STC
Environmental Services Inc.
Geologists and Environmental Scientists

4754 RESEARCH DRIVE **SAN ANTONIO, TEXAS 78240** **Office (210) 696-6286 / FAX (210) 696-8761**

WORK PLAN FOR ASBESTOS ABATEMENT FORMER RESIDENCE 245 LIVE OAK STREET BOERNE, TEXAS 78006

WORK PLAN PREPARED FOR:

Mr. Mark Stahl
Director of Construction & Planning
Boerne Independent School District
235 Johns Road
Boerne, Texas 78006

PREPARED BY:

STC ENVIRONMENTAL SERVICES, INC.
STC PROJECT NO. 220435

Asbestos Consultant Agency
(DSHS License 10-0072)
Expiration 03/16/24

Asbestos Laboratory (PCM)
DSHS License 30-0132
Expiration 12/27/23

Craig Tribley
Asbestos Consultant
(DSHS License 10-5701)
Expiration 07/22/23

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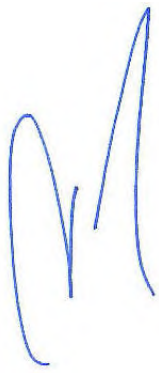

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TECHNICAL SPECIFICATIONS
ASBESTOS ABATEMENT

SECTION 100 - SUMMARY OF WORK

1.00 GENERAL

All asbestos abatement work will be accomplished by an EPA accredited and Texas licensed asbestos abatement contractor. The selected Contractor will be responsible for providing security for the asbestos work area(s) as well as all labor, materials, equipment and asbestos waste disposal.

1.01 SUMMARY SCOPE OF WORK:

The client has requested for the removal of the following asbestos containing materials from the former residence located at 245 Live Oak Street in Boerne, Texas:

- Approximately 3,889 ft^2 of sheetrock walls and ceilings with asbestos-containing joint compound and texture – East classroom, dining room, kitchen, conference room, north bathroom, and northeast office – See Figure 1A

- Approximately 2,275 ft^2 of asbestos-containing, exterior, siding panels – Throughout entire exterior walls – See Figure 1A

The abatement activities must comply with these Specifications, Federal Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and State of Texas Regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions will apply. All EPA, OSHA, State and local regulations that apply to friable and non-friable ACM are included as part of these Technical Specifications. The abatement contractor will be responsible for the transport and disposal of the asbestos waste materials to a duly licensed landfill facility permitted to accept asbestos waste.

1.02 RELATED DOCUMENTS:

The following sections of this Work Plan apply to this project as well as the specified regulations.

1.03 WORK EXECUTION:

The contractor is expected to comply with all applicable regulations and utilize the recommended methods and procedures recognized by the industry at the current time and in the same geographic location of the project. This is in addition to those specific methods and procedures identified in Division 2 of these Technical Specifications.

1.04 CONTRACTOR RESPONSE:

Time is of the essence in removing the asbestos containing materials from this facility. All work must be completed within the time period specified.

1.05 CONTRACTOR USE OF PREMISES:

The Contractor shall limit his use of the premises to the work indicated within these specifications unless a change order has been approved in writing.

1.06 USE OF THE SITE:

The Contractor will confine operations at the site to the area requiring abatement and the general site area associated with the proximity of the subject facility. Portions of the site beyond areas on which the indicated work is required are not to be disturbed. The Contractor will not unreasonably encumber the site with materials or equipment. If asbestos waste is required to be stored overnight, it will be properly labeled and secured to preclude unauthorized disturbance of the waste materials.

The Contractor will only park required vehicles in designated areas. When vehicles are parked and unattended, vehicles will be locked to prevent use by unauthorized persons. The Owner will not be held responsible for loss of materials or equipment utilized for abatement activities.

- END OF SECTION –

SECTION 200 - CODES, REGULATIONS AND STANDARDS

2.00 GENERAL APPLICABILITY OF CODES, REGULATIONS AND STANDARDS:

Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations and standards have the same force and effect and are made a part of the contract documents by reference as if copied directly into the contract documents, or as if published copies are bound herewith.

2.01 DESCRIPTION:

This section sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of these specifications. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before work can commence.

2.02 RELATED DOCUMENTS:

The preceding sections of these specifications, the general provisions of the Contract including all General and Supplementary Conditions and Amendments, any drawings provided and any other information provided, apply to the provisions of this section.

2.03 DESCRIPTION OF COMPLIANCE:

The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State and local regulations pertaining to work practices, hauling, disposal and protection of workers, visitors to the site and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State and local regulations. The Contractor shall hold the Owner and STC's Representatives harmless for a failure to comply with any applicable work standards, hauling, disposal, safety, health or other regulation on the part of himself, his employees or his subcontractors. The Contractor will hold the Owner, STC Environmental Services, Inc. and STC's Representatives harmless for any negligent acts on the part of himself, his employees, or his subcontractors. The Contractor will defend the Owner, STC Environmental Services, Inc. and STC's Representatives in any law suits arising out of any negligent acts on the part of himself, his employees or his subcontractor. The Contractor will be held liable for any damage caused to the facility during the asbestos abatement activities.

2.04 FEDERAL REQUIREMENTS:

Federal requirements which govern asbestos abatement work or hauling, and disposal of asbestos waste materials include but are not limited to the following:

A. U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA):

1. 29 CFR §1926.1101, titled, "Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite", October 11, 1994.

2. 29 CFR §1910.134, titled, "Occupational Health Standards for A Respiratory Protection Program", October 11, 1994.

3. Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 145 of the Code of Federal Regulations.

4. Hazard Communication
   Title 29, Part 1910, Section 1200 of the Code of Federal Regulations.

5. Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations.

B. U.S. Environmental Protection Agency (EPA)

1. 40 CFR Part 61, Subpart M, titled, "National Emissions Standards for Hazardous Air Pollutants" (NESHAP), November 20, 1990

2. 40 CFR Part 763, Subpart G, §§763.120-763.126, and Appendices A, C, and E, titled, "Asbestos Abatement Projects: Worker Protection Rule", February 25, 1987.

3. 40 CFR part 763, Subpart E, §§763.80-763.99, and Appendices A and B, titled, "Asbestos-Containing Materials in Schools" (AHERA rules), July 1, 1992.

4. 40 CFR 763, Subpart E, Appendix C, titled, "Model Accreditation Plan", February 3, 1994.

5. 40 CFR Part 763, Subpart E, Appendix B, titled, "Work Practices and Engineering Controls for Small Scale, Short Durations Operations Maintenance and Repair (O&M) Activities Involving ACM", July 1, 1992.

6. 40 CFR Part 763, Subpart E, Appendix D, titled, "Transport and Disposal of Asbestos Waste", July 1, 1992.

7. 40 CFR Part 763, Subpart F, Appendix A, Section 1, titled, "Polarized Light Microscopy", July 1, 1992.

8. 40 CFR Part 763, Subpart E, Appendix A, titled, "Transmission Electron Microscopy Analytical Methods: July 1, 1992.

9. 49 CFR Chapter 1, Part 172, Appendix A, Subchapter C, October 1, 1992; and

10. 49 CFR Chapter 1, Part 172, Appendix A, Subpart H, October 1, 1992.

C. EPA Guidance Documents:

EPA guidance documents which discuss asbestos abatement work or hauling, and disposal of asbestos waste materials are listed below. These documents are made part of this section by reference. EPA maintains an information number (800) 334-8571 and publications can be ordered from (800) 424-9065 (554-1404) in Washington, DC):

1. Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book) EPA 560/5-85-024.

2. Asbestos Waste Management Guidance (Pink Book). EPA 530-SW-85-007.

3. Asbestos in Buildings. Simplified Sampling Scheme for Friable Surfacing Materials.

4. Commercial Laboratories with Polarized Light Microscopy Capabilities for bulk asbestos identification.

5. A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001.

6. Reporting and Recordkeeping Requirements for Waste Disposal Field Guide. EPA 340/1-90-016.

7. A Guide to the asbestos NESHAP as Revised November 1990. EPA 340/1-90-01.

2.05 STATE REQUIREMENTS:

A. The authority to enforce the rules regarding demolition and renovations under the National Emissions Standards for Hazardous Air Pollutants (NESHAP) (40 CFR, Part 61, Subpart M, Sections 61.140, 16.141, 61.145, 61.146, 61.148, 61.150, 61.152 and 61.157) was added to the Texas Asbestos Health Protection Rules (TAHPR) by the Texas Board of Health on January 28, 1994. The added authority became effective on February 23, 1994, following its publication in the Texas Register. This addition provides the Texas Department of State Health Services (DSHS) with the authority to perform inspections and enforce the NESHAP regulations.

B. Texas Department of Health, Division of Occupational Health, Texas Asbestos Health Protection Rules, dated October 26, 1992 as adopted under Texas Civil Statutes, Article 4477-3a, Section 12, which provides the Board of Health with the authority to adopt rules covering asbestos removal, encapsulation or enclosure, including licensing and regulation; Senate Bill 1341 and House Bill 79, 72nd Legislature 1991. The latest revision is effective March 2003.

2.06 LOCAL REQUIREMENTS:

Abide by all local requirements if these requirements are more stringent than state and federal requirements, which govern asbestos abatement work or hauling and disposal of asbestos waste materials.

2.07 STANDARDS:

A. Standards which govern asbestos abatement work or hauling, and disposal of asbestos waste materials include but are not limited to the following:

American National Standards Institute (ANSI)
1430 Broadway
New York, NY 10018
(212) 354-3300

1. Fundamentals Governing the Design and Operation of Local Exhaust Systems Publications Z9.2-79.

2. Practices for Respiratory Protection Publication Z88.2

B. Standards which govern encapsulation work include but are not limited to the following:

American Society for Testing Materials (ASTM)
1916 Race Street
Philadelphia, PA 19103
(215) 299-5400

1. Specification for Encapsulant for Friable Asbestos Containing Building Materials Proposal P-189

2. Safety and Health Requirements Relating to Occupational exposure to Asbestos – E-849-8211

2.08 NOTICES:

As a result of the change in NESHAP authority being transferred to the TDH, a form that replaces the previous TDH form (April 7, 1993) and the TNRCC form (ACB-99B and C) (March 1, 1991) has been issued by the DSHS. This form combines the requirements of both NESHAP and TAHPR regulations and should now be utilized for notification purposes. All notifications should now be sent to the Notification section of the asbestos Branch of the Texas Department of State Health Services.

The required forms may be obtained from any of the Regional DSHS offices or by calling the DSHS office at 1-888-778-9440 or 1-512-834-6667. The new notification form should be mailed to:

ENVIRONMENTAL HEALTH NOTIFICATION GROUP
TEXAS DEPARTMENT OF STATE HEALTH SERVICES
P.O. BOX 143538
AUSTIN, TEXAS 78714 - 3535

The new form is entitled: TEXAS DEPARTMENT OF STATE HEALTH SERVICES
ASBESTOS/DEMOLITION NOTIFICATION FORM

The latest form is dated May 2007.

2.09 DSHS FEES:

The Owner will be responsible for any fees imposed on asbestos abatement activities adopted December 13, 1998.

2.10 LICENSES:

Maintain current licenses as required by the Texas Department of Health Rules as adopted under Texas Civil Statutes, Article 4477-3a, Section 12 for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

2.11 SUBMITTALS:

The Contractor will complete the required notification forms. Submittal will be such to allow for the required ten (10) day notification of the regulatory agencies prior to project start date.

