ASBESTOS CONTAINING MATERIALS INVESTIGATION REPORT

SOUTH TOWER RESIDENCE HALL COLUMBIA, SOUTH CAROLINA 29201

UNIVERSITY OF SOUTH CAROLINA

REPORT PREPARED FOR:

UNIVERSITY OF SOUTH CAROLINA

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E5200.04A

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I. EXECUTIVE SUMMARY

As requested, F&ME Consultants has completed an Asbestos Containing Materials (ACM) investigation of the USC South Tower Residence Hall located at 614 Bull Street in Columbia, South Carolina. This investigation was performed due to planned mechanical renovations to the existing building structure, and was conducted in accordance with SCDHEC, AHERA, USEPA, ASHARA, NESHAP, and OSHA regulations. This investigation was limited to the sub-basement, basement, first floor, the central core areas of floors 2 through 18, the penthouse and a visual evaluation of the roof. While the actual dormitory rooms on floors 2 through 18 were not included in the field component of this investigation, we have made assumptions about the materials located within the dorm rooms based on data provided by USC's HAZMAT personnel. The field component of our investigation was conducted and phased to correspond with time periods that would be least burdensome to the students' living environment. Phase A, which consisted of a LBP and ACM investigation of the core areas of the typical repeating dormitory floors and the first floor, was conducted during winter break on December 19th and 20th, 2011. Phase B was conducted on January 3rd and 4th, 2012, and included LBP and ACBM investigations of the subbasement, basement, penthouse and roof.

It is our understanding that the scope of the planned renovations consists of the removal and replacement of the existing two pipe fan coil unit system and the roof. We also understand that due to the magnitude of these renovations and the requirement that they occur while the building is unoccupied, the renovations will need to be sequenced over two summer breaks. Initial renovations will include the installation of hot and chilled water lines for the new four pipe system in the corridors of the typical repeating dormitory floors and will occur in the summer of 2012. Subsequent renovations will include the installation of new fan coils in the dormitory rooms and tying them into the lines installed during the initial renovations and will occur in the summer of 2013.

Our investigation identified eighteen (18) asbestos containing materials in the above mentioned areas of the building structure. The materials found to contain asbestos include the following: black mastic on thermal system insulation (TSI) pipe joints and elbows; black mastic on exterior fiberboard insulation on HVAC ductwork; mudded pipe joints and elbows; pipe wrap on fiberglass pipe insulation; drywall joint compound; spray applied textured ceiling surfacing material; fire stop at floor penetrations located in mechanical chases; black floor tile mastic under carpet and non-ACM floor tile; black stair tread adhesive; black adhesive for decorative trim on the first floor; 9" x 9" floor tile and associated mastic in the basement and dorm rooms; vinyl flooring and associated mastic; black roofing mastic on roof flashing and seams of rolled shingled roofing materials; gasket materials on valve and flange connections associated with machinery in the sub-basement and mechanical chases; Transite panels associated with insulated sandwich panels on the exterior curtain wall around the perimeter of the roof; three (3) interior Transite panels per dorm room; and caulking around interior fan coil units.

Please note that no machinery or mechanical piping systems were disassembled during this investigation. Therefore, all gasket materials utilized throughout the facility are assumed positive for asbestos and should be handled in accordance with State and Federal Regulations.

The results, conclusions and recommendations from this investigation are representative of the conditions observed at the site on the dates of the field inspections. F&ME does not assume responsibility for any changes in conditions or circumstances that occur after the inspections.

We sincerely appreciate the opportunity to assist you with this project. Should you have any questions or require additional information concerning this investigative report, please do not hesitate to contact us at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS

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II. INTRODUCTION

As requested, F&ME Consultants has completed an Asbestos Containing Materials (ACM) investigation of the South Tower Residence Hall building located at 614 Bull Street in Columbia, South Carolina. This investigation was performed due to planned mechanical renovations to the building structures associated with the removal of the existing two pipe fan coil system and replacement with a new four pipe system. The field investigation was phased and conducted during winter break on December 19th and 20th, 2011, and January 3rd and 4th, 2012. This investigation was performed and limited to areas considered accessible, and was conducted pursuant to SCDHEC, USEPA, AHERA, NESHAP and OSHA regulations requiring an investigation prior to any renovation activity.

We understand that the South Tower was constructed in the late 1960's. Our field investigation revealed evidence of renovations and alterations that have occurred over the years, including floor tile removal and replacement; carpet installation and installation of suspended ceiling systems. A review of plans provided by the University after the completion of our field investigation indicated that the original floor plan in the first floor lobby areas was altered to include the security entrance at the front of the building. The provided plans indicated that this construction occurred in 1998, and included the installation of "new" sheetrock and joint compound. Furthermore, analyses of "old" or existing sheetrock indicated that this material is positive for asbestos. Therefore, should planned renovations to the first floor need to impact the sheetrock walls associated with these areas, samples of the "new" sheetrock will need to be collected to determine if it is negative for asbestos.

In addition, review of preliminary renovation documents indicated that plaster found throughout the building will not be impacted during the initial mechanical renovations. Therefore, due to the destructive nature necessary to collect samples, we did not sample the plaster. Analytical results obtained from USC Hazmat personnel taken from the plaster from different areas within the building indicate that the plaster may be negative for asbestos content. However, additional samples from throughout the building are necessary to deem it negative. If renovation activities are altered resulting in impacts to the plaster, additional samples will be required.

The results, conclusions and recommendations from this investigation are representative of the conditions observed at the site on the dates of the field inspection. F&ME does not assume responsibility for any changes in conditions or circumstances that occur after the inspection. Use of this document for bidding purposes is not recommended without prior consultation with F&ME. No other environmental concerns are addressed in this report.

III. INVESTIGATION RESULTS

The purpose of this investigation was to locate, sample and record the physical characteristics of suspect ACM within the interior portions of the building structure to be impacted by the initial mechanical renovations scheduled for the summer of 2012; to provide estimated quantities of those materials; and to obtain laboratory analytical results for determining the existence or non-existence of asbestos fibers. All remaining building materials (i.e. concrete, wood, brick, carpet, etc.) were not considered suspect.

Our visual inspection revealed a concrete-framed building structure with poured in place support columns and floor slabs. The exterior building envelope is constructed of precast double tee panels. The roofing system is a flat rolled shingle roof. Interior finishes include masonry block and concrete walls; plaster walls and ceilings; sheetrock walls; suspended drop ceilings; various floor tiles; quarry tile floors; and concrete floors.

Bulk samples of suspect materials were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA 600/R-93/116. Confirmation Transmission Electron Microscopy (TEM) was also performed on any non-friable organically bound materials that tested negative for asbestos content as per SCDHEC regulations effective June 27, 2008. Proper sampling and chain-of-custody protocol were followed to ensure appropriate handling and delivery of samples to the analytical laboratory. See Appendix A for Sample Location Plans (Figures 2 thru 19) and Homogeneous Area Plans (Figures 20 thru 25).

Suspect materials identified during the investigation were pipe mastics on fiberglass thermal system insulation (TSI) joints and elbows; mudded pipe joints and elbows; pipe wrap on fiberglass pipe insulation; baseboard and carpet adhesives; drywall and associated joint compound; acoustical ceiling panels and tiles; felt vapor barrier under ceramic tile floors; fire stop caulking and mud at wall and floor penetrations; stair tread adhesive; spray applied textured ceiling surfacing material: trowel applied surfacing materials; floor tiles and associated mastics; vinyl flooring and associated mastic; leveling compound; ductwork mastics; black adhesive on decorative trim on the first floor; black roofing mastic on roof flashing and seams of rolled shingled roof; gasket materials associated with machinery in the sub-basement and mechanical chases; Transite curtain wall panels on roof; interior Transite panels; and caulking around interior fan coil units.

A total of one hundred and twelve (112) samples were extracted from the building structure. Due to multiple layering of the materials, one hundred and eight (108) samples were analyzed by PLM. Fifteen (15) samples were TEM confirmed. Of the materials analyzed, eleven (11) tested positive for asbestos mineral content (see Table II in Appendix B). Furthermore, seven (7) materials (vinyl flooring and associated mastic in the kitchenette, black roofing mastic, gasket materials, exterior Transite curtain wall panels, interior Transite panels, and caulking around interior fan coil unit,) were either assumed positive based on analytical data from USC Hazmat personnel or because of the inability to sample the material. The laboratory bulk sample analysis reports are located in Appendix B.

IV. ASBESTOS CONTAINING MATERIALS DESCRIPTION/ASSESSMENT

The following is a list of the asbestos containing materials (See Figures 20 thru 24 - Homogeneous Area Plans):

- HA-1 – Black Mastic on Joints of Pipe Insulation (~700 joints) (Est.)
  Hot and chilled water lines associated with the original mechanical two pipe system are insulated with fiberglass and cellular foam glass. Seams at elbows and joints are sealed and coated with black mastic which contains asbestos. Overall, the majority of this material found during our field investigation was located on the first floor and the basement. However, it may be found hidden in wall cavities, closed mechanical chases and above hard plaster ceilings. Overall, this material appears to be in a good condition with little to no damage being noted.

- HA-2 – Black Mastic on HVAC Fiber Board Insulation (~4000 SF) (Est.)
  Metal ductwork associated with the original HVAC system found within the building structure was insulated on the exterior with a non-asbestos fiber board. Seams of this insulation were sealed with black mastic. This material was found primarily in the first floor and basement of the building. This material may be found hidden within closed chases in the building. Overall, this material appears to be in a good condition with little to no damage being noted.

- HA-3 – TSI, Mudded Elbows and Joints on Mechanical Piping (~850/Each) (Est.)
  Mechanical piping associated with domestic hot and cold water lines and drain lines for the existing fan coil system was found to have fiberglass insulation on the main pipe runs throughout the building. Elbows and joints were mudded with asbestos-containing pipe insulation. This material was found in the main mechanical chases, in some custodial closets, in some of the stairwells and above suspended ceilings on the first floor and basement. This material was found throughout the chases of the building with a significant amount of damage including debris accumulated on the floors. All chases should be maintained locked and sealed, and accessible only by personnel trained to work with asbestos containing materials. These chases will require abatement prior to any renovation activities.

- HA-4 – TSI, Pipe Wrap on Fiberglass Pipe Insulation on Mechanical Piping (~2,500 LF)
  The outer skin/wrap on fiberglass insulated pipe runs associated with the domestic hot and cold water lines and drain lines of the existing fan coil system noted above is adhered to the fiberglass with asbestos-containing black mastic. Overall, this material appears to be in a good condition with little to no damage being noted. This fiberglass pipe insulation will have to be removed, handled and disposed of as an asbestos-containing material.

- HA-5 – Drywall Joint Compound (~70,000 SF) (Est.)
  Samples collected during this investigation and samples collected previously by University hazmat personnel indicate that the original drywall joint compound utilized during the original construction of the building was an asbestos containing material. While there is evidence that non-ACM were used in other renovations within the building, the boundaries between the original and the newer drywall/JC are difficult to definitively delineate. For this reason, renovation activities associated with penetrations to and/or removal of drywall within the building should be performed and coordinated with a licensed abatement contractor.

- HA-6 – Spray Applied Textured Ceiling Material (~71,500 SF) (Est.)
  Original concrete ceilings throughout the typical repeating dormitory floor (floors 2-18) corridors, dormitory rooms, and the main stairwell were skim coated and covered with a spray applied textured ceiling surfacing material that is confirmed to contain asbestos. This material is found above suspended drop ceilings within the central core corridors of the typical repeating dormitory floors, with the exception of the eighteenth floor which was previously abated. Overall, this material appears to be in a good condition with little to no damage being noted. No evidence was found of this material on the first floor, basement, sub-basement or the penthouse levels of the building.

- HA-7 – Gray Mudded Fire Stop at Floor Penetrations (~100 SF) (Est.)
  Floor penetrations within the main mechanical chases are sealed with a gray mud/fire stop. This material is friable with evidence of physical damage being noted in all of the chases. It will need to be abated by a licensed abatement contractor prior to any renovations activities. Abatement operations will require the containment of chases above and below the penetrations simultaneously to control fiber release.

- HA-8 – Black Floor Tile Mastic (~9,700 SF) (Est.)
  Review of drawings provided by the University indicated that the flooring materials utilized throughout the building were vinyl asbestos floor tiles (VAT). However, renovations during the life of the building have removed these floor tiles and they have been replaced with other floor tiles and/or carpet. Our investigation found residual black floor tile mastic under carpet and non-asbestos containing floor tile on all of the typical repeating dormitory floor corridors.

- HA-9 – Black Stair Tread Adhesive (Unknown)
  One sample of the stair tread adhesive found in the main stairwell indicated residual black mastic that tested positive for asbestos content. Further investigation efforts did not uncover any other areas with this black mastic.

- HA-10 – Black Decorative Trim Adhesive (Unknown)
  A decorative black plastic vinyl trim was utilized throughout the first floor lobby areas around doorways and at the tops of walls and interior columns. A black adhesive was used to adhere trim to the wall at three (3) door locations only. Further investigation efforts uncovered that a more common non-asbestos brown adhesive was used throughout the rest of the lobby areas.

- HA-11 – 9"x 9" Tan Floor Tile and Associated Black Mastic (40,500 SF)
  This floor tile and mastic appears to be the original floor tile utilized at the time of the building's construction and is located throughout the main corridors and dormitory rooms. It shows evidence of wear and deterioration and is separating from its concrete substrate in areas adjacent to doorway thresholds. Damaged areas should be repaired and/or abated.

- HA-12 – Black Roofing Mastic (~11SF)
  Black roofing mastic was found on flashing and at some of the seams of the existing rolled shingle roof. Samples collected by University personnel obtained positive results on this material. Overall, this material is in a fair condition with evidence of wear and deterioration being noted. Renovations associated with the roof of the building will need to be performed by a roofing contractor with licensing and certifications necessary to remove asbestos containing roofing materials. (See Figure 18)

- HA-13 – Valve and Flange Connection Gasket Materials (Unknown)
  Valve and flange connections were noted within the main mechanical room in the sub-basement as well as in chases throughout the building. No machinery was dismantled as part of this investigation. Gaskets are considered a suspect material in regards to asbestos mineral content. Therefore, gaskets associated with the mechanical systems are assumed to be asbestos containing. Should renovation activities involve dismantling mechanical systems equipment and/or piping, either further investigation should be performed at that time to determine if the gaskets are ACM, or they should be assumed positive and removed, handled and disposed of as an asbestos containing material.

- HA-14 – Transite Wall Panels on Roof Curtain Wall (40 Each)
  The existing louvered curtain wall around the perimeter of the roof is constructed with sandwich wall panels that are shown on original construction drawings to be "cement asbestos board", also known as transite. Due to the destructive measures necessary to collect samples of these panels, they are assumed positive. Should planned renovations impact or require removal or penetration to these panels, they should be handled and removed by a licensed abatement contractor.

- HA-15 – Vinyl Flooring and Associated Mastic in Kitchenette (2,125 SF)
  The existing vinyl flooring is located in the kitchenette on floors 2 thru 18. It shows evidence of wear and deterioration and is separating from its concrete substrate in areas adjacent to doorway thresholds. The material is in overall good condition and was not part of our original scope of work. Therefore, these materials are assumed positive. Damaged areas should be repaired and/or abated.

- HA-16 – Caulking Around Interior Fan Coil Units (1,450 LF)
  The existing caulking is located around the exterior edges of the interior fan coil units. The material is in overall good condition. This material is not accessible during the time of our inspection and is therefore assumed positive. The material is in overall good condition. Should planned renovations impact or require removal of this material, it should be removed by a licensed abatement contractor.

- HA-17 – Transite Panels Around the Fan Coil Unit (~715 Each)
  The existing Transite Panels are located behind and on each side of the fan coil unit. These materials are shown on original construction drawings to be "cement asbestos board", also known as Transite. This material is a known positive asbestos containing material. The material is in overall good condition. Should planned renovations impact or require removal or penetration to these panels, they should be handled and removed by a licensed abatement contractor.

- HA-18 – 12" x 12" Floor Tile and Associated Mastic (~1,750 SF)
  The 12" x 12" floor tiles are located in each dorm room on the 18th floor. This floor tile was added after the abatement of the original 9" x 9" floor tile. However, these materials were not part of our original scope of work and were not sampled during the investigation. Thus having no data on these materials, they are assumed positive and should be handled accordingly.

Quantities for the above-referenced asbestos containing materials are estimated based on their occurrence within the areas corresponding with the initial mechanical renovations. These quantities are not representative of the actual totals within the entire South Tower.

The Appendices include a Site Location Map (Figure 1), Sample Location Plans (Figures 2 thru 19), Homogeneous Area Plans (Figures 20 thru 25), a Summary of Samples (Table I), a Summary of Asbestos Containing Materials (Table II), Physical Assessment Data Sheets, Bulk Sample Analysis Reports, Personnel Certifications, and SCDHEC Regulations and associated Abatement Project Forms.

This report has been prepared exclusively for the University of South Carolina, and shall not be disseminated in whole or part to other parties without prior consent from the University of South Carolina or F&ME Consultants, Inc. No other environmental issues are addressed in this report.

Asbestos containing materials must be handled in accordance with state and federal regulations. Any activities that will impact these materials must be performed by licensed/certified asbestos contractors.

The SCDHEC regulates any disturbance to friable ACM, which is therefore considered to be regulated asbestos containing materials (RACM). The SCDHEC requires removal of friable ACM prior to building renovation or demolition activities. Furthermore, the disturbance of Category II non-friable ACM such as transite generally renders them to become friable, or regulated. However, the removal of Category I non-friable ACM such as floor tiles, mastics, floor sheeting and certain roofing materials is not required *if these materials are in good condition.* If it is anticipated that such materials will become crumbled or will experience severe forces, SCDHEC would also consider these materials to be RACM.

SCDHEC legally tracks the disposal of all ACM into landfills. Therefore, the SCDHEC must be notified prior to abatement and demolition projects in order to legally arrange for the proper disposal of ACM and associated contaminated debris. Most landfills will not accept ACM or asbestos-contaminated debris. This is an important consideration for the owner because it is more expensive to dispose of ACM than normal debris. If the abatement/demolition contractor selects a landfill that accepts ACM, the abatement/demolition debris could be transported to the permitted landfill. However, since the ACM would be mixed in with the total demolition debris, all of the debris would be considered to be ACM resulting in much higher disposal costs. Therefore, it is recommended that removal of all asbestos is conducted prior to and separate from building demolition activities.

OSHA regulates disturbances to all ACM. Unlike SCDHEC, OSHA does not distinguish between friable and non-friable ACM, regulated and non-regulated ACM, and/or ACM in good condition versus ACM in poor/damaged condition. Instead, OSHA regulates all contact with asbestos.

V. RECOMMENDATIONS

Due to the proposed renovation activities, it is recommended that all identified ACM are removed prior to the commencement of activities that will impact them. Based on the quantity of the ACM identified within the subject structure, this abatement project will require a project design developed by a SCDHEC-certified Asbestos Project Designer. The abatement work must be performed by AHERA-certified and SCDHEC-licensed Abatement Contractors in accordance with all applicable regulations and guidelines. The SCDHEC must be notified at least ten (10) days prior to abatement activities. All asbestos waste, including contaminated building materials (i.e. non-asbestos floor tiles with asbestos containing mastics, etc.), must be deposited in a landfill permitted by the SCDHEC for receiving ACM.

If any concealed and/or inaccessible ACM is encountered during asbestos abatement or renovation activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/ Abatement Contractor/ Asbestos Consultant for an appropriate response action. The SCDHEC must be notified in the event that any additional ACM is discovered, as well as if there are any changes in the condition of any identified ACM.

The SCDHEC's Standards of Performance for Asbestos Projects (R 61-86.1) includes requirements for abatement projects regarding notifications, project design, air sampling and analysis, etc. For informational purposes, some of these requirements are summarized below:

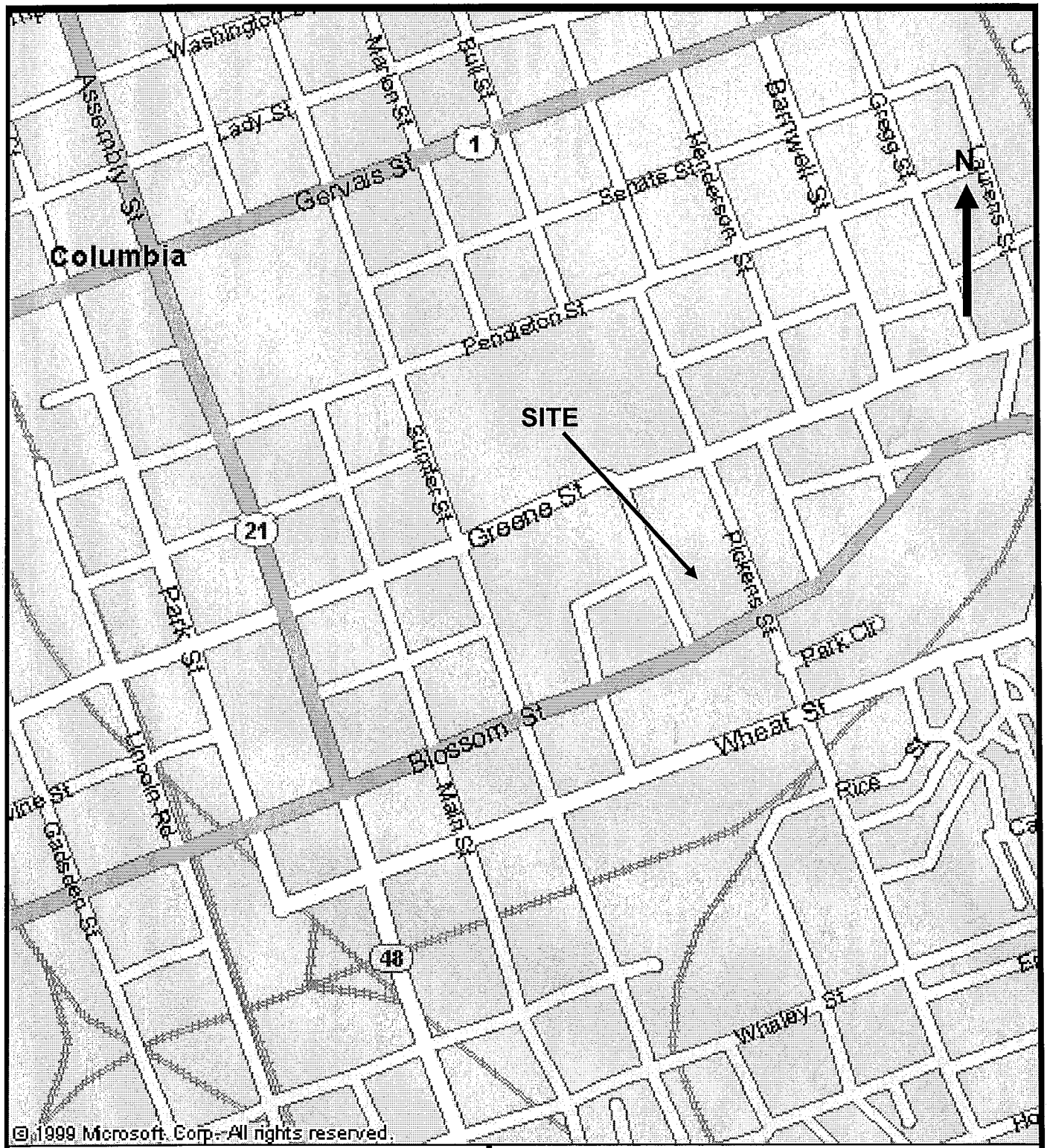
Notifications. Written notification (SCDHEC Form 3430) must be submitted to SCDHEC at least two (2) calendar weeks prior to initiation of abatement activities for renovation/demolition projects. A copy of this inspection report and applicable fee payment must be attached to the notification. Additional fees may be required. Copies of all notifications and documents pertinent to the abatement operations must be posted on the job site during abatement work. The Owner/Operators must notify all parties involved with this project of the nature of the work as well as the locations and quantities of asbestos materials to be disturbed or those located near demolition/removal work areas. This notification requirement is also extended to any persons/employees who work near the demolition/removal work areas.

Project Design. Furthermore, abatement projects that will remove more than 3,000 square, 1,500 linear or 656 cubic feet of asbestos-containing materials are required to have a licensed and certified Abatement Project Designer submit a project design to SCDHEC prior to the commencement of any abatement activities. The design must address all information as directed by the regulations and must be adhered to by the Abatement Contractor.

Air Monitoring. The Abatement Contractor is responsible for daily personal air sampling for Abatement Workers in compliance with current OSHA standard 29 CFR 1926.1101. All remaining air monitoring services required for a renovation project (i.e. backgrounds, areas, and clearances) will be provided by the Owner or the Owner's Representative, as required by SCDHEC.

