BENAS
Environmental Services, Inc.
ENVIRONMENTAL CONSULTANTS AND ENGINEERS

SCOPE OF WORK and TECHNICAL SPECIFICATIONS for
Asbestos Abatement Project at the

Electronics/Ideas Center Building

304 Airline Drive, TSTC Campus
Waco, Texas 76705

BENAS Project No. BA-14-1154

September 30, 2014

The following is a "scope of Work" to be performed on this project:

First Floor:

1). Removal and proper disposal of approximately 10,960 square feet of Asbestos-Containing Floor Tiles and Black Mastic located throughout the Hallways, including all door and other recesses on the first floor in the Electronics/Ideas Center Building. This building is located at 304 Airline Drive on the Campus of the Texas State Technical College **(TSTC)**. The TSTC facility is located at 3801 Campus Drive in the City of Waco, McLennan County, Texas.

Abatement of above described ACM Flooring Materials shall be performed in two full containment work area enclosures using wet methods with full negative pressure ventilation system **(Figure 1)**.

Background air samples shall be collected in all areas where abatement work is scheduled to occur. The baseline samples maybe analyzed immediately or achieved for future analysis in accordance with Texas Asbestos Health Protection Rules **(TAHPR).**

Prior to the start of any abatement activities**, (During Prepping)** the entire work area shall be wetted with water to reduce any incidence of fiber release.

All abatement personnel working inside the containment during gross removal work shall don-on half-face negative Pressure demand respirators **(Half Face Respirators).**

1) Critical barriers **(i.e. doors, windows, air-conditioning vents, drains, non-movable objects and fixtures, etc.)** shall be sealed off using one-layer of 6-mil fire retardant polyethylene **(poly)** sheeting.

2) One-layer of 6-mil fire retardant poly sheeting shall be utilized to cover all walls up to Six Feet (6') high.

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3) One full three-staged wet decontamination unit shall be constructed and located at the entrance to each Containment Work Area Enclosure. The decontamination unit shall consist of an equipment **(dirty)** room, a shower room and a clean room. Each room shall be separated with an air lock. The shower room shall be equipped with hot/warm water and cold water. Also, the shower room shall have a shampoo for proper decontamination of personnel from the abatement work area **(Figure 1)**.

4) Enough negative pressure ventilation units **(Air Filtration Device (AFD))** shall be stationed inside each contained work area. Negative air machines **(AFD)** with capacity of 2,000 CFM **(cubic feet per minute)** are preferred. Each AFD shall be equipped with High Efficiency Particulate Air **(HEPA)** filter and capable of exchanging air every fifteen **(15)** minutes at the minimum.

5) The AFD should be stationed at the rear of each containment and directly facing the entrance to the Equipment Room of the Decontamination Unit. This should permit adequate ventilation and proper air circulation inside the contained work area, without creating dead spaces/spots **(Figure 1)**.

6) One manometer is required for the containment work area. The manometer reading shall be no less than a –0.02-inch of water pressure differential. Also, this manometer shall be equipped with a printer to document pressure readings throughout the abatement project.

7) Vacuum cleaners equipped with HEPA fillers shall be used prior to and during the actual removal operations. The entire work area within the enclosures shall be cleaned with HEPA-VAC.

8) Each abatement worker shall don-on at least one tyvek suit. All workers inside the containments shall utilize the half-face negative pressure demand respirators during the active removal operations. This mask has a protection factor of 10, and is adequate to protect the workers from possible asbestos dust exposure, for this abatement work.

9) A licensed project supervisor shall be present at each job location 100% of the time during this abatement project. Also, the supervisor shall enter into the containment at the least 25% of the time during actual removal operations in compliance with Texas **(TAHPR)** regulations and these specifications.

10) All ACM waste generated during this project shall be double-bagged in specially marked asbestos waste bags and disposed off in a TCEQ approved landfill. All double-bagged waste shall be labeled with generator's name, address and telephone number.