- END OF SECTION –

SECTION 300 -PERSONNEL AND RESPIRATORY PROTECTION

3.00 GENERAL

The Contractor will assign only properly trained and licensed personnel to this project. The Contractor will also provide respiratory protection for assigned personnel in accordance with these specifications and the following regulations:

- 29 CFR 1910. Section 1001
- 29 CFR 1910.134
- 29 CFR 1926.1101
- 29 CFR 763.120
- ANSI Standards Z88.2-1980
- CGS Pamphlet G-7
- CGS Specification G-7.1
- NIOSH and MSHA Standards
- Texas Department of Health Asbestos Protection Rules

In case of conflict, the most stringent requirements are applicable for this project. The most current publication is the applicable specified regulation.

3.01 RELATED DOCUMENTS:

The preceding sections of these bid documents and specifications apply to this project as well as the specified regulations.

3.02 PERSONNEL:

The abatement Contractor and assigned personnel to this project will have the following minimum requirements.

A. The Abatement Contractor will have been in the asbestos abatement business for at least one (1) year and have completed at least five (5) asbestos abatement projects, all of which are of comparable complexity and dollar value with this project. The Company must not have defaulted on any project while being in business under the current name. The Company will carry liability insurance for asbestos work and will be licensed in the State of Texas. The Company is required to have an adequate member of qualified personnel available for this project. The Company will have an established written Standard Operating Procedure (SOP) for training, medical surveillance, entry, exit procedures, respiratory protection, and a health and safety program. The Company will have all required equipment, materials and

supplies available and in adequate quantity, capacity and numbers to perform the work of this project so as not to cause delays.

B. The Contractor's Project Supervisor will have at least two (2) years abatement construction experience of which at least one (1) year will be as a Supervisor. The Supervisor will have a valid license as required by the Texas Asbestos Health Protection Rules and be current on his/her training and medical certification.

C. The Contractor's assigned laborers will have all required specialized training in abatement construction as required by OSHA and EPA regulations. The laborers will be trained in the Company's Standard Operating Procedures, Health and Safety Program and asbestos hazards and respiratory protection. Laborers will have current medical records/certifications and other OSHA requirements as well as a valid license as required by the Texas Asbestos Health Protection Rules.

3.03 RESPIRATORY PROTECTION PROGRAM (RPP):

The Contractor will have previously developed, implemented and be maintaining a respiratory protection program consisting of the following elements:

A. Written statement of company policy, including assignment of individual responsibility, accountability and authority for required activities of the respiratory protection program.

B. Written Standard Operating Procedures governing the selection and use of respirators.

C. Respiratory selection (from NIOSH/MSHA approved and certified models) based on hazards to which the worker is exposed.

D. Medical examination of workers to determine whether they may be assigned an activity where respiratory protection is required.

E. User training in the proper use and limitations of respirators (as well to evaluate the skill and knowledge obtained by the worker through training).

F. Respiratory fit testing.

G. Regular cleaning and disinfecting of respirators.

H. Routine inspection of respirators during cleaning and at least once a month and after each use for those respirators designated for emergency use.

I. Storage of respirators in convenient, clean and sanitary locations.

J. Surveillance of work area conditions and degree of employee exposure (e.g., through air monitoring).

K. Regular inspection and evaluation of the continued effectiveness of the program.

L. Recognition and resolution of special problems as they affect respirators use (e.g., facial hair, eyeglasses, etc.).

M. Proper respirator use (procedures for donning and doffing respirators when entering and exiting the abatement area).

3.04 PERSONNEL PROTECTION:

The Contractor will provide the following as a minimum for worker protection:

A. During the removal of friable asbestos material, as a minimum, powered air purifying respirators (PAPRs) will be utilized until such time (two (2) days or previous results using the same procedures) that air monitoring results indicate that half-face respirators may be used. These respirators must meet NIOSH standards for the type of respirators used. Half-face respirators are acceptable for floor tile, mastic removal and glove bag operations.

B. Workers will be provided protective clothing from the time of first disturbance of asbestos containing or contaminated materials until final cleanup is completed.

3.05 AIR PURIFYING RESPIRATORS:

A. Provide half-face or full-face respirators.

B. Provide at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z22.8 (1980). In addition, a chemical cartridge section may be added, if required, if solvents, etc. are in use. In this case, provide cartridges that have each section of the combination canister label with the appropriate color code and NIOSH/MSHA Certification.

3.06 PROTECTIVE CLOTHING:

Provide disposable protective clothing, gloves and proper footwear.

3.07 MATERIALS:

A. Scrapes, brushes, brooms, staple guns, shovels, ladders and scaffolds of suitable height and length, water hoses to reach all areas, airless spray equipment; and other hand tools such as

electric cords, electric power with ground fault interruption for safety will be required and will be furnished by the contractor.

B. Polyethylene sheeting of 6 mil in thickness that is clear, opaque or black shades, moisture resistant duct tape capable of continuously sealing polyethylene through project abatement duration, posters signs, notices and barrier tape.

C. Polyethylene bags of 6 mil thickness for asbestos containing waste.

3.08 EXECUTION

Respiratory Protection Program: Comply with ANSI Z88.2 – 1980 "Practices for Respiratory Protection" and OSHA 29 CFR 1910 and 1926.

Always require that respiratory protection be used if there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.

Always require that a respirator be worn by anyone in a work area, regardless of activity, during a period that starts with any operation which could cause airborne fiber release until the area has been cleared by the owner's representative.

Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used be half-face air-purifying respirators with high efficiency (HEPA) filters.

Do not allow the use of single-use, disposable or quarter-face respirators for any purpose.

Always require protective clothing to be worn by all workers in the work area .

3.09 FIT TESTING:

Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training set up and administered by a qualified instructor. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which he/she has been trained and fit tested.

Upon Each Wearing: Require that each time an air-purifying respirator is put on, it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instruction or ANSI Z88.2 (1980).

3.10 TYPE OF RESPIRATORY PROTECTION REQUIRED:

Provide Respiratory Protection as indicated in paragraph below. When paragraph below does not apply, determine the proper level of protection by dividing the expected or actual airborne fiber count in the work area by the "protection factors" given below. The level of respiratory protection which supplies an airborne fiber level inside the respirator, at the breathing zone of the wearer, at or below the permissible exposure limit (PEL) is the minimum level of protection allowed.

3.11 PERMISSIBLE EXPOSURE LIMIT (PEL):

8-Hour Time Weighted Average (TWA) of asbestos fibers to which any worker may be exposed shall not exceed the following:

> **Fibers:** For purposes of this section fibers are defined as all fibers regardless of composition as counted in the OSHA Reference Method (ORM), NIOSH P&CAM 239 or 7400 procedure or asbestos fibers of any size as counted using either a scanning or transmission electron microscope.
>
> **Time Weighted Average (TWA)** – The goal is to provide a level no higher than 0.01 *f*/cc inside the mask using respirators having the following protection factors.

3.12 RESPIRATORY PROTECTION FACTOR:

RESPIRATOR TYPE	PROTECTION FACTOR
Air Purifying:	
Negative pressure respirator	
High efficiency filter	
Half-facepiece	10
Air Purifying:	
Negative pressure respirator	
High efficiency filter	
Full facepiece	50
Powered – Air Purifying:	
Positive pressure respirator	
High efficiency filter	
Half or Full-facepiece	100

3.13 AIR PURIFYING RESPIRATORS:

Negative pressure – half or full-face mask: Supply a sufficient quantity of respirator filters approved for asbestos, so that workers can change filters during the workday. Require that respirators be wet-rinsed, and filters discarded, each time a worker leaves the work area. Require that new filters be installed each time a worker re-enters the work area. Store respirators and filters at the job site in the changing area and protect totally from exposure to asbestos prior to their use.

Powered air purifying – half or full-face mask: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator including blower unit, filter cartridges, hoses, battery pack, face mask, belt and cords to be washed each time a worker leaves the work area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

- END OF SECTION –

SECTION 400 - AIR MONITORING AND LABORATORY SERVICES

4.00 GENERAL

The air monitoring for this project will be accomplished by the Owner's Representative as an independent third party under a separate contractual agreement.

4.01 DESCRIPTION OF WORK

Area air monitoring will be accomplished depending on exact methods of abatement to be employed by the abatement contractor, but will include as a minimum, inside the containment, outside the decontamination chamber entrance and the negative air exhaust.

Contractor OSHA personnel air monitoring is required by the Contractor during abatement activities. **This is the responsibility of the Contractor**, however, the Owner's third-party representative will provide laboratory analysis of the air samples, **if requested**, by the Contractor. STC does not assume any liability for Contractor employees or any subcontractor.

The minimum air sampling at each abatement area will include:

Background

- Minimum of three (3) samples prior to work starting

Personal

- Full work shift (8 hr.) – twenty-five percent (25%) of the workers (half-face respirators usage: <0.1 fiber/cc)

- Short Term Exposure Limit (30 min.) – twenty-five percent (25%) of the workers (half-face respirators usage: <1.0 fiber/cc)

Clearance

- Minimum of five (5) PCM samples per containment

Blanks

- One (1) for each ten (10) samples or a minimum two (2) per day

All air sampling results shall be posted within the vicinity of the Decon Clean Room within 24-hours of collection. All air sample results will be given to the Contractor Supervisor.

Air samples shall be collected and analyzed in accordance with NIOSH Method 7400. Personnel air samples will be collected and analyzed in accordance with OSHA Method ORM. All samples will be analyzed on-site by an experienced and trained air sampling technician. Table I contains the sampling parameters.

TABLE I
Sampling Parameters

Sample Type	Frequency Rate	Sample Rate (liters/min.)	Sample Volume (liters)	Detection Limit (fibers/cc)
Baseline	Minimum of 3 Prior to Work	2.0 - 15.0	1,250 (min.)	≤0.002
Work Area	Daily	2.0 - 10.0	1,250-3,000*	≤0.002
Occupied Areas (If Required)	Minimum: 1/Day	2.0 – 10.0	1,250-3,000*	≤0.002
Neg Air Exhaust	Minimum: 1/Day per containment	2.0 – 10.0	1,250-3,000*	≤0.002
Workers – 8 hr.	25%	1.0 – 2.5	480-900*	≤0.003
Workers – 30 min.	25%	1.0 – 2.5	30-75	≤0.036
Clearance	Minimum of Three (3) per containment	≤15.0	1,250 (min.)	≤0.002
Blanks	1/10 Samples or 2 min/day	N/A	N/A	N/A
*Indicates a suggested range for the sample volume. Lower sample volumes may be collected based on field conditions and/or previous sample results.				

The air monitoring technician shall document the following for each sample:

- Location of sample (Name and SSN of personnel sampled)
- Duration of sample (Start and End Times)
- Flow rate (Start, During and End Rates)
- Total sample time
- Sampling pumps and calibrator type
- Name of person collecting the sample
- Type of respirator worn if worker monitoring

4.02 RELATED DOCUMENTS

The preceding section of these specifications, the general provisions of the Contract including all General and Supplementary Conditions and Amendments, the provided information applies to the provisions of this section.

4.03 AREA AND PROJECT CLEARANCES

Final visual inspection and project clearances will be provided by the Owner's third-party representative. Final clearance will be in accordance with ASTM E1368-90, Standard Practice for Visual Inspection of Asbestos Abatement Projects.

Five (5) clearance samples will be collected inside each containment with a clearance limit of 0.01 f/cc using Phase Contrast Microscopy (PCM) analysis.

- END OF SECTION-

SECTION 500 -REMOVAL OF FRIABLE ASBESTOS

5.00 GENERAL

This section provides specifications for removal of friable asbestos materials.