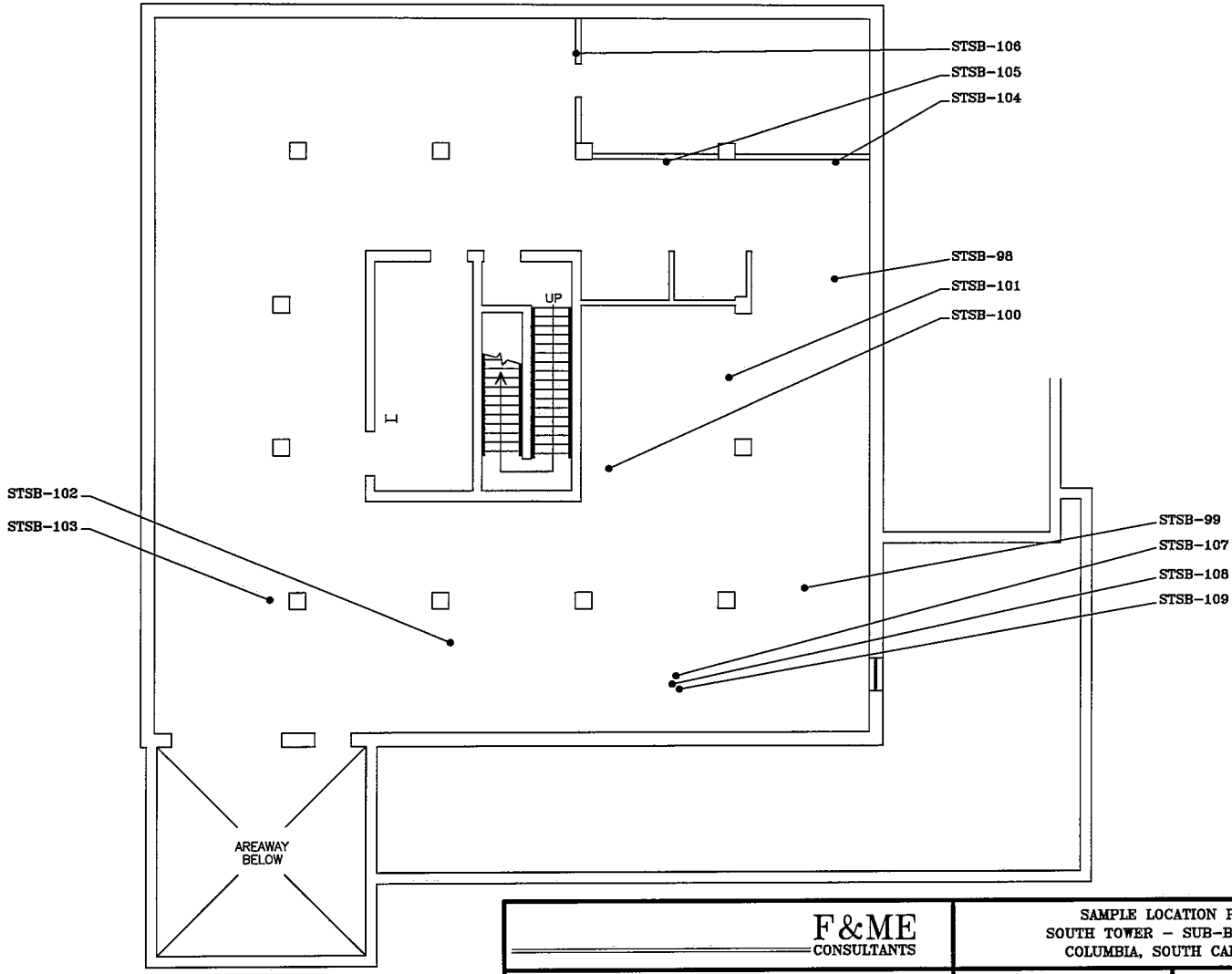
APPENDIX A

Site Vicinity Map (Figure 1)
ACM Sample Location Plans (Figures 2 thru 19)
Homogeneous Areas Plans (Figures 20 thru 25)



F&ME CONSULTANTS	SITE VICINITY MAP South Tower Dormitory Columbia, South Carolina

University of South Carolina	Drawn By:	N/A	Scale:	N.T.S.
	Checked By:	N/A	Project:	E5200.040
	Approved By:	N/A	Figure:	1

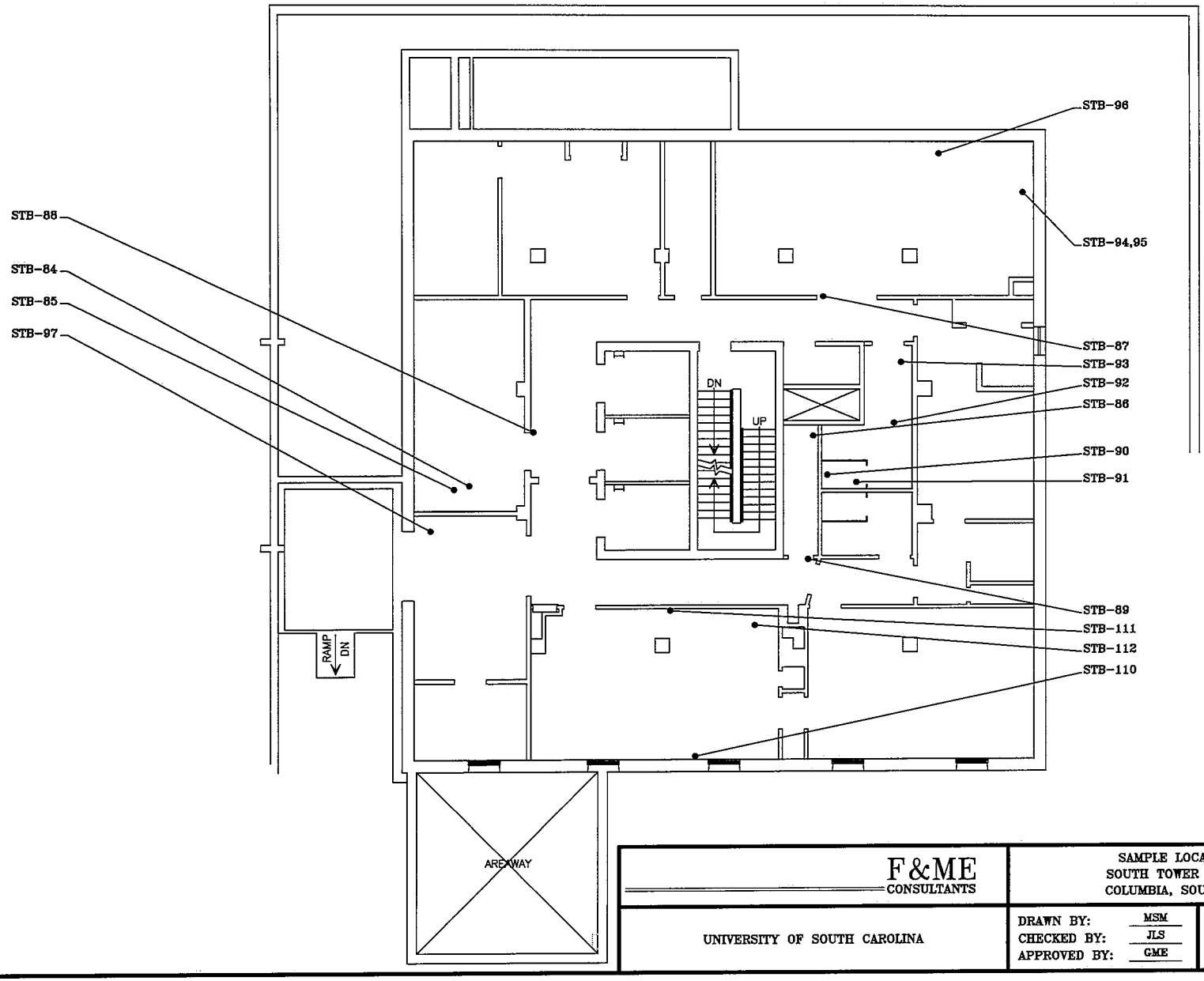


F&ME CONSULTANTS

SAMPLE LOCATION PLAN
SOUTH TOWER - SUB-BASEMENT
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

DRAWN BY:	MSM	SCALE:	1"=10'
CHECKED BY:	JLS	PROJECT:	E5200.04
APPROVED BY:	GME	FIGURE:	2



F&ME CONSULTANTS

SAMPLE LOCATION PLAN
SOUTH TOWER - BASEMENT
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

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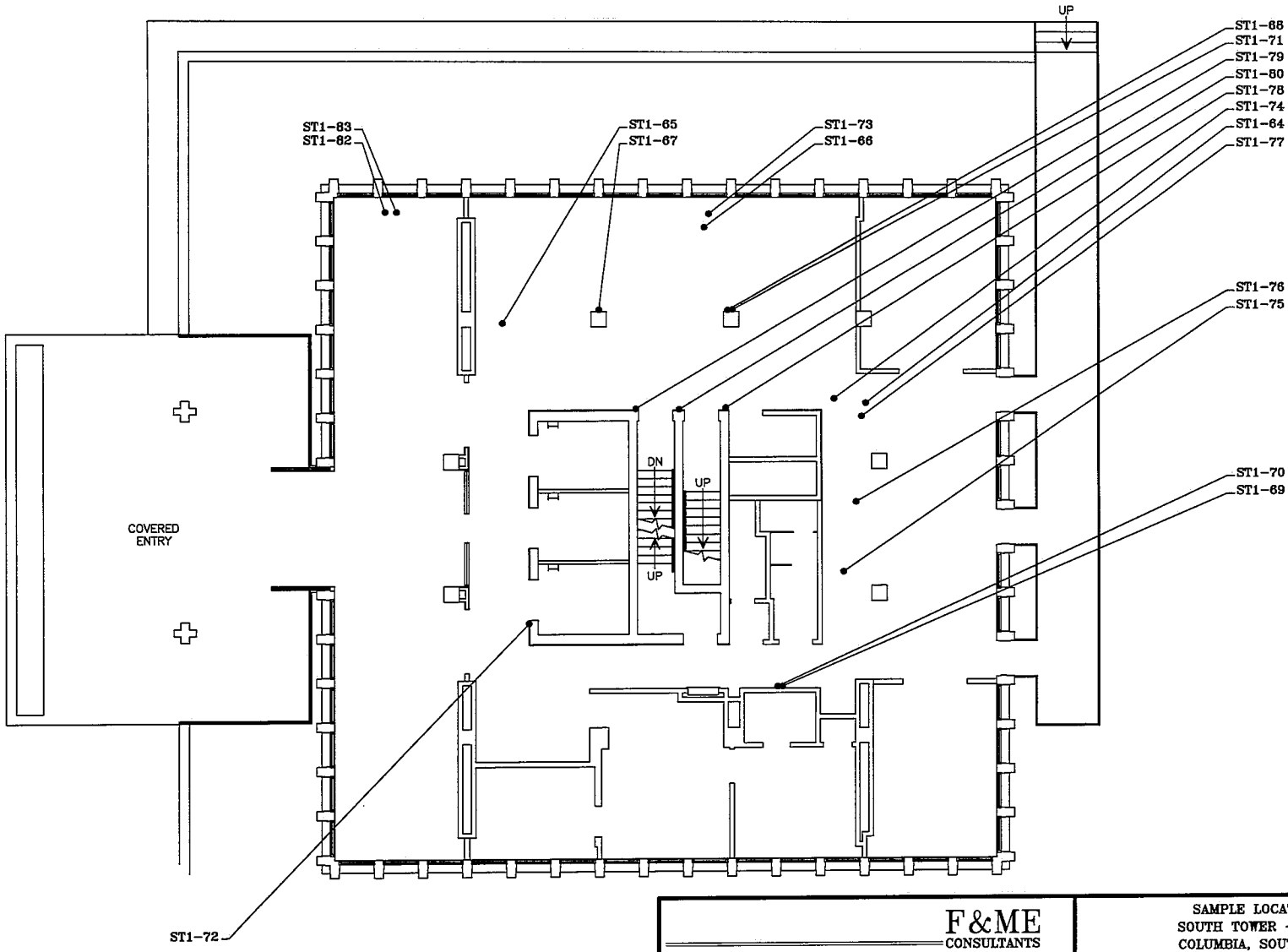
APPROVED BY:	GME	FIGURE:	3



F&ME CONSULTANTS

SAMPLE LOCATION PLAN
SOUTH TOWER - 1ST FLOOR
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

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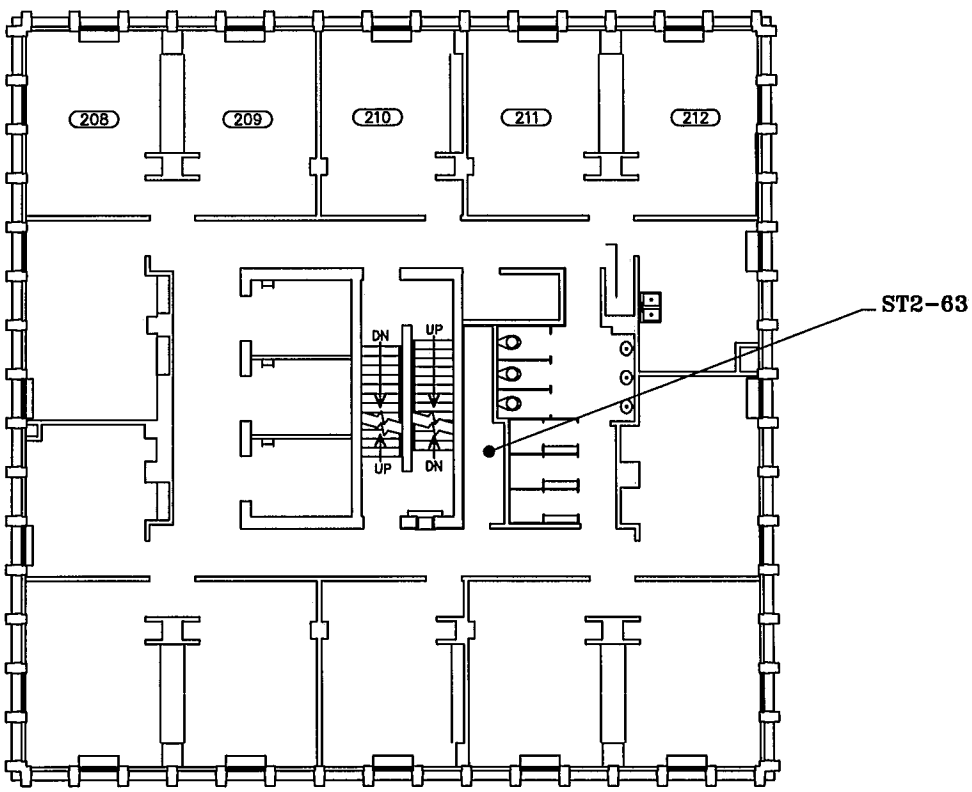
APPROVED BY:	GME	FIGURE:	4



F&ME CONSULTANTS	SAMPLE LOCATION PLAN SOUTH TOWER - 2ND FLOOR COLUMBIA, SOUTH CAROLINA	
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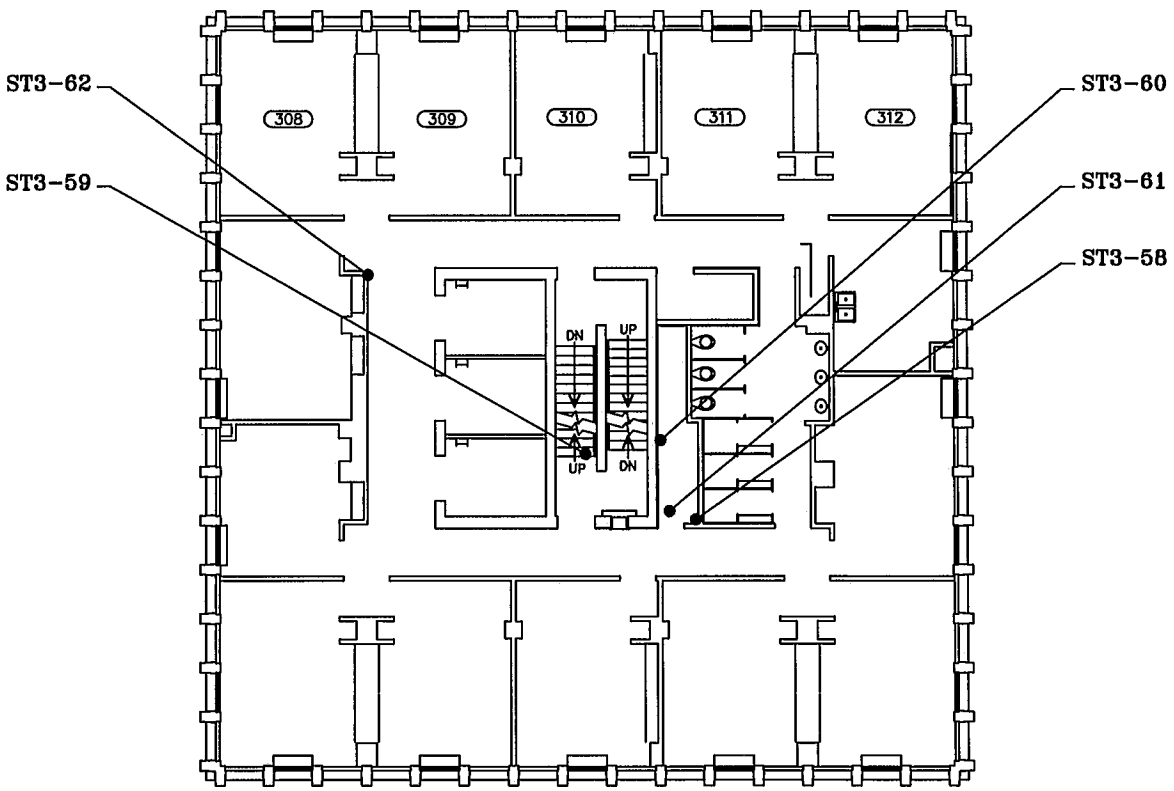

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SAMPLE LOCATION PLAN
SOUTH TOWER - 3RD FLOOR
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

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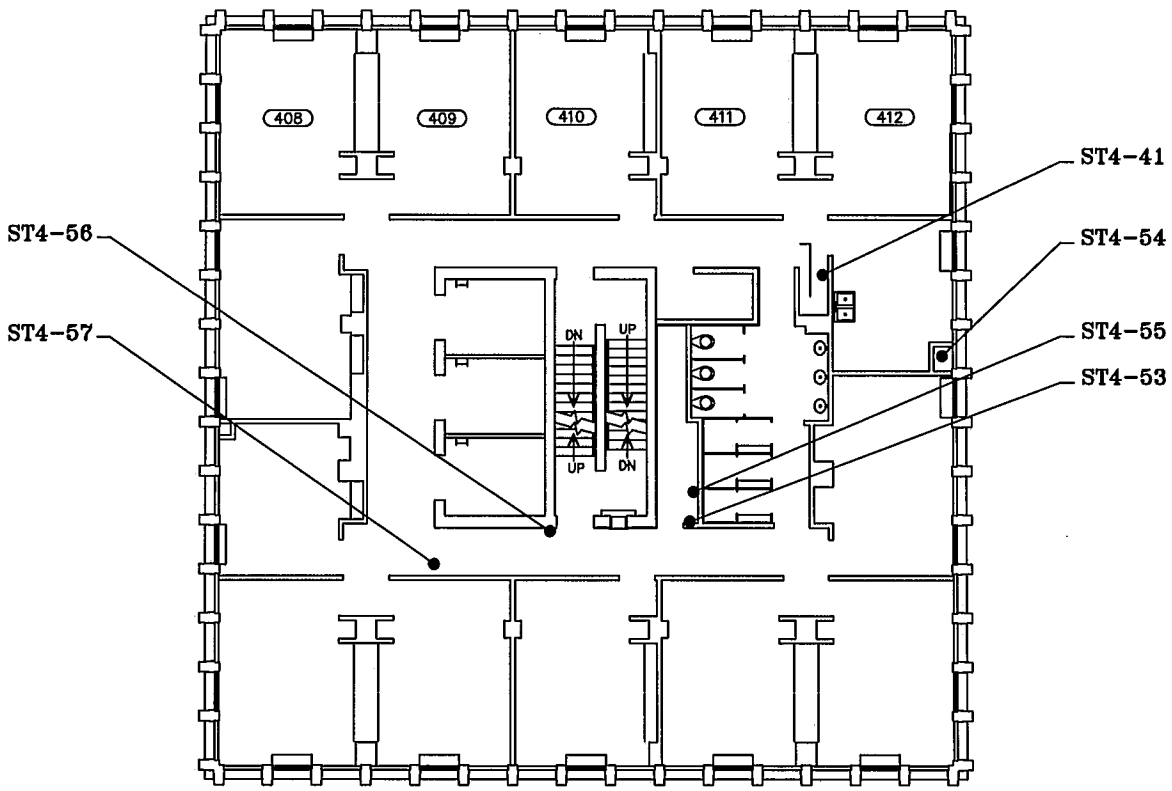
APPROVED BY:	GME	FIGURE:	6



F&ME CONSULTANTS	SAMPLE LOCATION PLAN SOUTH TOWER - 4TH FLOOR COLUMBIA, SOUTH CAROLINA	
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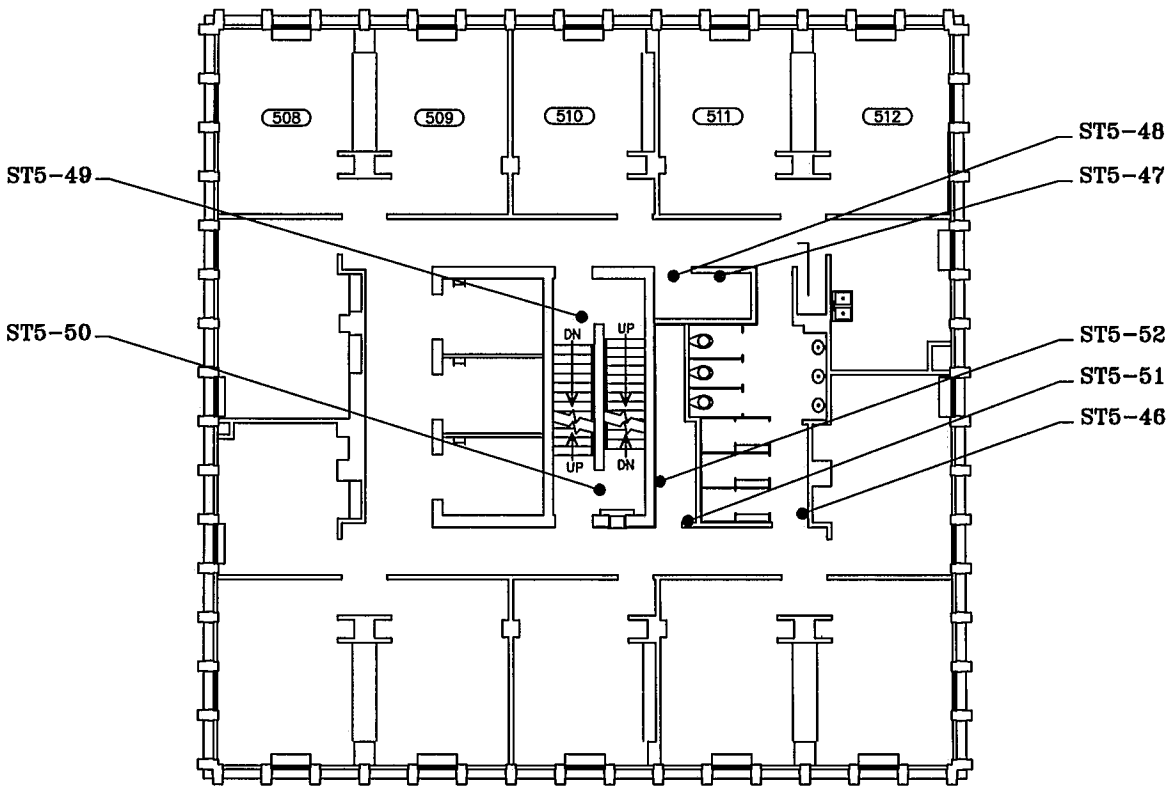

F&ME CONSULTANTS

SAMPLE LOCATION PLAN
SOUTH TOWER - 5TH FLOOR
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

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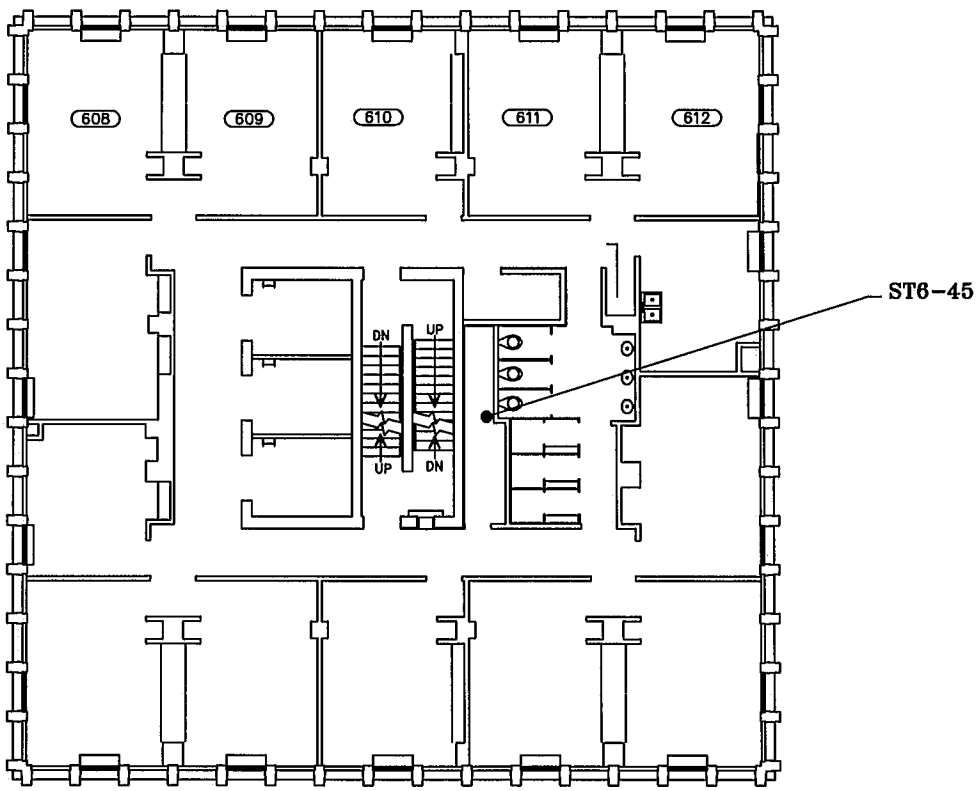
CHECKED BY:	JLS	PROJECT:	E5200.04
APPROVED BY:	GME	FIGURE:	8



F&ME CONSULTANTS	SAMPLE LOCATION PLAN SOUTH TOWER - 6TH FLOOR COLUMBIA, SOUTH CAROLINA	
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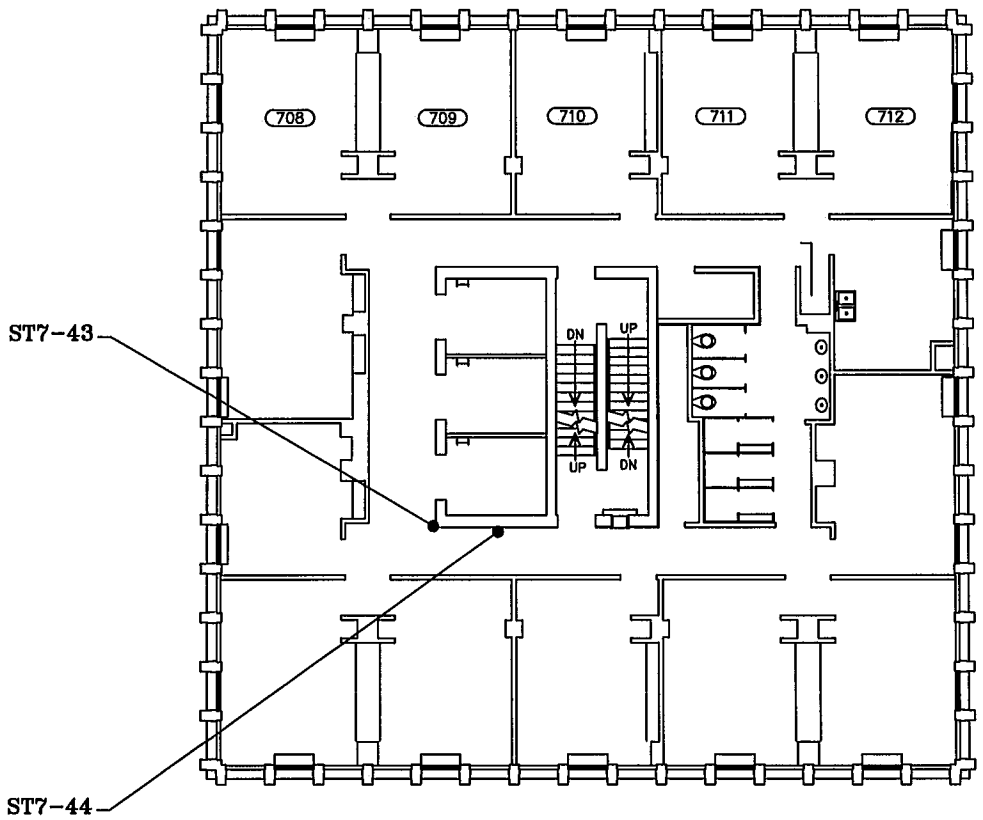
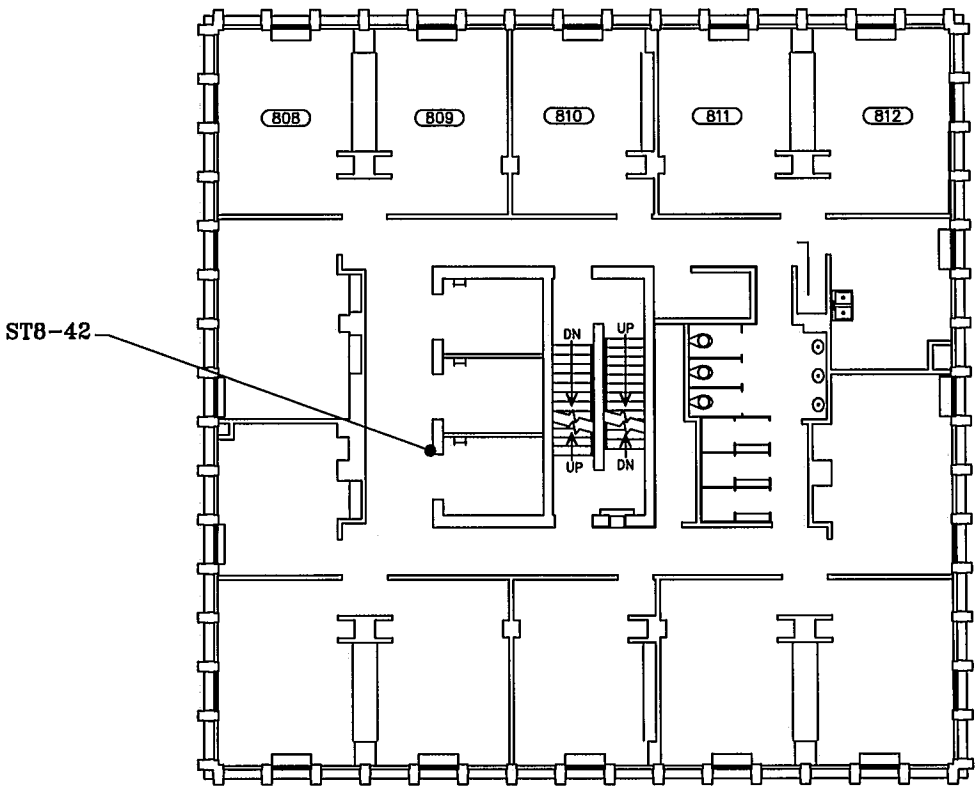


