

Date: March 30, 2021

To: All Plan Holders

Subject: ADDENDUM NO. 4

Project: TROY UNIVERSITY NATATORIUM DEMOLITION
TROY UNIVERSITY MAIN CAMPUS - TROY, ALABAMA

Job #: SSL# 20121
BC# 2020764

From: Josh Banks



The Drawings and Specifications dated December 2020 of the subject project, and any subsequent addenda are amended as follows: (Where there are conflicts between the drawings and specifications and the addendum, this addendum shall govern)

- Item 1:** Refer to Drawings, Sheet A1.2, Gardner Hall Demo Plan. Add the sheet and all drawings identified in clouded areas. Clarification: Demolition of Gardner Hall has been added to scope of project.
- Item 2:** Refer to Drawings, Sheet A1.3, Hamil Hall Demo Plan. Add the sheet and all drawings identified in clouded areas. Clarification: Demolition of Hamil Hall has been added to scope of project.
- Item 3:** Refer to drawings, Sheet C1.1 Site Demolition Plan. Replace the current C1.1 with the revised C1.1. Clarification: Sheets C2.1 & C3.1 will be revised to show finished grades and issued in the next addendum. This addendum is being issued in advance to aid bidders in pricing the building demolition scope.
- Item 4:** Refer to Drawings, Sheet T1.0, Title Sheet & Drawing Index. Replace sheet with the attached revised drawings with changes identified in clouded areas. Clarification: Note the addition of A1.2 and A1.3 sheets to drawing set.
- Item 5:** Refer to Specifications Section 02 4100 Demolition. See Section 3.02 General Procedures and Project Conditions. Add Paragraph H identified by bold and underlined text “Contractor to coordinate with Owner for removal of any memorabilia, keepsakes, souvenirs, etc., before demolition begins.”

- Item 6:** Refer to Specifications Front End Document Advertisements for Bid. Modify first paragraph identified by bold and underlined text, “April 13, 2021”
- Item 7:** Refer to Specification Section 01 1000 Summary, Section 1.01 Project. Modify Paragraph D to include the bold and underlined text, “Hamil Hall, Gardner Hall, and...” See the attached updated 01 1000 Summary Specification Section.
- Item 8:** Refer to Specification Section 01 1000 Summary, Section 1.01 Project. Modify Paragraph E to the updated Construction Time and Total time indicated with bold and underlined text. See the attached updated 01 1000 Summary Specification Section.
- Item 9:** Refer to Specification Section 01 1000 Summary, Section 1.01 Project. Modify Paragraph E to remove “of the Natatorium Building.” See the attached updated 01 1000 Summary Specification Section.
- Item 10:** Refer to Specification Section 01 1000, Section 1.04 Paragraph B. Modify to include the bold and underlined text, “Hamil Hall, Gardner Hall, and...” See the attached updated 01 1000 Summary Specification Section.
- Item 11:** Refer to Specification Section 01 2100. See Section 1.04 Paragraph A. Modify the General Contingency Allowance as shown in bold and underlined text. The allowance value was increased from \$12,500.00 to \$25,000.00.
- Item 12:** Refer to Specification Section 01 2101.01 General Contingency Allowance Authorization. Update the BC Project No. to 2020764.
- Item 13:** Refer to Specification Section 01 2101.01 General Contingency Allowance Authorization. Update the original amount of the General Contingency Allowance to \$25,000.00.
- Item 14:** Refer to Drawings, Sheet T2.0, General Work Notes, Abbreviations & Symbols. Replace sheet with the attached revised drawings with changes identified in clouded areas. Clarification: Note the addition of the note “Lead Containing Materials: ...”
- Item 15:** Refer to specifications 02 8200 Asbestos Removal. Delete Section 02 8200 (10 pages) and replace with attached Section 02 8200 (11 pages).
- Item 16:** Refer to specifications. Clarification: The Certificate of Worker’s Acknowledgement behind Section 02 8200 and Natatorium Asbestos Removal documents dated 11-20-2020 shall remain part of the specification. This acknowledgement relates to the demolition of the Natatorium, Hamil, and Gardner Halls.

Item 17: Refer to specifications 02 8416 Removal of Fluorescent Lamps and Ballasts. Delete Section 02 8416 (4 pages) and replace with attached Section 02 8416 (5 pages).

Item 18: Refer to specifications. Clarification: The Certification of Worker's Acknowledgement behind 02 8416 shall remain part of the specifications. This acknowledgement relates to the demolition of the Natatorium, Hamil, and Gardner Halls.

Item 19: Refer to specification Section 02 8200 Asbestos Removal. Add the attached asbestos abatement drawings for Gardner & Hamil Halls behind the asbestos abatement drawings for the Natatorium.

Item 20: Refer to specifications. Add the attached Specification Section 02 8300 and lead paint testing charts for the Natatorium, Hamil, and Gardner Halls.

Attachments: Drawing Sheets T1.0, T2.0, C1.1, A1.2, A1.3; Specification Section 01 1000 Summary, 01 2100 Allowances, 02 4100 Demolition, 02 8200 Asbestos Removal, 02 8300 Lead-Containing Materials, 02 8416 Removal of Fluorescent Lamps and Ballasts; Environmental Drawings 4103-01 Gardner Hall Asbestos Crawlspace Plan, 4103-02 Gardner Hall Asbestos First Floor Plan, 4103-03 Gardner Hall Asbestos Second Floor Plan, 4103-04 Gardner Hall Asbestos Third Floor Plan, 4103-05 Hamil Hall Asbestos First Floor Plan, 4103-06 Hamil Hall Asbestos Second Floor Plan, 4103-07 Hamil Hall Asbestos Third Floor Plan, 4103-08 Hamil Hall Asbestos Fourth Floor Plan; LBP-XRF Field Testing Data Sheet – Gardner Hall & Hamil Hall, Lead Paint Testing Data Sheet for Charles McDowell Lee Natatorium.

End of Addendum No. 4

**SECTION 011000
SUMMARY**

PART 1 GENERAL

1.01 PROJECT

- A. Project Name: **20121 - Troy University Natatorium Demolition**
- B. Owner's Name: Troy University.
- C. Architect's Name: Seay Seay and Litchfield, P.C..
 - 1. Address: 1115 South Court Street, Montgomery, AL 36104 (Main Office)
 - 2. Phone number: 334-263-5162
 - 3. Architect Team, unless Architect gives written notice otherwise.
 - a. Principal in Charge: Greg A. O'Neal, AIA, NCARB, LEED AP
 - b. Project Manager: Cody Smith, AIA, NCARB
 - c. Assistant Project Manager: Josh Banks, Associate AIA
- D. The Project consists of the demolition of the existing Troy University Hamil Hall, Gardner Hall, and Natatorium Building and portions of the connector to Wright Hall., associated site work and remediation to Wright Hall as a result of removed building connection. This project includes site and utility work associated with the project. There are some owner furnished items. Landscaping (Lawn Sprinkler System only) work is included as an allowance.
- E. Construction Time: 95 calendar days from notice to proceed to substantial completion, this is in addition to 15 days for the punch list to be completely accomplished. Total time shall be 110 days. The contractor shall begin the demolition of The Natatorium Building within 10 days from notice to proceed and shall complete its demolition within 40 days from notice to proceed. The contractor will be responsible for coordinating punch list activities around the owners activities if both are occurring at the same time.
- F. Notice of Award and Construction Contract submittal: The successful low bidder shall, within 24 hours or one business day from the notice of intent, from the owner to the contractor, to award the contract, prepare & present the complete and executed construction contract, bonds, insurance and all other documents required for the owner to execute the contract, and subsequently issue a notice to proceed to the contractor. Failure to submit these documents within this time may result in the bidder being declared non-responsive and the contract being awarded to the next low bidder.
- G. Liquidated Damages: Per the Alabama Division of Construction Management General Conditions or \$1000 per day beyond the contract completion date, which ever is more.
- H. Construction Superintendent: The General Contractor shall provide a full time on site construction superintendent with a minimum of five years experience on a projects of similar size and type. This superintendent shall serve in a supervisory capacity. Prior to construction the contractor shall submit a resume of the construction superintendent to the architect for approval.
- I. Construction Project Manager: The General Contractor shall provide a project manager with a minimum of five years experience on projects of similar size and type. Prior to construction the project manager shall submit a resume of the project manager to the architect for approval.
- J. Comply with the Following Regulatory Agencies and/or Requirements
 - 1. Alabama Division of Construction Management
 - 2. Alabama Fire Marshall
 - 3. City and or Municipality in which project is located
 - 4. Alabama Department of Environmental Management
 - 5. Owner/ Agency/Department
 - 6. OSHA
 - 7. The American Disabilities Act
 - 8. Applicable Federal Agencies

9. Obtain copies of the regulations listed above which are required by Law to be at the project site and keep at the project site for the use of all parties.
- K. Conflicts in the Contract Documents: Where conflicts occur in the contract documents the more expensive option shall be included for the contractor's pricing purposes unless otherwise clarified in writing by the Architect. Prior to execution of the work the Architect shall be consulted of all options, and a decision will be rendered by the Architect.
- L. Building Permit and Business License Requirements:
 1. The General Contractor will not be required to obtain a Building Permit thru the City of Troy for the project.
 2. The General Contractor and all subcontractor's contracted to perform work under the scope of the General Contractor's scope of work will be required to have a business license through the City of Troy.
 3. Prior to the bid, Contact the City of Troy, Pike County, and the University for clarification of the requirements of all applicable City to include Fire Department and Building Department, county, and University requirements.
- M. BASIS OF DESIGN: When Materials or Products are listed as Basis of Design or only one product is listed in the Contract Documents the intent is **not** to limit competition but set a quality standard within the drawings , Specifications, and Addenda. Competition of equal products is encouraged . Refer to the Specifications Section 01 6000 Product Requirements Part 3 EXECUTION, 3.01 Substitution Procedures.

1.02 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Alabama Division of Construction Management Owner/Contractor Agreement
- B. Scope of the work shall be as shown in the contract documents prepared by Seay, Seay, & Litchfield, P.C. Dated - December **2020**.
- C. Refer to Contract Documents for Base Bid, Allowances, Contingency Allowances,

1.03 USE OF SITE AND MISC. REQUIREMENTS

- A. The space available to the contractor for the performance of the work, either exclusively or in conjunction with others performing other construction as part of the project, is as per the owner's approval.
 1. Other areas are off limits to all construction personnel.
- B. Access to site will be limited; obtain owner's written approval of proposed routes of access.
- C. Keep existing sidewalks, roads, parking lots and drives on site clear and available at all times. Promptly remove mud, dirt, debris etc. from sidewalks, streets and public right-of-way during construction as it occurs.
- D. Storage areas on site are very minimal and will be limited to materials that are to be immediately used in the progress of the work. If additional storage is required, then contractor shall secure and be responsible to pay for such off site storage in a fully bonded and insured facility acceptable to the owner, with all items clearly identified as being assigned to this project.
- E. Contractors and Vendors are to lock all vehicles when parked and unattended. Do not leave keys in vehicles or equipment when unattended or leave unattended with motor running.
- F. The Owner, Representative, Architect and the Architect's consultants as well as Building Authorities will require vehicular site accessibility on a regular basis to conduct business related to the project including performing inspections, observations, etc. The Contractor will maintain reasonably accessible routes for foot traffic through the site.
- G. Provide secure temporary barricades, fencing, etc. as indicated to separate the public from construction operations. Compliant safety and/or warning signage is to be provided as well in conjunction with fencing and barricades.
- H. Construction operations are not to affect any of the ongoing operations of the Owner throughout the site. Construction equipment is not to be attached to, or swing over existing buildings to remain, public areas, occupied buildings or parking lots, right-of-ways, etc.

- I. Parking will not be allowed on site due to space limitations. All contractors will need to make provisions to secure off site parking for their employees.
- J. Smoking or other use of other types of tobacco products shall not be permitted on any campus property. Comply with all university policies.
- K. The use or presence of alcohol and/or debilitating substances are strictly prohibited on the project site.
- L. Comply with the owner's security requirements
- M. Signs: Provide signs adequate to direct visitors.
 - 1. Do not install, or allow to be installed, signs other than specified Project sign(s) and signs identifying only the principal Trade Contractors involved in the project. Location of signs to be determined by General Contractor per the approval of the Owner's representative.
- N. Extreme care shall be taken to protect the existing trees that are shown to remain. These trees shall be roped off and have no driving or parking or any other construction activities under the tree canopy.
- O. Music Devices: No music devices will be permitted on site to include but not limited to radios, tape players, CD players, Ipods, and head phones.

1.04 OTHER PROVISIONS:

- A. The contractor shall be responsible for all means, methods, sequencing of work, demolition, and reparations to the property and facilities as required to accomplish the work. This shall include but is not limited to the installation of all equipment, furnishings, and materials.
- B. The owner will make the original **Hamil Hall, Gardner Hall, and** Natatorium drawings available at the pre-bid meeting. These drawings are for the convenience of the bidders but shall not be considered as part of the contract documents.

OWNER'S RESPONSIBILITIES

3.01 OWNER'S REPRESENTATIVE

- A. The Owner's Representative will manage the Work of the project and be the point of contact for all communications on behalf of the owner. The Owner's Representative will also coordinate all administrative and procedural requirements. The Owner's Representative will be Mr. Mark Salmon or his designated person unless the Owner gives other written instructions otherwise.

3.02 WORK BY OWNER

- A. Owner will award contracts as follows:
 - 1. As shown on drawings
- B. Contractor to coordinate with owner regarding scheduling of installation of owner provided products and materials.

3.03 OWNER OCCUPANCY

- A. Owner intends to occupy the Project site upon Substantial Completion.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

3.04 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to affected by the scope of work shown on the drawings. Coordinate with Owner.
- B. Provide access to and from site as required by all applicable laws and by Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.

C. Existing building spaces may not be used for storage.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 012100
ALLOWANCES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Contingency allowance.
- B. Contingency Allowance Authorization Forms

1.02 RELATED REQUIREMENTS

- A. Section 012000 - Price and Payment Procedures: Additional payment and modification procedures.

1.03 CONTINGENCY ALLOWANCE

- A. **Refer to Schedule of Allowances for Allowances and monetary amounts of each allowance to be included in the contractor's base bid.**
- B. The Contractor shall include in his bid proposal all costs of office, job supervision, overhead, profit, and bond on the Contingency Allowances listed in the Schedule of Allowances, because no such costs will be paid to Contractor for work performed under these Contingency Allowances. Only the direct costs of performing work under this provision shall be paid under and charged against the Contingency Allowance; such cost includes costs of materials and delivery, installation labor, payroll taxes and insurance, equipment expense, and the cost of subcontracted work (subcontractor's cost may include a maximum of 15% mark-up for overhead and profit).
- C. The Contractor shall include a line item in the Schedule of Values entitled "Contingency Allowance" with values as scheduled below. The estimated value of work completed pursuant to fully executed Contingency Allowance Authorizations may be included in the Contractor's monthly Applications for Payment. Payments under this Contingency Allowance shall not exceed the net, total of fully executed Contingency Allowance Authorizations.
 - 1. When a contingency allowance includes multiple items of work, each item of work shall be listed as a separate line item in the schedule of values with the approximate percentage complete for each scope of work listed.
- D. At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order along with a credit for OH&P in accordance with Alabama Building Commission requirements. The owner may, at his discretion, transfer balance of any contingency to another allowance.
 - 1. Credit for overhead and profit (OH&P) on unused contingency allowance shall be fair and reasonable, equal to the amount of OH&P that was applied to the contingency amounts for the purposes of bidding, and in no case less than 5%.
- E. An accounting of the costs charged against this Contingency Allowance shall be mutually maintained by the Contractor, Architect, and Owner throughout the course of the project.
- F. Contingency Allowances to be executed on the forms attached to this section.

1.04 ALLOWANCES SCHEDULE

- A. General Contingency Allowance : Include the stipulated sum of \$25,000.00 (without sales tax included) for purchase, delivery, & installation of:
 - 1. Unforeseen conditions or minor changes that are necessary for an allowance of \$25,000.00 to supplement the work as detailed in the Contract Documents and as determined by the owner.
- B. Landscaping Contingency Allowance (Lawn Sprinkler System only): Include the stipulated sum of \$5,000.00 for purchase, delivery, and installation of lawn sprinkler requirements. The Sod shall be in the Base Bid.

**Natatorium Demolition
Troy University, Troy, AL**

20121

December 2020

**PART 2 PRODUCTS - NOT USED
PART 3 EXECUTION - NOT USED**

END OF SECTION

**GENERAL CONTINGENCY ALLOWANCE AUTHORIZATION
TROY UNIVERSITY NATATORIUM DEMOLITION**

SS&L PROJECT NO. 20121

BC PROJECT NO. _____

GENERAL CONTINGENCY ALLOWANCE AUTHORIZATION

AUTHORIZATION NO. _____

DATE: _____

In accordance with Specification Section 01 2100 - ALLOWANCES, the Contractor,
_____, is hereby authorized to proceed with the changes in Work as
are described below and is to be paid for the performance of these changes as provided in Specification
Section 01 2100. This Authorization shall become effective when it is signed by the Contractor and the
Owner's representative and it is understood and agreed that the amount(s) stipulated below constitute full
compensation for these changes in Work.

TOTAL AMOUNT OF THIS AUTHORIZATION \$ _____

Original amount of the General Contingency allowance \$ 25,000.00

(sales tax is not included)

Net total of previous authorizations \$ _____

Previous remaining General Contingency allowance \$ _____

Total amount of this authorization \$ _____

General Contingency allowance remaining after this authorization \$ _____

RECOMMENDED BY:

AUTHORIZED BY:

ACCEPTED BY:

GREGORY A. O'NEAL

CONTRACTOR

MARK SALMON

SEAY SEAY & LITCHFIELD, P.C.

