limited to taxes, licenses and fees.

Tobacco Products

The selected Bidder and its employees/subcontractors shall comply with all building policies, regulations, schedules and rules as set out and required by the City. Please note smoking (including e-cigarettes) and the use of tobacco products (chewing) is prohibited in City-owned facilities. For any work done at City facilities, any smoking occurring outside of the buildings must occur at least twenty (20) feet away from any entrance, open window or other opening into which smoke could infiltrate into the building. Spent smoking materials are to be properly discarded and not littered on the grounds.

SPECIFICATIONS/SCOPE OF WORK

Background on Property

These regulated residential structures are collectively referred to as the "Property" and are more specifically set forth below:

- 101 Wade Lane, Oak Ridge, Tennessee 37830 (GPS Coordinates: N36° 01.441´ W084° 16.031´) (Map 099C, Group B, Control Map 099C, Parcel 036.00, S/I:000)
- 117 Wade Lane, Oak Ridge, Tennessee 37830 (GPS Coordinates: N36° 01.458´ W084° 15.995´) (Map 099C, Group B, Control Map 099C, Parcel 038.00, S/I:000)
- 157 Wade Lane, Oak Ridge, Tennessee 37830 (GPS Coordinates: N36° 01.493´ W084° 15.846´) (Map 099C, Group B, Control Map 099C, Parcel 046.00, S/I:000)
- 355 W. Outer Drive, Oak Ridge, Tennessee 37830 (GPS Coordinates: N36° 01.534´ W084° 15.924´) (Map 099C, Group B, Control Map 099C, Parcel 027.00, S/I:000)

The Property and project is owned by the City of Oak Ridge, Tennessee and is either totally or partially funded by way of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) voluntary acquisition process.

The City has contracted with Professional Environmental Consulting Inc., and Orion Environmental Solutions, Inc., to conduct environmental assessments of the Property. See attachments.

Scope of Work

The Demolition Contractor (hereinafter "Contractor or Demolition Contractor") shall, at its sole cost and expense, provide, perform and complete in the manner described and specified in this Invitation to Bid all necessary work, labor, services, transportation, equipment, materials, apparatus, information, data and other items necessary to accomplish the Project as defined below, in accordance with the Scope of Work (hereinafter "Work"). The Services will also include procuring and furnishing all approvals and authorizations, permits, and certificates and policies of insurance as specified herein necessary to complete the Project.

Description of Project

The City of Oak Ridge is seeking a qualified contractor to provide the remediation services (abatement of asbestos and hazardous material) and complete demolition (removal of structure(s), foundations, utility service & waste lines and tanks, concrete slabs, walkways, driveways, decks/porches, any nuisance vegetation, and all trash/debris) (Property). Backfill and finish lot grading with seed and stabilization is included in this bid. The Property is so deteriorated or has become so out of repair as to be dangerous, unsafe, unsanitary or otherwise unfit for human occupation or use, and as such, it is unreasonable to repair the structure(s). Per HUD CDBG guidelines, the City shall cause the structure(s) to be environmentally abated and demolished in accordance with the City Code.

The dilapidated structure identified in this Invitation to Bid has been tested for the presence of asbestos containing materials (ACM) and household hazardous waste. An Environmental Assessment Report has been prepared for each structure. These reports are attached to the Invitation to Bid.

The Demolition Contractor shall complete or subcontract to an Environmental Remediation Contractor for the abatement of asbestos and household hazardous waste as listed in the Assessment Report. Actual demolition activity shall not begin until after a "post-visual inspection" is conducted and approved by the City contracted Environmental Assessment company and the City's Project Manager.

Should previously undetected quantities of ACM or other regulated wastes be discovered during remediation, the demolition work shall stop and the Contractor shall immediately notify the City Project Manager. The Project Manager shall inspect the structure and determine if further remediation is warranted. If deemed warranted, demolition of the structure may be delayed because of such discovery and the resultant remediation work. Demolition may not resume until abatement has been completed.

Utility disconnection services are not a part of this bid. The utilities for the structures listed will be disconnected by the City upon receipt of a completed demolition permit. The Contractor must allow at least one (1) calendar week for disconnection prior to the start of demolition activity. The actual demolition permit will be issued after all utilities have been confirmed disconnected.

The Environmental Remediation Contractor performing the remediation work must hold all required State of Tennessee licenses and permits for Asbestos abatement activities and all staff performing work within the regulated work area (hot zone) must have all required training and certifications. The remediation work must be performed by the contractor possessing the Asbestos Abatement Contractors License. An asbestos licensed Contractor/Supervisor must be onsite at all times during remediation.

The Contractor shall demolish the entire structure above the foundation the same day; no partial demolition of the above-foundation structure will be allowed. Once demolition starts, every effort must be made to raze the structure and remove all debris within the work day. Backfill can be delayed as long as the property is secured with fencing up to a maximum of five (5) business days. The dirt being held up by the retaining wall shall be sloped back into the basement area of the residential structure after demolition of the residential structure. The Contractor shall install erosion control for the new slope with dormant winter seeding/straw or matting.

After the environmental abatement is complete, the Contractor must provide a continuous spray of clean water on the demolition site as needed during actual demolition operation to reduce if not eliminate visible emissions of dust.

Types of Debris, Debris Ownership and Hauling Responsibilities

Once the Contractor begins activity on a site, all debris generated is the responsibility of the Contractor and the Contractor is solely responsible for all aspects related to the debris, including, but not limited to, the hauling and disposal of the debris. This includes all materials resulting from demolition unless otherwise specified in this scope of work. The City is the generator of the debris. The Contractor has salvage rights to all materials. The Contractor shall ensure that all loads are properly secured and transported without threat or harm to the general public, private property and public infrastructure.

Disposal of Asbestos Containing Material (ACM) – Non-Friable and Friable

Non-Friable: The Environmental Remediation Contractor must dispose of non-friable asbestos containing materials at an approved landfill as specified in the Contractor's bid.

Friable: The Environmental Remediation Contractor must dispose of friable asbestos containing materials at an approved landfill as specified in the Contractor's bid.

Disposal of Household Hazardous Waste Material (HHWM)

Remove HHWM identified in the Environmental Assessment Reports. Household hazardous waste materials include drain cleaners, paint thinners, bleach, fertilizers, camp fuel, etc.; mercury thermostats; batteries; fluorescent tubes. HHWM must be disposed at an approved landfill as specified in the Contractor's bid.

Sort HHWM before delivery to AGENCY as directed by AGENCY personnel. This will include identifying and separating "unknown" chemicals as noted in the Assessment Reports.

Disposal of White Goods (aka Appliances) and Tires

Remove White Goods and automotive tires per the Assessment Report inventory. White Goods may include refrigerators, freezers, dryers, clothes washers, water heaters, stoves, dishwashers, dehumidifiers, microwaves, trash compactors, humidifiers, air conditioners. White Goods that have been significantly damaged (mangled, crushed, not upright, lines cut) must be accompanied by a written statement declaring how damage occurred, if known, before arriving at AGENCY. The Environmental Remediation Contractor will clean out appliances, especially refrigerators and freezers, before delivering to the AGENCY or additional charges will be incurred by the Contractor. If available, White Goods and tires must be recycled per the AGENCY's requirements.

It is not mandated that the concrete be hauled to the Landfill. Bidders may salvage the concrete. If the salvage option is taken, the bidder must (1) state in writing on the Bid Submittal Form where the concrete is going and (2) how it will be used.

Lead Based Paint Abatement

Lead based paint materials will not be abated prior to demolition. Any materials containing lead based paint should be disposed of in the landfill. If the Contractor chooses to recycle painted concrete, then all applicable laws, standards and regulations shall apply to the Contractor for that activity. The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) have established standards to protect workers from overexposure to lead. OSHA'S Lead-in-Construction rule, contained in 29CFR1926.62, regulates work practices and procedures which must be followed when working around suspected lead. Contractor shall submit a written notification to the PROJECT MANAGER within two (2) business days if the required initial assessment meets or exceeds "Action Level" criteria for any specific job site.

Compliance with Laws

The Contractor and all Subcontractors shall be responsible for compliance with all federal, state, county and municipal laws, ordinances, rules, standards and regulations related to structure demolition and removal, including, but not limited to, requirements of the Occupational Safety and Health Administration (OSHA), EPA and the Tennessee DEC. These requirements include (but are not limited to) good demolition practices.

The Contractor shall obtain all applicable City permits and utility locates as required to perform the work specified by this agreement prior to any demolition commencing. The City's Code Enforcement Division will provide the City demolition permit application with pertinent information to include the disconnect completion of utilities.

Work Hours and Restrictions

Hours of work at individual lots must adhere to the City noise ordinance. In residential areas work may be performed during the hours of 7:00 am to 6:30 pm, Monday through Saturday, except otherwise indicated.

Standards

Each entity engaged in any part of the Project is required to be familiar with industry standards applicable to that entities' construction activity. The Contractor shall maintain work sites to appropriate use standards, safety standards, and regulatory requirements. Copies of applicable standards are not bound with the Contract Documents. Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source. Although copies of standards needed for enforcement of requirements may be part of required submittals, the Project Manager reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements. Copies of applicable standards shall be readily available at the project job site.

Pre Demolition Conference

Before Work is started, a conference attended by the City's Project Manager, the Demolition Contractor and others as appropriate will be held to:

1. Inspect and discuss condition of construction to be demolished.
2. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review and finalize protection requirements.
4. Review procedures for noise control and dust control.

Preparatory Operations

Before the start of the demolition job, the Contractor shall take a number of steps to safeguard the health and safety of workers in accordance with all Federal, State and Local regulations at the job site. A competent person, experienced in all phases of demolition work including safety issues shall perform the planning work. A suitable location shall be designated at the job site with written plans/procedures, emergency information and equipment. Employees shall be trained in evacuation procedures in the event of workplace emergencies.

Services and First Aid

The Contractor shall make provisions for prompt medical attention in case of serious injury. The location and the most direct accessible route to the nearest hospital and the telephone numbers of the hospital and the ambulance must be posted at the job site. (Exception: If it is practically infeasible to post required information in accordance to this section, it must be identifiable and readily available for all onsite workers). A proper First Aid kit and proper equipment for prompt transportation of an injured employee, as well as a communication system to contact an ambulance must be available at the job site.

Fire Prevention and Protection

Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

Smoking shall be prohibited in construction areas.

All welding or cutting operations, combustion-type temporary heating units, and similar sources of fire ignition shall be supervised according to requirements of authorities having jurisdiction and Hot Work Plan.

The Contractor is responsible for developing and supervising a fire protection program and for providing the necessary firefighting equipment at the job site. This program shall outline the assignments of essential personnel in case of a fire and provide an evacuation plan for workers on the site. The program shall contain provisions for securing hot work permits and instructions for shutting down all burning and hot work operations one hour before the end of the work shift. Review needs with local fire department and establish procedures to be followed. The Oak Ridge Fire Department must be called for all fires. Instruct personnel in methods and procedures. Post warnings and information.

Property Damage

The Contractor shall be legally and financially responsible for all damages caused by this environmental abatement demolition activity performed under this bid to public and private property. The Contractor shall have one lead individual per every work crew who is dedicated to resolving reports of property damage. Contractor shall maintain a log of property damage reports and their resolution, including dates for each damage report, pictures, contact information, and resolution. If public or private property, including trees and vegetation, is damaged by the Contractor and not repaired or resolved on a timely basis to the satisfaction of the City, the City has the option of having the damage repaired at the Contractor‘s expense to be reimbursed to the City or withheld from the Contractor’s future payments.

Site Security

The Contractor shall demolish the entire structure above the foundation the same day; no partial demolition of the above-foundation structure will be allowed.

It shall be the Contractor’s responsibility to secure the site by whatever means necessary to prevent unauthorized entry. The Contractor shall remove all debris and leave the site from which the eligible debris was removed in a clean and neat condition with the understanding that there will be certain debris that is not picked up by equipment, machinery and general laborers used by the Contractor. Determination of when a site is in a clean and neat condition will be at the reasonable judgment of the Project Manager.

Prior to, or during demolition

If it is determined by the Project Manager that a significant job site security and or safety risk exists, the following activities shall be required to be put in place by the Contractor. Otherwise, the Contractor must at all times take reasonable or other contracted steps necessary to ensure that each job site is maintained in a safe, secure and clean condition until final completion and acceptance by the Project Manager.

Pedestrian Protection

The work of demolishing any building shall not be commenced until pedestrian protection is in place as required by the International Building Code 2012 and City Code. Pedestrians shall be protected during construction, remodeling and demolition activities as required and signs shall be provided by the Contractor to direct pedestrian traffic.

Fencing

Temporary barricade type fence shall be erected prior to the commencement of demolition activities to prevent access by the public. Such fence shall be: (1) At least four feet high. (2) Consistently restrictive from top to grade. (3) Without horizontal openings or indentation wider than two inches. The fence shall be erected before demolition begins and shall not be removed until the backfill is completed.

Temporary Signs

Provide warning signs for site fencing as described above. Unauthorized signs are not permitted. The Contractor will provide and install project identification sign.

Temporary Use of Streets, Alleys and Public Property

Storage and Handling of Materials

The temporary use of streets or public property for the storage or handling of materials or of equipment required for construction or demolition, and the protection provided to the public shall comply with the provisions of the authority having jurisdiction and by the adopted International Building Code 2012 City of Oak Ridge Municipal Code.

Pre-loading is permissible, but trucks, cargo boxes, roll-offs, trailers, and etc. must be kept in a secured area and, if necessary, tarped for the public health and safety. The secured area may be located within perimeter of the demolition site or a designated location if the demolition area is not acceptable for overnight storage. The City's Project Manager will have final approval regarding pre-loading and secure storage.

Obstructions

Construction materials and equipment shall not be placed or stored so as to obstruct access to fire hydrants, standpipes, fire or police alarm boxes, catch basins or manholes, nor shall such material or equipment be located within 20 feet (6096 mm) of a street intersection, or placed so as to obstruct normal observations of traffic signals or to hinder the use of public transit loading platforms.

Temporary Utility Installation

General

Install temporary service or connect to existing service. Arrange with utility company, Project Manager, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

Water Service

The Contractor has the option to use utilize the municipal water system using fire hydrant connections and a City of Oak Ridge issued water meter OR the Contractor may use self-provided tankers as long as they provide adequate potable water and are not an obstruction.

If the Contractor elects to use the City water supply via fire hydrant, the Contractor must contact Rick Irwin or Scott Jackson in the Public Works Department at (865) 425-1875, must indicate this is a City demolition project, must provide all of the Contractor's contact information, and must show proof of a City issued demolition permit requesting the water meter to be delivered to the project site on a specified date and time. The water meter will be provided to the Contractor in good working order free of charge or deposit. Water used exclusively for the purposes of this demolition contract shall be free of charge. The Contractor is required to return the same water meter to the City in good working order as soon possible after it is no longer needed. If the Contractor damages or loses the City issued water meter, a fee of $1,500.00 shall be immediately assessed against the Contractor. The City reserves the right and shall withhold any and all contract payment(s) until the water meter is returned in good working order or until the damage or loss assessment fee is paid in full.

The Contractor must submit water meter fee and/or proof of meter return with project completion invoice in order to receive payment for work performed under this contract."

Sanitary Facilities

Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

Electric Power Service

Temporary electrical power will be by the Contractor provided generator only.

Traffic Controls

1. Protect existing site improvements to remain including curbs, pavement, and utilities.

2. Maintain access for fire-fighting equipment and access to fire hydrants.

3. Provide and operate temporary traffic control signals at designated intersections, and traffic control signage as needed for temporary closure of public roads and streets.

4. If traffic modifications are required, the Contractor shall coordinate all activities with the City's Police Department prior to any traffic control setup. The City or the Project Manager will determine locations that will require traffic control.

Contractor's Employees

The Contractor agrees to staff each project with personnel experienced in the nature of the work and having appropriate training, skills, and required credentials to accomplish the work's objectives. The Contractor will maintain continuity of its staff assigned to the work to the fullest extent possible throughout the term of this Agreement.

The Contractor shall be equipped with the normal tools of their trade and shall furnish all labor, tools, and other items necessary for and incidental to executing and completing all required work.

The Contractor shall be responsible for providing protective gear and equipment to its agents and employees, and for ensuring its proper utilization under all current applicable OSHA regulations. Anyone in the secure demolition area must be wearing appropriate protective equipment at all times. This would include, but not be limited, to hard hats and safety vests.

The Contractor will fully and sufficiently inform its staff of the nature of the work and the hazards inherent in performing the work, and shall inform its subcontractors of the same.

The work shall be performed in accordance with the requirements, standards, specifications and schedules set forth, and all applicable regulations or policies of the U. S. Environmental Protection Agency, Tennessee Department of Environment and Conservation, or any other regulatory agency that has jurisdiction over the work. All regulatory or contractual interpretations shall be made by the applicable regulatory authority or the City and shall be final.

The work shall be diligently and continuously performed in order that said work is completed within the time frame as specified by the City.

The Contractor shall only furnish employees who are properly licensed, competent and skilled for work under this Contract.

The Contractor's employees and sub-contractor employees shall each wear distinctive company clothing or hard hats with permanent markings identifying their respective employer at all times while within the project buildings and at all times while on site.

If, in the opinion of the City or the Project Manager, an employee of the Contractor or Contractor's subcontractor(s) is incompetent or disorderly, refuses to perform in accordance with the terms and conditions of the Contract, threatens or uses abusive language while performing work, or is otherwise unsatisfactory, that employee shall be removed from all work under this Contract.

The Contractor shall provide a main phone number and a backup phone number that will be answered 24/7.

Archaeology

The sites may be archeologically sensitive. The demolition footprint shall have minimal ground disturbance. In the event that archeological deposits (soils, artifacts and features such as cisterns, privies, alluvial wells and the like), or other remnants of human activity are uncovered, or if archeological deposits are found during excavation, the project will be halted immediately in the vicinity of the discovery, and the Contractor will inform the City's Project Manager and take reasonable measures to avoid or minimize harm to finds. Work in the sensitive area cannot resume until Contractor is notified by the Project Manager.

Septic Tanks – If discovery of a septic tank takes place during demolition, the Contractor is required to have it pumped by a certified licensed pumping service, collapsed and then backfilled as stated below.

Backfilling and Finishing

The Contractor shall obtain inspection and approval from the City's Code Enforcment Division or designee prior to backfilling all excavations, holes or depressions on the demolition site. Excavations, cellar holes, basement holes, abandoned cisterns or other depressions within the demolition site shall be filled and compacted with sand or earthen fill.

A 6 inch layer (in place thickness) of tillable topsoil shall be spread over areas impacted by the demolition removals and/or areas excavated and filled to provide positive surface drainage and to establish a finished site grade consistent with adjacent grades. Final grading must be raked level and surface rocks larger than one (1) inch removed prior to seeding.

Adjacent grades, when referred to in these specifications, means approximate existing elevation of the ground surrounding a basement, or other excavated or depressed area, at the distance of 5 feet outside the area, particularly when the existing ground has previously been graded up so as to slope away from the area. Stable, uniform grade for at least sixty days after the date when the job is reported "finished" is required. If the backfill materials were frozen when used or any other settling of the backfilled area occurs, causing unacceptable settling during the first sixty days after the ground is free of frost, the Contractor shall remedy such settling by additional tamping, refilling, compacting and re-grading in conformance with the standards set forth in this section, shall repair or replace any structures, vegetation or topography which was destroyed, damaged, moved or changed in conjunction with, or by reason of, the wrecking operation. Such repairs, replacement or restitution shall be based upon and consistent with the grade, appearance and state of repair which existed prior to the start of the demolition work. The backfill shall be compacted to 95 percent of the maximum dry density as set forth in ASTM Test Method D698. Random QA/QC may be completed by the City's Project Manager. The Contractor will provide for the service of an independent testing laboratory to perform tests if required. Copies of documentation verifying these tests have been completed shall be submitted with the project invoices.

Seeding

The topsoil shall be covered with appropriate and adequate seeding so as to ensure a healthy and uniform grass growth.

Cleanup

All pieces, parts, scraps, debris, rubbish, wood and organic materials from a structure or part of a structure in the process of being demolished shall be cleaned up and removed from the premises daily. Final cleanup after the structure is demolished shall include complete and thorough removal from the premises of all parts or pieces of the building, its contents and its furnishing, including all debris, organic materials, rubbish, wood, concrete, and masonry rubble in their entirety; examples: Concrete or brick floors of basements, or of areaways, stairways, stairwells or depressed structures shall be completely removed. Concrete slabs on ground of basement-less buildings and foundations shall be broken up and removed from the site. All hazardous open pits and recesses shall be filled with thoroughly tamped earth or mortar; whichever is required to completely eliminate the hazard.

Sidewalks, Driveways

City sidewalks running parallel to the street and the driveway portion for the street to the sidewalk are to be left intact, however, if they are damaged during demolition, they are to be removed and replaced at the Contractor's own expense. Private or approach walks and drives shall be removed. Damaged walks and aprons shall be noted by the Contractor and the Project Manager. The Contractor will not be responsible for repairing documented pre-existing damage.

Outbuildings / Fences / Misc. Debris

Outbuildings such as sheds, garages are identified on the Bid Submittal Form. Fences shall not be removed until authorization is provided by the Project Manager. Miscellaneous debris shall be removed and the lot shall be left clean and free of all debris.

Transporting and Disposal

The Contractor acknowledges, represents and warrants to the CITY that it is familiar with all laws relating to disposal of the materials as stated herein and is familiar with and will comply with all guidelines, requirements, laws, regulations, and any other federal, state or local agencies or authorities.

The Contractor acknowledges and understands that any disposal, removal, transportation or pick-up of any materials not covered in this scope of work shall be at the sole risk of the Contractor. The Contractor understands that it will be solely responsible for any liability, fees, fines, claims, etc., which may arise from its handling of materials not covered by this scope of work.

The Contractor is responsible for determining and complying with applicable requirements for securing loads while in transit and that all trucks shall have a solid tailgate made out of metal.

The Contractor shall ensure that all loads are properly secured and transported without threat of harm to the general public, private property and public infrastructure.

The Contractor shall ensure that all vehicles transporting debris are equipped with and use tarps or netting to prevent further spread of debris. All loads are required to be tarped.

Appliances

All appliances are considered to be asbestos contaminated and will be housed with the other materials from the demolition. Freon will not be removed from any appliances. Appliances will not be demanufactured. All appliances shall be landfilled.

Heating Oil Tanks

Some buildings may have heating oil tanks. The heating oil tanks shall be pumped of all fluids into an appropriate container. The Contractor shall ensure tanks are decontaminated and taken to a metal recycler as part of this contract.

REAL ESTATE ASSESSMENT DATA

Attached is a twelve (12) page Real Estate Assessment Data report from the State of Tennessee Comptroller of the Treasury of the Property.

State of Tennessee Comptroller of the Treasury

Real Estate Assessment Data

County Number: 001 **County Name: ANDERSON** **Tax Year: 2014**

Property Owner and Mailing Address

Jan 1 Owner:
~~CARDEN RENTALS LIMITED PARTNERSHIP~~
~~430 S ILLNOIS AVE~~
~~OAK RIDGE, TN 37830~~

City of Oak Ridge
EDI Purchased: 24 February 2015

Property Location

GPS Coordinates: N36° 01.441’ W084° 16.031’

Address: WADE LN 101

Map:	099C	Grp:	B	Ctrl Map:	099C	Parcel:	036.00	PI:		S/I:	000

Value Information

Reappraisal Year: 2010

Land Mkt Value:	$29,700
Improvement Value:	$66,100
Total Market Appraisal:	$95,800
Assessment %:	40
Assessment:	$38,320

General Information

Class:	08 - COMMERCIAL		
City #:	549	**City:**	OAK RIDGE
SSD1:	000	**SSD2:**	000
District:	02	**Mkt Area:**	G01
# Bldgs:	1	**# Mobile Homes:**	0
Utilities - Water:	01 - PUBLIC / PUBLIC	**Utilities - Sewer:**	01 - PUBLIC / PUBLIC
Utilities - Elec:	01 - PUBLIC / PUBLIC	**Utilities - Gas:**	03 - PUBLIC /

	INDIVIDUAL
Utilities - Gas Type:	**Zoning:**

Subdivision Data

Subdivision: BLOCK 0C13 LOT 0034

Plat Bk:	Plat Pg:	Block:	Lot:

Additional Description

02 014CB 014CB03400 000

Building Information

Building # 1

Improvement Type:	02 - DUPLEX	**Stories:**	2
Base Area Sq. Ft.:	1,520		
Foundation:	02 - CONTINUOUS FOOTING	**Floor System:**	04 - WOOD W/ SUB FLOOR
Exterior Wall:	04 - SIDING AVERAGE	**Structural Frame:**	00 - NONE
Roof Framing:	02 - GABLE/HIP	**Roof Cover/Deck:**	03 - COMPOSITION SHINGLE
Cabinet/Millwork:	03 - AVERAGE	**Floor Finish:**	11 - CARPET COMBINATION
Interior Finish:	07 - DRYWALL	**Paint/Decor:**	03 - AVERAGE
Bath Tile:	02 - 1/2 WALL	**Electrical:**	03 - AVERAGE
Heat:		**A/C:**	
Plumbing Fixtures:			
Shape:	01 - RECTANGULAR DESIGN	**Quality:**	
Act Yr Built:	1943	**Condition:**	

Building Areas:

Area:	USF	**Sq Ft:**	1,520
Area:	BAS	**Sq Ft:**	1,520
Area:	OPU	**Sq Ft:**	216
Area:	OPU	**Sq Ft:**	108
Area:	OPU	**Sq Ft:**	108
Area:	OPF	**Sq Ft:**	76
Area:	OPF	**Sq Ft:**	76

Sale Information

Sale Date	Price	Deed Book	Page	Vac/Imp	Type Instrument	Qualification
05/08/2002	$0	1267	662			
07/03/1974	$0	Q-12	132			

Land Information

Deed Acres: 0.30 **Calc Acres:** 0.00 **Total Land Units:** 0.30

Land Type: 05 - MULTI FAMILY **Soil Class:** **Units:** .30

View GIS Map for this Parcel

New Search	Glossary of Terms	How to Search	Fact Sheet
Real Estate Assessment Data Home Page	Division of Property Assessments Home Page	Comptroller of the Treasury Home Page	State of Tennessee Home Page

State of Tennessee Comptroller of the Treasury

Real Estate Assessment Data

County Number: 001 **County Name: ANDERSON** **Tax Year: 2014**

Property Owner and Mailing Address

Jan 1 Owner:
~~CARDEN RENTALS LIMITED PARTNERSHIP~~
~~430 S ILLNOIS AVE~~
~~OAK RIDGE, TN 37830~~

City of Oak Ridge
CDBG Purchased: 24 February 2015

Property Location

GPS Coordinates: N36° 01.458’ W084° 15.995’

Address: WADE LN 117

Map:	099C	Grp:	B	Ctrl Map:	099C	Parcel:	038.00	PI:		S/I:	000

Value Information

Reappraisal Year: 2010

Land Mkt Value:	$27,800
Improvement Value:	$71,000
Total Market Appraisal:	$98,800
Assessment %:	40
Assessment:	$39,520

General Information

Class:	08 - COMMERCIAL		
City #:	549	**City:**	OAK RIDGE
SSD1:	000	**SSD2:**	000
District:	02	**Mkt Area:**	G01
# Bldgs:	1	**# Mobile Homes:**	0
Utilities - Water:	01 - PUBLIC / PUBLIC	**Utilities - Sewer:**	01 - PUBLIC / PUBLIC
Utilities - Elec:	01 - PUBLIC / PUBLIC	**Utilities - Gas:**	03 - PUBLIC /

	INDIVIDUAL
Utilities - Gas Type:	**Zoning:**

Subdivision Data

Subdivision: BLOCK 0C13 LOT 0032

Plat Bk:	Plat Pg:	Block:	Lot:

Additional Description

02 014CB 014CB03200 000

Building Information

Building # 1

Improvement Type:	02 - DUPLEX	**Stories:**	2
Base Area Sq. Ft.:	1,520		
Foundation:	02 - CONTINUOUS FOOTING	**Floor System:**	04 - WOOD W/ SUB FLOOR
Exterior Wall:	12 - BRICK/WOOD	**Structural Frame:**	00 - NONE
Roof Framing:	02 - GABLE/HIP	**Roof Cover/Deck:**	03 - COMPOSITION SHINGLE
Cabinet/Millwork:	03 - AVERAGE	**Floor Finish:**	09 - HARDWOOD/PARQUE
Interior Finish:	07 - DRYWALL	**Paint/Decor:**	03 - AVERAGE
Bath Tile:	00 - NONE	**Electrical:**	03 - AVERAGE
Heat:		**A/C:**	
Plumbing Fixtures:			
Shape:	01 - RECTANGULAR DESIGN	**Quality:**	
Act Yr Built:	1943	**Condition:**	

Building Areas:

Area:	USF	**Sq Ft:**	1,520
Area:	BAS	**Sq Ft:**	1,520
Area:	OPU	**Sq Ft:**	216
Area:	OPU	**Sq Ft:**	108
Area:	OPU	**Sq Ft:**	108
Area:	OPF	**Sq Ft:**	76
Area:	OPU	**Sq Ft:**	76

Sale Information

Sale Date	Price	Deed Book	Page	Vac/Imp	Type Instrument	Qualification
05/08/2002	$0	1267	662			
07/03/1974	$0	Q-12	132			

Land Information

Deed Acres: 0.27 **Calc Acres:** 0.00 **Total Land Units:** 0.27

Land Type: 05 - MULTI FAMILY **Soil Class:** **Units:** .27

View GIS Map for this Parcel

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State of Tennessee Comptroller of the Treasury

Real Estate Assessment Data

County Number: 001 **County Name: ANDERSON** **Tax Year: 2014**

Property Owner and Mailing Address

Jan 1 Owner:
~~KNOXVILLE HOUSING PARTNERSHIP INC~~
~~102 N WINONA ST~~
~~KNOXVILLE, TN 37917~~

City of Oak Ridge
200 S. Tulane Ave

Property Location

GPS Coordinates: N36° 01.493´ W084° 15.846´

Address: WADE LN 157

Map:	099C	Grp:	B	Ctrl Map:	099C	Parcel:	046.00	PI:		S/I:	000

Value Information

Reappraisal Year: 2010

Land Mkt Value:	$31,800
Improvement Value:	$65,600
Total Market Appraisal:	$97,400
Assessment %:	40
Assessment:	$38,960

General Information

Class:	08 - COMMERCIAL		
City #:	549	**City:**	OAK RIDGE
SSD1:	000	**SSD2:**	000
District:	02	**Mkt Area:**	G01
# Bldgs:	1	**# Mobile Homes:**	0
Utilities - Water:	01 - PUBLIC / PUBLIC	**Utilities - Sewer:**	01 - PUBLIC / PUBLIC
Utilities - Elec:	01 - PUBLIC / PUBLIC	**Utilities - Gas:**	03 - PUBLIC / INDIVIDUAL

Utilities - Gas Type:	**Zoning:**

Subdivision Data

Subdivision: BLOCK OC13 LOT 0016

Plat Bk:	3	**Plat Pg:**	128D	**Block:**		**Lot:**	102

Additional Description

02 014CB 014CB10200 000

Building Information

Building # 1

Improvement Type:	02 - DUPLEX	**Stories:**	2
Base Area Sq. Ft.:	3,040		
Foundation:	02 - CONTINUOUS FOOTING	**Floor System:**	04 - WOOD W/ SUB FLOOR
Exterior Wall:	04 - SIDING AVERAGE	**Structural Frame:**	00 - NONE
Roof Framing:	02 - GABLE/HIP	**Roof Cover/Deck:**	03 - COMPOSITION SHINGLE
Cabinet/Millwork:	03 - AVERAGE	**Floor Finish:**	11 - CARPET COMBINATION
Interior Finish:	07 - DRYWALL	**Paint/Decor:**	03 - AVERAGE
Bath Tile:	00 - NONE	**Electrical:**	03 - AVERAGE
Heat:		**A/C:**	
Plumbing Fixtures:			
Shape:	01 - RECTANGULAR DESIGN	**Quality:**	01 - AVERAGE
Act Yr Built:	1943	**Condition:**	A - AVERAGE