F&ME CONSULTANTS

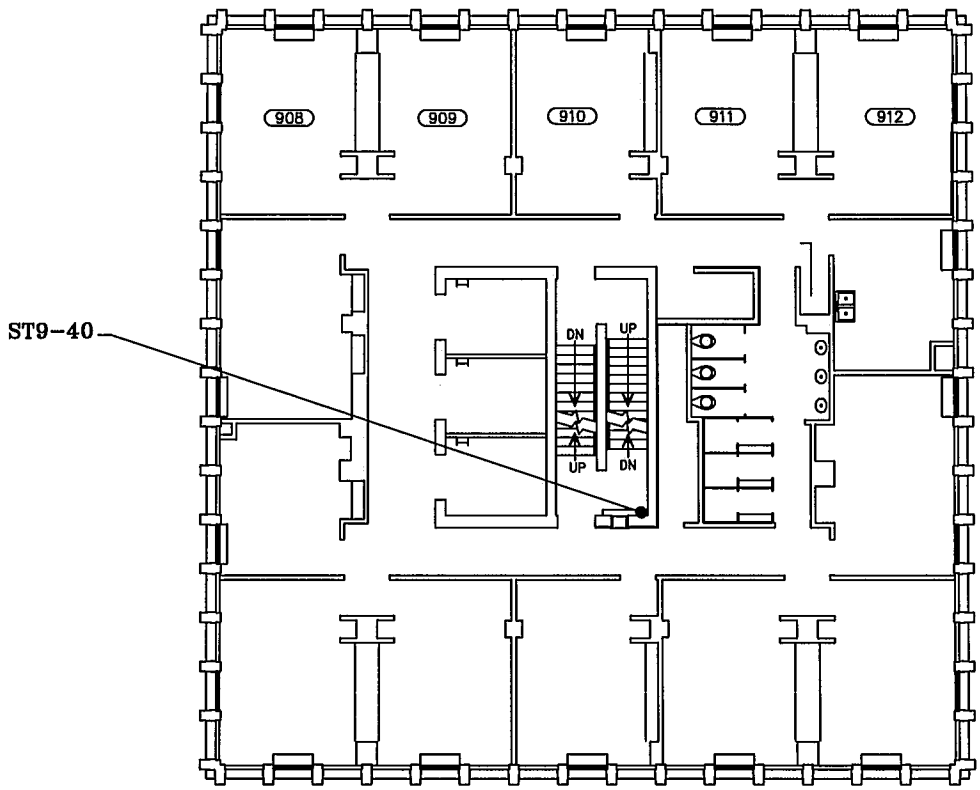
SAMPLE LOCATION PLAN
SOUTH TOWER - 7TH FLOOR
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

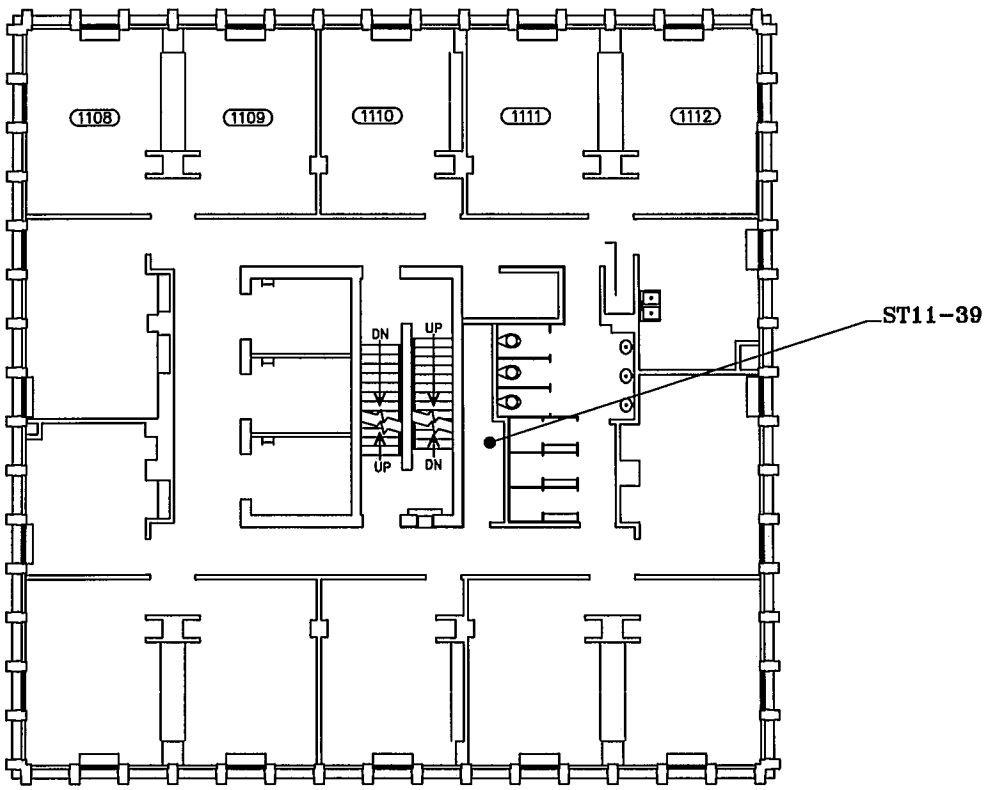
DRAWN BY:	MSM	SCALE:	1"=16'
CHECKED BY:	JLS	PROJECT:	E5200.04
APPROVED BY:	GME	FIGURE:	10



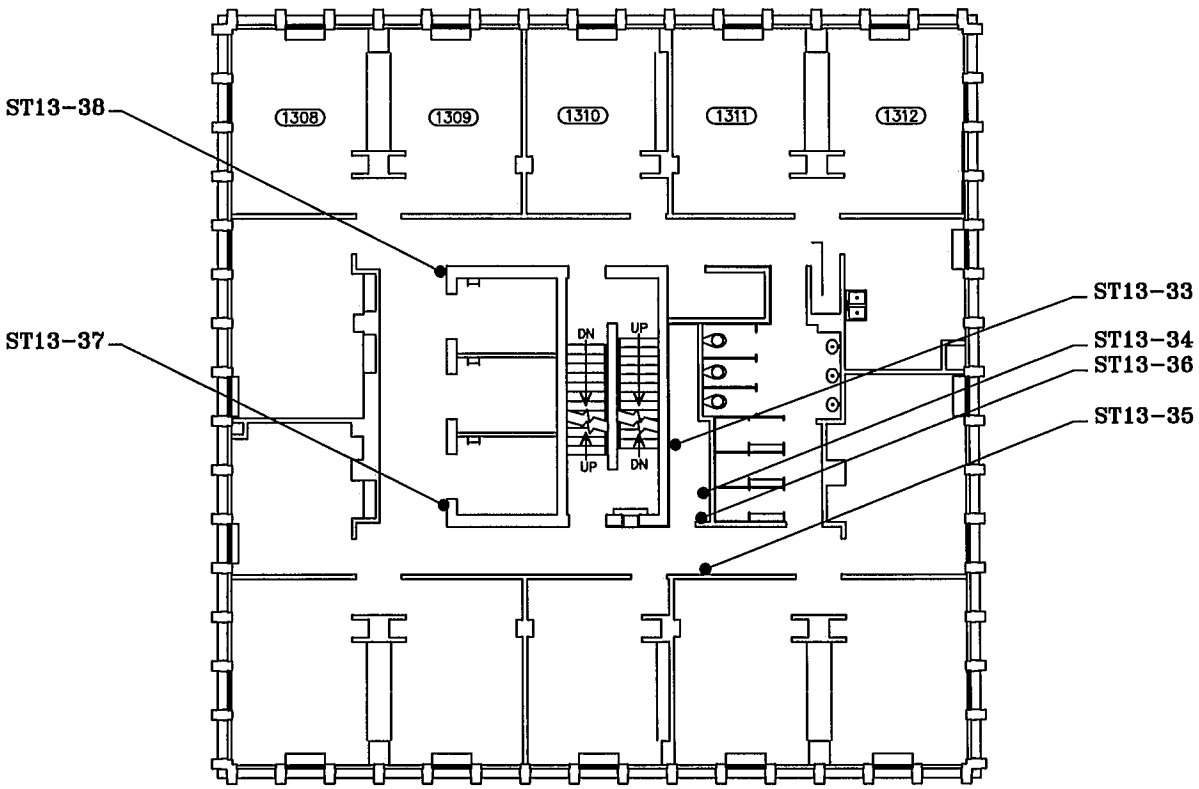
F&ME CONSULTANTS	SAMPLE LOCATION PLAN SOUTH TOWER - 8TH FLOOR COLUMBIA, SOUTH CAROLINA	
UNIVERSITY OF SOUTH CAROLINA	DRAWN BY: MSM CHECKED BY: JLS APPROVED BY: GME	SCALE: 1"=16' PROJECT: E5200.04 FIGURE: 11



F&ME CONSULTANTS	SAMPLE LOCATION PLAN SOUTH TOWER – 9TH FLOOR COLUMBIA, SOUTH CAROLINA	
UNIVERSITY OF SOUTH CAROLINA	DRAWN BY: MSM CHECKED BY: JLS APPROVED BY: GME	SCALE: 1"=16' PROJECT: E5200.04 FIGURE: 12



F&ME CONSULTANTS	SAMPLE LOCATION PLAN SOUTH TOWER - 11TH FLOOR COLUMBIA, SOUTH CAROLINA	
UNIVERSITY OF SOUTH CAROLINA	DRAWN BY: MSM CHECKED BY: JLS APPROVED BY: GME	SCALE: 1"=16' PROJECT: E5200.04 FIGURE: 13

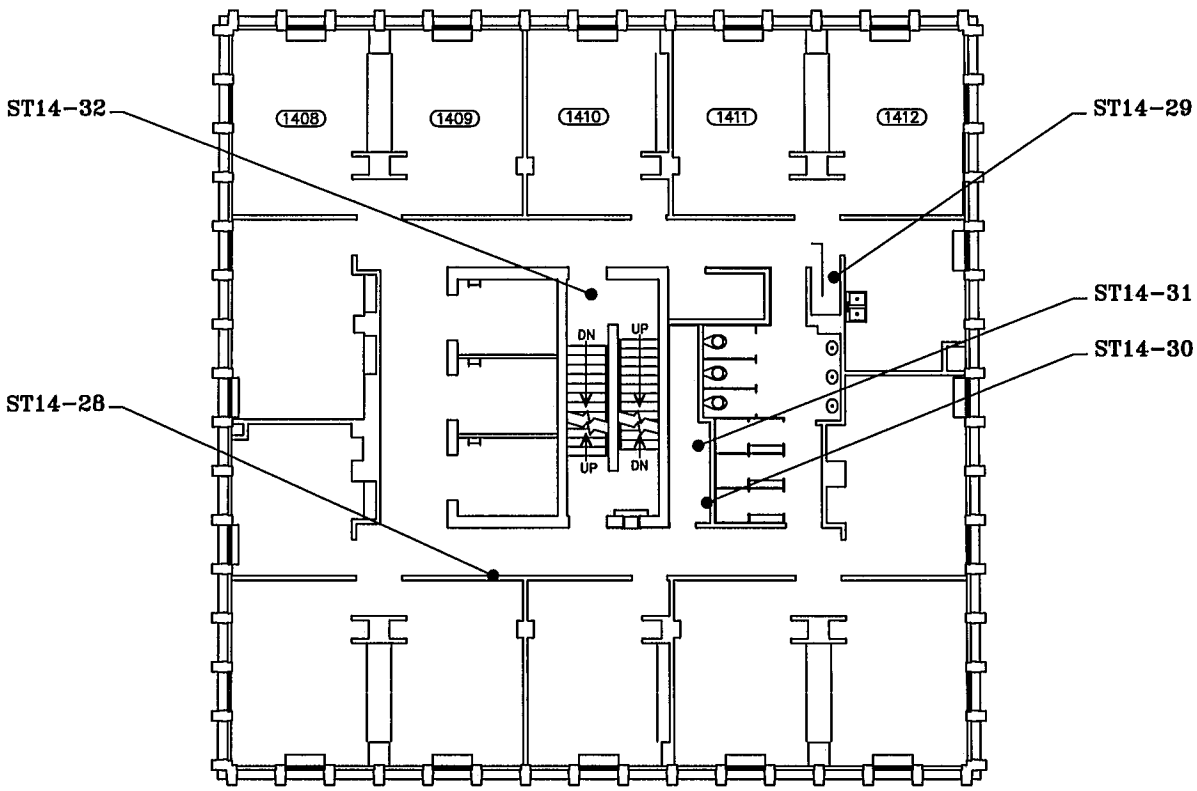


F&ME CONSULTANTS

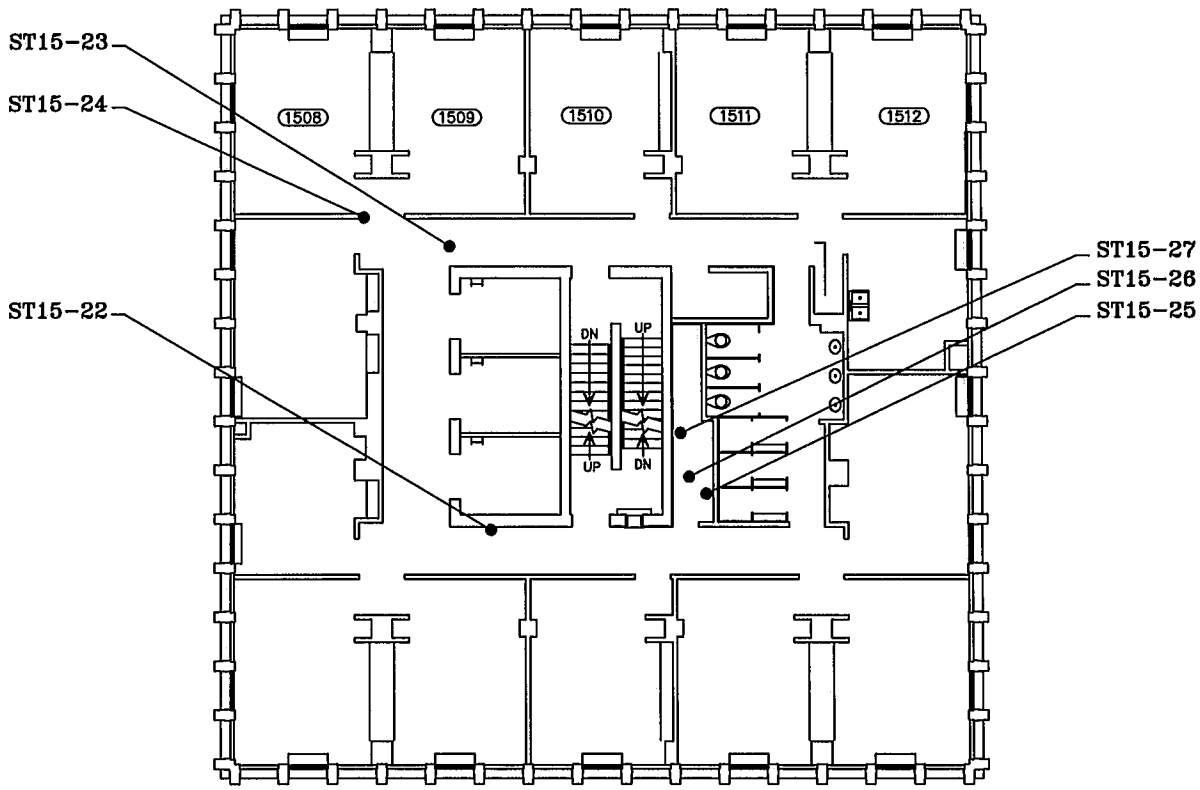
SAMPLE LOCATION PLAN
SOUTH TOWER - 13TH FLOOR
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

DRAWN BY:	MSM	SCALE:	1"=16'
CHECKED BY:	JLS	PROJECT:	E5200.04
APPROVED BY:	GME	FIGURE:	14



F&ME CONSULTANTS	SAMPLE LOCATION PLAN SOUTH TOWER - 14TH FLOOR COLUMBIA, SOUTH CAROLINA	
UNIVERSITY OF SOUTH CAROLINA	DRAWN BY: MSM CHECKED BY: JLS APPROVED BY: GME	SCALE: 1"=16' PROJECT: E5200.04 FIGURE: 15

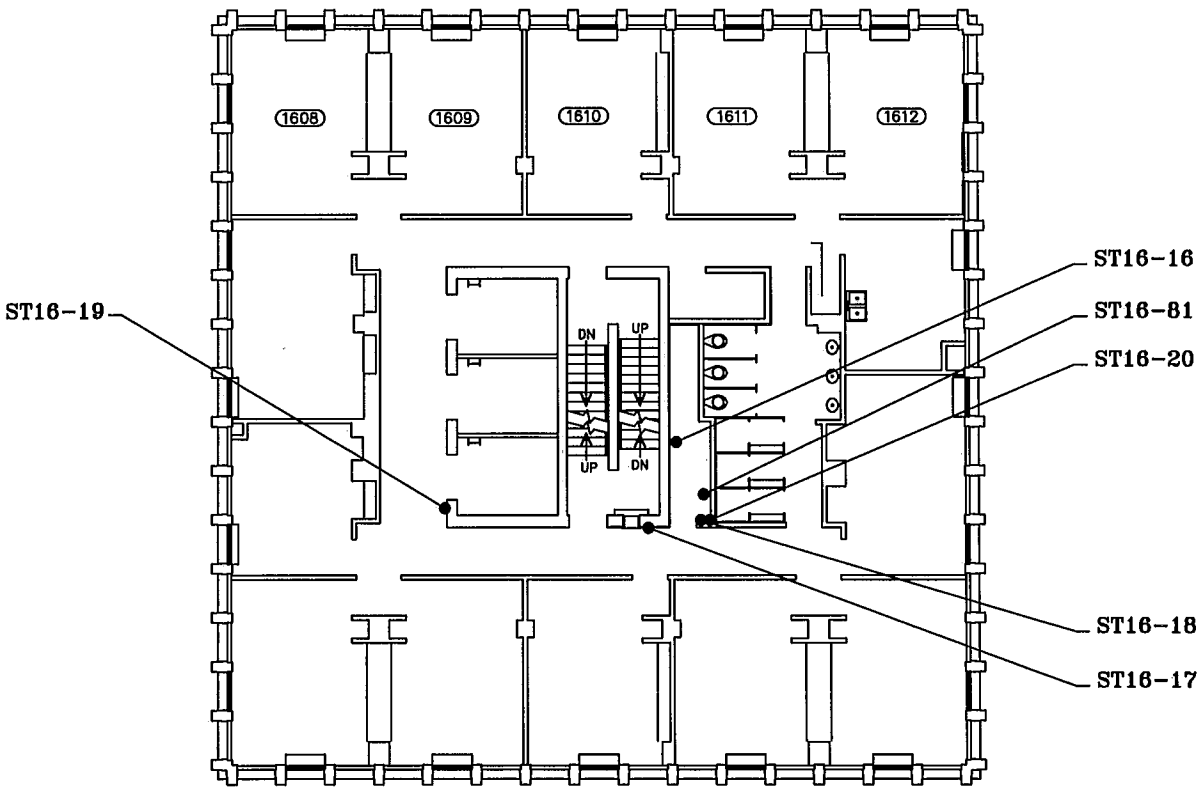


F&ME CONSULTANTS

SAMPLE LOCATION PLAN
SOUTH TOWER - 15TH FLOOR
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

DRAWN BY:	MSM	SCALE:	1"=16'
CHECKED BY:	JLS	PROJECT:	E5200.04
APPROVED BY:	GME	FIGURE:	16

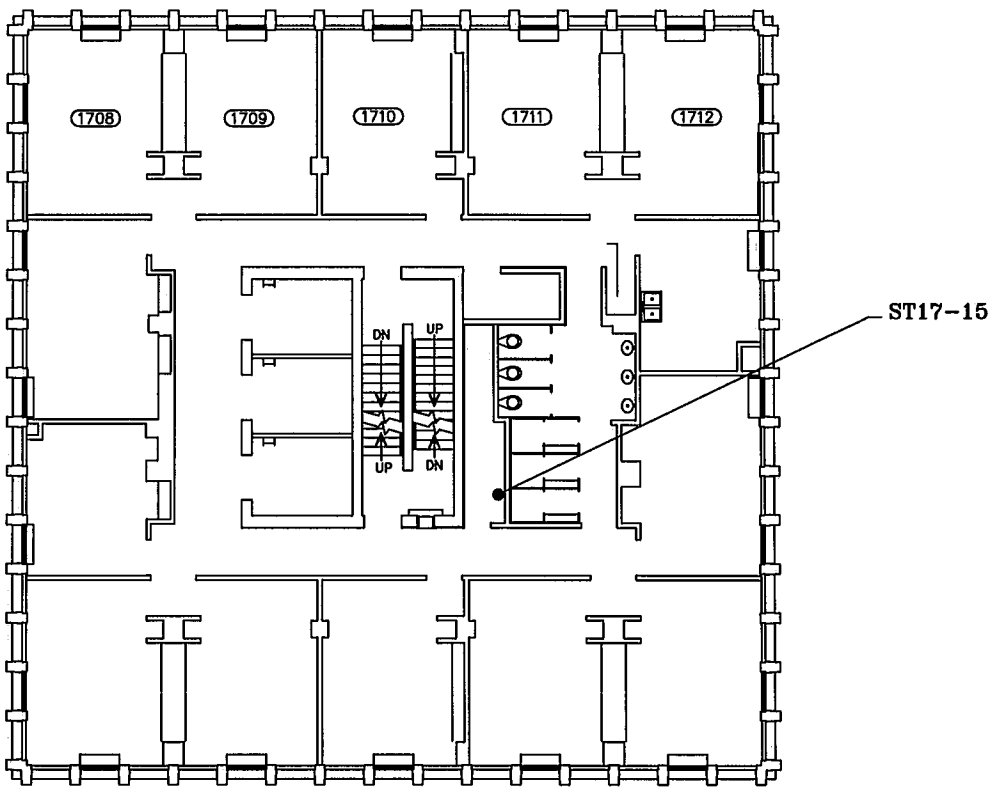


F&ME CONSULTANTS

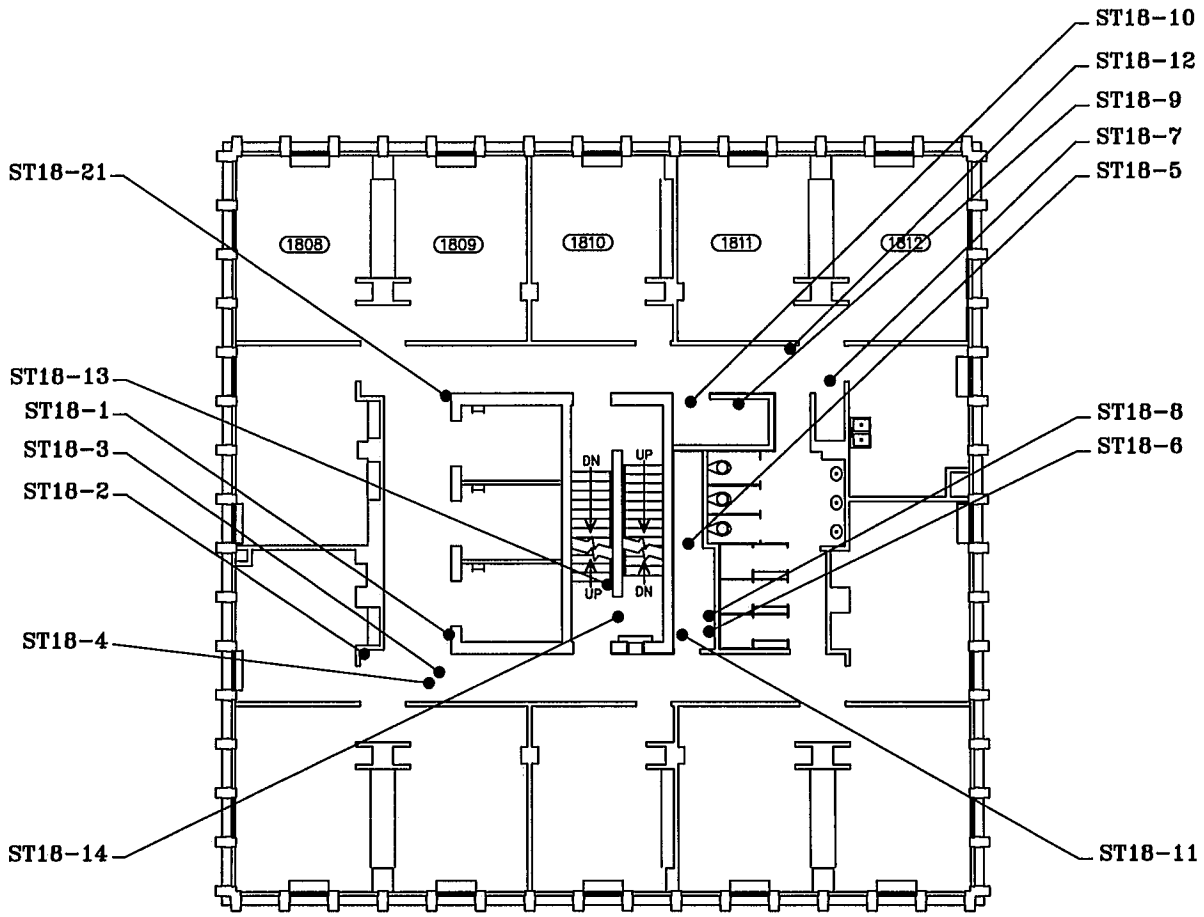
SAMPLE LOCATION PLAN
SOUTH TOWER - 16TH FLOOR
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

DRAWN BY:	MSM	SCALE:	1"=16'
CHECKED BY:	JLS	PROJECT:	E5200.04
APPROVED BY:	GME	FIGURE:	17

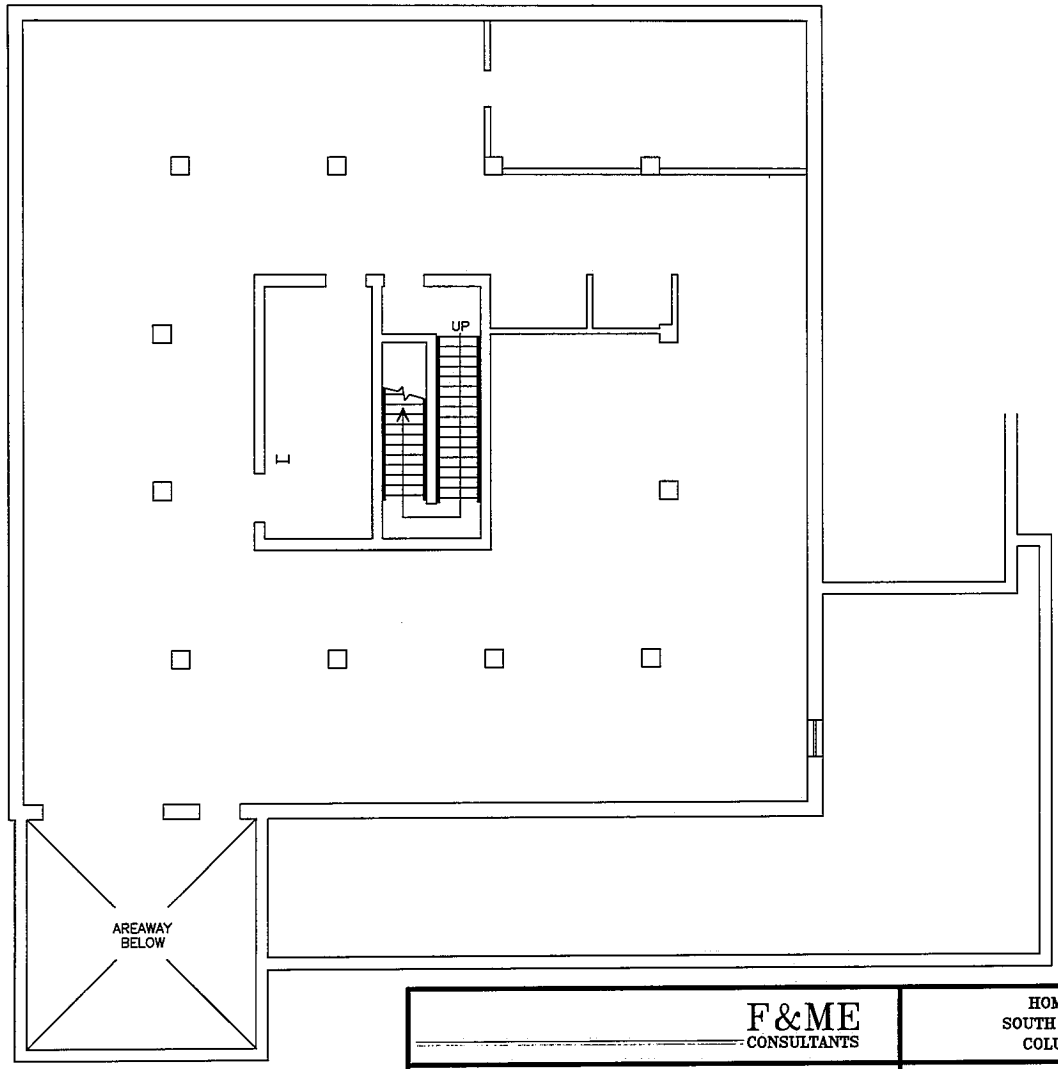


F&ME CONSULTANTS	SAMPLE LOCATION PLAN SOUTH TOWER - 17TH FLOOR COLUMBIA, SOUTH CAROLINA	
UNIVERSITY OF SOUTH CAROLINA	DRAWN BY: MSM CHECKED BY: JLS APPROVED BY: GME	SCALE: 1"=16' PROJECT: E5200.04 FIGURE: 18