TROY UNIVERSITY

END OF SECTION

**GENERAL CONTINGENCY
ALLOWANCE AUTHORIZATION**

012101.01 - 1

**SECTION 024100
DEMOLITION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Building demolition excluding removal of hazardous materials and toxic substances.
 - 1. Refer to Sections 02 8200 - Asbestos Removal, Section 02 8416 - Removal of Fluorescent Lamps and Ballast, and documents and drawings by Environmental Materials Consultants, Haynes Kelley, PE for additional requirements.
- B. Selective demolition of built site elements.
- C. Abandonment and removal of existing utilities and utility structures.

1.02 RELATED REQUIREMENTS

- A. Section 015000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- B. Section 015713 - Temporary Erosion and Sediment Control.
- C. Section 016000 - Product Requirements: Handling and storage of items removed for salvage and relocation.
- D. Section 017000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.
- E. Section 02 8200 - Asbestos Removal
- F. Section 02 8416 - Removal of Fluorescent Lamps and Ballasts
- G. Section 311000 - Site Clearing: Vegetation and existing debris removal.
- H. Section 31 0010 - Site Protection
- I. Section 31 0020 - Erosion Control

1.03 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2019.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Site Plan: Showing:
 - 1. Vegetation to be protected.
 - 2. Areas for temporary construction and field offices.
- C. Demolition Plan: Submit demolition plan to governing authorities as specified by OSHA and local authorities.
 - 1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
 - 2. Identify demolition firm and submit qualifications.
 - 3. Include a summary of safety procedures.
- D. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Fill Material: As specified in Section 312323 - Fill.

PART 3 EXECUTION

3.01 SCOPE

- A. Remove existing building:
 - 1. see drawings.
- B. Remove paving, curbs, sidewalks as required to accomplish new work as shown on drawings. Contractor shall repair all parking areas, curbs, sidewalks and amenities as required.
- C. Visit site prior to bid and verify all existing conditions, existing structures, finishes, and location of work area.
- D. The existing utilities to the Natatorium shall be terminated by the contractor prior to demolition. These utilities will be discussed at the pre-bid conference with the appropriate Troy University facility personnel in attendance.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with other requirements specified in Section 017000.
- B. **Contractor to coordinate with Owner for removal of any memorabilia, keepsakes, souvenirs, etc.. before demolition begins.**
- C. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Use of explosives is not permitted.
 - 3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 4. Provide, erect, and maintain temporary barriers and security devices.
 - 5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
 - 6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 7. Do not close or obstruct roadways or sidewalks without permit.
 - 8. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
 - 9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
 - 10. Buildings Occupancy: The adjacent buildings will be occupied. Work may be accomplished during normal hours. Notify the owner 48 hours in advance if any demolition will result in excessive noise or vibration which may be sensed in the area. Contractor to seal off all work areas and maintain fire exiting for the building.
- D. Do not begin removal until receipt of notification to proceed from Owner.
- E. Protect existing structures and other elements that are not to be removed (including adjacent buildings).
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.
- F. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- G. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- H. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface

3.03 EXISTING UTILITIES

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.
- H. Existing Data Duct Bank:
 - 1. It shall be the contractors responsibility to locate and verify this feature prior to any work. Locations shown on drawings are approximate.
 - 2. Contractor shall take extreme measures to protect the existing data duct bank.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Remove existing building and site elements as indicated and as required to accomplish new work.
 - 1. **Contractor to coordinate with Owner for removal of any memorabilia, keepsakes, souvenirs, etc. before demolition begins.**
- C. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 - 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - 3. Verify that abandoned services serve only abandoned facilities before removal.
- D. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.
- D. All demolished materials shall become the property of the Contractor and shall be removed from the site by the Contractor unless noted otherwise in Contract Documents.

- E. The Contractor shall select haul routes, obtain required approval of local authorities, and conduct its operations in such manner as to insure minimum interference with roads, street, sidewalks, and neighboring buildings and facilities and so that there is no interference with the normal operations of the building.
- F. The Contractor shall obtain all necessary permits and comply with all statutes, ordinances, codes and regulations applicable to the work to be performed.
- G. The Contractor shall take all precautions necessary to assure that the work will be performed in a manner that will not endanger the public, any workman, or any property in the vicinity of the work.
- H. The Contractor shall take such actions as shall be necessary to assure that members of the public will have safe passage on the public streets around the area of demolition, and construct such fencing, barricades and obstacles as will prevent unauthorized entry to the work site.

END OF SECTION

SECTION 02 8200 - ASBESTOS REMOVAL

PART 1 GENERAL



1.1 RELATED DOCUMENTS

General provisions of the contract, including General and Supplementary Conditions, and other Specification sections as prepared by Seay, Seay & Litchfield, P.C., apply to work of this specification, which has been prepared by Environmental-Materials Consultants, Inc.

1.2 PROJECT/WORK IDENTIFICATION

- A. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, addenda, and modifications to the contract documents issued subsequent to the initial printing of the project manual and including but not necessarily limited to printed material referenced by any of these. Work of the contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions, and other forces outside the contract documents.
- B. Abbreviated Written Summary: Briefly and without force and effect upon the contract documents, the work of this Section can be summarized as follows:

Controlled preparation, removal, clean up, and disposal of asbestos-containing materials from the Natatorium, Gardner Hall, and Hamil Hall on the campus of Troy University, Troy, AL, as described in this specification section.

Note: The cementitious pipe fitting insulation in Gardner Hall, and the sink undercoating in Hamil Hall are both friable asbestos-containing materials, and must be properly removed and disposed as specified prior to building demolition.

The cement-asbestos storefront panels, mastics, and sealants in the Natatorium, and the flooring mastics, bituminous tape and bituminous sealant in Gardner and Hamil Halls are classified by EPA as category II non-friable asbestos-containing materials. Category II non-friable materials are only regulated under EPA's NESHAP regulations if they become friable, or have a high probability of becoming or have become crumbled, pulverized, or reduced to a powder by forces expected to act on them. Because the cement-asbestos storefront panels are likely to be crumbled and pulverized, they must be properly removed as specified prior to building demolition. The other identified category II non-friable asbestos-containing materials however are soft, pliable materials, that are not likely to be crumbled, pulverized, or reduced to a powder by traditional demolition. If the other category II non-friable asbestos-containing materials are not caused to become "regulated asbestos-containing materials" (RACM), they can be demolished with the non-asbestos building components.

The floor tiles are classified by EPA as category I non-friable asbestos-containing materials. Category I non-friable materials are regulated under NESHAP if they become friable, or will be, or have been subjected to sanding, grinding, cutting, or abrading. If the floor tiles will not be subjected to those actions they too can be demolished with the non-asbestos building components.

Asbestos materials cannot be recycled. If concrete floor slabs, metal ductwork, or other building components are intended to be recycled, all asbestos materials must first be removed from them.

OSHA considers removal of the pipe fitting insulation to be Class I Asbestos Work, and removal of the other identified asbestos-containing materials, or demolition of buildings containing those other type materials, to be class II asbestos work.

OSHA's requirements for Class I Asbestos Work are more stringent than their requirements for Class II work, and for both classes they require establishment of regulated areas, supervision by a competent person, worker training, adherence to specified work practices, and respiratory protection (or documentation that it is not required).

Wet demolition methods must be employed if asbestos materials are included in the demolition.

Because most of the asbestos materials are anticipated to be demolished/disposed with the non-asbestos building components, no additional consideration will be given for additional quantities of asbestos materials that may be discovered.

Controlled preparation, removal, clean up, and recycling of lead flashing at rooftop plumbing vents on all three buildings, and at the roof access ladder supports on the Natatorium.

- C. Engineer: The Engineer for the asbestos removal work included in this project is:

Environmental-Materials Consultants, Inc.
2027 Chestnut Street
Montgomery, Alabama 36106-1110
334-265-4000

The Engineer may also provide administration, observation, and/or monitoring services for the Owner. Services provided by the Engineer do not in any way relieve the Contractor of his obligation to perform the work in conformity with the specifications and governmental regulations.

This specification section and associated drawings were prepared by W. Haynes Kelley, Jr., P.E. Mr. Kelley is accredited in the State of Alabama as an asbestos project designer. His current accreditation number is APD032034206.

1.3 COORDINATION AND SCHEDULING

- A. In order to prevent the uncontrolled release of asbestos fibers and exposure of renovation workers and other building occupants to elevated airborne asbestos concentrations, it is necessary to properly remove asbestos-containing materials prior to commencement of demolition activities that are likely to disturb them.
- B. The General Contractor, Asbestos Removal Subcontractor, and any other subcontractors must be aware of the locations of asbestos materials within the three buildings, and must coordinate their activities to ensure that asbestos materials are only disturbed under controlled conditions as specified herein.
- C. The Asbestos Removal Subcontractor must coordinate his work with the General Contractor and with the other work that is being performed under this contract in order to properly segregate work areas from areas that must remain fully or partially occupied or operational, or in which other special considerations are required.

1.4 SUBMITTALS

- A. Submit to the Engineer for his review the following Pre-Job Submittals. The Pre-Job Submittals are to be submitted in electronic format on a CD, or by email. The listed documents must be combined into a single document in Portable Document Format (PDF). They must be arranged in the order listed below, and except for tabs or explanatory letters, only the listed documents are to be included. The Work of this specification may not proceed until the complete Pre-Job Submittal package has been reviewed and approved by the Engineer.

Note: The Engineer will only accept complete sets of both Pre and Post-Job Submittals. If incomplete sets are submitted the Engineer or his representative will prepare correspondence advising the contractor that his submittal is incomplete, and then the Engineer will discard the

incomplete submittals.

1. Copy of Contractor's "Notice of impending commencement of asbestos removal work" which was submitted as a courtesy to:
Alabama Department of Environmental Management
Attention: Mr. Donald Barron
Air Division
P.O. Box 301463
Montgomery, Alabama 36130-1463
2. Copy of the Contractor's ADEM certificate to perform asbestos removal work within the State of Alabama.
3. Copies of the Safe State Certificates of Accreditation for the workers and supervisors that will be assigned to the project.
4. Signed statement from the Asbestos Removal Contractor certifying that he has in place medical monitoring and respiratory protection programs for his employees, and that all employees that will be on site are participating in those programs.
5. Individually signed Worker's Acknowledgment forms by each and every worker to be utilized on the project by the Asbestos Removal Subcontractor. A copy of this form is included at the end of this specification section.

Note: The asbestos removal contractor is required to submit a signed Worker's Acknowledgment form from each of his personnel, and his subcontractor personnel, who are present at the job site during the course of the project. For those personnel who are not asbestos removal workers or supervisors, and who will not enter the work area, the Contractor can cross out and initial the paragraphs that address respiratory protection, training and medical examination, if those personnel are not required to participate in those programs.

6. All required permits, site locations, and arrangements for transportation and disposal of asbestos-containing or contaminated materials.
 7. Copy of any applicable permits required by local authorities.
 8. The names, titles, and telephone numbers of at least two Contractor representatives that can be contacted in the event of an emergency.
- B. Submit to the Engineer for his review the following Post-Job Submittals. The Post-Job Submittals are to be submitted in electronic format on a CD, or by email. The listed documents must be combined into a single document in Portable Document Format (PDF). They must be arranged in the order listed below, and except for tabs or explanatory letters, only the listed documents are to be included. Requests for final payment will not be approved until the Post-Job Submittal package has been reviewed and approved by Engineer.
1. Receipts from landfill operator that acknowledge the Contractor's delivery(s) of waste material. Landfill receipts must show the project name, specify the quantity and type of material disposed, and be signed by an authorized representative of the landfill.
 2. Copies of daily logs of personnel entering the work area. These logs shall include the following information: name, date, time entering and leaving work area, company or agency represented, and reason for entry.
 3. Copies of daily project log, including descriptions of daily work activities and any unexpected situations or unusual events that occurred.
 4. Copies of the Safe State Certificates of Accreditation and signed Worker Acknowledgment Forms for any workers and supervisors that worked on the project but for whom Safe State Certificates and signed Worker Acknowledgment Forms were not included in the pre-job submittals.

1.5 REGULATORY REQUIREMENTS

- A. By executing the Contract, the Contractor does hereby acknowledge awareness and familiarity with the contents and requirements of the regulations, codes, and standards listed in this section and assume responsibility for the performance of the Work in strict compliance therewith and

for every instance of failure to comply therewith.

- B. The current issue of each document shall govern. Where conflict among requirements or with these specifications exists, the more stringent requirements shall apply.
 - 1. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Construction Industry Standards (Code of Federal Regulations Title 29, Part 1926).
 - 2. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Construction Standard for Asbestos (Code of Federal Regulations Title 29, Part 1926.1101).
 - 3. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Personal Protective Equipment Standard (Code of Federal Regulations Title 29, Part 1910.132).
 - 4. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Respiratory Protection Standard (Code of Federal Regulations Title 29, Part 1910.134).
 - 5. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Hazard Communication Standard (Code of Federal Regulations Title 29, Part 1910.1200).
 - 6. U. S. Environmental Protection Agency (EPA): National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR, Part 61, Subparts A and M.
 - 7. U. S. Environmental Protection Agency (EPA): "Asbestos Containing Materials in Schools; Final Rule and Notice" (Code of Federal Regulations Title 40, Part 763.80).
 - 8. U. S. Environmental Protection Agency (EPA): "Model Accreditation Plan" (Code of Federal Regulations Title 40, Part 763).
 - 9. U. S. Environmental Protection Agency (EPA): "Asbestos School Hazard Abatement Reauthorization Act (ASHARA)" (Code of Federal Regulations Title 40, Part 763).
 - 10. U. S. Department of Transportation (DOT): Transportation Standards (Code of Federal Regulations Title 49, Part 100 - 185).
 - 11. The Alabama Asbestos Contractors Accreditation Act, 89-517.
 - 12. All other Federal, State, County and City regulations, codes and ordinances as applicable.
- C. This list is provided as a convenience to the Contractor and is not to be considered all inclusive of the codes, standards, regulations, and laws. It is the sole responsibility of the Contractor to maintain a safe work site.

1.6 QUALITY CRITERIA

- A. The Asbestos Removal Contractor shall be certified by the Alabama Department of Environmental Management in accordance with the Alabama Asbestos Contractors Accreditation Act and have a record of not less than two years successful experience in asbestos removal and related work similar in scope and magnitude to this Project.
- B. The Asbestos Removal Contractor shall maintain on site a superintendent who is Safe State accredited and has not less than one year of full-time experience in responsible charge of asbestos removal operations in similar scope and magnitude to this Project within the two-year period preceding start of project.
- C. Use only experienced, Safe State accredited asbestos removal workers to perform the Work.

1.7 PERSONAL PROTECTION

- A. Prior to commencement of work, all workers shall be instructed in, and shall be knowledgeable of, the appropriate procedures for personal protection and asbestos removal.
- B. Contractor acknowledges and agrees that he is solely responsible for enforcing worker protection requirements at least equal to those specified in these specifications.
- C. Provide workers with personally issued and marked respiratory equipment approved by NIOSH and OSHA to be suitable for the asbestos exposure levels encountered in the work areas according to OSHA 29 CFR 1926, or as more stringently specified elsewhere in the Contract Documents.

- D. Where respirators with disposable filters are used, provide sufficient filters for replacement as necessary by the workers or as required in the Contract Documents. Use P100 particulate filters. Stack particulate filters with organic vapor filters when necessary for both particulate and organic vapor protection.
- E. Provide respiratory protection at all times which is in compliance with or in excess of the Occupational Safety and Health Administration guidelines for respiratory protection.
- F. Provide respiratory protection from the time that the first operation involved in the Project requires contact with asbestos-containing materials until acceptance of final air test results by Engineer. Minimum respiratory protection requirements are:

<u>Fiber Concentration</u>	<u>Respiratory Protection</u>
start-up (if anticipated ≤ 0.2 f/cc)	PAPR
<0.1 f/cc	half face respirator
0.1 to 0.2 f/cc	PAPR
>0.2 f/cc	supplied air

- G. Permit no visitors, except governmental inspectors having jurisdiction, in the work areas after commencement of asbestos disturbance or removal.
- H. Provide workers with sufficient sets of protective disposable clothing, consisting of full-body coveralls, head covers, gloves, and foot covers; of sizes to properly fit individual workers.
- I. Provide eye protection, hearing protection, foot protection, fall protection, protection from electrical shock, and hard hats as required for job conditions or by applicable safety regulations. Leave reusable footwear, hard hats, hearing protection, and eye protection devices in the contaminated equipment room until the end of the asbestos abatement work, at which time such items shall be disposed of as asbestos waste or decontaminated for reuse.
- J. Provide protective clothing for use by Engineer or Engineer's representative. Furnish protective clothing in as many sets as required for full-time monitoring by Engineer.

1.8 AIR MONITORING

- A. The Engineer may perform daily air monitoring for the Owner. This air monitoring may be conducted during the removal and clean-up operations. The Engineer will perform clearance air monitoring for the Owner.
- B. Notify the Engineer of the commencement of asbestos removal at least 72 hours in advance and for other observations as noted throughout these specifications.
- C. Daily and clearance air monitoring samples will be analyzed by phase contract microscopy (PCM) in general accordance with the procedures outlined in the NIOSH 7400 Method.
- D. The Engineer will perform testing for the Owner, and conduct specified clearance observations and monitoring. Such testing for the Owner does not relieve the Contractor of his responsibility to provide necessary tests required by other regulations, codes, and standards for the protection of his workers, or for any other purposes.
- E. Services provided by the Engineer shall not relieve the Asbestos Removal Subcontractor of his obligation to perform the work in conformity with the drawings, specification and governmental regulations.