5.01 RELATED DOCUMENTS

The contents of the preceding Divisions and Sections of these specifications, along with the general provisions of the Contract including General and Supplementary Conditions, apply to the work of this section.

5.02 RELATED WORK SPECIFIED ELSEWHERE

Disposal of the asbestos containing waste is specified in Section 600.

5.03 ON-SITE REQUIRED DOCUMENTATION

The Contractor will keep on site the following documentation in a loose-leaf folder. This folder will always be available for inspection while work is in progress.

A. Copies of all Notifications.

B. Worker Sign In/Out Log.

C. Current licensing, medical and training certifications.

D. Respiratory Protection training and work acknowledgement forms.

E. Contractor Stand Operating Procedures for removal of all types of asbestos containing materials.

F. Security Health and Safety Site Specific Plan.

G. Contingency Plans and Arrangements to be able to convert from non-friable to friable asbestos conditions.

H. Copies of MSDS of all related materials being utilized. (No hazardous or flammable chemicals/solvents will be authorized for use on site.)

I. Daily Project Activity Logs.

J. Final Inspection Reports.

K. Waste Manifests.

5.04 PRODUCTS

The following products may be utilized for this project.

A. Wetting Materials: Wet methods for asbestos removal will be utilized. For wetting prior to disturbance of asbestos containing materials use either amended water or a removal encapsulant.

1. **Amended Water:** If amended water is utilized, provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in the wetting of the asbestos containing material and retardation of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five (5) gallons of water.

2. **Removal Encapsulant:** If a removal encapsulant material is utilized, use a penetrating type encapsulant **designed specifically for removal of asbestos containing material.** Use a material which results in the wetting of the asbestos containing material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five (5) gallons of water.

3. **Removal Solvents:** No removal solvents that are classified as hazardous or flammable will be utilized on site. If removal solvents are utilized, only those solvents that are specifically designed for removal of asbestos containing material will be authorized. **IN NO CASE WILL SOLVENTS OR ANY OTHER CHEMICALS WITH A FLASH POINT OF LESS THAN 140°F BE USED.**

B. Polyethylene Sheet: Use a single polyethylene film sheet in the largest sheet size possible to minimize seams, which is 6.0 mil in thickness and is either clear, frosted or black/opaque in color. 4.0 mil thickness may be used for walls.

C. Duct Tape: Provide duct tape in 2" or 3" widths as indicated with an adhesive which is formulated to aggressively stick to sheet polyethylene.

D. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

E. Disposal Bags: Provide a 6-mil thick leak-tight polyethylene bags labeled with one of the two labels with text as follows:

FIRST LABEL:

CAUTION
CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

SECOND LABEL:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLITE OR ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

F. Lock-back Encapsulant: Use a Lock-Back Encapsulant that satisfies NESHAPS 40 CFR 61, Subpart M.

5.05 OTHER PRODUCTS

Other products may be used as long as they comply with NESHAPS 40 CFR 61, Subpart M and 29 CFR 1910.1200.

5.06 SUBSTITUTIONS

The materials, solvents, products and equipment described in this Work Plan establish a standard of required function, performance and quality. STC's Representative will be informed of all chemicals planned for use on the site. No substitutions will be accomplished without specific approval of STC's asbestos consultant.

5.07 PROCEDURES (GENERAL)

1. Perform pre-inspection of the work area with STC's Representative and discuss the use of any solvents or chemicals planned for use. Review of the specified Work Plan will be completed at this time.

2. Install critical barriers appropriate to the area requiring abatement. Regulated areas where asbestos abatement is to be conducted shall be separated from adjacent areas by impermeable barriers such as plastic sheeting attached securely in place. All openings between containment areas and adjacent areas, including but not limited to windows, doorways, elevator openings, corridor entrances,

ventilation openings, drains, ducts, grills, grates, diffusers and skylights, shall be sealed. All penetrations that could permit air infiltration or air leaks through the barrier shall be sealed, with exceptions of the make-up air provisions and the means of entry and exit. All moveable objects shall be removed from the items are to be salvaged or reused. Otherwise, they shall be properly disposed of as asbestos waste. All non-movable objects that remain in the containment area shall be covered with a minimum of four-mil plastic sheeting and secured in place.

3. The construction of a containment will be required along with the use of negative air machines and a means to measure a differential pressure difference of 0.02 inches of water minimum between the inside of the containment and outside. For floor and wall preparation, the floor sheeting shall completely cover all floor surfaces and consist of a minimum of two layers of sheeting with at least a dart impact of 270 grams and tear resistance of machine direction (M.D) 512 grams and transverse direction (T.D) of 2067 grams at least 12 inches and be sized to minimize the number of seams. No seams shall be located at wall-to-floor joints. Sealing of all floor penetrations against water leakage is mandatory. Wall sheeting shall completely cover all wall surfaces and consist of a minimum of two layers of four-mil sheeting. Wall sheeting shall be installed to minimize joints and shall extend beyond wall/floor joints at least 12 inches. No seams shall be located at wall-to-wall joints. Where a fire hazard exists, all plastic sheeting will be certified by the Underwriters Laboratory (UL) as being fire retardant. Where feasible, when containment walls which exceed 260 linear feet must be constructed, a viewing window will be included in the wall for each 260 linear feet or fraction of that distance which will permit the viewing of at least 51% of the abatement work area. The window shall be constructed of plexiglass, which measures approximately 18 inches by 18 inches. The bottom of the window will be at a reasonable viewing height from the outside floor. For floor tile removal floors are not required.

4. Construction of personnel decontamination facilities in accordance with the minimum specified by OSHA Regulation 29 CFR 1926 1101. All persons entering and exiting the work area shall follow the entry and exit procedures required by the applicable regulations and these specifications. This personnel decontamination unit will have as a minimum, a change room (clean room), a shower room, and an equipment/dirty room and air locks on both sides of the shower room. If a remote decontamination unit is utilized, double suits will be required. One suit will be removed in the abatement area prior to exiting for the decontamination trailer. Poly sheeting will be placed on the ground between the containments and the remote decontamination unit.

5. Fit all personnel who will remove the ACM with the proper respiratory protection equipped with HEPA filters and disposable protective suits. Half-face respirators will be allowed for floor tile removal.

6. Wet methods will be utilized during abatement activities. Thoroughly pre-wet ACM to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Use a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for the amended water or removal encapsulant to penetrate the material thoroughly. If amended water is used, spray material repeatedly during the abatement work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufactures' written instructions. For pipe insulation, perforate any outer covering of any penetration of amended water or removal encapsulant. If necessary, carefully strip away the outer coating, if penetration is difficult, while simultaneously spraying amended water or removal encapsulant on the asbestos material to minimize dispersal of asbestos fibers into the air. For resilient floor covering, the material will be kept thoroughly wet.

7. Remove ACM intact as much as feasible utilizing methods, which minimize breakage and cutting.

8. Wet wipe the area previously covered by the ACM.

9. All ACBM should be adequately wetted prior to removal or other handling. Material to be bagged will be marked per the applicable Occupational Safety and Health Administration (OSHA) and the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations and double bagged with true 6 mil thickness or may be placed in a bag that meets the following criteria: tear resistance of M.D. 300 grams, T.D. 2,068 grams and dart impact of 216 grams. Documentation from the manufacturer shall be on site. In order to double bag the asbestos waste, the inner bag must be no more than half full, excess air must be squeezed out, the top twisted closed, folded over, sealed with duct tape, rinsed off or HEPA vacuumed to remove asbestos contamination and placed inside another bag (or in a fiberboard drum). If an outer bag is used, excess air must be squeezed out and the outer bag twisted closed, the top folded over and sealed with duct tape. If a fiberboard drum is used, the top must be sealed. Any bagging shall not allow leakage nor breakage due to overfilling.

10. Carefully handle the ACM waste material in a manner to preclude breakage or tearing of the containment bags.

11. Store waste ACM and all wiping materials/mops, rags, etc. in a secure location where they will not be damaged or scattered until ready for disposal.

12. Apply a lock-back encapsulant to the areas where the asbestos has been removed.

13. Notify the Owner's Representative when the area is ready for a visual inspection.

14. Dispose of ACM material in accordance with Section 600.

5.08 SPECIFIC PROCEDURES FOR THE AREA

Sheetrock/Joint Compound Removal:

STC understand that the former residence structure is scheduled for complete demolition following the completion of the asbestos abatement activities. Based on this condition, STC has the following work procedures:

- The abatement of the interior sheetrock wall/ceiling systems indicated in the attached Figure 1A shall be conducted inside of a containment work area with negative pressure. The containment shall include critical barriers over all openings between the containment area and adjacent areas with the exception of make-up air provisions and the means of entry and exit. This includes, but is not limited to, openings such as windows, doorways, ventilation openings, drains, ducts, grills, grates, and diffusers. Critical barriers shall consist of double-layered, 6-mil, polyethylene sheeting.

- The containment shall also include, at a minimum, single-layered, 4-mil., polyethylene coverings on walls that will not require abatement, and single-layered, 6-mil., polyethylene coverings on floors.

- Cover and seal all non-moveable objects that remain in the containment area using a single-layer, 4-mil, polyethylene sheet.

- A three-stage, decontamination unit will be required. The decontamination unit shall consist of an equipment room, shower, and clean room.

- A minimum negative pressure of 0.02 inches of water column differential between the containment and outside, as measured by a manometer, shall be operated continuously for the duration of the project.

- Designate the boundary limits of the work area using barrier-warning tape. Post the required signage for asbestos abatement activities.

- Wet the ACM prior to removal. Continue to wet the ACM as needed during removal.

- Following the completion of the final Visual Inspection provided by STC's onsite representative, all abated and exposed surfaces in the containment area shall be sprayed with an encapsulant.

Removal of Exterior Siding Panels:

- Follow the regulations outlined by the National Emissions Standards for Hazardous Air Pollutants (NESHAP) during all removal activities. Specifically, this includes utilizing wet methods and no visible emissions.

- Place a "drop cloth" consisting of a single-layer of 6-mil., polyethylene sheeting in the work area. This "drop cloth" must extend a minimum of eight (8) feet from the base of the wall and catch all debris generated by the abatement activities.

- Critical barriers shall be installed over doorways located in the work area or adjacent to the work area. This critical barrier shall consist of double-layered, 6-mil., polyethylene sheeting.

- Designate the boundary limits of the work area using barrier-warning tape. Post the required signage for asbestos abatement activities.

- Wet the ACM prior to abatement. Continue to wet the ACM as needed during removal.

- After removal, the prompt pick-up of all of debris will be required.

a. **AIR MONITORING**

Air Monitoring for Asbestos

For removal of friable and non-friable asbestos materials area/clearance air monitoring will be conducted. A final clearance standard of 0.01 f/cc for PCM will be utilized for clearance acceptance of the abated area. Air monitoring will be conducted by the Owner's third-party representative.

b. **DEVIATIONS**

Any deviations from the above procedures must be approved by the Consultant.

c. **EMERGENCY PROCEDURES**

All emergencies involving fire, medical and asbestos releases must have an associated response phone number posted in the control area outside containment. Also, the Contractor's Supervisor should be informed as to the location and route to the nearest civilian hospital. The Consultant will be notified in all emergencies as soon as feasible.