Building Areas:

Area:	BAS	**Sq Ft:**	1,520
Area:	USF	**Sq Ft:**	1,520
Area:	OPU	**Sq Ft:**	216
Area:	OPU	**Sq Ft:**	108
Area:	OPU	**Sq Ft:**	108
Area:	OPU	**Sq Ft:**	76
Area:	OPU	**Sq Ft:**	76

Sale Information

Sale Date	Price	Deed Book	Page	Vac/Imp	Type Instrument	Qualification
05/16/2013	$36,000	1584	212	IMPROVED	WD	I
09/26/2012	$49,000	1568	421		TR	
02/16/2004	$55,000	1358	4140	IMPROVED	WD	
11/18/2003	$55,000	1357	1783	IMPROVED	WD	G
08/29/2003	$55,000	1352	992			
05/27/2003	$72,134	1346	1834	IMPROVED	WD	G
03/28/2000	$59,000	1145	778	IMPROVED	WD	A
11/05/1992	$49,500	M-18	371	IMPROVED	WD	A
11/26/1984	$0	D-16	434			
09/13/1983	$0	V-15	728			
05/24/1982	$0	H-15	65			

Land Information

Deed Acres: 0.34 **Calc Acres:** 0.00 **Total Land Units:** 0.34

Land Type: 05 - MULTI FAMILY **Soil Class:** **Units:** .34

View GIS Map for this Parcel

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State of Tennessee Comptroller of the Treasury

Real Estate Assessment Data

County Number: 001 **County Name: ANDERSON** **Tax Year: 2014**

Property Owner and Mailing Address

Jan 1 Owner:
~~CARDEN RENTALS LIMITED PARTNERSHIP~~
~~430 S ILLNOIS AVE~~
~~OAK RIDGE, TN 37830~~

City of Oak Ridge
CDBG Purchase: 24 February 2015

Property Location

GPS Coordinates: N36° 01.534’ W084° 15.924’

Address: W OUTER DR 355

Map:	099C	Grp:	B	Ctrl Map:	099C	Parcel:	027.00	PI:		S/I:	000

Value Information

Reappraisal Year: 2010

Land Mkt Value:	$34,100
Improvement Value:	$66,400
Total Market Appraisal:	$100,500
Assessment %:	40
Assessment:	$40,200

General Information

Class:	08 - COMMERCIAL		
City #:	549	**City:**	OAK RIDGE
SSD1:	000	**SSD2:**	000
District:	02	**Mkt Area:**	G01
# Bldgs:	1	**# Mobile Homes:**	0
Utilities - Water:	01 - PUBLIC / PUBLIC	**Utilities - Sewer:**	01 - PUBLIC / PUBLIC
Utilities - Elec:	01 - PUBLIC / PUBLIC	**Utilities - Gas:**	03 - PUBLIC /

	INDIVIDUAL
Utilities - Gas Type:	**Zoning:**

Subdivision Data

Subdivision: BLOCK 0C13 LOT 0043

Plat Bk:	Plat Pg:	Block:	Lot:

Additional Description

02 014CB 014CB04300 000

Building Information

Building # 1

Improvement Type:	02 - DUPLEX	**Stories:**	1
Base Area Sq. Ft.:	1,520		
Foundation:	02 - CONTINUOUS FOOTING	**Floor System:**	04 - WOOD W/ SUB FLOOR
Exterior Wall:	04 - SIDING AVERAGE	**Structural Frame:**	00 - NONE
Roof Framing:	02 - GABLE/HIP	**Roof Cover/Deck:**	03 - COMPOSITION SHINGLE
Cabinet/Millwork:	03 - AVERAGE	**Floor Finish:**	09 - HARDWOOD/PARQUE
Interior Finish:	07 - DRYWALL	**Paint/Decor:**	03 - AVERAGE
Bath Tile:	00 - NONE	**Electrical:**	03 - AVERAGE
Heat:		**A/C:**	
Plumbing Fixtures:			
Shape:	01 - RECTANGULAR DESIGN	**Quality:**	
Act Yr Built:	1943	**Condition:**	

Building Areas:

Area:	BAS	**Sq Ft:**	1,520
Area:	BSF	**Sq Ft:**	1,080
Area:	BMU	**Sq Ft:**	440
Area:	OPU	**Sq Ft:**	216
Area:	OPU	**Sq Ft:**	108
Area:	OPU	**Sq Ft:**	108
Area:	OPF	**Sq Ft:**	76

Area: OPF **Sq Ft:** 76

Sale Information

Sale Date	Price	Deed Book	Page	Vac/Imp	Type Instrument	Qualification
05/08/2002	$0	1267	662			
03/15/1976	$0	I-13	378			

Land Information

Deed Acres: 0.39 **Calc Acres:** 0.00 **Total Land Units:** 0.39

Land Type: 05 - MULTI FAMILY **Soil Class:** **Units:** .39

View GIS Map for this Parcel

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MAPS AND PHOTOGRAPHS

Attached is a map and photographs of the Property. Four (4) page attachment.

101 Wade Ln Oak Ridge, TN 37830

117 Wade Ln Oak Ridge, TN 37830

157 Wade Ln Oak Ridge, TN 37830

355 W. Outer Dr. Oak Ridge, TN 37830

HAZARDOUS MATERIALS SURVEY REPORT

Attached are the following Hazardous Materials Assessment reports on the Property:

- A thirty-one (31) page Hazardous Materials Assessment report from Orion Environmental Solutions, Inc. on 101 Wade Lane.
- A thirty-two (32) page Hazardous Materials Assessment report from Orion Environmental Solutions, Inc. on 117 Wade Lane.
- A forty-five (45) page Hazardous Materials Assessment report from Professional Environmental Consulting, Inc. on 157 Wade Lane.
- A thirty-five (35) page Hazardous Materials Assessment report from Orion Environmental Solutions, Inc. on 355 W. Outer Drive.

101 WADE LANE
OAK RIDGE, TN

Household Hazardous Materials

Unit	Hazardous Material
101	Refrigerants: window air conditioner, refrigerator; Mercury thermostat
103	Refrigerants: window air conditioner, refrigerator; Mercury thermostat
105	Refrigerants: window air conditioner, refrigerator; Mercury thermostat
107	Refrigerants: window air conditioner, refrigerator
Basement	None

LOCATION, DESCRIPTION, and ASBESTOS ANALYSIS
101 WADE LANE
OAK RIDGE, TENNESSEE

Sample ID	Location	Description	% Asbestos/Type of Asbestos
101SV1-1a	Apt 101, kitchen	Off-white block sheet vinyl	NAD *
101SV1-1b	**Apt 101, kitchen**	**Second sheet vinyl**	**15% chrysotile**
101SV1-2a	Apt 101, kitchen	Off-white block sheet vinyl	NAD
101SV1-2b	**Apt 101, kitchen**	**Second sheet vinyl**	**NA ****
101SV1-3a	Apt 101, kitchen	Off-white block sheet vinyl	NAD
101SV1-3b	**Apt 101, kitchen**	**Second sheet vinyl**	**NA**
101SV2-1a	Apt 101, bath	White block sheet vinyl	

Sample ID	Location	Description	% Asbestos/Type of Asbestos
101SV2-1b	Apt 101, bath	Mastic	NAD
101SV2-1c	Apt 101, bath	Second sheet vinyl	NAD
101SV2-2a	Apt 101, bath	White block sheet vinyl	NAD
101SV2-2b	Apt 101, bath	Mastic	NAD
101SV2-2c	Apt 101, bath	Second sheet vinyl	NAD
101SV2-3a	Apt 101, bath	White block sheet vinyl	NAD
101SV2-3b	Apt 101, bath	Mastic	NAD
101SV2-3c	Apt 101, bath	Second sheet vinyl	NAD
CT-1	**Apt 101, Master BR**	**Stomp ceiling texture**	**3% chrysotile**
CT-2	**Apt 103, LR**	**Stomp ceiling texture**	**NA**
CT-3	**Apt 107, LR**	**Stomp ceiling texture**	**NA**
CT-4	**Apt 105, BR**	**Stomp ceiling texture**	**NA**
SI-1	**Apt101, kitchen**	**Black sink insulation**	**3% chrysotile**
SI-2	**Apt 103, kitchen**	**Black sink insulation**	**NA**
SI-3	**Apt 107, kitchen**	**Black sink insulation**	**NA**
SI-4	**Apt 105, kitchen**	**Black sink insulation**	**NA**
JC-1	**Apt 101, LR**	**Joint compound**	**2% chrysotile**
JC-2	**Apt 103, LR**	**Joint compound**	**NA**
JC-3	**Apt 107, BR**	**Joint compound**	**NA**
JC-4	**Apt 105, Hall**	**Joint compound**	**NA**
103SV1-1a	Apt 103, kitchen	White block sheet vinyl	NAD
103SV1-1b	Apt 103, kitchen	Mastic	NAD
103SV1-1c	Apt 103, kitchen	Second sheet vinyl	NAD
103SV1-1d	**Apt 103, kitchen**	**Third sheet vinyl**	**15% chrysotile**
103SV1-2a	Apt 103, kitchen	White block sheet vinyl	NAD
103SV1-2b	Apt 103, kitchen	Mastic	NAD
103SV1-2c	**Apt 103, kitchen**	**Second sheet vinyl**	**NA**
103SV1-3a	Apt 103, kitchen	White block sheet vinyl	NAD
103SV1-3b	Apt 103, kitchen	Mastic	NAD
103SV1-3c	**Apt 103, kitchen**	**Second sheet vinyl**	**NA**
103 SV2-1a	Apt 103, bath	Large white block sheet vinyl	NAD
103 SV2-1b	Apt 103, bath	Mastic	NAD
103SV2-2a	Apt 103, bath	Large white block sheet vinyl	NAD
103SV2-2b	**Apt 103, bath**	**Second sheet vinyl**	**15% chrysotile**
103SV2-3a	Apt 103, bath	Large white block sheet vinyl	NAD
103SV2-3b	**Apt 103, bath**	**Second sheet vinyl**	**NA**
105SV1-1a	Apt 105, kitchen	Off-white diamond block sheet vinyl	NAD
105SV1-1b	**Apt 105, kitchen**	**Mastic**	**2% chrysotile**
105SV1-2	Apt 105, kitchen	Off-white diamond block sheet vinyl	NAD
105SV1-3	Apt 105, kitchen	Off-white diamond block sheet vinyl	NAD
105SV2-1	Apt 105, bath	Pink & white block sheet vinyl	NAD
105SV2-2	Apt 105, bath	Pink & white block sheet vinyl	NAD
105SV2-3	Apt 105, bath	Pink & white block sheet vinyl	NAD
107SV1-1a	Apt 107, kitchen	Pink-white block sheet vinyl	NAD
107SV1-1b	**Apt 107, kitchen**	**Second sheet vinyl**	**15% chrysotile**
107SV1-2a	Apt 107, kitchen	Pink-white block sheet vinyl	NAD
107SV1-2b	**Apt 107, kitchen**	**Second sheet vinyl**	**NA**
107SV1-3a	Apt 107, kitchen	Pink-white block sheet vinyl	NAD

Sample ID	Location	Description	% Asbestos/Type of Asbestos
107SV1-3b	**Apt 107, kitchen**	**Second sheet vinyl**	**NA**
107SV2-1a	Apt 107, bath	White small block sheet vinyl	NAD
107SV2-1b	**Apt 107, bath**	**Second sheet vinyl**	**15% chrysotile**
107SV2-2a	Apt 107, bath	White small block sheet vinyl	NAD
107SV2-2b	**Apt 107, bath**	**Second sheet vinyl**	**NA**
107SV2-3a	Apt 107, bath	White small block sheet vinyl	NAD
107SV2-3b	**Apt 107, bath**	**Second sheet vinyl**	**NA**
107DW-1a	Apt 107, kitchen	Ceiling drywall	NAD
107DW-1b	Apt 107, kitchen	Joint compound	3%
107DW-1b	Apt 107, kitchen	Ceiling drywall	NAD
107DW-1c	Apt 107, kitchen	Ceiling drywall	NAD
101TSI-1	**Basement, back wall**	**Exhaust flue packing**	**65% chrysotile**
101FDT-1	**Right front furnace**	**Furnace duct tape**	**60% chrysotile**
101FDT-2	**Right rear furnace**	**Furnace duct tape**	**NA**
101FDT-3	**Left front furnace**	**Furnace duct tape**	**NA**
101FDP-1	**Right front furnace duct**	**Duct packing**	**80% chrysotile**
101FDP-2	**Right rear furnace duct**	**Duct packing**	**NA**
101FDP-3	**Left rear furnace duct**	**Duct packing**	**NA**
101BDW-1a	Basement ceiling	Drywall	NAD
101BDW-1a	**Basement ceiling**	**Joint compound**	**2% chrysotile**
101BDW-2	Basement ceiling	Drywall	NAD
101BDW-3	Basement wall	Drywall	NAD
101BF-1	Basement store room	Black felt paper	NAD
101BF-2	Basement store room	Black felt paper	NAD
101BF-3	Basement store room	Black felt paper	NAD
101EC-1	Exterior, back	Caulk above brick	NAD
101EC-2	Exterior, back	Caulk above brick	NAD
101EC-3	Exterior, back	Caulk above brick	NAD
101RF-1a	Left porch	roofing	NAD
101RF-1b	Left porch	Fibrous matt	NAD
101RF-2	Left porch	Roofing	NAD
101RF-3a	Right porch	Roofing	NAD
101RF-3b	Right porch	Fibrous matt	NAD
101RF2-1	Roof	Shingle	NAD
101F-1	Exterior, back	Black felt behind clapboard	NAD
101F-2	Exterior, back	Black felt behind clapboard	NAD
101F-3	Exterior, right side	Black felt behind clapboard	NAD

* NAD – No Asbestos Detected
**Not analyzed – First positive stop
Table entries in bold and shading are confirmed ACMs

Amount of ACMs by Unit*

Unit	ACM	Square Feet
101 Upper	Kitchen sheet vinyl Stomp ceiling texture Black sink insulation	75 677 2
103 Lower	Kitchen sheet vinyl Bath sheet vinyl Stomp ceiling texture Black sink insulation	69 22 580 2

105 Lower	Kitchen sheet vinyl Stomp ceiling texture Black sink insulation	69 580 2
107 Upper	Kitchen sheet vinyl Bath sheet vinyl Stomp ceiling texture Black sink insulation	75 25 677 2
Basement	Exhaust Flue Packing Furnace Duct Tape Duct Packing	~1 ft^3 6 ~1.5 ft^3

*Joint compound was confirmed as 2% chrysotile, but is not regulated as ACM by TDEC if it is a part of a drywall system.

ATTACHMENT A

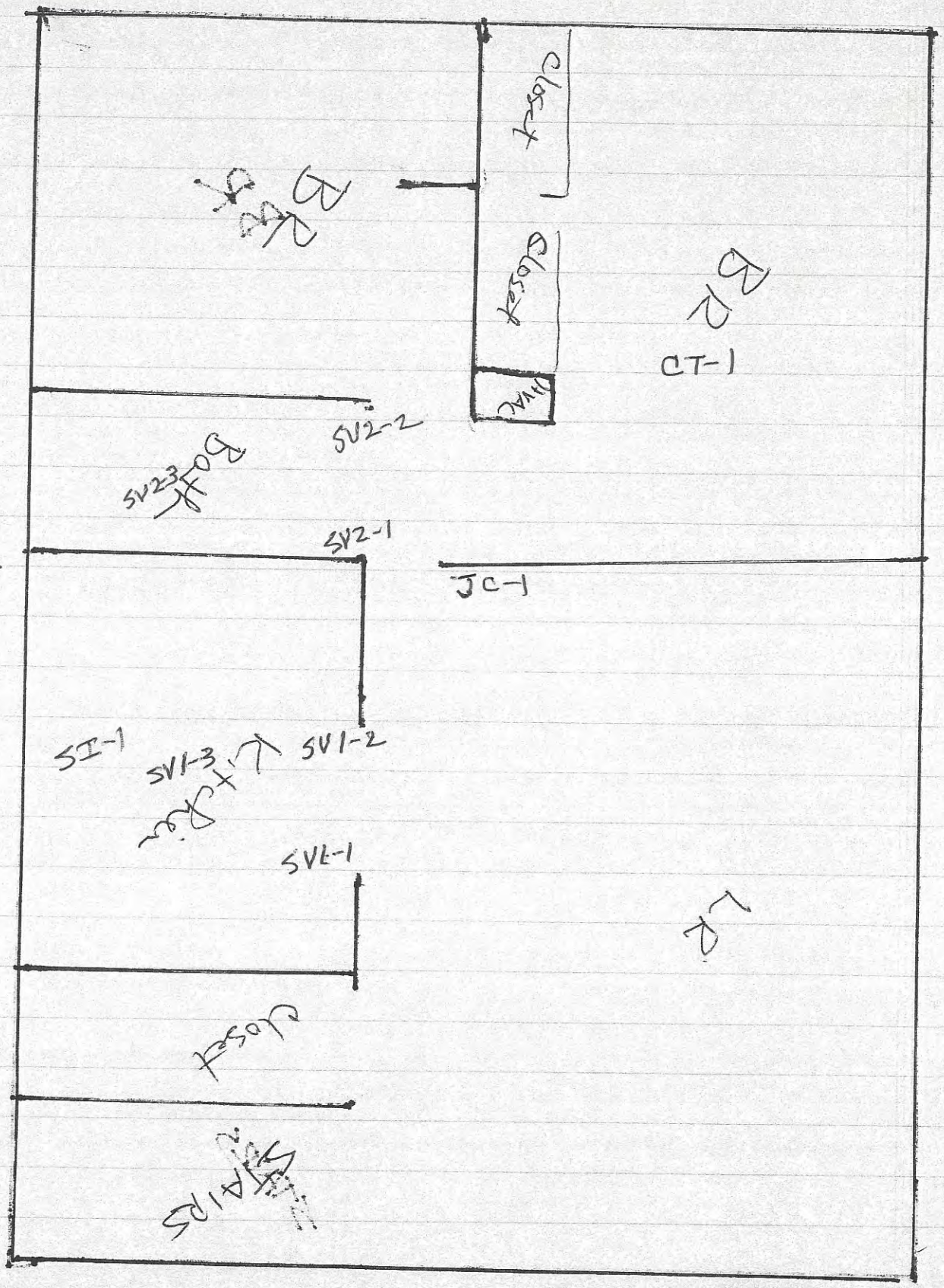
SITE MAPS/SAMPLE LOCATIONS

101 Wade Dr - Bldg

Right Upper

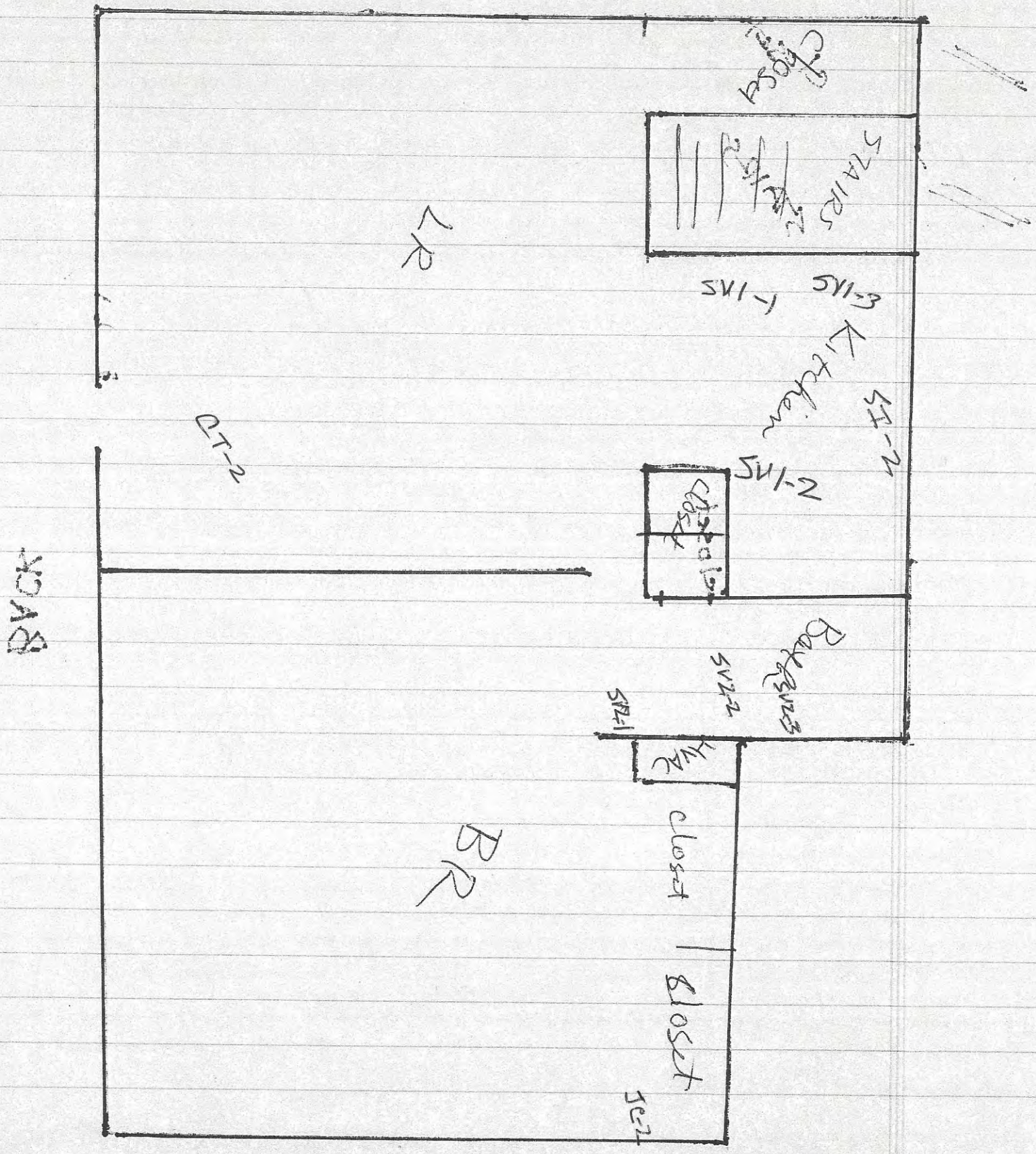
Not to Scale

Unit 101

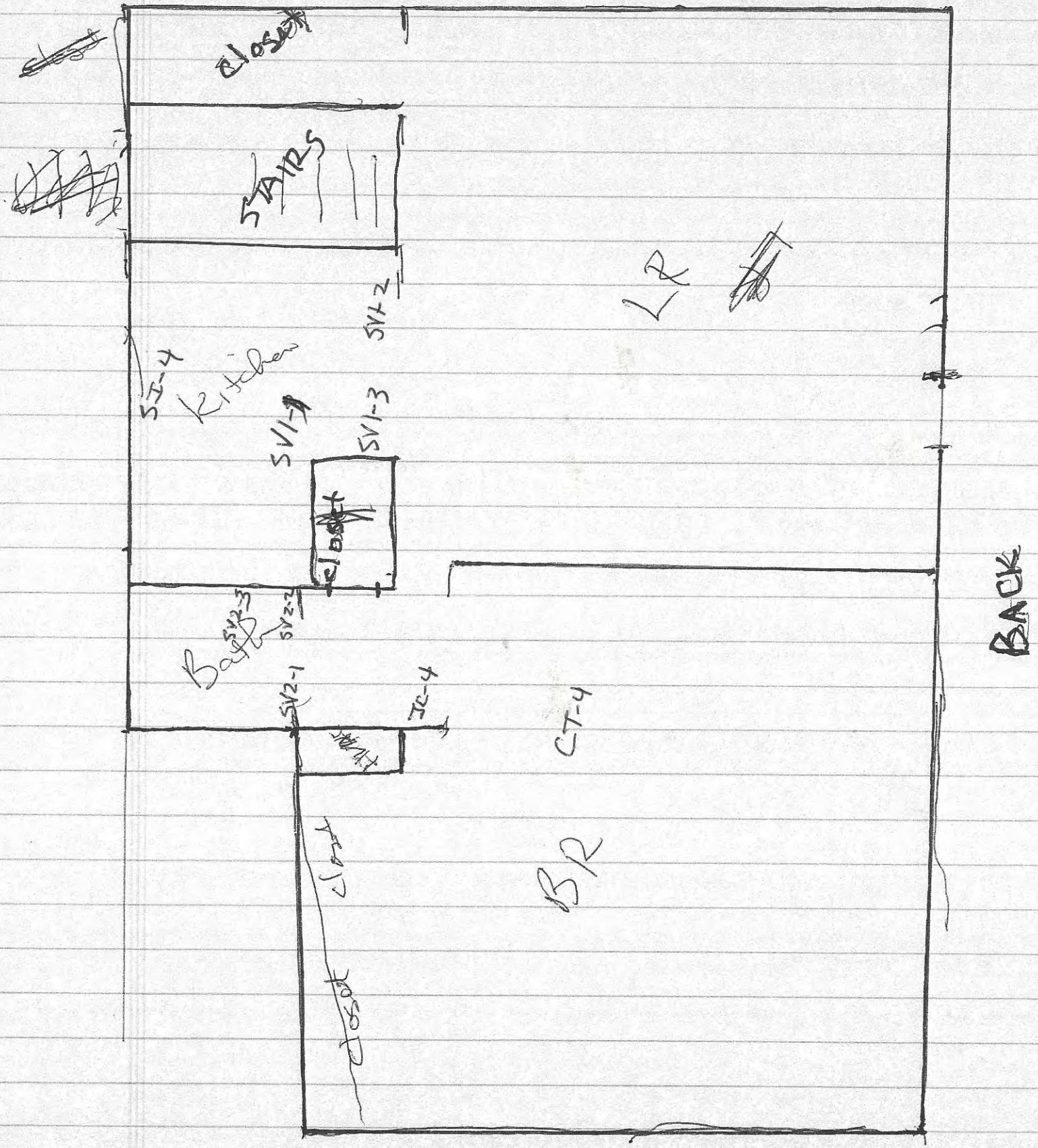


101 Wade Dr Bldg
Lower Right
Unit 103

Not to Scale



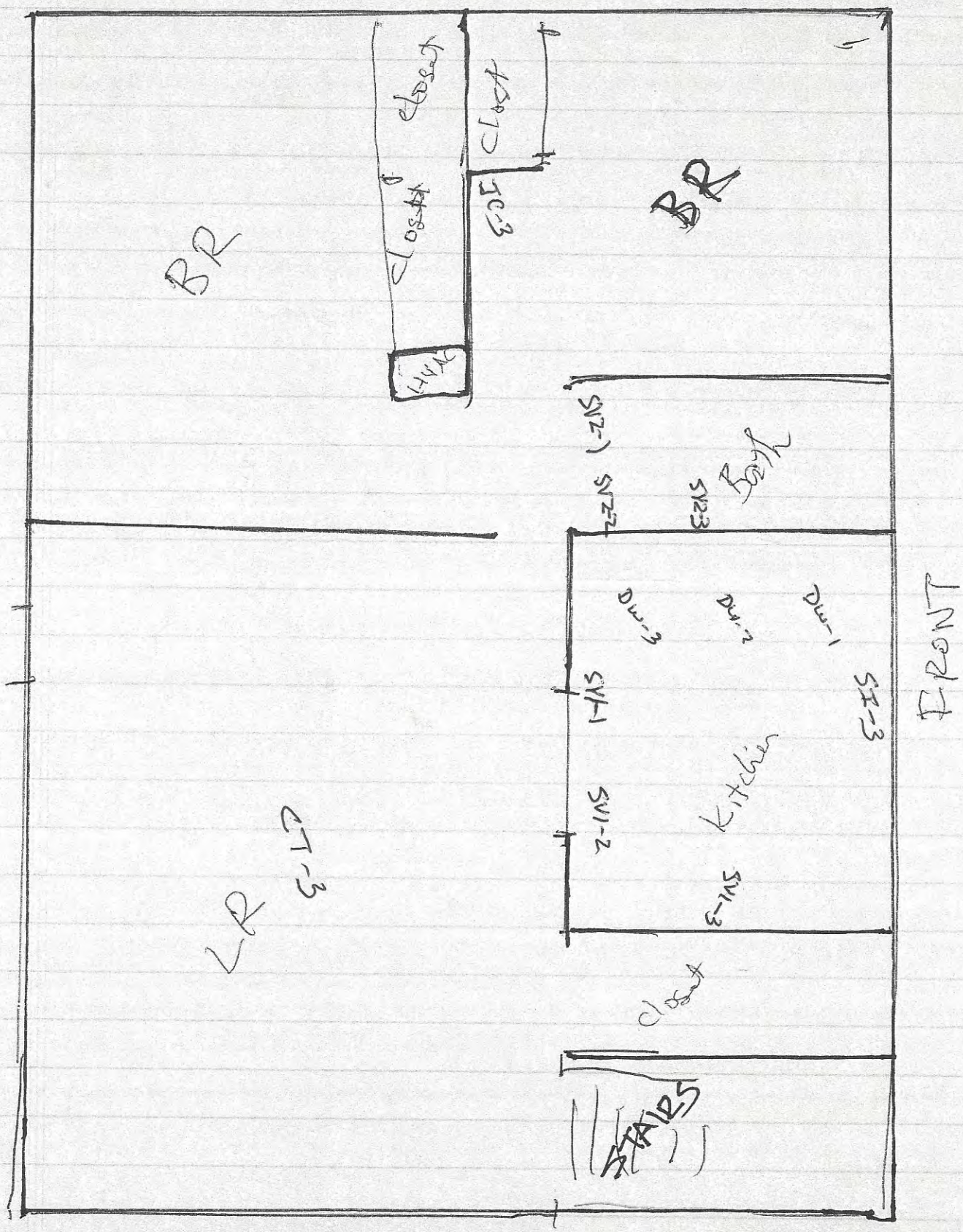
Lower Left Not to Scale
101 Wade Dr Bldg
Unit 105