1.9 WORK AREA CLEARANCE

- A. Clearance Trips:

The asbestos removal work of this project is to be cleared during no more than one clearance observation/sampling trip by the Engineer or his representative for each of the three buildings. The cost of any additional clearance observation/testing trips shall be borne by the Contractor and will be deducted by the Owner from payments made to the Contractor. Those costs are anticipated to be about \$650 per trip.

B. Contractor release criteria:

The work areas are considered ready for reoccupancy when the work area is visually clean and airborne fiber levels have been reduced to the level specified below.

C. Clearance Testing

1. Perform cleaning of all surfaces in the work area and any other immediately adjacent contaminated areas.
2. Upon notice from the Contractor that work areas and all other contaminated and cleaned areas are ready for Clearance Testing, the Engineer or his representative will perform visual observations and air tests. For Clearance the work area must be visually clean and the airborne fiber concentration within the work area must be equal to or less than 0.01 fibers per cubic centimeter (f/cc).

Note: It will be necessary to suspend demolition/renovation activities within other areas of the building during, and for a period of time prior to, clearance air sampling to allow demolition/renovation dust to settle. Airborne demolition dust may be drawn into the asbestos work area and could render the clearance samples unreadable. Unreadable samples are considered to have failed clearance, and re-testing will be required.

3. Areas which do not comply with the standard of cleaning shall continue to be cleaned by and at the Contractor's expense until the specified standard of cleaning is achieved as evidenced by visual observations and results of air sampling tests by Engineer as previously specified. The cost of all follow-up observations, sampling and analyses necessitated by the failure of previous observations and/or air tests to meet the clearance criteria shall be borne by the Contractor.
4. When the airborne fiber concentration of 0.01 f/cc or less is achieved and observation by the Engineer determines that the area has been visually decontaminated, the decontamination enclosure system shall be removed, the area thoroughly cleaned, and materials from the equipment room and shower disposed of as contaminated waste. The remaining barriers between contaminated and clean areas and all seals on openings into the work area and fixtures shall be removed and disposed of as contaminated waste.

D. Final Observation:

Final observation of the cleaning work of this Section may be performed by the Engineer to determine if the areas are visibly clean.

E. Contractor's Representation:

By requesting that Clearance be performed in a work area the Contractor or his representative represents that all of the asbestos work for that work area has been performed as specified, and he agrees that should it be subsequently discovered that all of the work was not performed as specified he will take those steps necessary to cause it to be performed as specified; to include re-mobilization, preparation, abatement, cleanup, and disposal.

F. Engineer's Representation:

By stating that Clearance has been achieved in a work area, the Engineer represents that the results of the Engineer's air testing indicate that the airborne fiber concentrations within the work area meet the specified clearance criteria, and that brief visual observations by the Engineer or his representative indicate that the specified materials appear to have been removed from the work area, and that the work area appears to have been cleaned. A statement of Clearance by the Engineer or his representative does not relieve the Contractor of his responsibility to perform all of the work as specified.

1.10 WORKSITE CONDITIONS

The Contractor and/or subcontractor are hereby advised that asbestos has been determined by the U. S. Government to be a CANCER CAUSING AGENT.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Plastic sheeting - Shall be fire resistant, of thickness specified, sized to minimize the frequency of joints.
- B. Tape - Shall be glass fiber or other type capable of sealing joints of adjacent sheets of plastic and for attachment of plastic sheet to finished or unfinished surfaces or dissimilar materials.
- C. Surfactant (wetting agent) - Shall consist of resin materials in water base which have been tested to indicate material is non toxic and non irritating to skin and eyes, and non carcinogenic.
- D. Sealant (encapsulant) - Shall be manufactured by reputable, established manufacturer of encapsulation/sealant materials and be approved specifically for use in asbestos-contaminated environments.
- E. Impermeable Containers and Disposal Bags - Shall be suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site and shall be labeled in accordance with OSHA Regulations 29 CFR 1926. Containers/bags must be both airtight and watertight. Waste must be double containerized or wrapped in a minimum of two layers of minimum six-mil thick plastic sheeting.
- F. Warning Labels, Signs, and Barricade Tape - Shall be as required by OSHA Regulation 29 CFR 1926.
- G. Other Materials - Provide all other materials, such as lumber, nails and hardware, which may be required.

2.2 TOOLS AND EQUIPMENT

- A. Air Purifying Equipment - Shall be HEPA Filtration Systems. Ensure that no air movement system or purification equipment exhausts contaminated air from the work area(s) outside the work area.
- B. Hand tools as needed to perform limited demolition to access the asbestos materials, and to perform the required abatement operations.
- C. HEPA Vacuum Equipment - Shall be wet/dry vacuum unit equipped with HEPA filtration system.
- D. Scaffolding and/or ladders - Must be erected, maintained and removed in compliance with the requirements of OSHA Regulations 29 CFR 1926, Part 1926.450 to provide access and support where required.
- E. Water Sprayers - Utilize airless or other low-pressure sprayer for amended water application.
- F. Garden hoses or other means to keep asbestos-containing waste wet.
- G. Dumpsters or other appropriate equipment for on-site storage and transportation of asbestos-containing waste and of construction wastes.
- H. Safety equipment as required to protect workers. Safety equipment shall meet all applicable safety regulations.

PART 3 EXECUTION

3.1 SUMMARY OF WORK

- A. Work Included
 - 1. Identify location and amount of asbestos materials described on the drawings or in the specification.
 - 2. Identify location and amount of lead flashings described on the drawings or in the

- specification.
 - 3. Prepare the work areas as specified.
 - 4. Remove asbestos and lead materials as described on the drawings or in the specification.
 - 5. Properly clean, using wet-cleaning methods and/or HEPA vacuum methods, all work areas following asbestos removal.
 - 6. Leave all work areas decontaminated and visibly clean following the work of this Section.
 - 7. Properly dispose of asbestos-containing waste material and debris.
 - 8. Maintain existing emergency exits or establish alternative exits satisfactory to the local fire department.
- B. Approval of or acceptance by Engineer of various construction activities or methods proposed by Asbestos Removal Subcontractor does not constitute an assumption of liability either by the Engineer or General Contractor for inadequacy or adverse consequences of said activities or methods.

3.2 PREPARATION

- A. Coordinate sequence of work area preparation in and around the building with the General Contractor in order to properly segregate work areas from areas that will be occupied during the removal work.
- B. Asbestos Removal Work Areas

Note: This section applies to removal of cement-asbestos storefront panels, the cementitious pipe fitting insulation, the sink with asbestos undercoating, and to any other interior asbestos removal work.

- 1. Post warning signs at all entrances into the work area and set up a restricted area using asbestos warning tape.
- 2. Coordinate with the General Contractor to shut down and tag out electrical circuits, HVAC equipment, and other utilities servicing the asbestos removal work area or that may otherwise be hazardous to contractor personnel. Provide temporary electrical and water service necessary to accomplish the specified work.
- 3. Isolate the work area by constructing an enclosure of plastic sheeting sealed with tape and glue. Completely seal off all openings such as corridors, doorways, ducts, grilles, diffusers, and any other penetrations of the work area.
- 4. Seal/cover electrical panels, switch boxes, etc. with a minimum of one layer of six-mil plastic sheeting. Allow for appropriate ventilation.
- 5. Erect ladders and/or scaffolding in accordance with OSHA requirements to provide access to the materials that are to be removed.
- 6. Construct/establish decontamination units in compliance with EPA and OSHA requirements.
- 7. Place the work area under reduced air pressure utilizing HEPA filtration systems that comply with ANSI Z9.2-79, local exhaust ventilation. Allow no air movement system or air filtering equipment to discharge unfiltered air outside the work area. Maintain a reduced pressure on the work area continuously (24 hours per day) from the start of asbestos removal and until the area has been decontaminated and certified as such by the required inspection and air testing. The reduced air pressure equipment shall have sufficient capacity to effect one air change in the work area every fifteen minutes and maintain a negative air pressure of at least 0.02 inches water. Exhaust all filtered and discharged air outside the building away from air intake devices.

Note: Coordinate with the Owner and General Contractor to ensure appropriate building security at the negative air exhaust.

- 8. Ensure that all barriers and plastic enclosures remain effectively sealed and taped for duration of asbestos removal and subsequent cleaning. Repair damaged barriers and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period. Check the pressure differential across the enclosure at the start of

each work shift and at any other time there is an indication that the reduced air pressure system is not functioning properly.

9. Maintain for the duration of the project from the first activity requiring disturbance of asbestos-containing materials, a sign-in/out log in the immediate area of the change room. A complete entry shall be made in this log by every person who enters the work area.

3.3 ASBESTOS REMOVAL

- A. Remove and properly dispose of all asbestos-containing and contaminated materials indicated to be removed in accordance with the methods and procedures outlined in the U.S. Department of Occupational Safety and Health Administration (OSHA) Asbestos Regulations (Code of Federal Regulations Title 29, Section 1926) and the U.S. EPA National Emission Standards for Hazardous Air Pollutants (40 CFR 61, Subpart M) or as more stringently specified in these specifications.
- B. Removal of Cementitious Pipe Fitting Insulation
 1. Prepare the work area as specified in Section 3.2.
 2. Perform selective chase wall demolition as necessary to access the asbestos insulation.

Note: If the asbestos fitting insulation is not disturbed during the demolition work, any demolition debris that is not contaminated with asbestos can be removed from the work area before asbestos materials are disturbed, and then disposed as general demolition debris.

 3. Spray the surface of the pipe fitting insulation with amended water, then puncture the insulation and saturate it with amended water. Do not use excess water.
 4. Remove the insulation from the piping. Scrub and/or brush the surface of the pipe to remove any asbestos residue. Where asbestos insulation abuts non-asbestos insulation, remove three to five inches of the abutting non-asbestos insulation.
 5. Seal removed asbestos and debris in properly labeled six-mil asbestos disposal bags.
- C. Removal of Sinks with Asbestos Undercoating
 1. Prepare the work area as specified in Section 3.2.
 2. Ensure that water service to the sink is turned off and tagged out.
 3. Disconnect water supply piping to the sink.
 4. Remove the fasteners supporting the sink. Remove the sink, cover any sharp edges or corners with cardboard, seal the sink in a minimum of two layers of six-mil plastic sheeting and label it for disposal.
- D. Removal of Cement-Asbestos Storefront Panels
 1. Prepare the work area as specified in Section 3.2.
 2. Remove ceiling tiles, grid, ductwork, etcetera, as required to provide safe access to the storefront panel.
 3. Spray surfaces of the storefront panel with encapsulant.
 4. Remove the fasteners that secure the storefront panel, and then carefully remove the panel from the framing and lower it to the floor.
 5. Seal removed storefront panels in two layers of six-mil plastic sheeting and label for disposal.
 6. HEPA vacuum and wet wipe metal framing to remove any asbestos residue.
 7. Seal asbestos residue and debris in properly labeled six-mil asbestos disposal bags.
- E. Removal of Asbestos Flooring Materials, including Stair Tread/Riser
 1. Prepare the work area as specified in Section 3.2.
 2. Remove carpet and/or ceramic tile overlying the asbestos flooring materials. Carpet and ceramic tile that is not contaminated with asbestos can be removed from the work area and disposed as general demolition waste. Carpet and ceramic tile that is contaminated with asbestos must be disposed as asbestos waste.
 3. Remove asbestos flooring materials using mechanical methods. Remove by methods that minimize breakage. Use sufficient water to keep asbestos materials wet, but do not allow

- water to seep under walls or through floor slabs.
4. Where asbestos flooring materials extend beneath walls and/or millwork perform sufficient demolition of the walls and/or millwork to allow for removal of all asbestos flooring materials from beneath them.
 5. Remove flooring mastic and adhesive using mechanical methods and minimum amounts of organic solvents. Use solvent materials and methods that minimize vapors. Provide workers with appropriate respiratory protection for solvent vapors as well as asbestos fibers.
 6. Place removed asbestos flooring materials and debris in sealable plastic bags of six-mil minimum thickness and then in another impermeable container approved by the Engineer. Use cardboard or other padding as necessary to ensure that flooring materials do not puncture the plastic bags.
 7. Label bags and containers and dispose of as asbestos-containing waste.
- F. Removal of Asbestos-Containing Coatings, Sealants, and Bituminous Wrap
1. Prepare the work area as specified in Section 3.2.
 2. Spray the surface of the coating/sealant/wrap and adjacent non-asbestos substrate with encapsulant.
 3. Remove coating/sealant/wrap along with areas of the non-asbestos substrate to which it is applied. Where the coating/sealant/wrap is applied to hangers, pipes, and/or other building components that are not easily removed, scrape the coating/sealant from the substrate surface, using solvent as appropriate.
 4. Seal removed asbestos and debris in six-mil pre-labeled asbestos disposal bags and then in another properly labeled impermeable container. Use cardboard or other padding as necessary to ensure that removed substrate materials do not puncture the plastic bags.

3.4 LEAD FLASHING REMOVAL

Don appropriate personnel protective clothing/equipment. Cut the roof membrane and remove it where it overlies the lead flashing. Pry the flashing from the roof deck and lift it off the vent pipe or access ladder support. Containerize the removed flashings and remove them from the roof for subsequent recycling. Do not overload the roof structure with accumulated flashings.

3.5 CLEAN UP

- A. Provide general cleaning of work area concurrently with the removal of asbestos-containing materials. Do not permit accumulation of removed materials on floor.
- B. Cleaning Sequence:
 1. Remove all visible accumulations of asbestos material and debris.
 2. Wet clean all surfaces in the work area.
 3. Clean all sealed impermeable containers and all equipment (excluding that needed for further cleaning) used in the work area(s) and remove from work area(s).
 4. Notify Engineer for observation of cleaning.
 5. Following acceptance of cleaning by the Engineer and following successful compliance with clearance testing requirements, carefully remove plastic sheeting.

3.6 REMOVAL OF CONTAMINATED WASTE FROM WORK AREA

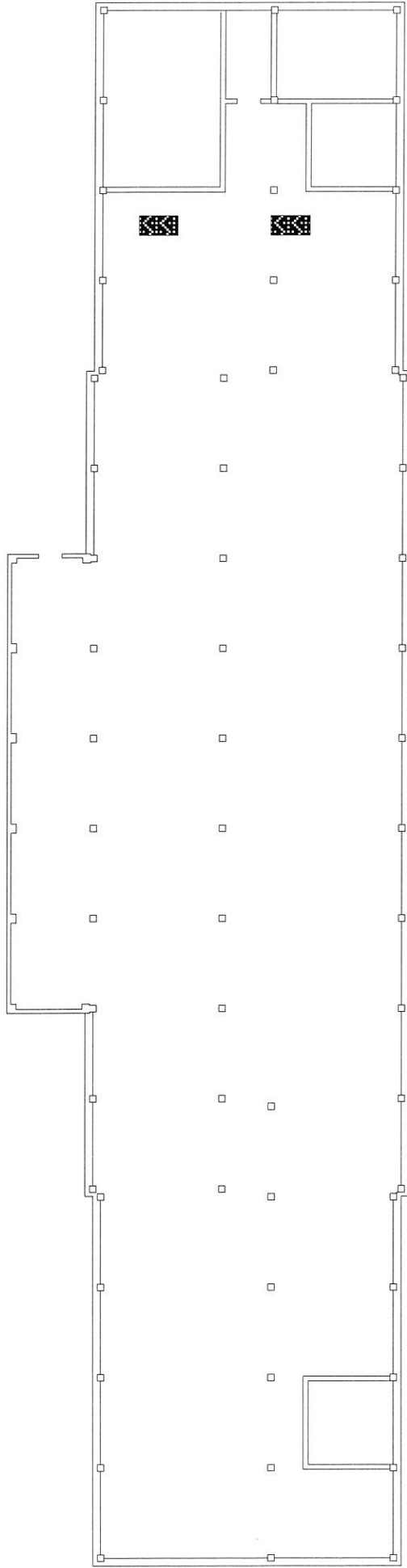
Remove sealed and labeled containers of contaminated material as follows:

- A. Clean plastic bags and wrapped waste (using HEPA or wet cleaning methods) while in the work area.
- B. Pass cleaned plastic bags and wrapped wastes outside for loading.
- C. Seal asbestos waste in leak-proof impermeable containers labeled in accordance with OSHA 29 CFR 1926 or applicable local standards.

3.7 DISPOSAL

- A. Recycle lead wastes at an appropriately permitted recycling facility. Retain receipts for post-job submittals.
- B. Asbestos-containing waste material and debris that is packaged in accordance with the provisions of this specification may be disposed of at appropriately permitted landfills.
- C. Dispose of asbestos-containing wastes as follows:
 - 1. Seal asbestos waste in leak-proof impermeable containers labeled in accordance with OSHA, DOT, and EPA standards.
 - 2. Carefully load containerized waste on enclosed or covered trucks or dumpsters for transport. Exercise care before and during transport to ensure that no unauthorized persons have access to the material.
 - 3. Do not store containerized waste outside of the work area except in appropriately locked truck or dumpster.
 - 4. Allow only sealed containers to be deposited in landfill.
 - 5. Ensure that there are no visible emissions to the outside air from site where materials and waste are deposited.
 - 6. Retain receipts from landfill for materials disposed.