A. Fire Emergencies

Fire evacuation routes shall be marked for containment workers. The Supervisor shall brief his workers on these routes prior to any work in a new area. Evacuation routes inside containment shall be clearly identified by painted arrows/markers on the plastic sheeting, showing the most expeditious route. All personnel shall exit containment when so notified. A common meeting location shall previously be appointed so a roster of abatement personnel can be checked. If an individual or individuals is/are not present at the common meeting location, the supervisor shall be informed so search and rescue operations may be initiated.

B. Medical Emergencies

All entries and departures from containment shall be managed in accordance with standard practices unless a life-threatening situation should occur. In the latter case, an effort should be made to do whatever it takes to respond to the situation with as little disturbance of standard procedures as possible.

C. Asbestos Release Emergencies

An asbestos release emergency includes the following:

- Major breach of containment
- Loss of negative pressure/loss of negative air unit
- Elevated fiber counts outside the containment/work area (>0.01 fiber/cc)
- Spill of ACM waste

A major breach of containment shall be responded to by immediately notifying all non-protected personnel to leave the area. HVAC/AHUs for the area/floor shall be shut off. The area shall be secured and critical barrier shall be constructed over and/or around the breach and a negative air unit used to exhaust the new critical barrier area. The area shall be cleaned and visible ACM removed. Air samples shall be taken immediately outside the breach in order to determine the extent of contamination and appropriate action to be taken. The same general procedure shall be taken for a spill of ACM waste.

Loss of negative pressure and/or air handling units shall immediately require sealing of the containment and a determination of the cause be made. If loss is due to a power outage, portable generators shall be provided for power. If loss of an air handler is the cause, it shall be replaced immediately.

Elevated fiber counts outside containment requires immediate containment inspection and work stoppage (generally issued by the Project Supervisor). A new negative air unit shall be moved to the area outside the containment and exhausted outside the building. Additional negative air units shall be available for this purpose. All HVAC/AHUs shall be shut off to the area. Repair and/or modify as appropriate. New samples should be started immediately.

No abatement operations shall be conducted during any emergency events other than that required to secure the area. No unprotected personnel other than medical/fire/rescue shall be allowed into the area after operations resume. Personal protective equipment (PPE) shall be available for emergency response teams.

d. HOUSEKEEPING

Housekeeping is an important part of safety. The Contractor will strive, at all times, to maintain a clean environment as follows:

- Employees will keep their work area(s) clean and in an orderly manner.
- Employees will pick up all trash, towels and debris in the decontamination unit and around the job site even if it was not generated by one of the workers.

e. DECONTAMINATION PROCEDURES

Upon job completion, all equipment and unused supplies shall be wet wiped, cleaned and visually inspected.

Worker and equipment decontamination shall be performed in accordance with the general work practice procedures for asbestos.

Surface will be wet wiped upon completion of the job and visually inspected by STC Environmental. Upon passage of the visual, all abated and exposed surfaces in the containment area shall be sprayed with an encapsulant. Upon completion and passage of clearance air tests, all remaining poly will be containerized and labeled as asbestos-containing material.

- END OF SECTION –

SECTION 600 - DISPOSAL OF ASBESTOS WASTE

6.00 GENERAL

This section provides the specification for disposal of the abated asbestos waste materials.

6.01 RELATED DOCUMENTS

The contents of the preceding Division and sections of these specifications along with the general provisions of the Contract, including General and Supplementary Conditions, apply to the work indicated in this section.

6.02 RELATED WORK SPECIFIED ELSEWHERE

Removal of the asbestos containing material is specified in Section 500 and/or Section 700. Asbestos waste material will be generated from procedures utilized in either of these Sections.

6.03 EXECUTION

Disposal of ACM waste materials will only be accomplished, approved, and licensed for asbestos landfill facilities. Completed waste manifests are required to be included in the Contractor's final report and evidence of documentation.

6.04 PROCEDURES

The following procedures will be utilized:

A. Do not store asbestos waste bagged material outside of the work area. Take bags from the work area directly to a sealed truck, trailer or dumpster.

B. Label each bag with the name of the facility that the waste has been removed from.

C. Carefully load the containerized waste in sealed trucks or other appropriate vehicles for transport to the landfill facility. Exercise care before and during transport that only authorized persons have access to the material.

D. Do not transport disposal bagged materials in open trucks. Double bagged material may be transported in open trucks if they are first loaded in sealed drums. Label drums with the same warning labels as the bags. Uncontaminated drums may be reused. Treat any drums that become contaminated as asbestos containing waste and dispose of in accordance with this specification. A broken bag is deemed to cause contamination of the drum.

E. Advise the sanitary landfill operator at least twenty-four (24) hours in advance of transport and the expected quantity of waste material to be delivered.

F. At the landfill burial site, the sealed plastic bags will be carefully removed from the truck. If bags are broken or damaged in transit, leave bags in the truck and accomplish decontamination of the entire truck and contents. After cleaning, then properly dispose of all wastes.

G. Retain all completed manifests and receipts from the landfill for all materials disposed. Include completed manifests in final report.

- END OF SECTION –

SECTION 700 REMOVAL OF NON-FRIABLE ASBESTOS

7.00 GENERAL

This section provides specifications for removal of non-friable asbestos materials and applies to the portion of the project during which non-friable asbestos materials are being removed. If at any time the non-friable asbestos becomes friable, then the procedures specified in Section 500 of these documents will apply.

7.01 RELATED DOCUMENTS

The contents of the preceding Division of these specifications along with the general provisions of the Contract, including General and Supplementary Conditions, apply to the work of this section.

7.02 RELATED WORK SPECIFIED ELSEWHERE

Disposal of the asbestos containing waste is specified in Section 600. If the non-friable asbestos materials result in friable asbestos materials, follow the specifications contained in Section 500. Section 800 contains drawings and figures for this work.

7.03 ON-SITE REQUIRED DOCUMENTATION

The Contractor will keep on site the following documentation in a loose leaf folder. This folder will be available for inspection at all times work is in progress.

A. Copies of all Notifications.

B. Worker Sign In/Out Log.

C. Current licensing, medical and training certifications.

D. Respiratory Protection training and work acknowledgement forms.

E. Contractor Standard Operating Procedures for removal of all types of asbestos containing materials.

F. Site Specific Security Health and Safety Plan.

G. Contingency Plans and Arrangements to be able to convert from non-friable to friable asbestos conditions.

H. Copies of MSDS of all regulated materials being utilized. (No hazardous or flammable chemicals/solvents will be authorized for use on site.)

I. Daily Project Activity Log.

J. Final Inspection Reports.

K. Waste Manifests.

7.04 PRODUCTS

The following products may be utilized for this project.

A. Wetting Materials: Wet methods for asbestos removal will be utilized. For wetting prior to disturbance of asbestos containing materials use either amended water or a removal encapsulant.

1. **Amended Water:** If amended water is utilized provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in the wetting of the asbestos containing material and retardation of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five (5) gallons of water.

2. **Removal Encapsulant:** If a removal encapsulant materials is utilized, use a penetrating type encapsulant **designed specifically for removal of asbestos containing material.** Use a material which results in the wetting of the asbestos containing material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five (5) gallons of water.

3. **Removal Solvents:** No removal solvents that are classified as hazardous or flammable will be utilized on site. If removal solvents are utilized, only those solvents that are specifically designed for removal of asbestos containing material will be authorized. **IN NO CASE WILL SOLVENTS OR ANY OTHER CHEMICALS WITH A FLASH POINT OF LESS THAN 140°F BE USED.**

B. Polyethylene Sheet: If required, use single polyethylene film sheet in the largest sheet size possible to minimize seams, which is 6.0 mils in thickness and is either clear, frosted or black/opaque in color. Four (4) mil thickness may be utilized for walls.

C. Duct Tape: Provide duct tape in 2" or 3" widths as indicated with an adhesive which is formulated to aggressively stick to sheet polyethylene.

D. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

E. Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled with one of the two labels with text as follows:

FIRST LABEL:

CAUTION
CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

SECOND LABEL:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLITE OR ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

F. Lock-back Encapsulant: Use a Lock-Back Encapsulant that satisfies NESHAPS 40 CFR 61, Subpart M.

7.05 OTHER PRODUCTS

Other products may be used as long as they comply with NESHAPS 40 CFR 61, Subpart M and 29 CFR 1910.1200.

7.06 SUBSTITUTIONS

The materials, solvents, products and equipment described in this Work Plan establish a standard of required function, performance and quality. STC's Representative will be informed of all chemicals planned for use on the site. No substitutions will be accomplished without specific approval of STC's asbestos consultant.

7.07 PROCEDURES (GENERAL)

1. Perform pre-inspection of the work area with STC's Representative and discuss the use of any solvents for chemicals planned for use.

2. Install required barriers appropriate to site location and traffic volume. Outdoor work for removal of non-friable asbestos materials does not require complete isolation with critical barrier construction. Asbestos caution tape barriers to mark the work site, along with the required warning posters will be sufficient unless

the non-friable asbestos becomes friable. Inside work requires the use of critical barriers on all windows, doors, HVAC ducts and any other openings as specified in Section 500. For floor tile and mastic removal, as a minimum four (4) foot splash guards may be utilized. A full containment with a full decontamination unit and negative air is required. However, non-friable asbestos-containing resilient floor covering may be removed by any of the methods described in the document titled, "Recommended Work Practices for the Removal of Resilient Floor Coverings", published by the Resilient Floor Covering Institute (RFCI) (1992). If any other method is used for removal other than the approved RFCI methods, or if the floor material is friable, or if the floor material becomes friable during the removal process, then compliance with all regulations that address the abatement of friable asbestos-containing materials and RACM is required. This will include the establishment of containment, the use of negative air, air monitoring and in public buildings, licensed persons. However, RFCI methods are not recommended for areas larger than 200 ft².

3. Fit personnel who will remove the ACM with proper respiratory protection equipped with HEPA filters and disposal protective suits.

4. Wet methods will be utilized during all abatement activities. For wetting prior to disturbances of asbestos containing materials use either amended water or a removal encapsulant. Thoroughly wet the areas where fasteners (nails, screws, etc.) penetrate the ACM if present, for transite panel removal.

5. Remove ACM intact as much as feasible, utilizing methods, which minimizes breakage and cutting. Component removal is always recommended.

6. Wet wipe the area previously covered by the ACM.

7. The removed ACM will be double bagged while wet, with the tops of bags pigtailed, folded over and sealed with a minimum of three (3) wraps of duct tape. The bags will also be labeled as to Owner and location of asbestos removal. Or wrap components in at least two (2) layers of 6 mil poly and seal with duct tape.

8. Carefully handle the ACM waste material in a manner to preclude breaking or tearing of the containment bags or poly wrap.

9. Store waste ACM and all wiping materials/swipe rags etc. in a secure location where bags will not be damaged nor scattered until ready for disposal.

10. Use a "lock-back" encapsulant on the areas where the asbestos has been removed.

11. Notify the Owner's Representative when the abated area is ready for a visual inspection.

12. Dispose of ACM material in accordance with Section 600.

13. Complete manifests will be provided along with the Contractors report of activities to the Owner's Representative for final report preparation.

14. Turn off all lights before leaving any facility for the night.

7.08 DEVIATIONS

Any deviations from the above procedures must be approved by the Consultant.

7.09 REMOVAL OF SHEETROCK/JOINT COMPOUND

Follow procedures in Section 500.

7.10 REMOVAL OF EXTERIOR SIDING PANELS

Follow procedures in Section 500.