Left Upper Not to Scale

101 Wade Dr

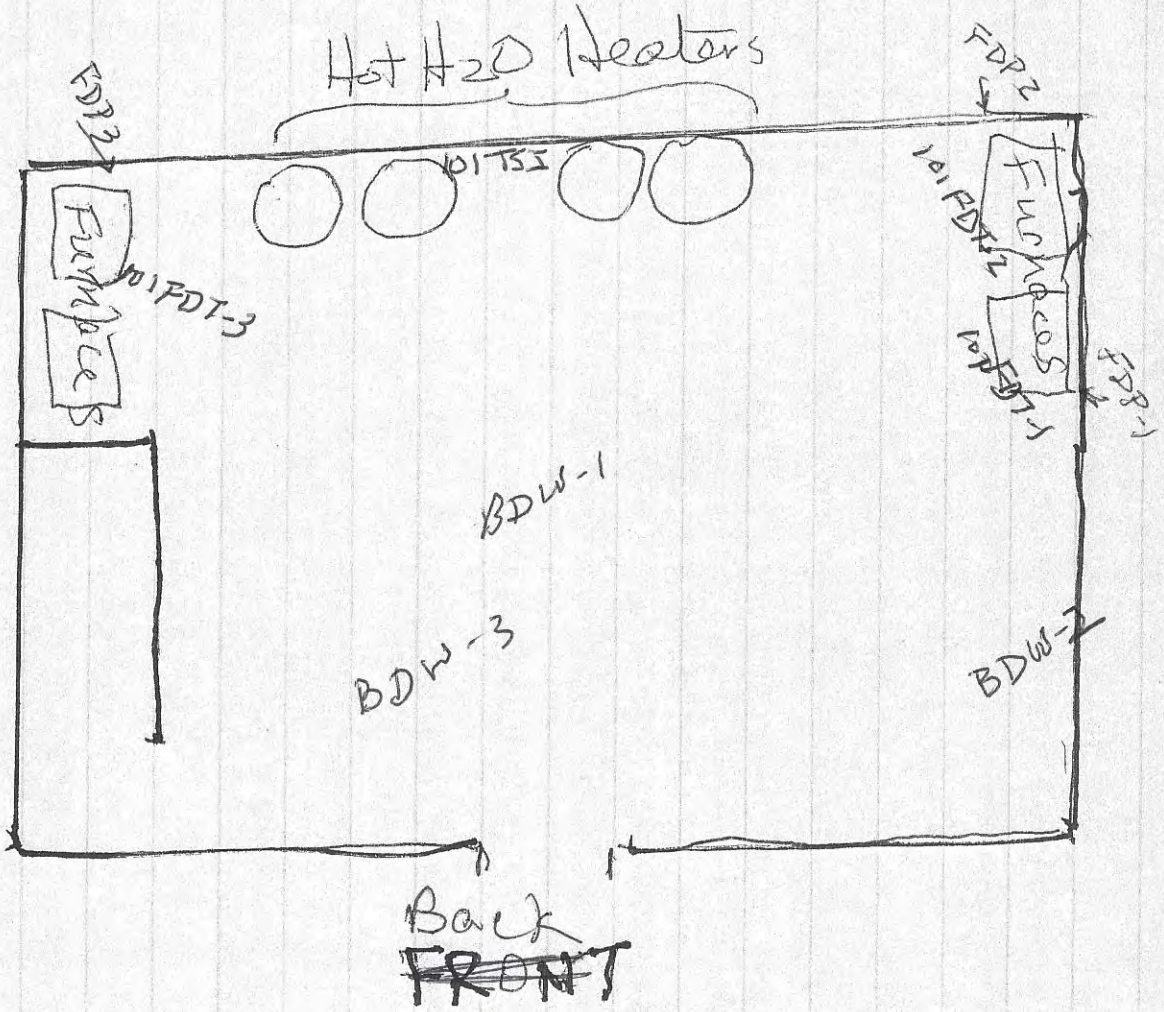
Unit 107



Basement

101 Wade Dr Bldg

NOT To Scale



ATTACHMENT B

LABORATORY ANALYSIS

SanAir Technologies Laboratory

Analysis Report

prepared for

Orion Environmental Solutions, Inc

Report Date: 8/13/2015
Project Name: Oak Ridge 4-Plex
Project #: 15-770
SanAir ID#: 15023590

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

Orion Environmental Solutions, Inc
2971 Hodges Landing Dr
Knoxville, TN 37920

August 13, 2015

SanAir ID # 15023590
Project Name: Oak Ridge 4-Plex
Project Number: 15-770

Dear Dennis Hunter,

We at SanAir would like to thank you for the work you recently submitted. The 62 sample(s) were received on Thursday, August 06, 2015 via FedEx. The final report(s) is enclosed for the following sample(s): 101SV1-1, 101SV1-2, 101SV1-3, 101SV2-1, 101SV2-2, 101SV2-3, CT-1, CT-2, CT-3, CT-4, SI-1, SI-2, SI-3, SI-4, JC-1, JC-2, JC-3, JC-4, 103SV1-1, 103SV1-2, 103SV1-3, 103SV2-1, 103SV2-2, 103SV2-3, 105SV1-1, 105SV1-2, 105SV1-3, 105SV2-1, 105SV2-2, 105SV2-3, 107SV1-1, 107SV1-2, 107SV1-3, 107SV2-1, 107SV2-2, 107SV2-3, 101TSI, 101FDT-1, 101FDT-2, 101FDT-3, 101FDP-1, 101FDP-2, 101FDP-3, 101BDW-1, 101BDW-2, 101BDW-3, 101BF-1, 101BF-2, 101BF-3, 101EC-1, 101EC-2, 101EC-3, 101RF-1, 101RF-2, 101RF-3, 101RF2, 101F-1, 101F-2, 101F-3, 107DW-1, 107DW-2, 107DW-3.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:
62 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number

15023590

FINAL REPORT

Name: Orion Environmental Solutions, Inc
Address: 2971 Hodges Landing Dr
Knoxville, TN 37920

Project Number: 15-770
P.O. Number: 15-770
Project Name: Oak Ridge 4-Plex

Collected Date: 8/5/2015
Received Date: 8/6/2015 10:35:00 AM
Report Date: 8/13/2015 6:21:37 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101SV1-1 / 15023590-001 Sheet Vinyl Kitchen, Vinyl	Off-White Non-Fibrous Homogeneous	10% Cellulose 2% Glass	88% Other	None Detected
101SV1-1 / 15023590-001 Sheet Vinyl Kitchen, Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101SV1-2 / 15023590-002 Sheet Vinyl Kitchen, Vinyl	Off-White Non-Fibrous Homogeneous	10% Cellulose 2% Glass	88% Other	None Detected
101SV1-2 / 15023590-002 Sheet Vinyl Kitchen, Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101SV1-3 / 15023590-003 Sheet Vinyl Kitchen, Vinyl	Off-White Non-Fibrous Homogeneous	10% Cellulose 2% Glass	88% Other	None Detected
101SV1-3 / 15023590-003 Sheet Vinyl Kitchen, Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101SV2-1 / 15023590-004 Sheet Vinyl Bath, Vinyl	White Non-Fibrous Homogeneous	10% Cellulose 2% Glass	88% Other	None Detected
101SV2-1 / 15023590-004 Sheet Vinyl Bath, Mastic	Cream Non-Fibrous Homogeneous		100% Other	None Detected
101SV2-1 / 15023590-004 Sheet Vinyl Bath, Vinyl	Beige Non-Fibrous Homogeneous	12% Cellulose	88% Other	None Detected

Certification

Signature: Susan L. Childress
Date: 8/13/2015

Reviewed:
Date: 8/13/2015

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101SV2-2 / 15023590-005 Sheet Vinyl Bath, Vinyl	White Non-Fibrous Homogeneous	10% Cellulose 2% Glass	88% Other	None Detected
101SV2-2 / 15023590-005 Sheet Vinyl Bath, Mastic	Cream Non-Fibrous Homogeneous		100% Other	None Detected
101SV2-2 / 15023590-005 Sheet Vinyl Bath, Vinyl	Beige Non-Fibrous Homogeneous	12% Cellulose	88% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101SV2-3 / 15023590-006 Sheet Vinyl Bath, Vinyl	White Non-Fibrous Homogeneous	10% Cellulose 2% Glass	88% Other	None Detected
101SV2-3 / 15023590-006 Sheet Vinyl Bath, Mastic	Cream Non-Fibrous Homogeneous		100% Other	None Detected
101SV2-3 / 15023590-006 Sheet Vinyl Bath, Vinyl	Beige Non-Fibrous Homogeneous	12% Cellulose	88% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
CT-1 / 15023590-007 Ceiling Texture 101	White Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
CT-2 / 15023590-008 Ceiling Texture 103				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
CT-3 / 15023590-009 Ceiling Texture 107				Not Analyzed

Certification

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
CT-4 / 15023590-010 Ceiling Texture 105				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
SI-1 / 15023590-011 Sink Insulation 101	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
SI-2 / 15023590-012 Sink Insulation 103				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
SI-3 / 15023590-013 Sink Insulation 107				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
SI-4 / 15023590-014 Sink Insulation 105				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
JC-1 / 15023590-015 Joint Compound	Beige Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
JC-2 / 15023590-016 Joint Compound				Not Analyzed

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Signature: Susan L. Childress
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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
JC-3 / 15023590-017 Joint Compound				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
JC-4 / 15023590-018 Joint Compound				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
103SV1-1 / 15023590-019 Sheet Vinyl Kitchen, Vinyl	White Non-Fibrous Homogeneous		100% Other	None Detected
103SV1-1 / 15023590-019 Sheet Vinyl Kitchen, Mastic	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
103SV1-1 / 15023590-019 Sheet Vinyl Kitchen, Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose 3% Glass	87% Other	None Detected
103SV1-1 / 15023590-019 Sheet Vinyl Kitchen, Vinyl	Tan Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
103SV1-2 / 15023590-020 Sheet Vinyl Kitchen, Vinyl	White Non-Fibrous Homogeneous		100% Other	None Detected
103SV1-2 / 15023590-020 Sheet Vinyl Kitchen, Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose 3% Glass	87% Other	None Detected
103SV1-2 / 15023590-020 Sheet Vinyl Kitchen, Vinyl				Not Analyzed

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
103SV1-3 / 15023590-021 Sheet Vinyl Kitchen, Vinyl	White Non-Fibrous Homogeneous		100% Other	None Detected
103SV1-3 / 15023590-021 Sheet Vinyl Kitchen, Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose 3% Glass	87% Other	None Detected
103SV1-3 / 15023590-021 Sheet Vinyl Kitchen, Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
103SV2-1 / 15023590-022 Sheet Vinyl Bath, Vinyl	White Non-Fibrous Homogeneous		100% Other	None Detected
103SV2-1 / 15023590-022 Sheet Vinyl Bath, Mastic	Yellow Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
103SV2-2 / 15023590-023 Sheet Vinyl Bath, Vinyl	White Non-Fibrous Homogeneous		100% Other	None Detected
103SV2-2 / 15023590-023 Sheet Vinyl Bath, Vinyl	Tan Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
103SV2-3 / 15023590-024 Sheet Vinyl Bath, Vinyl	White Non-Fibrous Homogeneous		100% Other	None Detected
103SV2-3 / 15023590-024 Sheet Vinyl Bath, Vinyl				Not Analyzed

Certification

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
105SV1-1 / 15023590-025 SV Kitchen, Vinyl	Off-White Non-Fibrous Homogeneous	12% Cellulose	88% Other	None Detected
105SV1-1 / 15023590-025 SV Kitchen, Mastic	Various Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
105SV1-2 / 15023590-026 SV Kitchen	Off-White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
105SV1-3 / 15023590-027 SV Kitchen	Off-White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
105SV2-1 / 15023590-028 SV Bath	Various Non-Fibrous Homogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
105SV2-2 / 15023590-029 SV Bath	Various Non-Fibrous Homogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
105SV2-3 / 15023590-030 SV Bath	Various Non-Fibrous Homogeneous	15% Cellulose	85% Other	None Detected

Certification

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
107SV1-1 / 15023590-031 SV Kitchen, Vinyl	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
107SV1-1 / 15023590-031 SV Kitchen, Vinyl	Yellow Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
107SV1-2 / 15023590-032 SV Kitchen, Vinyl	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
107SV1-2 / 15023590-032 SV Kitchen, Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
107SV1-3 / 15023590-033 SV Kitchen, Vinyl	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
107SV1-3 / 15023590-033 SV Kitchen, Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
107SV2-1 / 15023590-034 SV Bath, Vinyl	White Non-Fibrous Homogeneous		100% Other	None Detected
107SV2-1 / 15023590-034 SV Bath, Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
107SV2-2 / 15023590-035 SV Bath, Vinyl	White Non-Fibrous Homogeneous		100% Other	None Detected
107SV2-2 / 15023590-035 SV Bath, Vinyl				Not Analyzed

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
107SV2-3 / 15023590-036 SV Bath, Vinyl	White Non-Fibrous Homogeneous		100% Other	None Detected
107SV2-3 / 15023590-036 SV Bath, Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101TSI / 15023590-037 Exhaust Flue Packing Basement	Grey Fibrous Homogeneous		35% Other	65% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101FDT-1 / 15023590-038 Furnace Duct Tape	Grey Fibrous Homogeneous	15% Cellulose	25% Other	60% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101FDT-2 / 15023590-039 Furnace Duct Tape				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101FDT-3 / 15023590-040 Furnace Duct Tape				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101FDP-1 / 15023590-041 Furnace Duct Packing	Grey Fibrous Homogeneous		20% Other	80% Chrysotile

Certification

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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101FDP-2 / 15023590-042 Furnace Duct Packing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101FDP-3 / 15023590-043 Furnace Duct Packing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101BDW-1 / 15023590-044 Ceiling Drywall, Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
101BDW-1 / 15023590-044 Ceiling Drywall, Joint Compound	Beige Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101BDW-2 / 15023590-045 Ceiling Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101BDW-3 / 15023590-046 Ceiling Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
101BF-1 / 15023590-047 Wall Felt	Black Fibrous Homogeneous	45% Cellulose	55% Other	None Detected

Certification

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101BF-2 / 15023590-048 Wall Felt	Black Fibrous Homogeneous	45% Cellulose	55% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101BF-3 / 15023590-049 Wall Felt Basement	Black Fibrous Homogeneous	45% Cellulose	55% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101EC-1 / 15023590-050 Exterior Caulk	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101EC-2 / 15023590-051 Exterior Caulk	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101EC-3 / 15023590-052 Exterior Caulk	Grey Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101RF-1 / 15023590-053 Porch Roofing, Roofing	Black Non-Fibrous Homogeneous		100% Other	None Detected
101RF-1 / 15023590-053 Porch Roofing, Fibrous Material	Grey Fibrous Homogeneous	90% Cellulose	10% Other	None Detected

Certification

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101RF-2 / 15023590-054 Porch Roofing	Grey Fibrous Homogeneous	90% Cellulose	10% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101RF-3 / 15023590-055 Porch Roofing, Roofing	Black Non-Fibrous Homogeneous		100% Other	None Detected
101RF-3 / 15023590-055 Porch Roofing, Fibrous Material	Grey Fibrous Homogeneous	90% Cellulose	10% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101RF2 / 15023590-056 Asphalt Shingle	Grey Non-Fibrous Homogeneous	5% Glass	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101F-1 / 15023590-057 Felt Under Clap Board	Black Fibrous Homogeneous	45% Cellulose	55% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101F-2 / 15023590-058 Felt Under Clap Board	Various Fibrous Homogeneous	80% Cellulose	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
101F-3 / 15023590-059 Felt Under Clap Board	Black Fibrous Homogeneous	45% Cellulose	55% Other	None Detected

Certification

Signature: Susan L. Childress
Date: 8/13/2015

Reviewed:
Date: 8/13/2015

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number

15023590

FINAL REPORT

Name: Orion Environmental Solutions, Inc
Address: 2971 Hodges Landing Dr
Knoxville, TN 37920

Project Number: 15-770
P.O. Number: 15-770
Project Name: Oak Ridge 4-Plex

Collected Date: 8/5/2015
Received Date: 8/6/2015 10:35:00 AM
Report Date: 8/13/2015 6:21:37 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
107DW-1 / 15023590-060 Drywall	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
107DW-1 / 15023590-060 Joint Compound	Beige Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
107DW-2 / 15023590-061	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
107DW-3 / 15023590-062	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

Certification

Signature: Susan L. Childress
Date: 8/13/2015

Reviewed:
Date: 8/13/2015

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the clientõs sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

NY ELAP lab ID 11983

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Asbestos Chain of Custody

SanAir ID Number: 15023590

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge 4-Plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/5/2015	Fax #:	865-577-0774
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop ☑		ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐	**Water**			**Dust**		
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
101SV1-1	Off white block sheet vinyl Kitchen					
101SV1-2	↓					
101SV1-3	↓					
101SV2-1	white block sheet vinyl bath					
101SV2-2	↓					
101SV2-3	↓					
CT-1	Stomp ceiling texture 101					
CT-2	↓ 103					
CT-3	↓ 103					
CT-4	↓ 105					
SI-1	Black sink insulation 101					
SI-2	↓ 103					

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
D Hunter	8/5/15	5pm	[illegible]	AUG 6 2015	10:35

Unless scheduled, the turn around time for all samples received after 5 pm Friday will begin at 8 am Monday morning.
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Asbestos Chain of Custody

SanAir ID Number: 15023590

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge, TN 4 plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/5/2015	Fax #:	
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

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Bulk			Air			Soil/Vermiculite		
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ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐	**Water**			**Dust**		
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
SI-3	Black sink insulation 107					
SI-4	↓ 105					
JC-1	Joint compound					
JC-2	↓					
JC-3	↓					
JC-4	↓					
1035V1-1	white block sheet vinyl kitchen					
1035V1-2	↓					
1035V1-3	↓					
1035V2-1	Large white block sheet vinyl bath					
1035V2-2	↓					
1035V2-3	↓					

Special Instructions	

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SanAir ID Number: 15023590

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Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge, TN 4 plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/5/2015	Fax #:	
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ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐		**Water**			**Dust**	
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
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Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
105SV1-1	Off-white diamond block SV Kitchen					
105SV1-2	↓ ↓					
105SV1-3	↓ ↓					
105SV2-1	Pink-white block SV bath					
105SV2-2	↓ ↓					
105SV2-3	↓ ↓					
107SV1-1	White block SV Kitchen					
107SV1-2	↓ ↓					
107SV1-3	↓ ↓					
107SV2-1	White small block SV bath					
107SV2-2	↓ ↓					
107SV2-3	↓ ↓					

Special Instructions

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Bulk			Air			Soil/Vermiculite		
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ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐	**Water**			**Dust**		
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
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Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	– Stop
101 TSI	Exhaust Flue Packing Basement					
101 FDT-1	Furnace Duct Tape					
101 FDT-2	↓					
101 FDT-3	↓					
101 FDP-1	Furnace Duct Packing					
101 FDP-2	↓					
101 FDP-3	↓					
101 BDW-1	Ceiling Dry Wall					
101 BDW-2	↓					
101 BDW-3	↓					
101 BF-1	Black Wall felt					
101 BF-2	↓					

Special Instructions

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ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐		**Water**			**Dust**	
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
101BF-3	Black wall felt Basement					
101EC-1	Exterior caulk					
101EC-2	↓					
101EC-3	↓					
101RF-1	Porch roofing					
101RF-2	↓					
101RF-3	↓					
101RF2	Asphalt Shingle					
101F-1	Black felt under clap board					
101F-2	↓					
101F-3	↓					

Special Instructions

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D Hunter	8/5/15	5 PM	[illegible]	AUG 6 2015	10:35

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117 WADE LAND
OAK RIDGE, TN

Household Hazardous Materials

Unit	Hazardous Material
117	Refrigerants: window air conditioner, refrigerator
119	Refrigerants: window air conditioner, refrigerator; Mercury thermostat
121	Refrigerants: window air conditioner, refrigerator
123	Refrigerants: window air conditioner, refrigerator; Mercury thermostat
Basement	1 gallon paint – oil primer; 2 gallon – roofing tar

Asbestos-Containing Materials

LOCATION, DESCRIPTION, and ASBESTOS ANALYSIS
117 WADE LANE
OAK RIDGE, TENNESSEE

Sample ID	Location	Description	% Asbestos/Type of Asbestos
117SV1-1a	Apt 117, kitchen	Off-white block sheet vinyl	NAD *
117SV1-1b	Apt 117, kitchen	Beige mastic	NAD
117SV1-1c	**Apt 117, kitchen**	**Second sheet vinyl**	**20% chrysotile**

Sample ID	Location	Description	% Asbestos/Type of Asbestos
117SV1-1d	Apt 117, kitchen	Tan mastic	NAD
117SV1-2a	Apt 117, kitchen	Off-white block sheet vinyl	NAD
117SV1-2b	Apt 117, kitchen	Beige mastic	NAD
117SV1-2c	**Apt 117, kitchen**	**Second sheet vinyl**	**NA ****
117SV1-2d	Apt 117, kitchen	Tan mastic	NAD
117SV1-3a	Apt 1171, kitchen	Off-white block sheet vinyl	NAD
117SV1-3b	Apt 1171, kitchen	Beige mastic	NAD
117SV1-3c	**Apt 1171, kitchen**	**Second sheet vinyl**	**NA**
117SV1-3d	Apt 1171, kitchen	Tan mastic	NAD
117SV2-1a	Apt 117, bath	Beige small block sheet vinyl	AND
117SV2-1b	Apt 117, bath	Tan mastic	NAD
117SV2-1c	**Apt 117, bath**	**Second sheet vinyl**	**20% chrysotile**
117SV2-1d	Apt 117, bath	Tan mastic	NAD
117SV2-2a	Apt 117, bath	Beige small block sheet vinyl	NAD
117SV2-2b	Apt 117, bath	Tan mastic	NAD
117SV2-2c	**Apt 117, bath**	**Second sheet vinyl**	**NA**
117SV2-2d	Apt 117, bath	Tan mastic	NAD
117SV2-3a	Apt 117, bath	Beige small block sheet vinyl	NAD
117SV2-3a	Apt 117, bath	Tan mastic	NAD
117SV2-3a	**Apt 117, bath**	**Second sheet vinyl**	**NA**
117SV2-3a	Apt 117, bath	Tan mastic	NAD
CT-1	**Apt 117, LR**	**Stomp ceiling texture**	**2% chrysotile**
CT-2 **CT-3**	**Apt 121, LR** **Apt 123,BR**	**Stomp ceiling texture** **Stomp ceiling texture**	**NA** **NA**
SI-1 **SI-2** **SI-3**	**Apt117, kitchen** **Apt 119, kitchen** **Apt 121, kitchen**	**Black sink insulation** **Black sink insulation** **Black sink insulation**	**3% chrysotile** **NA** **NA**
JC-1	**Apt 117, LR**	**Joint compound**	**2% chrysotile**
JC-2	**Apt 119, LR**	**Joint compound**	**NA**
JC-3	**Apt 121, BR**	**Joint compound**	**NA**
117DW-1	Apt 117, kitchen	Double drywall ceiling	NAD
117DW-2	Apt 117, bath	Double drywall ceiling	NAD
117DW-3	Apt 117, BR	Double drywall ceiling	NAD
119SV1-1	**Apt 119, kitchen**	**Beige speckle pattern sheet vinyl**	**20% chrysotile**
119SV1-2	**Apt 103, kitchen**	**Beige speckle pattern sheet vinyl**	**NA**
119SV1-3	**Apt 119, bath**	**Beige speckle pattern sheet vinyl**	**NA**
119CT-1	Apt 119, LR	Spray ceiling texture	NAD
119CT-2	Apt 119, kitchen	Spray ceiling texture	NAD
119CT-3	**Apt 119, bath**	**Spray ceiling texture**	**3% chrysotile**
121SV1-1a	Apt 121, kitchen	Beige block sheet vinyl	NAD
121SV1-1b	Apt 121, kitchen	Tan mastic	NAD
121SV1-1c	**Apt 121, kitchen**	**Second sheet vinyl**	**20% chrysotile**
121SV1-1d	**Apt 121, kitchen**	**Black mastic**	**3% chrysotile**
121SV1-2a	Apt 121, kitchen	Beige block sheet vinyl	NAD
121SV1-2b	Apt 121, kitchen	Tan mastic	NAD
121SV1-3a	Apt 121, kitchen	Beige block sheet vinyl	NAD
121SV1-3b	Apt 121, kitchen	Tan mastic	NAD
121SV2-1a	Apt 121, bath	Diamond block sheet vinyl	NAD
121SV2-1b	Apt 121, bath	Tan mastic	NAD
121SV2-1c	Apt 121, bath	Second sheet vinyl	NAD
121SV2-2a	Apt 121, bath	Diamond block sheet vinyl	NAD

Sample ID	Location	Description	% Asbestos/Type of Asbestos
121SV2-2b	Apt 121, bath	Tan mastic	NAD
121SV2-2c	**Apt 121, bath**	**Second sheet vinyl**	**20% chrysotile**
121SV2-2d	Apt 121, bath	Tan mastic	NAD
121SV2-3a	Apt 121, bath	Diamond block sheet vinyl	NAD
121SV2-3b	Apt 121, bath	Tan mastic	NAD
121SV2-3c	**Apt 121, bath**	**Second sheet vinyl**	**NA**
121SV3-1a	**Apt 121, hall**	**Butcher block sheet vinyl**	**20% chrysotile**
121SV3-1b	**Apt 121, hall**	**Brown mastic**	**3% chrysotile**
121SV3-2	**Apt 121, hall**	**Butcher block sheet vinyl**	**NA**
121SV3-3	**Apt 121, hall**	**Butcher block sheet vinyl**	**NA**
123SV1-1a	Apt 123, kitchen	Pink-white checker board sheet vinyl	NAD
123SV1-1b	Apt 123, kitchen	Yellow mastic	NAD
123SV1-1c	**Apt 123, kitchen**	**Second sheet vinyl**	**20% chrysotile**
123SV1-2a	Apt 123, kitchen	Pink-white checker board sheet vinyl	NAD
123SV1-2b	Apt 123, kitchen	Yellow mastic	NAD
123SV1-2c	**Apt 123, kitchen**	**Second sheet vinyl**	**NA**
123SV1-3a	Apt 123, kitchen	Pink-white checker board sheet vinyl	NAD
123SV1-3b	Apt 123, kitchen	Tan mastic	NAD
123SV1-3c	**Apt 123, kitchen**	**Second sheet vinyl**	**NA**
123SV2-1	Apt 123, bath	Blue beige diamond sheet vinyl	NAD
123SV2-2	Apt 123, bath	Blue beige diamond sheet vinyl	NAD
123SV2-3	Apt 123, bath	Blue beige diamond sheet vinyl	NAD
123CT-1	Apt 123, kitchen	Spray ceiling texture	NAD
123CT-2	Apt 123, kitchen	Spray ceiling texture	NAD
123CT-3	Apt 123, kitchen	Spray ceiling texture	NAD
117EFP	**Basement, back wall**	**Exhaust flue packing**	**65 % chrysotile**
117FDT-1	**Right front furnace**	**Furnace duct tape**	**50% chrysotile**
117FDT-2	**Right rear furnace**	**Furnace duct tape**	**NA**
117FDT-3	**Left front furnace**	**Furnace duct tape**	**NA**
117FDP-1	**Right front furnace duct**	**Duct packing**	**65% chrysotile**
117FDP-2	**Right rear furnace duct**	**Duct packing**	**NA**
117FDP-3	**Left rear furnace duct**	**Duct packing**	**NA**
117BDW-1	Basement ceiling	Drywall	NAD
117BDW-2	Basement ceiling	Drywall	NAD
117BDW-3	Basement wall	Drywall	NAD
117BF-1	Back wall	Black felt behind clapboard	NAD
117BF-2	Back wall	Black felt behind clapboard	NAD
117BF-3	Left side wall	Black felt behind clapboard	NAD
117EC-1	Exterior, back	Caulk above brick	NAD
117EC-2	Exterior, back	Caulk above brick	NAD
117EC-3	Exterior, back	Caulk above brick	NAD
117RF-1a	Right back porch	roofing	NAD
117RF-1b	Right back porch	felt	NAD
117RF-2a	Right back porch	roofing	NAD

Sample ID	Location	Description	% Asbestos/Type of Asbestos
117RF-2b	Right back porch	Felt	NAD
117RF-3a	Left back porch	roofing	NAD
117RF-3b	Right back porch	felt	NAD
117F-1	Basement store room	Black felt paper	NAD
117F-2	Basement store room	Black felt paper	NAD
117F-3	Basement store room	Black felt paper	NAD

* NAD – No Asbestos Detected
** Not Analyzed (First positive, stop)
Table entries in bold and shading are confirmed ACMs

Amount of ACMs by Unit*

Unit	ACM	Square Feet
117 Upper	Kitchen sheet vinyl	75
	Bath sheet vinyl	25
	Stomp ceiling texture	677
	Black sink insulation	2
119 Lower	Kitchen sheet vinyl	69
	Bath sheet vinyl	22
	Stomp ceiling texture	300
	Black sink insulation	2
121 Lower	Kitchen sheet vinyl	69
	Bath sheet vinyl	22
	Hall	26
	Stomp ceiling texture	580
	Black sink insulation	2
123 Upper	Kitchen sheet vinyl	75
	Bath sheet vinyl	25
	Stomp ceiling texture	600
	Black sink insulation	2
Basement	Exhaust Flue Packing	~1 ft^3
	Furnace Duct Tape	6
	Duct Packing	~1.5 ft^3

*Joint compound was confirmed as 2% chrysotile, but is not regulated as ACM by TDEC if it is a part of a drywall system.