END OF SECTION




CRAWLSPACE PLAN
GARDNER HALL

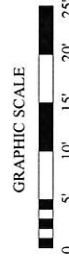
NOTES:

- 1) The cementitious pipe fitting insulation in Gardner Hall, and the sink undercoating in Hamil Hall are both friable asbestos-containing materials, and must be properly removed and disposed as specified prior to building demolition.
- 2) The asbestos floor tiles are classified by EPA as category I non-friable asbestos-containing materials. Category I non-friable materials are regulated under NESHAP if they become friable, or will be, or have been subjected to sanding, grinding, cutting, or abrading. If the floor tiles will not be subjected to those actions they too can be demolished with the non-asbestos building components.
- 3) The flooring mastics, bituminous wrap, and bituminous coating are classified by EPA as category II non-friable asbestos-containing materials. Category II non-friable materials are only regulated under EPA's NESHAP regulations if they become friable, or have a high probability of becoming or have become crumbled, pulverized, or reduced to a powder by forces expected to act on them. If those category II non-friable materials are not caused to become "regulated asbestos-containing materials" (RACM), they can be demolished with the non-asbestos building components.
- 4) Cementitious pipe fitting insulation is anticipated to be present in all pipe chases in Gardner Hall.
- 5) The Engineer has endeavored to show all locations of asbestos-containing materials, and the correct number of layers. There may however be discrepancies. Because most of the identified asbestos materials can generally be demolished/disposed with the non-asbestos building components, no consideration will be given for additional quantities of asbestos materials that may be discovered.
- 6) This sketch describes areas where work is to occur but should not be relied upon for determination of quantities.

LEGEND

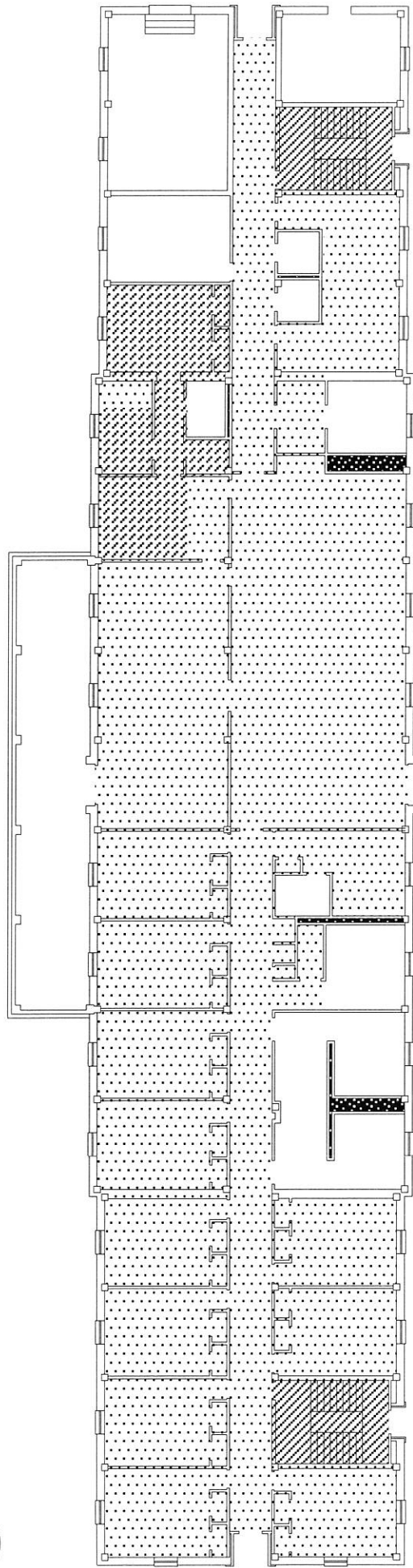
-  Asbestos-Containing Materials
area of bituminous coating on
non-asbestos pipe insulation

From floor plan drawing provided by SS&L.



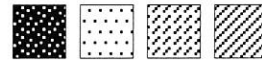
ASBESTOS REMOVAL FROM THE NATATORIUM ADDENDUM 4, GARDNER AND HAMIL HALLS TROY UNIVERSITY, TROY, ALABAMA		JOB NUMBER: MA-4103	SCALE: 1"=20'
		DRAWING NO: 4103-01	DRAWN BY: WHK
		DATE: 3-24-21	CHECKED BY: WHK





FIRST FLOOR PLAN GARDNER HALL

LEGEND



- Asbestos-Containing Materials
- area of cementitious pipe fitting insulation
- area of flooring and mastic, one layer
- area of carpet and floor tile over mastic
- area of stair tread/riser and mastic

NOTES:

- 1) The cementitious pipe fitting insulation in Gardner Hall, and the sink undercoating in Hamil Hall are both friable asbestos-containing materials, and must be properly removed and disposed as specified prior to building demolition.
- 2) The asbestos floor tiles are classified by EPA as category I non-friable asbestos-containing materials. Category I non-friable materials are regulated under NESHAP if they become friable, or will be, or have been subjected to sanding, grinding, cutting, or abrading. If the floor tiles will not be subjected to those actions they too can be demolished with the non-asbestos building components.
- 3) The flooring mastics, bituminous wrap, and bituminous coating are classified by EPA as category II non-friable asbestos-containing materials. Category II non-friable materials are only regulated under EPA's NESHAP regulations if they become friable, or have a high probability of becoming or have become crumbled, pulverized, or reduced to a powder by forces expected to act on them. If those category II non-friable materials are not caused to become "regulated asbestos-containing materials" (RACM), they can be demolished with the non-asbestos building components.
- 4) Cementitious pipe fitting insulation is anticipated to be present in all pipe chases in Gardner Hall.
- 5) The Engineer has endeavored to show all locations of asbestos-containing materials, and the correct number of layers. There may however be discrepancies. Because most of the identified asbestos materials can generally be demolished/disposed with the non-asbestos building components, no consideration will be given for additional quantities of asbestos materials that may be discovered.
- 6) This sketch describes areas where work is to occur but should not be relied upon for determination of quantities.



GRAPHIC SCALE

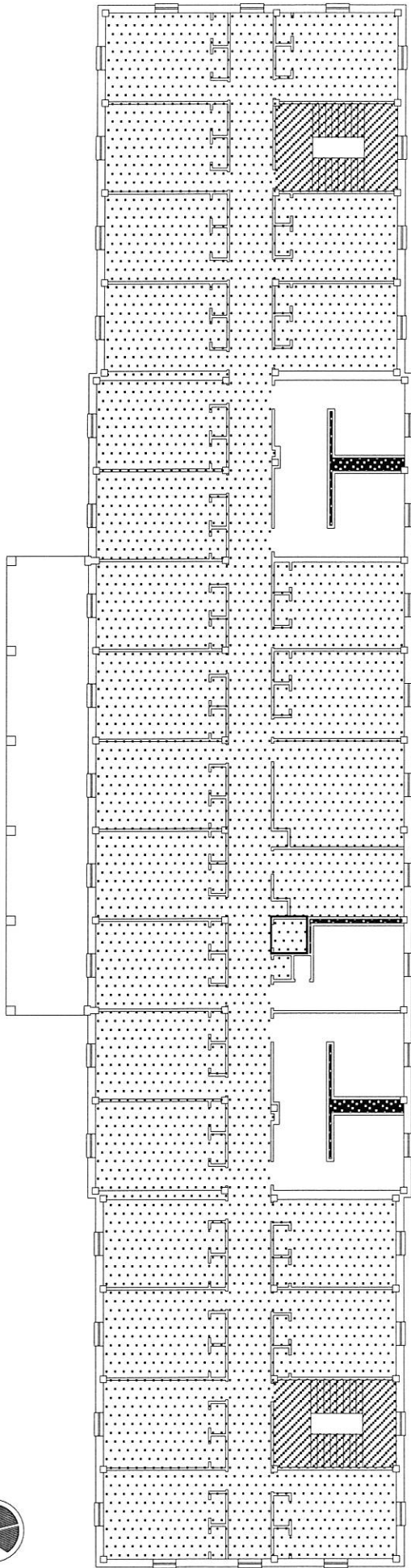


ASBESTOS REMOVAL
FROM THE NATATORIUM
ADDENDUM 4, GARDNER AND HAMIL HALLS
TROY UNIVERSITY, TROY, ALABAMA

JOB NUMBER:	MA-4103	SCALE:	1"=20'
DRAWING NO:	4103-02	DRAWN BY:	WHK
DATE:	3-24-21	CHECKED BY:	WHK

From floor plan drawing provided by SS&L





SECOND FLOOR PLAN
GARDNER HALL

NOTES:

- 1) The cementitious pipe fitting insulation in Gardner Hall, and the sink undercoating in Hamil Hall are both friable asbestos-containing materials, and must be properly removed and disposed as specified prior to building demolition.
- 2) The asbestos floor tiles are classified by EPA as category I non-friable asbestos-containing materials. Category I non-friable materials are regulated under NESHAP if they become friable, or will be, or have been subjected to sanding, grinding, cutting, or abrading. If the floor tiles will not be subjected to those actions they too can be demolished with the non-asbestos building components.
- 3) The flooring mastics, bituminous wrap, and bituminous coating are classified by EPA as category II non-friable asbestos-containing materials. Category II non-friable materials are only regulated under EPA's NESHAP regulations if they become friable, or have a high probability of becoming or have become crumbled, pulverized, or reduced to a powder by forces expected to act on them. If those category II non-friable materials are not caused to become "regulated asbestos-containing materials" (RACM), they can be demolished with the non-asbestos building components.
- 4) Cementitious pipe fitting insulation is anticipated to be present in all pipe chases in Gardner Hall.
- 5) The Engineer has endeavored to show all locations of asbestos-containing materials, and the correct number of layers. There may however be discrepancies. Because most of the identified asbestos materials can generally be demolished/disposed with the non-asbestos building components, no consideration will be given for additional quantities of asbestos materials that may be discovered.
- 6) This sketch describes areas where work is to occur but should not be relied upon for determination of quantities.

LEGEND

Asbestos-Containing Materials	
	area of cementitious pipe fitting insulation
	area of flooring and mastic, one layer
	area of stair tread/riser and mastic

GRAPHIC SCALE

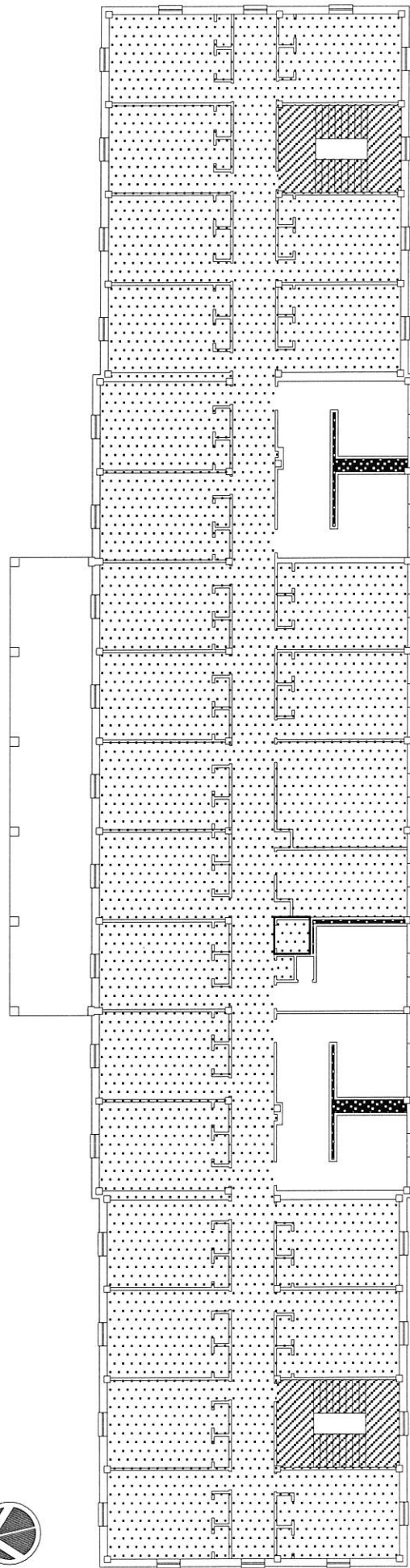


From floor plan drawing provided by SS&L

ASBESTOS REMOVAL
FROM THE NATATORIUM
ADDENDUM 4, GARDNER AND HAMIL HALLS
TROY UNIVERSITY, TROY, ALABAMA

JOB NUMBER: MA-4103	SCALE: 1"=20'
DRAWING NO: 4103-03	DRAWN BY: WHK
DATE: 3-24-21	CHECKED BY: WHK





THIRD FLOOR PLAN
GARDNER HALL

NOTES:

- 1) The cementitious pipe fitting insulation in Gardner Hall, and the sink undercoating in Hamil Hall are both friable asbestos-containing materials, and must be properly removed and disposed as specified prior to building demolition.
- 2) The asbestos floor tiles are classified by EPA as category I non-friable asbestos-containing materials. Category I non-friable materials are regulated under NESHAP if they become friable, or will be, or have been subjected to sanding, grinding, cutting, or abrading. If the floor tiles will not be subjected to those actions they too can be demolished with the non-asbestos building components.
- 3) The flooring mastics, bituminous wrap, and bituminous coating are classified by EPA as category II non-friable asbestos-containing materials. Category II non-friable materials are only regulated under EPA's NESHAP regulations if they become friable, or have a high probability of becoming or have become crumbled, pulverized, or reduced to a powder by forces expected to act on them. If those category II non-friable materials are not caused to become "regulated asbestos-containing materials" (RACM), they can be demolished with the non-asbestos building components.
- 4) Cementitious pipe fitting insulation is anticipated to be present in all pipe chases in Gardner Hall.
- 5) The Engineer has endeavored to show all locations of asbestos-containing materials, and the correct number of layers. There may however be discrepancies. Because most of the identified asbestos materials can generally be demolished/disposed with the non-asbestos building components, no consideration will be given for additional quantities of asbestos materials that may be discovered.
- 6) This sketch describes areas where work is to occur but should not be relied upon for determination of quantities.

LEGEND

Asbestos-Containing Materials

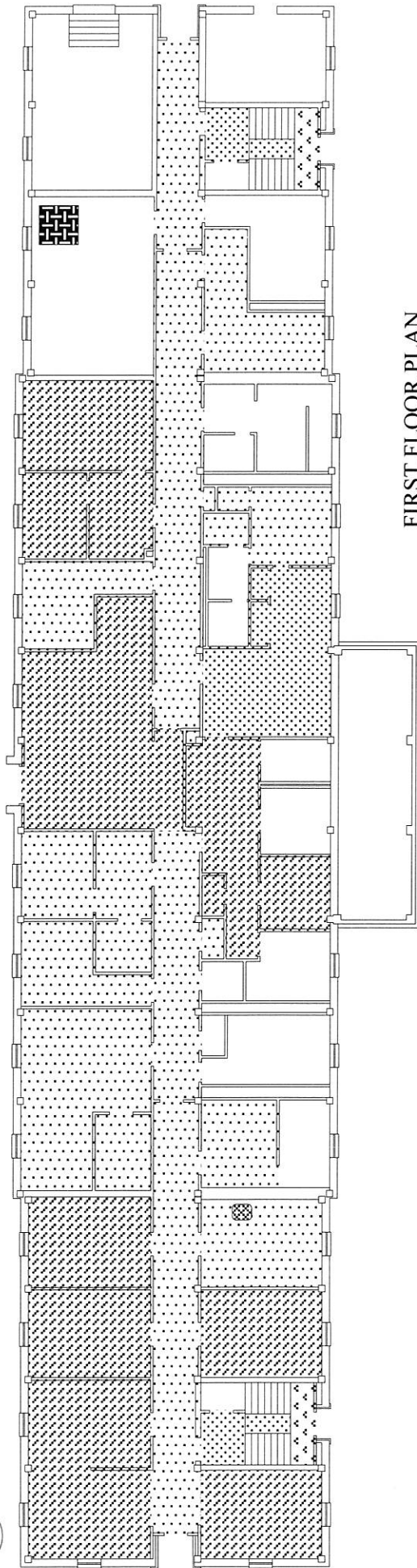
- area of cementitious pipe fitting insulation
- area of flooring and mastic, one layer
- area of stair tread/riser and mastic



From floor plan drawing provided by SS&L

ASBESTOS REMOVAL FROM THE NATATORIUM ADDENDUM 4, GARDNER AND HAMIL HALLS TROY UNIVERSITY, TROY, ALABAMA			JOB NUMBER: MA-4103	SCALE: 1"=20'
			DRAWING NO: 4103-04	DRAWN BY: WHK
			DATE: 3-24-21	CHECKED BY: WHK





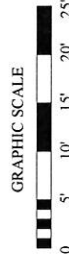
FIRST FLOOR PLAN
HAMIL HALL

NOTES:

- 1) The cementitious pipe fitting insulation in Gardner Hall, and the sink undercoating in Hamil Hall are both friable asbestos-containing materials, and must be properly removed and disposed as specified prior to building demolition.
- 2) The asbestos floor tiles are classified by EPA as category I non-friable asbestos-containing materials. Category I non-friable materials are regulated under NESHAP if they become friable, or will be, or have been subjected to sanding, grinding, cutting, or abrading. If the floor tiles will not be subjected to those actions they too can be demolished with the non-asbestos building components.
- 3) The flooring mastics, bituminous wrap, and bituminous coating are classified by EPA as category II non-friable asbestos-containing materials. Category II non-friable materials are only regulated under EPA's NESHAP regulations if they become friable, or have a high probability of becoming or have become crumbled, pulverized, or reduced to a powder by forces expected to act on them. If those category II non-friable materials are not caused to become "regulated asbestos-containing materials" (RACM), they can be demolished with the non-asbestos building components.
- 4) Cementitious pipe fitting insulation is anticipated to be present in all pipe chases in Gardner Hall.
- 5) The Engineer has endeavored to show all locations of asbestos-containing materials, and the correct number of layers. There may however be discrepancies. Because most of the identified asbestos materials can generally be demolished/disposed with the non-asbestos building components, no consideration will be given for additional quantities of asbestos materials that may be discovered.
- 6) This sketch describes areas where work is to occur but should not be relied upon for determination of quantities.