- END OF SECTION –

SECTION 800 ASBESTOS INSPECTION REPORT AND SITE PLANS

Attachments:

STC Asbestos Survey Report No. 220435 dated November 2, 2022
Figure 1A – ACM to be Removed

- END OF SECTION –

STC
Environmental Services Inc.
Geologists and Environmental Scientists

4754 RESEARCH DRIVE **SAN ANTONIO, TEXAS 78240** **Office (210) 696-6286 / FAX (210) 696-8761**

November 2, 2022

Mr. Mark Stahl
Director of Construction & Planning
Boerne Independent School District
235 Johns Road
Boerne, Texas 78006

Re: Pre-Demolition Asbestos Survey
Former Residence
245 Live Oak Street
Boerne, Texas 78006
STC Project No. 220435

Mr. Stahl,

On October 27, 2022, a pre-demolition Asbestos Survey was conducted at the above-referenced location by a state-licensed Asbestos Inspector. This survey was conducted for the proposed demolition of the former residence located at the above-referenced address.

In summary, exterior siding and interior sheetrock/joint compound indicated a concentration of asbestos at one percent or greater. These materials will require abatement by a state-licensed Asbestos Abatement Contractor prior to renovation activities that will disturb this material. Additional details regarding the project are presented below.

PROJECT INFORMATION

A pre-demolition Asbestos Survey was accomplished by Mr. Michael Treviño, an EPA-accredited and Texas-licensed Asbestos Inspector (Texas State License Number 60-3096, expiration February 2, 2024). A copy of Mr. Treviño's Asbestos Inspector license is attached to this letter. This survey was conducted in accordance with the Texas Department of State Health Services (TDSHS) Texas Asbestos Health Protection Rules (TAHPR), which requires a minimum of three (3) bulk samples for each homogeneous area to rebut the presence of asbestos.

The project site consisted of the former residence located at 245 Live Oak Street in Boerne, Texas. This survey was conducted for the proposed demolition of the structure. The interior of the building was finished out with carpet, various styles of sheet vinyl flooring, and sheetrock walls and ceilings. Additional details regarding the inspection are presented below.

ASBESTOS-CONTAINING MATERIALS SURVEY PROTOCOL

The purpose of an Asbestos Survey is to attempt to identify asbestos-containing materials (ACM). In general, the Environmental Protection Agency (EPA) classifies ACM into three categories: **Surfacing**, which includes sprayed on or troweled on materials; **Thermal**, which includes insulation and materials associated with heating, hot/cold water systems and HVAC systems; and **Miscellaneous**, which includes ceiling and floor tiles, roofing materials and all other materials which do not fall into the two previous categories. In addition, identified ACM is further defined as **"Friable"** or **"Non-friable"**. "Friable" material is defined as materials, when dry, which can easily be pulverized, crushed, or reduced to powder by hand pressure. "Non-Friable" material is defined as those materials containing asbestos that are firmly bound by a matrix such as plastic, cement, etc., that if handled carefully, will not become friable. The TAHPR defines ACM as any material or product, which contains 1.0% asbestos or greater.

Prior to obtaining any bulk samples, the areas of homogenous material construction were identified to assure that each area was included in the sampling plan. A "homogeneous area" indicates an area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color and texture that is used throughout the facility during construction. A minimum of three (3) representative samples are then obtained from each homogeneous area.

Homogeneous building materials not considered to be suspect-ACM include but not limited to metal or wood framing, polyvinyl chloride (PVC) piping, fiberglass insulation, certain silicon-based sealants, rubber membrane roofing, and concrete materials. Therefore, these materials, if observed, were not sampled during this inspection.

RESULTS OF THE INSPECTION

On October 27, 2022, a total of thirty (30) bulk samples were collected and immediately placed in plastic bags, sealed, and assigned a unique number for transport to a Texas-licensed asbestos laboratory for analysis. EMLab P&K (TDSHS 30-0396) in Ft. Lauderdale, Florida was the selected laboratory for analysis.

A total of six (6) samples indicated the presence of asbestos at concentrations of one percent or greater. These samples included the sheetrock wall/ceiling system with bumpy texture and the exterior siding. The remaining twenty-four (24) samples did not indicate the presence of asbestos.

A summary of the asbestos testing is presented in the attached Table I. A floor plan showing the sample locations is presented in the attached Figure 1. Site photographs showing the building materials sampled are also attached. A complete copy of the analytical laboratory report is included as an attachment to this letter. Copies of STC's asbestos certifications and licenses are also attached.

LIST OF ASBESTOS-CONTAINING MATERIALS

Prior to any renovation activities that may disturb the ACM; these materials will require removal by a state-licensed Asbestos Abatement Contractor:

- Sheetrock wall/ceiling system with joint compound (2% chrysotile asbestos) and bumpy texture (2% chrysotile asbestos) – east classroom, dining room, kitchen, conference room, north bathroom, and northeast office – Approximately 3,889 ft^2 (estimate includes both walls and ceilings)

- Exterior siding (30% chrysotile asbestos) – Approximately 2,275 ft^2

OTHER INFORMATION

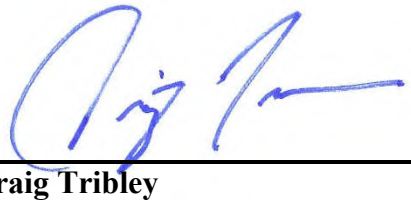
Should renovation activities encounter any other suspected ACM not accessible or excluded at the time of our survey, a state-licensed Asbestos Inspector should be consulted to determine if sampling is required.

It should be noted that in accordance with Texas Department of State Health Services (TDSHS) Texas Asbestos Health Protection Rules (TAHPR) Chapter 295.34 Asbestos Management in Facilities and Public Buildings, the building owner is responsible for collecting Safety Data Sheets (SDS) for all building materials used during the renovation. This is to ensure that ACM are not installed during the renovation activities. The building owner is encouraged to maintain these MSD sheets for use during future improvements.

STC Environmental Services, Inc. appreciates the opportunity to provide our professional services to you. If you have any questions, please contact us at (210) 696-6288.

Respectfully,

Michael T. Treviño
Staff Scientist
Asbestos Inspector
TDSHS# 60-3096

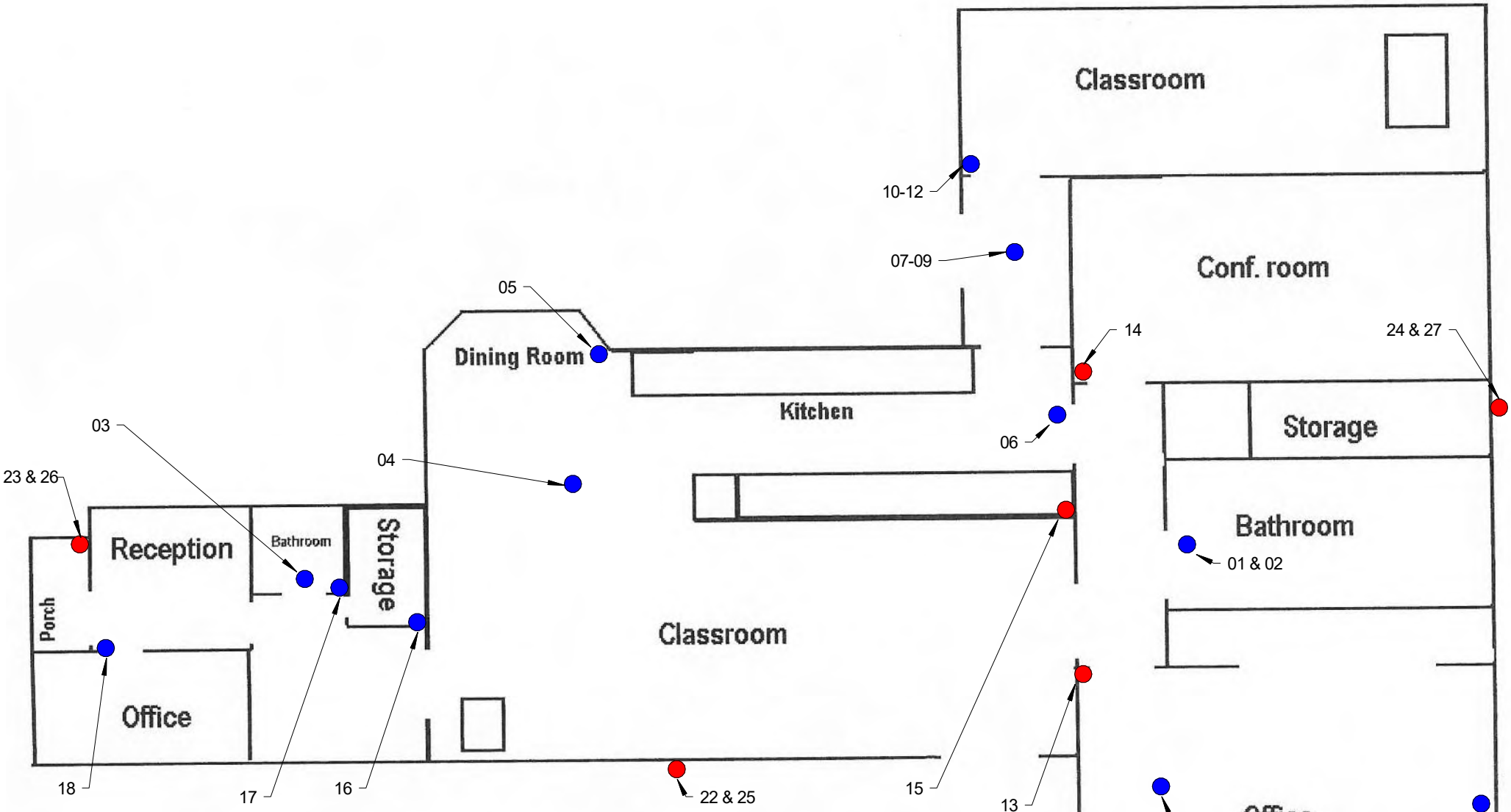


Craig Tribley
President
Asbestos Consultant
TDSHS#10-5701

Attachments:
Table I – Summary of Asbestos Testing
Figure 1 – Sample Locations
Site Photographs
Analytical Laboratory Results and Chain of Custody Records
STC's Asbestos Certifications & Licenses