11) A waste disposal manifest shall accompany each load of waste generated during this project. Prior to leaving the project site, either the owner or the consultant shall sign each waste manifest, and the green copy left with the owner or the consultant.

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12) The original copy of the signed waste disposal manifest at the approved landfill shall accompany the close out report to the owner. This close out report shall be ready and made available to the owner five working days following the completion of the abatement project.

13) Contractor and his employees shall be licensed to perform asbestos abatement in the State of Texas. All licenses and certifications must be current and valid to perform abatement work in accordance with federal, Texas State Department of Health Services **(TSDHS)** regulations and these specifications.

14) All clearance air testing shall be by aggressive methods for this project. Project air samples collected throughout this project shall be analyzed by Phase Contrast Microscopy **(PCM)**. All project air samples collected throughout this project shall be analyzed by a TDSHS licensed asbestos PCM laboratory. Clearance air samples collected for this project shall be analyzed by Transmission Electron Microscopy **(TEM).**

15) Five clearance samples shall be collected and analyzed for each containment work area. No clearance sample(s) collected during this project shall contain fiber levels greater than 70 Structures in accordance with AHERA regulations and these specifications.

16) The abatement contractor shall re-clean and re-encapsulate each contained work area if the result of any sample(s) in the first set of clearance air samples contains fiber levels greater than 70 Structures. **No Exceptions**

17) Re-testing costs including the consultant's time and material expenses shall be at the expense of the abatement contractor. The consultant's time and material expenses shall not exceed $75/Hour or $600 for eight-hour shift, per these specifications.

18) The testing laboratories shall participate in an approved quality assurance quality control programs (QAQC), such as Proficiency Analytical Testing **(PAT)**, or the Asbestos Analyst Registry **(AAR)** administered by the American Industrial Hygiene Association **(AIHA)**.

19) When the area is certified acceptable by the consultant in writing, the contractor may dismantle the containment work area enclosure in a manner to ensure no re-contamination occurs. The dismantled enclosure shall be disposed of as asbestos waste.

20) Contractor must comply with all Federal, State and Local regulations guiding the handling of asbestos abatement projects.

21) Contractor is required to submit all necessary notification to perform work.

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General Notes

This project shall be performed beginning December 12, 2014, and completed on December 22, 2014, in accordance with the notification schedules filed with the TDSHS and these specifications.

The hours of operation shall be from 7:30 a.m. to 4:30 p.m.

A maximum of 10 Hours a day shall be permitted for this project.

Hours outside those mentioned above shall be with the approval of the Owner and the Consultant.

Contractor shall provide own OSHA Personal Compliance Air Monitoring every day during the actual asbestos removal operations.

BENAS may perform OSHA personal compliance sampling for the contractor if requested.

Contractor may use water and electricity from existing site.

For any questions or further clarification, contact **BENAS at (972) 393-0128**.

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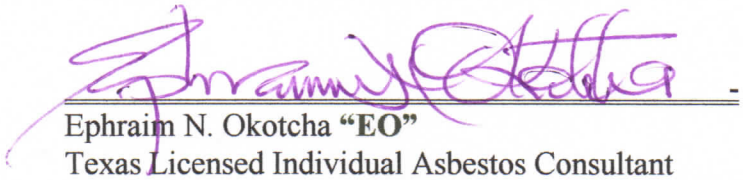

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///// **ACM Floor Tiles with Black Mastic**