LEGEND

Asbestos-Containing Materials	
	area of flooring and mastic, one layer
	area of flooring and mastic, two layers
	area of flooring and mastic, three layers
	area of carpet and floor tile over mastic
	sink with asbestos undercoating
	area of bituminous wrap

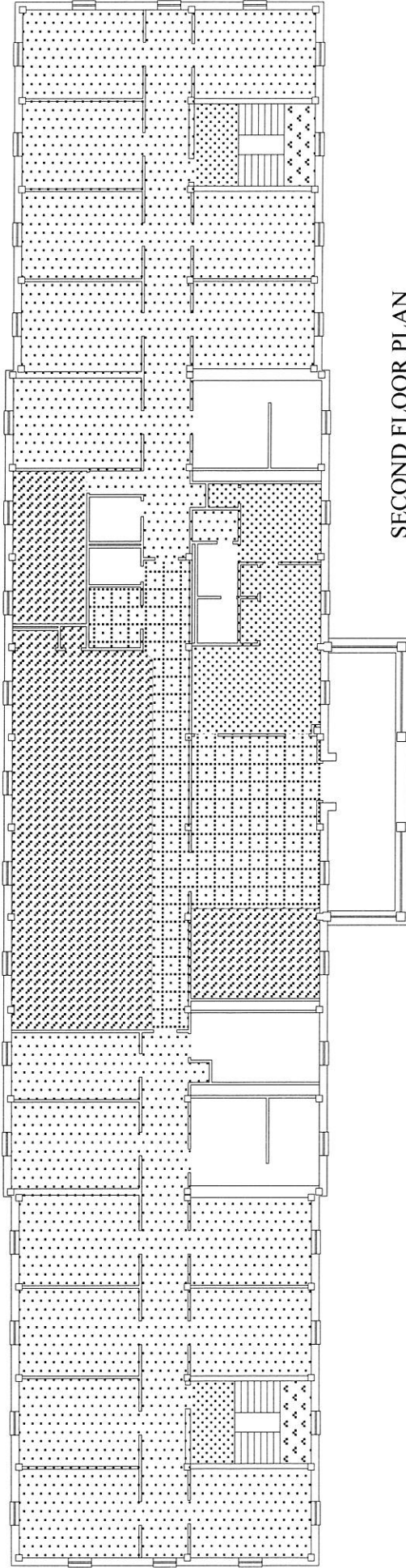


From floor plan drawing provided by SS&L

ASBESTOS REMOVAL
FROM THE NATATORIUM
ADDENDUM 4, GARDNER AND HAMIL HALLS
TROY UNIVERSITY, TROY, ALABAMA

JOB NUMBER: MA-4103	SCALE: 1"=20'
DRAWING NO: 4103-05	DRAWN BY: WHK
DATE: 3-24-21	CHECKED BY: WHK





SECOND FLOOR PLAN
HAMIL HALL

NOTES:

- 1) The cementitious pipe fitting insulation in Gardner Hall, and the sink undercoating in Hamil Hall are both friable asbestos-containing materials, and must be properly removed and disposed as specified prior to building demolition.
- 2) The asbestos floor tiles are classified by EPA as category I non-friable asbestos-containing materials. Category I non-friable materials are regulated under NESHAP if they become friable, or will be, or have been subjected to sanding, grinding, cutting, or abrading. If the floor tiles will not be subjected to those actions they too can be demolished with the non-asbestos building components.
- 3) The flooring mastics, bituminous wrap, and bituminous coating are classified by EPA as category II non-friable asbestos-containing materials. Category II non-friable materials are only regulated under EPA's NESHAP regulations if they become friable, or have a high probability of becoming or have become crumbled, pulverized, or reduced to a powder by forces expected to act on them. If those category II non-friable materials are not caused to become "regulated asbestos-containing materials" (RACM), they can be demolished with the non-asbestos building components.
- 4) Cementitious pipe fitting insulation is anticipated to be present in all pipe chases in Gardner Hall.
- 5) The Engineer has endeavored to show all locations of asbestos-containing materials, and the correct number of layers. There may however be discrepancies. Because most of the identified asbestos materials can generally be demolished/disposed with the non-asbestos building components, no consideration will be given for additional quantities of asbestos materials that may be discovered.
- 6) This sketch describes areas where work is to occur but should not be relied upon for determination of quantities.

LEGEND

Asbestos-Containing Materials	
	area of flooring and mastic, one layer
	area of flooring and mastic, two layers
	area of flooring and mastic, three layers
	area of carpet and floor tile over mastic
	area of ceramic tile over mastic

GRAPHIC SCALE

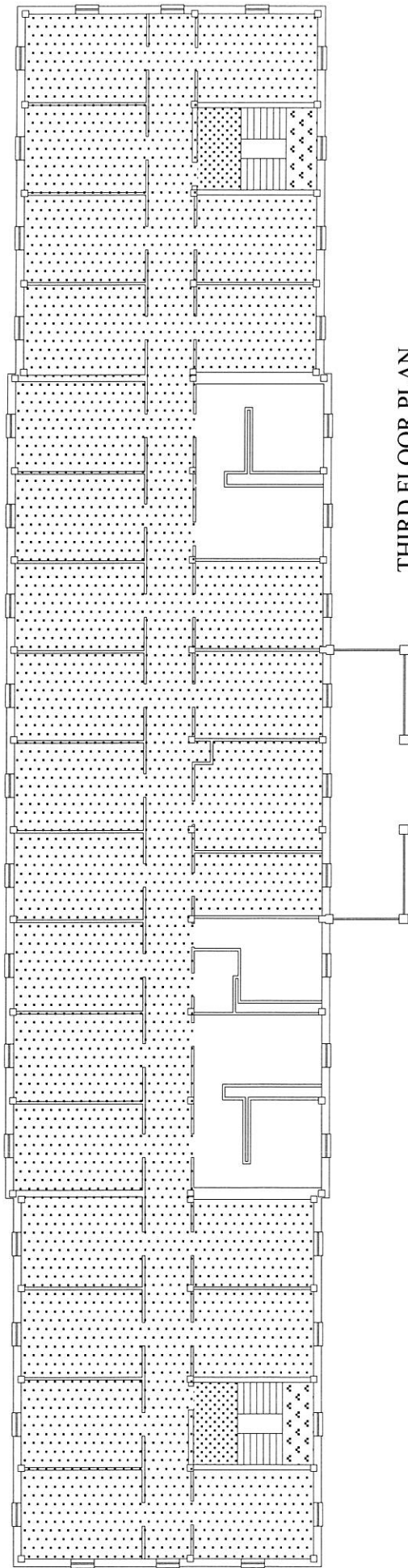


From floor plan drawing provided by SS&L

ASBESTOS REMOVAL
FROM THE NATATORIUM
ADDENDUM 4, GARDNER AND HAMIL HALLS
TROY UNIVERSITY, TROY, ALABAMA

JOB NUMBER:	MA-4103
DRAWING NO:	4103-06
DATE:	3-24-21
SCALE:	1"=20'
DRAWN BY:	WHK
CHECKED BY:	WHK





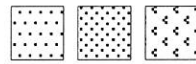
THIRD FLOOR PLAN
HAMIL HALL

NOTES:

- 1) The cementitious pipe fitting insulation in Gardner Hall, and the sink undercoating in Hamil Hall are both friable asbestos-containing materials, and must be properly removed and disposed as specified prior to building demolition.
- 2) The asbestos floor tiles are classified by EPA as category I non-friable asbestos-containing materials. Category I non-friable materials are regulated under NESHAP if they become friable, or will be, or have been subjected to sanding, grinding, cutting, or abrading. If the floor tiles will not be subjected to those actions they too can be demolished with the non-asbestos building components.
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- 6) This sketch describes areas where work is to occur but should not be relied upon for determination of quantities.

LEGEND

Asbestos-Containing Materials



area of flooring and mastic, one layer

area of flooring and mastic, two layers

area of flooring and mastic, three layers

GRAPHIC SCALE

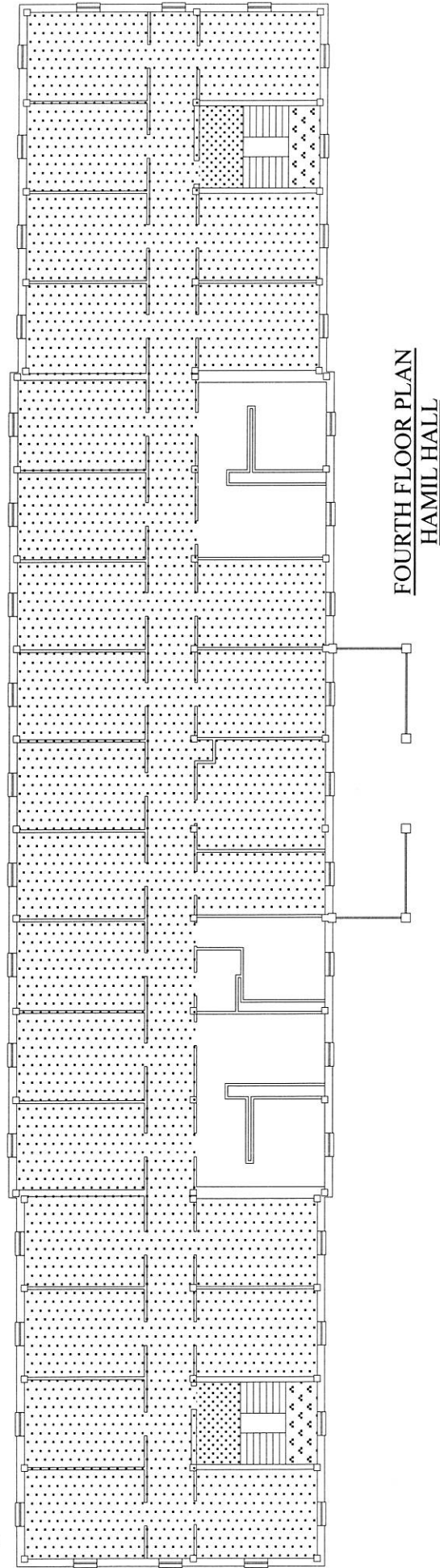


From floor plan drawing provided by SS&L.

ASBESTOS REMOVAL
FROM THE NATATORIUM
ADDENDUM 4, GARDNER AND HAMIL HALLS
TROY UNIVERSITY, TROY, ALABAMA

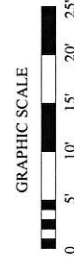
JOB NUMBER: MA-4103	SCALE: 1"=20'
DRAWING NO: 4103-07	DRAWN BY: WHK
DATE: 3-24-21	CHECKED BY: WHK





NOTES:

- 1) The cementitious pipe fitting insulation in Gardner Hall, and the sink undercoating in Hamil Hall are both friable asbestos-containing materials, and must be properly removed and disposed as specified prior to building demolition.
- 2) The asbestos floor tiles are classified by EPA as category I non-friable asbestos-containing materials. Category I non-friable materials are regulated under NESHAP if they become friable, or will be, or have been subjected to sanding, grinding, cutting, or abrading. If the floor tiles will not be subjected to those actions they too can be demolished with the non-asbestos building components.
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- 4) Cementitious pipe fitting insulation is anticipated to be present in all pipe chases in Gardner Hall.
- 5) The Engineer has endeavored to show all locations of asbestos-containing materials, and the correct number of layers. There may however be discrepancies. Because most of the identified asbestos materials can generally be demolished/disposed with the non-asbestos building components, no consideration will be given for additional quantities of asbestos materials that may be discovered.
- 6) This sketch describes areas where work is to occur but should not be relied upon for determination of quantities.



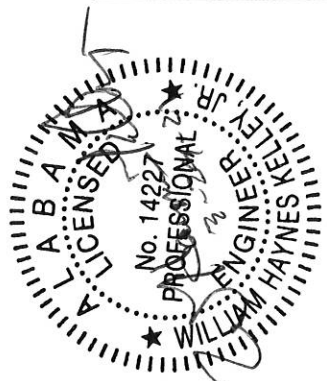
LEGEND

Asbestos-Containing Materials	
	area of flooring and mastic, one layer
	area of flooring and mastic, two layers
	area of flooring and mastic, three layers

From floor plan drawing provided by SS&L.

ASBESTOS REMOVAL
FROM THE NATATORIUM
ADDENDUM 4, GARDNER AND HAMIL HALLS
TROY UNIVERSITY, TROY, ALABAMA

JOB NUMBER: MA-4103	SCALE: 1"=20'
DRAWING NO: 4103-08	DRAWN BY: WHK
DATE: 3-24-21	CHECKED BY: WHK



SECTION 02 8300 - LEAD-CONTAINING MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

General provisions of the contract, including General and Supplementary Conditions and other Specification sections apply to work of this specification, which has been prepared by Environmental-Materials Consultants, Inc.

1.2 PROJECT/WORK IDENTIFICATION

A. This Section provides general guidance for dealing with lead-containing materials within the demolition areas for the Natatorium and Gardner & Hamil Halls. Included with this section is data from paint testing that was performed in March 2020 and March 2021.

B. The Consultant for the lead control activities included in this project is:

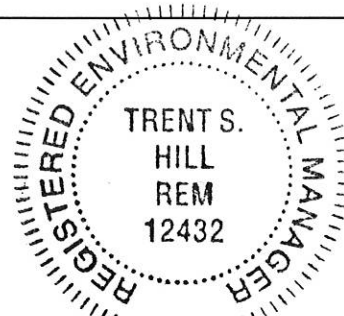
Environmental-Materials Consultants, Inc.
2027 Chestnut Street
Montgomery, Alabama 36106
334-265-4000

1.3 REGULATORY REQUIREMENTS

A. By executing the Contract, the Contractor does hereby acknowledge awareness and familiarity with the contents and requirements of the regulations, codes, and standards listed in this section and assumes responsibility for the performance of the Work in strict compliance therewith and for every instance of failure to comply therewith. In general, OSHA regulations require contractors to protect their employees from exposure to elevated airborne lead levels and EPA/ADEM regulations require that waste streams containing any amount of lead be tested to determine if they are hazardous, and then disposed properly.

B. The current issue of each document shall govern. Where conflict among requirements or with these specifications exists, the more stringent requirements shall apply.

1. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Construction Industry Standards for Lead (Code of Federal Regulations Title 29, Part 1926.62).
2. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Respiratory Protection Regulations (Code of Federal Regulations Title 29, Part 1910.134).
3. U. S. Environmental Protection Agency (EPA) Hazardous Waste Regulations (Code of Federal Regulations Title 40, Parts 261 and 262).
4. U. S. Environmental Protection Agency (EPA) Lead Renovation, Repair and Painting Program Rules (Code of Federal Regulations Title 40, Part 745 Subpart E).
5. Alabama Department of Environmental Management (ADEM) Solid and Hazardous Waste Programs Regulations (ADEM Administrative Code Rules 335-13 and 335-14).



6. All other State, County, and City codes and ordinances as applicable.

1.4 PAINT TESTING DATA

On March 5, 2020 lead-based paint testing was performed in the Natatorium using an RMD Inc. LPA-1, and on March 10 and 11, 2021 lead-based paint testing was performed in Gardner and Hamil Halls using an Olympus Vanta, Model VLW. Those instruments determine approximate lead content of the paint/glaze using X-ray fluorescence. Specific data from the testing is attached. Lead may also be present in paints/glazes that were not tested, other building components, and debris. OSHA regulations require contractors to protect their employees from exposure to elevated airborne lead levels. EPA and ADEM regulations require that waste streams containing lead be tested to determine if they are hazardous, and then disposed properly. The Contractor must be knowledgeable of and comply with EPA, OSHA, and ADEM regulations concerning demolition and disposal of the lead containing materials.

1.5 PERSONAL PROTECTIVE EQUIPMENT

The Contractor is responsible for determining requirements for personal protective equipment based on worksite conditions and must provide appropriate personal protective equipment for their employees.

1.6 WASTE DISPOSAL SUBMITTALS

Prior to disposal of any waste streams containing lead, submit to Environmental-Materials Consultants, Inc. for review, on behalf of Troy University, a copy of the analytical report for lead TCLP testing of the proposed waste streams. The contractor shall have two waste stream samples collected for this project. One sample will represent the Natatorium and one sample shall represent Gardner and Hamil Halls.

Waste streams that primarily contain demolition/construction debris, with some paint chips and/or where some components are coated with lead-containing paint or glaze, are typically non-hazardous, and can likely be disposed at an appropriately permitted municipal solid waste landfill.

PART 2 - EXECUTION

3.1 WORK PRACTICES

The Contractor must employ lead-safe work practices when disturbing lead-containing materials. Wet demolition methods must be performed during demolition and while loading of all solid waste into dump trucks and/or waste containers. The contractor is responsible for maintaining the overall site conditions, preventing waste and other materials from washing off-site with stormwater run-off.