Table I
Summary of PLM Asbestos Testing

Sample ID	Sample Location	Material	PLM EPA 600 Method Result
1	North Bathroom	Beige, sheet vinyl flooring with rectangle and square pattern	No Asbestos Detected
2	North Bathroom	Beige, sheet vinyl flooring with rectangle and square pattern	No Asbestos Detected
3	South Bathroom	Beige, sheet vinyl flooring with rectangle and square pattern	No Asbestos Detected
4	Dining Room	Beige, sheet vinyl flooring with square pattern	No Asbestos Detected
5	Dining Room	Beige, sheet vinyl flooring with square pattern	No Asbestos Detected
6	Kitchen	Beige, sheet vinyl flooring with square pattern	No Asbestos Detected
7	Hall between Kitchen and Northwest Classroom	White, sheet vinyl flooring with irregular triangle pattern	No Asbestos Detected
8	Hall between Kitchen and Northwest Classroom	White, sheet vinyl flooring with irregular triangle pattern	No Asbestos Detected
9	Hall between Kitchen and Northwest Classroom	White, sheet vinyl flooring with irregular triangle pattern	No Asbestos Detected
10	Northwest Classroom	Sheetrock wall system with joint compound and heavy, orange-peel texture	No Asbestos Detected
11	Northwest Classroom	Sheetrock wall system with joint compound and heavy, orange-peel texture	No Asbestos Detected
12	Northwest Classroom	Sheetrock wall system with joint compound and heavy, orange-peel texture	No Asbestos Detected
13	Northeast Office	Sheetrock wall system with joint compound and bumpy texture	Off-white texture - 2% Chrysotile Asbestos Off-white joint compound - 2% Chrysotile Asbestos
14	Conference Room	Sheetrock wall system with joint compound and bumpy texture	Off-white texture - 2% Chrysotile Asbestos Off-white joint compound - 2% Chrysotile Asbestos
15	Kitchen	Sheetrock wall system with joint compound and bumpy texture	Off-white texture - 2% Chrysotile Asbestos Off-white joint compound - 2% Chrysotile Asbestos
16	South Storage/IT Room	Sheetrock wall system with joint compound and light, orange-peel texture	No Asbestos Detected
17	South Bathroom	Sheetrock wall system with joint compound and light, orange-peel texture	No Asbestos Detected
18	Reception	Sheetrock wall system with joint compound and light, orange-peel texture	No Asbestos Detected
19	Attic	Off-white mastic on HVAC fiberglass ductwork	No Asbestos Detected
20	Attic	Off-white mastic on HVAC fiberglass ductwork	No Asbestos Detected
21	Attic	Off-white mastic on HVAC fiberglass ductwork	No Asbestos Detected
22	East (Main) Entrance	Exterior, cementitious, shingle siding	Exterior siding - 30% Chrysotile Asbestos
23	South Entrance (Porch)	Exterior, cementitious, shingle siding	Exterior siding - 30% Chrysotile Asbestos
24	North Exterior Wall	Exterior, cementitious, shingle siding	Exterior siding - 30% Chrysotile Asbestos
25	East (Main) Entrance	Black, tar paper behind exterior siding	No Asbestos Detected
26	South Entrance (Porch)	Black, tar paper behind exterior siding	No Asbestos Detected
27	North Exterior Wall	Black, tar paper behind exterior siding	No Asbestos Detected
28	Roof - Northeast corner	Composite, shingle roof system	No Asbestos Detected
29	Roof - Northeast corner	Composite, shingle roof system	No Asbestos Detected
30	Roof - Northeast corner	Composite, shingle roof system	No Asbestos Detected
Notes:			
	Green shaded cells indicate homogeneous materials with asbestos concentrations 1% or greater.		



LEGEND

Samples 01-03: Beige Sheet Vinyl Flooring (Square & Rectangle Pattern)
Samples 04-06: Beige Sheet Vinyl Flooring (Square Pattern)
Samples 07-09: White Sheet Vinyl (Irregular Triangle Pattern)
Samples 10-12: Sheetrock System (Heavy Orange Peel Texture)
Samples 13-15: Sheetrock System (Bumpy Texture)

Samples 16-18: Sheetrock System (Light Orange Peel Texture)
Samples 19-21: Off-white HVAC Mastic
Samples 22-24: Exterior Siding
Samples 25-27: Black, Exterior Tar Paper
Samples 28-30: Composite Roof Shingle System

Sample with No Asbestos Detected

Sample with >1% Asbestos (13-15 & 22-24)

STC Environmental Services Inc.. Geologists and Environmental Scientists

Boerne ISD - Former Residence - 245 Live Oak St., Boerne, TX - Sample Locations 10/27/22

FIG. 1

PHOTO 1: **Shows the former residence located at 245 Live Oak Street in Boerne, Texas.**

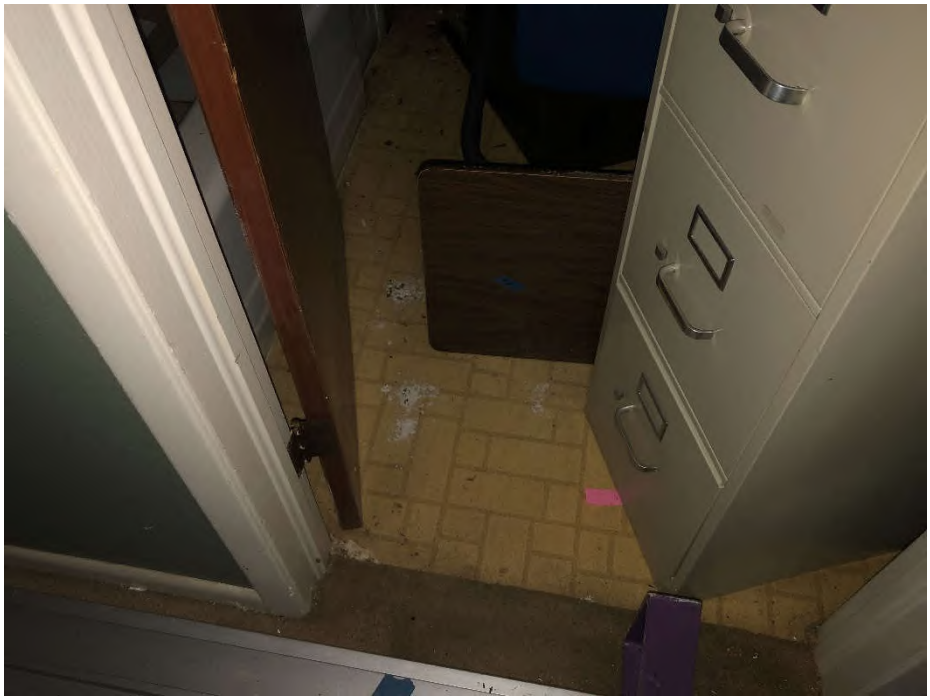


PHOTO 2: **Shows the beige, sheet vinyl flooring with rectangle and square pattern sampled in both bathrooms (Samples 01-03). Testing of this material did not indicate the presence of asbestos.**

PHOTO 3: **Shows the beige, sheet vinyl flooring with square pattern sampled in the dining room and kitchen (Samples 04-06). Testing of this material did not indicate the presence of asbestos.**

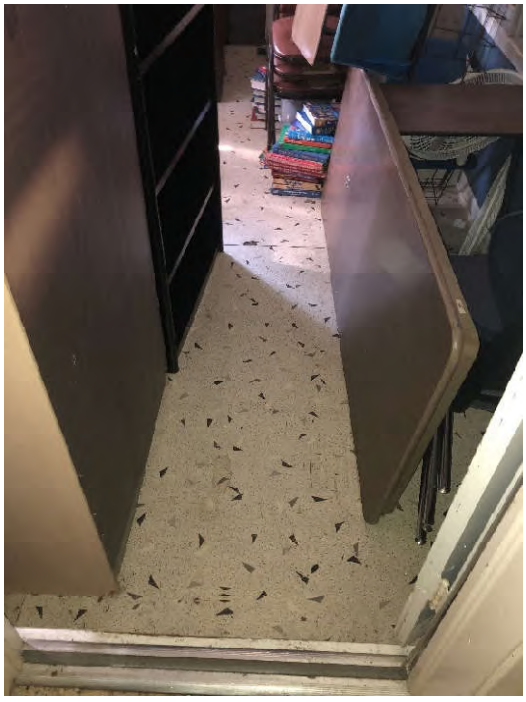


PHOTO 4: **Shows white, sheet vinyl flooring with irregular triangle pattern sampled in the hallway between the kitchen and northwest classroom (Samples 07-09). Testing of this material did not indicate the presence of asbestos.**

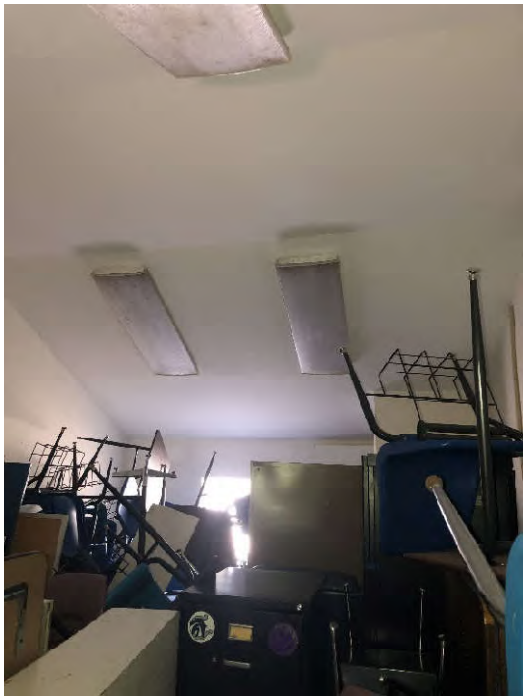


PHOTO 5: **Shows the sheetrock wall system with heavy, orange peel texture sampled in the northwest classroom (Samples 10-12). Testing of this material did not indicate the presence of asbestos.**

PHOTO 6: **Shows the sheetrock wall system with bumpy texture sampled in the conference room, northeast office, and kitchen (Samples 13-15). Testing of this material indicated the presence of chrysotile asbestos in the wall texture and joint compound at a concentration of two (2) percent.**

PHOTO 7: **Shows the sheetrock wall system with light, orange peel texture sampled in the reception area, south bathroom, and south storage/IT room (Samples 16-18). Testing of this material did not indicate the presence of asbestos.**

PHOTO 8: **Shows the off-white mastic on HVAC ductwork sampled in the attic (Samples 19-21). Testing of this material did not indicate the presence of asbestos.**

PHOTO 9: **Shows the exterior siding (Samples 22-24) with black tar paper behind it (Samples 25-27) sampled from the exterior of the structure. Testing of the exterior siding indicated the presence of chrysotile asbestos at a concentration of thirty (30) percent. No asbestos was detected in the exterior tar paper behind the siding.**

PHOTO 10: **Shows the composite, shingle roof system (Samples 28-30). Testing of this material did not indicate the presence of asbestos.**

eurofins | Built Environment Testing

Report for:

Craig Tribley
STC Environmental Services Inc.
4754 Research Dr
San Antonio, TX 78240

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: 220435-Bldg-Residence; Live Oak St.
EML ID: 3072258

Approved by:

Approved Signatory
Balu Krishnan

Dates of Analysis:
Asbestos PLM: 11-01-2022

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)
NVLAP Lab Code 200738-0

Eurofins EPK Built Environment Testing, LLC
6301 NW 5th way, Suite#: 1410, Ft. Lauderdale, FL 33309
(866) 871-1984 www.eurofinsus.com/Built

Client: STC Environmental Services Inc.
C/O: Craig Tribley
Re: 220435-Bldg-Residence; Live Oak St.

Date of Sampling: 10-27-2022
Date of Receipt: 10-31-2022
Date of Report: 11-01-2022

ASBESTOS PLM REPORT

Total Samples Submitted:	30
Total Samples Analyzed:	30
Total Samples with Layer Asbestos Content > 1%:	6

Location: 01, Beige, Sheet Vinyl Flooring w/Square and Rectangle Pattern Lab ID-Version‡: 14823082-1

Sample Layers	Asbestos Content
Beige Sheet Flooring with Fibrous Backing	ND
Yellow Mastic	ND
Composite Non-Asbestos Content:	10% Cellulose 2% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 02, Beige, Sheet Vinyl Flooring w/Square and Rectangle Pattern Lab ID-Version‡: 14823083-1

Sample Layers	Asbestos Content
Beige Sheet Flooring with Fibrous Backing	ND
Yellow Mastic	ND
Composite Non-Asbestos Content:	10% Cellulose 2% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 03, Beige, Sheet Vinyl Flooring w/Square and Rectangle Pattern Lab ID-Version‡: 14823084-1

Sample Layers	Asbestos Content
Beige Sheet Flooring with Fibrous Backing	ND
Yellow Mastic	ND
Composite Non-Asbestos Content:	10% Cellulose 2% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 04, Beige, Sheet Vinyl Flooring w/12''x12'' Pattern Lab ID-Version‡: 14823085-1

Sample Layers	Asbestos Content
Beige Sheet Flooring with Fibrous Backing	ND
Yellow Mastic	ND
Composite Non-Asbestos Content:	10% Cellulose 2% Glass Fibers
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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C/O: Craig Tribley
Re: 220435-Bldg-Residence; Live Oak St.