F&ME CONSULTANTS	SAMPLE LOCATION PLAN SOUTH TOWER - 18TH FLOOR COLUMBIA, SOUTH CAROLINA	
UNIVERSITY OF SOUTH CAROLINA	DRAWN BY: MSM CHECKED BY: JLS APPROVED BY: GME	SCALE: 1"=16' PROJECT: E5200.04 FIGURE: 19

HA-13 - VALVE AND FLANGE GASKET MATERIALS NOT SHOWN



F&ME CONSULTANTS

HOMOGENEOUS AREA PLAN
SOUTH TOWER - SUB-BASEMENT
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

DRAWN BY:	MSM	SCALE:	1"=10'
CHECKED BY:	JLS	PROJECT:	E5200.04
APPROVED BY:	GME	FIGURE:	20

HA-2 – TSI BLACK MASTIC ON HVAC FIBER BOARD INSULATION

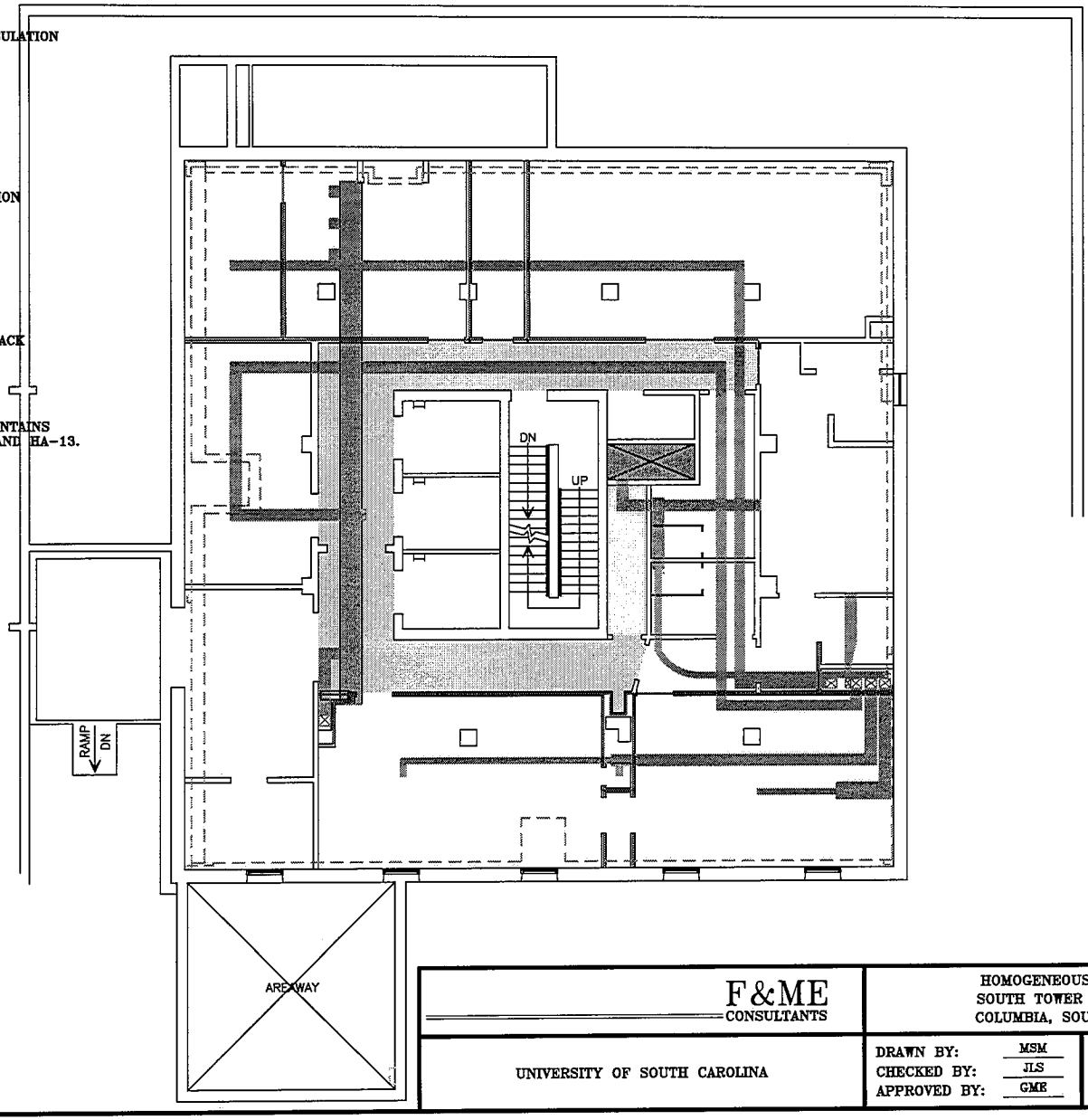
HA-3 – TSI MUDDED ELBOWS AND JOINTS

HA-4 – TSI PIPE WRAP ON FIBERGLASS PIPE INSULATION

HA-5 – DRYWALL JOINT COMPOUND

HA-11 – 9" X 9" TAN FLOOR TILE AND ASSOCIATED BLACK MASTIC

CHASE – MAIN MECHANICAL CHASES ON ALL FLOORS CONTAINS HA-3, HA-4, OVERSPRAY FROM HA-6, HA-7 AND HA-13.

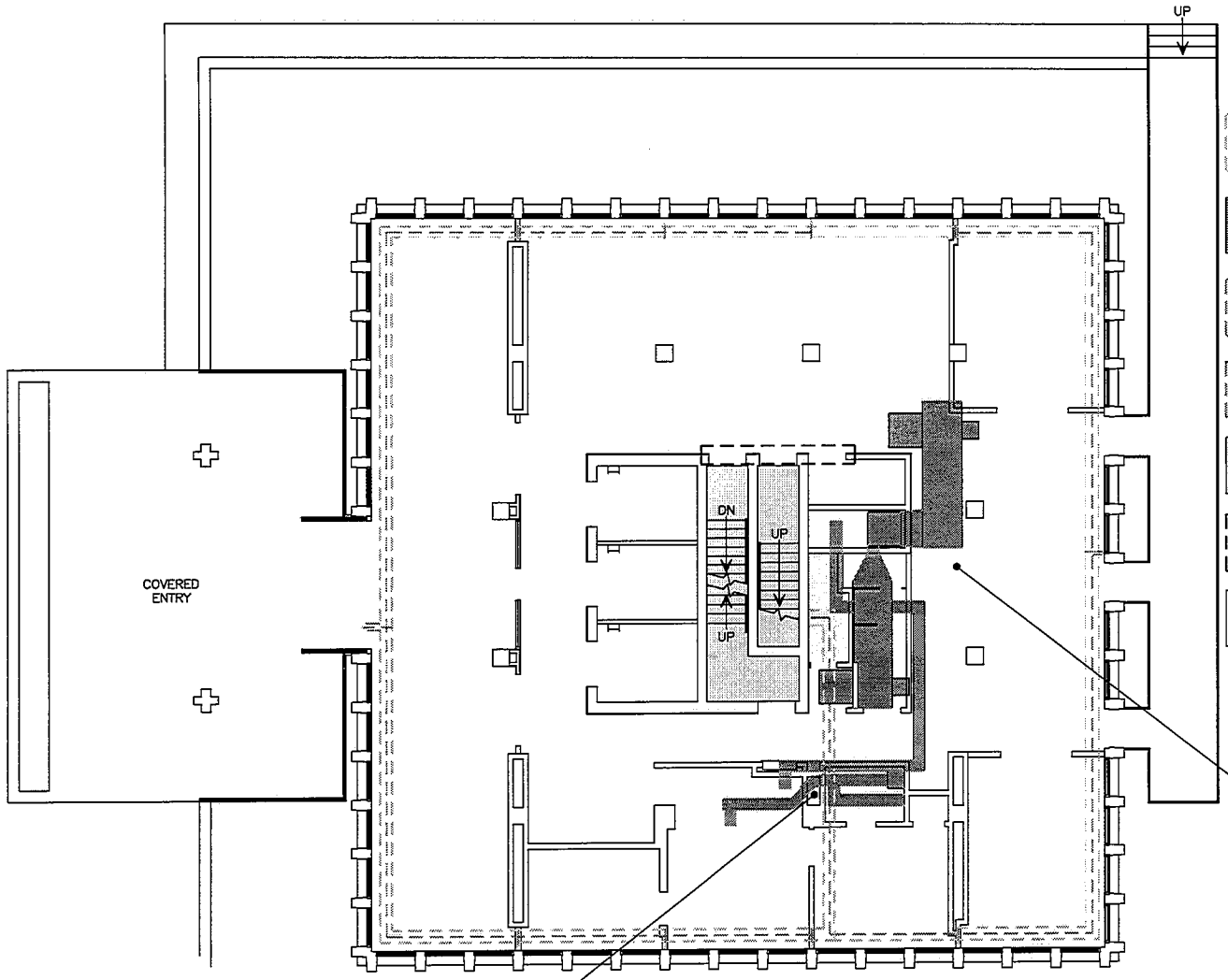


F&ME CONSULTANTS

HOMOGENEOUS AREA PLAN
SOUTH TOWER – BASEMENT
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

DRAWN BY:	MSM	SCALE:	1"=10'
CHECKED BY:	JLS	PROJECT:	E5200.04
APPROVED BY:	GME	FIGURE:	21



HA-1 – BLACK MASTIC ON ELBOWS AND JOINTS OF FIBERGLASS AND FOAM GLASS PIPE INSULATION

HA-2 – TSI BLACK MASTIC ON HVAC FIBER BOARD INSULATION

HA-3 – TSI MUDDED ELBOWS AND JOINTS

HA-4 – TSI PIPE WRAP ON FIBERGLASS PIPE INSULATION

HA-6 – SPRAY APPLIED TEXTURED CEILING MATERIAL

HA-10 – BLACK MASTIC ON DECORATIVE DOOR TRIM

CHASE – MAIN MECHANICAL CHASES ON ALL FLOORS CONTAINS HA-3, HA-4, OVERSPRAY FROM HA-6, HA-7 AND HA-13.

F&ME CONSULTANTS

HOMOGENEOUS AREA PLAN
SOUTH TOWER – 1ST FLOOR
COLUMBIA, SOUTH CAROLINA

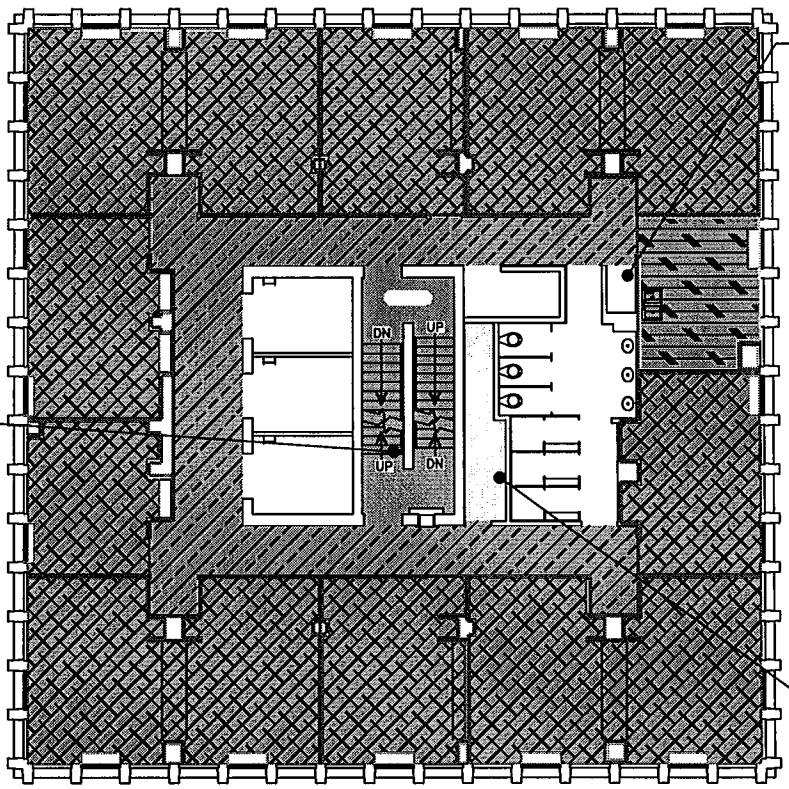
UNIVERSITY OF SOUTH CAROLINA

DRAWN BY:	MSM	SCALE:	1"=10'
CHECKED BY:	JLS	PROJECT:	E5200.04A
APPROVED BY:	GME	FIGURE:	22

HA-4 – TSI PIPE WRAP ON FIBERGLASS INSULATION

HA-5 – DRYWALL JOINT COMPOUND

HA-6 – SPRAY APPLIED TEXTURED CEILING MATERIAL (ALL FLOORS AND STAIRWELLS)



HA-3 MUDDED ELBOWS FOUND IN CUST. CLOSET ON FLOORS 4, 9 & 14

HA-9 BLACK MASTIC FOUND UNDER STAIR TREAD ON 3RD FLOOR IN STAIRWELL

HA-3 MUDDED ELBOWS FLOORS 2, 4, 6, 8, 9, 10, 12, 14, 16 & 18

HA-8 – BLACK MASTIC UNDER NON-ACM FLOOR TILE AND/OR CARPET

HA-16 – CAULKING AROUND INTERIOR FAN COIL UNITS

HA-11 – 9" X 9" FLOOR TILE AND ASSOCIATED MASTIC

HA-17 – TRANSITE PANELS AOUND FAN COIL UNITS

HA-15 – VINYL FLOORING AND MASTIC.

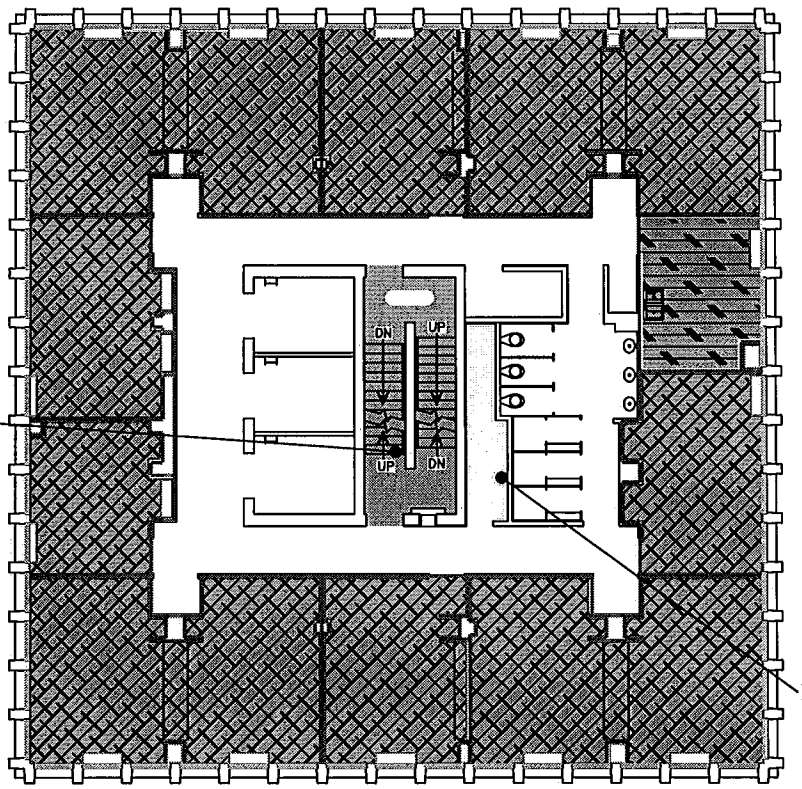
CHASE – MAIN MECHANICAL CHASES ON ALL FLOORS CONTAINS HA-3, HA-4, OVERSPRAY FROM HA-6, HA-7 AND HA-13.

F&ME CONSULTANTS	HOMOGENEOUS AREA PLAN SOUTH TOWER – TYPICAL LAYOUT – FLOORS 2-17 COLUMBIA, SOUTH CAROLINA	
UNIVERSITY OF SOUTH CAROLINA	DRAWN BY: _____ CHECKED BY: _____ APPROVED BY: _____	SCALE: _____ PROJECT: _____ FIGURE: _____

HA-4 – TSI PIPE WRAP ON FIBERGLASS INSULATION

HA-5 – DRYWALL JOINT COMPOUND

HA-15 – VINYL FLOORING AND MASTIC.



HA-9 BLACK MASTIC FOUND UNDER STAIR TREAD ON 3RD FLOOR IN STAIRWELL

HA-3 MUDDED ELBOWS FLOORS 2, 4, 6, 8, 9, 10, 12, 14, 16 & 18

HA-16 – CAULKING AROUND INTERIOR FAN COIL UNITS

HA-17 – TRANSITE PANELS AOUND FAN COIL UNITS

HA-18 – 12" x 12" FLOOR TILE AND ASSOCIATED MASTIC

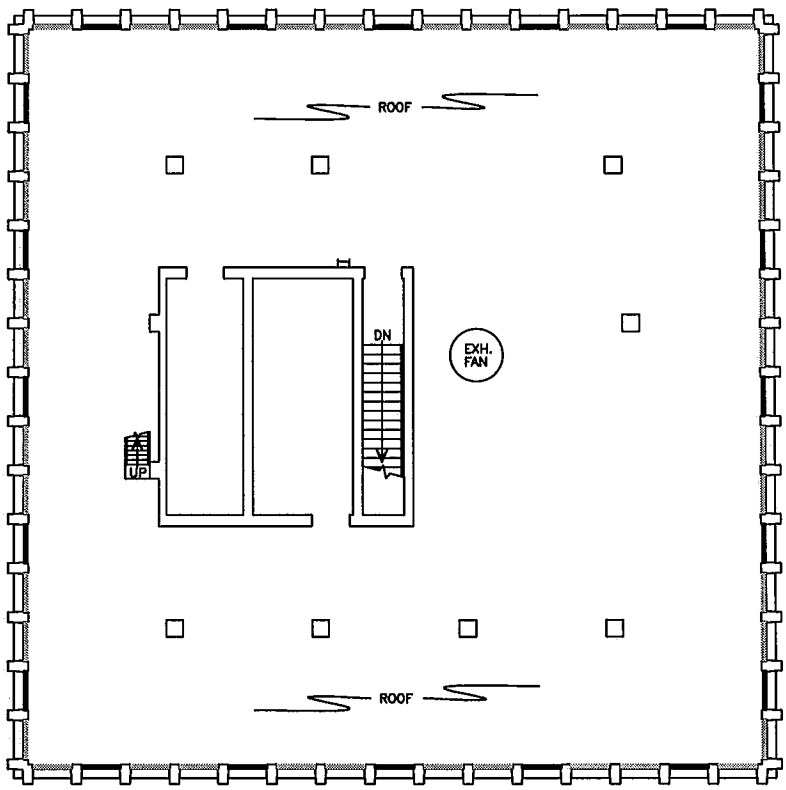
CHASE – MAIN MECHANICAL CHASES ON ALL FLOORS CONTAINS HA-3, HA-4, OVERSPRAY FROM HA-6, HA-7 AND HA-13.

F&ME CONSULTANTS

HOMOGENEOUS AREA PLAN
SOUTH TOWER – 18th Floor
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

DRAWN BY:	MSM	SCALE:	1"=16'
CHECKED BY:	JLS	PROJECT:	E5200.04A
APPROVED BY:	GME	FIGURE:	24



HA-12 - BLACK ROOFING MASTIC ON FLASHING AND SEAMS OF ROLLED SHINGLE ROOF. (NOT SHOWN)

HA-14 - TRANSITE WALL PANELS ON ROOF CURTAIN WALL.

F&ME CONSULTANTS

GENERAL SITE PLAN
SOUTH TOWER - 19TH FLOOR (PENTHOUSE-ROOF)
COLUMBIA, SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

DRAWN BY:	MSM	SCALE:	1"=16'
CHECKED BY:	JSL	PROJECT:	E5200.04A
APPROVED BY:	GME	FIGURE:	25

APPENDIX B

Summary of Samples (Table I)
Summary of Asbestos Containing Materials (Table II)
Summary of Inspection
Physical Assessment Data Sheets
Bulk Asbestos Analytical Reports (F&ME)
Bulk Asbestos Analytical Reports (Provided by USC)

TABLE I. SUMMARY OF SAMPLES

Sample ID	Sample Description	Floor
ST18-1	Baseboard Adhesive (Cream)	18th
ST18-2	Carpet Adhesive (Yellow) Only	18th
ST18-3	Black Pipe Mastic Only	18th
ST18-4	Pipe Wrap on Fiberglass Insulation	18th
ST18-5	Mudded Elbow	18th
ST18-6	Joint Compound	18th
ST18-7	2' x 2' Textured Ceiling Panel	18th
ST18-8	Felt Vapor Barrier Under Ceramic Tile	18th
ST18-9	Brown Fire Stop Caulking	18th
ST18-10	Red Fire Stop Caulking	18th
ST18-11	Lite Gray HVAC Duct Mastic	18th
ST18-12	Sheetrock/Joint Compound	18th
ST18-13	Stair Tread Adhesive (Yellow)	18th
ST18-14	Textured Ceiling Material on Concrete Ceiling	18th
ST16-15	Creme Pipe Mastic on Fiberglass Insulation Only	16th
ST16-16	Mud at Floor Penetrations (Chase)	16th
ST16-17	Black Mastic Under Carpet (Yellow) Adhesive Only	16th
ST16-18	Trowel Applied Surfacing Material (Brown)	16th
ST16-19	12" x 12" White Floor Tile & Black Mastic Only	16th
ST16-20	Gypsum Backer Board	16th
ST18-21	White Leveling Compound Only	18th
ST15-22	Carpet Adhesive (Yellow) Only	15th
ST15-23	2' x 2' Textured Ceiling Panel	15th
ST15-24	Baseboard Adhesive (Cream)	15th
ST15-25	Mudded Elbow	15th
ST15-26	Lite Gray HVAC Duct Mastic	15th
ST15-27	Black Pipe Mastic Only	15th
ST14-28	Brown Fire Stop Caulking	14th
ST14-29	Red Fire Stop Caulking	14th
ST14-30	Felt Vapor Barrier Under Ceramic Tile	14th
ST14-31	Overspray on HVAC Duct (Chase)	14th
ST14-32	Textured Ceiling Material on Concrete Ceiling	14th
ST13-33	Mud at Floor Penetrations (Chase)	13th
ST13-34	Crème Pipe Mastic on Fiberglass Insulation Only	13th
ST13-35	Sheetrock/Joint Compound	13th
ST13-36	Gypsum Backer Board	13th
ST13-37	12" x 12" White Floor Tile & Black Mastic Only	13th
ST13-38	White Leveling Compound Only	13th
ST11-39	Overspray on HVAC Duct (Chase)	11th
ST9-40	Mudded Elbow (Stairwell)	9th
ST4-41	Mudded Elbow (Custodial Closet)	4th
ST8-42	Carpet Adhesive (Yellow) Only	8th
ST7-43	12" x 12" White Floor Tile & Black Mastic Only	7th

TABLE I

TABLE I. SUMMARY OF SAMPLES

Sample ID	Sample Description	Floor
ST7-44	White Leveling Compound Only	7th
ST6-45	Pipe Wrap on Fiberglass Insulation	6th
ST5-46	Black Mastic Under Carpet (Yellow) Adhesive Only	5th
ST5-47	Red Fire Stop Caulking	5th
ST5-48	Brown Fire Stop Caulking	5th
ST5-49	Stair Tread Adhesive (Yellow)	5th
ST5-50	Textured Ceiling Material on Concrete Ceiling	5th
ST5-51	Trowel Applied Surfacing Material (Brown)	5th
ST5-52	Lite Gray HVAC Duct Mastic	5th
ST4-53	Gypsum Backer Board	4th
ST4-54	Black Pipe Mastic Only	4th
ST4-55	Felt Vapor Barrier Under Ceramic Tile	4th
ST4-56	Baseboard Adhesive (Cream)	4th
ST4-57	2' x 2' Textured Ceiling Panels	4th
ST3-58	Trowel Applied Surfacing Material (Brown)	3rd
ST3-59	Stair Tread Adhesive (Yellow & Black)	3rd
ST3-60	Mud at Floor Penetrations (Chase)	3rd
ST3-61	Overspray on Concrete Ceiling of Chase	3rd
ST3-62	Sheetrock/Joint Compound	3rd
ST2-63	Pipe Wrap on Fiberglass Insulation	2nd
ST1-64	2' x 2' Smooth Textured Ceiling Panels (Recessed)	1st
ST1-65	2' x 2' Smooth Textured Ceiling Panels (Recessed)	1st
ST1-66	2' x 2' Smooth Textured Ceiling Panels (Recessed)	1st
ST1-67	Baseboard Adhesive (Lite Brown)	1st
ST1-68	Baseboard Adhesive (Lite Brown)	1st
ST1-69	Baseboard Adhesive (Lite Brown)	1st
ST1-70	Baseboard Adhesive (Brown)	1st
ST1-71	Baseboard Adhesive (Brown)	1st
ST1-72	Baseboard Adhesive (Brown)	1st
ST1-73	Black Pipe Mastic	1st
ST1-74	Fiberglass Duct Board Gutter Skin	1st
ST1-75	Fiberglass Duct Board Gutter Skin	1st
ST1-76	Fiberglass Duct Board Gutter Skin	1st
ST1-77	Mudded Elbow	1st
ST1-78	Black Adhesive on Black Door Trim	1st
ST1-79	Black Adhesive on Black Door Trim	1st
ST1-80	Black Adhesive on Black Door Trim	1st
ST16-81	Crème Pipe Mastic Only	16th
ST1-82	Black Mastic Elbow	1st
ST1-83	Pipe Wrap on Fiberglass Insulation	1st
STB-84	Mudded Elbow	1st
STB-85	Pipe Wrap on Fiberglass Insulation	1st

TABLE I

TABLE I. SUMMARY OF SAMPLES

Sample ID	Sample Description	Floor
STB-86	Mudded Elbow	Basement
STB-87	9" x 9" Tan Floor Tile & Mastic	Basement
STB-88	9" x 9" Tan Floor Tile & Mastic	Basement
STB-89	9" x 9" Tan Floor Tile & Mastic	Basement
STB-90	Overspray on HVAC Duct (Bathroom)	Basement
STB-91	12" x 12" Heavy Textured Ceiling Panels	Basement
STB-92	12" x 12" Heavy Textured Ceiling Panels	Basement
STB-93	12" x 12" Heavy Textured Ceiling Panels	Basement
STB-94	Pipe Wrap on Fiberglass Insulation	Basement
STB-95	Canvas Pipe Wrap	Basement
STB-96	Canvas Pipe Wrap	Basement
STB-97	Canvas Pipe Wrap	Basement
STSB-98	HVAC Duct Wrap	Sub-basement
STSB-99	HVAC Duct Wrap	Sub-basement
STSB-100	HVAC Duct Wrap	Sub-basement
STSB-101	Canvas Pipe Wrap	Sub-basement
STSB-102	Canvas Pipe Wrap	Sub-basement
STSB-103	Canvas Pipe Wrap	Sub-basement
STSB-104	Green Board/Joint Compound	Sub-basement
STSB-105	Green Board/Joint Compound	Sub-basement
STSB-106	Green Board/Joint Compound	Sub-basement
STSB-107	Unknown Debris	Sub-basement
STSB-108	Unknown Debris	Sub-basement
STSB-109	Unknown Debris	Sub-basement
STSB-110	12" x 12" Brown w/White Speckles' Floor Tile & Mastic	Sub-basement
STSB-111	12" x 12" Brown w/White Speckles' Floor Tile & Mastic	Sub-basement
STSB-112	12" x 12" Brown w/White Speckles' Floor Tile & Mastic	Sub-basement

TABLE II. SUMMARY OF ASBESTOS CONTAINING MATERIALS

Sample ID	Sample Description	% Asbestos
ST18-3	Black Pipe Mastic	10% Chrysotile
ST18-5	Mudded Elbow	3% Amosite
ST18-12	Joint Compound	5% Chrysotile
ST18-14	Textured Ceiling Material on Concrete Ceiling	3% Chrysotile
ST16-16	Mud at Floor Penetrations (Chase)	3% Amosite
ST16-17	Black Mastic Under Carpet (Yellow) Adhesive Only	5% Chrysotile
ST16-19A	Black Floor Tile Mastic	8% Chrysotile
ST15-25	Mudded Elbow	3% Amosite
ST15-27	Black Pipe Mastic	10% Chrysotile
ST14-31	Overspray on Ductwork	3% Chrysotile
ST14-32	Textured Ceiling Material on Concrete Ceiling	3% Chrysotile
ST14-33	Mud at Floor Penetrations (Chase)	3% Amosite
ST13-37	Black Floor Tile Mastic	5% Chrysotile
ST11-39	Overspray on Ductwork	3% Chrysotile
ST9-40	Mudded Elbow	3% Amosite
ST4-41	Mudded Elbow	5% Chrysotile
ST5-46	Black Mastic Under Carpet (Yellow) Adhesive Only	5% Chrysotile
ST5-50	Textured Ceiling Material on Concrete Ceiling	3% Chrysotile
ST4-54	Black Pipe Mastic Only	10% Chrysotile
ST3-59	Stair Tread Adhesive (Yellow & Black)	5% Chrysotile
ST3-60	Mud at Floor Penetrations (Chase)	3% Chrysotile
ST3-61	Overspray on Concrete Ceiling	3% Chrysotile
ST3-62A	Joint Compound	5% Chrysotile
ST1-77	Mudded Elbow	5% Chrysotile
ST1-78	Black Adhesive on Black Door Trim	3% Chrysotile
ST1-79	Black Adhesive on Black Door Trim	5% Chrysotile
ST1-82	Black Mastic Elbow	10% Chrysotile
ST1-83	Pipe Wrap on Fiberglass Insulation	10% Chrysotile
STB-84	Mudded Elbow	3% Chrysotile
STB-86	Mudded Elbow	3% Chrysotile
STB-87	9" x 9" Tan Floor Tile	5% Chrysotile
STB-87A	Black Floor Tile & Mastic	10% Chrysotile
STB-90	Overspray on Ductwork	8% Chrysotile

SUMMARY OF INSPECTION

The following tables summarize the physical assessment data, sampling and assessment results.