END OF LEAD-CONTAINING MATERIALS



ENVIRONMENTAL
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2027 Chestnut Street, Montgomery, Alabama 36106, 334-265-4000

LBP – XRF Field Testing Data Sheet

Troy University – Gardner Hall & Hamil Hall
EMC Project No. MA-4103

(Using Olympus Vanta L-Series XRF Hand-Held Device)

Gardner Hall

Test No#	Room	Component	General Locations	Substrate	Color (topcoat)	XRF Reading mg/cm ²	Positive/Negative or Traces for Lead
1	Calibration-in 3-10-21	-	-	-	-	1.2	-
2	Calibration-in	-	-	-	-	1.2	-
3	Calibration-in	-	-	-	-	1.2	-
4	1 st floor	door jamb	main entry northside, right side of doorway	metal	cream	0.0	negative
5	“	door face	main entry, northside, inside, center	metal	cream	0.0	negative
6	“	CMU wall	main entry west wall, by front door, north end	concrete	light gray	0.0	negative
7	“	baseboard	main entry, west wall, by front door, north end	wood	cream	0.0	negative
8	“	column	main entry, south wall of foyer	concrete	light gray	0.0	negative
9	“	CMU wall	office, east wall by countertop	concrete	white	0.0	negative
10	“	windowsill	office, north wall, center	concrete	gray	0.0	negative
11	“	fan coil unit	office kitchen, under window, top side	metal	gray	0.0	negative
12	“	stove top	office kitchen, along east wall, top side	metal	white	0.0	negative
13	“	wall tile glaze	office bathroom, 4” tile, east wall, east side, top row	ceramic	cream	5.0	positive
14	“	floor tile	office bathroom, 1” tile, floor throughout	ceramic	white	0.0	negative
15	“	sink glaze	office bathroom, top of sink	cast iron	white	5.0	positive
16	“	toilet glaze	office bathroom, top of bowl	porcelain	white	5.0	positive



ENVIRONMENTAL
MATERIALS
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2027 Chestnut Street, Montgomery, Alabama 36106, 334-265-4000

LBP – XRF Field Testing Data Sheet

Troy University – Gardner Hall & Hamil Hall
EMC Project No. MA-4103

(Using Olympus Vanta L-Series XRF Hand-Held Device)

17	“	handrail	stairwell, east end stairs, top of railing	metal	gray	0.0	negative
18	“	stringer	east end stairs, top side	metal	gray	0.0	negative
19	“	door casing	leading into hallway, right side	metal	cream	0.0	negative
20	“	fan coil unit	dorm room, under window, top side	metal	brown	0.0	negative
21	“	baseboard	dorm room, by 1 st closet, left side	wood	brown	0.0	negative
22	“	window casing	around glass, above door	metal	brown	0.0	negative
23	“	wall tile glaze	kitchen, windowsill, along wall, center	ceramic	light gray	4.6	positive
24	“	floor tile glaze	1” tile, floor throughout	ceramic	light gray	0.0	negative
25	“	wall	north wall, by doorway	plaster	cream	0.0	negative
26	“	CMU wall	north wall	concrete	cream	0.0	negative
27	“	toilet partition	bathroom/shower, west end of bldg.	metal	cream	0.0	negative
28	“	toilet glaze	west end bathroom, far right fixture	porcelain	white	4.9	positive
29	“	baseboard	hallway, south side wall	wood	beige	0.0	negative
30	“	door	stairwell, west end, center	metal	beige	0.0	negative
31	2 nd floor	handrail	stairwell, west end, top side of newell post	metal	gray	0.0	negative
32	“	sink glaze	bathroom/shower, west end, countertop, top of sink	cast iron	white	0.0	negative
33	“	sink glaze	janitor’s closet, along wall, bottom of sink	cast iron	white	0.0	negative
34	“	CMU wall	hallway, north wall, east half	concrete	beige	0.0	negative
35	“	baseboard	hallway, north wall, east half	wood	beige	0.0	negative
36	“	fan coil unit	room 205, under window, top of unit	metal	brown	0.0	negative



ENVIRONMENTAL
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2027 Chestnut Street, Montgomery, Alabama 36106, 334-265-4000

LBP – XRF Field Testing Data Sheet

Troy University – Garnder & Hamil Halls
EMC Project No. MA-4103

(Using Olympus Vanta L-Series XRF Hand-Held Device)

37	“	door jamb	room 203, entrance door, left side	metal	cream	0.0	negative
38	“	baseboard	room 201, entrance way, right of door	wood	brown	0.0	negative
39	3rd floor	ladder	stairwell, east end of bldg., railing to attic	metal	black	0.1	trace
40	“	door casing	room 303, right side closet, right side, center	metal	brown	0.0	negative
41	“	floor tile glaze	bathroom/shower, 1” tile, throughout	ceramic	light blue	0.0	negative
42	“	fan coil unit	beside toilets, east end	metal	cream	0.0	negative
43	“	sink glaze	laundry room, along east wall, top	cast iron	white	5.0	positive
44	“	CMU wall	hallway, by room 312	concrete	beige	0.0	negative
45	“	baseboard	hallway, by room 312	wood	beige	0.0	negative
46	“	ladder	stairwell, west end of bldg., railing to attic	metal	black	0.1	trace
47	Exterior front stoop	main door	north side of building	metal	cream	0.0	negative
48	“	side railing	north side of building	metal	gray	0.1	trace
49	“	large light sconce	right side of doorway	metal	black	0.0	negative
50	Exterior	doorway	rear stoop, left side of door	metal	cream	0.0	negative
51	“	door frame	stairwell, southwest corner of bldg.	metal	cream	0.0	negative
52	Crawlspace	radiators	storage pile, inside doorway access	metal	cream	0.2	trace
53	“	door	access to crawlspace, east side of bldg., center of door	wood	white	0.0	negative
54	Calibration-out 3-10-21	-	-	-	-	1.2	-
55	Calibration-out	-	-	-	-	1.2	-
56	Calibration-out	-	-	-	-	1.2	-



ENVIRONMENTAL
MATERIALS
CONSULTANTS, INC.

2027 Chestnut Street, Montgomery, Alabama 36106, 334-265-4000

LBP – XRF Field Testing Data Sheet

Troy University – Gardner Hall & Hamil Hall
EMC Project No. MA-4103

(Using Olympus Vanta L-Series XRF Hand-Held Device)

Hamil Hall

Test No#	Room	Component	General Locations	Substrate	Color (top coat)	XRF Reading mg/cm ²	Positive/Negative or Traces for Lead
1	Calibration-in 3-11-21	-	-	-	-	1.2	-
2	Calibration-in	-	-	-	-	1.2	-
3	Calibration-in	-	-	-	-	1.2	-
4	4 th floor	handrail	west end stairwell, top of newell post	metal	black	0.2	trace
5	“	ladder	stairwell, side railing to attic	metal	black	5.0	positive
6	“	CMU wall	east side wall, center by door	concrete	cream	0.0	negative
7	“	baseboard	north wall, west side	wood	cream	0.0	negative
8	“	door facing	inside to hallway, center	metal	cream	0.0	negative
9	“	door casing	left side to hallway	metal	cream	0.0	negative
10	“	fan coil unit	main hallway, west end of bldg.	metal	beige	0.0	negative
11	“	baseboard	hallway, west end, by room 427	wood	beige	0.0	negative
12	“	CMU wall	hallway, north side wall by room 425	concrete	cream	0.0	negative
13	“	CMU wall	room 425, north wall, right of window	concrete	cream	0.0	negative
14	“	baseboard	room 425, right of fan coil unit	wood	cream	0.4	trace
15	“	door casing	room 425, left side, center	metal	cream	0.0	negative
16	“	wall tile glaze	bathroom/shower, 4” tile, west wall,	ceramic	white	1.0	positive
17	“	floor tile glaze	2” tile, throughout floor	ceramic	beige	0.0	negative
18	“	sink glaze	west end bathroom, center sink	cast iron	white	0.0	negative
19	“	toilet glaze	west end bathroom, back of fixture	porcelain	white	0.0	negative



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CONSULTANTS, INC.

2027 Chestnut Street, Montgomery, Alabama 36106, 334-265-4000

LBP – XRF Field Testing Data Sheet

Troy University – Garnder & Hamil Halls
EMC Project No. MA-4103

(Using Olympus Vanta L-Series XRF Hand-Held Device)

20	“	toilet partition	west end bathroom	metal	cream	0.0	negative
21	“	ladder	stairwell, east end of bldg., side railing to attic	metal	black	5.0	positive
22	3 rd floor	stringer	stairwell, east end of bldg., bottom by tread	concrete	cream	0.0	negative
23	“	fan coil unit	hallway, east end, under window	metal	cream	0.0	negative
24	“	toe mold	hallway, east end, by room 301	wood	cream	0.0	negative
25	“	baseboard	hallway, east end, by room 301	wood	brown	0.0	negative
26	“	CMU wall	hallway, east end, by room 301	concrete	cream	0.0	negative
27	“	CMU wall	room 302, south wall, right of window	concrete	cream	0.0	negative
28	“	baseboard	room 302, south wall, right of fan coil unit	wood	cream	0.0	negative
29	“	toe mold	room 302, south wall, right of fan coil unit	wood	cream	0.0	negative
30	“	door stop/jamb	room 302, left side, center	metal	cream	0.0	negative
31	“	wall tile glaze	laundry room, 4” tile, east wall	ceramic	cream	5.0	positive
32	“	wall	laundry room, east wall	plaster	cream	0.0	negative
33	“	floor tile glaze	1” tile, throughout floor	ceramic	light gray	0.0	negative
34	“	wall tile glaze	bathroom, west end, 4” tile, north wall	ceramic	white	1.8	positive
35	“	sink glaze	bathroom, west end of bldg.	cast iron	white	0.0	negative
36	“	floor tile glaze	2” tile, bathroom, west end of bldg.	ceramic	white	0.0	negative
37	“	toilet glaze	bathroom, west end of bldg.	porcelain	white	0.0	negative
38	“	toilet partition	bathroom, west end of bldg.	metal	cream	0.0	negative
39	2 nd floor	newell post	stairwell, west end of bldg.	metal	black	5.0	positive



ENVIRONMENTAL
MATERIALS
CONSULTANTS, INC.

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LBP – XRF Field Testing Data Sheet

Troy University – Gardner Hall & Hamil Hall
EMC Project No. MA-4103

(Using Olympus Vanta L-Series XRF Hand-Held Device)

40	“	wall	stairwell, west end of bldg.	plaster	cream	0.0	negative
41	“	toe mold	main hallway, west of bldg., by fan coil unit	wood	cream	0.0	negative
42	“	baseboard	main hallway, west of bldg., by fan coil unit	wood	cream	0.0	negative
43	“	fan coil unit	main hallway, west end of bldg.	metal	cream	0.0	negative
44	“	sink glaze	bathroom, main hallway, west of bldg.	cast iron	white	0.0	negative
45	“	wall tile glaze	4” tile, west wall	ceramic	white	0.9	trace
46	“	shower partition	bathroom/showers, west end of bldg.	wood	white	0.0	negative
47	“	toilet glaze	bathroom, main hallway, west end of bldg.	porcelain	white	0.0	negative
48	“	floor tile	flooring throughout	ceramic	cream	0.0	negative
49	“	toilet partition	bathroom, main hallway, west end of bldg.	metal	cream	0.0	negative
50	“	wall tile glaze	laundry room, 4” wall tile	ceramic	blue	5.0	positive
51	“	floor tile glaze	laundry room, 1” tile, throughout	ceramic	light gray	0.0	negative
52	“	CMU wall	commons room, north wall, by left end window	concrete	gray	0.0	negative
53	“	baseboard	commons room and foyer	wood	white	0.0	negative
54	“	toe mold	commons room and foyer	wood	white	0.0	negative
55	“	door	main entryway, inside facing, left side	metal	cream	0.0	negative
56	“	CMU wall	manager’s room	concrete	mauve	0.0	negative
57	“	floor tile glaze	foyer entry, 12” tile	ceramic	white	0.0	negative
58	“	door	hallway to stairwell, east end of bldg., hallway side	metal	cream	0.0	negative



ENVIRONMENTAL
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LBP – XRF Field Testing Data Sheet

Troy University – Garnder & Hamil Halls
EMC Project No. MA-4103

(Using Olympus Vanta L-Series XRF Hand-Held Device)

59	1 st floor	door	stairwell, east end of bldg., exit door	metal	gray	0.0	negative
60	“	CMU wall	police dept., west end of bldg., north wall	concrete	cream	0.0	negative
61	“	toe mold	police dept., west end of bldg., north wall	wood	cream	0.0	negative
62	“	baseboard	police dept., west end of bldg., north wall	wood	cream	0.0	negative
63	“	door casing	room 113, left side, center	metal	cream	0.0	negative
64	“	CMU wall	police computer & mail room, east wall	concrete	cream	0.0	negative
65	“	baseboard	police computer & mail room, east wall	wood	white	0.0	negative
66	“	floor tile glaze	police computer & mail room, 1” tile, file room	ceramic	white	0.0	negative
67	“	wall tile glaze	medical clinic area, 4” tile, medicine room	ceramic	blue	5.0	positive
68	“	sink glaze	medical clinic area, medicine room	cast iron	white	0.0	negative
69	“	floor tile glaze	medical clinic area, 1” tile, medicine room	ceramic	white	0.0	negative
70	“	tub glaze	medical clinic area, bathroom	cast iron	white	5.0	positive
71	“	wall tile glaze	medical clinic area, bathroom	ceramic	yellow	0.0	negative
72	“	CMU wall	room 6, office, north wall, by window	concrete	blue	0.0	negative
73	“	wall	room 6, office, right of doorway	wallboard	white	0.0	negative
74	“	cabinets	kitchen, along east wall, door panels	wood	beige	1.2	positive
75	“	cabinets	kitchen, along west wall, inside back panel	wood	beige	0.9	trace
76	“	door	main hallway, east end of bldg.	metal	beige	0.0	negative
77	“	cabinets	medical clinic area, medicine room, along south wall, upper cabinets, doors	wood	beige	1.0	positive



ENVIRONMENTAL
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LBP – XRF Field Testing Data Sheet

Troy University – Gardner Hall & Hamil Hall
EMC Project No. MA-4103

(Using Olympus Vanta L-Series XRF Hand-Held Device)

78	“	cabinets	medical clinic area, medicine room, along south wall, lower cabinets, doors	wood	beige	1.8	positive
79	“	cabinets	medical clinic area, medicine room, along south wall, upper cabinets, inside back panel	wood	beige	1.9	positive
80	“	tub glaze	hallway ½ bathroom (tub only), top side	cast iron	white	5.0	positive
81	“	handrails	exterior, southwest corner of bldg., top of square railing	metal	black	5.0	positive
82	“	handrails	exterior, southwest corner of bldg., top of tube railing	metal	brown	0.0	negative
83	“	door	front door stoop, south side of bldg., center of door	metal	cream	0.0	negative
84	“	handrails	front stoop hand railing, bottom railing	metal	brown	5.0	positive
85	Calibration-out 03-11-21	-	-	-	-	1.2	-
86	Calibration-out	-	-	-	-	1.2	-
87	Calibration-out	-	-	-	-	1.2	-

Notes:

The above XRF data was collected as part of an LBP screening only and may or may not reflect all paint conditions throughout the building. All rooms, building components and fixtures were not tested as part of this survey. All tests shown in **bold** print are positive for lead, even if in trace amounts.

Each XRF reading shows the approximate lead content of the paint, to a depth of ~15 paint coatings at the tested location. Multiple layers of paint were observed throughout the facility. At other locations the lead content may be different. Paints with lead concentrations equal to or greater than 1.0 mg/cm² are considered to be lead-based paints. Elevated airborne lead exposure can occur when disturbing paints with any amount of lead.

LEAD PAINT TESTING DATA
CHARLES MCDOWELL LEE NATATORIUM
TROY UNIVERSITY, ALABAMA
XRF Testing using an RMD LPA-1

March 2020

TEST NO.	ROOM	WALL	COMPONENT	COMPONENT LOCATION	SHOT LOCATION	SUBSTRATE	PAINT COLOR	READING (mg/cm2)
1	Calibration							1.1
2	Calibration							1.0
3	Calibration							1.1
4	Entry	S	wall		upper left	concrete block	blue	-0.1
5		S	door casing	right	upper left	metal	dark brown	-0.3
6		S	door	right	upper right	metal	dark brown	-0.2
7		N	door casing	left	upper left	metal	dark brown	0.1
8		N	door	left	upper right	wood	natural	-0.1
9		N	wall		upper center	concrete block	blue	0.0
10	Room 139	E	wall		upper left	vinyl	blue	0.0
11		E	wall		lower center	ceramic	yellow	1.9
12		E	toilet	left	upper left	ceramic	white	-0.2
13		E	sink	right	upper right	ceramic	white	-0.2
14		E	floor		center	ceramic	yellow	0.0
15	Room 149	E	wall	center	upper left	concrete block	flesh	0.1
16		E	urinal	left	upper left	ceramic	white	0.1
17		E	base trim		left	ceramic	yellow	-0.1
18		E	floor		left	ceramic	tan	-0.1
19		E	toilet	right	upper right	ceramic	white	-0.2
20		W	sink	right	upper right	ceramic	white	-0.2
21		W	ceiling		center	wallboard	white	0.0
22	Check-in Office	N	wall		upper center	concrete block	blue	0.0
23		N	door casing	right	upper left	metal	black	0.3
24		N	door	right	upper right	wood	natural	0.1
25		N	cabinet	center	upper right	wood	red	-0.1

Each XRF reading shows the approximate lead content of the paint, to a depth of $\approx 3/8$ ", at the tested location. At other locations the lead content may be different. Paints with lead concentrations equal to or greater than 1.0 mg/cm2 are considered to be lead-based paints. Elevated airborne lead exposure can occur when disturbing paints with any amount of lead.

LEAD PAINT TESTING DATA
CHARLES MCDOWELL LEE NATATORIUM
TROY UNIVERSITY, ALABAMA
XRF Testing using an RMD LPA-1

March 2020

TEST NO.	ROOM	WALL	COMPONENT	COMPONENT LOCATION	SHOT LOCATION	SUBSTRATE	PAINT COLOR	READING (mg/cm2)
26	Pool	N	wall		center left	concrete block	gray	-0.1
27		N	base trim		left	ceramic	white	0.0
28		N	floor		left	ceramic	white	-0.2
29		N	column	left	upper center	concrete	white	-0.1
30		N	window ledge	center	left	ceramic	white	0.0
31		N	window frame	center	lower left	metal	brown	-0.3
32		E	wall		center left	concrete block	gray	-0.2
33		E	door casing	left	upper left	metal	dark gray	-0.1
34		E	door	left	upper right	metal	dark gray	-0.1
35		E	base trim		left	ceramic	white	-0.2
36		E	floor		left	ceramic	white	-0.3
37		E	window sash	left	lower center	metal	dark gray	-0.4
38		E	pool edge		right	ceramic	dark tan	-0.1
39	Room 161	N	wall		lower left	concrete block	gray	0.0
40		N	column	left	center	concrete	gray	-0.1
41		N	pipe	left	center	metal	gray	-0.1
42		N	door casing	center	upper left	metal	black	0.4
43		N	door	center	upper right	metal	black	0.0
44		N	ceiling		center	plaster	white	-0.1
45	North Stairs (basement level)	N	wall		upper left	concrete block	gray	-0.1
46		N	stair stringer	right	left	metal	dark gray	1.0
47		S	wall		upper center	concrete	gray	0.2
48		S	door casing	right	upper left	metal	red	0.0
49		S	door	right	upper right	metal	black	-0.1
50	Room B12	W	wall		upper left	concrete block	gray	-0.2

Each XRF reading shows the approximate lead content of the paint, to a depth of $\approx 3/8"$, at the tested location. At other locations the lead content may be different. Paints with lead concentrations equal to or greater than 1.0 mg/cm2 are considered to be lead-based paints. Elevated airborne lead exposure can occur when disturbing paints with any amount of lead.