Date of Sampling: 10-27-2022
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Date of Report: 11-01-2022

ASBESTOS PLM REPORT

Location: 05, Beige, Sheet Vinyl Flooring w/12''x12'' Pattern Lab ID-Version‡: 14823086-1

Sample Layers	Asbestos Content
Beige Sheet Flooring with Fibrous Backing	ND
Yellow Mastic	ND
Composite Non-Asbestos Content:	10% Cellulose 2% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 06, Beige, Sheet Vinyl Flooring w/12''x12'' Pattern Lab ID-Version‡: 14823087-1

Sample Layers	Asbestos Content
Beige Sheet Flooring with Fibrous Backing	ND
Yellow Mastic	ND
Composite Non-Asbestos Content:	10% Cellulose 2% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 07, White, Sheet Vinyl Flooring w/Irregular Triangle and Sparkle Pattern Lab ID-Version‡: 14823088-1

Sample Layers	Asbestos Content
White Sheet Flooring with Fibrous Backing	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Location: 08, White, Sheet Vinyl Flooring w/Irregular Triangle and Sparkle Pattern Lab ID-Version‡: 14823089-1

Sample Layers	Asbestos Content
White Sheet Flooring with Fibrous Backing	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
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Client: STC Environmental Services Inc.
C/O: Craig Tribley
Re: 220435-Bldg-Residence; Live Oak St.

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ASBESTOS PLM REPORT

Location: 09, White, Sheet Vinyl Flooring w/Irregular Triangle and Sparkle Pattern Lab ID-Version‡: 14823090-1

Sample Layers	Asbestos Content
White Sheet Flooring with Fibrous Backing	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Location: 10, Sheetrock Wall/Ceiling System w/Joint Compound and Heavy Orange-Peel Texture Lab ID-Version‡: 14823091-1

Sample Layers	Asbestos Content
Cream Tape	ND
White Joint Compound	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	12% Cellulose
Sample Composite Homogeneity:	Good

Location: 11, Sheetrock Wall/Ceiling System w/Joint Compound and Heavy Orange-Peel Texture Lab ID-Version‡: 14823092-1

Sample Layers	Asbestos Content
White Texture with Paint	ND
Cream Tape	ND
White Joint Compound	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Location: 12, Sheetrock Wall/Ceiling System w/Joint Compound and Heavy Orange-Peel Texture Lab ID-Version‡: 14823093-1

Sample Layers	Asbestos Content
White Texture with Paint	ND
Cream Tape	ND
White Joint Compound	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
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Client: STC Environmental Services Inc.
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ASBESTOS PLM REPORT

Location: 13, Sheetrock Wall/Ceiling System w/Joint Compound and Bumpy Texture Lab ID-Version‡: 14823094-1

Sample Layers	Asbestos Content
Off-White Texture with Paint	2% Chrysotile
Cream Tape	ND
Off-White Joint Compound	2% Chrysotile
Off-White Drywall with Brown Paper	ND
Composite Asbestos Fibrous Content:	< 1% Asbestos
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Comments: Composite asbestos content provided is only for Drywall/Joint compound. Composite content provided for this analysis has been performed by following the NESHAP guidelines.

Location: 14, Sheetrock Wall/Ceiling System w/Joint Compound and Bumpy Texture Lab ID-Version‡: 14823095-1

Sample Layers	Asbestos Content
Off-White Texture with Paint	2% Chrysotile
Cream Tape	ND
Off-White Joint Compound	2% Chrysotile
Off-White Drywall with Brown Paper	ND
Composite Asbestos Fibrous Content:	< 1% Asbestos
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Comments: Composite asbestos content provided is only for Drywall/Joint compound. Composite content provided for this analysis has been performed by following the NESHAP guidelines.

Location: 15, Sheetrock Wall/Ceiling System w/Joint Compound and Bumpy Texture Lab ID-Version‡: 14823096-1

Sample Layers	Asbestos Content
Off-White Texture with Paint	2% Chrysotile
Cream Tape	ND
Off-White Joint Compound	2% Chrysotile
Off-White Drywall with Brown Paper	ND
Composite Asbestos Fibrous Content:	< 1% Asbestos
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Comments: Composite asbestos content provided is only for Drywall/Joint compound. Composite content provided for this analysis has been performed by following the NESHAP guidelines.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
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C/O: Craig Tribley
Re: 220435-Bldg-Residence; Live Oak St.

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ASBESTOS PLM REPORT

Location: 16, Sheetrock Wall/Ceiling System w/Joint Compound and Light-Orange-Peel Texture

Lab ID-Version‡: 14823097-1

Sample Layers	Asbestos Content
White Texture with Paint	ND
Cream Tape	ND
White Joint Compound	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
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ASBESTOS PLM REPORT

Location: 17, Sheetrock Wall/Ceiling System w/Joint Compound and Light-Orange-Peel Texture

Lab ID-Version‡: 14823098-1

Sample Layers	Asbestos Content
White Texture with Paint	ND
Cream Tape	ND
White Joint Compound	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Location: 18, Sheetrock Wall/Ceiling System w/Joint Compound and Light-Orange-Peel Texture

Lab ID-Version‡: 14823099-1

Sample Layers	Asbestos Content
Off-White Joint Compound with Paint	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Good

Location: 19, Off-White HVAC Mastic

Lab ID-Version‡: 14823100-1

Sample Layers	Asbestos Content
Off-White Mastic	ND
Silver Foil	ND
Brown Tape	ND
Yellow Insulation	ND
Composite Non-Asbestos Content:	10% Mineral Wool 2% Cellulose 2% Glass Fibers
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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Client: STC Environmental Services Inc.
C/O: Craig Tribley
Re: 220435-Bldg-Residence; Live Oak St.

Date of Sampling: 10-27-2022
Date of Receipt: 10-31-2022
Date of Report: 11-01-2022

ASBESTOS PLM REPORT

Location: 20, Off-White HVAC Mastic

Lab ID-Version‡: 14823101-1

Sample Layers	Asbestos Content
Off-White Mastic	ND
Silver Foil	ND
Brown Tape	ND
Black Mastic	ND
Yellow Insulation	ND
Composite Non-Asbestos Content:	7% Mineral Wool 2% Cellulose 2% Glass Fibers
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
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ASBESTOS PLM REPORT

Location: 21, Off-White HVAC Mastic

Lab ID-Version‡: 14823102-1

Sample Layers	Asbestos Content
Off-White Mastic	ND
Silver Foil	ND
Brown Tape	ND
Black Mastic	ND
Yellow Insulation	ND
Composite Non-Asbestos Content:	5% Mineral Wool 2% Cellulose 2% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 22, Exterior Siding

Lab ID-Version‡: 14823103-1

Sample Layers	Asbestos Content
Off-White Transite with Paint (Siding)	30% Chrysotile
Sample Composite Homogeneity:	Good

Location: 23, Exterior Siding

Lab ID-Version‡: 14823104-1

Sample Layers	Asbestos Content
Off-White Transite with Paint (Siding)	30% Chrysotile
Sample Composite Homogeneity:	Good

Location: 24, Exterior Siding

Lab ID-Version‡: 14823105-1

Sample Layers	Asbestos Content
Off-White Transite with Paint (Siding)	30% Chrysotile
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
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Date of Sampling: 10-27-2022
Date of Receipt: 10-31-2022
Date of Report: 11-01-2022

ASBESTOS PLM REPORT

Location: 25, Black, Tar Paper behind Siding

Lab ID-Version‡: 14823106-1

Sample Layers	Asbestos Content
Black Felt	ND
Composite Non-Asbestos Content:	15% Cellulose 2% Nylon
Sample Composite Homogeneity:	Good

Location: 26, Black, Tar Paper behind Siding

Lab ID-Version‡: 14823107-1

Sample Layers	Asbestos Content
Black Felt	ND
Composite Non-Asbestos Content:	15% Cellulose 2% Nylon
Sample Composite Homogeneity:	Good

Location: 27, Black, Tar Paper behind Siding

Lab ID-Version‡: 14823108-1

Sample Layers	Asbestos Content
Black Felt	ND
Composite Non-Asbestos Content:	15% Cellulose 2% Nylon
Sample Composite Homogeneity:	Good

Location: 28, Roof Shingles and Tar Paper

Lab ID-Version‡: 14823109-1

Sample Layers	Asbestos Content
Black Roofing Shingle with Pebbles	ND
Black Tar	ND
Black Felt	ND
Composite Non-Asbestos Content:	5% Cellulose 5% Glass Fibers
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
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ASBESTOS PLM REPORT

Location: 29, Roof Shingles and Tar Paper

Lab ID-Version‡: 14823110-1

Sample Layers	Asbestos Content
Black Roofing Shingle with Pebbles	ND
Black Tar	ND
Black Felt	ND
Composite Non-Asbestos Content:	5% Cellulose 5% Glass Fibers
Sample Composite Homogeneity:	Good

Location: 30, Roof Shingles and Tar Paper

Lab ID-Version‡: 14823111-1

Sample Layers	Asbestos Content
Black Roofing Shingle with Pebbles	ND
Black Tar	ND
Black Felt	ND
Composite Non-Asbestos Content:	5% Cellulose 5% Glass Fibers
Sample Composite Homogeneity:	Good

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CHAIN OF CUSTODY

EMLab P&K

www.EMLabPK.com

Cherry Hill, NJ: 1936 Olney Avenue, Cherry Hill, NJ 08003 * **(866) 871-1984**
Phoenix, AZ: 1501 West Knudsen Drive, Phoenix, AZ 85027 * **(800) 651-4802**
San Bruno, CA: 1150 Bayhill Drive, #100, San Bruno, CA 94066 * **(866) 888-6653**

WEATHER	Fog	Rain	Snow	Wind	Clear
LEVEL None					
Light					
Moderate					
Heavy					

003072258

CONTACT INFORMATION

Company: STC Environmental
Address: 4754 Research Dr., San Antonio, TX 78240
Contact: Craig Tribley
Special Instructions:
Phone: 210-696-6288
Please send results to: mtrevino@stces.com

PROJECT INFORMATION

Project ID: 220435 - BISD - Residence
Project Desc.: Live Oak St.
Project Zip Code: 78006
Sampling Date & Time: 10/27/22
PO Number: 0528-22

TURN AROUND TIME CODES - (TAT)

STD - Standard (DEFAULT)
(ND) Next Business Day
SD - Same Business Day Rush
WH - Weekend/Holiday