As exhibited on these tables, coding is used to abbreviate the asbestos containing materials' (ACM) locations, characteristics and results. These codes are as follows:

TYPES OF ACM:

Misc. = Miscellaneous

Sur. = Surfacing

TSI = Thermal System Insulation

ACM LOCATIONS:

Homogeneous areas = Indicated by Roman Numerals, Room Number or Area Designation

Functional Space No.:	Functional Space Type:		
1.	H	=	Corridors/Hallways
2.	C	=	Chases
3.	L	=	1st Floor Lobby Areas
4.	S	=	Storage Rooms
5.	RHD	=	Resident Hall Director Apartment
6.	A	=	Above Suspended Ceilings
7.	B	=	Basement
8.	SB	=	Sub-Basement
9.	ST	=	Stairwell
10.	CC	=	Custodial Closet
11.	R	=	Roof
12.	K	=	Kitchenette
13.	D	=	Dorm Rooms

ACM CHARACTERISTICS:

F = Friable

NF = Non-Friable

ASSESSMENT RESULTS:

(Refer to Physical Assessment Data)

POTENTIAL FOR DISTURBANCE:

(Refer to Physical Assessment Data)

PHYSICAL ASSESSMENT CATAGORIES:

1. Damaged or significantly damaged friable thermal system insulation ACM.
2. Damaged friable surfacing ACM.
3. Significantly damaged friable surfacing ACM.
4. Damaged or significantly damaged friable miscellaneous ACM.
5. ACM with potential for significant damage.
6. ACM with potential for damage.
7. Any remaining friable ACM or friable suspect ACM.
8. Non-friable ACM.

CLASSIFICATION FOR HAZARD POTENTIAL:

(Tabular Display)

Hazard Rank	ACM Condition	ACM Disturbance Potential
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low
3	Good	Potential for Significant Damage
2	Good	Potential for Damage
1	Good	Low

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space No: 1,2,3,6,7 **Type:** H,C,L,A,B **Location:** (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-1, TSI Black Mastic on Fiberglass Pipe Insulation

Approximate Amount of Material (SF or LF): ~700 Each

Condition:

Percent Damage: X >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water _____ Physical

Description:

Black mastic on joints and elbows of fiberglass insulation.

Overall Condition Rating:	Sig. Damaged	Damaged	Good
	_____	_____	X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:	_____	_____	X	_____
Influence of Vibration	_____	_____	X	_____
Frequency of Air Erosion	_____	_____	X	_____
Potential of Water Erosion	_____	_____	X	_____

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
_____	_____	8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
_____	_____	_____	1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 1,3,6,7 **Type:** H,L,A,B **Location:** (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-2, Black Mastic on Fiberboard Insulation

Approximate Amount of Material (SF or LF): ~4,000 SF (includes non-ACM fiberboard)

Condition:

Percent Damage: **X** >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized **X** Distributed

Type of Damage: **X** Deterioration _____ Water _____ Physical

Description:

Black mastic on seams of original fiberboard duct insulation

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good **X**

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			**X**	
Influence of Vibration			**X**	
Frequency of Air Erosion			**X**	
Potential of Water Erosion			**X**	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
		8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
			1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** **01/06/12**

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space No: 1,2,3,6,7,9,10 **Type:** H,C,L,A,B ,ST,CC **Location:** (See Homogeneous Area Plan)

Type of Suspect Material: X **TSI** _____ **Surfacing** _____ **Misc.**

Description: HA-3, TSI Mudded Elbows and Joints.

Approximate Amount of Material (SF or LF): ~850 Each

Condition:

Percent Damage: _____ >0% _____ <10% X >10% _____ <25% _____ >25%

Extent of Damage : X Localized _____ Distributed

Type of Damage: _____ Deterioration X Water X Physical

Description:

Mudded elbows and joints of original domestic hot and cold water lines.

Overall Condition Rating: Sig. Damaged X Damaged _____ Good _____

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	X
Influence of Vibration			X	X
Frequency of Air Erosion			X	X
Potential of Water Erosion		X		X

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
1		

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
7			

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space No: 1,2,3,6,7,9,10 **Type:** H,C,L,A,B ,ST,CC **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: X **TSI** _____ **Surfacing** _____ **Misc.**

Description: HA-4, TSI Pipe Wrap on Fiberglass Pipe Insulation

Approximate Amount of Material (SF or LF): ~2,500 LF

Condition:

Percent Damage: X >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water _____ Physical

Description:

Black mastic used to adhere outer wrapping to fiberglass pipe insulation.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	
Influence of Vibration			X	
Frequency of Air Erosion			X	
Potential of Water Erosion			X	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
		8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
			1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space No: 1,3,5,7 **Type:** H,L, RHD,B **Location:** (See Homogeneous Area Plan)

Type of Suspect Material: ____ **TSI** X **Surfacing** ____ **Misc.**

Description: HA-5, Drywall Joint Compound

Approximate Amount of Material (SF or LF): ~70,000 SF (Includes entire wall system)

Condition:

Percent Damage: ____ >0% X <10% ____ >10% ____ <25% ____ >25%

Extent of Damage : X Localized X Distributed

Type of Damage: X Deterioration ____ Water X Physical

Description:

Original joint compound used on drywall.

Overall Condition Rating: Sig. Damaged ____ Damaged ____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:		X		
Influence of Vibration			X	
Frequency of Air Erosion			X	
Potential of Water Erosion			X	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
	6	

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
		2	

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space No: 1,2,6,7,9 **Type:** H,C,A,B,ST **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** X **Surfacing** _____ **Misc.**

Description: HA-6, Spray Applied Texture Ceiling Surfacing Material

Approximate Amount of Material (SF or LF): ~71,000 SF

Condition:

Percent Damage: X >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water _____ Physical

Description:

Spray applied textured surfacing found on original concrete and hard plaster ceilings. Overspray from this material was found in chases on concrete deck above and metal ductwork. Overspray is in a friable condition.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:		X		X
Influence of Vibration			X	X
Frequency of Air Erosion			X	X
Potential of Water Erosion			X	X

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
	6	

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
		2	

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 2 **Type**: C **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: X **TSI** _____ **Surfacing** _____ **Misc.**

Description: HA-7, Gray Mudded Floor Penetrations

Approximate Amount of Material (SF or LF): ~100 SF

Condition:

Percent Damage: _____ >0% _____ <10% X >10% _____ <25% _____ >25%

Extent of Damage : X Localized X Distributed

Type of Damage: X Deterioration _____ Water X Physical

Description:

Gray mud utilized as a fire stop at floor penetrations throughout chases in the building. This material has obtained physical damage in these areas and is friable.

Overall Condition Rating: Sig. Damaged X Damaged _____ Good _____

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:		X		X
Influence of Vibration			X	X
Frequency of Air Erosion			X	X
Potential of Water Erosion			X	X

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
	1	

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
	7		

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date**: 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 1,4 **Type**: H,S **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-8, Black Floor Tile Mastic

Approximate Amount of Material (SF or LF): ~9,700 SF

Condition:

Percent Damage: _____ >0% X <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water X Physical

Description:

Residual black mastic from floor tile that has been removed throughout corridors of the typical repeating dormitory floors was found under carpet and non-asbestos floor tile.

Overall Condition Rating: Sig. Damaged _____ Damaged X Good _____

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	
Influence of Vibration			X	
Frequency of Air Erosion			X	
Potential of Water Erosion			X	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
	8	

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
		4	

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date**: 11/03/11

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 9 **Type:** ST **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-9, Black Adhesive Under Stair Treads

Approximate Amount of Material (SF or LF): (Unknown)

Condition:

Percent Damage: X >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water _____ Physical

Description:

Black roofing mastic around roof penetrations of the Dry Valve – Hose Stations and MCC buildings on the ground level of the LDA.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:	_____	_____	X	_____
Influence of Vibration	_____	_____	X	_____
Frequency of Air Erosion	_____	_____	X	_____
Potential of Water Erosion	_____	_____	X	_____

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
_____	_____	8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
_____	_____	_____	1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 6 **Type:** LDA **Location:** (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-10, Black Decorative Trim Adhesive

Approximate Amount of Material (SF or LF): (Unknown)

Condition:

Percent Damage: X >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water _____ Physical

Description:

Black adhesive was found around three doors in the first floor lobby areas. Efforts to better delineate this material indicate it to be isolated to this area. However, complete removal of the decorative trim may uncover hidden locations where this material was used.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	
Influence of Vibration			X	
Frequency of Air Erosion			X	
Potential of Water Erosion			X	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
		8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
			1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 1,7 **Type:** H,B **Location:** (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-11, 9"x 9" Tan Floor Tile and Associated Black Mastic

Approximate Amount of Material (SF or LF): ~475 SF

Condition:

Percent Damage: _____ >0% X <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : X Localized X Distributed

Type of Damage: X Deterioration _____ Water X Physical

Description:

This 9"x9" floor tile is found in the basement corridors. Overall, the material showed signs of wear with localized damage and delaminating tiles at doorway thresholds.

Overall Condition Rating: Sig. Damaged _____ Damaged X Good _____

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:		X		
Influence of Vibration			X	
Frequency of Air Erosion			X	
Potential of Water Erosion			X	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
	8	

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
		5	

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 11 **Type**: R **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-12, Black Roofing Mastic

Approximate Amount of Material (SF or LF): ~4,500 SF (Includes entire roof system)

Condition:

Percent Damage: _____ >0% X <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration X Water _____ Physical

Description:

Black roofing mastic on flashing on the roof obtained positive results from samples collected by USC hazmat personnel. A visual inspection of the existing roof evidenced that this material was used on seams of rolled shingle roof as well..

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	
Influence of Vibration			X	
Frequency of Air Erosion		X		
Potential of Water Erosion		X		

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
	8	

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
		2	

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date**: 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 2,8 **Type**: B,SB **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-13, Valve and Flanged Connection Gasket Materials

Approximate Amount of Material (SF or LF): (Unknown)

Condition:

Percent Damage: X >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water _____ Physical

Description:

Flanged connections at valves and joints of mechanical piping are assumed positive.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	
Influence of Vibration			X	
Frequency of Air Erosion			X	
Potential of Water Erosion			X	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
		8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
			1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date**: 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 11 **Type**: R **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-14, Transite Curtain Wall Panels

Approximate Amount of Material (SF or LF): 40 Each

Condition:

Percent Damage: X >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration X Water _____ Physical

Description:

Wall panels of the existing parapet walls on the roof appear to be transite. This material is assumed positive due to the destructive measures necessary to collect samples.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	
Influence of Vibration			X	
Frequency of Air Erosion			X	
Potential of Water Erosion			X	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
		8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
			1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 12 **Type**: K **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-15, Vinyl Flooring in Kitchenette

Approximate Amount of Material (SF or LF): 2,125 SF

Condition:

Percent Damage: _____ >0% X <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water _____ Physical

Description:

The vinyl flooring and associated mastic is located in the kitchenette on floors 2 thru 18. This material was not included in our scope of work during the investigation and is therefore assumed positive.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	
Influence of Vibration			X	
Frequency of Air Erosion			X	
Potential of Water Erosion			X	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
		8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
			1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date**: 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 13 **Type:** D **Location:** (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-16, Caulking Around Interior Fan Coil in Dorm Rooms

Approximate Amount of Material (SF or LF): 1,450 LF

Condition:

Percent Damage: X >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water _____ Physical

Description:

The caulking around interior fan coils is located in the dorm rooms on floors 2 thru 18. This material was not included in our scope of work during the investigation and is therefore assumed positive.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	
Influence of Vibration			X	
Frequency of Air Erosion			X	
Potential of Water Erosion			X	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
		8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
			1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 13 **Type**: D **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** X **Surfacing** _____ **Misc.**

Description: HA-17, Transite Panels on the Interior Wall Surrounding the Fan Coil

Approximate Amount of Material (SF or LF): 715 Each

Condition:

Percent Damage: X >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water _____ Physical

Description:

The Transite panels are located on the interior wall surrounding the fan coils of each dorm room on floors 2 thru 18. This material is a known asbestos containing material and is assumed positive.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	X
Influence of Vibration			X	X
Frequency of Air Erosion			X	X
Potential of Water Erosion			X	X

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
		8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
			1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date**: 01/06/12

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PHYSICAL ASSESSMENT DATA SHEET

Building: South Tower Residence Hall Building

Functional Space Number: 13 **Type**: D **Location**: (See Homogeneous Area Plan)

Type of Suspect Material: _____ **TSI** _____ **Surfacing** X **Misc.**

Description: HA-18, 12" x 12" Floor Tile and Associated Mastic

Approximate Amount of Material (SF or LF): 1,750 SF

Condition:

Percent Damage: X >0% _____ <10% _____ >10% _____ <25% _____ >25%

Extent of Damage : _____ Localized X Distributed

Type of Damage: X Deterioration _____ Water _____ Physical

Description:

The 12" x 12" floor tile and mastic is located in the dorm rooms of the 18th floor. These materials were not part of our original scope of work and were not sampled. Due to the lack of analytical data on these materials, they are assumed positive.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good X

Potential for Disturbance:

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:			X	
Influence of Vibration			X	
Frequency of Air Erosion			X	
Potential of Water Erosion			X	

Overall Potential Disturbance Rating:

Potential for Sig. Damage	Potential for Damage	Low Potential for Damage
		8

Overall Hazard Rank #:

Sig. Damaged	Pot. Sig. Damage	Potential Damage	Low Pot. Damage
			1

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility. Impending renovation activities may impact this material.

Signed: _____ **Date:** 01/06/12

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone: (336) 992-1025 Fax: (336) 992-4175 Email: greensborolab@emsl.com

Attn: **Glynn Ellen**
F & ME Consultants
3112 Divine Street

Columbia, SC 29205

Fax: (803) 254-4542 Phone: (803) 254-4540
Project: **E5200.04/South Tower - USC/Asbestos Assessment**

Customer ID: FMEC62
Customer PO: E5200.03
Received: 12/21/11 10:30 PM
EMSL Order: 021107512

EMSL Proj:
Analysis Date: 12/27/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
ST18-1 *021107512-0001*	Baseboard Adhesive	Beige Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
ST18-2 *021107512-0002*	Carpet Adhesive Only	Tan Non-Fibrous Heterogeneous	1% 1%	Cellulose Synthetic	98% Non-fibrous (other)	**None Detected**
ST18-3 *021107512-0003*	Pipe Mastic Only	Black Fibrous Heterogeneous	1%	Cellulose	89% Non-fibrous (other)	**10% Chrysotile**
ST18-4 *021107512-0004*	Pipe Wrap on Fiberglass Insulation	Silver/Beige Fibrous Heterogeneous	60%	Cellulose	40% Non-fibrous (other)	**None Detected**
ST18-5 *021107512-0005*	Mudded Elbow	Gray Fibrous Heterogeneous	20% 15%	Min. Wool Cellulose	62% Non-fibrous (other)	**3% Amosite**
ST18-6 *021107512-0006*	Joint Compound	White Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**

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Project: **E5200.04/South Tower - USC/Asbestos Assessment**

Customer ID: FMEC62
Customer PO: E5200.03
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EMSL Proj:
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			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
ST18-7 *021107512-0007*	Textured Ceiling Panel	White/Beige Fibrous Heterogeneous	40% 20%	Cellulose Min. Wool	40% Non-fibrous (other)	**None Detected**
ST18-8 *021107512-0008*	Felt Vapor Barrier under Ceramic Tile	Brown/Black Fibrous Heterogeneous	65% 1%	Cellulose Synthetic	34% Non-fibrous (other)	**None Detected**
ST18-9 *021107512-0009*	Fire Stop Caulking	Brown/Black Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
ST18-10 *021107512-0010*	Fire Stop Caulking	Red Fibrous Heterogeneous	5%	Glass	95% Non-fibrous (other)	**None Detected**
ST18-11 *021107512-0011*	HVAC Duct Mastic	Grayish Non-Fibrous Heterogeneous	3%	Cellulose	97% Non-fibrous (other)	**None Detected**
ST18-12-Sheetrock *021107512-0012*	Sheetrock/Joint Compound	Brown/Gray Fibrous Heterogeneous	10%	Cellulose	90% Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ST18-12-Joint Compound *021107512-0012A*	Sheetrock/Joint Compound	Tan Non-Fibrous Heterogeneous		95% Non-fibrous (other)	**5% Chrysotile**
ST18-13 *021107512-0013*	Stair Tread Adhesive	Tan Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**
ST18-14 *021107512-0014*	Textured Ceiling Material on Concrete Ceiling	Grayish Non-Fibrous Heterogeneous		97% Non-fibrous (other)	**3% Chrysotile**
ST17-15 *021107512-0015*	Pipe Mastic on Fiberglass Insulation	Beige Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**
ST16-16 *021107512-0016*	Mud at Floor Penetrations	Gray Fibrous Heterogeneous	20% Min. Wool	77% Non-fibrous (other)	**3% Amosite**
ST16-17 *021107512-0017*	Mastic under Carpet Adhesive Only	Black Non-Fibrous Heterogeneous		95% Non-fibrous (other)	**5% Chrysotile**

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			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
ST16-18 *021107512-0018*	Trowel Applied Surfacing Material	Tan Non-Fibrous Heterogeneous	1%	Cellulose	99% Non-fibrous (other)	**None Detected**
ST16-19-Floor Tile *021107512-0019*	Floor Tile & Mastic Only	White Non-Fibrous Heterogeneous			100% Non-fibrous (other)	**None Detected**
ST16-19-Mastic *021107512-0019A*	Floor Tile & Mastic Only	Black Non-Fibrous Heterogeneous			92% Non-fibrous (other)	**8% Chrysotile**
ST16-20 *021107512-0020*	Gypsum Backer Board	Brown/Gray Fibrous Heterogeneous	10%	Cellulose	90% Non-fibrous (other)	**None Detected**
ST18-21 *021107512-0021*	Leveling Compound Only	White Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
ST15-22 *021107512-0022*	Carpet Adhesive Only	Tan Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ST15-23 *021107512-0023*	Textured Ceiling Panel	White/Beige Fibrous Heterogeneous	40% Cellulose 20% Min. Wool	40% Non-fibrous (other)	**None Detected**
ST15-24 *021107512-0024*	Baseboard Adhesive	Tan Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**
ST15-25 *021107512-0025*	Mudded Elbow	Gray/Tan Fibrous Heterogeneous	20% Min. Wool 15% Cellulose	62% Non-fibrous (other)	**3% Amosite**
ST15-26 *021107512-0026*	HVAC Duct Mastic	Grayish Non-Fibrous Heterogeneous	3% Cellulose	97% Non-fibrous (other)	**None Detected**
ST15-27 *021107512-0027*	Pipe Mastic Only	Black Fibrous Heterogeneous		90% Non-fibrous (other)	**10% Chrysotile**
ST14-28 *021107512-0028*	Fire Stop Caulking	Brown/Black Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
ST14-29 *021107512-0029*	Fire Stop Caulking	Red/Black Fibrous Heterogeneous	5%	Glass	95% Non-fibrous (other)	**None Detected**
ST14-30 *021107512-0030*	Felt Vapor Barrier under Ceramic Tile	Brown/Black Fibrous Heterogeneous	70%	Cellulose	30% Non-fibrous (other)	**None Detected**
ST14-31 *021107512-0031*	Overspary on HVAC Duct	Grayish Non-Fibrous Heterogeneous			97% Non-fibrous (other)	**3% Chrysotile**
ST14-32 *021107512-0032*	Textured Ceiling Material on Concrete Ceiling	Beige Non-Fibrous Heterogeneous			97% Non-fibrous (other)	**3% Chrysotile**
ST13-33 *021107512-0033*	Mud at Floor Penetration	Gray Fibrous Heterogeneous	20% 2%	Min. Wool Cellulose	75% Non-fibrous (other)	**3% Amosite**
ST13-34 *021107512-0034*	Pipe Mastic on Fiberg;ass Insulation	Beige Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
ST13-35 *021107512-0035*	Sheetrock/Joint Compound	Brown/Gray Fibrous Heterogeneous	10%	Cellulose	90% Non-fibrous (other)	**None Detected**
ST13-36 *021107512-0036*	Gypsum Backer Board	Brown/Gray Fibrous Heterogeneous	10%	Cellulose	90% Non-fibrous (other)	**None Detected**
ST13-37-Floor Tile *021107512-0037*	Floor Tile & Mastic	White Non-Fibrous Heterogeneous			100% Non-fibrous (other)	**None Detected**
ST13-37-Mastic *021107512-0037A*	Floor Tile & Mastic	Black Non-Fibrous Heterogeneous			95% Non-fibrous (other)	**5% Chrysotile**
ST13-38 *021107512-0038*	Leveling Compound Only	White Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
ST11-39 *021107512-0039*	Overspray on HVAC Duct	Beige/Grayish Non-Fibrous Heterogeneous			97% Non-fibrous (other)	**3% Chrysotile**

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Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
ST9-40 *021107512-0040*	Mudded Elbow	Gray/Tan Fibrous Heterogeneous	20% Min. Wool 10% Cellulose		67% Non-fibrous (other)	**3% Amosite**
ST4-41 *021107512-0041*	Mudded Elbow	Brown/Gray/Tan Fibrous Heterogeneous	15% Min. Wool		80% Non-fibrous (other)	**5% Chrysotile**
ST7-44 *021107512-0042*	Leveling Compound Only	White Non-Fibrous Heterogeneous	<1% Cellulose		100% Non-fibrous (other)	**None Detected**
ST6-45 *021107512-0043*	Pipe Wrap on Fiberglass Insulation	Silver/Beige Fibrous Heterogeneous	70% Cellulose		30% Non-fibrous (other)	**None Detected**
ST5-46 *021107512-0044*	Mastic Under Carpet Adhesive Only	Black Non-Fibrous Heterogeneous			95% Non-fibrous (other)	**5% Chrysotile**
ST5-49 *021107512-0045*	Stair Tread Adhesive	Tan Non-Fibrous Heterogeneous	1% Cellulose 1% Synthetic		98% Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
ST5-50 *021107512-0046*	Textured Ceiling Material on Concrete Ceiling	Grayish Non-Fibrous Heterogeneous			97% Non-fibrous (other)	**3% Chrysotile**
ST5-51 *021107512-0047*	Trowel Applied Surfacing Materail	Tan Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
ST4-53 *021107512-0048*	Gypsum Backer Board	Brown/Gray Fibrous Heterogeneous	15%	Cellulose	85% Non-fibrous (other)	**None Detected**
ST4-54 *021107512-0049*	Pipe Mastic Only	Black Fibrous Heterogeneous			90% Non-fibrous (other)	**10% Chrysotile**
ST4-57 *021107512-0050*	Textured Ceiling panels	Tan/White Fibrous Heterogeneous	55% 5%	Cellulose Min. Wool	40% Non-fibrous (other)	**None Detected**
ST3-58 *021107512-0051*	Trowel Applied Surfacing Materail	Gray/Tan Non-Fibrous Heterogeneous	1%	Cellulose	99% Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
ST3-59-Yellow Mastic *021107512-0051A*	Stair Tread Adhesive	Tan/Yellow Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
ST3-59-Black Mastic *021107512-0051B*	Stair Tread Adhesive	Brown/Black Non-Fibrous Heterogeneous			95% Non-fibrous (other)	**5% Chrysotile**
ST3-60 *021107512-0052*	Mud at Floor Penetrations	Grayish Fibrous Heterogeneous	15% 1%	Min. Wool Cellulose	81% Non-fibrous (other)	**3% Chrysotile**
ST3-61 *021107512-0053*	Overspray on Concrete Ceiling	Beige Fibrous Heterogeneous			97% Non-fibrous (other)	**3% Chrysotile**
ST3-62-Sheetrock *021107512-0054*	Sheetrock/joint Compound	Brown/Gray Fibrous Heterogeneous	10%	Cellulose	90% Non-fibrous (other)	**None Detected**
ST3-62-Joint Compound *021107512-0054A*	Sheetrock/joint Compound	Tan Non-Fibrous Heterogeneous			95% Non-fibrous (other)	**5% Chrysotile**

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Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
ST2-63 *021107512-0055*	Pipe Wrap on Fiberglass Insulation	Black/Silver/Beige Fibrous Heterogeneous	55% Cellulose 5% Glass		40% Non-fibrous (other)	**None Detected**
ST1-64 *021107512-0056*	Smooth Textured Ceiling Panels	Gray/White Fibrous Heterogeneous	90% Min. Wool		10% Non-fibrous (other)	**None Detected**
ST1-65 *021107512-0057*	Smooth Textured Ceiling Panels	Gray/White Fibrous Heterogeneous	90% Min. Wool		10% Non-fibrous (other)	**None Detected**
ST1-66 *021107512-0058*	Smooth Textured Ceiling Panels	Gray/White Fibrous Heterogeneous	90% Min. Wool <1% Cellulose		10% Non-fibrous (other)	**None Detected**
ST1-67 *021107512-0059*	Baseboard Adhesive	Tan Non-Fibrous Heterogeneous	<1% Synthetic		100% Non-fibrous (other)	**None Detected**
ST1-68 *021107512-0060*	Baseboard Adhesive	Tan/Gold Non-Fibrous Heterogeneous	<1% Synthetic <1% Cellulose		100% Non-fibrous (other)	**None Detected**

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Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
ST1-70 *021107512-0061*	Baseboard Adhesive	Brown Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
ST1-71 *021107512-0062*	Baseboard Adhesive	Brown/Tan Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
ST1-74 *021107512-0063*	Fiberglass Duct Board Gutter Skin	Black Non-Fibrous Heterogeneous	2% 3%	Cellulose Glass	95% Non-fibrous (other)	**None Detected**
ST1-75 *021107512-0064*	Fiberglass Duct Board Gutter Skin	Brown/Black Fibrous Heterogeneous	10% 3%	Cellulose Glass	87% Non-fibrous (other)	**None Detected**
ST1-76 *021107512-0065*	Fiberglass Duct Board Gutter Skin	Black/Gold Fibrous Heterogeneous	8% 8%	Cellulose Glass	84% Non-fibrous (other)	**None Detected**
ST1-77 *021107512-0066*	Mudded Elbow	Gray/Tan Fibrous Heterogeneous	20%	Min. Wool	75% Non-fibrous (other)	**5% Chrysotile**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ST1-78 *021107512-0067*	Adhesive on Door Trim	Black Non-Fibrous Heterogeneous		97% Non-fibrous (other)	**3% Chrysotile**
ST1-79 *021107512-0068*	Adhesive on Door Trim	Brown/Black Fibrous Heterogeneous	1% Cellulose	94% Non-fibrous (other)	**5% Chrysotile**
ST1-82 *021107512-0069*	Mudded Elbow	Black Fibrous Heterogeneous		90% Non-fibrous (other)	**10% Chrysotile**
ST1-83-Black Mastic *021107512-0070*	Pipe Wrap on Fiberglass Insulation	Black Fibrous Heterogeneous		90% Non-fibrous (other)	**10% Chrysotile**
ST1-83-Pipe Wrap *021107512-0070A*	Pipe Wrap on Fiberglass Insulation	Gray/Silver/Beige Fibrous Heterogeneous	30% Cellulose 5% Glass	65% Non-fibrous (other)	**None Detected**

Report Amended: 01/03/2012 11:14:00 Replaces the Inital Report 12/27/2011 08:54:34. Reason Code: Data Entry-Change to Location

Analyst(s)

Kristie Elliott (72)
Scott Combs (5)

Stephen Bennett, Laboratory Manager
or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
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Attn: **Glynn Ellen**
F & ME Consultants
3112 Divine Street

Columbia, SC 29205

Fax: (803) 254-4542 Phone: (803) 254-4540
Project: **E5200.04/South Tower - USC/Asbestos Assessment**

Customer ID: FMEC62
Customer PO: E5200.03
Received: 12/21/11 10:30 PM
EMSL Order: 021107512

EMSL Proj:
Analysis Date: 12/28/2011

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID / DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
ST1-42-Yellow Mastic *021107512-0071*	Yellow Non-Fibrous Heterogeneous	99.8	None	<0.25% Chrysotile
ST7-43-Floor Tile *021107512-0072*	Beige Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
ST5-47 *021107512-0073*	Red Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
ST5-48 *021107512-0074*	Brown Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
ST5-52 *021107512-0075*	Gray Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
ST4-55 *021107512-0076*	Brown Fibrous Heterogeneous	100	None	No Asbestos Detected
ST4-56 *021107512-0077*	Beige Non-Fibrous Heterogeneous	100	None	No Asbestos Detected

Initial report from 12/27/2011 08:54:34

Analyst(s)
Stephen Bennett (11)

Stephen Bennett, Laboratory Manager
or other approved signatory

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Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
ST4-59-Yellow/Tan Mastic *021107512-0078*		Tan /Yellow Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
ST1-69 *021107512-0079*		Tan Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
ST1-72 *021107512-0080*		Brown /Tan Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
ST16-81 *021107512-0081*		Tan Non-Fibrous Heterogeneous	100	None	No Asbestos Detected

Initial report from 12/27/2011 08:54:34

Analyst(s)
Stephen Bennett (11)

Stephen Bennett, Laboratory Manager
or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

021107512

Chain of Custody

7512

Asbestos Lab Services

EMSL Analytical, Inc.
706 Gralin Street
Kernersville, NC 27284

Phone: (336) 992-1025
Fax: (336) 992-4175
http://www.emsl.com

Please print all information legibly.