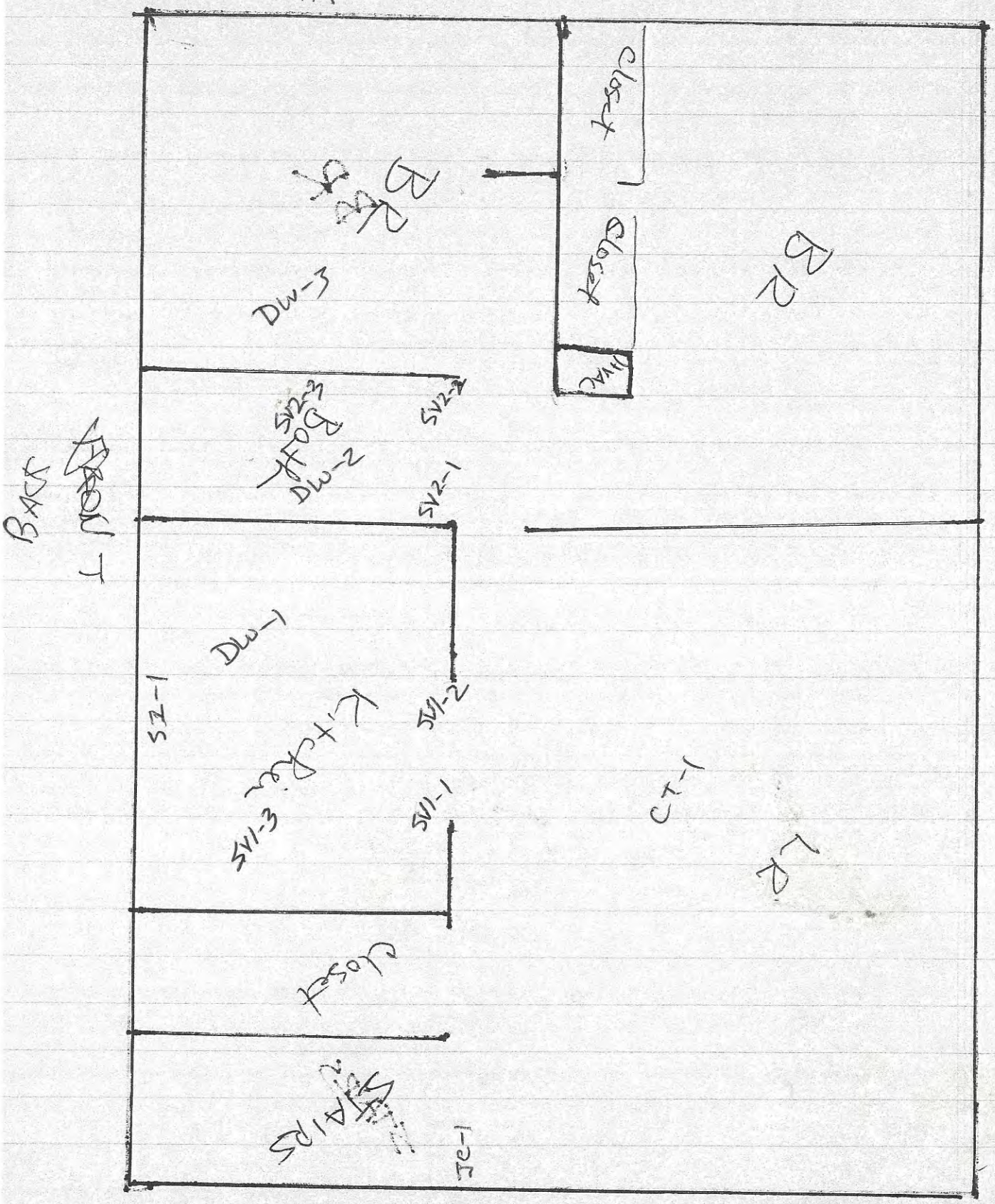
ATTACHMENT A

SITE MAPS/SAMPLE LOCATIONS

Left ~~Right~~ Upper

Not to Scale

117 Wade Ln
Unit 117



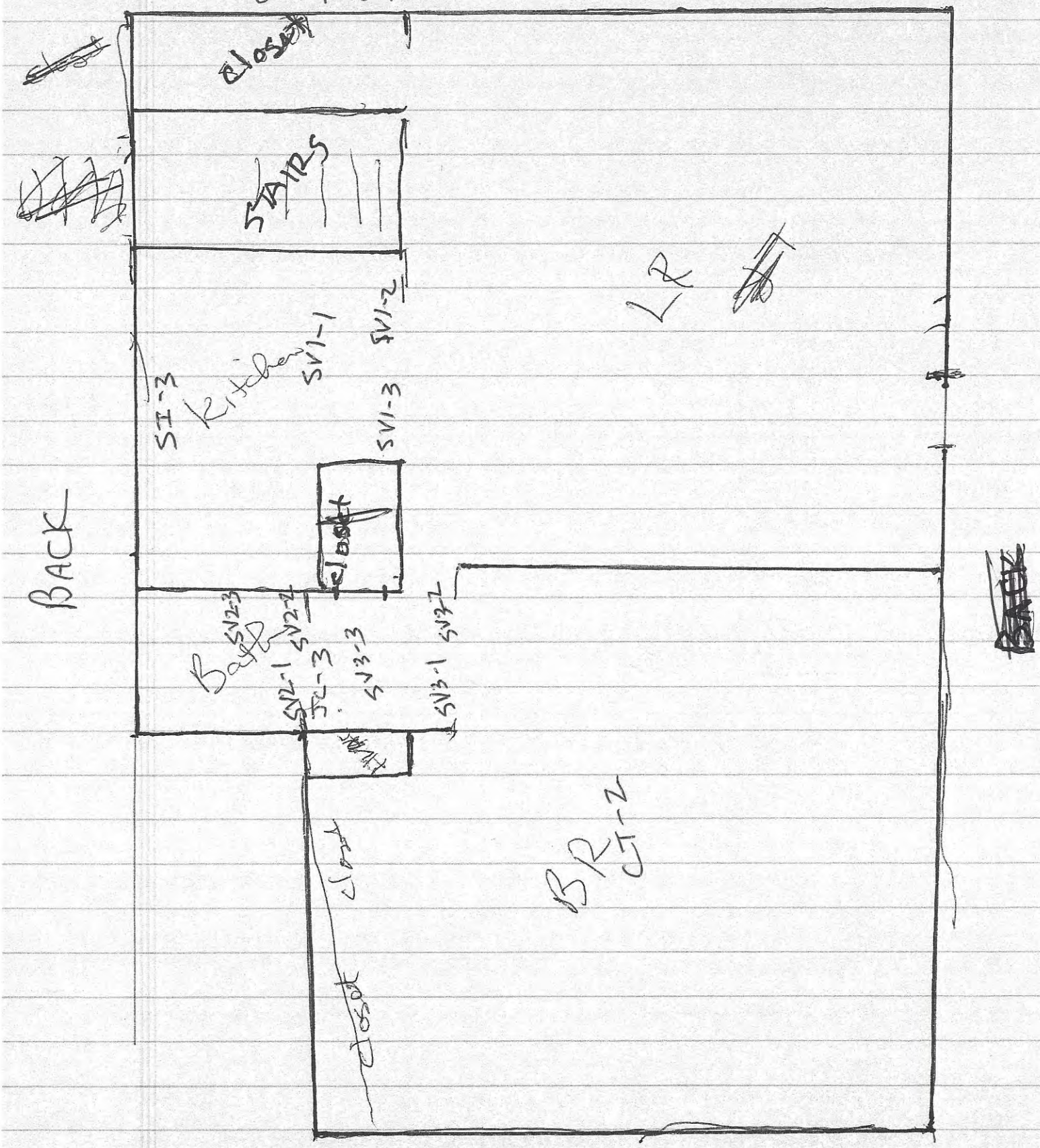
Lower ~~Right~~ Left

Not to Scale

117 Woods Ln
Unit 119

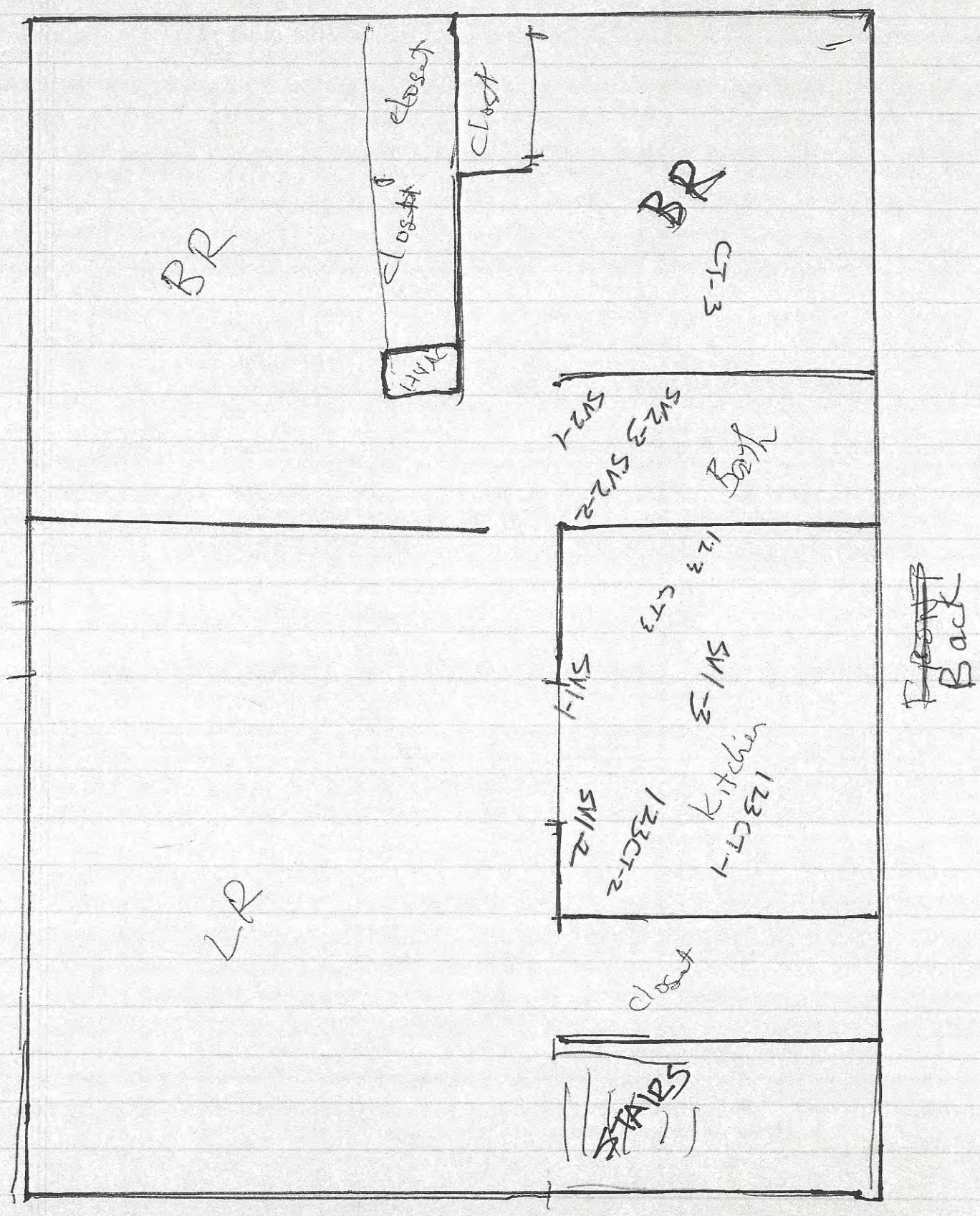
Lower Right Not to Scale

117 Wade Ln
Unit 121



Right ~~Left~~ Upper
Unit 123

117 Wade Ln Bldg
Not to Scale

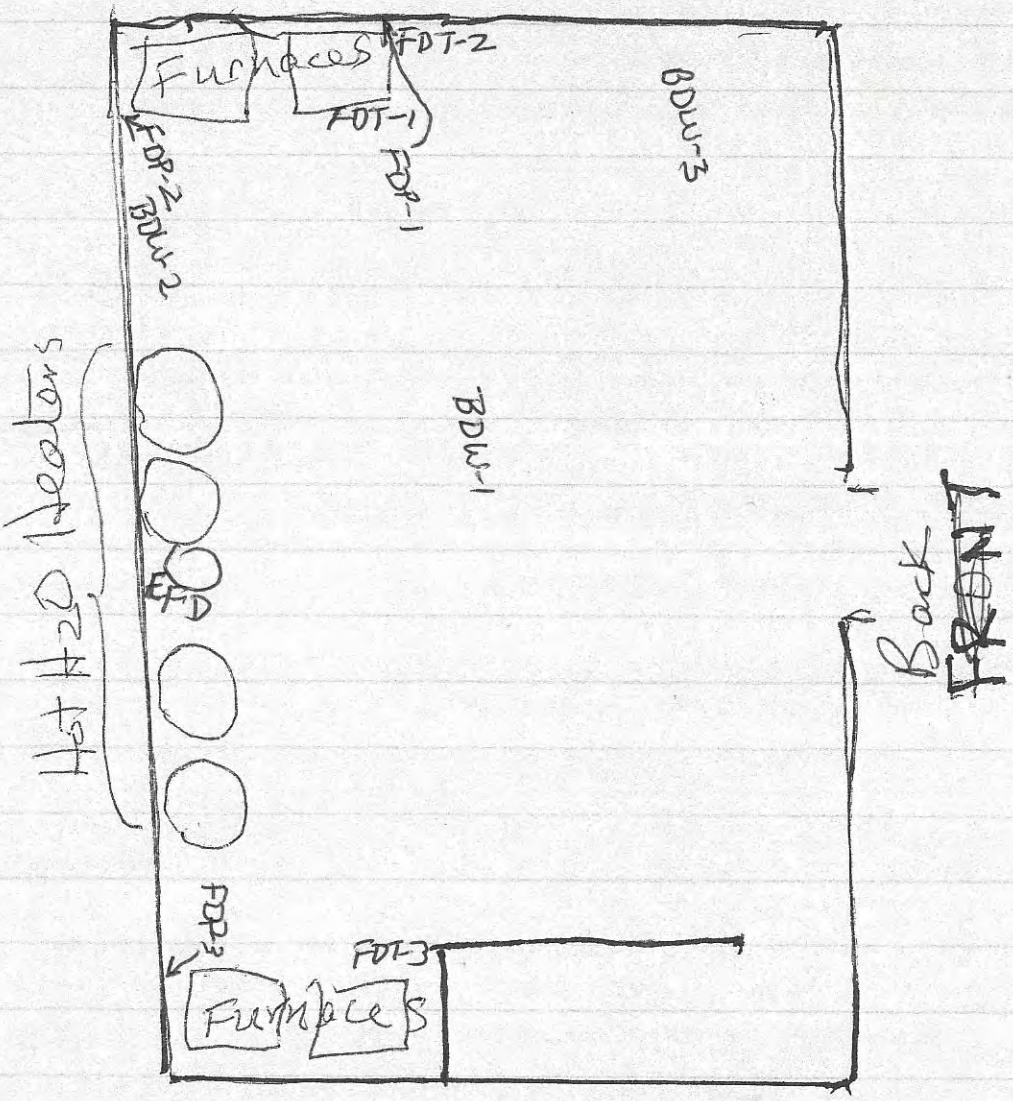


117 Wade Ln

Chris Sisson
865 388 5300

Basement

Not To Scale



ATTACHMENT B

LABORATORY ANALYSIS

SanAir Technologies Laboratory

Analysis Report

prepared for

Orion Environmental Solutions, Inc

Report Date: 8/14/2015
Project Name: Oak Ridge, TN 4 Plex
Project #: 15-770
SanAir ID#: 15023808

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

Orion Environmental Solutions, Inc
2971 Hodges Landing Dr
Knoxville, TN 37920

August 14, 2015

SanAir ID # 15023808
Project Name: Oak Ridge, TN 4 Plex
Project Number: 15-770

Dear Dennis Hunter,

We at SanAir would like to thank you for the work you recently submitted. The 64 sample(s) were received on Friday, August 07, 2015 via FedEx. The final report(s) is enclosed for the following sample(s): 117 EFP, 117 FDT-1, 117 FDT-2, 117 FDT-3, 117 FDP-1, 117 FDP-2, 117 FDP-3, 117 BDW-1, 117 BDW-2, 117 BDW-3, 117 F-1, 117 F-2, 117 F-3, 117 EC-1, 117 EC-2, 117 EC-3, 117 BT-1, 117 BT-2, 117 BT-3, 117 RF-1, 117 RF-2, 117 RF-3, 117 SV1-1, 117 SV1-2, 117 SV1-3, 117 SV2-1, 117 SV2-2, 117 SV2-3, CT-1, CT-2, CT-3, SI-1, SI-2, SI-3, JC-1, JC-2, JC-3, 117 DW-1, 117 DW-2, 117 DW-3, 119 SV1-1, 119 SV1-2, 119 SV1-3, 119 CT-1, 119 CT-2, 119 CT-3, 121 SV1-1, 121 SV1-2, 121 SV1-3, 121 SV2-1, 121 SV2-2, 121 SV2-3, 121 SV3-1, 121 SV3-2, 121 SV3-3, 123 SV1-1, 123 SV1-2, 123 SV1-3, 123 SV2-1, 123 SV2-2, 123 SV2-3, 123 CT-1, 123 CT-2, 123 CT-3.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:
64 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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SanAir ID Number

15023808

FINAL REPORT

Name: Orion Environmental Solutions, Inc
Address: 2971 Hodges Landing Dr
Knoxville, TN 37920

Project Number: 15-770
P.O. Number: 15-770
Project Name: Oak Ridge, TN 4 Plex

Collected Date: 8/5/2015
Received Date: 8/7/2015 10:45:00 AM
Report Date: 8/14/2015 6:09:34 PM
Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
117 EFP / 15023808-001 Exhaust Flue Packing Basement	Grey Fibrous Homogeneous		35% Other	65% Chrysotile
117 FDT-1 / 15023808-002 Furnace Duct Tape Basement	Grey Fibrous Homogeneous		50% Other	50% Chrysotile
117 FDT-2 / 15023808-003 Furnace Duct Tape Basement				Not Analyzed
117 FDT-3 / 15023808-004 Furnace Duct Tape Basement				Not Analyzed
117 FDP-1 / 15023808-005 Furnace Duct Packing Basement	Grey Fibrous Homogeneous		35% Other	65% Chrysotile
117 FDP-2 / 15023808-006 Furnace Duct Packing Basement				Not Analyzed
117 FDP-3 / 15023808-007 Furnace Duct Packing Basement				Not Analyzed

Certification

Signature: Sandra Sobrino
Date: 8/14/2015

Reviewed:
Date: 8/14/2015

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Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 BDW-1 / 15023808-008 Ceiling Drywall Basement	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 BDW-2 / 15023808-009 Ceiling Drywall Basement	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 BDW-3 / 15023808-010 Ceiling Drywall Basement	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 F-1 / 15023808-011 Wall Felt Basement	Black Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 F-2 / 15023808-012 Wall Felt Basement	Black Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 F-3 / 15023808-013 Wall Felt Basement	Black Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 EC-1 / 15023808-014 Window Frame Caulk	Grey Non-Fibrous Homogeneous		100% Other	None Detected

Certification

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Reviewed:
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Report Date: 8/14/2015 6:09:34 PM
Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 EC-2 / 15023808-015 Window Frame Caulk	Grey Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 EC-3 / 15023808-016 Window Frame Caulk	Grey Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 BT-1 / 15023808-017 Felt Behind Clapboard	Black Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 BT-2 / 15023808-018 Felt Behind Clapboard	Black Fibrous Homogeneous	75% Cellulose	25% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 BT-3 / 15023808-019 Felt Behind Clapboard	Black Fibrous Homogeneous	75% Cellulose	25% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 RF-1 / 15023808-020 Porch Roofing, Shingle	Black Non-Fibrous Heterogeneous		100% Other	None Detected
117 RF-1 / 15023808-020 Porch Roofing, Felt	Black Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

Certification

Signature: Sandra Sobrino
Date: 8/14/2015

Reviewed:
Date: 8/14/2015

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Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 RF-2 / 15023808-021 Porch Roofing, Shingle	Black Non-Fibrous Heterogeneous		100% Other	None Detected
117 RF-2 / 15023808-021 Porch Roofing, Felt	Black Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 RF-3 / 15023808-022 Porch Roofing, Shingle	Black Non-Fibrous Heterogeneous		100% Other	None Detected
117 RF-3 / 15023808-022 Porch Roofing, Felt	Black Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 SV1-1 / 15023808-023 Block SV Kitchen 117, Sheet Flooring	Cream Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
117 SV1-1 / 15023808-023 Block SV Kitchen 117, Mastic	Beige Non-Fibrous Homogeneous		100% Other	None Detected
117 SV1-1 / 15023808-023 Block SV Kitchen 117, Sheet Flooring	Tan Non-Fibrous Homogeneous		80% Other	20% Chrysotile
117 SV1-1 / 15023808-023 Block SV Kitchen 117, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 SV1-2 / 15023808-024 Block SV Kitchen 117, Sheet Flooring	Cream Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
117 SV1-2 / 15023808-024 Block SV Kitchen 117, Mastic	Beige Non-Fibrous Homogeneous		100% Other	None Detected
117 SV1-2 / 15023808-024 Block SV Kitchen 117, Sheet Flooring				Not Analyzed
117 SV1-2 / 15023808-024 Block SV Kitchen 117, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 SV1-3 / 15023808-025 Block SV Kitchen 117, Sheet Flooring	Cream Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
117 SV1-3 / 15023808-025 Block SV Kitchen 117, Mastic	Beige Non-Fibrous Homogeneous		100% Other	None Detected
117 SV1-3 / 15023808-025 Block SV Kitchen 117, Sheet Flooring				Not Analyzed
117 SV1-3 / 15023808-025 Block SV Kitchen 117, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 SV2-1 / 15023808-026 Block SV Bath 117, Sheet Flooring	Tan Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
117 SV2-1 / 15023808-026 Block SV Bath 117, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
117 SV2-1 / 15023808-026 Block SV Bath 117, Sheet Flooring	Tan Non-Fibrous Homogeneous		80% Other	20% Chrysotile
117 SV2-1 / 15023808-026 Block SV Bath 117, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 SV2-2 / 15023808-027 Block SV Bath 117, Sheet Flooring	Cream Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
117 SV2-2 / 15023808-027 Block SV Bath 117, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
117 SV2-2 / 15023808-027 Block SV Bath 117, Sheet Flooring				Not Analyzed
117 SV2-2 / 15023808-027 Block SV Bath 117, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Signature: Sandra Sobrino
Date: 8/14/2015

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Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 SV2-3 / 15023808-028 Block SV Bath 117, Sheet Flooring	Cream Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
117 SV2-3 / 15023808-028 Block SV Bath 117, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
117 SV2-3 / 15023808-028 Block SV Bath 117, Sheet Flooring				Not Analyzed
117 SV2-3 / 15023808-028 Block SV Bath 117, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
CT-1 / 15023808-029 Stomp Ceiling Texture 117	White Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
CT-2 / 15023808-030 Stomp Ceiling Texture 121				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
CT-3 / 15023808-031 Stomp Ceiling Texture BR 123				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
SI-1 / 15023808-032 Sink Insulation 117	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile

Certification

Signature: Sandra Sobrino
Date: 8/14/2015

Reviewed:
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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
SI-2 / 15023808-033 Sink Insulation 119				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
SI-3 / 15023808-034 Sink Insulation 121				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
JC-1 / 15023808-035 Joint Compound LR 117	White Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
JC-2 / 15023808-036 Joint Compound LR 119				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
JC-3 / 15023808-037 Joint Compound 121				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 DW-1 / 15023808-038 Drywall Ceiling Kitchen 117	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 DW-2 / 15023808-039 Drywall Ceiling Bath 117	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

Certification

Signature: Sandra Sobrino
Date: 8/14/2015

Reviewed:
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Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
117 DW-3 / 15023808-040 Drywall Ceiling BR 117	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
119 SV1-1 / 15023808-041 SV Kitchen 119	Beige Non-Fibrous Homogeneous		80% Other	20% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
119 SV1-2 / 15023808-042 SV Kitchen 119				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
119 SV1-3 / 15023808-043 SV Bath 119				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
119 CT-1 / 15023808-044 Spray Ceiling Texture LR	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
119 CT-2 / 15023808-045 Spray Ceiling Texture Kitchen	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
119 CT-3 / 15023808-046 Spray Ceiling Texture Bath	White Non-Fibrous Homogeneous		97% Other	3% Chrysotile

Certification

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Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
121 SV1-1 / 15023808-047 Block SV Kitchen, Sheet Flooring	Tan Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
121 SV1-1 / 15023808-047 Block SV Kitchen, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
121 SV1-1 / 15023808-047 Block SV Kitchen, Sheet Flooring	Beige Non-Fibrous Homogeneous		80% Other	20% Chrysotile
121 SV1-1 / 15023808-047 Block SV Kitchen, Mastic	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
121 SV1-2 / 15023808-048 Block SV Kitchen, Sheet Flooring	Tan Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
121 SV1-2 / 15023808-048 Block SV Kitchen, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
121 SV1-3 / 15023808-049 Block SV Kitchen, Sheet Flooring	Tan Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
121 SV1-3 / 15023808-049 Block SV Kitchen, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
121 SV2-1 / 15023808-050 Sheet Vinyl Bath, Sheet Flooring	Pink Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
121 SV2-1 / 15023808-050 Sheet Vinyl Bath, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
121 SV2-1 / 15023808-050 Sheet Vinyl Bath, Sheet Flooring	White Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected

Certification

Signature: Sandra Sobrino
Date: 8/14/2015

Reviewed:
Date: 8/14/2015

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number

15023808

FINAL REPORT

Name: Orion Environmental Solutions, Inc
Address: 2971 Hodges Landing Dr
Knoxville, TN 37920

Project Number: 15-770
P.O. Number: 15-770
Project Name: Oak Ridge, TN 4 Plex

Collected Date: 8/5/2015
Received Date: 8/7/2015 10:45:00 AM
Report Date: 8/14/2015 6:09:34 PM
Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
121 SV2-2 / 15023808-051 Sheet Vinyl Bath, Sheet Flooring	Cream Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
121 SV2-2 / 15023808-051 Sheet Vinyl Bath, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
121 SV2-2 / 15023808-051 Sheet Vinyl Bath, Sheet Flooring	Beige Non-Fibrous Homogeneous		80% Other	20% Chrysotile
121 SV2-2 / 15023808-051 Sheet Vinyl Bath, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
121 SV2-3 / 15023808-052 Sheet Vinyl Bath, Sheet Flooring	Pink Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
121 SV2-3 / 15023808-052 Sheet Vinyl Bath, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
121 SV2-3 / 15023808-052 Sheet Vinyl Bath, Sheet Flooring				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
121 SV3-1 / 15023808-053 Butcher Block SV Hall, Sheet Flooring	Brown Non-Fibrous Homogeneous		80% Other	20% Chrysotile
121 SV3-1 / 15023808-053 Butcher Block SV Hall, Mastic/Thinset	Various Non-Fibrous Heterogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
121 SV3-2 / 15023808-054 Butcher Block SV Hall				Not Analyzed

Certification

Signature: Sandra Sobrino
Date: 8/14/2015

Reviewed:
Date: 8/14/2015

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SanAir ID Number

15023808

FINAL REPORT

Name: Orion Environmental Solutions, Inc
Address: 2971 Hodges Landing Dr
Knoxville, TN 37920

Project Number: 15-770
P.O. Number: 15-770
Project Name: Oak Ridge, TN 4 Plex

Collected Date: 8/5/2015
Received Date: 8/7/2015 10:45:00 AM
Report Date: 8/14/2015 6:09:34 PM
Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
121 SV3-3 / 15023808-055 Butcher Block SV Hall				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
123 SV1-1 / 15023808-056 SV Kitchen, Sheet Flooring	Tan Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
123 SV1-1 / 15023808-056 SV Kitchen, Mastic	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
123 SV1-1 / 15023808-056 SV Kitchen, Sheet Flooring	Beige Non-Fibrous Homogeneous		80% Other	20% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
123 SV1-2 / 15023808-057 SV Kitchen, Sheet Flooring	Tan Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
123 SV1-2 / 15023808-057 SV Kitchen, Mastic	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
123 SV1-2 / 15023808-057 SV Kitchen, Sheet Flooring				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
123 SV1-3 / 15023808-058 SV Kitchen, Sheet Flooring	Tan Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
123 SV1-3 / 15023808-058 SV Kitchen, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
123 SV1-3 / 15023808-058 SV Kitchen, Sheet Flooring				Not Analyzed

Certification

Signature: Sandra Sobrino
Date: 8/14/2015

Reviewed:
Date: 8/14/2015

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SanAir ID Number

15023808

FINAL REPORT

Name: Orion Environmental Solutions, Inc
Address: 2971 Hodges Landing Dr
Knoxville, TN 37920

Project Number: 15-770
P.O. Number: 15-770
Project Name: Oak Ridge, TN 4 Plex

Collected Date: 8/5/2015
Received Date: 8/7/2015 10:45:00 AM
Report Date: 8/14/2015 6:09:34 PM
Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
123 SV2-1 / 15023808-059 SV Bath	Tan Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
123 SV2-2 / 15023808-060 SV Bath	Tan Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
123 SV2-3 / 15023808-061 SV Bath	Tan Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
123 CT-1 / 15023808-062 Spray Ceiling Texture Kitchen	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
123 CT-2 / 15023808-063 Spray Ceiling Texture Kitchen	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
123 CT-3 / 15023808-064 Spray Ceiling Texture Kitchen	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Signature: Sandra Sobrino
Date: 8/14/2015

Reviewed:
Date: 8/14/2015

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the clientõs sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

NY ELAP lab ID 11983

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Asbestos Chain of Custody

SanAir ID Number: 15023808

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge, TN 4 plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/5/2015	Fax #:	
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	✓	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop ✓		ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐	**Water**			**Dust**		
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ✓

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
117 EFP	Exhaust Flue Packing Basement					
117 FDT-1	Furnace Duct Tape Basement					
117 FDT-2	↓ ↓					
117 FDT-3	↓ ↓					
117 FDP-1	Furnace Duct Packing Basement					
117 FDP-2	↓ ↓					
117 FDP-3	↓ ↓					
117 BDW-1	Ceiling Drywall Basement					
117 BDW-2	↓ ↓					
117 BDW-3	↓ ↓					
117 F-1	Black wall felt Basement					
117 F-2	↓ ↓					

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
D Hunter	8/6/15	1 pm	MC	AUG 07 2015	10:45AM

Unless scheduled, the turn around time for all samples received after 5 pm Friday will begin at 8 am Monday morning.
Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time.
Work with standard turn around time sent Priority Overnight and Billed To Recipient will be charged a $10 shipping fee.

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Asbestos Chain of Custody

SanAir ID Number: 15023808

Company:	Orion Environmental Solutions, Inc.	Project #:	~~15-774~~ 15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	~~904 Forest Heights~~ Oak Ridge 4 Plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	~~July 30, 2015~~ Aug 5, 15	Fax #:	865.577.0774
Samples Collected By:	Dennis Hunter	P.O. Number:	~~15-774~~ 15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop ☑		ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐	**Water**			**Dust**		
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☑	4 Days ☐	5 Days ☐

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
117F-3	Black wall felt basement					
117EC-1	Window frame caulk					
117EC-2	↓					
117EC-3	↓					
117BF-1	Black felt behind clapboard					
117BF-2	↓					
117BF-3	↓					
117RF-1	Porch roofing					
117RF-2	↓					
117RF-3	↓ ~~117~~					
117SV1-1	Off-white black SV Kitchen 117					
117SV1-2	" Kitchen 117					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
D Hunter	8/6/15	1 PM	MC	AUG 07 2015	1025AM

Unless scheduled, the turn around time for all samples received after 5 pm Friday will begin at 8 am Monday morning.
Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time.
Work with standard turn around time sent Priority Overnight and Billed To Recipient will be charged a $10 shipping fee.

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Asbestos Chain of Custody

SanAir ID Number: 1502380

Company: Orion Environmental Solutions, Inc.	Project #: ~~15-774~~ 15-770	Phone #: 865.577.7124	
Address: 2971 Hodges Landing Drive	Project Name: ~~904 Forest Heights~~ Oak Ridge 4-plex	Phone #: 865.603-0330	
City, St., Zip: Knoxville, TN 37920-8132	Date Collected: ~~July 30, 2015~~ Aug 5, 15	Fax #: 865.577.0774	
Samples Collected By: Dennis Hunter	P.O. Number: ~~15-774~~ 15-770	Email: dhunter.orion@gmail.com	

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop ☑		ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐		**Water**			**Dust**	
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☑	4 Days ☐	5 Days ☐

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
117SV1-3	off white block SV Kitchen 117					
117SV2-1	Beige small block SV Bath 117					
117SV2-2	↓ ↓ ↓					
117SV2-3						
CT-1	Stomp ceiling texture 117					
CT-2	↓ 121					
CT-3	↓ BR 123					
SI-1	Sink insulation 117					
SI-2	↓ 119					
SI-3	↓ 121					
JC-1	Joint compound LR 117					
JC-2	↓ 2R 119					

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
DHunter	8/6/15	1 PM	MC	AUG 07 2015	10:42AM

Unless scheduled, the turn around time for all samples received after 5 pm Friday will begin at 8 am Monday morning.
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Asbestos Chain of Custody

SanAir ID Number: 15023808

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge, TN 4-plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/5/15	Fax #:	865-577-0774
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop ☑		ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐		**Water**			**Dust**	
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
JC-3	Joint Compound 121					
117 DW-1	Drywall ceiling Kitchen 117					
117 DW-2	" bath 117					
117 DW-3	" BR 117					
119 SV1-1	Beige Speckle Pattern SV Kitchen 119					
119 SV1-2	" Kitchen 119					
119 SV1-3	" Bath 119					
119 CT-1	Spray Ceiling Texture LR					
119 CT-2	↓ Kitchen					
119 CT-3	↓ Bath					
121 SV1-1	Beige Block SV Kitchen					
121 SV1-2	↓ ↓					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
D Hunter	8/6/15	1 PM	MC	AUG 07 2015	10:95AM

Unless scheduled, the turn around time for all samples received after 5 pm Friday will begin at 8 am Monday morning.
Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time.
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Asbestos Chain of Custody

SanAir ID Number: 1502388

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge, TN 4-plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/5/15	Fax #:	865-577-0774
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop ☑		ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐		**Water**			**Dust**	
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location		Volume or Area	Sample Type	Flow Rate*	Time* Start	Stop
121 SV1-3	Beige Block SV	Kitchen					
121 SV2-1	Sheet vinyl	Bath					
121 SV2-2	↓	↓					
121 SV2-3							
121 SV3-1	Butcher Block SV	Hall					
121 SV3-2	↓	↓					
121 SV3-3							
123 SV1-1	Pink & white check SV	Kitchen					
123 SV1-2	↓	↓					
123 SV1-3							
123 SV2-1	Blue beige diamond SV	Bath					
123 SV2-2	↓	↓					

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
DHunter	8/6/15	1 pm	[illegible]	AUG 07 2015	10:45AM

Unless scheduled, the turn around time for all samples received after 5 pm Friday will begin at 8 am Monday morning.
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Asbestos Chain of Custody

SanAir ID Number: 15023808

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge, TN 4-plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/5/15	Fax #:	865-577-0774
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop ☑		ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐		**Water**			**Dust**	
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
123SV2-3	Blue beige diamond SV Bath					
123CT-1	Spray ceiling Texture Kitchen					
123CT-2	↓ ↓					
123CT-3						

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
D Hunter	8/6/15	1 PM	ML	AUG 07 2015	10:45AM

Unless scheduled, the turn around time for all samples received after 5 pm Friday will begin at 8 am Monday morning.
Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time.
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RESULTS OF HAZARDOUS MATERIALS SURVEY

157-163 WADE LANE

OAK RIDGE, TENNESSEE

March 17, 2015

Prepared for:

The City of Oak Ridge-Community Development
Oak Ridge, Tennessee

Professional Environmental Consulting, Inc.
2900 Tazewell Pike, Suite C
Knoxville, Tennessee
(865) 687-5835

PEC Project 02-15-013/01

Professional Environmental Consulting, Inc.