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)	Fungi - Spore Trap Analysis	Spore Trap Analysis - Other particles	Direct Microscopic Exam (Qualitative)	Quantitative Spore Count Direct Exam	1-Media Surface Fungi (Genus ID + Asp. spp.)	2-Media Surface Fungi (Genus ID + Asp. spp.)	3-Media Surface Fungi (Genus ID + Asp. spp.)	Culturable Air Fungi (Genus ID + Asp. spp.)	Gram Stain and Counts (Culturable Air and Surface Bacteria	*Legionella* culture	Total Coliform, *E.coli* (Presence/Absence)	Membrane Filtration (Please specify organism)	MPN Bacteria (Please specify organism)	QuantiTray - Sewage Screen	Asbestos Analysis - PCM Airborne Fiber Count (NIOSH 7400)	Asbestos Analysis - PLM (EPA method 600/R-93-116)	PCR (please specify test)
01-03	Beige, Sheet Vinyl Flooring w/ Square and Rectangle Pattern	B	ND	N/A	2 Bathrooms																X	
04-06	Beige, Sheet Vinyl Flooring w/ 12"x12" Pattern				Kitchen/Dining Rm.																	
07-09	White, Sheet Vinyl Flooring w/ Irregular Triangle and Sparkle Pattern				Hall bet. Kitchen & NW Classroom																	
10-12	Sheetrock Wall/Ceiling System w/ Joint Compound and Heavy Orange-Peel Texture				NW Classroom																	
13-15	Sheetrock Wall/Ceiling System w/ Joint-Compound and Bumpy Texture				Office, Conf. Rm, Kitchen																	

SAMPLE TYPE CODES

BC - BioCassette™	ST - Spore Trap: Zefon, Allergenco, Burkard...	T - Tape	D - Dust
A1S - Andersen		SW - Swab	SO - Soil
SAS - Surface Air Sampler	P - Potable Water	(B) Bulk	
CP - Contact Plate	NP - Non-Potable Water	O - Other:	

RELINQUISHED BY	DATE & TIME
	10/28/22

RECEIVED BY	DATE & TIME
	10/31/22
	10:25

CHAIN OF CUSTODY

EMLab P&K

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Cherry Hill, NJ: 1936 Olney Avenue, Cherry Hill, NJ 08003 * **(866) 871-1984**
Phoenix, AZ: 1501 West Knudsen Drive, Phoenix, AZ 85027 * **(800) 651-4802**
San Bruno, CA: 1150 Bayhill Drive, #100, San Bruno, CA 94066 * **(866) 888-6653**

WEATHER	Fog	Rain	Snow	Wind	Clear
LEVEL None					
Light					
Moderate					
Heavy					

003072258

CONTACT INFORMATION

Company: STC Environmental
Address: 4754 Research Dr., San Antonio, TX 78240
Contact: Craig Tribley
Special Instructions:
Phone: 210-696-6288
Please send results to: mtrevino@stces.com

PROJECT INFORMATION

Project ID: See Page 1
Project Desc.:
Project Zip Code:
Sampling Date & Time:
PO Number:

TURN AROUND TIME CODES - (TAT)

STD - Standard (DEFAULT)
(ND) - Next Business Day
SD - Same Business Day Rush
WH - Weekend/Holiday

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)
16-18	Sheetrock Wall/Ceiling System w/ Joint-Compound and Light-Orange-Peel Texture	B	ND	N/A	Storage, Bathroom, Reception
19-21	Off-White HVAC Mastic				Attic
22-24	Exterior Siding				Ext. Walls
25-27	Black, Tar Paper behind Siding				↓
28-30	Roof Shingles and Tar Paper	↓	↓	↓	Roof

Non-Cultura

Spore Trap

Ta
Sw
Bu

her Requests

Fungi - Spore Trap Analysis	Spore Trap Analysis - Other particles	Direct Microscopic Exam (Qualitative)	Quantitative Spore Count Direct Exam	1-Media Surface Fungi (Genus ID + Asp. spp.)	2-Media Surface Fungi (Genus ID + Asp. spp.)	3-Media Surface Fungi (Genus ID + Asp. spp.)	Culturable Air Fungi (Genus ID + Asp. spp.)	Gram Stain and Counts (Culturable Air and Surface Bacteria)	*Legionella* culture	Total Coliform, *E.coli* (Presence/Absence)	Membrane Filtration (Please specify organism)	MPN Bacteria (Please specify organism)	QuantiTray - Sewage Screen	Asbestos Analysis - PCM Airborne Fiber Count (NIOSH 7400)	Asbestos Analysis - PLM (EPA method 600/R-93-116)	PCR (please specify test)
															X	
															↓	

SAMPLE TYPE CODES

BC - BioCassette™	ST - Spore Trap: Zefon, Allergenco, Burkard...	T - Tape	D - Dust
A1S - Andersen		SW - Swab	SO - Soil
SAS - Surface Air Sampler	P - Potable Water	(B) - Bulk	
CP - Contact Plate	NP - Non-Potable Water	O - Other:	

RELINQUISHED BY	DATE & TIME
	10/28/22

RECEIVED BY	DATE & TIME
	10/31/22
	10:25

Texas Department of State Health Services

STC ENVIRONMENTAL SERVICES INC

is certified to perform as an

Asbestos Consultant Agency

in the State of Texas and is hereby governed by the rights, privileges and responsibilities set forth in Texas Occupations Code, Chapter 1954 and Title 12, Texas Administrative Code, Chapter 295 relating to Texas Asbestos Health Protection, as long as this license is not suspended or revoked.

License Number: 100072

Expiration Date: 03/16/2022

Control Number: 97272

John Hellerstedt, M.D.,
Commissioner of Health

(Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE

SEE BACK

TEXAS Health and Human Services | Texas Department of State Health Services

License Details

"License" means a license, certificate, registration, permit, or other form of authorization, including a renewal of the authorization, that: a person must obtain to practice or engage in a particular business, occupation, or profession; or a facility must obtain before a particular business, occupation, or profession is practiced or engaged in within the facility. A "License Rank" is the level of license; a "License Modifier" provides additional information on the scope of the license.

A license may have one or two statuses. The first status is normally "Current" which means the license is in good standing. If the first status is "Expired" or "Null and Void", or if either status shows "Inactive", the licensee may not practice in the profession and/or operate as a licensed business.

For more information regarding this license, including any disciplinary information displayed below, please contact the appropriate board or program office. A list of DSHS licensing board and programs may be found at: http://www.dshs.state.tx.us/Licensee-Registrant-Permittee.aspx or click the link at the bottom of this page.

Press "Previous Record" to display the previous license.

Press "Next Record" to display the next license.

Press "Search Results" to return to the Search Results list.

Press "New Search Criteria" to do another search of this type.

Press "New Search" to start a new search.

License Number: 100072 ***Current Date: 03/18/2022 04:01 PM***

Name:	STC ENVIRONMENTAL SERVICES INC
License Type:	Asbestos Consultant Agency
License Status:	Current
Expiry Date:	03/16/2024
Effective Rank Date:	03/17/2006

Addresses

Main Address	Address	**4754 RESEARCH DRIVE SAN ANTONIO , TX BEXAR 78240 US**
	Phone Number:	**2106966288**
Physical Addr	Address	**4754 RESEARCH DRIVE SAN ANTONIO , TX BEXAR 78240 US**
	Phone Number:	**2106966288**
Mailing Address	Address	**STC ENVIRONMENTAL SERVICES INC SAN ANTONIO , TX BEXAR 78240 US**
	Phone Number:	**2106966288**

Disciplinary Actions

Date of Action:	Action(s):	Action Start Date	Action End Date
09/23/2002	Administrative Penalty		

Asbts Consult. Agency Designated Person

Licensee's Role:	Asbestos Consultant Agency
Related Party Role:	Asbestos Individual Consultant

Related Party Name	License	Address

Texas Department of State Health Services

Asbestos Individual Consultant

CRAIG G TRIBLEY

License No. 105701

Control No. 97911

Expiration Date: 22-Jul-2023

Texas Department of State Health Services

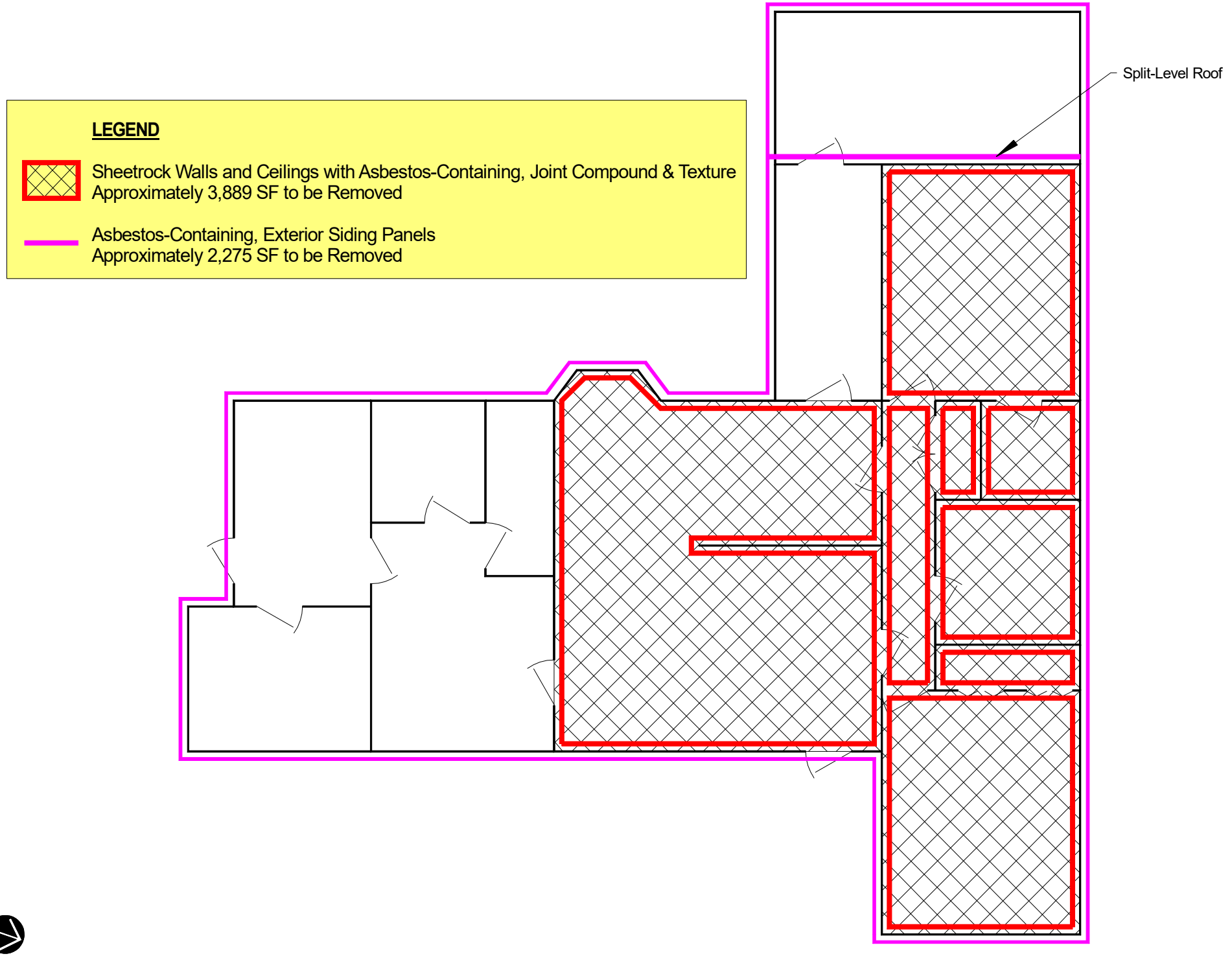
Asbestos Inspector

MICHAEL TRAVIS TREVINO

License No. 603096

Control No. 100050

Expiration Date: 2-Feb-2024



STC Environmental Services Inc..
Geologists and Environmental Scientists

Boerne ISD - Former Residence - 245 Live Oak St., Boerne, TX - ACM Locations

FIG. 1A