Company:	F&ME Consultants	*Bill To:*	F&ME Consultants
Address1:	3112 Devine Street	*Address1:*	P.O. Box 5855
Address2:		*Address2:*	
City, State:	Columbia, South Carolina	*City, State:*	Columbia, South Carolina
Zip/Post Code:	29205	*Zip/Post Code:*	29250
Country:	USA	*Country:*	USA
Contact Name:	Glynn Ellen	*Attn:*	Jim Kelleher
Phone:	803 254-4540	*Phone:*	803 777-1208
Fax:	803 254-4542	*Fax:*	803 777-1028
Email:	glynn@fmecol.com	*Email:*	jkelleher@fmecol.com
EMSL Rep:	Jason McDonald	*P.O. Number:*	E5200.04
Project Name/Number:	E5200.04/South Tower – USC/Asbestos Assessment		

MATRIX			TURNAROUND			
☐ Air	☐ Soil	☐ Micro-Vac	☐ 3 Hours	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours (1day)
☑ Bulk	☐ Drinking Water		☐ 48 Hours (2 days)	☑ 72 Hours (3 days)	☑ 96 Hours (4 days)	☐ 120 Hours (5 days)
☐ Wipe	☐ Wastewater		☐ 144+ hours (6-10 days)			

TEM AIR, 3 hours, 6 hours, Please call ahead to schedule. There is a premium charge for 3-hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign an authorization form for this service.
***12 hours (must arrive by 11:00a.m. Mon -Fri.), Please Refer to Price Quote**

PCM - Air	TEM Air	TEM WATER
☐ NIOSH 7400(A) Issue 2: August 1994	☐ AHERA 40 CFR, Part 763 Subpart E	☐ EPA 100.1
☐ OSHA w/TWA	☐ NIOSH 7402	☐ EPA 100.2
☐ Other:	☐ EPA Level II	☐ NYS 198.2
PLM - Bulk	**TEM BULK**	**TEM Microvac/Wipe**
☑ EPA 600/R-93/116	☐ Drop Mount (Qualitative)	☐ ASTM D 5755-95 (quantative method)
☐ EPA Point Count	☐ Chatfield SOP - 1988-02	☐ Wipe Qualitative
☐ NY Stratified Point Count	☑ TEM NOB (Gravimetric) NYS 198.4	
☐ PLM NOB (Gravimetric) NYS 198.1	☐ EMSL Standard Addition:	**XRD**
☐ NIOSH 9002:		☐ Asbestos
☐ EMSL Standard Addition:	**PLM Soil**	☐ Silica NIOSH 7500
SEM Air or Bulk	☐ EPA Protocol Qualitative	
☐ Qualitative	☐ EPA Protocol Quantitative	**OTHER**
☐ Quantitative	☐ EMSL MSD 9000 Method fibers/gram	☐

021107512

7512

Chain of Custody

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Phone: (336) 992-1025
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http://www.emsl.com

Please print all information legibly.

Client Sample # ST18-1 to ST1-83 **Total Samples #:** 83

Relinquished: Mike Mincey Mike Mincey **Date:** 12/20/11 **Time:** 17:00

Received: MV **Date:** 12/21/11 **Time:** 10:30

Relinquished: _____ **Date:** _____ **Time:** _____

Received: _____ **Date:** _____ **Time:** _____

SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME (if *applicable*)
NOTE: RUN TEM ONLY ON SAMPLES DESIGNATED AND PLM ON SAMPLES NOT DESIGNATED TEM. SOUTH CAROLINA GUIDELINES.		
ST18-1	Baseboard Adhesive (Cream)	
ST18-2	Carpet Adhesive (Yellow) Only	
ST18-3	Black Pipe Mastic Only	
ST18-4	Pipe Wrap on Fiberglass Insulation	
ST18-5	Mudded Elbow	
ST18-6	Joint Compound	
ST18-7	2' x 2' Textured Ceiling Panel	
ST18-8	Felt Vapor Barrier Under Ceramic Tile	
ST18-9	Brown Fire Stop Caulking	
ST18-10	Red Fire Stop Caulking	
ST18-11	Lite Gray HVAC Duct Mastic	
ST18-12	Sheetrock/Joint Compound	
ST18-13	Stair Tread Adhesive (Yellow)	
ST18-14	Textured Ceiling Material on Concrete Ceiling	
ST17-15	Crème Pipe Mastic on Fiberglass Insulation Only	
ST16-16	Mud at Floor Penetrations (Chase)	
ST16-17	Black Mastic Under Carpet (Yellow) Adhesive Only	
ST16-18	Trowel Applied Surfacing Material (Brown)	
ST16-19	12" x 12" White Floor Tile & Black Mastic Only	
ST16-20	Gypsum Backer Board	
ST18-21	White Leveling Compound Only	
ST15-22	Carpet Adhesive (Yellow) Only	
ST15-23	2' x 2' Textured Ceiling Panel	
ST15-24	Baseboard Adhesive (Cream)	

7512

ST15-25	Mudded Elbow	
ST15-26	Lite Gray HVAC Duct Mastic	
ST15-27	Black Pipe Mastic Only	
ST14-28	Brown Fire Stop Caulking	
ST14-29	Red Fire Stop Caulking	
ST14-30	Felt Vapor Barrier Under Ceramic Tile	
ST14-31	Overspray on HVAC Duct (Chase)	
ST14-32	Textured Ceiling Material on Concrete Ceiling	
ST13-33	Mud at Floor Penetrations (Chase)	
ST13-34	Crème Pipe Mastic on Fiberglass Insulation Only	
ST13-35	Sheetrock/Joint Compound	
ST13-36	Gypsum Backer Board	
ST13-37	12" x 12" White Floor Tile & Black Mastic Only	
ST13-38	White Leveling Compound Only	
ST11-39	Overspray on HVAC Duct (Chase)	
ST9-40	Mudded Elbow (Stairwell)	
ST4-41	Mudded Elbow (Custodial Closet)	
ST8-42	Carpet Adhesive (Yellow) Only	TEM Only if 2 & 22 are Neg.
ST7-43	12" x 12" White Floor Tile & Black Mastic Only	TEM Only if 19 & 37 are Neg.
ST7-44	White Leveling Compound Only	
ST6-45	Pipe Wrap on Fiberglass Insulation	
ST5-46	Black Mastic Under Carpet (Yellow) Adhesive Only	
ST5-47	Red Fire Stop Caulking	TEM Only if 10 & 29 are Neg.
ST5-48	Brown Fire Stop Caulking	TEM Only if 9 & 28 are Neg.
ST5-49	Stair Tread Adhesive (Yellow)	
ST5-50	Textured Ceiling Material on Concrete Ceiling	
ST5-51	Trowel Applied Surfacing Material (Brown)	
ST5-52	Lite Gray HVAC Duct Mastic	TEM Only if 11 & 26 are Neg.
ST4-53	Gypsum Backer Board	
ST4-54	Black Pipe Mastic Only	
ST4-55	Felt Vapor Barrier Under Ceramic Tile	TEM Only if 8 & 30 are Neg.
ST4-56	Baseboard Adhesive (Cream)	TEM Only if 1 & 24 are Neg.
ST4-57	2' x 2' Textured Ceiling Panels	
ST3-58	Trowel Applied Surfacing Material (Brown)	
ST3-59	Stair Tread Adhesive (Yellow & Black)	TEM Both
ST3-60	Mud at Floor Penetrations (Chase)	
ST3-61	Overspray on Concrete Ceiling of Chase	
ST3-62	Sheetrock/Joint Compound	
ST2-63	Pipe Wrap on Fiberglass Insulation	
ST1-64	2' x 2' Smooth Textured Ceiling Panels (Recessed)	
ST1-65	2' x 2' Smooth Textured Ceiling Panels (Recessed)	

ST1-66	2' x 2' Smooth Textured Ceiling Panels (Recessed)	
ST1-67	Baseboard Adhesive (Lite Brown)	
ST1-68	Baseboard Adhesive (Lite Brown)	
ST1-69	Baseboard Adhesive (Lite Brown)	TEM Only if 67 & 68 are Neg.
ST1-70	Baseboard Adhesive (Brown)	
ST1-71	Baseboard Adhesive (Brown)	
ST1-72	Baseboard Adhesive (Brown)	TEM Only if 70 & 71 are Neg.
ST1-73	Black Pipe Mastic	TEM Only if 3, 27, 54 are Neg.
ST1-74	Fiberglass Duct Board Gutter Skin	
ST1-75	Fiberglass Duct Board Gutter Skin	
ST1-76	Fiberglass Duct Board Gutter Skin	
ST1-77	Mudded Elbow	
ST1-78	Black Adhesive on Black Door Trim	
ST1-79	Black Adhesive on Black Door Trim	
ST1-80	Black Adhesive on Black Door Trim	TEM Only if 78 & 79 are Neg.
ST16-81	Crème Pipe Mastic Only	TEM Only if 15 & 34 are Neg.
ST1-82	Black Mastic Elbow	
ST1-83	Pipe Wrap on Fiberglass Insulation	

EMSL Analytical, Inc.
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Attn: **Glynn Ellen**
F & ME Consultants
3112 Divine Street

Columbia, SC 29205

Fax: (803) 254-4542 Phone: (803) 254-4540

Project: **E5200.04/South Tower-USC/Asbestos Assessment of Basement /Sub-basement and Penthouse**

Customer ID: FMEC62
Customer PO: E5200.04
Received: 01/05/12 10:15 AM
EMSL Order: 021200053

EMSL Proj:
Analysis Date: 1/6/2012

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
STB-84 *021200053-0001*	Mudded Elbow	Gray/Tan Fibrous Heterogeneous	40% 2% 1%	Min. Wool Cellulose Synthetic	54% Non-fibrous (other)	**3% Chrysotile**
STB-85 *021200053-0002*	Pipe Wrap on Fiberglass Insulation	Tan/Black/Silver/Yellow Fibrous Heterogeneous	20% 10% 1%	Cellulose Glass Synthetic	69% Non-fibrous (other)	**None Detected**
STB-86 *021200053-0003*	Mudded Elbow	Gray Fibrous Heterogeneous	20% 5%	Min. Wool Cellulose	72% Non-fibrous (other)	**3% Chrysotile**
STB-87-Floor Tile *021200053-0004*	Floor Tile & Mastic	Brown/Tan Non-Fibrous Heterogeneous			95% Non-fibrous (other)	**5% Chrysotile**
STB-87-Mastic *021200053-0004A*	Floor Tile & Mastic	Black Fibrous Heterogeneous	2%	Cellulose	88% Non-fibrous (other)	**10% Chrysotile**
STB-88 *021200053-0005*	Floor Tile & Mastic					**Stop Positive (Not Analyzed)**

Initial report from 01/06/2012 15:03:20

Analyst(s)

Kristie Elliott (10)
Scott Combs (22)

Stephen Bennett, Laboratory Manager
or other approved signatory

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			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
STB-90 *021200053-0006*	Overspray on HVAC Duct	Gray Fibrous Heterogeneous	3% 1%	Cellulose Synthetic	88% Non-fibrous (other)	**8% Chrysotile**
STB-91 *021200053-0007*	Heavy Textured Ceiling Panels	Gray/White Fibrous Heterogeneous	75% 1%	Min. Wool Cellulose	24% Non-fibrous (other)	**None Detected**
STB-92 *021200053-0008*	Heavy Textured Ceiling Panels	Gray/White Fibrous Heterogeneous	75% 1%	Min. Wool Cellulose	24% Non-fibrous (other)	**None Detected**
STB-93 *021200053-0009*	Heavy Textured Ceiling Panels	Gray/Beige Fibrous Heterogeneous	75% 1%	Min. Wool Cellulose	24% Non-fibrous (other)	**None Detected**
STB-94 *021200053-0010*	Pipe Wrap on Fiberglass Insulation	Tan/Black/Silver Fibrous Heterogeneous	45% 10%	Cellulose Glass	45% Non-fibrous (other)	**None Detected**
STB-95 *021200053-0011*	Canvas Pipe Wrap	Beige/Cream Fibrous Heterogeneous	70%	Cellulose	30% Non-fibrous (other)	**None Detected**

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			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
STB-96 *021200053-0012*	Canvas Pipe Wrap	Beige/Cream Non-Fibrous Heterogeneous	70%	Cellulose	30% Non-fibrous (other)	**None Detected**
STB-97 *021200053-0013*	Canvas Pipe Wrap	Beige Fibrous Heterogeneous	70%	Cellulose	30% Non-fibrous (other)	**None Detected**
STSB-98 *021200053-0014*	HVAC Duct Wrap	Tan/White/Silver Fibrous Heterogeneous	40% 15% 1%	Cellulose Glass Synthetic	44% Non-fibrous (other)	**None Detected**
STSB-99 *021200053-0015*	HVAC Duct Wrap	Gray/White/Silver Fibrous Heterogeneous	50% 5% 1%	Cellulose Glass Synthetic	44% Non-fibrous (other)	**None Detected**
STSB-100 *021200053-0016*	HVAC Duct Wrap	White/Beige Fibrous Heterogeneous	55% 1% 1%	Cellulose Synthetic Glass	43% Non-fibrous (other)	**None Detected**
STSB-101 *021200053-0017*	Canvas Pipe Wrap	Gray/Silver/Yellow Fibrous Heterogeneous	80% 5% 1%	Cellulose Glass Synthetic	14% Non-fibrous (other)	**None Detected**

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EMSL Proj:
Analysis Date: 1/6/2012

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
STSB-102 *021200053-0018*	Canvas Pipe Wrap	Gray/Silver/Yellow Fibrous Heterogeneous	80% 5% 1%	Cellulose Glass Synthetic	14% Non-fibrous (other)	**None Detected**
STSB-103 *021200053-0019*	Canvas Pipe Wrap	Beige Fibrous Heterogeneous	75% 5%	Cellulose Glass	20% Non-fibrous (other)	**None Detected**
STSB-104-Green Board *021200053-0020*	Green Board/Joint Compound	Brown/Gray/Green Fibrous Heterogeneous	5% 1%	Cellulose Glass	94% Non-fibrous (other)	**None Detected**
STSB-104-Joint Compound *021200053-0020A*	Green Board/Joint Compound	White Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
STSB-105-Green Board *021200053-0021*	Green Board/Joint Compound	Brown/Gray/Green Fibrous Heterogeneous	5% 1%	Cellulose Glass	94% Non-fibrous (other)	**None Detected**
STSB-105-Joint Compound *021200053-0021A*	Green Board/Joint Compound	White Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
STSB-106-Green Board *021200053-0022*	Green Board/Joint Compound	Brown/Gray Fibrous Heterogeneous	10% 1%	Cellulose Glass	89% Non-fibrous (other)	**None Detected**
STSB-106-Joint Compound *021200053-0022A*	Green Board/Joint Compound	White Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
STSB-107 *021200053-0023*	Unknown Debris	Gray/Tan Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
STSB-108 *021200053-0024*	Unknown Debris	Gray/Tan Non-Fibrous Heterogeneous	<1%	Cellulose	100% Non-fibrous (other)	**None Detected**
STSB-109 *021200053-0025*	Unknown Debris	Gray/Tan Non-Fibrous Heterogeneous	<1% <1%	Synthetic Cellulose	100% Non-fibrous (other)	**None Detected**
STB-110-Floor Tile *021200053-0026*	Floor Tile & Mastic	Tan Non-Fibrous Heterogeneous			100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
STB-110-Mastic *021200053-0026A*	Floor Tile & Mastic	Tan/Yellow/Grayish Non-Fibrous Heterogeneous	2%	Cellulose	98% Non-fibrous (other)	**None Detected**
STB-111-Floor Tile *021200053-0027*	Floor Tile & Mastic	Tan Non-Fibrous Heterogeneous			100% Non-fibrous (other)	**None Detected**
STB-111-Mastic *021200053-0027A*	Floor Tile & Mastic	Tan Non-Fibrous Heterogeneous	1%	Cellulose	99% Non-fibrous (other)	**None Detected**

Initial report from 01/06/2012 15:03:20

Analyst(s)

Kristie Elliott (10)
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THIS IS THE LAST PAGE OF THE REPORT.

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone: (336) 992-1025 Fax: (336) 992-4175 Email: greensborolab@emsl.com

Attn: **Glynn Ellen**
F & ME Consultants
3112 Divine Street

Columbia, SC 29205

Fax: (803) 254-4542 Phone: (803) 254-4540

Project: **E5200.04/South Tower-USC/Asbestos Assessment of Basement /Sub-basement and Penthouse**

Customer ID: FMEC62
Customer PO: E5200.04
Received: 01/05/12 10:15 AM
EMSL Order: 021200053

EMSL Proj:
Analysis Date: 1/9/2012

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
STB-112-Floor Tile *021200053-0028*	Floor Tile & Mastic	Tan Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
STB-112-Mastic *021200053-0029*	Floor Tile & Mastic	Tan Non-Fibrous Heterogeneous	99.7	None	0.32% Chrysotile

Initial report from 01/06/2012 15:03:20

Analyst(s)
Stephen Bennett (2)

Stephen Bennett, Laboratory Manager
or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

021200053

Chain of Custody 0053

Asbestos Lab Services

EMSL Analytical, Inc.
706 Gralin Street
Kernersville, NC 27284

Phone: (336) 992-1025
Fax: (336) 992-4175
http://www.emsl.com

Please print all information legibly.

Company:	F&ME Consultants	*Bill To:*	F&ME Consultants
Address1:	3112 Devine Street	*Address1:*	P.O. Box 5855
Address2:		*Address2:*	
City, State:	Columbia, South Carolina	*City, State:*	Columbia, South Carolina
Zip/Post Code:	29205	*Zip/Post Code:*	29250
Country:	USA	*Country:*	USA
Contact Name:	Glynn Ellen	*Attn:*	Jim Kelleher
Phone:	803 254-4540	*Phone:*	803 777-1208
Fax:	803 254-4542	*Fax:*	803 777-1028
Email:	glynn@fmecol.com	*Email:*	jkelleher@fmecol.com
EMSL Rep:	Jason McDonald	*P.O. Number:*	B5200.04
Project Name/Number:	E5200.04/South Tower – USC/Asbestos Assessment of Basement/Sub-basement and Penthouse		

MATRIX			TURNAROUND			
☐ Air	☐ Soil	☐ Micro-Vac	☐ 3 Hours	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours (1day)
☑ Bulk	☐ Drinking Water		☐ 48 Hours (2 days)	☑ 72 Hours (3 days)	☑ 96 Hours (4 days)	☐ 120 Hours (5 days)
☐ Wipe	☐ Wastewater		☐ 144+ hours (6-10 days)			

TEM AIR, 3 hours, 6 hours, Please call ahead to schedule. There is a premium charge for 3-hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign an authorization form for this service.
***12 hours (must arrive by 11:00a.m. Mon -Frl.), Please Refer to Price Quote**

PCM - Air	TEM Air	TEM WATER
☐ NIOSH 7400(A) Issue 2: August 1994	☐ AHERA 40 CFR, Part 763 Subpart E	☐ EPA 100.1
☐ OSHA w/TWA	☐ NIOSH 7402	☐ EPA 100.2
☐ Other:	☐ EPA Level II	☐ NYS 198.2
PLM - Bulk	**TEM BULK**	**TEM Microvac/Wipe**
☑ EPA 600/R-93/116	☐ Drop Mount (Qualitative)	☐ ASTM D 5755-95 (quantative method)
☐ EPA Point Count	☐ Chatfield SOP - 1988-02	☐ Wipe Qualitative
☐ NY Stratified Point Count	☑ TEM NOB (Gravimetric) NYS 198.4	
☐ PLM NOB (Gravimetric) NYS 198.1	☐ EMSL Standard Addition:	**XRD**
☐ NIOSH 9002:		☐ Asbestos
☐ EMSL Standard Addition:	**PLM Soil**	☐ Silica NIOSH 7500
SEM Air or Bulk	☐ EPA Protocol Qualitative	
☐ Qualitative	☐ EPA Protocol Quantitative	**OTHER**
☐ Quantitative	☐ EMSL MSD 9000 Method fibers/gram	☐

021200053

0053

Chain of Custody

Asbestos Lab Services

EMSL Analytical, Inc.
706 Gralin Street
Kernersville, NC 27284

Phone: (336) 992-1025
Fax: (336) 992-4175
http://www.emsl.com

Please print all information legibly.

Client Sample # STB-84 TO STB-112 **Total Samples #:** 29

Relinquished: Mike Mincey Mike Mincey **Date:** 01/04/12 **Time:** 17:00

Received: MV **Date:** 1/5/12 **Time:** 10:15

Relinquished: _____ **Date:** _____ **Time:** _____

Received: _____ **Date:** _____ **Time:** _____

SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME (if applicable)
NOTE: RUN TEM ONLY ON SAMPLES DESIGNATED AND PLM ON SAMPLES NOT DESIGNATED TEM. SOUTH CAROLINA GUIDELINES.		
STB-84	Mudded Elbow	
STB-85	Pipe Wrap on Fiberglass Insulation	
STB-86	Mudded Elbow	
STB-87	9" x 9" Tan Floor Tile & Mastic	
STB-88	9" x 9" Tan Floor Tile & Mastic	
STB-89	9" x 9" Tan Floor Tile & Mastic	TEM
STB-90	Overspray on HVAC Duct (Bathroom)	
STB-91	12" x 12" Heavy Textured Ceiling Panels	
STB-92	12" x 12" Heavy Textured Ceiling Panels	
STB-93	12" x 12" Heavy Textured Ceiling Panels	
STB-94	Pipe Wrap on Fiberglass Insulation	
STB-95	Canvas Pipe Wrap	
STB-96	Canvas Pipe Wrap	
STB-97	Canvas Pipe Wrap	
STSB-98	HVAC Duct Wrap	
STSB-99	HVAC Duct Wrap	
STSB-100	HVAC Duct Wrap	
STSB-101	Canvas Pipe Wrap	
STSB-102	Canvas Pipe Wrap	
STSB-103	Canvas Pipe Wrap	
STSB-104	Green Board/Joint Compound	
STSB-105	Green Board/Joint Compound	
STSB-106	Green Board/Joint Compound	
STSB-107	Unknown Debris	

STSB-108	Unknown Debris	
STSB-109	Unknown Debris	
STB-110	12" x 12" Brown w/White Speckles' Floor Tile & Mastic	
STB-111	12" x 12" Brown w/White Speckles' Floor Tile & Mastic	
STB-112	12" x 12" Brown w/White Speckles' Floor Tile & Mastic	TEM

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone: (336) 992-1025 Fax: (336) 992-4175 Email: greensborolab@emsl.com

Attn: **Darryl Washington**
University of South Carolina
743 Greene Street
Columbia, SC 29208

Fax: (803) 777-7334 Phone: (803) 777-7000
Project: **122 South Towers**

Customer ID: UNSC62
Customer PO:
Received: 02/16/11 10:00 AM
EMSL Order: 021101023

EMSL Proj:
Analysis Date: 2/16/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1-Skim Coat *021101023-0001*	Plaster Ceiling Material	White/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1-Rough Coat *021101023-0001A*	Plaster Ceiling Material	Gray/Tan Non-Fibrous Heterogeneous	<1% Hair <1% Cellulose	100% Non-fibrous (other)	**None Detected**
2-Skim Coat *021101023-0002*	Plaster Ceiling Material	White/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
2-Rough Coat *021101023-0002A*	Plaster Ceiling Material	Gray/Tan Non-Fibrous Heterogeneous	<1% Hair <1% Cellulose	100% Non-fibrous (other)	**None Detected**
3-Rough Coat *021101023-0003*	Plaster Ceiling Material	Beige Fibrous Heterogeneous	1% Hair <1% Cellulose	99% Non-fibrous (other)	**None Detected**
3-Finish Coat *021101023-0003A*	Plaster Ceiling Material	White/Beige Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**

Initial report from 02/16/2011 17:24:46

Analyst(s)

Stephen Bennett (2)
Scott Combs (4)

Stephen Bennett, Laboratory Manager
or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

021101023

1023

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Chain of Custody

EMSL Order Number *(Lab Use Only)*: South Towers

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Company: USC	**EMSL-Bill to:** ☐ Same ☐ Different If Bill to is Different note instructions in Comments** Third Party Billing requires written authorization from third party
Street: 743 Greene St	
City: Cola **State/Province:** SC	**Zip/Postal Code:** **Country:**
Report To (Name): D Washington	**Fax #:**
Telephone #:	**Email Address:**
Project Name/Number:	
Please Provide Results: ☐ Fax ☒ Email	**Purchase Order:** **U.S. State Samples Taken:**

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

**For RUSH TAT's Please Call Ahead to Confirm Lab Hours and Availability. Not all TAT options are valid for every test. Materials Science and IAQ TATs are in Business Days rather than Hours (i.e. 24 Hour = End of Next Business Day)*

Asbestos

PCM - Air
☐ NIOSH 7400
☐ w/ 8hr. TWA

TEM– Air ☐ 4-4.5hr TAT (AHERA ONLY)
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☐ ISO 10312

TEM - Water
Fibers ≥10µm ☐ Waste ☐ Drinking
All Fiber Sizes ☐ Waste ☐ Drinking

PLM - Bulk
☒ PLM EPA 600/R-93/116
☐ PLM EPA NOB (<1%)
☐ NYS 198.1 (friable-NY)
☐ NYS 198.6 (non-friable-NY)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
Point Count w/ Gravimetric
☐ 400 (<0.25%) ☐ 1000 (<0.1%)

TEM - Dust
☐ Microvac – ASTM D 5755
☐ Wipe-ASTM D6480

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (non-friable-NY)
☐ Chatfield SOP

Soil/Rock/Vermiculite
☐ PLM CARB 435 – A (0.25% sensitivity)
☐ PLM CARB 435 – B (0.1% sensitivity)
☐ TEM CARB 435 – B (0.1% sensitivity)
☐ EPA Reg. 1 Screening Protocol (Qualitative)

Other:

Lead (Pb)

Flame Atomic Absorption
☐ Chips SW846-7000B or AOAC 974.02
☐ Soil SW846-7000B/7420
☐ Air NIOSH 7082
☐ Wastewater SM3111B or SW846-7000B/7420
☐ ASTM Wipe SW846-7000B/7420
☐ non ASTM Wipe SW846-7000B/7420
☐ TCLP SW846-1311/7420/SM 3111B

ICP
☐ Air NIOSH 7300 Modified
☐ non ASTM Wipe SW846-6010B or C
☐ ASTM Wipe SW846-6010B or C
☐ Soil SW846-6010 B or C
☐ Waste Water SW846-6010B or C
☐ TCLP SW846-6010B or C

Graphite Furnace Atomic Absorption
☐ Soil SW846-7421 ☐ Wastewater EPA 200.9
☐ Air NIOSH 7105 ☐ Drinking Water EPA 200.9

Other: ☐

Materials Science

☐ Common Particle ID (large particles)
☐ Fine Particle ID (environmental dust)
☐ Basic Material ID (solids)
☐ Advanced Material ID
☐ Physical Testing (Tensile, Compression)
☐ Combustion-by-products (soot, char, etc.)
☐ X-Ray Fluorescence (elem. analysis)
☐ X-Ray Diffraction (Crystalline Part.)
☐ MMVF's (Fibrous glass, RCF's)
☐ Particle Size (sieve/microscopy/laser)
☐ Combustible Dust
☐ Petrographic Examination
Other: ☐

Microbiology

Wipe and Bulk Samples
☐ Mold & Fungi – Direct Examination
☐ Mold & Fungi Culture (Genus Only)
☐ Mold & Fungi Culture (Genus & Species)
☐ Bacterial Count & ID (Up to Three Types)
☐ Bacterial Count & ID (Up to Five Types)
☐ MRSA
☐ *Pseudomonas aeruginosa*