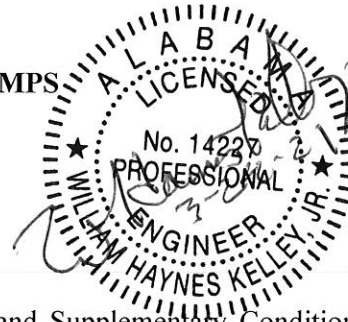
LEAD PAINT TESTING DATA
CHARLES MCDOWELL LEE NATATORIUM
TROY UNIVERSITY, ALABAMA
XRF Testing using an RMD LPA-1

March 2020

TEST NO.	ROOM	WALL	COMPONENT	COMPONENT LOCATION	SHOT LOCATION	SUBSTRATE	PAINT COLOR	READING (mg/cm2)
51		W	column	left	upper center	concrete	gray	0.1
52		W	pipe	center	upper center	metal	gray	-0.1
53		W	door casing	right	upper left	metal	red	0.0
54		W	door	red	upper right	metal	black	-0.1
55		W	ceiling beam		right	concrete	white	0.0
56	Balcony	E	railing		center	metal	gray	0.3
57		W	wall		upper left	concrete block	gray	-0.1
58		W	window sash	left	lower center	metal	dark gray	-0.3
59		W	window ledge	left	center	ceramic	white	-0.4
60		W	column	left	upper center	concrete	white	0.1
61	Calibration							1.1
62	Calibration							1.0
63	Calibration							1.2

Each XRF reading shows the approximate lead content of the paint, to a depth of $\approx 3/8$ ", at the tested location. At other locations the lead content may be different. Paints with lead concentrations equal to or greater than 1.0 mg/cm2 are considered to be lead-based paints. Elevated airborne lead exposure can occur when disturbing paints with any amount of lead.

SECTION 02 8416 - REMOVAL OF FLUORESCENT LAMPS AND BALLASTS



PART 1 GENERAL

1.1 RELATED DOCUMENTS

General provisions of the contract, including General and Supplementary Conditions, and other Specification sections as prepared by Seay, Seay & Litchfield, P.C., apply to work of this specification, which has been prepared by Environmental-Materials Consultants, Inc.

1.2 PROJECT/WORK IDENTIFICATION

A. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, addenda, and modifications to the contract documents issued subsequent to the initial printing of the project manual and including but not necessarily limited to printed material referenced by any of these. Work of the contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions, and other forces outside the contract documents.

B. Abbreviated Written Summary: Briefly and without force and effect upon the contract documents, the work of this Section can be summarized as follows:

Controlled removal, containerization, and disposal of all fluorescent lamps and all ballasts not marked "No PCBs" from fluorescent light fixtures within the Natatorium, Gardner Hall, and Hamil Hall as described in this specification section. Within the three buildings there are approximately 450 fluorescent light fixtures, and those fixtures contain approximately 1,000 four-foot mercury lamps, approximately 150 two-foot U-tube mercury lamps, approximately 50 high intensity mercury lamps, and approximately 650 light ballasts, most of which are not likely to contain PCB oil. Additionally there are stacks of fluorescent fixtures and boxes of fluorescent lamps stored in the crawlspace of Gardner Hall. All of those lamps and ballasts must also be properly containerized and disposed.

Controlled removal, containerization, and disposal of all mercury switches within the three buildings, as described in this specification section. There is one thermostat with mercury switches in the Natatorium, one in Gardner, and there may also be mercury switches within the mechanical equipment in all three buildings.

C. Engineer: The Engineer for the lamp and ballast removal work included in this project is:

Environmental-Materials Consultants, Inc.
2027 Chestnut Street
Montgomery, Alabama 36106-1110
334-265-4000

1.3 COORDINATION AND SCHEDULING

- A. The General Contractor and subcontractors must be aware of the location of the fluorescent fixtures with lamps and ballasts, and mercury switches, and must coordinate their activities with the other work that is being performed under this contract to ensure that mercury switches, mercury lamps, and PCB ballasts are not damaged.
- B. The lamp/ballast removal subcontractor must coordinate with the General Contractor and schedule the lamp/ballast removal work to comply with any project phasing requirements.

1.4 REGULATORY REQUIREMENTS

- A. By executing the Contract, the Contractor does hereby acknowledge awareness and familiarity

with the contents and requirements of the regulations, codes, and standards listed in this section and assumes responsibility for the performance of the Work in strict compliance therewith and for every instance of failure to comply therewith.

- B. The current issue of each document shall govern. Where conflict among requirements or with these specifications exists, the more stringent requirements shall apply.
1. U. S. Environmental Protection Agency (EPA): RCRA Regulations, 40 CFR Parts 260-263.
 2. U.S. EPA: Disposal of Polychlorinated Biphenyls (PCBs); Final Rule, 40 CFR, Parts 750 and 761.
 3. U.S. EPA: Hazardous Waste Lamps; Final Rule, 40 CFR, Parts 260, 261, 264, 265, 268, 270 and 273.
 4. U.S. EPA: Universal Waste Rule; 40 CFR, Parts 266 and 273.
 5. Alabama Department of Environmental Management (ADEM): Standards For Universal Waste Management, Chapter 335-14-11.
 6. All other Federal, State, County, and City codes and ordinances as applicable.
- This list is provided as a convenience to the Contractor and is not to be considered all inclusive of the codes, standards, regulations, and laws. It is the sole responsibility of the Contractor to maintain a safe work site.

1.5 TRAINING

Any contractor personnel who handle light ballasts that are not marked "No PCBs" must have been provided with appropriate training for handling PCB-containing or contaminated wastes in accordance with regulatory requirements. Any contractor personnel who handle fluorescent lamps and/or mercury switches must have been provided with appropriate training for handling mercury-containing or contaminated wastes in accordance with regulatory requirements. At a minimum such training must include proper handling and emergency procedures for PCBs and mercury.

1.6 PERSONAL PROTECTION

- A. Prior to commencement of work, all workers shall be instructed in, and shall be knowledgeable of, the appropriate procedures of personal protection associated with handling PCBs and mercury.
- B. Contractor acknowledges and agrees that he is solely responsible for enforcing worker protection requirements at least equal to those specified in these specifications.
- C. Provide workers with sufficient sets of protective disposable clothing, consisting of full-body coveralls, head covers, eye protection, and gloves; of sizes to properly fit individual workers.
- D. Provide eye protection, hearing protection, fall protection, protection from electrical shock, and hard hats as required for job conditions or by applicable safety regulations.

1.7 FINAL OBSERVATIONS

- A. The Engineer may perform final observations for the Owner after the switches, lamps, and ballasts have been containerized and removed from the building.
- B. Notify the Engineer of the completion of lamp and ballast removal work from the building at least 72 hours in advance of the commencement of any demolition activities, and provide him the opportunity to perform final observations prior to commencement of demolition activities. Demolition may not proceed until all mercury switches, mercury lamps, and PCB ballasts have been containerized and removed from the building.
- C. Services provided by the Engineer shall not relieve the Contractor of his obligation to perform the work in conformity with the specifications and governmental regulations.

1.8 SUBMITTALS

- A. Submit to the Engineer for his review the following Pre-Job Submittals. The Pre-Job Submittals are to be submitted in electronic format on a CD, or by email. The listed documents must be combined into a single document in Portable Document Format (PDF). They must be arranged in the order listed below, and except for tabs or explanatory letters, only the listed documents are to be included. The Work of this specification may not proceed until the complete Pre-Job Submittal package has been reviewed and approved by the Engineer.

Note: The Engineer will only accept complete sets of both Pre and Post-Job Submittals. If incomplete sets are submitted the Engineer or his representative will prepare correspondence advising the contractor that his submittal is incomplete, and then the Engineer will discard the incomplete submittals.

Individually signed Worker's Acknowledgment forms by each and every worker that will handle or otherwise work with PCB ballasts and/or mercury lamps/switches. A copy of this form is included with this specification section.

- B. Submit to the Engineer for his review the following Post-Job Submittals. The Post-Job Submittals are to be submitted in electronic format on a CD, or by email. The listed documents must be combined into a single document in Portable Document Format (PDF). They must be arranged in the order listed below, and except for tabs or explanatory letters, only the listed documents are to be included. Requests for final payment will not be approved until the Post-Job Submittal package has been reviewed and approved by Engineer.
1. Receipts/manifests for transportation/disposal of the containerized lamps, ballasts, and switches to the disposal/recycling facilities. Each receipt/manifest must include the project name, must specify the type/quantity of lamps/ballasts/switches that were transported/disposed, and must specifically acknowledge, by authorized signature, acceptance of the mercury switches, mercury lamps, and/or PCB ballasts by the transporter or the disposal/recycling facility.
 2. Copies of Worker Acknowledgment Forms for any workers on the Project that were not listed in the pre-job submittal package.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Plastic sheeting - Shall be fire resistant and have minimum four-mil thickness.
- B. Impermeable Containers for Ballasts - Shall be suitable to receive and retain ballasts until disposal or recycling at an approved site and shall be labeled in accordance with EPA and DOT Regulations. Containers must be closed, structurally sound, compatible with PCBs, and able to contain any leakage.
- C. Impermeable Containers for Lamps - Shall be suitable to receive and retain lamps until disposal or recycling at an approved site and shall be labeled in accordance with ADEM and DOT Regulations. Containers must be closed, structurally sound, compatible with mercury lamps/switches, and able to contain any leakage.

2.2 TOOLS AND EQUIPMENT

- A. Scaffolding and/or ladders - Must be erected, maintained, and removed in compliance with the requirements of OSHA Regulations 29 CFR 1926, Part 1926.450 to provide access to light fixtures and switches as required.
- B. Hand tools as needed to remove the lamps and ballasts from the fixtures, and the switches from the thermostats and mechanical equipment.
- C. Drum dolly or other appropriate equipment to move filled containers.
- D. Safety equipment and supplies as required to protect workers. Safety equipment shall meet all

applicable safety regulations.

PART 3 EXECUTION

3.1 REMOVAL OF FLUORESCENT LAMPS AND BALLASTS

- A. Coordinate with the Owner and General Contractor to de-energize/tag out the electrical circuit(s) that serves the light fixtures from which the ballasts and/or lamps will be removed, and the equipment from which the switches will be removed. Provide temporary lighting in the areas where the ballasts and/or lamps will be removed. If electrical circuits are to be re-energized, ensure that all exposed wiring has been covered and is electrically safe where ballasts and switches are removed.
- B. Erect ladders and/or scaffolding in accordance with the requirements of OSHA Regulations 29 CFR 1926, Part 1926.450 to provide access and support where required.
- C. At all fluorescent fixtures remove and containerize the lamps. Take care to not break lamps while removing them or after they are containerized. Mark on each container the date that the first lamp was removed and placed in that container. Label lamp containers "Used Mercury Lamps" in accordance with ADEM regulations. Do not mix lamps with ballasts or other wastes in the same container.
- D. In the areas with ballasts that are not marked "No PCBs" observe the fixtures carefully for indications of leaking ballasts before and during ballast removal operations.
- E. If leaking is noted take precautions to prevent contact with the leaked oil. Place plastic sheeting on the floor beneath the fixture. Remove any fixture components that are contaminated with leaked oil. Containerize contaminated components, plastic sheeting, and any contaminated clothing separately from ballasts.
- F. Remove and containerize ballasts that are not marked "No PCBs". Intact ballasts must be containerized separately from leaking ballasts and contaminated components. Do not mix ballasts with lamps or other wastes in the same container. After each ballast is removed cover the exposed wiring to prevent electrical hazard when the circuit is re-energized.
- G. If leaked oil gets on gloves or other protective clothing remove the contaminated clothing as quickly as is safely possible and before the contaminant penetrates the clothing. Replace the contaminated article of clothing with clean clothing. Containerize contaminated clothing with the contaminated components.
- H. Remove and containerize all mercury switches. Remove thermostat cover or disassemble equipment sufficiently to expose the mercury vials. Clip the wiring to each vial, unfasten the vial from the thermostat/equipment, and containerize the vial. Take care to not break mercury vials while removing them or after they are containerized. Label containers in accordance with ADEM regulations.
- I. When a container is full, secure it so that it is sealed, label it, and store it in accordance with applicable regulations. Store containers in a dry secure location until delivery to the disposal/recycling facility.

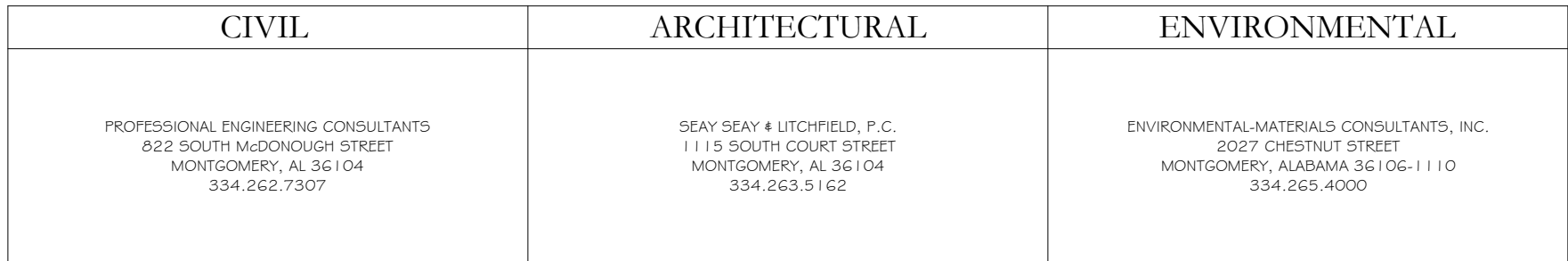
3.2 RECYCLING OR WASTE DISPOSAL

- A. Containerized mercury switches, mercury lamps, and mercury-contaminated debris must be properly recycled, or disposed as hazardous waste, in accordance with the applicable regulations.
- B. Containerized ballasts that are not marked "No PCBs" and all ballast oil contaminated components must be disposed as hazardous waste in accordance with 40 CFR 761 and other applicable regulations.
- C. Retain all manifests and disposal/recycling receipts for post job submittal. The project name

must be included on all manifests and disposal/recycling receipts for this project. All manifests and receipts must specifically identify the type and quantity of material transported, disposed, or recycled. Materials from other projects must be manifested/disposed/recycled separately.

END OF SECTION

TROY UNIVERSITY MAIN CAMPUS
TROY, ALABAMA



DRAWING INDEX	
SHEET NO.	SHEET NAME
00 TITLE	
T1.0	TITLE SHEET & DRAWING INDEX
T2.0	GENERAL WORK NOTES, ABBREVIATIONS & SYMBOLS
01 CIVIL	
C1.1	SITE DEMOLITION PLAN
C2.1	SITE LAYOUT, UTILITY AND GRADING & DRAINAGE PLAN
C3.1	SITE EROSION & SEDIMENTATION CONTROL PLAN
C4.1	SITE DETAILS
02 ARCHITECTURAL	
A1.0	DEMOLITION NOTES
A1.1	NATATORIUM DEMO FLOOR PLAN
A1.2	GARDNER HALL DEMO PLAN
A1.3	HAMIL HALL DEMO PLAN
A2.0	CONSTRUCTION NOTES
A2.1	NEW FLOOR PLAN & SCHEDULES
A4.1	EXTERIOR ELEVATIONS
A5.1	WALL SECTIONS & REFLECTED CEILING PLAN
A5.2	WALL SECTIONS
A5.3	WALL SECTIONS & DETAILS

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b Number

0121

DEC 2020

Drawn By JB

Checked By FEL/GO

Project Title

TROY UNIVERSITY
NATATORIUM DEMOLITION
TROY UNIVERSITY MAIN CAMPUS
TROY, AL

TITLE SHEET & DRAWING INDEX

Sheet Number

T1.0



NOTE: HORIZONTAL AND VERTICAL CONTROL BASED ON ALDOT, CORRS. STATION (EAST ZONE)

L E G E N D

DESCRIPTION	EXISTING	REMOVE
BUILDING		
CURB		
CURB & GUTTER		
CONCRETE PAVEMENT		
ASPHALT PAVEMENT		
SANITARY SEWER MANHOLE		
SANITARY SEWER LINE		
GAS METER		
GAS LINE		
STORM MANHOLE		
GATE INLET		
AREA INLET		
STORM DRAIN LINE		
UTILITY TO BE REMOVED		
CLEAN-OUT		
WATER LINE		
ELECTRIC (AERIAL)		
ELECTRIC (UNDERGROUND)		
WATER METER		
FIRE HYDRANT		
POWER POLE		
LIGHT POLE		
TELEPHONE POLE		
CITY WIRE		
TRAFFIC SIGN		
BUMPER POST		
METAL COLUMN		
FLOOD LIGHT		
BUSH		
HEDGE ROW		
TREE		
IRON PIN FOUND		
FENCE		

NOTES:

1. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA. EITHER BEFORE OR AFTER THE DEMOLITION OF THE BUILDING, THE SURVEYOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ANY UTILITIES NOT SHOWN ON THIS PLAN. THE SURVEYOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED ALL OF THE UNDERGROUND UTILITIES.
2. REFER TO ARCHITECTURAL FOR ADDITIONAL DEMOLITION REQUIREMENTS OF BUILDING CONNECTOR TO WRIGHT HALL.
3. ITEMS INDICATED TO REMAIN, IF DISTURBED BY THIS WORK, SHALL BE REPLACED OR RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ORIGINAL CONDITION WITHOUT ANY ADDITIONAL CHARGES TO THE OWNER AND/OR ARCHITECT.
4. REMOVE STEAM MANHOLE AND STEAM LINES TO NATATORIUM BUILDING. COORDINATE CAPPING OF STEAM LINES TO REMAIN AND EXACT LOCATION WITH THE OWNER.
5. NATURAL GAS LINES ARE OWNED BY SOUTHEAST ALABAMA GAS DISTRICT. COORDINATE REMOVAL OF GAS METER, REGULATOR AND GAS SERVICE LINE WITH GAS COMPANY AND PAY ANY SERVICE CHARGES FROM GAS COMPANY FOR THIS WORK.
6. COORDINATE CAPPING OF EXISTING STEAM LINES, REMOVAL OF ELECTRICAL AND COMMUNICATION LINES AND LOCATION WITH THE OWNER.