March 17, 2015

Ms. Lyn Majeski
Finance Department
City of Oak Ridge
100 Woodbury Lane
P.O. Box 1
Oak Ridge, TN 37831-0001

Subject: **Results of Hazardous Materials Survey**
157-163 Wade Lane
Oak Ridge, Tennessee
PEC Project 02-15-013/01

Dear Ms. Majeski:

Professional Environmental Consulting, Inc. (PEC) has completed the requested Hazardous Materials Survey for the above referenced site. This report includes the project information, sample locations, testing procedures, laboratory results, and drawings. Our work was performed in accordance with our Contract dated February 19, 2015 and between the City of Oak Ridge and PEC.

Ms. Majeski, we appreciate the opportunity to have provided you these services for this project and look forward to assisting you further on this and other projects in the future. If you have any questions, please do not hesitate to contact us at (865) 687-5835.

Sincerely,

Professional Environmental Consulting, Inc.

Richard D. Murphy
Senior Environmental Specialist

Scott D. Smith, P.G.
Principal

RDM/SDS:jvs

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1.0 PROJECT INFORMATION

Professional Environmental Consulting, Inc. (PEC) performed a Hazardous Materials Survey in the quad-plex building located at 157-163 Wade Lane in Oak Ridge, Tennessee. This building is abandoned and is scheduled to be demolished. We collected bulk samples of materials suspected of containing asbestos in general accordance with the Asbestos Hazard Emergency Response Act (AHERA) 40 CFR 763, The OSHA Regulation 1926.1101 and the ASTM E-2356.

We also observed for hazardous household waste which included chemicals, compounds, and gases (both organic and inorganic) that may exist on the interior/exterior of the structure. We also observed for and noted fluorescent, mercury vapor, and high intensity discharge light bulbs, mercury capsule thermostats, and we observed for the presence of polychlorinated biphenyls (PCB's) in ballasts, transformers, and capacitors.

The multi-family apartment building is comprised of a two story concrete masonry block, brick, and wood frame structure with wood floors. The building also has a concrete basement positioned in between the two lower apartments and a dirt crawlspace beneath the remaining portions of the building.

The apartments are heated by natural gas furnaces and cooled by window air conditioning units. The old original heat ducts in the basement are un-insulated; however, the asbestos-containing duct board still exists in the walls and ceilings of each unit. We observed hot water heaters in the basement with no suspect asbestos containing materials associated with them. The piping observed was uninsulated.

This report is intended for the exclusive use of City of Oak Ridge Community Development Department. Reliance on this report by any parties without the written consent of PEC is expressly prohibited. The findings are relative to the dates of our site visits and should not be relied upon for substantially later dates.

2.0 HAZARDOUS MATERIALS SURVEY, LOCATIONS, AND ANALYSIS

2.1 ASBESTOS

The purpose of the asbestos survey was to determine what if any asbestos-containing materials (ACM) were present in the structure prior to the scheduled demolition. On March 2, 2015 Mr. Richard Murphy an AHERA accredited and Tennessee licensed inspector with PEC obtained a total of (61) bulk samples from suspect asbestos-containing materials throughout all four units, basement, and exterior including the roof. Some of the samples were comprised of multi-layered materials, such as the floor tiles and associated adhesives, the gypsum ceiling board with a textured ceiling, and the roofing materials.

Suspect materials identified and sampled include textured ceiling board with tape and joint compound, wallboard with tape and joint compound, blown-in attic insulation, window glazing, seam tape and insulation on flue exhaust, multiple styles and colors or patterns of sheet flooring, multiple layers of 12-inch by 12-inch floor tiles and associated adhesives some with burlap and backing and some with black felt, black felt vapor barrier behind exterior siding, duct board between walls and ceilings, and roofing materials. We have included a copy of the chain of custody form along with the laboratory report with this report that indicates the bulk sample locations in Appendix B. The bulk sample locations are indicated on the drawing in Appendix C. Photographs of each type of suspect material also included in Appendix D.

The samples were labeled with pertinent information and submitted to McCall & Spero Environmental, Inc., (McCall & Spero) a NVLAP accredited laboratory in Louisville, Kentucky, for analysis. Sample collection and analysis was performed in general accordance with the EPA, AHERA, and OSHA rules and guidelines (40 CFR Part 763) and (29 CFR 1926.1101). Mr. Murphy's current AHERA accreditation certificate and Tennessee license are located in Appendix A.

The analysis for each sample was performed using Polarized Light Microscopy (PLM) coupled with dispersion staining techniques as detailed in the U. S. Environmental Protection Agency's (EPA) "Method for the Determination of Asbestos in Bulk Building Materials"

(EPA600/R-93/116). This method of analysis is the only method presently available that utilizes the unique optical crystallographic properties of materials birefringence, extinction angle, refractive index, and sign of elongation that distinguish various asbestiform materials. By determining these and other properties of the minerals in the bulk samples, the presence and type of asbestos, if any, can be identified in the samples. Materials found to contain "TRACE" asbestos are materials found to contain between 0 and 1 percent asbestos and are not considered asbestos-containing materials. The following samples were found to contain asbestos, and we have estimated the quantities of each material. We have also placed the locations of the asbestos containing materials on a field sketch in Appendix D.

- HA#3-The gypsum ceiling board with a light textured ceiling in units 159-163 (Approximately 840 square feet).
- HA#4-The gypsum ceiling board with a heavy textured ceiling in units 157-163 (Approximately 620 square feet).
- HA#5-The gypsum ceiling board with smooth textured finish in units 157-163 (Approximately 735 square feet).
- HA#8-The floor tile and associated black mastic underneath the grey diamond pattern sheet flooring in units 159, 161, and 163 (Approximately 115 square feet).
- HA#10-The 12"x12" light green with white and brown streaked floor tile, the additional layers of sheet flooring and floor tile in unit 157 (Approximately 35 square feet).
- HA#12-The floor tile and black mastic underneath the 18"x18" cream color sheet flooring in units 161 and 163 (Approximately 200 square feet).
- HA#15-The white seam tape on the round metal ducts associated with the heat furnaces in basement (Approximately 25 linear feet).
- HA#16-The white collar insulation around the main metal heat ducts and brick wall in the basement (Approximately 30 linear feet).
- HA#19-The duct board in all units and basement (Approximately 680 square feet).

The samples collected and found not to contain asbestos include:

- HA #1-The smooth gypsum wallboard in units 157-163.
- HA #2-The gypsum wallboard with grooved seams in units 157-163.

- HA #6-The blown-in insulation in the attics of units 157 and 163.
- HA #7-The white 12”x12” blocks pattern sheet flooring in the kitchen of unit 157.
- HA #9-The brown parquet pattern sheet flooring in the kitchen of unit 159.
- HA #11-The 12”x12” white with flower pattern sheet flooring in the kitchen of unit 161.
- HA #14-The window glazing on windows associated with unit 157.
- HA #17-The asphalt shingle roof and associated black felt paper on roof of units 157 and 163.
- HA #18-The Asphalt rolled shingle on small back porches of units 159 and 161.
- HA#14-The black felt vapor barrier underneath wood siding in unit 157-163.

A copy of McCall & Spero’s report is presented in Appendix B.

2.2 LEAD-BASED PAINTS

Based on the Request for Proposal (RFP) from the City of Oak Ridge, no testing was required on the paint coatings at these residences. The paint coatings are assumed to have some amount of lead and therefore, these coatings have the potential to create some exposures during the demolition activities.

The Occupational Safety and Health Administration (OSHA) regulates paint with any detectable concentration of lead under the regulations established in OSHA 1926.62.

2.3 HOUSEHOLD HAZARDOUS WASTE MATERIALS

The RFP required that the Consultant identify, categorize and catalog all household hazardous waste that was present in the facility. These materials include all chemicals, such as cleaning supplies, paints, gases, CFC’s/refrigerants. Our inspection also included an inventory of all fluorescent, mercury vapor, and high intensity discharge light bulbs, mercury capsule thermostats, PCB-containing ballasts, transformers and capacitors. During our site visit we did not observe any

of the above mentioned household hazardous waste. However, we did observe a few smoke detectors that may have a very low amount of radioactive ionizing radiation.

3.0 CONCLUSIONS

3.1 ASBESTOS

Our survey indicated that asbestos was detected in all the texture ceilings in all four units. Asbestos was also detected in the majority of the floor coverings either in the top layer of floor coverings or in the subsequent layers below. The only two floor coverings that were not found to contain asbestos were in the kitchen of unit 159 (HA#9-brown parquet pattern) and in the kitchen of unit 161 (HA#11-white sheet flooring with flowers). All four units have asbestos-containing duct board in the walls and ceilings. The basement has the white seam tape on the heating ducts and the white collar insulation around the ducts as they penetrate the brick walls. No asbestos was detected in the blown-in insulation, the gypsum wallboard, the roofing materials, and the vapor barrier underneath the wood siding.

The floor tiles, sheet flooring and associated adhesives are all considered to be a non-friable material according to the EPA, the textured ceilings, collar insulation, seam tape and duct boards are considered to be a friable material. Friable materials are defined by the EPA to be any asbestos-containing material that can be crumbled or pulverized to powder by hand pressure when dry. All friable materials are also considered to be a Regulated Asbestos Containing Material (RACM) according to the National Emissions Standard for Hazardous Air Pollutants (NESHAPS). The remaining asbestos containing materials identified during our survey are considered to non-friable materials.

The EPA requires all RACM be removed prior to any renovations or demolition activities that may disturb them. They also require that any non-friable materials that may become friable during the any renovation or demolition activity also be removed prior to demolition. If the non-friable materials will remain non-friable then these materials may be left in-place during the demolition activities and disposed of as construction demolition debris; however, the landfill in which you chose to dispose of the construction and demolition debris may not accept the contaminated debris. The OSHA Construction Standard for Asbestos (29 CFR 1926.1101) also has specific procedures and guidelines which must be followed for personnel conducting activities that may disturb asbestos to ensure the employees of the demolition firm is not exposed.

3.2 LEAD-BASED PAINTS

All work which disturbs surfaces that are coated with lead-based paint must be performed in accordance with the Occupational Safety and Health Administration (OSHA) 20 CFR 1926.62 and EPA 40 CFR Part 745 Lead. Any paint chips generated by the demolition contractor or activities will need to be properly collected, contained and tested to determine waste disposal options.

Although the paint may be considered to be a lead-based paint, the Tennessee Department of Environment and Conservation Division of Solid Waste Management, "Management of Disposal of Lead-based Paint Policy allows lead-based paint debris to be treated as construction and demolition debris and disposed of in a Class I, II (depending permit conditions, and approval by TDEC) or IV disposal facility. The demolition contractor will need to be informed about all paints that contain lead above reportable quantities and that the remaining paint coatings contain some amount of lead.

3.3 HOUSEHOLD HAZARDOUS WASTE MATERIALS

Our survey did not find any types of household hazardous waste materials in the interior or exterior of the property in question

4.0 RECOMMENDATIONS

Since this building is scheduled for demolition and has friable as well as non-friable asbestos containing materials, we recommend that a licensed asbestos abatement contractor utilizing AHERA trained asbestos workers and supervisors be contracted to remove the asbestos-containing materials identified in our survey prior to the scheduled demolition. In addition, the owner should request a waste shipment record to ensure proper asbestos waste transportation and disposal procedures are followed.

It is our understanding that part of this contract will require a post abatement inspection to ensure all listed asbestos containing materials identified and scheduled to be abated is done so by the Consultant awarded the contract. The contract also states that a final clearance be performed by the same Consultant following the final abatement activities.

We recommend at a minimum the demolition contractor planning to conduct the demolition activities will need to adhere to the requirements set forth in the OSHA Construction Standard for lead paints (29 CFR 1926.62).

In particular the following sections should be adhered to:

- (l) (1) (iii) through (l) (2) (v) which requires the employer to provide an initial training program prior to the start of the job.
- (d) (1) (i) through (d) (2) which indicates the employer shall institute an exposure assessment to initially determine if any employee may be exposed to lead at or above the action level.
- (d) (2) (i) indicates where lead is present until the exposure monitoring is complete in accordance section (d) then the employer shall treat the employee as if the employee were exposed above the Permissible Exposure Limit (PEL).
- (e) (2) “Compliance Program” Prior to commencement of the job each employer shall establish and implement a written compliance program to achieve compliance with paragraph (c) of the standard.

Due to these requirements the employees are required to have respiratory protection, hygiene facilities, housekeeping, protective clothing, and training until the negative initial determination indicates that the employees have exposures below the action level.

The items listed above are not inclusive and the entire standard should be reviewed and followed when disturbing surfaces coated with lead.

APPENDIX A

CERTIFICATIONS OF TESTING PERSONNEL

THE STATE OF TENNESSEE

Department of Environment and Conservation
Division of Solid Waste Management
Toxic Substances Program

64503-24022

Date Issued: 12/18/2014

Re-Accreditation

Richard D Murphy

DOB	Sex	HGT	WGT
04-Nov-1965	M	6'1"	233

Discipline	Accreditation	Expiration
Management Planner	A-MP-48276-39765	Dec-31-2015
Project Monitor	A-PM-48276-39767	Dec-31-2015
Supervisor	A-S-48276-39766	Dec-31-2015

Asbestos Accreditation

APPENDIX B

LABORATORY REPORT OF ANALYSIS OF ASBESTOS

McCall and Spero
Environmental, Inc.
Specialists in Microanalysis

1831 Williamson Court • Suite 100 • Louisville, KY 40223
Phone (502) 244-7135 • (800) 841-0180 • FAX (502) 244-7136
E-mail: customerservice@mselabs.com • Website: www.mselabs.com

Date: March 6, 2015

Attention: Richard Murphy
Professional Environmental Consultants, Inc.

Subject: Analysis of bulk samples for asbestos mineral fibers by Polarized Light Microscopy (PLM) with Dispersion Staining (EPA/600/R-93/116)

RE: MSE-P335PRO.1
The City of Oak Ridge - 157 - 163 Wade Lane Project
PRO# PEC 02-15-013/01

Dear Mr. Murphy:

McCall & Spero Environmental, Inc. has completed the analyses of the bulk samples we received from your offices on March 3, 2015. These samples represent the bulk samples from the The City of Oak Ridge - 157 - 163 Wade Lane Project.

The PLM bulk analysis was performed according to the "Method of the Determination of Asbestos in Bulk Building Materials", R. L. Perkins and B. W. Harvey (EPA/600/R-93/116).

The results for the one hundred twenty-five (125) samples are summarized in the following report. Please note that for samples consisting of two or more distinct components, each component is analyzed and reported individually (EPA 40 CFR Part 61 [FRL-4821-71]).

Thank you for consulting McCall & Spero Environmental, Inc. Should you have any questions concerning these results, please contact our office.

Sincerely,

M. Allison Brown, B.A.
PLM Laboratory Director

NVLAP®
NVLAP Lab Code 101895-0

SUMMARY OF PLM BULK ANALYSIS RESULTS

Project Name: The City of Oak Ridge - 157 - 163 Wade Lane Project PRO# PEC 02-15-013/01
McCall & Spero Environmental Project No. MSE-P335PRO.1

MSE # P335PRO.1-	SAMPLE # DESCRIPTION	ASBESTOS TYPE & %	OTHER FIBROUS MATERIAL & %	% NON-FIBROUS MATERIAL	COLOR
001 (A)	1-157-A (A) Joint Compound	ND	Cellulose / 2%	98%	Gray
001 (B)	1-157-A (B) Wall Board	ND	Cellulose / 25%	75%	Gray
002 (A)	1-59-B (A) Joint Compound	ND	Cellulose / 2%	98%	White
002 (B)	1-59-B (B) Wall Board	ND	Cellulose / 15%	85%	Gray
003 (A)	1-161-C (A) Joint Compound	ND	Cellulose / 2%	98%	Gray
003 (B)	1-161-C (B) Wall Board	ND	Cellulose / 25%	75%	Gray
004 (A)	1-163-D (A) Joint Compound	ND	Cellulose / 2%	98%	White
004 (B)	1-163-D (B) Wall Board	ND	Cellulose / 15%	85%	Gray
005	2-B-A Wall Board	ND	Cellulose / 25%	75%	Gray
006 (A)	2-157-B (A) Joint Compound	ND	Cellulose / 2%	98%	Gray
006 (B)	2-157-B (B) Wall Board	ND	Cellulose / 25%	75%	Gray
007 (A)	2-157-C (A) Joint Compound	ND	Cellulose / 2%	98%	White
007 (B)	2-157-C (B) Wall Board	ND	Cellulose / 25%	75%	Gray
008	3-159-A Texture	CH / 5%	Cellulose / 2%	93%	Gray
009	3-159-B Texture	CH / 5%	Cellulose / 2%	93%	Gray

SUMMARY OF PLM BULK ANALYSIS RESULTS

MSE # P335PRO.1-	SAMPLE # DESCRIPTION	ASBESTOS TYPE & %	OTHER FIBROUS MATERIAL & %	% NON-FIBROUS MATERIAL	COLOR
010	3-161-C Texture	CH / 5%	Cellulose / 2%	93%	Gray
011	4-161-A Texture	CH / 5%	Cellulose / 2%	93%	Gray
012	4-161-B Texture	ND	Cellulose / 2%	98%	Gray
013	4-161-C Texture	CH / 5%	Cellulose / 2%	93%	Gray
014 (A)	5-159-A (A) Texture	CH / 2%	Cellulose / 2%	96%	Gray
014 (B)	5-159-A (B) Wall Board	ND	Cellulose / 25%	75%	Gray
015 (A)	5-157-B (A) Texture	CH / 2%	Cellulose / 2%	96%	Gray
015 (B)	5-157-B (B) Wall Board	ND	Cellulose / 15%	85%	Gray
016 (A)	5-163-C (A) Texture	CH / 2%	Cellulose / 2%	96%	Gray
016 (B)	5-163-C (B) Wall Board	ND	Cellulose / 15%	85%	Gray
017	6-157-A Insulation	ND	Cellulose / 100%	ND	Tan
018	6-157-B Insulation	ND	Cellulose / 100%	ND	Tan
019	6-163-C Insulation	ND	Cellulose / 100%	ND	Tan
020 (A)	7-157-A (A) Sheet Floor	ND**	Cellulose / 2%	98%	White
020 (B)	7-157-A (B) Felt Paper	ND**	Cellulose / 75%	25%	Black

SUMMARY OF PLM BULK ANALYSIS RESULTS

MSE # P335PRO.1-	SAMPLE # DESCRIPTION	ASBESTOS TYPE & %	OTHER FIBROUS MATERIAL & %	% NON-FIBROUS MATERIAL	COLOR
020 (C)	7-157-A (C) Floor Tile	ND**	Cellulose / 30%	70%	Brown
021 (A)	7-157-B (A) Sheet Floor	ND**	Cellulose / 2%	98%	White
021 (B)	7-157-B (B) Felt Paper	ND**	Cellulose / 75%	25%	Black
021 (C)	7-157-B (C) Floor Tile	ND**	Cellulose / 30%	70%	Brown
022 (A)	7-157-C (A) Sheet Floor	ND**	Cellulose / 2%	98%	Gray
022 (B)	7-157-C (B) Felt	ND**	Cellulose / 75%	25%	Black
022 (C)	7-157-C (C) Floor Tile	ND**	Cellulose / 30%	70%	Brown
023 (A)	8-159-A (A) Sheet Floor	ND	Cellulose / 35%	65%	Cream
023 (B)	8-159-A (B) Floor Tile	ND**	Cellulose / 2%	98%	Cream
023 (C)	8-159-A (C) Mastic	CH / 5%	Cellulose / 2%	93%	Black / Orange
024 (A)	8-161-B (A) Sheet Floor	ND	Cellulose / 35%	65%	Gray
024 (B)	8-161-B (B) Floor Tile	CH / 5%	Cellulose / 2%	93%	Brown
024 (C)	8-161-B (C) Mastic	CH / 5%	Cellulose / 2%	93%	Black
025 (A)	8-163-C (A) Sheet Floor	ND	Cellulose / 35%	65%	Gray
025 (B)	8-163-C (B) Mastic	ND**	Cellulose / 2%	98%	Yellow

SUMMARY OF PLM BULK ANALYSIS RESULTS

MSE # P335PRO.1-	SAMPLE # DESCRIPTION	ASBESTOS TYPE & %	OTHER FIBROUS MATERIAL & %	% NON-FIBROUS MATERIAL	COLOR
026 (A)	9-159-A (A) Floor Tile	ND**	Cellulose / 2%	98%	Black
026 (B)	9-159-A (B) Mastic	ND**	Cellulose / 2%	98%	Clear Yellow
026 (C)	9-159-A (C) Floor Tile	ND**	Cellulose / 2%	98%	White
026 (D)	9-159-A (D) Mastic	ND**	Cellulose / 2%	985	Clear Yellow
027 (A)	9-159-B (A) Floor Tile	ND**	Cellulose / 2%	98%	Black
027 (B)	9-159-B (B) Mastic	ND**	Cellulose / 2%	98%	Clear Yellow
027 (C)	9-159-B (C) Floor Tile	ND**	Cellulose / 2%	98%	White
027 (D)	9-159-B (D) Mastic	ND**	Cellulose / 2%	98%	Clear Yellow
028 (A)	9-159-C (A) Floor Tile	ND**	Cellulose / 2%	98%	Black
028 (B)	9-159-C (B) Mastic	ND**	Cellulose / 2%	98%	Clear Yellow
028 (C)	9-159-C (C) Floor Tile	ND**	Cellulose / 2%	98%	White
028 (D)	9-159-C (D) Mastic	ND**	Cellulose / 2%	98%	Clear Yellow
029 (A)	10-157-A (A) Sheet Floor	CH / 15%	Cellulose / 25%	60%	Gray
029 (B)	10-157-A (B) Floor Tile	CH / 5%	Cellulose / 2%	93%	Gray
029 (C)	10-157-A (C) Mastic	ND**	Cellulose / 2%	98%	Tan

SUMMARY OF PLM BULK ANALYSIS RESULTS

MSE # P335PRO.1-	SAMPLE # DESCRIPTION	ASBESTOS TYPE & %	OTHER FIBROUS MATERIAL & %	% NON-FIBROUS MATERIAL	COLOR
029 (D)	10-157-A (D) Floor Tile	CH / 5%	Cellulose / 2%	93%	Black
029 (E)	10-157-A (E) Mastic	ND**	Cellulose / 2%	98%	Yellow
030 (A)	10-157-B (A) Sheet Floor	Assumed Positive See MSE# 029 (A)			
030 (B)	10-157-B (B) Floor Tile	Assumed Positive See MSE# 029 (B)			
030 (C)	10-157-B (C) Mastic	ND**	Cellulose / 2%	98%	Tan
030 (D)	10-157-B (D) Floor Tile	Assumed Positive See MSE# 029 (D)			
030 (E)	10-157-B (E) Mastic	ND**	Cellulose / 2%	98%	Yellow
031 (A)	10-157-C (A) Sheet Floor	Assumed Positive See MSE# 029 (A)			
031 (B)	10-157-C (B) Floor Tile	Assumed Positive See MSE# 029 (B)			
031 (C)	10-157-C (C) Mastic	ND**	Cellulose / 2%	98%	Tan
031 (D)	10-157-C (D) Floor Tile	Assumed Positive See MSE# 029 (D)			
031 (E)	10-157-C (E) Mastic	ND**	Cellulose / 2%	98%	Yellow
032 (A)	11-161-A (A) Sheet Floor	ND	Cellulose / 30%	70%	Gray
032 (B)	11-161-A (B) Mastic	ND**	Cellulose / 2%	98%	Tan
032 (C)	11-161-A (C) Floor Tile	ND**	Cellulose / 2%	98%	White

SUMMARY OF PLM BULK ANALYSIS RESULTS

MSE # P335PRO.1-	SAMPLE # DESCRIPTION	ASBESTOS TYPE & %	OTHER FIBROUS MATERIAL & %	% NON-FIBROUS MATERIAL	COLOR
032 (D)	11-161-A (D) Mastic	ND**	Cellulose / 2%	98%	Yellow
033 (A)	11-161-B (A) Sheet Floor	ND	Cellulose / 30%	70%	Gray
033 (B)	11-161-B (B) Mastic	ND**	Cellulose / 2%	98%	Tan
033 (C)	11-161-B (C) Floor Tile	ND**	Cellulose / 2%	98%	White
033 (D)	11-161-B (D) Mastic	ND**	Cellulose / 2%	98%	Yellow
034 (A)	11-161-C (A) Sheet Floor	ND	Cellulose / 30%	70%	Gray
034 (B)	11-161-C (B) Mastic	ND**	Cellulose / 2%	98%	Tan
034 (C)	11-161-C (C) Floor Tile	ND**	Cellulose / 2%	98%	White
034 (D)	11-161-C (D) Mastic	ND**	Cellulose / 2%	98%	Yellow
035	12-161-A Sheet Floor	ND	Cellulose / 35%	65%	Gray
036 (A)	12-163-B (A) Sheet Floor	ND	Cellulose / 35%	65%	Gray
036 (B)	12-163-B (B) Floor Tile	CH / 2%	Cellulose / 2%	96%	Gray
036 (C)	12-163-B (C) Mastic	CH / 2%	Cellulose / 2%	96%	Black
037 (A)	12-163-C (A) Sheet Floor	ND	Cellulose / 25% Glass / 10%	65%	Gray
037 (B)	12-163-12 (B) Sheet Floor	ND	Cellulose / 35%	65%	Gray

SUMMARY OF PLM BULK ANALYSIS RESULTS

MSE # P335PRO.1-	SAMPLE # DESCRIPTION	ASBESTOS TYPE & %	OTHER FIBROUS MATERIAL & %	% NON-FIBROUS MATERIAL	COLOR
038 (A)	13-161-A (A) Sheet Floor	ND	Cellulose / 35%	65%	Gray
038 (B)	13-161-A (B) Sheet Floor	ND	Cellulose / 35%	65%	Gray
039 (A)	13-161-B (A) Sheet Floor	ND	Cellulose / 35%	65%	Gray
039 (B)	13-161-B (B) Sheet Floor	ND	Cellulose / 35%	65%	Gray
040 (A)	13-161-C (A) Sheet Floor	ND	Cellulose / 35%	65%	Gray
040 (B)	13-161-C (B) Sheet Floor	ND	Cellulose / 35%	65%	Gray
041	14-A Window Glazing	ND**	Cellulose / 2%	98%	Gray
042	14-B Window Glazing	ND**	Cellulose / 2%	98%	Gray
043	14-C Window Glazing	ND**	Cellulose / 2%	98%	Gray
044	15-A Seam Tape	CH / 75%	ND	25%	White
045	15-B Seam Tape	CH / 75%	ND	25%	Gray
046	15-C Seam Tape	CH / 75%	ND	25%	Gray
047	16-A Insulation	CH / 65%	Cellulose / 15%	20%	White
048	16-B Insulation	Assumed Positive See MSE# 047			
049	16-C Insulation	Assumed Positive See MSE# 047			

SUMMARY OF PLM BULK ANALYSIS RESULTS

MSE # P335PRO.1-	SAMPLE # DESCRIPTION	ASBESTOS TYPE & %	OTHER FIBROUS MATERIAL & %	% NON-FIBROUS MATERIAL	COLOR
050 (A)	17-A (A) Shingle	ND**	Glass / 25%	75%	Black
050 (B)	17-A (B) Felt	ND**	Cellulose / 60%	40%	Black
051 (A)	17-B (A) Shingle	ND**	Glass / 25%	75%	Black
051 (B)	17-B (B) Felt	ND**	Cellulose / 75%	25%	Black
052 (A)	17-C (A) Shingle	ND**	Glass / 25%	75%	Black
052 (B)	17-C (B) Felt	ND**	Cellulose / 75%	25%	Black
053 (A)	18-A (A) Shingle	ND**	Glass / 25%	75%	Black
053 (B)	18-A (B) Shingle	ND**	Glass / 25%	75%	Black
054 (A)	18-B (A) Shingle	ND**	Glass / 25%	75%	Black
054 (B)	18-B (B) Shingle	ND**	Glass / 25%	75%	Black
054 (C)	18-B (C) Shingle	ND**	Cellulose / 25%	75%	Black
055 (A)	18-C (A) Shingle	ND**	Glass / 25%	75%	Black
055 (B)	18-C (B) Shingle	ND**	Cellulose / 25%	75%	Black
055 (C)	18-C (C) Felt	ND**	Glass / 25%	75%	Black
056	19-159-A HVAC Duct Board	CH / 85%	ND	15%	Gray

SUMMARY OF PLM BULK ANALYSIS RESULTS

MSE # P335PRO.1-	SAMPLE # DESCRIPTION	ASBESTOS TYPE & %	OTHER FIBROUS MATERIAL & %	% NON-FIBROUS MATERIAL	COLOR
057	19-161-B HVAC Duct Board	CH / 85%	ND	15%	Gray
058	19-157-C HVAC Duct Board	CH / 85%	ND	15%	Gray
059	20-A Vapor Barrier	ND**	Cellulose / 75%	25%	Black
060	20-B Vapor Barrier	ND**	Cellulose / 75%	25%	Black
061	20-C Vapor Barrier	ND**	Cellulose / 75%	25%	Black

NOTES:

ND = None Detected
CR = Crocidolite
CH = Chrysotile
AN = Anthophyllite
A = Amosite
TR = Tremolite
AC = Actinolite

For samples consisting of separate components, each component is analyzed and reported separately.

Results apply only to items tested. Quantification is accurate to within ± 10%. Results from this report must not be reproduced, except in full, with the approval of McCall & Spero Environmental, Inc. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

** EPA recommends that bulk materials found negative for asbestos or less than one percent asbestos by polarized light microscopy that fall into one of five dominantly nonfriable categories be reanalyzed by an additional method, such as transmission electron microscopy. (EPA Notice of Advisory, FR Vol. 59, No. 146 & Test Method EPA 600/ R-93/ 116).