Water Samples
☐ Total Coliform & E.coli (P/A)
☐ Fecal Coliform (SM 9222D)
☐ Sewage Screen
☐ Heterotrophic Plate Count (SM 9215)

Air Samples
☐ Mold & Fungi (Spore Trap)
☐ Mold & Fungi Culture (Genus Only)
☐ Mold & Fungi (Genus & Species)
☐ Bacterial Culture & ID (Up to Three Types)
☐ Bacterial Culture & ID (Up to Five Types)
☐ Endotoxin Testing

Real Time Q-PCR (See Analytical Guide for Code)
Code:

Legionella
☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4

Other: ☐

IAQ

Nuisance Dust NIOSH ☐ 0500 ☐ 0600
Airborne Dust ☐ PM10 ☐ TSP
Silica Analysis: ☐ All Species
Silica Analysis – Single Species
☐ Alpha Quartz ☐ Cristobalite ☐ Tridymite
☐ HVAC Efficiency
☐ Carbon Black
☐ Airborne Oil Mist
Radon Testing: Call for Kit and COC
Other: ☐

****Comments/Special Instructions:**

Client Sample #'s	-	**Total # of Samples:**	3
Relinquished (Client):		**Date:**	**Time:**
Received (Lab):	MV	**Date:** 2-16-11	**Time:** 10:00

Analysis Completed in Accordance with EMSL's Terms and Conditions located in the Analytical Price Guide

Reset Form | Print Form

021101023

1023

UNIVERSITY OF SOUTH CAROLINA

Sample Analysis

Building # 122 SOUTH TOWERS

Type of Analysis: Lead / Asbestos (circled) Date: 02-14-2011

Turn Around Time 24 HRS

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	1	PLASTER CEILING MATERIAL	CEILING OF BATHROOM RLC APT 1ST FLOOR	F	D	100 SQ FT	LOW
A	2	PLASTER CEILING MATERIAL	CEILING OF BATHROOM RLC APT 1ST FLOOR	F	D	100 SQ FT	LOW
A	3	PLASTER CEILING MATERIAL	CEILING OF BATHROOM RLC APT 1ST FLOOR	F	D	100 SQ FT	LOW

License # ASBI-00568 FM# FM00356991 Signature _____ Requestor HANK SULLY

Send lab results in PDF format as soon as possible to:

Ed Pitts 803-777-3296
720 College St.
Columbia, SC 29208
EHP@fmc.sc.edu

Darryl Washington 803-777-2399
720 College St.
Columbia, SC 29208
WashinDH@fmc.sc.edu

Ty Russell 803-777-1208
720 College St.
Columbia, SC 29208
NTRusse@fmc.sc.edu

Fax # 803-777-3990

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone: (336) 992-1025 Fax: (336) 992-4175 Email: greensborolab@emsl.com

Attn: **Ed Pitts**
University of South Carolina
743 Greene Street
Columbia, SC 29208

Fax: (803) 777-7334 Phone: (803) 777-3296
Project: **122 South Towers Bld**

Customer ID: UNSC62
Customer PO:
Received: 08/03/09 10:00 AM
EMSL Order: 020904360

EMSL Proj:
Analysis Date: 8/3/2009

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1 *020904360-0001*	Joint Compound	Tan Fibrous Heterogeneous		97% Non-fibrous (other)	**3% Chrysotile**
2 *020904360-0002*	Sheetrock	Brown/Gray Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (other)	**None Detected**
3 *020904360-0003*	Hard Wall Material	Gray Fibrous Heterogeneous		70% Non-fibrous (other)	**30% Chrysotile**
4 *020904360-0004*	Joint Compound	Tan Fibrous Heterogeneous		97% Non-fibrous (other)	**3% Chrysotile**
5 *020904360-0005*	Sheetrock	Gray Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (other)	**None Detected**
6 *020904360-0006*	Hard Wall Material	Gray Fibrous Heterogeneous		70% Non-fibrous (other)	**30% Chrysotile**
7 *020904360-0007*	Hard Wall Material	Gray Fibrous Heterogeneous		70% Non-fibrous (other)	**30% Chrysotile**

Analyst(s)

Kristie Hein (21)

Stephen Bennett, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone: (336) 992-1025 Fax: (336) 992-4175 Email: greensborolab@emsl.com

Attn: **Ed Pitts**
University of South Carolina
743 Greene Street
Columbia, SC 29208

Fax: (803) 777-7334 Phone: (803) 777-3296
Project: **122 South Towers Bld**

Customer ID: UNSC62
Customer PO:
Received: 08/03/09 10:00 AM
EMSL Order: 020904360

EMSL Proj:
Analysis Date: 8/3/2009

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
8 *020904360-0008*	Joint Compound	Tan Non-Fibrous Heterogeneous		98% Non-fibrous (other)	**2% Chrysotile**
9 *020904360-0009*	Sheetrock	Brown/Gray Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (other)	**None Detected**
10 *020904360-0010*	Joint Compound	Tan Fibrous Heterogeneous		97% Non-fibrous (other)	**3% Chrysotile**
11 *020904360-0011*	Sheetrock	Gray Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**
12 *020904360-0012*	Hard Wall Material	Gray Fibrous Heterogeneous		70% Non-fibrous (other)	**30% Chrysotile**
13 *020904360-0013*	Joint Compound	Tan Fibrous Heterogeneous		97% Non-fibrous (other)	**3% Chrysotile**
14 *020904360-0014*	Sheetrock	Gray Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (other)	**None Detected**

Analyst(s)

Kristie Hein (21)

Stephen Bennett, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Samples analyzed by EMSL Analytical, Inc. Kernersville 706 Gralin Street, Kernersville NC NVLAP Lab Code 102104-0, CA ELAP 2689, Virginia 3333-000228, West Virginia LT000321

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone: (336) 992-1025 Fax: (336) 992-4175 Email: greensborolab@emsl.com

Attn: **Ed Pitts**
University of South Carolina
743 Greene Street
Columbia, SC 29208

Fax: (803) 777-7334 Phone: (803) 777-3296
Project: **122 South Towers Bld**

Customer ID: UNSC62
Customer PO:
Received: 08/03/09 10:00 AM
EMSL Order: 020904360

EMSL Proj:
Analysis Date: 8/3/2009

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
15 *020904360-0015*	Hard Wall Material	Gray Fibrous Heterogeneous		70% Non-fibrous (other)	**30% Chrysotile**
16 *020904360-0016*	Joint Compound	Tan Fibrous Heterogeneous		97% Non-fibrous (other)	**3% Chrysotile**
17 *020904360-0017*	Sheetrock	Gray Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (other)	**None Detected**
18 *020904360-0018*	Hard Wall Material	Gray Fibrous Heterogeneous		70% Non-fibrous (other)	**30% Chrysotile**
19 *020904360-0019*	Joint Compound	Brown/Gray Fibrous Heterogeneous	10% Cellulose	90% Non-fibrous (other)	**None Detected**
			Sample Does Not Match C.O.C. Description. No Joint Compound Present. Only Sheetrock		
20 *020904360-0020*	Sheetrock	Gray Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (other)	**None Detected**
21 *020904360-0021*	Hard Wall Material	Gray Fibrous Heterogeneous		70% Non-fibrous (other)	**30% Chrysotile**

Analyst(s)

Kristie Hein (21)

Stephen Bennett, Laboratory Manager
or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

0209043360

4360

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

EMSL ANALYTICAL, Inc. CHAIN OF CUSTODY

EMSL Rep:

Third Party Billing requires written authorization from third party

Your Name:
Company: Univ of South Carolina
Street: Ed Pobb
Box #:
City/State: Zip

EMSL-Bill to:
Street:
Box #:
City/State: Zip

Phone Results to:
Name:
Telephone #:

Fax Results to:
Name:
Fax #:

Project Name/Number: #122 South Tower
Purchase Order #:

TURNAROUND TIME

☐ 3 Hours	☐ 6 Hours	☐ 12 Hours	☒ 24 Hours	☐ 48 Hours	☐ 72 Hours	☐ 4 Days	☐ 5 Days	☐ 6-10 Days

SAMPLE MATRIX

☐ Air	☒ Bulk	☐ Soil	☐ Wipe	☐ Micro-Vac	☐ Drinking Water	☐ Wastewater	☐ Chips	☐ Other

ASBESTOS ANALYSIS

PCM - Air
- ☐ NIOSH 7400 (A) Issue 2: August 1994
- ☐ OSHA w/TWA

TEM AIR
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402 Issue 2
- ☐ EPA Level II

PLM - Bulk
- ☒ EPA 600/R-93/116
- ☐ NY Stratified Point Count
- ☐ California Air Resource Board (CARB) 435
- ☐ NIOSH 9002
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ EPA Point Count (400 Points)
- ☐ EPA Point Count (1,000 Points)
- ☐ Standard Addition Point Count

SOILS
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram
- ☐ Superfund EPA 540-R097-028 (dust generation)

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP-1988-02
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC
- ☐ ASTM D 5755-95 (Quantitative)

TEM WIPE
- ☐ ASTM D-6480-99
- ☐ Qualitative ☐

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

OTHER

LEAD ANALYSIS

Flame Atomic Absorption
- ☐ Wipe, SW846-7420 ☐ ASTM ☐ non ASTM
- ☐ Soil, SW846-7420
- ☐ Air, NIOSH 7082
- ☐ Chips, SW846-7420 or AOAC 5.009 (974.02)
- ☐ Wastewater, SW 846-7420
- ☐ TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption
- ☐ Air, NIOSH 7105
- ☐ Wastewater, SW846-7421
- ☐ Soil, SW846-7421
- ☐ Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma
- ☐ Wipe, SW846-6010 ☐ ASTM ☐ non ASTM
- ☐ Soil, SW846-6010
- ☐ Air, NIOSH 7300

MATERIALS ANALYSIS
- ☐ Bulk Particle Identification
- ☐ Optical Particle Identification
- ☐ Dust Mites and Insect Fragments
- ☐ Particle Size & Distribution
- ☐ Product Comparison
- ☐ Paint Characterization
- ☐ Failure Analysis
- ☐ Corrosion Analysis
- ☐ Glove Box Containment Study
- ☐ Petrographic Examination of Concrete
- ☐ Portland Cement in Workplace Atmospheres (OSHA ID-143)
- ☐ Man Made Vitreous Fibers – MMVF's
- ☐ Synthetic Fiber Identification
- ☐ Other:

MICROBIAL ANALYSIS

Air Samples
- ☐ Mold & Fungi by Air-O-Cell
- ☐ Mold & Fungi by Agar Plate count & id
- ☐ Bacterial Count and Gram Stain
- ☐ Bacterial Count and Identification

Water Samples
- ☐ Total Coliforms, Fecal Coliforms
- ☐ Escherichia Coli, Fecal Streptococcus
- ☐ Legionella
- ☐ Salmonella
- ☐ Giardia and Cryptosporidium

Wipe and Bulk Samples
- ☐ Mold & Fungi – Direct Examination
- ☐ Mold & Fungi – (Culture follow up to direct examination if necessary)
- ☐ Mold & Fungi – Culture (Count & ID)
- ☐ Mold & Fungi – Culture (Count only)
- ☐ Bacterial Count & Gram Stain
- ☐ Bacterial Count & Identification (3 most prominent types)
- ☐ Other:

IAQ ANALYSIS
- ☐ Nuisance Dust (NIOSH 0500 & 0600)
- ☐ Airborne Dust (PM10, TSP)
- ☐ Silica Analysis by XRD ☐ Niosh 7500
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborne Oil Mist
- ☐ Other:

Client Sample # (S)

TOTAL SAMPLE # 24

Relinquished: NS Date: 8/3 Time: 16:00
Received: Date: Time:
Relinquished: Date: Time:
Received: Date: Time:

Reset Form | Print Form

4360

1 of 3

#122

UNIVERSITY OF SOUTH CAROLINA

Sample Analysis

Building # SOUTH TOWERS BLD

Type of Analysis: Lead / Asbestos Date: 07-31-2009

Turn Around Time 24 HRSA

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	1	JOINT COMPOUND	18TH FLOOR STUDY ROOM	F	GOOD	400 SQ FT	LOW
A	2	SHEET ROCK	18TH FLOOR STUDY ROOM	F	GOOD	150 SQ FT	LOW
A	3	HARD WALL MATERIAL	EXTERIOR WALL UNDER WINDOW SECTION	F	GOOD	100 SQ FT	LOW
A	4	JOINT COMPOUND	17TH FLOOR STUDY RM NORTH WALL	F	GOOD	40 SQ FT	LOW
A	5	SHEET ROCK	17TH FLOOR STUDY RM NORTH WALL	F	GOOD	150 SQ FT	LOW
A	6	HARD WALL MATERIAL	EXTERIOR WALL UNDER WINDOW SECTION OF ROOM	F	GOOD	100 SQ FT	LOW
A	7	HARD WALL MATERIAL	RM 1205 LEFT @ WINDOW	F	GOOD	100 SQ FT	LOW
A	8	JOINT COMPOUND	JOINT COMPOUND	F	GOOD	35 SQ FT	LOW
A	9	SHEET ROCK	RM 1205 WALL MATERIAL	F	GOOD	100 SQ FT	LOW
A	10	JOINT COMPOUND	RM 810 LEFT HAND WALL	F	GOOD	40 SQ FT	LOW

License # 00568 FM# FM00311313 Signature _____ Requestor JEFF TAYLOR

Send lab results in PDF format as soon as possible to:

Ed Pitts 803-777-3296
720 College St.
Columbia, SC 29208
EHP@fmc.sc.edu

Darryl Washington 803-777-2399
720 College St.
Columbia, SC 29208
WashinDH@fmc.sc.edu

Ty Russell 803-777-1208
720 College St.
Columbia, SC 29208
NTRusse@fmc.sc.edu

Fax # 803-777-3990

020904360

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243

UNIVERSITY OF SOUTH CAROLINA

Sample Analysis

#122

Building # South Tower Type of Analysis: Lead / Asbestos Date: 7-31-09 Turn Around Time 24 hr

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	11	SHEET ROCK	RM 810 RIGHT HAND WALL	F	GOOD	150 SQ FT	LOW
A	12	HARD WALL MATERIAL	RM 810 WALL EXTERIOR UNDER WINDOW	F	GOOD	100 SQ FT	LOW
A	13	JOINT COMPOUND	2ND FLOOR STUDY ROOM	F	GOOD	30 SQ FT	LOW
A	14	SHEET ROCK	2ND FLOOR STUDY ROOM	F	GOOD	150 SQ FT	LOW
A	15	HARD WALL MATERIAL	2ND FLOOR STUDY ROOM UNDER WINDOW	F	GOOD	100 SQ FT	LOW
A	16	JOINT COMPOUND	RM 407 CORNER WALL	F	GOOD	40 SQ FT	LOW
A	17	SHEETROCK WALL	RM 407 WALL MATERIAL	F	GOOD	140 SQ FT	LOW
A	18	HARD WALL MATERIAL	EXTERIOR WALL UNDER WINDOWS RM 407	F	GOOD	100 SQ FT	LOW
A	19	JOINT COMPOUND	RM 607 WALL MATERIAL	F	GOOD	40 SQ FT	LOW
A	20	SHEET ROCK	RM 607 WALL	F	GOOD	140 SQ FT	LOW

License # _____ FM# _____ Signature _____ Requestor _____

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720 College St.
Columbia, SC 29208
EHP@fmc.sc.edu

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Columbia, SC 29208
NTRusse@fmc.sc.edu

Fax # 803-777-3990

020904360

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UNIVERSITY OF SOUTH CAROLINA

3 of 3

South Tower

Building # 12a

Sample Analysis

Type of Analysis: Lead / ~~Asbestos~~ Date: 7-31-09

Turn Around Time 24 h

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	21	HARD WALL MATERIAL	RM 607 EXTERIOR WALL UNDER WINDOWS	F	GOOD	100 SQ FT	LOW

License # _____ FM# _____ Signature _____ Requestor _____

Send lab results in PDF format as soon as possible to:

Ed Pitts 803-777-3296
720 College St.
Columbia, SC 29208
EHP@fmc.sc.edu

Darryl Washington 803-777-2399
720 College St.
Columbia, SC 29208
WashinDH@fmc.sc.edu

Ty Russell 803-777-1208
720 College St.
Columbia, SC 29208
NTRusse@fmc.sc.edu

Fax # 803-777-3990

020904360

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone: (336) 992-1025 Fax: (336) 992-4175 Email: greensboroiab@emsl.com

Attn: **Ed Pitts**
University of South Carolina
743 Greene Street
Columbia, SC 29208

Fax: (803) 777-7334 Phone: (803) 777-7000
Project: **South Towers Roofing**

Customer ID: UNSC62
Customer PO:
Received: 07/12/11 10:15 AM
EMSL Order: 021104131

EMSL Proj:
Analysis Date: 7/14/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
1-Shingle-Like Material *021104131-0001*	Flat Roofing Materials	Gray/Black/Green Fibrous Heterogeneous	10% Glass <1% Cellulose		90% Non-fibrous (other)	**None Detected**
1-Loose Tar-Based Material *021104131-0001A*	Flat Roofing Materials	White/Black Non-Fibrous Heterogeneous	<1% Cellulose		100% Non-fibrous (other)	**None Detected**
2-Shingle-Like Material *021104131-0002*	Flat Roofing Materials	Gray/Black/Green Fibrous Heterogeneous	10% Glass <1% Cellulose		90% Non-fibrous (other)	**None Detected**
2-Loose Tar-Based Material *021104131-0002A*	Flat Roofing Materials	White/Black Non-Fibrous Heterogeneous	<1% Cellulose		100% Non-fibrous (other)	**None Detected**
3-Shingle-Like Material *021104131-0003*	Flat Roofing Materials	Gray/Black/Green Fibrous Heterogeneous	10% Glass <1% Cellulose		90% Non-fibrous (other)	**None Detected**
3-Loose Tar-Based Material *021104131-0003A*	Flat Roofing Materials	White/Black Non-Fibrous Heterogeneous	<1% Cellulose		100% Non-fibrous (other)	**None Detected**

Initial report from 07/14/2011 14:34:58

Analyst(s)

Kristie Elliott (2)
Scott Combs (6)

Stephen Bennett, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone: (336) 992-1025 Fax: (336) 992-4175 Email: greensborolab@emsl.com

Attn: **Ed Pitts**
University of South Carolina
743 Greene Street
Columbia, SC 29208

Fax: (803) 777-7334 Phone: (803) 777-7000
Project: **South Towers Roofing**

Customer ID: UNSC62
Customer PO:
Received: 07/12/11 10:15 AM
EMSL Order: 021104131

EMSL Proj:
Analysis Date: 7/14/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
4 *021104131-0004*	Mastic/Flashing	Gray/Black Fibrous Heterogeneous	15% 1%	Glass Cellulose	84% Non-fibrous (other)	**<1% Chrysotile**
5 *021104131-0005*	Mastic/Flashing	Brown/Gray/Black Fibrous Heterogeneous	8% 3%	Glass Cellulose	84% Non-fibrous (other)	**5% Chrysotile**
6 *021104131-0006*	Mastic/Flashing					**Stop Positive (Not Analyzed)**

Initial report from 07/14/2011 14:34:58

Analyst(s)

Kristie Elliott (2)
Scott Combs (6)

Stephen Bennett, Laboratory Manager
or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone: (336) 992-1025 Fax: (336) 992-4175 Email: greensboroiab@emsl.com

Attn: **Ed Pitts**
University of South Carolina
743 Greene Street
Columbia, SC 29208

Fax: (803) 777-7334 Phone: (803) 777-7000
Project: **South Towers Roofing**

Customer ID: UNSC62
Customer PO:
Received: 07/15/11 10:15 AM
EMSL Order: 021104131

EMSL Proj:
Analysis Date: 7/19/2011

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
3-Shingle-Like Material *021104131-0007*	Flat Roofing Material	Black Fibrous Heterogeneous	100	None	No Asbestos Detected
3-Loose Tar-Based Material *021104131-0008*	Flat Roofing Material	Brown /White /Black Non-Fibrous Heterogeneous	100	None	No Asbestos Detected

Initial report from 07/14/2011 14:34:58

Analyst(s)
Stephen Bennett (2)

Stephen Bennett, Laboratory Manager
or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

021104131

021007519

4131

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

EMSL ANALYTICAL, Inc. CHAIN OF CUSTODY

EMSL Rep:

Your Name:
Company: University of South Carolina
Street: 243 Greene St
Box #:
City/State: Columbia, SC Zip 29208

Phone Results to:
Name:
Telephone #:
Project Name/Number: 122 South Tower's

Third Party Billing requires written authorization from third party

EMSL-Bill to:
Street:
Box #:
City/State: Zip

Fax Results to:
Name:
Fax #:
Purchase Order #:

TURNAROUND TIME

☐ 3 Hours ☐ 6 Hours ☐ 12 Hours ☐ 24 Hours ☐ 48 Hours ☒ 72 Hours ☐ 4 Days ☐ 5 Days ☐ 6-10 Days

SAMPLE MATRIX

☐ Air ☒ Bulk ☐ Soil ☐ Wipe ☐ Micro-Vac ☐ Drinking Water ☐ Wastewater ☐ Chips ☐ Other

ASBESTOS ANALYSIS

PCM - Air
- ☐ NIOSH 7400 (A) Issue 2: August 1994
- ☐ OSHA w/PVA

TEM AIR
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402 Issue 2
- ☐ EPA Level II

PLM - Bulk
- ☒ EPA 600/R-93/116
- ☐ NY Stratified Point Count
- ☐ California Air Resource Board (CARB) 435
- ☐ NIOSH 9002
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ EPA Point Count (400 Points)
- ☐ EPA Point Count (1,000 Points)
- ☐ Standard Addition Point Count

SOILS
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram
- ☐ Superfund EPA 540-R097-028 (dust generation)

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP-1988-02
- ☒ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC
- ☐ ASTM D 5755-95 (Quantitative)

TEM WIPE
- ☐ ASTM D-6480-99
- ☐ Qualitative ☐

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

OTHER

LEAD ANALYSIS

Flame Atomic Absorption
- ☐ Wipe, SW846-7420 ☐ ASTM ☐ non ASTM
- ☐ Soil, SW846-7420
- ☐ Air, NIOSH 7082
- ☐ Chips, SW846-7420 or AOAC 5.009 (974.02)
- ☐ Wastewater, SW 846-7420
- ☐ TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption
- ☐ Air, NIOSH 7105
- ☐ Wastewater, SW846-7421
- ☐ Soil, SW846-7421
- ☐ Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma
- ☐ Wipe, SW846-6010 ☐ ASTM ☐ non ASTM
- ☐ Soil, SW846-6010
- ☐ Air, NIOSH 7300

MATERIALS ANALYSIS

- ☐ Full Particle Identification
- ☐ Optical Particle Identification
- ☐ Dust Mites and Insect Fragments
- ☐ Particle Size & Distribution
- ☐ Product Comparison
- ☐ Paint Characterization
- ☐ Failure Analysis
- ☐ Corrosion Analysis
- ☐ Glove-Box Containment Study
- ☐ Petrographic Examination of Concrete
- ☐ Portland Cement in Workplace Atmospheres (OSHA ID-143)
- ☐ Man Made Vitreous Fibers – MMVF's
- ☐ Synthetic Fiber Identification
- ☐ Other:

MICROBIAL ANALYSIS

Air Samples
- ☐ Mold & Fungi by Air-O-Cell
- ☐ Mold & Fungi by Agar Plate ment & c
- ☐ Bacterial Count and Gram Stain
- ☐ Bacterial Count and Identification

Water Samples
- ☐ Total Coliforms, Fecal Coliforms
- ☐ Escherichia Coli, Fecal Streptococcus
- ☐ Legionella
- ☐ Salmonella
- ☐ Giardia and Cryptosporidium

Wipe and Bulk Samples
- ☐ Mold & Fungi – Direct Examination
- ☐ Mold & Fungi – Culture follow up to direct examination if necessary
- ☐ Mold & Fungi – Culture (Count & ID)
- ☐ Mold & Fungi – Culture (Count only)
- ☐ Bacterial Count – Gram Stain
- ☐ Bacterial Count – Identification (3 most prominent types)
- ☐ Other

IAQ ANALYSIS

- ☐ Nuisance Dust (NIOSH 0500 & 0600)
- ☐ Airborne Dust (PM10, TSP)
- ☐ Silica Analysis by XRD ☐ Direct
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborne Oil Mist
- ☐ Other:

Client Sample # (S)

Relinquished: KE Date: 7/12 Time: 10:15
Received: Date: Time:
Relinquished: Date: Time:
Received: Date: Time:

TOTAL SAMPLE # 6

Page 1 of 2

Reset Form Print Form

4131

to stop positive

UNIVERSITY OF SOUTH CAROLINA

Sample Analysis

Building # SOUTH TOWERS ROOFING Type of Analysis: Lead / ~~Asbestos~~ Date: 07-11-2011 Turn Around Time 72 HRS

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	1	FLAT ROOFING MATERIALS	ENTIRE ROOF OF SOUTH TOWERS	NF	G	4850 SQ FT	LOW
A	2	FLAT ROOFING MATERIALS	ENTIRE ROOF OF SOUTH TOWERS	NF	G	4850 SQ FT	LOW
A	3	FLAT ROOFING MATERIALS	ENTIRE ROOF OF SOUTH TOWERS	NF	G	4850 SQ FT	LOW
B	4	MASTIC / FLASHING	AROUND PEREMETER AND ON JOINTS OF ROOF	NF	G	4850 SQ FT	LOW
B	5	MASTIC / FLASHING	AROUND PEREMETER AND ON JOINTS OF ROOF	NF	G	4850 SQ FT	LOW
B	6	MASTIC / FLASHING	AROUND PEREMETER AND ON JOINTS OF ROOF	NF	G	4850 SQ FT	LOW

License # ASBI-00568 FM# FM00364706 Signature _____ Requestor DALE BRANHAM

Send lab results in PDF format as soon as possible to:

Ed Pitts 803-777-3296
720 College St.
Columbia, SC 29208
EHP@fmc.sc.edu

Darryl Washington 803-777-2399
720 College St.
Columbia, SC 29208
WashinDH@fmc.sc.edu

Ty Russell 803-777-1208
720 College St.
Columbia, SC 29208
NTRusse@fmc.sc.edu

Fax # 803-777-3990

021104131

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: University of South Carolina
743 Greene St
Columbia, SC 29208

Attn: Darryl Washington

Lab Order ID: 1202898
Analysis ID: 1202898PLM
Date Received: 2/21/2012
Date Reported: 2/21/2012

Project: 122 South Dorm

Sample ID / *Lab Sample ID*	Description / *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes / Treatment
1 / *1202898PLM_1*	Plaster / *single layer*	None Detected		100% Other	White, Non Fibrous, Heterogeneous / Crushed
2 / *1202898PLM_2*	Plaster / *single layer*	None Detected		100% Other	White, Non Fibrous, Heterogeneous / Crushed
3 / *1202898PLM_3*	Plaster / *single layer*	None Detected		100% Other	White, Non Fibrous, Heterogeneous / Crushed
4 / *1202898PLM_4*	Jt compound	None Detected		100% Other	White, Non Fibrous, Homogeneous / Crushed
5 / *1202898PLM_5*	Jt compound	None Detected		100% Other	White, Non Fibrous, Homogeneous / Crushed
6 / *1202898PLM_6*	Jt compound	3% Chrysotile		97% Other	White, Non Fibrous, Homogeneous / Crushed
7 / *1202898PLM_7*	Sheetrock	None Detected	10% Cellulose	90% Gypsum	White, Non Fibrous, Heterogeneous / Teased
8 / *1202898PLM_8*	Sheetrock	None Detected	15% Cellulose	85% Gypsum	White, Brown, Fibrous, Heterogeneous / Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommended that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 0.1%.