= = **Containment Walls**

 **Air Filtration Device (AFD)**

Z Z **AFD Exhaust Route**

E Q **Equipment (Dirty) Room**

S R **Shower Room**

C R **Clean Room**

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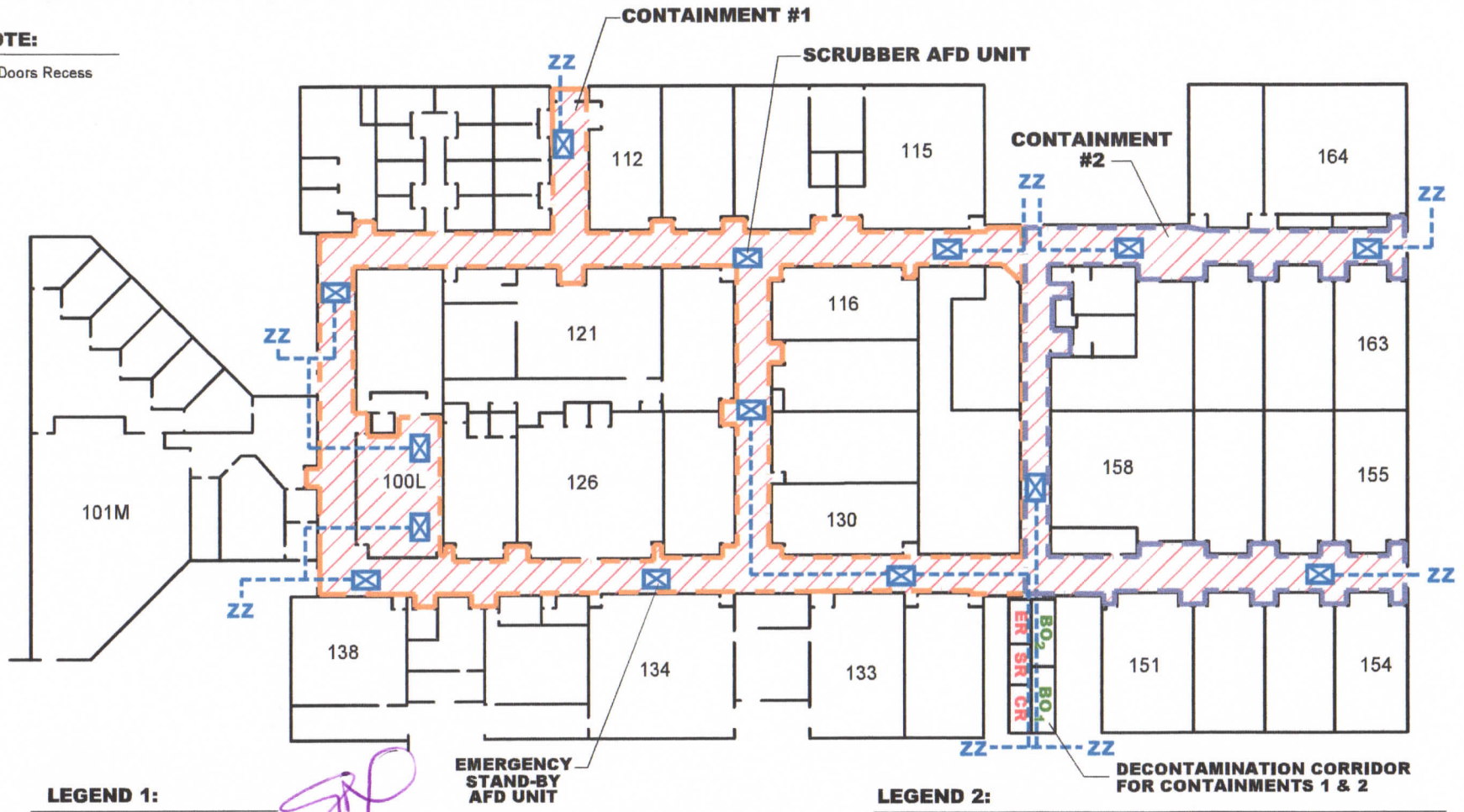

FIGURE 1

Asbestos-Containing Materials Abatement

Electronics/Ideas Center Building
304 Airline Drive, TSTC Campus
Waco, Texas 76705

BENAS Project No:. BA-14-1154

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HATCHING AND LOCATIONS FOR ASBESTOS-CONTAINING FLOORING MATERIALS TO BE REMOVED

Prepared for: Texas State Technical College (TSTC)
Attention: Mr. Mike Ratliff, Project Manager

Prepared by: BENAS Environmental Services, Inc. 10-0173
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