PROFESSIONAL ENGINEERING CONSULTANTS, LLC
501 SOUTH GARDNER STREET, SUITE 200
MONTGOMERY, ALABAMA 36104
PHONE (334) 262-7307
FAX (334) 262-7309

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

TROY UNIVERSITY
NATATORIUM DEMOLITION
TROY UNIVERSITY MAIN CAMPUS
TROY, AL

Sheet Title
SITE DEMOLITION
PLAN

Sheet Number

C1.1

SSL
ARCHITECTURE & INTERIOR DESIGN
Montgomery | Dothan | WWW.SSLARCH.COM
(M) 334.263.5162 | (D) 334.791.5248

Rev.	Description	Date
1	ADDENDUM 1	12-21-20
4	ADDENDUM 4	5-30-21

Job Number 20121

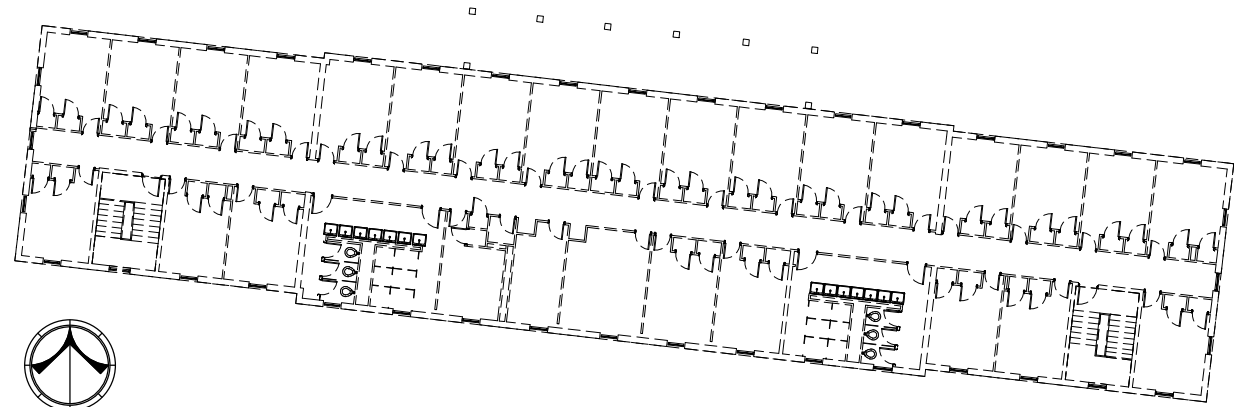
Date DEC 2020

Drawn by SHC

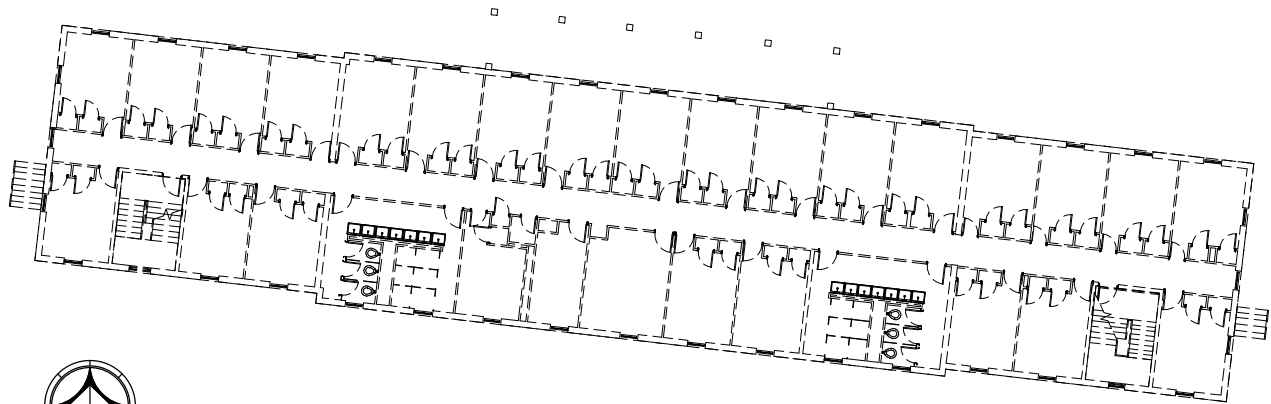
Checked by SHC

Project Title SHC

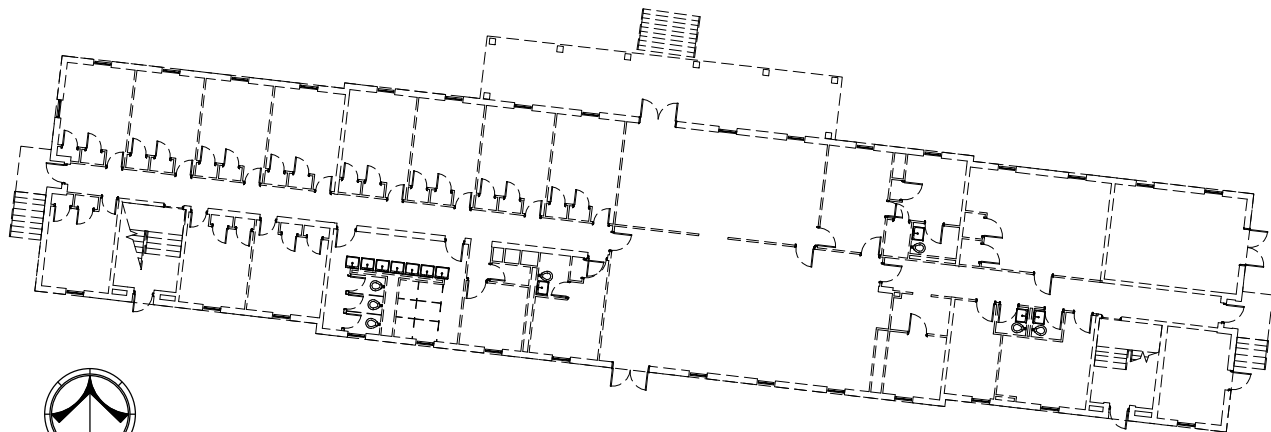
Professional Engineer
No. 5935
Professional
Montgomery, Alabama 36104
Phone (334) 262-7307
Fax (334) 262-7309
3/30/21



3 GARDNER HALL THIRD FLOOR PLAN
A1.2 1/16" = 1'-0"



2 GARDNER HALL SECOND FLOOR PLAN
A1.2 1/16" = 1'-0"



1 GARDNER HALL FIRST FLOOR PLAN
A1.2 1/16" = 1'-0"

LEGEND:

----- EXISTING TO BE DEMOLISHED
————— EXISTING TO REMAIN

xx → SPECIFIC NOTE TAG (SEE
DEMOLITION NOTES SHEET)

REMOVE EXISTING FLOOR SLAB
IN LOCATION MARKED IN
PREPARATION FOR NEW WORK

DOTTED LINE GENERALLY INDICATES EXISTING AREAS TO BE
REMOVED, INCLUDING BUT NOT LIMITED TO WALLS, DOORS,
FLOOR COVERING, CEILINGS, ETC... IN CASE OF UNCERTAINTY
PROVIDE WRITTEN REQUEST TO ARCHITECT.

- NOTES:
1. CONTRACTOR TO FIELD VERIFY ALL EXISTING DIMENSIONS
AND CONDITIONS PRIOR TO BID.

Rev.	Description	Date
4	Add. 4	Date 4

Job Number	20121
Date	DEC 2020
Drawn By	JB
Checked By	FEU/GO

Project Title	TROY UNIVERSITY NATATORIUM DEMOLITION TROY UNIVERSITY MAIN CAMPUS TROY, AL
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Sheet Title
GARDNER HALL
DEMO PLAN

Sheet Number
A1.2



4

LEGEND:

----- EXISTING TO BE DEMOLISHED

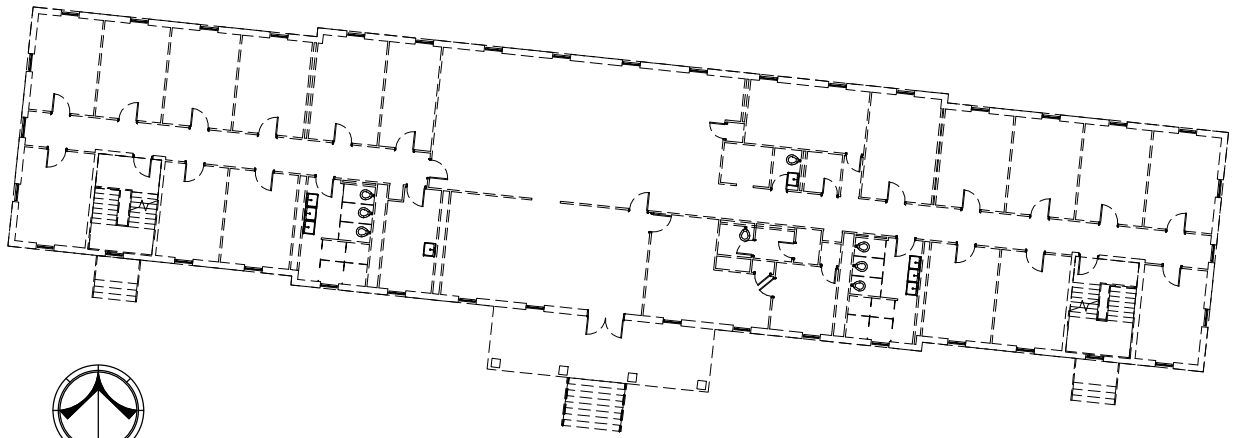
———— EXISTING TO REMAIN

xx → SPECIFIC NOTE TAG (SEE
DEMOLITION NOTES SHEET)

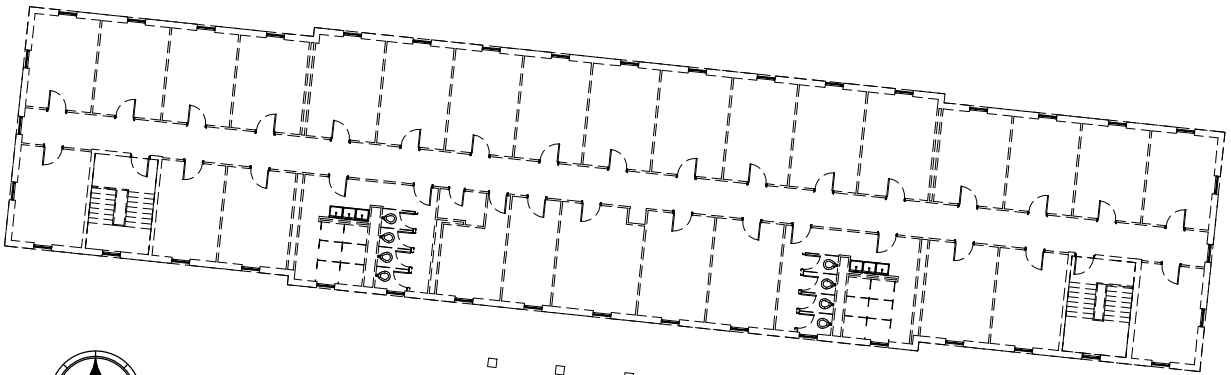
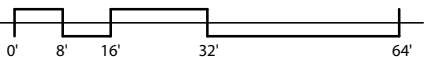
REMOVE EXISTING FLOOR SLAB
IN LOCATION MARKED IN
PREPARATION FOR NEW WORK

DOTTED LINE GENERALLY INDICATES EXISTING AREAS TO BE
REMOVED, INCLUDING BUT NOT LIMITED TO WALLS, DOORS,
FLOOR COVERING, CEILINGS, ETC... IN CASE OF UNCERTAINTY
PROVIDE WRITTEN REQUEST TO ARCHITECT.

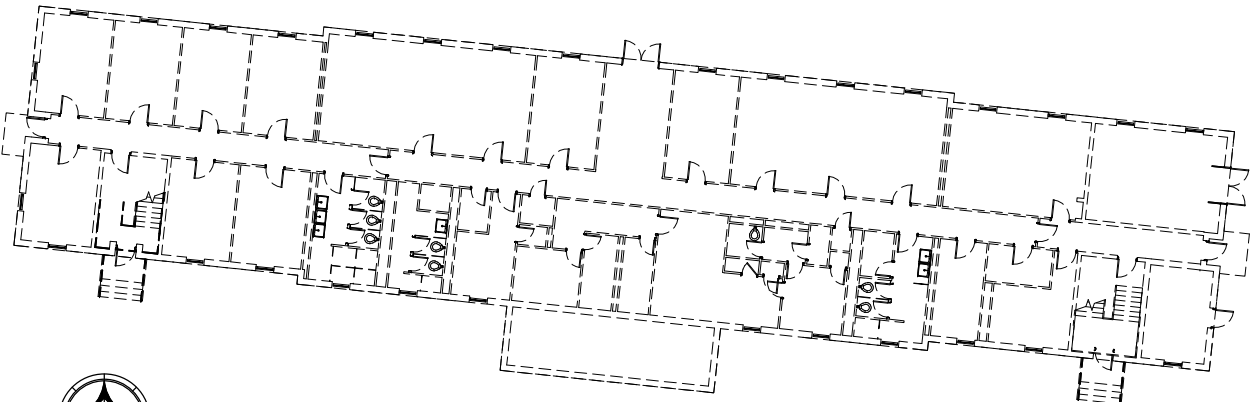
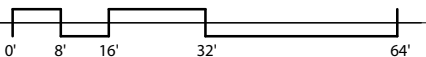
NOTES:
1. CONTRACTOR TO FIELD VERIFY ALL EXISTING DIMENSIONS
AND CONDITIONS PRIOR TO BID.



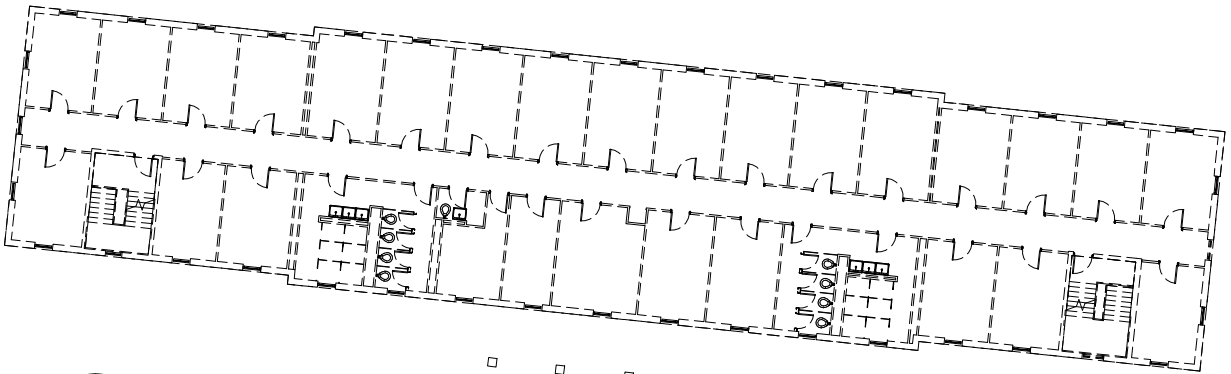
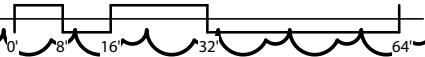
2 HAMIL HALL SECOND FLOOR PLAN
A1.3 1/16" = 1'-0"



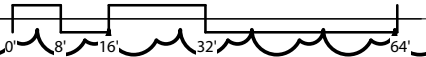
4 HAMIL HALL FOURTH FLOOR PLAN
A1.3 1/16" = 1'-0"



1 HAMIL HALL FIRST FLOOR PLAN
A1.3 1/16" = 1'-0"



3 HAMIL HALL THIRD FLOOR PLAN
A1.3 1/16" = 1'-0"



Rev.	Description	Date
4	Add. 4	Date 4

Job Number	20121
Date	DEC 2020
Drawn By	JB
Checked By	FE/GO

Project Title

TROY UNIVERSITY
NATORIUM DEMOLITION
TROY UNIVERSITY MAIN CAMPUS
TROY, AL

Sheet Title
HAMIL HALL
DEMO PLAN

Sheet Number

A1.3