Analyst: M. Allison Brown, B.A. _____

McCall and Spero Environmental, Inc.
Specialists in Microanalysis

1831 Williamson Court • Suite 100 • Louisville, KY 40223
Phone (502) 244-7135 • (800) 841-0180 • FAX (502) 244-7136
E-mail: customerservice@mselabs.com • Website: www.mselabs.com

BULK SAMPLE CHAIN OF CUSTODY FORM

Company: PEC, INC **Telephone #** (865) 687-5835 **Fax #:** (865) 687-5836
Contact: Richard D. Murphy **Client Project Number:** PEC 02-15-013/01
Relinquished by: Richard D. Murphy **Date:** 3-2-15 **Time:** 2030
Written Report To: Richard D. Murphy
Project Name: The City of Oak Ridge - 157-163 Wade Lane
Turn-Around (Circle One): Same Day 24 Hour (2-3 Day) 4-5 Day Weekend Rush After Hour Rush
Analysis Requested (Circle One): (PLM Bulk Analysis) TEM Qualitative Analysis TEM Quantitative Analysis (4-5 Day)

For Laboratory Use Only First positive stop per H.A.
MSE Project # P335PRO **Method:** EPA/600/R-93/116
Samples Received by: [illegible] **Date:** 3-3-15 **Time:** 1000

Client Sample Number	Location	Sample Description	Sampled By
1-157-A	157 - Hallway	Smooth Gypsum Wallboard, tape, joint compound	RM
1-159-B	159 - Living Room	↓	RM
1-161-C	161 - Kitchen	↓	RM
1-163-D	163 - Kitchen	↓	RM
2-B-A	Basement	Gypsum wallboard w/ groove	RM
2-157-B	157 - Stairwell	↓	RM
2-157-C	157 - Living Room	↓	RM
3-159-A	159 - Kitchen	Gypsum ceiling board w/ light textured ceiling	RM
3-159-B	159 - Bedroom	↓	RM
3-161-C	161 - Kitchen	↓	RM
4-161-A	161 - Kitchen	Gypsum Ceiling Board w/ heavy textured ceiling	RM
4-161-B	161 - Bathroom	↓	RM
4-161-C	161 - Stairwell	↓	RM
5-159-A	159 - Living Room	Gypsum Ceiling Board w/ smooth textured ceiling	RM
5-157-B	157 - Living Room	↓	RM
5-163-C	163 - Living Room	↓	RM
6-157-A+B	157 - Attic	Blown-in insulation	RM
6-163-C	163 - Attic	↓	RM
7-157-A,B,C	157 - Kitchen	(white 12"x12" Block pattern sheet flooring, burlap, felt paper and floor tile)	RM

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Phone (502) 244-7135 • (800) 841-0180 • FAX (502) 244-7136
E-mail: customerservice@mselabs.com • Website: www.mselabs.com

Client Sample Number	Location	Sample Description	Sampled By
8-159-A	159 - Bathroom	white w/gray diamond pattern sheet flooring	[illegible]
8-161-B	161 - Hallway + stairwell	↓	[illegible]
8-163-C	163 - Front entrance	↓	[illegible]
9-159-A,B,C	159 - Kitchen	Brown parquet pattern sheet flooring - 2 layers	[illegible]
10-157-A,B,C	157 - Bathroom	12" x 12" light green w/ white thrown streaks floor tile - sheet floor, floor tile, backing	[illegible]
11-161-A,B,C	161 - Kitchen	12" white w/ flower pattern sheet flooring - 2 layers	[illegible]
12-161-A	161 - Front Entrance	18" x 18" Cream color sheet flooring	[illegible]
12-163-B	163 - Kitchen	↓	[illegible]
12-163-C	163 - Bathroom	↓	[illegible]
13-161-A,B,C	161 - Bathroom	white 9" square pattern sheet flooring over black mastic - 2 layers	[illegible]
14,A,B,C	157 - Exterior of Window	Window Glazing	[illegible]
15 A,B,C	Basement - Top of Furnaces	White seam tape	[illegible]
16 A,B,C	Basement - Duct in Brick	White collar insulation	[illegible]
17 A,B,C	Roof Upper on 157 + 163	Asphalt shingle + felt paper 3 layers	[illegible]
18 A,B,C	Lower Roof @ 159 + 161	Asphalt roll shingle + felt paper	[illegible]
19-159-A	159	HVAC Duct Board	[illegible]
19-161-B	161	↓	[illegible]
19-157-C	157	↓	[illegible]
20-A,B,C	Exterior under wood siding	Black vapor barrier.	

Results Transmitted/Date: _____ Fax/Phone By: _____

APPENDIX C

DRAWINGS OF ASBESTOS SAMPLE LOCATIONS

Photo #1: Picture of units 157-163 Wade Lane, Oak Ridge, TN.

Photo #2: Picture of HA#1-Non-asbestos smooth gypsum wallboard in units 157-163.

Photo #3: HA #2-Non asbestos gypsum wallboard with grooved edge.

Photo #4: HA #3-Asbestos gypsum ceiling board with a light textured finish.

Photo #5: HA#4-Asbestos gypsum ceiling board with heavy textured finish.

Photo #6: HA#5-Asbestos gypsum ceiling board with smooth textured finish.

Photo #7: HA#6-Non asbestos blown-in attic insulation.

Photo #8: HA#-7-Non asbestos white block pattern sheet flooring, burlap, felt paper and floor tile in kitchen of unit #157.

Photo #9: HA#8-Asbestos white with grey diamond pattern sheet flooring in units 159, 161, and 163.

Photo #10: HA#9-Non asbestos brown parquet style sheet flooring in kitchen of unit 159.

Photo #11: HA# 10-Asbestos 12”x12” White floor tile over plywood, plywood over sheet flooring, floor tile and burlap in bathroom of unit 157.

Photo #12: HA#11-Non asbestos 12” white with flower design sheet flooring in kitchen of unit 161.

Photo #13: HA#12-18”x18” non-asbestos cream color sheet flooring at entrance to unit 161. Same sheet flooring over another layer of sheet flooring, asbestos containing floor tile and mastic in kitchen and bathroom of unit 163.

Photo #14-HA#13-Non-asbestos white square pattern sheet flooring over black mastic in bathroom of unit 161.

Photo #15-HA#14-Non asbestos window glazing on the exterior of windows on unit 157.

Photo #16-HA#15-Asbestos containing white seam tape around metal ducts associated with the heat furnaces in basement.

Photo#17-HA#16-Asbestos containing white collar insulation around heat ducts in basement.

Photo #18-HA#18-Non asbestos roofing materials on porch roofs of units 159 and 161.

Photo #19-HA#17-Non asbestos asphalt roof shingle and felt paper on roofs of units 157 and 163.

Photo #20-HA#19-Asbestos containing duct board in walls and ceilings of units 157, 159 and 161.

Photo #21-HA#20-Non asbestos black felt vapor barrier on exterior of units behind wood siding.

PEC

Professional Environmental Consulting, Inc.
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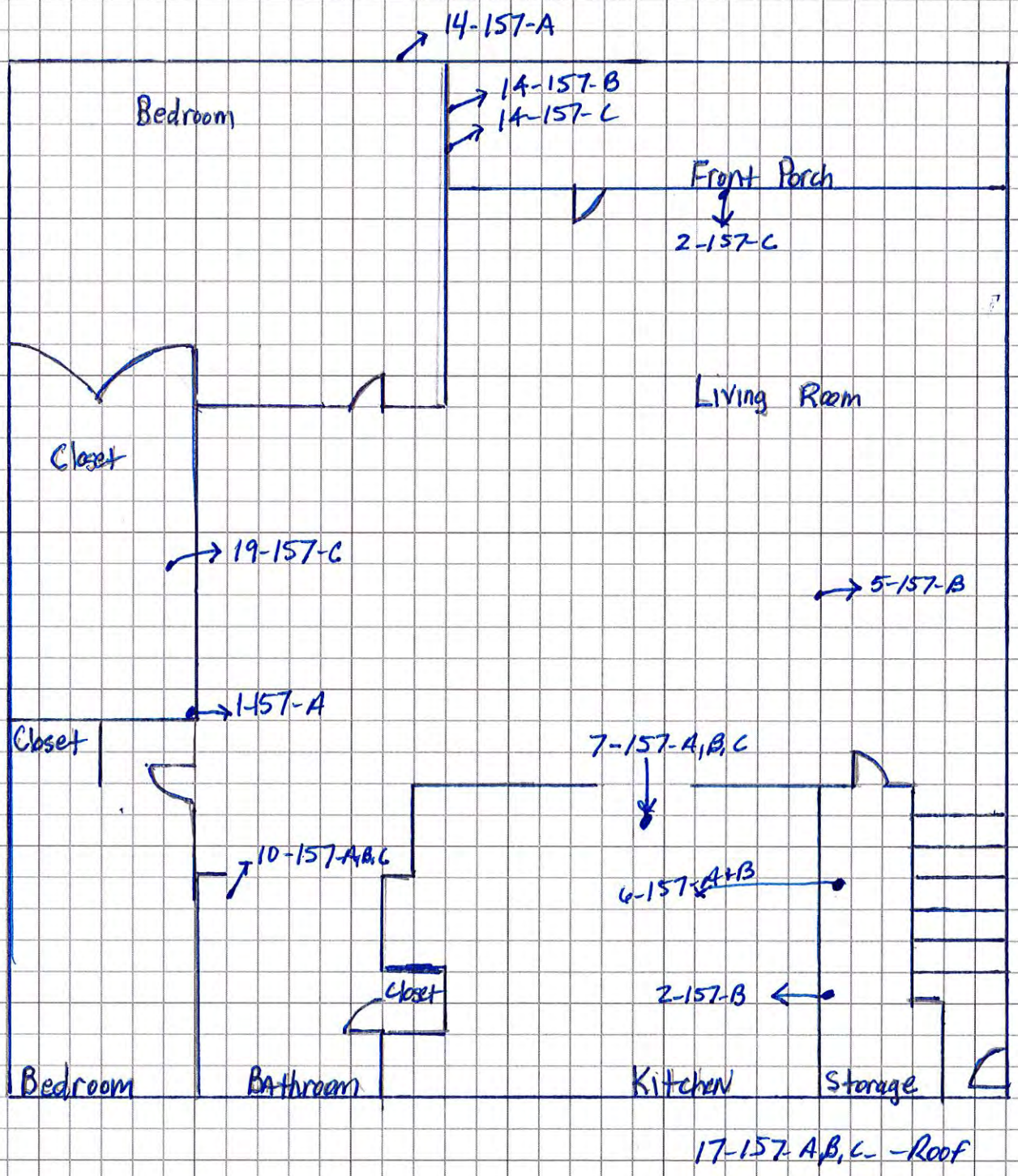
Knoxville, TN 37918 www.pecinc-usa.com

Hazardous Materials Survey

Project No. PEC 02-15-013	Sheet 1 of 5
Job Name PEC - City of Oak Ridge	
By Rick Murphy	Date 3-2-15
Checked By	Date

→ Bulk Sample location drawing

157 Wade Lane



PEC

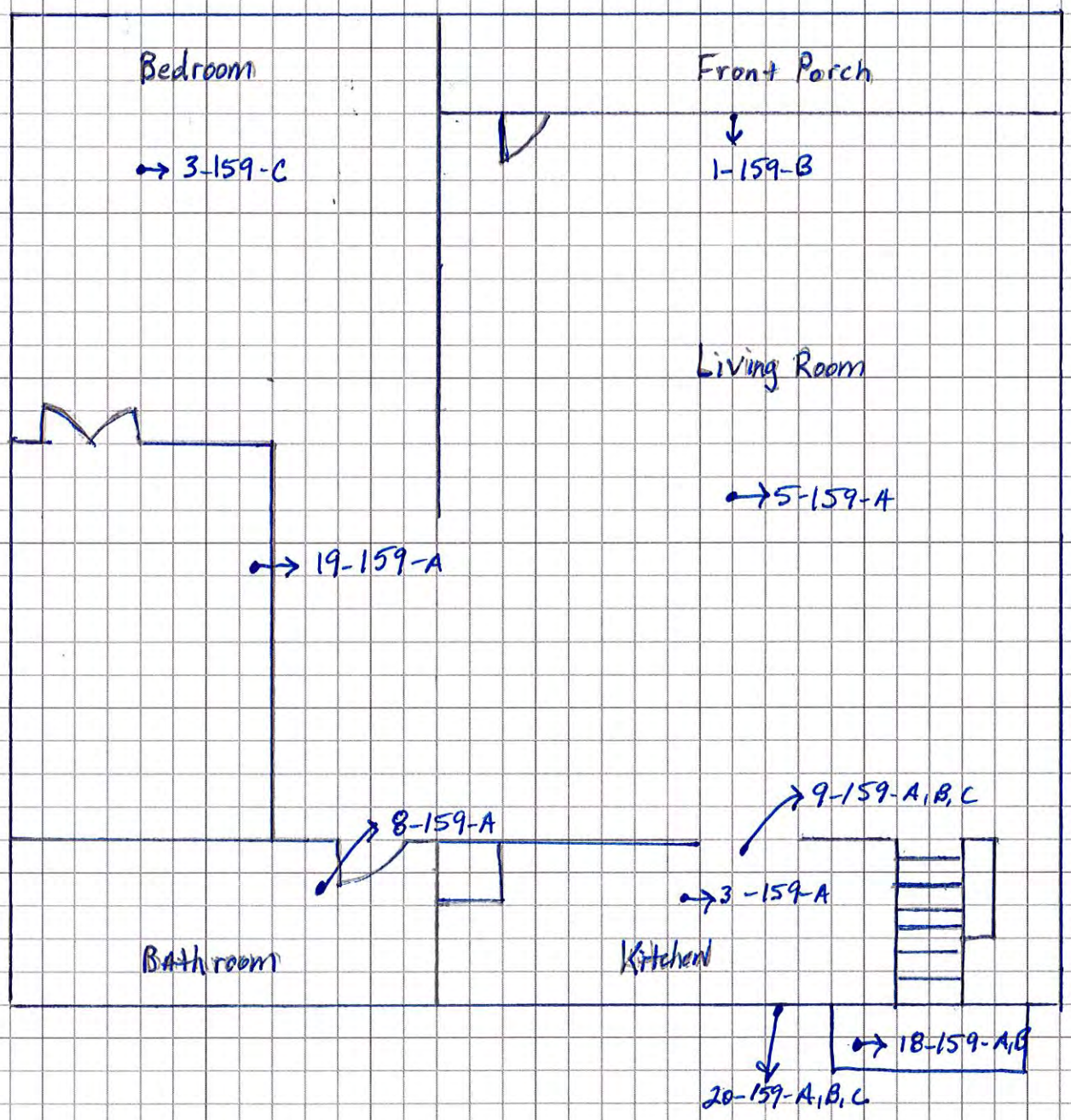
Professional Environmental Consulting, Inc.
2900 Tazewell Pike, Suite E (865) 687-5835
Knoxville, TN 37918 www.pecinc-usa.com

Hazardous Materials Survey

Project No. PEC 02-15-013	Sheet 2 of 5
Job Name City of Oak Ridge	
By Rick Murphy	Date 3-2-15
Checked By	Date

→ Bulk Sample location drawing

159 Wade Lane



PEC

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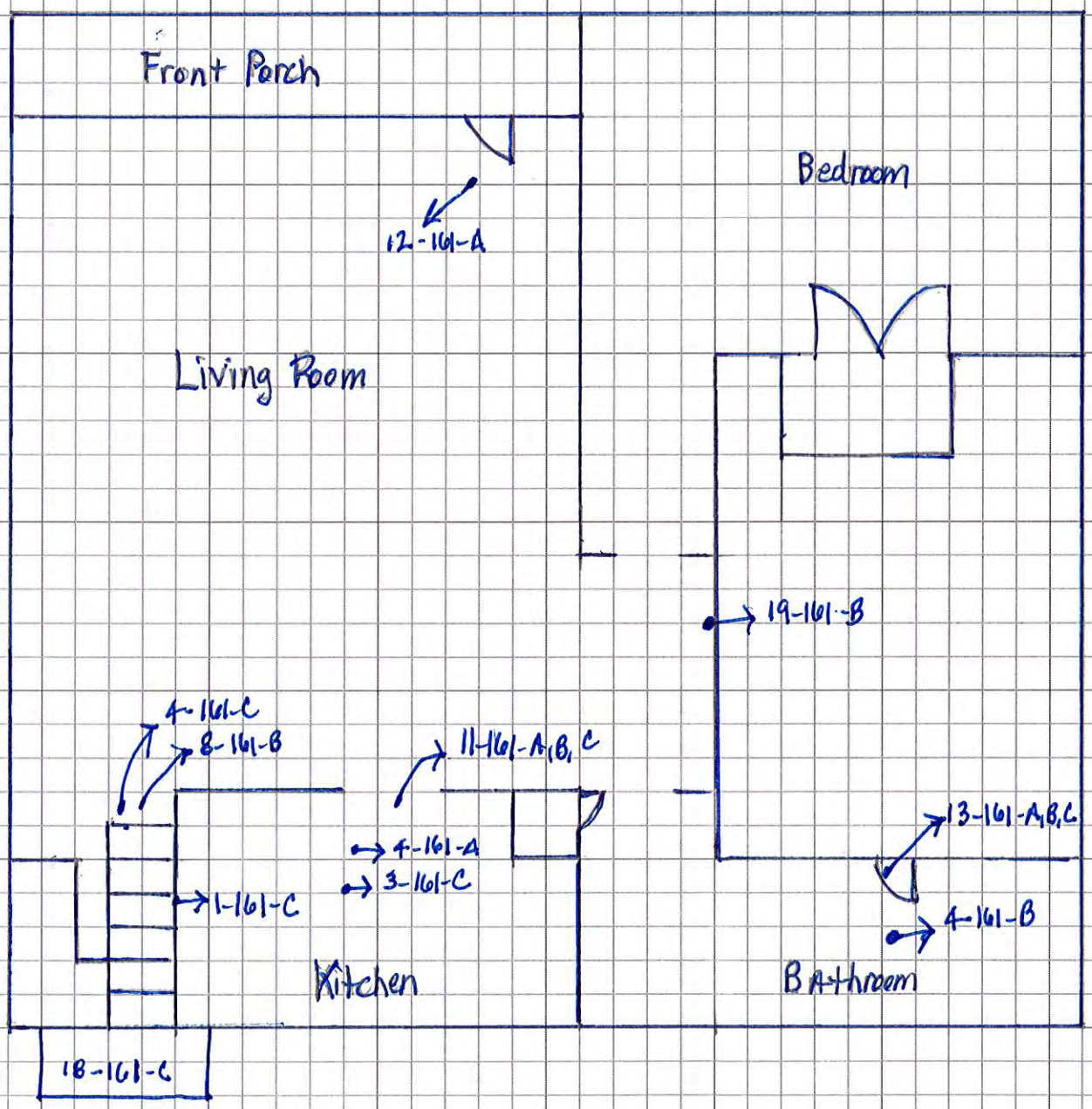
Knoxville, TN 37918 www.pecinc-usa.com

Hazardous Materials Survey

Project No. PEC 02-15-013	Sheet 3 of 5
Job Name City of Oak Ridge	
By Rick Murphy	Date 3-2-15
Checked By	Date

→ Bulk Sample location Drawing

161 Wade Lane



PEC

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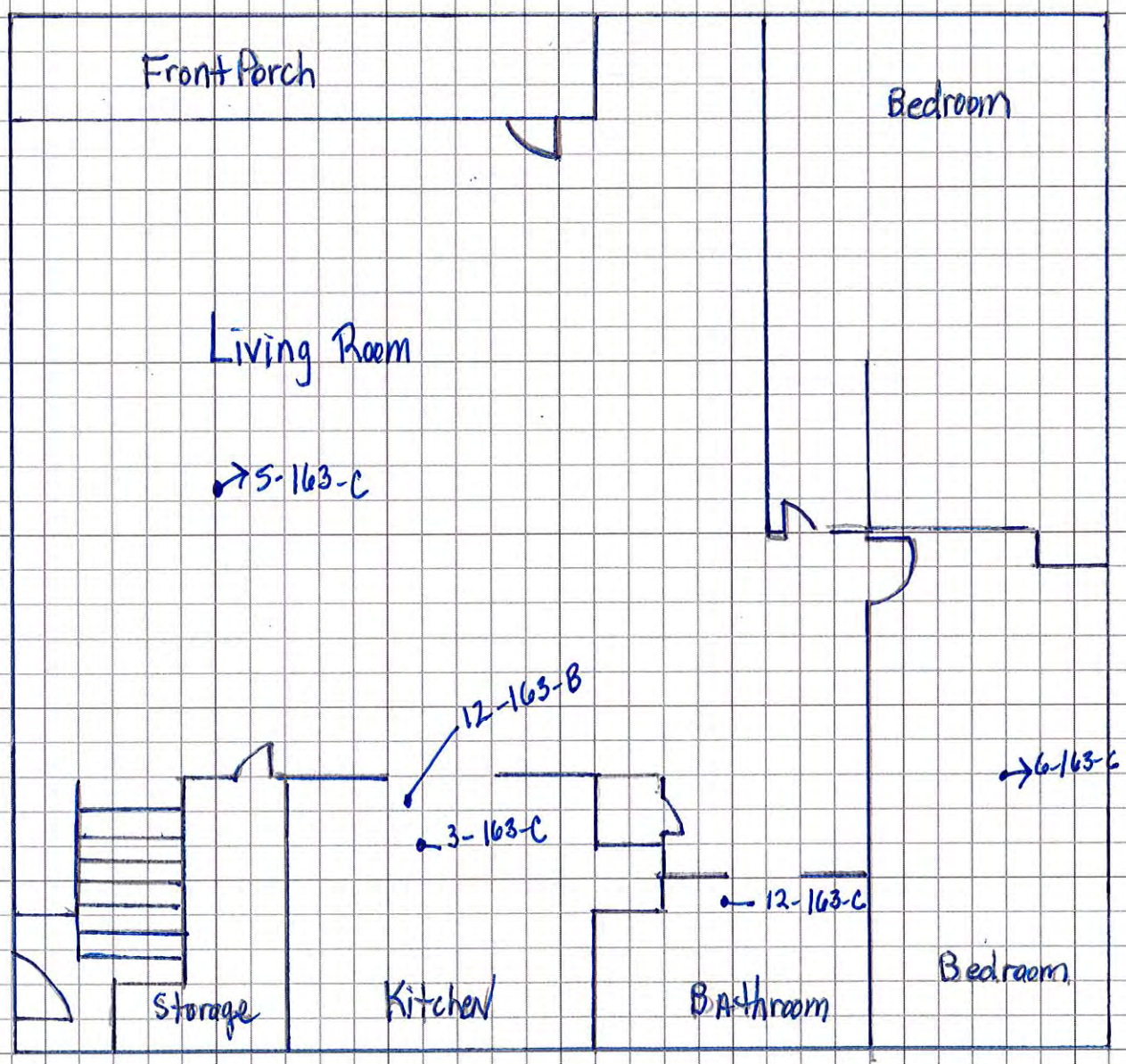
Knoxville, TN 37918 www.pecinc-usa.com

Hazardous Materials Survey

Project No. PEC 02-15-013	Sheet 4 of 5
Job Name City of Oak Ridge	
By Rick Murphy	Date 3-2-15
Checked By	Date

→ Bulk Sample Location Drawing

163 Wade Lane



PEC

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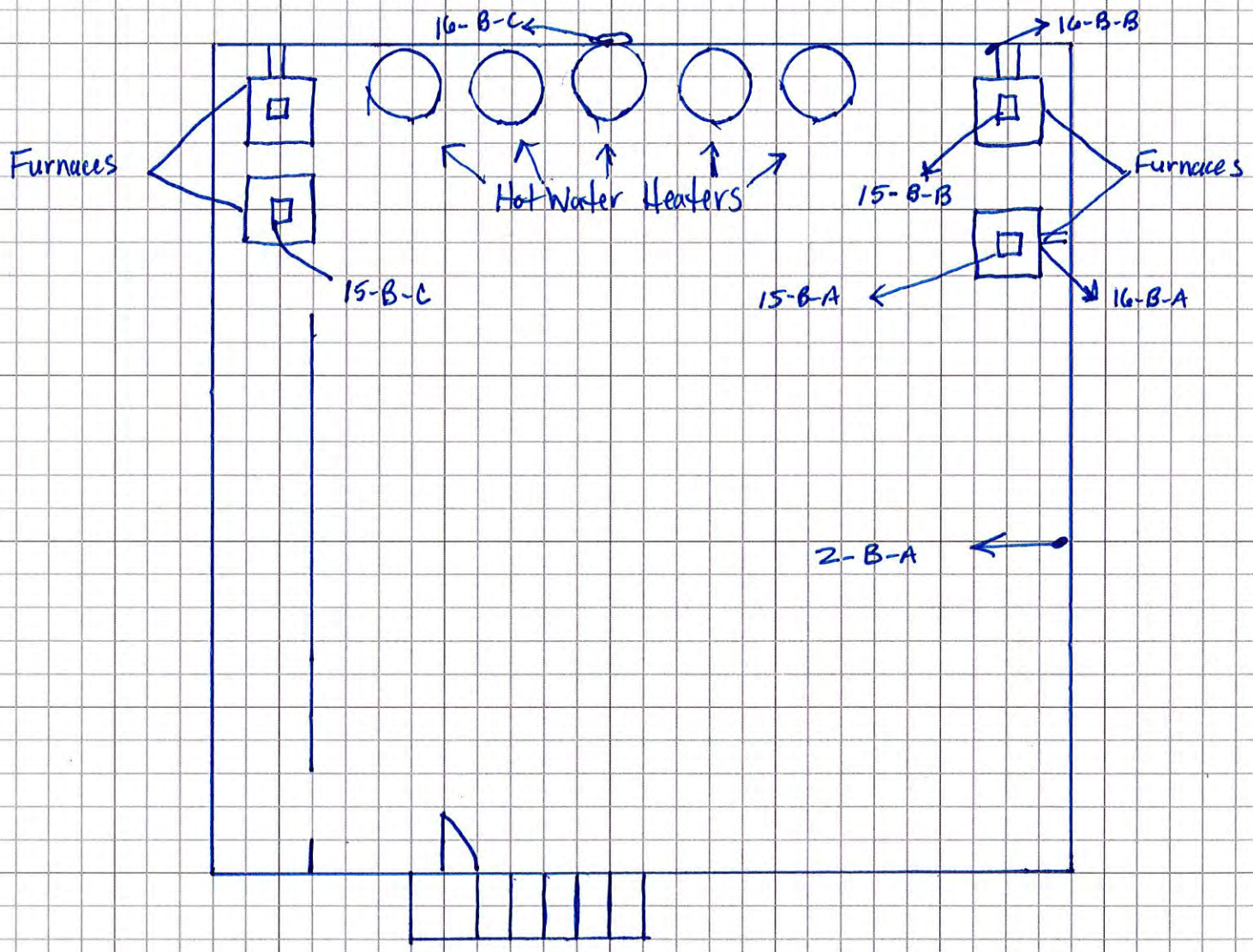
Hazardous Materials Survey

Project No. PEC 02-15-013	Sheet 5 of 5
Job Name City of OAK Ridge	
By Rick Murphy	Date 3-2-15
Checked By	Date

→ Bulk Sample location drawing

157 Wade Lane
Basement

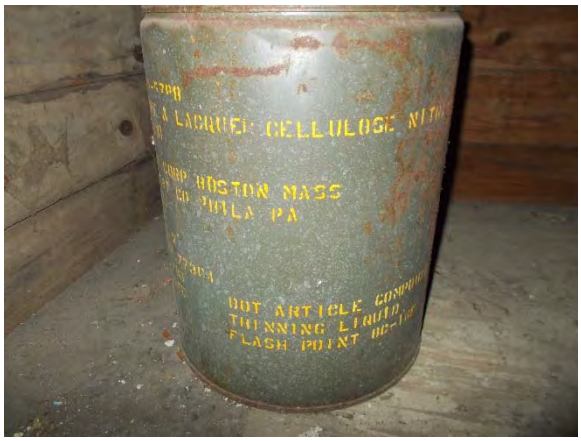


APPENDIX D
PHOTOGRAPHS OF PROPERTY AND HOMEGENOUS AREA

355 OUTER DRIVE
OAK RIDGE, TN

Household Hazardous Materials

Unit	Hazardous Material
355	Refrigerants: window air conditioner, refrigerator
357	Refrigerants: window air conditioner, refrigerator
359	Refrigerants: window air conditioner, refrigerator
361	Refrigerants: window air conditioner, refrigerator
Basement	Empty 2-gallon containers: Thinner Dope & Lacquer Cellulose; unknown labeled Union Carbide, Nuclear Division



Asbestos-Containing Materials (ACMs)

LOCATION, DESCRIPTION, and ASBESTOS ANALYSIS
355 OUTER DRIVE
OAK RIDGE, TENNESSEE

Sample ID	Location	Description	% Asbestos/Type of Asbestos
355SV1-1a	Apt 355, kitchen	Block flower sheet vinyl	NAD *
355SV1-1b	**Apt 355, kitchen**	**Second sheet vinyl**	**15% chrysotile**
355SV1-2a	Apt 355, kitchen	Block flower sheet vinyl	NAD
355SV1-2b	**Apt 355, kitchen**	**Second sheet vinyl**	**NA****

Sample ID	Location	Description	% Asbestos/Type of Asbestos
355SV1-3a	Apt 355, kitchen	Block flower sheet vinyl	NAD
355SV1-3b	**Apt 355, kitchen**	**Second sheet vinyl**	**NA**
355SV2-1	**Apt 355, bath**	**Tan pattern sheet vinyl**	**15% chrysotile**
355SV2-2	**Apt 355, bath**	**Tan pattern sheet vinyl**	**NA**
355SV2-3	**Apt 355, bath**	**Tan pattern sheet vinyl**	**NA**
355CT1-1	**Master BR**	**Stomp ceiling texture**	**4% chrysotile**
355CT1-2	**Master BR**	**Stomp ceiling texture**	**NA**
355CT1-3	**Master BR**	**Stomp ceiling texture**	**NA**
355CT2-1	Kitchen	Spray ceiling texture	NAD
355CT2-2	Kitchen	Spray ceiling texture	NAD
355CT2-3	Kitchen	Spray ceiling texture	NAD
SI-1	**Apt 355, kitchen**	**Black sink insulation**	**3% chrysotile**
SI-2	**Apt 357, kitchen**	**Black sink insulation**	**3% chrysotile**
SI-3	**Apt 359, kitchen**	**Black sink insulation**	**3% chrysotile**
355DW-1	Apt 355, bath	Ceiling double drywall	NAD
355DW-2	Apt 355, bath	Ceiling double drywall	NAD
355DW-3	Apt 355, bath	Ceiling double drywall	NAD
JC-1	Apt 355, LR	Joint compound	NAD
JC-2a	**Apt 357, LR**	**Joint compound**	**2% chrysotile**
JC-2b	Apt 357 LR	Drywall	NAD
JC-3a	**Apt 359, LR**	**Joint compound**	**2% chrysotile**
JC-3B	Apt 359, LR	Drywall	NAD
357SV1-1a	Apt 357, kitchen	Brick stick-on tile	NAD
357SV1-1b	**Apt 357, kitchen**	**Second sheet vinyl**	**15%, chrysotile**
357SV1-1c	Apt 357, kitchen	Mastic	NAD
357SV1-2a	Apt 357, kitchen	Brick stick-on tile	NAD
357SV1-2b	**Apt 357, kitchen**	**Second sheet vinyl**	**NA**
357SV1-2c	Apt 357, kitchen	Mastic	NAD
357SV1-3a	Apt 357, kitchen	Brick stick-on tile	NAD
357SV1-3b	**Apt 357, kitchen**	**Second sheet vinyl**	**NA**
357SV1-3c	Apt 357, kitchen	Mastic	NAD
357 SV2-1a	Apt 357, bath	Beige stick-on tile	NAD
357 SV2-1b	**Apt 357, bath**	**Second sheet vinyl**	**15% chrysotile**
357SV2-2a	Apt 357, bath	Beige stick-on tile	NAD
357SV2-2b	**Apt 357, bath**	**Second sheet vinyl**	**NA**
357SV2-2c	Apt 357, bath	Mastic	NAD
357SV2-3a	Apt 357, bath	Beige stick-on tile	NAD
357SV2-3b	**Apt 357, bath**	**Second sheet vinyl**	**NA**
357SV2-3c	Apt 357, bath	Mastic	NAD
357CT-1	**Apt 357, BR**	**Stomp ceiling texture**	**4% chrysotile**
357CT-2	**Apt 357, hall**	**Stomp ceiling texture**	**NA**
357CT-3	**Apt 357, LR**	**Stomp ceiling texture**	**NA**
359SV1-1a	Apt 359, kitchen	Off-white block sheet vinyl	NAD
359SV1-1b	**Apt 359, kitchen**	**Second sheet vinyl**	**15% chrysotile**
359SV1-2a	Apt 359, kitchen	Off-white block sheet vinyl	NAD
359SV1-2b	**Apt 359, kitchen**	**Second sheet vinyl**	**NA**
359SV1-3a	Apt 359, kitchen	Off-white block sheet vinyl	NAD
359SV1-3b	**Apt 359, kitchen**	**Second sheet vinyl**	**NA**
359SV2-1	**Apt 359, bath**	**Beige pattern sheet vinyl**	**15% chrysotile**
359SV2-2	**Apt 359, bath**	**Beige pattern sheet vinyl**	**NA**
359SV2-3	**Apt 359, bath**	**Beige pattern sheet vinyl**	**NA**
361SV1-1a	**Apt 361, kitchen**	**Yellow pattern sheet vinyl**	**15% chrysotile**
361SV1-1b	**Apt 361, kitchen**	**Second sheet vinyl**	**15% chrysotile**