Sharon Donald (30)
Analyst

Nathaniel Durham, MS or Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: University of South Carolina
743 Greene St
Columbia, SC 29208

Attn: Darryl Washington

Project: 122 South Dorm

Lab Order ID: 1202898
Analysis ID: 1202898PLM
Date Received: 2/21/2012
Date Reported: 2/21/2012

Sample ID / *Lab Sample ID*	Description / *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes / Treatment
9	Sheetrock	None Detected	15% Cellulose	85% Gypsum	Brown, White Fibrous Heterogeneous
1202898PLM_9					Teased
10 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1202898PLM_10	*finish*				Crushed
10 - B	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1202898PLM_27	*base*				Crushed
11 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1202898PLM_11	*finish*				Crushed
11 - B	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1202898PLM_28	*base*				Crushed
12 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1202898PLM_12	*finish*				Crushed
12 - B	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1202898PLM_29	*base*				Crushed
13	Jt comp	None Detected		100% Other	White Non Fibrous Homogeneous
1202898PLM_13					Crushed

Sharon Donald (30)
Analyst

Nathaniel Durham, MS or Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: University of South Carolina
743 Greene St
Columbia, SC 29208

Attn: Darryl Washington

Project: 122 South Dorm

Lab Order ID: 1202898
Analysis ID: 1202898PLM
Date Received: 2/21/2012
Date Reported: 2/21/2012

Sample ID / *Lab Sample ID*	Description / *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes / Treatment
14	Jt comp	None Detected		100% Other	White, Non Fibrous, Homogeneous
1202898PLM_14					Crushed
15	Jt comp	None Detected		100% Other	White, Non Fibrous, Homogeneous
1202898PLM_15					Crushed
16	Sheetrock	None Detected	10% Cellulose	90% Gypsum	White, Non Fibrous, Heterogeneous
1202898PLM_16					Teased
17	Sheetrock	None Detected	10% Cellulose	90% Gypsum	White, Non Fibrous, Heterogeneous
1202898PLM_17					Teased
18	Sheetrock	None Detected	10% Cellulose	90% Gypsum	White, Non Fibrous, Heterogeneous
1202898PLM_18					Teased
19	Jt comp	None Detected		100% Other	White, Non Fibrous, Homogeneous
1202898PLM_19					Crushed
20	Jt comp	None Detected		100% Other	White, Non Fibrous, Homogeneous
1202898PLM_20					Crushed
21	Jt comp	None Detected		100% Other	White, Non Fibrous, Homogeneous
1202898PLM_21					Crushed

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommended that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 0.1%.

Sharon Donald (30)

Analyst

Nathaniel Durham, MS or Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: University of South Carolina
743 Greene St
Columbia, SC 29208

Attn: Darryl Washington

Project: 122 South Dorm

Lab Order ID: 1202898
Analysis ID: 1202898PLM
Date Received: 2/21/2012
Date Reported: 2/21/2012

Sample ID / *Lab Sample ID*	Description / *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes / Treatment
22	Sheetrock	None Detected	10% Cellulose	90% Gypsum	White, Non Fibrous, Heterogeneous
1202898PLM_22					Teased
23	Sheetrock	None Detected	10% Cellulose	90% Gypsum	White, Non Fibrous, Heterogeneous
1202898PLM_23					Teased
24	Sheetrock	None Detected	10% Cellulose	90% Gypsum	White, Non Fibrous, Heterogeneous
1202898PLM_24					Teased
25	Plaster	None Detected		100% Other	White, Non Fibrous, Homogeneous
1202898PLM_25	*joint compound*				Crushed
26 - A	Plaster	None Detected		100% Other	White, Non Fibrous, Heterogeneous
1202898PLM_26	*finish*				Crushed
26 - B	Plaster	None Detected		100% Other	Gray, Non Fibrous, Heterogeneous
1202898PLM_30	*base*				Crushed

Sharon Donald (30)

Analyst

Nathaniel Durham, MS or Approved Signatory

Scientific Analytical Institute
302-L Pomona Dr. Greensboro, NC 27407
Phone: 336.292.3888 Fax: 336.292.3313
www.sailab.com lab@sailab.com

Lab Use Only
Lab Order ID: 1202898
Client Code: _____

Company Contact Information	
Company:	Contact:
Address:	Phone ☐:
	Fax ☐:
	Email ☐:

Billing/Invoice Information	
Company: Univ of SC	
Contact: Patty Worthy	
Address:	

Turn Around Times	
90 Min. ☐	48 Hours ☐
3 Hours ☐	72 Hours ☐
6 Hours ☐	96 Hours ☐
12 Hours ☐	120 Hours ☐
24 Hours ☐	144 Hours ☐

Button 2 Down

PO Number: South Dorm
Project Name/Number:

Asbestos Test Types	
PLM EPA 600/R-93/116	☒
Positive stop	☒
PLM Point Count	☐
PCM NIOSH 7400	☐
TEM AHERA	☐
TEM Level II	☐
TEM NIOSH 7402	☐
TEM Bulk Qualitative	☐
TEM Bulk Chatfield	☒
TEM Bulk Quantitative	☐
TEM Wipe ASTM D6480-99	☐
TEM Microvac ASTM D5755-02	☐
TEM Water EPA 100.2	☐
Other:	☐

Sample ID #	Description/Location	Volume/Area	Comments

Total # of Samples 26

Relinquished by	Date/Time	Received by	Date/Time
			2/24/30

Accepted ☒
Rejected ☐

Reset Form Print Form

120898

UNIVERSITY OF SOUTH CAROLINA

Sample Analysis

Building # 122 South Dorm Type of Analysis: Lead / Asbestos Date: 02-20-12 Turn Around Time 24hr

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	1tur3	plaster	basement	F	G	<2000sqft	Low
B	4thru6	jt comp	basement	F	G	<1000	Low
C	7thru9	sheetrock	basement	F	G	<1000	Low
D	10thru12	plaster	first floor	F	G	2000	Low
E	13thru15	jt comp	first floor	F	G	<1000	Low
F	16thru18	sheetrock	first floor	F	G	<1000	Low
G	19thru21	jt comp	sub basement--green	F	G	4sqft	Low
H	22thru24	sheetrock	sub basement--green	F	G	500sqft	Low
D	25&26	plaster	ist floor	F	G	2000	Low

License # 21534 FM# Signature Requestor

Send lab results in PDF format as soon as possible to:

Ed Pitts 803-777-3296
720 College St.
Columbia, SC 29208
EHP@fmc.sc.edu

Darryl Washington 803-777-2399
720 College St.
Columbia, SC 29208
WashinDH@fmc.sc.edu

Ty Russell 803-777-1208
720 College St.
Columbia, SC 29208
NTRusse@fmc.sc.edu

Fax # 803-777-3990

APPENDIX C

Personnel Certifications

SCDHEC ISSUED
Asbestos ID Card

Michael Mincey

		Expires
AIRSAMPLER	AS-00272	05/04/12
CONSULTMP	MP-00161	02/11/12
SUPERAHERA	SA-01424	05/04/12

SCDHEC ISSUED
Asbestos ID Card

Glynn M Ellen

	Expires
AIRSAMPLER	AS-00079 01/06/12
CONSULTMP	ASB-22641 02/11/12
CONSULTPD	PD-00098 06/30/12
SUPERAHERA	SA-00455 01/06/12

APPENDIX D

SCDHEC Regulations

SCDHEC Abatement Project Forms

Air Quality

Asbestos - Regulatory Information

RENOVATIONS & DEMOLITIONS

Note: This information should serve as a guide only and is not intended to replace the regulations. For additional information concerning DHEC and EPA regulations, contact DHEC's Asbestos Section at (803) 898-4289. Information regarding the OSHA asbestos standards may be obtained from the South Carolina Department of Labor, Licensing and Regulation at (803) 734-9669.

APPLICABILITY

Renovation and demolition of most facilities, including buildings, structures, and other installations, are subject to State and Federal asbestos regulations. Certain residential buildings may be exempt unless the property was used in the past for non-residential purposes (contact the Asbestos Section for additional information) or is part of a larger development such as highway right-of-way, mall development, urban renewal or other type of similar development. The facility owner and the renovation or demolition contractor are both responsible for ensuring compliance with these regulations.

DEFINITIONS

Renovation means altering a facility or one or more facility components in any way, including the stripping or removal of regulated asbestos-containing material (RACM) from a facility component. "Remodeling" is considered renovation.

Demolition is the wrecking or taking out of any load-supporting structural member of a facility and any related handling operations. Structural burns are prohibited by State Open Burning Regulations.

INSPECTION FOR ASBESTOS

Before a facility or a portion of a facility is renovated or demolished, the owner/operator of the facility or renovation or demolition activity must ensure that the facility or portion of the facility being renovated or demolished has been thoroughly inspected for the presence of asbestos. The inspection must be performed by a person who has been trained and licensed as an Asbestos Building Inspector or management planner in accordance with State training and licensing requirements.

The inspector must identify, quantify, and assess the condition of all suspect asbestos-containing materials, either friable or non-friable, on interior and exterior portions of the facility. The inspector must also comply with the procedures specified in 40 CFR 763.86 in determining sampling locations and the number of representative samples to be collected. In addition, the

inspector is required to prepare a written report detailing the findings of the inspection. At a minimum, the report must include information required in 40 CFR 763.85 (a)(4)(vi)(A)-(E), as well as the date of inspection and the name, license number, and signature of the licensed Asbestos Building Inspector or Management Planner who performed the inspection and completed the report. A legible copy of the building inspection report must be provided to the Department prior to each demolition, and upon request for renovations. **(Note: "BUILDING INSPECTIONS" can be consulted for a detailed explanation of the aforementioned sampling and reporting protocols.)**

A building inspection will only be acceptable if performed **within three years** prior to the demolition or renovation. If an inspection report is more than three years old, then it must be confirmed and verified by a licensed Asbestos Building Inspector or Management Planner.-

FRIABLE ASBESTOS-CONTAINING MATERIALS

If friable asbestos-containing materials (e.g., pipe insulation) are present, they must be removed prior to being disturbed during renovation or demolition activities. Removal (abatement) must be performed by trained, licensed persons using procedures detailed in State and Federal regulations.

A project design must be prepared for each asbestos abatement project involving the abatement of greater than 3,000 square feet, 1,500 linear feet and/or 656 cubic feet of RACM in a facility to be reoccupied. Such designs must be prepared by a person licensed by the Department as an Asbestos Project Designer.

NON-FRIABLE ASBESTOS-CONTAINING MATERIALS

During renovations, removal of non-friable materials (e.g., vinyl-asbestos floor tiles and sheet flooring, mastics, asphaltic roofing, and asbestos-cement siding and roofing tiles) may be regulated. Applicability is dependent upon the removal methods to be used. If it can be anticipated that non-friable materials will be ground, crumbled, sanded, abraded, chipped or pulverized, the removal is subject to the same rules as removal of friable materials.

Prior to any demolition, non-friable asbestos-cement products (e.g., transite siding, exterior siding and roofing shingles) must be removed. Asbestos-containing sheet flooring and floor tiles, as well as asphaltic roofing products, need not be removed if they are in good condition and have not become brittle and are not peeling, cracking, or crumbling. Otherwise, they must also be removed prior to demolition. If it can be anticipated that non-friable materials will be ground, crumbled, sanded, abraded, chipped or pulverized, the materials must be removed and the removal is subject to the same rules as removal of friable materials. The amount of any non-friable asbestos that will remain in place during demolition must also be indicated on the written notification form.

All asbestos-containing materials must be removed if the facility will be demolished by non-standard demolition techniques such as implosion, explosion, or intentional burning.

NOTIFICATION FOR RENOVATIONS AND DEMOLITIONS

Prior to removing regulated asbestos-containing materials, written notification must be submitted to the Department (up to 10 working days in advance, depending on the amount of asbestos to be removed). The notification must include certain required items of information about the owner, the contractor, the facility, and the asbestos removal project. Required fees must be submitted along with the notification. You must obtain a permit from the Department prior to the renovation activity.

Prior to the demolition of any regulated facility, written notification must be submitted to the Department *at least 10 working days* in advance **even if a building inspector determines that asbestos is not present at the facility.** The notification must include certain required items of information about the owner, the contractor, the facility, and the demolition project. Required fees and a copy of the building inspector's report must be submitted along with the notification of demolition. You must obtain a permit from the Department prior to the demolition activity.

DISPOSAL

Never burn any asbestos-containing waste material.

Non-asbestos-containing demolition debris and debris which contains only non-regulated roofing or flooring may be disposed of at a DHEC-approved disposal site for cellulosic or inert waste. Waste consolidation activities involving grinding, cutting, or compacting of non-friable asbestos-containing materials will subject these materials to more stringent State and Federal asbestos disposal regulations.

Regulated asbestos waste must be handled by properly licensed asbestos abatement personnel and disposed of at a landfill permitted to accept regulated asbestos waste. A list of approved landfills may be obtained from the Asbestos Section.

REGULATORY REQUIREMENTS FOR BUILDING INSPECTION

As required by the National Emission Standard for Hazardous Air Pollutants (NESHAP) and SCDHEC Regulation 61-86.1, an owner/operator shall ensure that a building inspection to detect the presence of asbestos-containing materials (ACM) has been performed prior to any renovation or demolition activity at a regulated facility.

Under SCDHEC Regulation 61-86.1, Section VI.A.6., an inspection cannot have been performed more than three years prior to a renovation or demolition activity. If more than three years have elapsed since the most recent inspection, the previous inspection shall be confirmed and verified by a licensed building inspector and/or management planner.

SCDHEC Regulation 61-86.1 requires that all inspections be performed by persons trained and licensed as either a building inspector and/or management planner. In order to be licensed in these disciplines, persons must have successfully completed a Department approved initial training course specific to inspecting for ACM in a building and/or a course specific to

management planning for ACM in a building. Persons must also have taken and passed an examination at the end of the course with a score of 70 percent or above.

In performing inspections, SCDHEC Regulation 61-86.1 requires that a building inspector and/or management planner comply with the requirements of Section VI, Asbestos Building Inspection Requirements. An inspection shall include samples from suspect friable and non-friable ACM on interior and exterior portions of a facility or its facility components.

In performing inspections, SCDHEC Regulation 61-86.1 requires that a building inspector and/or management planner follow specific sampling procedures. According to Section IV.B.3.a of the regulation, a building inspector and/or management planner shall comply with the procedures specified in **40 CFR 763.86** in determining sampling locations and the number of representative samples to be collected. An inspection shall include samples from suspect friable and non-friable ACM on interior and exterior portions of a facility or its facility components.

Under 40 CFR Part 763.86, suspect ACM are divided into three categories: surfacing materials, thermal system insulation (commonly referred to as TSI), and miscellaneous materials. SCDHEC Regulation 61-86.1, Section VI contains sampling procedures specific to each category of material.

Surfacing material includes, but is not limited to, joint compound, plaster, and painted, troweled on, or spray-applied textured material. To remain in compliance with SCDHEC Regulation 61-86.1, surfacing materials on exterior and interior portions of a facility shall be sampled according to procedures outlined in SCDHEC Regulation 61-86.1, Section VI.D.1. (a)-(c):

- A licensed asbestos inspector shall collect, in a statistically random manner, a minimum of three bulk samples from each homogeneous area of any surfacing that is not assumed to be ACM, and shall collect the samples as follows:

- At least three bulk samples shall be collected from each homogeneous area that is 1,000 or fewer square feet (sf) or linear feet (Lf) in size.
- At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 but fewer than or equal to 5,000 sf or Lf.
- At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 sf or Lf.

Thermal system insulation (TSI) is any material that is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other facility components for the purpose of preventing heat loss or gain, water condensation, or for other purposes. ***Miscellaneous Material*** is any material that is not considered a surfacing material or thermal system insulation and includes, but is not limited to, flooring, roofing, mastics, gaskets, cementitious materials, caulkings, ceiling tiles, fire doors, wall boards, and flexible duct connections. To remain in compliance with SCDHEC Regulation 61-86.1, TSI and miscellaneous materials on exterior and interior portions of a facility shall be sampled in accordance with procedures outlined in SCDHEC Regulation 61-86.1, Section VI.D.2:

- A licensed asbestos inspector shall collect, in a statistically random manner, at least three bulk samples from each homogeneous area of TSI and any miscellaneous material that is not assumed to be ACM.
- In accordance with ASTM E2356, and any subsequent amendments and editions, negative results for non-friable organically bound materials (NOB) shall be verified with at least one TEM analysis.
- NOBs include flooring, roofing, mastics, adhesives, caulks, and glazing.
- If an accredited inspector has determined the thermal system insulation to be fiberglass, foam glass, rubber, or other non-suspect material, then bulk samples are not required.

SCDHEC Regulation 61-86.1, Section VI.C requires that a building inspector and/or management planner prepare a written asbestos building inspection report to include the following:

- A title page denoting: (1) The client's name, company, address, and telephone number, and the name and exact location of the facility inspected; (2) the date the inspection was performed; (3) the date the inspection report was written; and (4) the printed name and telephone number of the inspector(s), and his or her affiliated company name, address, and telephone number.
- A cover letter to the building owner or owner's representative that describes the purpose of the inspection; a general synopsis of the inspection and results; and the name, title, and signature of the inspector(s) and report writer, if different.
- A detailed narrative of the physical description of the building or part of the building affected by the renovation or demolition operation that includes: (1) The square footage of the building or part of the building affected by the renovation or demolition operation; (2) The building materials used in the construction of the exterior, roof, interior, and basement or crawlspace of the building affected by the demolition or affected by the renovation materials operation; (3) An estimated or exact quantity (square or linear feet) for all suspect materials whether sampled for or assumed to be asbestos that may be affected by the renovation or demolition operation; (4) Also include a description of non-suspect materials excluding: glass, metals, kiln brick, cement, fiberglass, concrete, pressed wood, cinder block, and rubber.
- An executive summary that details: (1) The type of suspect ACM (e.g., TSI, floor tile, mastic), total square or linear footage, and the total number of samples collected for each separate homogenous area affected by the renovation or demolition operation; (2) The date of the inspection, type, condition, quantity, sample results, and exact location of ACM positively identified or assumed to be ACM in the part of the building affected by the renovation or demolition operation; (3) A list of the homogeneous areas identified; (4) Whether the material is accessible for the building or part of the building affected by the renovation or demolition operation; and (5) The material's potential for disturbance for the building or part of the building affected by the renovation or demolition operation.
- For renovation and demolition operations, the inspector's determination that ACM is friable or non-friable.
- Except when suspect ACM materials are assumed to be asbestos, include a complete, clear, legible copy of all laboratory bulk sample results.

- Clear, legible drawings and/or photographs to clarify the scope of the renovation or demolition operation. Illustrate the exact location of each sample collected. For facilities that involve a trade secret or confidential component or an affected area process, a request for a variance may be submitted.
- The printed name and signature of each accredited inspector who collected the samples, and a clear legible copy of his or her Department issued asbestos building inspector or management planner license

D H E C
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ASBESTOS ABATEMENT PROJECT LICENSE APPLICATION

BUREAU OF AIR QUALITY • ASBESTOS SECTION • 2600 BULL STREET • COLUMBIA • SC • 29201

TYPE OF OPERATION: ☐ Standard Removal ☐ Emergency Removal ☐ Enclosure ☐ Encapsulation ☐ Cleanup ☐ Disposal

FOR OFFICE USE Postmark/Received:	Original/Revised/Cancellation (circle one)	Project License I.D. (For Revisions/Cancellations):

I. FACILITY OWNER: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

II. REMOVAL CONTRACTOR: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

DHEC CONTRACTOR LICENSE NO. (If applicable): _____ EXPIRATION DATE: _____

III. FACILITY NAME: _____

STREET ADDRESS: _____

CITY: _____ STATE: _____ COUNTY: _____

SITE (ROOM, FLOOR, WING, UNIT, MACHINE, ETC.): _____

BUILDING SIZE: _____ NO. OF FLOORS: _____ AGE IN YEARS: _____

PRESENT USE: _____ PRIOR USE: _____ FUTURE USE: _____

IV. PROCEDURES, INCLUDING ANALYTICAL METHOD IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:

FACILITY OR FACILITY COMPONENT SURVEYED BY (INSPECTOR NAME): _____

COMPANY: _____ PHONE: (_____) _____

DHEC LICENSE NUMBER: _____ EXPIRATION DATE: _____

V. PROJECT DESIGN PERFORMED BY (IF APPLICABLE): _____

COMPANY: _____ PHONE: (_____) _____

DHEC LICENSE NUMBER: _____ EXPIRATION DATE: _____

VI. ASBESTOS-CONTAINING MATERIALS (ACM) ***TO BE REMOVED ONLY:***

TYPE (TSI, SURFACING, FLOORING, ROOFING, ETC.)	**AMOUNT** (SQUARE FEET, LINEAR FEET, CUBIC FEET)	**CONDITION** (CIRCLE ONE)
		☐ Friable ☐ Non-Friable
		☐ Friable ☐ Non-Friable
		☐ Friable ☐ Non-Friable
		☐ Friable ☐ Non-Friable

VII. SCHEDULED DATES OF REMOVAL: START DATE: _____ COMPLETION DATE: _____

WORK DAYS: _____ WORK HOURS: _____

APPLICATIONS MUST BE SUBMITTED WITH FEES PRIOR TO THE SCHEDULED START DATE AS FOLLOWS:

NESHAP PROJECTS: 10 WORKING DAYS
SMALL PROJECTS: 5 CALENDAR DAYS
MINOR PROJECTS: PRIOR TO ABATEMENT

FEE SCHEDULE FOR FRIABLE ASBESTOS-CONTAINING MATERIALS:

10 CENTS PER SQUARE FOOT OR LINEAR FOOT
MINIMUM FEE OF $25.00
MAXIMUM FEE OF $1000.00

Non-Friable (NESHAP-sized) Projects: 4 working days. No fee for non-friable ACM.

VIII. DESCRIPTION OF PLANNED ABATEMENT WORK & METHOD(S) TO BE USED:

IX. DESCRIPTION OF WORK PRACTICES & ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE RENOVA-

X. WASTE TRANSPORTER #1: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

WASTE TRANSPORTER #2: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

XI. WASTE DISPOSAL SITE: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

TEMPORARY ASBESTOS STORAGE CONTAINMENT AREA LICENSE NUMBER (IF APPLICABLE): _____

XII. DESCRIPTION OF EMERGENCY REMOVAL **(PLEASE ATTACH A LETTER FROM THE FACILITY OWNER EXPLAINING THE NATURE OF THE EMERGENCY)**

DATE & HOUR OF EMERGENCY (MM/DD/YY): _____

DESCRIPTION OF SUDDEN, UNEXPECTED EVENT:

EXPLANATION OF HOW THE EVENT CAUSED UNSAFE CONDITIONS AND/OR WOULD CAUSE EQUIPMENT DAMAGE AND/OR AN UNREASONABLE FINANCIAL BURDEN:

XIII. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NON-FRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED OR REDUCED TO POWDER:

XIV. *I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS.*

_____/_____

(SIGNATURE OF OWNER/OPERATOR) (DATE)

XIV. *I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.*

_____/_____

(SIGNATURE OF OWNER/OPERATOR) (DATE)

D H E C
PROMOTE PROTECT PROSPER

DEMOLITION LICENSE APPLICATION

BUREAU OF AIR QUALITY • ASBESTOS SECTION • 2600 BULL STREET • COLUMBIA • SC • 29201

TYPE OF OPERATION: ☐ Total Demolition ☑ Partial Demolition ☐ Ordered Demolition

FOR OFFICE USE Postmark/Received:	Original/Revised/Cancellation (circle one)	Project License I.D. (For Revisions/Cancellations):

I. FACILITY OWNER:

MAILING ADDRESS: 1403 Jaret Court

CITY: West Columbia STATE: South Carolina ZIP: 29072

CONTACT PERSON: Reese Quick PHONE: (803) 808-3966

II. IS ASBESTOS PRESENT IN THE FACILITY?: YES ☑ / NO ☐ (check one)

III. DEMOLITION CONTRACTOR: Tefon Construction Company, Inc. FEDERAL ID NO.: 57-095338

MAILING ADDRESS: 657 Tittman Drive

CITY: Sumter STATE: South Carolina ZIP: 29154

CONTACT PERSON: Ted Hardy PHONE: (803) 938-3510

ASBESTOS REMOVAL CONTRACTOR (If applicable): (Unknown at this time)

MAILING ADDRESS:

CITY: STATE: ZIP:

CONTACT PERSON: PHONE: ( )

IV. FACILITY NAME: Park North Apartments

STREET ADDRESS: 200 Brookhill Road West

CITY: Lexington STATE: South Carolina COUNTY: Lexington

SITE (ROOM, FLOOR, WING, UNIT, MACHINE, ETC.): Unit 9

BUILDING SIZE: ~11,000 SF NO. OF FLOORS: Two AGE IN YEARS: 30 years

PRESENT USE: Apartments PRIOR USE: Same FUTURE USE: Same

V. PROCEDURES, INCLUDING ANALYTICAL METHOD IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:

FACILITY OR FACILITY COMPONENT SURVEYED BY (INSPECTOR NAME): ACM Inspection, Glynn M. Ellen

COMPANY: F&ME Consultants PHONE: (803) 254-4540

DHEC LICENSE NUMBER: ASB-22641 EXPIRATION DATE: 02/16/2010

VI. NON-FRIABLE MASTIC, GLUE, AND ADHESIVE ASBESTOS-CONTAINING MATERIALS ***REMAINING IN PLACE DURING DEMOLITION*** *(IF APPLICABLE):*

TYPE (MASTIC, GLUE, AND ADHESIVE)	**AMOUNT** (SQUARE FEET)
Sheet Vinyl Flooring	~600 SF

VII. SCHEDULED DATES OF DEMOLITION (YOU MUST SPECIFY DATES):

START DATE: 05/28/2009 COMPLETION DATE: 06/10/2009

WORK DAYS: 10 WORK HOURS: 8 hours/day

- ***APPLICATIONS MUST BE MAILED ALONG WITH A $50.00 FEE (PAYABLE TO SCDHEC) AT LEAST 10 WORKING DAYS PRIOR TO THE SCHEDULED START DATE. FAXES WILL NOT BE ACCEPTED.***
- ***A COPY OF AN ASBESTOS SURVEY REPORT (NO OLDER THAN 3 YEARS) MUST ACCOMPANY THE APPLICATION.***

VIII. DESCRIPTION OF PLANNED DEMOLITION METHOD(S) TO BE USED:

☐ BULLDOZER	☐ LOADER	☐ WRECKING BALL	☑ MANUAL	☐ BURNING	☐ IMPLOSION/EXPLOSION

IF OTHER PLEASE DESCRIBE:

IX. DESCRIPTION OF WORK PRACTICES & ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE DEMOLITION SITE:

Replacement of roof truss system that was damaged during a fire. This will be the only work to be completed prior to the removal of asbestos containing materials that were found in the building structure during the asbestos inspection. All other renovation work will be completed after the abatement.

X. WASTE TRANSPORTER #1: No ACBM waste will be handled as part of this renovation/demolition activity.

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

WASTE TRANSPORTER #2: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

XI. WASTE DISPOSAL SITE: TNT Sands, Inc.

MAILING ADDRESS: 1047 HIGHWAY CHURCH ROAD

CITY: ELGIN STATE: SC ZIP: 29045

CONTACT PERSON: _____ PHONE: (803) 964-9730

XII. IF DEMOLITION ORDERED BY GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW: (PLEASE ATTACH A COPY OF THE ORDER)

NAME: _____ TITLE: _____

AUTHORITY: _____

DATE OF ORDER (MM/DD/YY): _____ DATE ORDERED TO BEGIN(MM/DD/YY): _____

XIII. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER:

If previously unidentified suspect materials are encountered during renovation/demolition activities, contractor will stop work immediately and notify the owner and the owners representative so that samples can be collected and analyzed. No activities are expected to impact asbestos containing materials during the renovation/demolition activities. All asbestos containing materials will be removed from building.

XIV. *I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION INVOLVING RACM AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS.*

N/A
(SIGNATURE OF OWNER/OPERATOR) / (DATE)

XV. *I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.*

(SIGNATURE OF OWNER/OPERATOR) / (DATE)

- ***APPLICATIONS MUST BE MAILED ALONG WITH A $50.00 FEE PAYABLE TO SCDHEC AT LEAST 10 WORKING DAYS PRIOR TO THE SCHEDULED START DATE. FAXES WILL NOT BE ACCEPTED.***
- ***A COPY OF AN ASBESTOS SURVEY REPORT (NO OLDER THAN 3 YEARS) MUST ACCOMPANY THE APPLICATION.***

D H E C

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Asbestos Waste Shipment Record

1. **SCDHEC ASBESTOS ABATEMENT PROJECT LICENSE:**

Generator Information

2. Waste Generator/Owner Name & Address:	Work Site Name & Physical Address:	Waste Generator/Owner Telephone Number ( )
3. Abatement Contractor Name & Address:		Abatement Contractor Telephone Number ( )
4. Name of waste disposal site (WDS), mailing address, and physical site location:		WDS Telephone Number: ( )

5. Description of Waste Materials (please circle): Friable (Regulated) / Nonfriable (Nonregulated)	6. Bags of Containers: No. Type _____ Drums _____ Bags _____ Bulk Load	7. Total Quantity: m3 (yd3)

8. Special handling instructions & additional information:

9. Generator's/Contractor's Certification: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled. The contents are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print Name:	Signature:	Date:

Transporter Information (Acknowledgment of Receipt of Materials):

10. Name, title, address, telephone number:	Signature:	Date:
11. Name, title, address, telephone number:	Signature:	Date:

Disposal Site Operator

12. Discrepancy: Bags or Containers Total Quantity

13. Waste Disposal Site Owner or Operator certification of receipt of asbestos materials covered by this manifest except as noted in item 11.

Print Name:	Signature:	Date:

Please forward a completed copy of this record to: SCDHEC, Bureau of Air Quality, Asbestos Section, 2600 Bull Street, Columbia, SC 29201
(803) 898-4389 office. (803) 898-4281 fax.