Sample ID	Location	Description	% Asbestos/Type of Asbestos
361SV1-2	**Apt 361, kitchen**	**Yellow pattern sheet vinyl**	**NA**
361SV1-3	**Apt 361, kitchen**	**Yellow pattern sheet vinyl**	**NA**
361SV2-1a	**Apt 361, bath**	**Tan block sheet vinyl**	**15% chrysotile**
361SV2-1b	**Apt 361, bath**	**Second sheet vinyl**	**15% chrysotile**
361SV2-2	**Apt 361, bath**	**Tan block sheet vinyl**	**NA**
361SV2-3	**Apt 361, bath**	**Tan block sheet vinyl**	**NA**
TSI-1	**Basement, back wall**	**Exhaust flue packing**	**75% chrysotile**
FDT-1	**Right front furnace**	**Furnace duct tape**	**60% chrysotile**
FDT-2	**Right rear furnace**	**Furnace duct tape**	**NA**
FDT-3	**Left front furnace**	**Furnace duct tape**	**NA**
FDP-1	**Right front furnace duct**	**Duct packing**	**45% chrysotile**
FDP-2	**Right rear furnace duct**	**Duct packing**	**NA**
FDP-3	**Left rear furnace duct**	**Duct packing**	**NA**
BDW-1a	Basement ceiling	Drywall	NAD
BDW-1b	**Basement ceiling**	**Joint compound**	**2% chrysotile**
BDW-2	Basement ceiling	Drywall	NAD
BDW-3	Basement wall	Drywall	NAD
EC-1	Exterior, front	Caulk	NAD
EC-2	Exterior, front	Caulk	NAD
EC-3	Exterior, front	Caulk	NAD
RF-1a	Left porch	Shingle roofing	NAD
RF-1b	Left porch	Felt	NAD
RF-2a	Left porch	Shingle roofing	NAD
RF-2b	Left porch	felt	NAD
RF-3a	Right porch	Shingle roofing	NAD
RF-3b	Right porch	felt	NAD
355F-1	Exterior, left side	Black felt behind clapboard	NAD
355F-2	Exterior, front	Black felt behind clapboard	NAD
355F-3	Exterior, right side	Black felt behind clapboard	NAD

* NAD – No Asbestos Detected
**NA – Not Analyzed (First Positive Stop)
Table entries in bold and shading are confirmed ACMs

Amount of ACMs by Unit*

Unit	ACM	Square Feet
355 Upper	Kitchen sheet vinyl	75
	Bath sheet vinyl	25
	Stomp ceiling texture	600
	Black sink insulation	2
357 Lower	Kitchen sheet vinyl	69
	Bath sheet vinyl	22
	Stomp ceiling texture	580
	Black sink insulation	2
359 Lower	Kitchen sheet vinyl	69
	Bath sheet vinyl	22
	Stomp ceiling texture	580
	Black sink insulation	2
361 Upper	Kitchen sheet vinyl	75
	Bath sheet vinyl	25
	Stomp ceiling texture	677
	Black sink insulation	2

Basement	Exhaust Flue Packing Furnace Duct Tape Duct Packing	~1 ft^3 6 ~1.5 ft^3

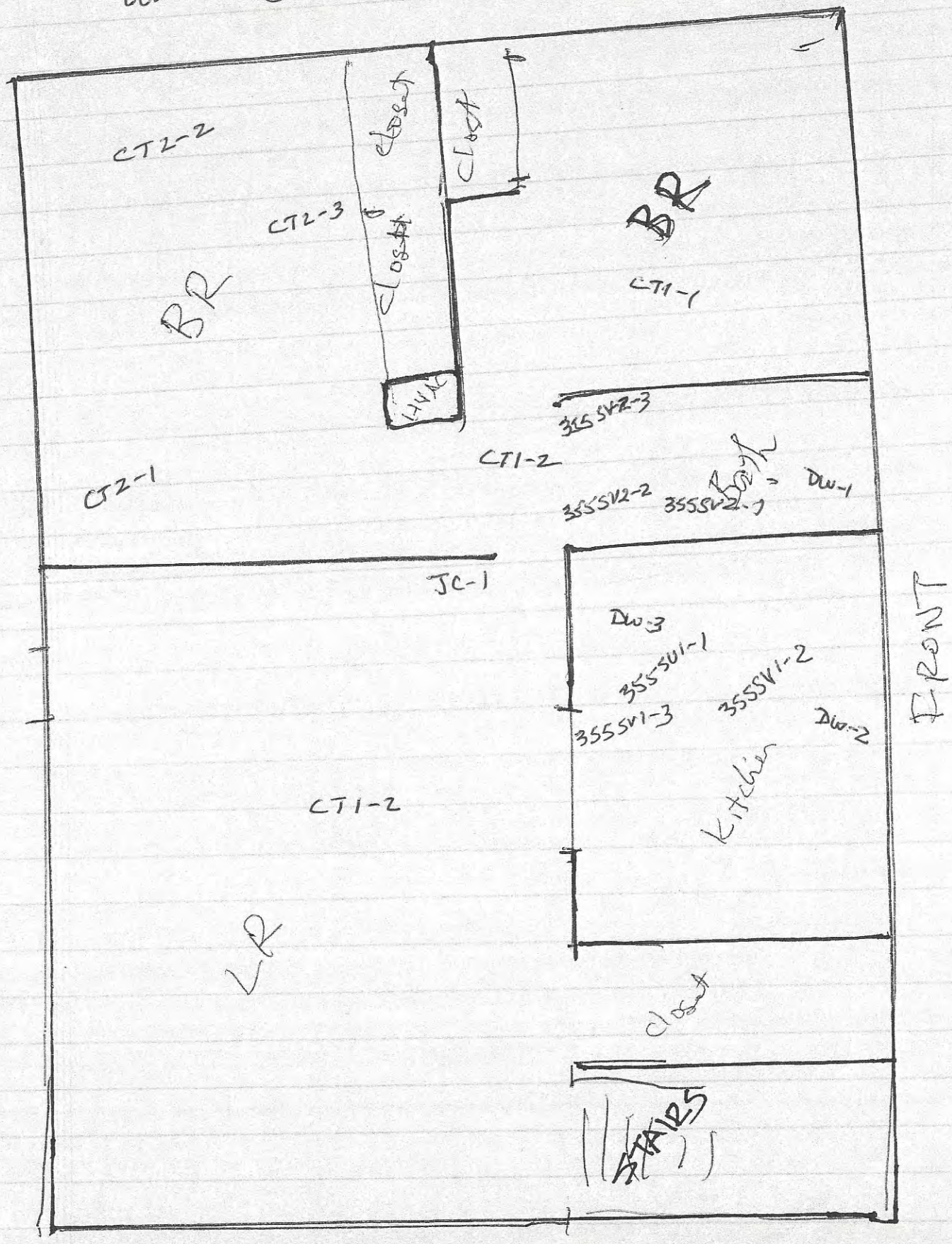
*Joint compound was confirmed as 2% chrysotile, but is not regulated as ACM by TDEC if it is a part of a drywall system.

ATTACHMENT A

SITE MAPS/SAMPLE LOCATIONS

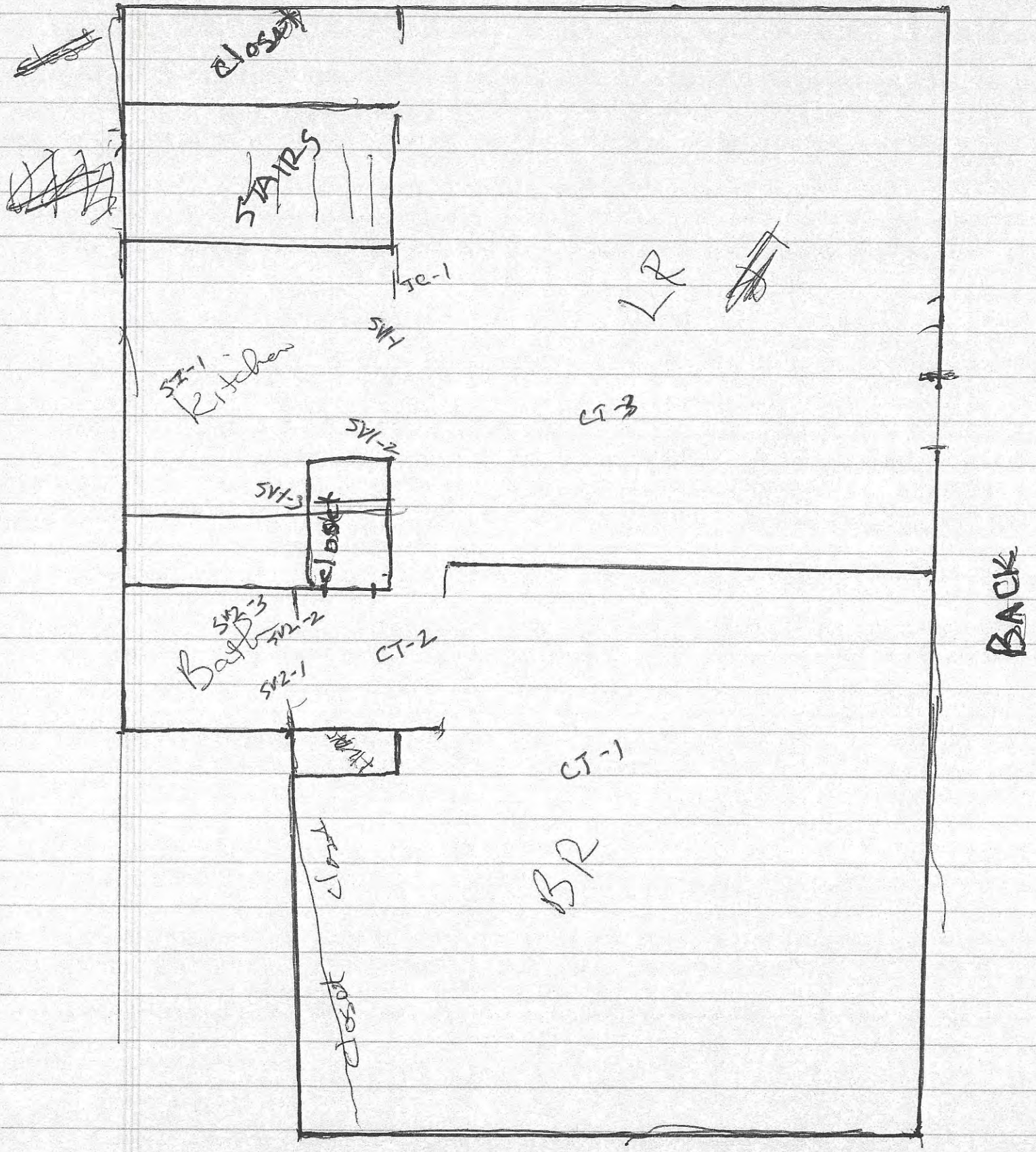
Left Upper
Unit 355

Not to Scale

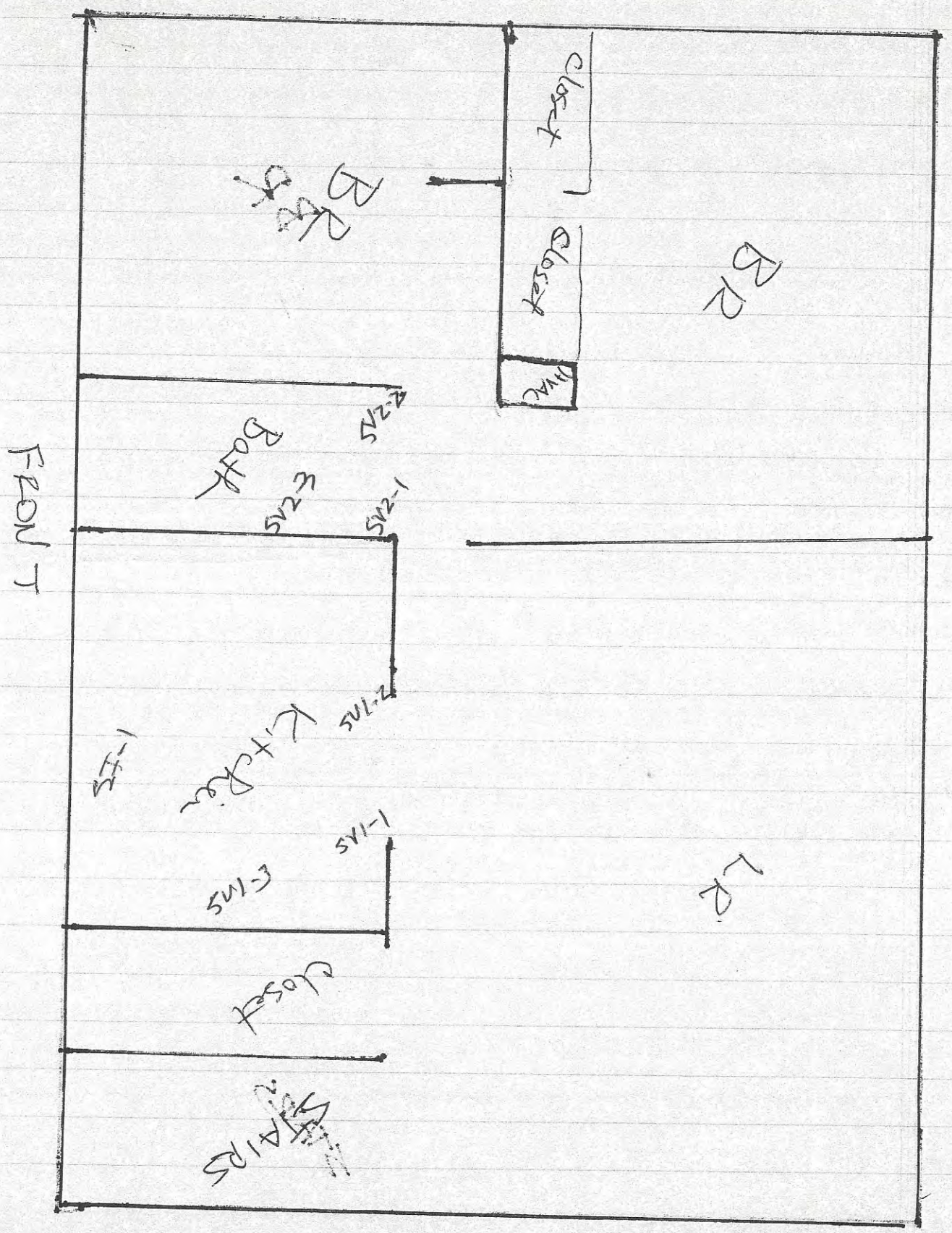


357 Lower Left Not to Scale

Unit 357

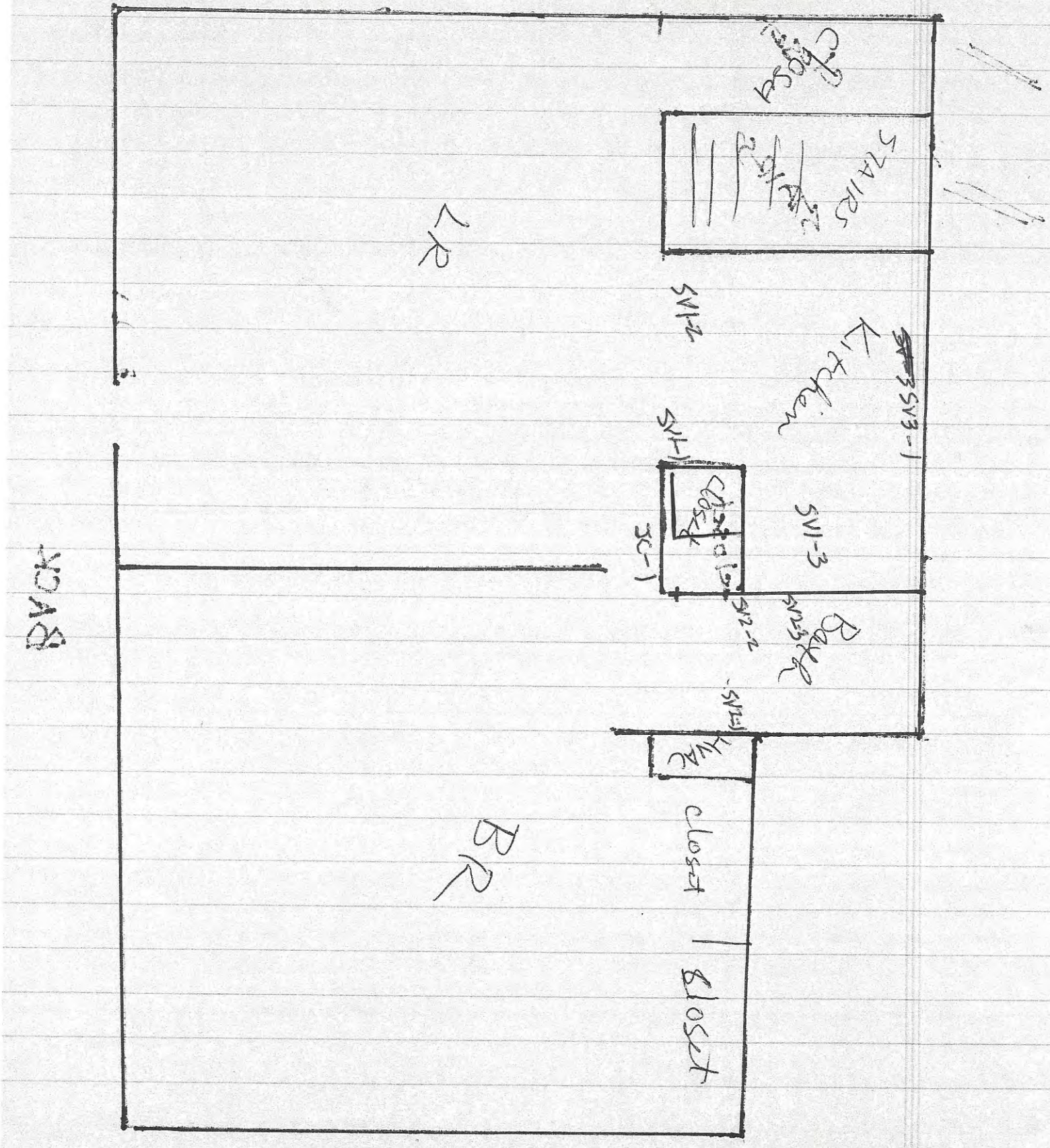


Unit 361 Right Upper Not to Scale

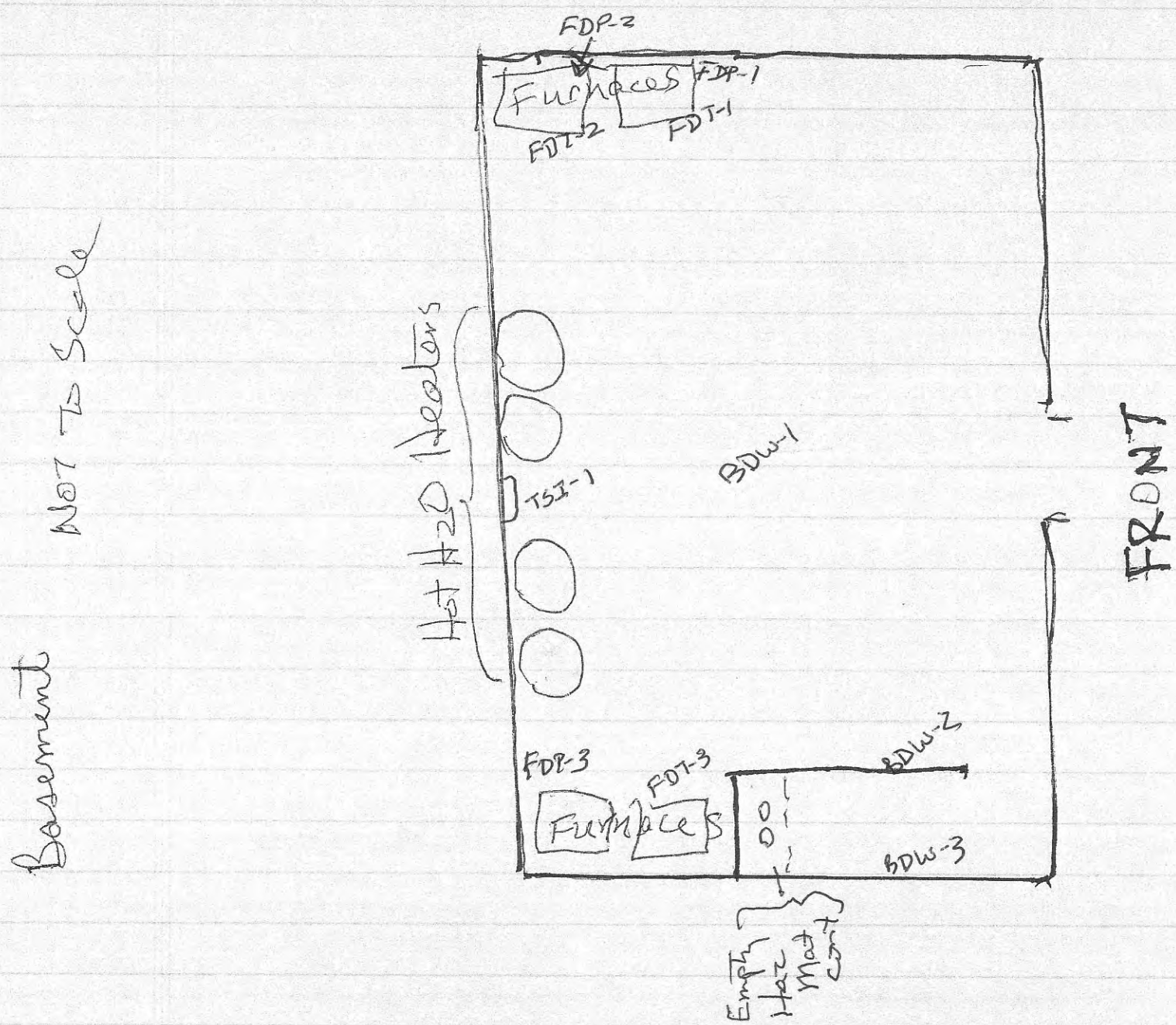


Lower Right
Unit 359

Not to Scale



355 Overlook Dr
Basement



ATTACHMENT B

LABORATORY ANALYSIS

SanAir Technologies Laboratory

Analysis Report

prepared for

Orion Environmental Solutions, Inc

Report Date: 8/12/2015
Project Name: Oak Ridge 4-Plex
Project #: 15-770
SanAir ID#: 15023401

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

Orion Environmental Solutions, Inc
2971 Hodges Landing Dr
Knoxville, TN 37920

August 12, 2015

SanAir ID # 15023401
Project Name: Oak Ridge 4-Plex
Project Number: 15-770

Dear Dennis Hunter,

We at SanAir would like to thank you for the work you recently submitted. The 58 sample(s) were received on Wednesday, August 05, 2015 via FedEx. The final report(s) is enclosed for the following sample(s): 355SV1-1, 355SV1-2, 355SV1-3, 355SV2-1, 355SV2-2, 355SV2-3, 355CT1-1, 355CT1-2, 355CT1-3, 355CT2-1, 355CT2-2, 355CT2-3, 355SI-1, 355DW-1, 355DW-2, 355DW-3, 355JC-1, 357SV1-1, 357SV1-2, 357SV1-3, 357SV2-1, 357SV2-2, 357SV2-3, 357CT-1, 357CT-2, 357CT-3, 357SI-1, 357JC-1, 361SV1-1, 361SV1-2, 361SV1-3, 361SV2-1, 361SV2-2, 361SV2-3, 361SI-1, 359SV1-1, 359SV1-2, 359SV1-3, 359SV2-1, 359SV2-2, 359SV2-3, 359JC-1, TSI-1, FDI-1, FDI-2, FDI-3, FDP-1, FDP-2, FDP-3, BDW-1, BDW-2, BDW-3, EC-1, EC-2, EC-3, RF-1, RF-2, RF-3.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:
58 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number

15023401

FINAL REPORT

Name: Orion Environmental Solutions, Inc
Address: 2971 Hodges Landing Dr
Knoxville, TN 37920

Project Number: 15-770
P.O. Number: 15-770
Project Name: Oak Ridge 4-Plex

Collected Date: 8/4/2015
Received Date: 8/5/2015 10:20:00 AM
Report Date: 8/12/2015 7:02:03 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355SV1-1 / 15023401-001 Unit 355 Kitchen Sheet Vinyl, Sheet Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose 2% Glass	88% Other	None Detected
355SV1-1 / 15023401-001 Unit 355 Kitchen Sheet Vinyl, Sheet Vinyl	Various Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355SV1-2 / 15023401-002 Unit 355 Kitchen Sheet Vinyl, Sheet Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose 2% Glass	88% Other	None Detected
355SV1-2 / 15023401-002 Unit 355 Kitchen Sheet Vinyl, Sheet Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355SV1-3 / 15023401-003 Unit 355 Kitchen Sheet Vinyl, Sheet Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose 2% Glass	88% Other	None Detected
355SV1-3 / 15023401-003 Unit 355 Kitchen Sheet Vinyl, Sheet Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355SV2-1 / 15023401-004 Unit 355 Bath Sheet Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355SV2-2 / 15023401-005 Unit 355 Bath Sheet Vinyl				Not Analyzed

Certification

Signature: Susan L. Childress
Date: 8/12/2015

Reviewed:
Date: 8/12/2015

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355SV2-3 / 15023401-006 Unit 355 Bath Sheet Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355CT1-1 / 15023401-007 Unit 355 Small BR Ceiling Texture	White Non-Fibrous Homogeneous		96% Other	4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355CT1-2 / 15023401-008 Unit 355 Hall Ceiling Texture				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355CT1-3 / 15023401-009 Unit 355 LR Ceiling Texture				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355CT2-1 / 15023401-010 Unit 355 MBR Ceiling Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355CT2-2 / 15023401-011 Unit 355 MBR Ceiling Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355CT2-3 / 15023401-012 Unit 355 MBR Ceiling Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
355SI-1 / 15023401-013 Sink Insulation Kitchen Unit 355	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
355DW-1 / 15023401-014 Double DW Ceiling Bath Unit 355	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
355DW-2 / 15023401-015 Double DW Ceiling Kitchen Unit 355	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
355DW-3 / 15023401-016 Double DW Ceiling Kitchen Unit 355	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
355JC-1 / 15023401-017 Joint Compound LR Unit 355, Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
357SV1-1 / 15023401-018 Stick On VT Over SV Kitchen Unit 357, Vinyl Tile	Brown Non-Fibrous Homogeneous		100% Other	None Detected
357SV1-1 / 15023401-018 Stick On VT Over SV Kitchen Unit 357, Sheet Vinyl	Various Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile
357SV1-1 / 15023401-018 Stick On VT Over SV Kitchen Unit 357, Mastic	Various Non-Fibrous Homogeneous		100% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
357SV1-2 / 15023401-019 Stick On VT Over SV Kitchen Unit 357, Vinyl Tile	Brown Non-Fibrous Homogeneous		100% Other	None Detected
357SV1-2 / 15023401-019 Stick On VT Over SV Kitchen Unit 357, Sheet Vinyl				Not Analyzed
357SV1-2 / 15023401-019 Stick On VT Over SV Kitchen Unit 357, Mastic	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
357SV1-3 / 15023401-020 Stick On VT Over SV Kitchen Unit 357, Vinyl Tile	Brown Non-Fibrous Homogeneous		100% Other	None Detected
357SV1-3 / 15023401-020 Stick On VT Over SV Kitchen Unit 357, Sheet Vinyl				Not Analyzed
357SV1-3 / 15023401-020 Stick On VT Over SV Kitchen Unit 357, Mastic	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
357SV2-1 / 15023401-021 Stick On VT Over SV Bath Unit 357, Vinyl Tile	Cream Non-Fibrous Homogeneous		100% Other	None Detected
357SV2-1 / 15023401-021 Stick On VT Over SV Bath Unit 357, Sheet Vinyl	Various Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
357SV2-2 / 15023401-022 Stick On VT Over SV Bath Unit 357, Vinyl Tile	Beige Non-Fibrous Homogeneous		100% Other	None Detected
357SV2-2 / 15023401-022 Stick On VT Over SV Bath Unit 357, Sheet Vinyl				Not Analyzed
357SV2-2 / 15023401-022 Stick On VT Over SV Bath Unit 357, Mastic	Various Non-Fibrous Homogeneous		100% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
357SV2-3 / 15023401-023 Stick On VT Over SV Bath Unit 357, Vinyl Tile	Beige Non-Fibrous Homogeneous		100% Other	None Detected
357SV2-3 / 15023401-023 Stick On VT Over SV Bath Unit 357, Sheet Vinyl				Not Analyzed
357SV2-3 / 15023401-023 Stick On VT Over SV Bath Unit 357, Mastic	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
357CT-1 / 15023401-024 Ceiling Texture BR Unit 357	White Non-Fibrous Homogeneous		96% Other	4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
357CT-2 / 15023401-025 Ceiling Texture Hall Unit 357				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
357CT-3 / 15023401-026 Ceiling Texture LR Unit 357				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
357SI-1 / 15023401-027 Sink Insulation Kitchen Unit 357	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
357JC-1 / 15023401-028 Joint Compound LR Unit 357, Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
357JC-1 / 15023401-028 Joint Compound LR Unit 357, Joint Compound	White Non-Fibrous Homogeneous		98% Other	2% Chrysotile

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
361SV1-1 / 15023401-029 Sheet Vinyl Kitchen Unit 361, Sheet Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile
361SV1-1 / 15023401-029 Sheet Vinyl Kitchen Unit 361, Sheet Vinyl	Various Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
361SV1-2 / 15023401-030 Sheet Vinyl Kitchen Unit 361				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
361SV1-3 / 15023401-031 Sheet Vinyl Kitchen Unit 361				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
361SV2-1 / 15023401-032 Sheet Vinyl Bath Unit 361, Sheet Vinyl	Beige Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile
361SV2-1 / 15023401-032 Sheet Vinyl Bath Unit 361, Sheet Vinyl	Various Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
361SV2-2 / 15023401-033 Sheet Vinyl Bath Unit 361				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
361SV2-3 / 15023401-034 Sheet Vinyl Bath Unit 361				Not Analyzed

Certification

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
361SI-1 / 15023401-035 Sink Insulation Kitchen Unit 361	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
359SV1-1 / 15023401-036 Sheet Vinyl Kitchen Unit 359, Sheet Vinyl	Cream Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
359SV1-1 / 15023401-036 Sheet Vinyl Kitchen Unit 359, Vinyl	Various Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
359SV1-2 / 15023401-037 Sheet Vinyl Kitchen Unit 359, Sheet Vinyl	Cream Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
359SV1-2 / 15023401-037 Sheet Vinyl Kitchen Unit 359, Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
359SV1-3 / 15023401-038 Sheet Vinyl Kitchen Unit 359, Sheet Vinyl	Cream Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
359SV1-3 / 15023401-038 Sheet Vinyl Kitchen Unit 359, Vinyl				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
359SV2-1 / 15023401-039 Sheet Vinyl Bath Unit 359	Various Non-Fibrous Homogeneous	10% Cellulose	75% Other	15% Chrysotile

Certification

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
359SV2-2 / 15023401-040 Sheet Vinyl Bath Unit 359				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
359SV2-3 / 15023401-041 Sheet Vinyl Bath Unit 359				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
359JC-1 / 15023401-042 Joint Compound LR Unit 359, Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
359JC-1 / 15023401-042 Joint Compound LR Unit 359, Joint Compound	White Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
TSI-1 / 15023401-043 Exhaust Flue Packing Basement	Grey Fibrous Homogeneous		25% Other	75% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
FDI-1 / 15023401-044 Furnace Duct Tape Basement	Grey Fibrous Homogeneous	20% Cellulose	20% Other	60% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
FDI-2 / 15023401-045 Furnace Duct Tape Basement				Not Analyzed

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
FDI-3 / 15023401-046 Furnace Duct Tape Basement				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
FDP-1 / 15023401-047 Furnace Duct Packing Basement	Grey Fibrous Homogeneous		55% Other	45% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
FDP-2 / 15023401-048 Furnace Duct Packing Basement				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
FDP-3 / 15023401-049 Forest Duct Packing Basement				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
BDW-1 / 15023401-050 Drywall Basement, Drywall	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
BDW-1 / 15023401-050 Drywall Basement, Joint Compound	White Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
BDW-2 / 15023401-051 Drywall Basement	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected

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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
BDW-3 / 15023401-052 Drywall Basement	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
EC-1 / 15023401-053	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
EC-2 / 15023401-054	Grey Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
EC-3 / 15023401-055	Grey Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
RF-1 / 15023401-056 Shingle	Grey Non-Fibrous Heterogeneous	5% Glass	95% Other	None Detected
RF-1 / 15023401-056 Felt	Black Fibrous Homogeneous	45% Cellulose	55% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
RF-2 / 15023401-057 Shingle	Grey Non-Fibrous Heterogeneous	5% Glass	95% Other	None Detected
RF-2 / 15023401-057 Felt	Black Fibrous Homogeneous	45% Cellulose	55% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
RF-3 / 15023401-058 Shingle	Grey Non-Fibrous Heterogeneous	5% Glass	95% Other	None Detected
RF-3 / 15023401-058 Felt	Black Fibrous Homogeneous	45% Cellulose	55% Other	None Detected

Certification

Signature: Susan L. Childress
Date: 8/12/2015

Reviewed:
Date: 8/12/2015

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the clientõs sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

NY ELAP lab ID 11983

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Asbestos Chain of Custody

SanAir ID Number: 15023401

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge 4-Plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/4/15	Fax #:	865-577-0774
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop	☑	ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐	**Water**			**Dust**		
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
355SV1-1	Unit 355 Kitchen Sheet Vinyl					
355SV1-2	↓					
355SV1-3	↓					
355SV2-1	Bath					
355SV2-2	↓					
355SV2-3	↓					
355CT1-1	Small BR Ceiling texture					
355CT1-2	Hall					
355CT1-3	LR					
355CT2-1	MBR					
355CT2-2	MBR					
355CT2-3	MBR					

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
D Hunter	8/4/15	5PM	[illegible]	AUG 5 2015	10:20

Unless scheduled, the turn around time for all samples received after 5 pm Friday will begin at 8 am Monday morning.
Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time.
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SanAir Technologies Laboratory, Inc.
1551 Oakbridge Drive, Suite B - Powhatan, VA 23139
804.897.1177 / 888.895.1177 / Fax 804.897.0070
www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 15023407

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge 4-Plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/4/15	Fax #:	865-577-0774
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop ☑		ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐	**Water**			**Dust**		
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location			Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
355 SI-1	Sink Insulation	Kitchen	Unit 355					
355 DW-1	Double DW Ceiling	Bath						
355 DW-2		Kitchen						
355 DW-3								
355 JC-1	Joint compound	LR						
357 SV1-1	Stucco on VT over SV	Kitchen	Unit 357					
357 SV1-2								
357 SV1-3								
357 SV2-1	Stucco on VT over SV	Bath						
357 SV2-2								
357 SV2-3								
357 CT-1	Stomp ceiling Texture	BR						

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
DHunter	8/4/15	5PM		AUG 5 2015	10:00

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Asbestos Chain of Custody

SanAir ID Number: 15023401

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge 4-Plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/4/15	Fax #:	865-577-0774
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop ☑		ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐	**Water**			**Dust**		
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location			Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
357 CT-2	Stomp ceiling texture	Hall	Unit 357					
357 CT-3	↓	LR	↓					
357 SI-1	Sink insulation	Kitchen						
357 JC-1	Joint Compound	LR						
361 SV1-1	Sheet vinyl	Kitchen	Unit 361					
361 SV1-2	↓	↓	↓					
361 SV1-3	↓	↓	↓					
361-SV2-1	Sheet vinyl	Bath						
361 SV2-2	↓	↓	↓					
361 SV2-3	↓	↓	↓					
361 SI-1	Sink insulation	Kitchen	↓					
359 SV1-1	Sheet vinyl		Unit 359					

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
D Hunter	8/4/15	5 PM	[signature]	AUG 5 2015	10:20

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Asbestos Chain of Custody

SanAir ID Number: 15023401

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge 4-Plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/4/15	Fax #:	865-577-0774
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop	☑	ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐	**Water**			**Dust**		
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
359 SV1-2	Sheet vinyl Kitchen Unit 359					
359 SV1-3						
359 SV2-1	Bath					
359 SV2-2						
359 SV2-3						
359 JC-1	Joint compound - LR					
TSI-1	Exhaust flue packing Basement					
FDI-1	Furnace Duct Tape					
FDI-2						
FDI-3						
FDP-1	Furnace Duct Packing					
FDP-2						

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
D Hunter	8/4/15	5pm	[illegible]	AUG 5 2015	10:20

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Asbestos Chain of Custody

SanAir ID Number: 15023401

Company:	Orion Environmental Solutions, Inc.	Project #:	15-770	Phone #:	865.577.7124
Address:	2971 Hodges Landing Drive	Project Name:	Oak Ridge 4-Plex	Phone #:	865.603-0330
City, St., Zip:	Knoxville, TN 37920-8132	Date Collected:	8/4/15	Fax #:	865-577-0774
Samples Collected By:	Dennis Hunter	P.O. Number:	15-770	Email:	dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	☑	ABA	PCM NIOSH 7400	☐	ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
	Positive Stop	☑	ABA-2	OSHA w/ TWA*	☐	ABSP	PLM CARB 435 (LOD <1%)	☐
ABEPA	PLM EPA 400 Point Count	☐	ABTEM	TEM AHERA	☐	ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABB1K	PLM EPA 1000 Point Count	☐	ABATN	TEM NIOSH 7402	☐	ABSP2	PLM CARB 435 (LOD 0.1%)	☐
ABBEN	PLM EPA NOB	☐	ABT2	TEM Level II	☐			
ABBCH	TEM Chatfield	☐						
ABBTM	TEM EPA NOB	☐	**Water**			**Dust**		
ABBNY	TEM NY ELAP 198.4	☐	ABHE	EPA 100.2	☐	ABWA	TEM Wipe ASTM D-6480	☐
OTHER/ Matrix :		☐				ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
FDP-3	Forest Duct Packing Basement					
BDW-1	Dry wall					
BDW-2						
BDW-3						

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
DHunter	8/4/15	5 pm	[illegible]	AUG 5 2015	10:20

Unless scheduled, the turn around time for all samples received after 5 pm Friday will begin at 8 am Monday morning.
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SanAir Technologies Laboratory

Analysis Report

prepared for

Orion Environmental Solutions, Inc

Report Date: 8/13/2015
Project Name: Oak Ridge, TN 4 Plex
Project #: 15-770
SanAir ID#: 15023593

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

Orion Environmental Solutions, Inc
2971 Hodges Landing Dr
Knoxville, TN 37920

August 13, 2015

SanAir ID # 15023593
Project Name: Oak Ridge, TN 4 Plex
Project Number: 15-770

Dear Dennis Hunter,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Thursday, August 06, 2015 via FedEx. The final report(s) is enclosed for the following sample(s): 355F-1, 355F-2, 355F-3.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:
3 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number

15023593

FINAL REPORT

Name: Orion Environmental Solutions, Inc
Address: 2971 Hodges Landing Dr
Knoxville, TN 37920

Project Number: 15-770
P.O. Number: 15-770
Project Name: Oak Ridge, TN 4 Plex

Collected Date: 8/5/2015
Received Date: 8/6/2015 10:35:00 AM
Report Date: 8/13/2015 5:28:19 PM
Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355F-1 / 15023593-001 Felt Paper/Clapboard Exterior	Black Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355F-2 / 15023593-002 Felt Paper/Clapboard Exterior	Black Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
355F-3 / 15023593-003 Felt Paper/Clapboard Exterior	Black Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

Certification

Signature: Sandra Sobrino
Date: 8/13/2015

Reviewed:
Date: 8/13/2015

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the clientõs sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

NY ELAP lab ID 11983

SanAir Technologies Laboratory, Inc.
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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 15023593

Company: Orion Environmental Solutions, Inc.		Project #: 15-770	Phone #: 865.577.7124
Address: 2971 Hodges Landing Drive		Project Name: Oak Ridge, TN 4 plex	Phone #: 865.603-0330
City, St., Zip: Knoxville, TN 37920-8132		Date Collected: 8/5/2015	Fax #:
Samples Collected By: Dennis Hunter		P.O. Number: 15-770	Email: dhunter.orion@gmail.com

Asbestos Analysis Types

Bulk

ABB	PLM EPA 600/R-93/116	☑
	Positive Stop ☑	
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐
ABBNY	TEM NY ELAP 198.4	☐
OTHER/ Matrix :		☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Water

ABHE	EPA 100.2	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Turn Around Times				
	☐ 3 HR (4 HR TEM)	☐ 6 HR (8HR TEM)	☐ 12 HR	☐ 24 HR
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☑

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
355F-1	Black felt paper/Clapboard Exterior					
355F-2	"					
355F-3	"					

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
D Hunter	8/5/15	6pm	[illegible]	AUG 6 2015	10:55

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Bid Submittal Instructions

Each bid must be submitted in a sealed envelope marked and addressed as follows:

From: Bidder's Name
Bidder's Address
*General Contractor's State of Tennessee License Number
*Bidder's License Date of Registration
*Bidder's License Category or Classification
*Bidder's License Expiration Date

*If bid equals or exceeds $25,000, include this information if a contractor's license is required for this project per the State of Tennessee's Contractors Licensing Board. (The same information must also be provided for major subcontractors.)

To:

In Person or By Overnight Delivery	Regular Mail
Attn: Lyn Majeski Finance Department City of Oak Ridge 100 Woodbury Lane Oak Ridge, TN 37830	Attn: Lyn Majeski Finance Department City of Oak Ridge P.O. Box 1 Oak Ridge, TN 37831-0001

If the bid is submitted by mail rather than hand-delivery, the sealed envelope containing the bid must be enclosed in another envelope addressed as stated above. Bids submitted by mail must indicate on the outside envelope, lower left corner, the following: "Sealed bid for FY2016-065: Abatement and Demolition to be opened September 15, 2015, at 2:00 p.m., local time."

Late bids are not accepted.

BID FORM

Project: Abatement and Demolition for Four (4) Residential Structures – Fourplex Buildings – 101 Wade Lane, 117 Wade Lane, 157 Wade Lane, and 355 W. Outer Drive

In compliance with the Invitation for Bids, dated August 26, 2015, the undersigned Bidder:

_____

* a corporation organized and existing under the laws of the State of: _____

* a partnership consisting of: _____

_____

_____

*an individual trading as: _____

_____

(*fill in as appropriate)

of the City of _____ in the State of _____ agrees that if this bid is accepted as hereinafter provided, it will furnish all labor, materials, supplies, tools, and equipment necessary to perform all work and services described in the Invitation for Bid and Instructions to Bidders, in strict accordance with the terms and provisions of the Contract attached thereto.

If written Notice of Award is received, the Bidder agrees to furnish to the City of Oak Ridge, within ten (10) working days after receipt of said Notice of Award, the required insurance certificates naming the City of Oak Ridge as an additional insured.

BIDDER ACKNOWLEDGES RECEIPT OF THE FOLLOWING ADDENDA:

Addendum No._____ Dated _____ Addendum No._____ Dated _____

Addendum No._____ Dated _____ Addendum No._____ Dated _____

The concrete removed in the Project may be properly disposed of at a landfill or the Bidder may salvage it. Bidder shall complete the following information pertaining to the concrete:

Salvaged or Landfill? _____

Location of Where Concrete Will Be Taken:

_____

_____

Description of How Salvaged Concrete Will Be Used, If Applicable:

_____

_____

Schedule of Prices*

Abatement of Environmental Issues
at 101 Wade Lane in accordance with the
Specifications/Scope of Work **Total** $_____

_____ Dollars and _____ Cents

Demolition and Clean-up of Residential Structure,
and Restoration of Property at 101 Wade Lane
in accordance with the Specifications/Scope
of Work **Total** $_____

_____ Dollars and _____ Cents

Total for Abatement and Demolition/Clean-up
for 101 Wade Lane:

Subtotal $_____

_____ Dollars and _____ Cents

Schedule of Prices (continued)*

Abatement of Environmental Issues
at 117 Wade Lane in accordance with the
Specifications/Scope of Work **Total** $_____

_____ Dollars and _____ Cents

Demolition and Clean-up of Residential Structure,
and Restoration of Property at 117 Wade Lane
in accordance with the Specifications/Scope
of Work **Total** $_____

_____ Dollars and _____ Cents

Total for Abatement and Demolition/Clean-up
for 117 Wade Lane:

Subtotal $_____

_____ Dollars and _____ Cents

Abatement of Environmental Issues
at 157 Wade Lane in accordance with the
Specifications/Scope of Work **Total** $_____

_____ Dollars and _____ Cents

Demolition and Clean-up of Residential Structure,
and Restoration of Property at 157 Wade Lane
in accordance with the Specifications/Scope
of Work **Total** $_____

_____ Dollars and _____ Cents

Total for Abatement and Demolition/Clean-up
for 157 Wade Lane:

Subtotal $_____

_____ Dollars and _____ Cents

Schedule of Prices (continued)*

Abatement of Environmental Issues
at 355 W. Outer Drive in accordance with the
Specifications/Scope of Work **Total** $_____

_____ Dollars and _____ Cents

Demolition and Clean-up of Residential Structure,
and Restoration of Property at 355 W. Outer Drive
in accordance with the Specifications/Scope
of Work **Total** $_____

_____ Dollars and _____ Cents

Total for Abatement and Demolition/Clean-up
for 355 W. Outer Drive:

Subtotal $_____

_____ Dollars and _____ Cents

Grand Total for Abatement and Demolition/Clean-up
for all Four Properties:

Grand Total $_____

_____ Dollars and _____ Cents

Does the grand total price reflect a discount for abatement and demolition/clean-up for all properties?

Yes _____ No _____

*The bid price shall be effective for at least ninety (90) days after the bid opening date.

If Bidder intends to subcontract the abatement work, please indicate the name, address and license number of the subcontractor intended to be used for this portion of the work under this Project:

Name: _____

Address: _____

_____

License Number:_____

Bidder attests that no officers or employees of the City of Oak Ridge are members of, or have financial interest in, the business submitting this bid.

By:_____
Signature

Name:_____

Title: _____

Business
Name:_____

Mailing
Address:_____

_____

Tax ID Number:_____

Telephone #:_____

Fax #_____

Email: _____

Date:_____

Physical
Address:_____

_____

TN Contractors
License Number: _____
(if applicable)

NOTE: In accordance with the Invitation to Bid, at least three (3) references and the Drug-Free Workplace Affidavit are attached.

DRUG-FREE WORKPLACE AFFIDAVIT

STATE OF_____)
)
COUNTY OF _____)

The undersigned principal officer of _____, an employer of five (5) or more employees, contracting with the City of Oak Ridge, Tennessee, to provide construction services, hereby states under oath as follows:

1. That the undersigned is a principal officer of _____ _____ (hereinafter referred to as the "Company") and is duly authorized to execute this Affidavit on behalf of the Company.

2. The Company submits this Affidavit pursuant to Tennessee Code Annotated § 50-9-113, which requires each employer with no less than five (5) employees receiving pay who contracts with the state or any local government to provide construction services or who is awarded a contract to provide construction services or who provides construction services to the state or local government to submit an affidavit stating that such employer has a drug-free workplace program that complies with Title 50, Chapter 9 of the Tennessee Code.

3. The Company is in compliance with Tennessee Code Annotated § 50-9-113.

Further affiant saith not.

_____
Principal Officer

State of _____)
)ss.
County of _____)

Before me personally appeared _____ with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence) and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.

Witness my hand and official seal this _____ day of _____, 2015.

_____
Notary Public

My Commission Expires:_____.

CONTRACT

THIS CONTRACT entered into this _____ day of _____, 2015, by and between the CITY OF OAK RIDGE, TENNESSEE, a municipal corporation, hereinafter called the "City," and

_____,

a _____, hereinafter called the "Contractor."

WITNESSETH

In consideration of the mutual promises of the parties hereto, the parties do hereby agree as follows:

ARTICLE 1 – Scope of This Contract

The work to be done consists of furnishing all labor, materials, supplies, tools, equipment and other incidentals necessary to perform all work and services required for abatement and demolition of the residential structures located at 101 Wade Lane, 117 Wade Lane, 157 Wade Lane, and 355 W. Outer Drive, all in Oak Ridge, Tennessee 37830, for the City of Oak Ridge, in strict accordance with the terms and provisions of this Contract, the Specifications/Scope of Work, and the bid of the Contractor attached hereto.

In performance of this Contract, the Contractor binds himself to the City to comply fully with all provisions, undertakings, and obligations hereinafter set forth.

ARTICLE 2 – Term

This Contract shall become effective upon its execution and shall continue in full force and effect through December 31, 2015. Work shall commence within twelve (12) business days after the Contractor's receipt of a written Notice to Proceed from the City and shall be completed within thirty-five (35) calendar days of commencement, unless an alternate schedule is approved by the parties in writing.

ARTICLE 3 – Changes

A. City may, by written order, and without notice to the Sureties, make changes in the specifications of this Contract within the general scope thereof. If any such changes cause an increase or decrease in the scope of this Contract or in the time required for its performance, an equitable adjustment shall be made and this Contract shall be modified in writing accordingly.

B. Should the Contractor encounter conditions materially different from those shown in the specifications, the City shall be notified in writing immediately of such conditions before they are disturbed. The City shall thereupon promptly investigate the conditions and if it finds that they do so materially differ from those specified, this Contract shall be modified to provide for any increase or decrease of cost and difference in time resulting from the conditions so found.

C. Except as otherwise herein provided, no charge for any extra work or material will be allotted unless the same has been approved in writing by the City, and the price stated.

ARTICLE 4 – Inspections and Defective Work

All workmanship and services shall be subject to inspections, examinations and tests by the City at any and all times during the performance of this Contract. The City shall have the right to reject defective workmanship and to require correction. Rejected workmanship shall be satisfactorily corrected without charge therefore. If the Contractor fails to proceed at once to correct such defective workmanship, the City may proceed with such corrective work and the Contractor shall be liable for all direct cost occasioned in the performance therefore.

This provision does not negate, modify or replace any warranties contained elsewhere in this Contract. This provision shall survive the termination or suspension of this Contract.

Neither payment nor any provisions in the Contract document shall relieve the Contractor of responsibility for faulty materials or defective workmanship. The City shall give notice of observed defects with reasonable promptness. The deterioration due to ordinary use and normal wear is excepted from this guarantee.

The Contractor shall reimburse the City for the cost of damage, if any, as well as the cost of replacing defective materials or workmanship. If replacements are not made within ten (10) days after notice is given of such defect in workmanship, or thirty (30) days in case of materials, then the City shall have the right to make replacements and charge the cost of same to Contractor or the Contractor's surety.

ARTICLE 5 – Site Investigation

The Contractor represents that it has visited the site and determined the nature of the work and the difficulties and facilities attending execution of the work, and all other matters, which can in any way affect the work under this Contract.

ARTICLE 6 – Delays, Damages

If the Contractor refuses or fails to prosecute the work with such diligence as will ensure its completion within the time specified in Article 2, or fails to complete the work within such time, the City may terminate this Contract. In such event, the City may take over the work and prosecute the same to completion by contract or otherwise, and the Contractor shall be liable to the City for any excess cost occasioned thereby. If this Contract is so terminated, the City may take possession of and utilize in completing the work such materials, appliances, tools and equipment as may be on the site of the work and necessary therefore.

ARTICLE 7 – Payment

As consideration for performing all work and services set forth in this Contract, and as full consideration thereof, the City agrees to pay the Contractor $_____ in accordance with the bid sheet of the Contractor which is incorporated by reference into this Contract. Payment shall be made after satisfactory completion of the work and approval by the City. The Contractor shall submit invoices for work completed to the City's Project Manager, Matthew Widner, Community Development, for approval and payment.

ARTICLE 8 – Indemnification by Contractor

To the fullest extent permitted by all applicable laws and regulations, the Contractor hereby agrees to protect, indemnify and hold harmless the City and their consultants, agents and employees from and against any and all claims, loss, expense, damage, charges and costs direct, indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys and other professional and court costs), collectively referred to as “claims,” for injury to or death of persons and injury to or destruction of property suffered or alleged to have been suffered as a result of any act or omission on the part of the Contractor, any of the Contractor’s subcontractors, anyone for whose acts any of them may be liable, or others whose services are engaged by the Contractor or anyone directly or indirectly employed or controlled by either of them in the course of the performance of the work provided for in the Contract, except such injury, destruction or death as may be caused by the sole negligence or fault of the City.

When the City submits notice, the Contractor shall promptly defend any aforementioned action. In any and all claims against the City or any of their consultants, agents or employees by any employee of the Contractor, any of the Contractor’s subcontractors, anyone for whose acts any of them may be liable, or others whose services are engaged by the Contractor or anyone directly or indirectly employed or controlled by either of them in the course of the performance of the work provided for in the Contract, the indemnification obligation described herein shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workers’ compensation acts, disability benefit acts or other employee benefit acts. The limits of insurance required in this Contract shall not limit the Contractor's obligations under this article.

The terms of this article shall survive the termination or suspension of this Contract.

ARTICLE 9 – Completion and Performance Bond

Prior to commencing work under this Contract, the Contractor agrees to furnish and to maintain during the term of this Contract a Completion and Performance Bond in the amount of fifty percent (50%) of the Contract price with good and sufficient surety or sureties acceptable to the City in connection with the performance of the work under this Contract, including any amendments or extensions hereof. The form and conditions of said Performance Bond shall be as prescribed by the City.

In lieu of a Performance Bond, the City will accept other suitable Securities agreed upon by both parties. At all times during the term of this Contract, the Contractor shall provide the City with evidence that the Contractor has obtained such Performance Bond or Securities. A certificate from the surety showing that the bond premiums have been paid by the Contractor shall accompany the bond.

ARTICLE 10 – Rate of Progress

Notwithstanding any other provisions in this Contract, the Contractor shall furnish sufficient labor, materials, supplies, tools, and equipment, and shall work such hours, including overtime, Sundays, and/or Holidays, as may be necessary to carry out the work in accordance with the approved schedules for its completion not later than the respective times allowed for completion set forth in these Contract Documents. Should the Contractor refuse or fail to comply with its obligations set forth in the preceding sentence after receipt of any written directive or request by the City that the Contractor furnish additional labor, materials, supplies, tools, and equipment, and/or work additional hours, including overtime, Sundays, and/or Holidays, the City may terminate the Contractor's right to proceed with the whole or any part of the work under this Contract.

ARTICLE 11 – Compliance with All Laws, Ordinances, Statutes, and Regulations

The Contractor shall comply with all federal, state, county and local laws, ordinances, statutes, and regulations.

ARTICLE 12 – Insurance

The Contractor shall at all times during the Contract maintain in full force and effect Comprehensive General Liability, Workers' Compensation and Property Damage Insurance in the amounts set forth below and naming the City of Oak Ridge, Tennessee as an *additional insured*.

The Contractor shall maintain policies providing the following insurance protection, each policy containing a requirement that, in the event of change or cancellation, thirty (30) days' prior written notice be sent by mail to the City. Certificates of Insurance describing the coverage shall be furnished by the Contractor and shall contain the following express obligation:

"This is to certify that the policies of insurance described herein have been issued to the insured for whom this certificate is issued and are in force at this time. In the event of cancellation or material change in a policy affecting the certificate holder, thirty (30) days' prior written notice will be given the certificate holder."

1. Comprehensive General Liability:

Bodily Injury	$300,000	each occurrence
	$700,000	aggregate
Property Damage	$100,000	each occurrence
Or Combined Single Limit of	$1,000,000	

2. Workers' Compensation and Employer's Liability as provided for in applicable statutes.

3. Comprehensive Automobile Liability (Including all owned, non-owned and hired vehicles)

Bodily Injury	$300,000	each person
	$700,000	each occurrence
Property Damage	$100,000	each occurrence
Or Combined Single Limit of	$1,000,000	

The Contractor may purchase at its own expense such additional or other insurance protection as it may deem necessary. Maintenance of the required minimum insurance protection does not relieve the Contractor of responsibility for any losses not covered by the above-required policies.

Before commencement of work hereunder, the Contractor agrees to furnish to the City of Oak Ridge (Legal Department, P.O. Box 1, Oak Ridge, Tennessee 37831-0001) a Certificate of Insurance or other evidence satisfactory to the City to the effect that such insurance has been procured and is in force.

ARTICLE 13 – Permits and Licenses

The Contractor shall obtain, at the Contractor's expense, all permits, licenses and bonds required by law or ordinance and maintain the same in full force and effect.

ARTICLE 14 – Subcontracting and Assignment

A. The Contractor may utilize the services of specialty subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors.

B. The Contractor shall not award, assign, transfer or pledge any work to any subcontractor without prior written approval of the City, which approval will not be given until the Contractor submits to the city a written statement concerning the proposed award to the subcontractor, which statement shall contain such information as the City may require.

C. The Contractor shall be as fully responsible to the City for the acts and omissions of subcontractors, and of persons either directly or indirectly employed by said subcontractors, as the Contractor is for the acts and omissions of persons directly employed by the Contractor.

D. The Contractor shall make a condition of all subcontracts and/or cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and other Contract Documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that the City may exercise over the Contractor under any provision of the Contract Documents.

E. Nothing contained in this Contract shall create any contractual relation between any subcontractor and the City.

ARTICLE 15 – Superintendence by the Contractor

The Contractor shall give its personal superintendence to the work or have a competent foreman or superintendent satisfactory to the City on the site at all times during the progress of the work, with authority to act on behalf of the Contractor.

ARTICLE 16 – Termination

Notwithstanding any other provisions in this Contract, the Contractor shall furnish all labor, materials, supplies, tools and equipment necessary to perform the work and services within allowed times for completion as set forth in these Contract Documents. Should the Contractor refuse or fail to comply with its obligations, or in the event the Contractor shall violate any of the provisions of this Contract, or the quality or quantity of the work performed is, in the judgment of the City, below standard and therefore unsatisfactory, the City shall have the right to cancel this Contract upon thirty (30) days written notice to the Contractor and to complete the work undertaken by the Contractor without incurring any liability to the Contractor except to pay the Contractor the fair value to the City of the work satisfactorily performed by the Contractor.

ARTICLE 17 – Termination of Contract for Cause

If, through any cause, the Contractor shall fail to fulfill in timely and proper manner the obligations under this Contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of this Contract, the City shall thereupon have the right to terminate this Contract by giving written notice to the Contractor of such termination and specifying the effective date thereof, at least five (5) days before the effective date of such termination. In such event, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, and reports prepared by the Contractor under this Contract shall, at the option of the City, become the City's property and the Contractor shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder.

Notwithstanding the above, the Contractor shall not be relieved of liability to the City for damages sustained by the City by virtue of any breach of the Contract by the Contractor, and the City may withhold any payments to the Contractor for the purpose of set-off until such time as the exact amount of damages due the City from the Contractor is determined.

ARTICLE 18 – Anti-Discrimination

The Contractor, in performing the work or furnishing the services covered by this Contract, shall not discriminate against any person because of race, creed, color, national origin, age, sex, sexual orientation, disability, religion or other legally protected status. The City of Oak Ridge encourages the utilization of minority and women-owned businesses in its contracting and subcontracting projects and the Contractor is encouraged to actively solicit the participation of these businesses. The Contractor shall inform all of its subcontractors and vendors providing work or services under this Contract of this requirement and shall ensure compliance therewith.

ARTICLE 19 – Personnel

A. The Contractor represents that it has, or will, secure at the Contractor's expense, all personnel required to perform the work and services outlined in this Contract. Such personnel shall not be employees of or have any contractual relationship with the City.

B. All of the services required hereunder will be performed by the Contractor or under the Contractor's supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under state and local laws to perform such services.

ARTICLE 20 – Reports and Information

At such times and in such forms as the City may require, the Contractor shall furnish to the City such periodic reports as are requested by the City pertaining to the work and services covered by this Contract, the costs and obligations incurred or to be incurred in connection herewith, and any other matters covered by this Contract. The City can audit the Contractor’s and the Contractor’s subcontractors’ financial records pertaining to this project.

ARTICLE 21 – Governing Law

This Contract is governed by the laws of the State of Tennessee.

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the day and year first above written, the City of Oak Ridge, by its Mayor, by authority duly given.

APPROVED AS TO FORM AND LEGALITY:

_____
City Attorney

CITY OF OAK RIDGE, TENNESSEE

_____
Mayor

(CONTRACTOR)

_____
Signature

_____
(Printed or Typed Name and Title)

Attachments: Specifications/Scope of Work
Bid Documents
Contractor's Bid

Approved by Resolution _____

COMPLETION AND PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: FY2016-065

THAT _____
(Name and address of legal title of Contractor)

as Principal, hereinafter called Contractor, and _____
SURETY, hereinafter called Surety, and held and firmly bound unto the City of Oak Ridge, as Obligee, in the amount of _____ Dollars ($_____)

for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____, 20_____
entered into a Contract with the City of Oak Ridge for

_____ in accordance with the specifications and approved amendments, which Contract is by reference made a part hereof, including all the obligations thereunder, and is hereinafter referred to as the Contract.

NOW, THEREFORE, the condition of this obligation is such that, if Contractor shall promptly and faithfully perform said Contract, including all the obligations thereunder, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

Whenever Contractor shall be, and declared by City to be, in default under the Contract or any part thereof, the City having performed the City's obligation thereunder, the Surety may promptly remedy the default, or shall promptly at the City's option:

(1) Complete the Contract in accordance with its terms and conditions; OR

(2) Obtain a bid or bids for submission to the City for completing the Contract in accordance with the terms and conditions, and upon determination by Owner and Surety of lowest responsible bidder, arrange for a contract between such bidder and the City and make available as work progresses (even though there shall be a default or a succession of defaults under the Contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion or any obligations thereunder.

Any suit under this bond must be instituted before the expiration of two years from the date on which final payment under the Contract falls due.

SIGNED AND SEALED THIS _____ DAY OF _____ A.D., 2015
IN THE PRESENCE OF:

_____ By_____
Witness Principal (Seal)

_____ By_____
Witness Surety (Seal)